A
MEDICINAL
DICTIONARY;

INCLUDING

PHYSIC,
SURGERY,
ANATOMY,
CHYMISTRY,
AND
BOTANY.

In all their BRANCHES relative to MEDICINE.

TOGETHER WITH A

HISTORY *of* DRUGS;

An ACCOUNT of their Various

PREPARATIONS, COMBINATIONS, and USES;

AND

An INTRODUCTORY PREFACE, tracing the Progreſs of PHYSIC, and explaining the THEORIES which have principally prevail'd in all Ages of the World.

With COPPER PLATES.

By *R. JAMES*, M. D.

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VOL. I.

The LORD *hath created Medicines out of the Earth, and he that is wiſe will not abhor them*, Eccleſiaſticus, Chap. xxxviii. Verſe 4.

Ἰητρικὴ, τεχνέων μὲν πασέων ἐστὶν ἐπιφανεστάτη. HIPPOCRATES.

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BRITISH MUSEUM

TO

Dr. *MEAD.*

SIR,

THAT the *Medicinal Dictionary* is dedicated to You, is to be imputed only to Your Reputation for ſuperior Skill in thoſe Sciences which I have endeavoured to explain and facilitate: And You are, therefore, to conſider this Addreſs, if it be agreeable to You, as one of the Rewards of Merit; and if otherwiſe, as one of the Inconveniences of Eminence.

However You ſhall receive it, my Deſign cannot be diſappointed; becauſe this public Appeal to Your Judgment will ſhew, that I do not found my Hopes of Approbation upon the Ignorance of my Readers; and that I fear His Cenſure leaſt, whoſe Knowledge is moſt extenſive.

I am,

SIR,

Your Moſt Obedient,

Humble Servant,

R. James.

PREFACE.

PROVIDENCE having, in the Beginning, furniſhed Mankind with a large Store of Remedies, in the Animal, Vegetable, and Mineral Kingdoms, their Uſes and Application ſeem to have been originally diſcovered by Inſpiration, or Accident; tho' Reaſon is not altogether to be denied her Share in the Improvement of this ſalutary Art. By Inſpiration, I mean, firſt, that natural Inſtinct perceivable both in Man and Beaſt, which directs them frequently, when labouring under Diſtempers, to have recourſe to what is ſalutary, and to avoid what is pernicious. This is more remarkable, at preſent, in the Brute Creation, than in Man; tho' the latter has ſome Reaſon to believe himſelf not excluded from this ſingular Protection of Providence, and would have more, if, like the former, we behaved, with reſpect to Aliment, Exerciſe, and all the Non-naturals, in a manner more conformable to the wiſe Inſtitutions of the Creator.

In almoſt every Fever, we meet with Circumſtances which evince the real Exiſtence of this ſort of Inſtinct in Man.

Thus, on the very firſt Attack, after the Stomach has diſcharged its Contents, which would otherwiſe increaſe the Diſorder, and retard the Cure, by putrefying in the Body, all ſolid Aliment is nauſeated; thoſe Sorts particularly which are ſubject to an alcaline Putrefaction, and which would be moſt prejudicial; and nothing but cooling aceſcent Liquors are coveted, which afford the beſt Means of Relief. Add to this, that there is a Heavineſs of the Head, and a general Inability to Motion: Now, it is well known, that muſcular Motion greatly increaſes Fevers, and that Reſt contributes to their Cure.

Secondly, I am inclined to believe, that many Medicinal Diſcoveries may have been brought about by Inſpiration, that is, by the peculiar Direction of Providence, which are uſually attributed to Accident; otherwiſe it ſhould ſeem ſurpriſing, that after the Labours of a Multitude of Men, both of Learning and Abilities, who have ſpent their entire Lives in phyſical Reſearches, and after all the boaſted Advantages of our Reaſon, we find, to the Mortification of human Wiſdom, that the moſt important Remedies have been diſcovered by Savages and Madmen, whilſt they had nothing leſs in View than the Improvement of Phyſic: By the latter I mean the Alchemiſts, who, in their Purſuits after the Tranſmutation of Metals, have blundered upon ſome Medicines of Efficacy. Thus, as we are told in Scripture, *God hath made fooliſh the Wiſdom of this World*; thus *the Fooliſhneſs of God is wiſer than Men; and the Weakneſs of God is ſtronger than Men.* Thus *God hath choſen the fooliſh Things of the World to confound the wiſe; and God hath choſen the weak Things of the World to confound the Things which are mighty. And the baſe Things of the World, and the Things which are deſpiſed, hath God choſen; yea, and the Things which are not, to bring to nought the Things that are: ——— That no Fleſh ſhould glory in his Preſence.*

It is very poſſible, and even probable, that the Illiterate may have perceived a ſecret Impulſe to apply unknown Simples to particular Diſorders, without being able to give any Reaſon for their Conduct; and if theſe have been attended with Succeſs, Reaſon has indicated their farther Uſe in ſimilar Caſes. It would, however, be difficult to determine how far Inſpiration, or Accident, may have had a Share in particular Diſcoveries.

The Part which Reaſon has acted in the Invention of Remedies, and Improvement of Medicine, ſeems principally to conſiſt in the following Particulars.

Firſt, It was obvious enough to obſerve, that Diſtempers attended with particular Circumſtances, which are now called Symptoms, were ſometimes cured, without the Aſſiſtance of Art, by ſpontaneous Evacuations; ſuch as Hæmorrhages, violent Diarrhœas, Vomitings, or Sweats; or by Tumors on ſome of the extreme Parts; and that, when theſe did not happen, the People thus affected uſually died. Now, if we may preſume, that the firſt Inhabitants of the Earth had Abilities equal to our own, they could not be long without trying, whether, in Caſes attended with the like Circumſtances, and where ſuch Evacuations did not happen, artificial Evacuations might not produce the ſame ſalutary Effects; and the Means of procuring them were probably learned very early, either by obſerving the Operations of Simples on the Brute Creation, or on Man, when taken either out of Curioſity, Neceſſity, or Accident. Hence Bleeding, Purges, Vomits, and Sinapiſms, or topical Remedies, applied with a View of inviting a Tumor into the extreme Parts, were, in all Probability, introduced: But Experience proved Reaſon defective in theſe very Inſtances, as it muſt have appeared upon repeated Trials, that theſe artificial Evacuations, tho' often ſalutary, were not univerſally attended with Succeſs, but even ſometimes proved manifeſtly injurious. On theſe Occaſions, it was reaſonable enough to ſuſpect, that the Unſucceſsfulneſs of theſe Evacuations depended upon their being procured unſeaſonably, or in a Degree diſproportioned to the Exigencies of Nature. It muſt have, therefore, been ſome Time before Experiments could be collected, and compared together, ſufficient to make it appear, that in acute Diſtempers there is a critical Time, when the vital Powers have prepared the Matter, which cauſes the Diſeaſe, for Expulſion; and that if the Evacuations, mentioned above, are procured at this fortunate Seaſon, the Diſeaſe is carried off; whereas at another time they would be fatal, or at leaſt prejudicial. It muſt, however, be confeſs'd, that ſince Intemperance and Idleneſs have introduced frequent Plethoras, that is, Fulneſſes of Blood, theſe Evacuations have been rendered more univerſally neceſſary, under proper Reſtrictions, than they would have been in a natural and leſs corrupted State of Mankind.

I cannot forbear making an Obſervation, by the way, which naturally occurs from what has been ſaid; which is, That as the Art of Phyſic has been already, it may alſo continue to be, greatly improved, by carefully remarking the Means which Nature, unaſſiſted by Art, employs, in order to free the Conſtitution from Diſtempers; for hence many important Hints may be taken, for the Relief of other Patients under the ſame Circumſtances, and for the general Advancement of true medicinal Knowledge. That *Hippocrates* was evidently of this Opinion,

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appears to me from his *Epidemics*, particularly the firſt and third Books, which ſeem to be wrote principally with this View; for in theſe he acquaints us with the State and Conſtitution of the ſick Perſon, the Circumſtances as they appeared from time to time, and the Event, very ſeldom taking Notice of any Remedies being employ'd.

Secondly, Reaſon ſeems to have been concerned very early in the Invention and Improvement of Medicine, by applying, to the Diſtempers of Mankind, thoſe Remedies which the Brute Creation was obſerved to employ, for Relief, under various Diſeaſes. Thus Bleeding is ſaid, by *Pliny*, to have been learned from the *Hippopotamus*, which uſed, when grown unwieldy, to come out of the Water upon the Banks of the *Nile*, and there open a Vein in the Leg with a pointed Reed, ſtopping up the Orifice, after ſufficient Evacuation, with Mud. Thus, alſo, the *Ibis* is reported to have taught the *Egyptians* the Uſe of Clyſters. And thus, according to *Herodotus* and *Pauſanias*, *Melampus* diſcovered the purgative Quality of Hellebore, by obſerving, that his Goats always purged after browſing upon that Plant.

Other rational Methods of improving Phyſic were, the expoſing ſick People in the moſt public Places, that they might learn from others, who had been afflicted in the ſame manner, the Means whereby they were relieved, in order to employ thoſe for the Relief of their own Diſorders; and the regiſtring particular Caſes, and Remedies, in the Temples.

What Progreſs Phyſic had made before the Flood, is very difficult to determine with any Degree of Exactneſs; but as the Diet of the Antediluvians was very ſimple, the Neceſſity for Exerciſe great, and the Uſe of fermented Liquors unknown, it is more than probable, that Phyſic was very little neceſſary, and conſequently not much cultivated; and that Intemperance, Idleneſs, and the Uſe of Wine, as they rendered the Art of Medicine of more Uſe, gradually gave Occaſion for its Improvement.

As the Uſe of Wine, and Debauchery, with all their Conſequences, began to prevail very ſoon after the Flood, Phyſic, as it ſhould ſeem, began to be more cultivated, as more uſeful to Society. Thus far, however, is certain, that the Art of Medicine, like all other Sciences, flouriſhed originally in the Eaſt, from whence it was imported into *Egypt*, from thence into *Greece*, and ſo into other Parts of the World: But the *Egyptians* have been ſo induſtrious in concealing their Hiſtory under Allegories, that it is extremely difficult to extricate Truth out of a Multitude of Fables. It is generally agreed, that *Egypt* and *Africa* were peopled by *Cham*, the Son of *Noah*, who, without Doubt, made his Poſterity acquainted with all the Sciences then known; and, amongſt the reſt, with all the medicinal Diſcoveries then made. His Son *Miſraim* alſo has the Reputation of having propagated Arts amongſt the *Egyptians*; but whether *Cham*, or *Miſraim*, or either of them, was the famous *Zoroaſter* of the *Perſians*, it is not our preſent Buſineſs to inquire. It makes more to our Purpoſe, that theſe, and ſome of their early Poſterity, were deified by their ſuperſtitious Countrymen, on account of their inventing, improving, and communicating Arts and Sciences to Mankind. Hence the fabulous Relations which we meet with of *Iſis*, *Oſiris*, *Hermes*, *Triſmegiſtus*, *Horus*, who is the ſame as *Apollo*, and Son to *Iſis*, *Thoth*, *Æſculapius*, and ſome others, who are ſaid to be Inventors and Improvers of Phyſic. See ÆSCULAPIUS.

I cannot paſs over this Period without remarking, how early the Effects of Fermentation were obſerved; for *Noah*, as we learn, was intoxicated with his own Wine: Now he cannot reaſonably be ſuppoſed to have made Wine, without taking Notice of Fermentation; nor to have been drunk, without being ſenſible of its Effects. We may obſerve, how nearly the Circumſtances attending Drunkenneſs, in the firſt Inſtance we have of it upon Record, reſemble thoſe with which it is attended at this Day. Thus *Noah*, we are told, was, by a too liberal Uſe of Wine, led into the Indecency of expoſing his Nakedneſs to his youngeſt Son *Cham*; and that he awaked, as it ſhould ſeem, in a very ill Humour, a thing not unuſual in our Days, and curſed his Grandſon *Canaan*, who had not offended him, for an Accident, which does not appear to have been any body's Fault but his own. It would have been happy for Mankind if his Conduct, on this Occaſion, had given him the Hint to conceal his Diſcovery, if it was his, of Wine; for, by divulging it, he has not only curſed *Canaan*, but all Mankind. See *Geneſis*, *Cap*. ix. *Verſe* 20.

We have traced Phyſic into *Egypt*, where it undoubtedly received great Improvements. And here we have the firſt Inſtance of Phyſicians by Profeſſion; for *Joſeph*, who lived 1769 Years before *Chriſt*, as we are told in *Geneſis*, *Cap*. 50. ordered the Phyſicians, his Servants, to embalm the Patriarch *Jacob*. The Word רפאים, which we tranſlate *Phyſicians*, can mean nothing elſe; and therefore the Art of Embalming muſt in theſe Days have been exerciſed by the Phyſicians.

As for the antient State of Phyſic among the *Egyptians*, *Clemens Alexandrinus* informs us, "That there were "forty-two Books of *Hermes* of great Account, which contain all the Philoſophy of the *Egyptians*: The ſix "laſt are in a more particular manner ſtudied by the παστοφόροι, *Pall* or *Cloak-bearers*, as relating to Medicine. "Theſe treat concerning the Conſtruction of the Body, Diſeaſes, Inſtruments, the Eyes; and, laſtly, concerning the Diſorders peculiar to Women."

As for the Condition and Character of Phyſicians at that Time among the *Egyptians*, it is plain, they were held a ſacred Order of Men, as appears from the foregoing Paſſage of *Clemens Alexandrinus*, where their particular Office, in the ſacred Proceſſions, is ſpecified. How great their Dignity, and how immenſe their Revenues were, we learn from *Diodorus Siculus*, who informs us, that the third Part of *Egypt* was allotted for the Prieſts, who, in theſe Days, were Phyſicians, that they might ſupport themſelves decently, and furniſh what was neceſſary for performing the religious Ceremonies of the Country. This Dignity was hereditary, and handed down, without Interruption, from Father to Son. But it is highly probable, there were ſeveral Orders and Degrees of theſe Men; ſince to them belonged the Embalmers, of whom *Diodorus* affirms, that they received the Knowledge of their Art from their Anceſtors; aſſuring us, at the ſame time, that the *Egyptians* held them in the greateſt Eſteem and Veneration, becauſe they belonged to the Claſs of the Prieſts, and might, as ſuch, have free Acceſs to their moſt ſecret and retired Places. *Herodotus* gives us ſtill a more full and circumſtantiate Account of the State of the Phyſicians in *Egypt*, when he informs us, "That it was ſo divided, and, as it were, parcel'd "out, that one Phyſician had the Charge of one Diſtemper, another of another; and that no one durſt take "upon him the Cure and Inſpection of more." All *Egypt*, ſays he, is full of Phyſicians; ſome of whom practiſed on the Eyes, others on the Head, others on the Teeth, and others on the Belly; and that a different and diſtinct Set of Phyſicians had the Care of occult Diſeaſes committed to them.

Theſe Men practiſed gratis, ſince they had a Salary from the Public; at leaſt, according to *Diodorus Siculus*, they did ſo during a State of War; and always afforded their Aid to Travellers of their own Country, without exacting a Fee. But the Embalmers were under different Regulations in the Exerciſe of their Art. The Phyſicians practiſed according to an authentic Record eſtabliſhed by their Predeceſſors, who had been illuſtrious in their Profeſſions: If, by following the Laws and Rules laid down in this ſacred Code, they could not relieve and cure the Patient, they were not held criminal; but in caſe they attempted any thing not warranted thereby, if without Succeſs, it was a capital Crime. Great Improvements, therefore, were not to be expected, whilſt this Law ſubſiſted. *Ariſtotle*, in the ſecond Chapter of the third Book of his *Politics*, informs us, that, after the fourth Day of the Diſeaſe, the Phyſician might begin to do ſomething for the Relief of the Patient; but that if he attempted any thing before that Time, it was at his own Peril: But *Ariſtotle* treats this as an idle and pernicious Law, tho' others ſtand up in its Vindication. *Iſocrates*, in his Encomium on *Buſiris*, gives us the following ſuccinct Account of the Medicine of the *Egyptians*: “ The Prieſts, ſays he, who enjoy many Advantages, *(I ſuppoſe he means ſo many as to put them above the Neceſſity of conſidering themſelves more than their Patients)* have, “ for the Relief of the Afflicted, invented a Syſtem of Phyſic, which does not preſcribe dangerous Medicines, “ but ſuch as may be uſed as ſafely as their daily Food: Hence it is, that the *Egyptians* are a People of ſound “ and robuſt Conſtitutions, and live to a very great Age.”

From what has been ſaid, we may form a Judgment of the Dignity of the *Egyptian* Phyſicians, of the Manner in which they were ſo liberally provided for, and how their Practice was not ſo much directed by any real Judgment they themſelves had in Phyſic, as according to a ſtandard written Law; from which we may perhaps reaſonably enough conclude, that their Theory was fixed; that the Memory had a greater Share in it than the Judgment; and that the Phyſician could not, with Impunity, go beyond the Bounds of the ſacred Books. But, to be more particular, we ſhall take a View of the State and Condition of each Branch of Phyſic among them. As for their Phyſiology, then, it is obvious, that its Perfection muſt have borne a Proportion to the State of Anatomy; ſince it is principally to be learned from frequent and repeated Diſſections of the human Body. What the State of their Anatomy was, may be ſeen under the Article ANATOMIA.

Diogenes Laertius informs us, that they believed Animal Bodies to conſiſt of the four Elements, and quotes *Manetho* for his Authority. *Seneca* alſo aſſures us, that they divided the Elements into Male and Female. They, farther, attributed a great Influence to the heavenly Bodies over thoſe of Men; and divided the human Body into thirty-ſix Parts, all which were conſecrated to ſo many Gods or Demons, who were the Authors of Health or Diſorders, in the reſpective Parts they had under their Patronage; for this Reaſon theſe Demons were by them worſhipp'd and appeaſed by certain Incantations. They alſo thought theſe Demons might be reconciled to them by engraving their Hieroglyphics on Herbs and Stones. This ſeems to be the Baſis, as it were, of Magic, and the main Hinge on which the Whole of it turns. The Doctrine of Climacteric Years, or what *Pliny* calls the *Scanſilis Annorum Lex*, may poſſibly derive its Origin from the *Egyptians*; tho' others, with more Probability, deduce it from *Pythagoras*; and *Pliny* aſcribes it to *Æſculapius*. All theſe Opinions may be right; for *Pythagoras* might, and probably did, borrow his Doctrine of Numbers from *Egypt*, or ſome of the Eaſtern Nations.

What the State of their Pathology was, we may in ſome meaſure infer from what has been ſaid; for the Cauſes of Diſeaſes were referr'd to Demons, who were the Diſpenſers of Health and Diſeaſes. Some are of Opinion, that their Pathology muſt have received conſiderable Improvements from the Opportunities the Embalmers had of viewing and inſpecting the human Viſcera. *Herodotus*, and *Diodorus Siculus*, think, that their obſerving theſe Viſcera to be variouſly corrupted, laid a Foundation for their believing, that Diſeaſes were produced by the Subſtances taken for the Nouriſhment and Support of the Body. This might, perhaps, be the Foundation of their particular Regimens, with reſpect to Diet, in order to guard themſelves againſt Diſeaſes: Hence, alſo, might ariſe their Uſe of Clyſters, purgative Draughts, Faſtings, and Vomits, with a View of preſerving themſelves from Diſeaſes, by removing their firſt Cauſes. This Method they uſed, according to *Herodotus*, for three Days ſucceſſively each Month; or, according to *Diodorus Siculus*, with an Intermiſſion of three or four Days. Each of theſe Authors may have given a faithful Account of the Practice of the Time in which he lived, tho' their Relations differ. The *Egyptians*, according to *Pliny* and *Ælian*, learned the Uſe of Clyſters from the Bird *Ibis*, whoſe Beak was ſo form'd by Nature, that ſhe could commodiouſly introduce it into her Anus, and inject a Fluid for cleanſing her Inteſtines; and this, together with their other Methods of evacuating the Body, were from them propagated to other Nations. It is alſo probable, that Frictions, Baths, and Ointments, were originally uſed among the *Egyptians*, before they were known to the *Greeks*. *Herodotus* was of Opinion, that the ſound and healthy State of the *Egyptians* was owing to the Conſtancy of the Seaſons, ſince the Atmoſphere, in their Climate, is ſubject to no remarkable Changes or Alterations; ſo that their preſervative Method might, on this Account, be attended with the greater Succeſs. Before we leave the Diet of the *Egyptians*, we ſhall obſerve, that, whatever ſome Authors have aſſerted, the Eating of Fleſh was common among them, tho' under certain Reſtrictions and Limitations. Thus *Herodotus* informs us, “ That the Prieſts had “ Plenty of every thing; that they lay under no Neceſſity of ſpending any thing of their own Fortunes; “ they were daily ſupplied with Beef and Gooſe from the Altars; that they had Wine furniſhed them; but that “ they were not allowed to eat Fiſh; and that Beans were not ſown in all the Land.” Hence probably the famous Prohibition of *Pythagoras*, with reſpect to this Vegetable.

But tho' the *Egyptians* uſed Fleſh for Food, yet they were under greater Reſtrictions, in this Particular, than moſt other Nations; for what the Legiſlators of one Country allow'd, was, for political Reaſons, expreſly prohibited in others. The Drink commonly in Uſe among the *Egyptians* was the Water of the River *Nile*, which, *Plutarch* informs us, was held in great Eſteem by them, and rendered thoſe who drank it very corpulent. *Herodotus* tells us, that the Soil of *Egypt* is not proper for the Culture of Vines; ſo that the Wine uſed by their Kings and Prieſts muſt have been imported from other Nations. We may form a Judgment of the Temperance of the *Egyptians*, from the Method of Life injoined even Kings; who, according to *Diodorus Siculus*, “ lived upon “ ſimple Food, and a moderate Quantity of Wine, which could neither produce Repletion nor Intoxication: In “ ſhort, ſo moderate a Regimen was preſcribed, that the Laws, relating to this Particular, ſeemed rather to be “ the Directions of a ſagacious Phyſician, than the Injunctions of a Legiſlator.” To this Frugality and Temperance the Children were inured from their very Infancy.

As for their bodily Exerciſes, they were widely different from thoſe of the *Greeks*, ſince as *Diodorus Siculus* informs us, it was not cuſtomary among them to learn Muſic and Wreſtling; for they were of Opinion, that by the daily Exerciſes of the *Paleſtra*, a genuine Health was not generated, but a ſhort-lived Strength, highly dangerous to young People.

In common Life they were extremely ſtudious of Cleanlineſs, and, in this reſpect, follow'd the Example of the Prieſts; who, according to *Herodotus*, had their Bodies ſhav'd all over every third Day, and wore always, when in the Exerciſe of their Offices, clean Linen Garments to prevent the Generation of Vermin, and the Contraction of Sores. We alſo learn from the ſame Author, that Shaving was univerſally in Uſe among the *Egyptians*, and that it was cuſtomary with them to go with their Bodies either not at all, or very ſlightly cover'd. They did not allow their Hair to grow, except when upon a Pilgrimage, or when they had bound themſelves by an Oath to the Gods ſo to do. So far were they from ſhaving their Bodies from a Principle of Grief, that they never allow'd their Hair to grow, except when ſome terrible Calamity had befallen them.

Galen ſeems to lay great Streſs upon the Aſtrological Predictions of the *Egyptians*, and wonderfully recommends their Precepts injoining the Obſervation of the Moon.

As for the Practice of the *Egyptians*, we can only beſtow this general Encomium upon it, that it was of old celebrated all over the World, and that, according to *Iſocrates*, they uſed the moſt ſafe and ſalutary Medicines. The *Nepenthes* is highly celebrated by *Homer*, and by *Diodorus Siculus* called ὀργῆς ϗ λύπης φαρμακον, the Remedy of Anger and Sorrow. The Poet aſcribes ſo ſingular Virtues to it as to affirm, that whoever drinks it mix'd with Wine, ſhall not be ſad during that Day, tho' his Father or Mother ſhould die, or even tho' his Brother, or deareſt Friend, ſhould be murder'd before his Eyes. He alſo aſſerts, that *Helen* got this Nepenthes in *Egypt* from *Polydamna* the Wife of *Thon*. Since the Sentiments of Authors are various with regard to this Medicine, it would be too tedious to mention them all. *Olaus Borrichius* is probably in the Right, when he conjectures, that it was ſome Preparation of Opium, and Dutroy, both the Produce of *Egypt*. This Opinion appears the more conſonant to Truth, becauſe the modern oriental Writers agree with *Galen*, that the beſt Opium is the *Thebaic*, which at this Day, is produc'd at *Abutige*, a Town in the Region of *Thebais*. The *Egyptians* uſed often to retire to the Temple of *Iſis* and *Serapis*, where, during their Sleep, they expected Remedies to be revealed to them. *Strabo* alſo informs us, that they did the ſame in the Temple of *Vulcan* near *Memphis*. But 'tis highly probable, that, on urgent Occaſions, Medicine was practiſed by the Vulgar, as well as by the Prieſts, ſince we are told by antient Hiſtorians, that *Egypt* was full of Phyſicians, and that all its Inhabitants practis'd as ſuch. But 'tis ſcarce probable, that the Medicine of the Vulgar extended farther than Prevention by Vomits, Purges, and Clyſters, which were, perhaps, confined to themſelves, and thoſe of their Family; but we are told by *Diodorus Siculus*, that none durſt profeſs Phyſic, without being admitted as a Member of the College of Prieſts.

About a hundred Years after *Moſes*, who lived 1530 Years, or thereabouts, before the Birth of Chriſt, *Melampus* an *Argive*, the Son of *Amythaon* and *Aglaia*, having travelled into *Egypt*, and made himſelf acquainted with the Sciences then cultivated in that Country, introduced into *Greece* a great deal of their Theology and Superſtition, together with Magic, the Arts of Divination, and of Phyſic. With reſpect to the latter, three very remarkable Circumſtances occur. The firſt is, That he cured the Daughters of *Prætus* King of *Argos*, of Madneſs, by purging them with Hellebore, whether the Black or White is uncertain, the cathartic Quality of which he is ſaid to have learned from obſerving, that his Goats were always purged after eating of this Vegetable.

The ſecond Circumſtance is, That after purging theſe Ladies with Hellebore, he bathed them in a certain cold Fountain. Here we have the firſt Inſtances upon Record of Purging, and of bathing with a medicinal View.

The third Circumſtance relates to another Cure ſaid to have been performed by *Melampus* upon *Iphiclus*, one of the *Argonauts*, and the Son of *Phylacus*. This Hero, it ſeems, had not the Capacity of getting Children, of which he was very deſirous; and, upon applying to *Melampus*, was directed to take the Ruſt of Iron for ten Days together in Wine; which he accordingly did, and found from it the Effects he wiſh'd for. It is ſcarcely worth while to mention, that he is ſaid to have learned this Piece of Practice, by his Skill in Augury, from a Vultur, which communicated it to him; for if the Story is true, which Mr. *Le Clerc* doubts, he was probably able to aſſign better Reaſons for what he did, deduced from Reaſon or Experience, whatever Parade he might make of acquiring his Knowledge by extraordinary Means, in order to raiſe his Reputation among his ignorant Countrymen; an Artifice not uncommon in our Days amongſt the Diſingenuous and Artful, of which the Conduct of the Adepts and Empirics furniſhes us with a thouſand Inſtances.

Melampus, moreover, employed Incantations and Charms in the Cure of Diſeaſes, which it is likely he was taught in *Egypt*.

Theſe Particulars we learn from *Herodotus*, *Pauſanias*, *Ovid*, and *Apollodorus*; and they will furniſh us with the following Remarks.

Firſt, That the Art of Phyſic muſt have made a greater Progreſs in this early Age than is generally allowed; ſince, in the Caſe of *Prætus*'s Daughters, *Melampus* practiſed a Method which could not have been much mended in our Days, conſidering the ſingular Effects of Hellebore, eſpecially the black Sort, in Diſorders peculiar to that Sex, and the Propriety of ſubſequent cold Bathing.

In the Caſe of *Iphiclus*, if, as may be reaſonably ſuppoſed, his Impotence proceeded from a Relaxation of the Solids, and the languid Circulation of the Fluids, I believe a modern Phyſician, in ſuch a Caſe, could not have done better, than by adminiſtring proper Preparations of Iron, to correct the general Defects in the Conſtitution, and to remove the Imbecillity depending thereon.

The other Remark I would make is with reſpect to Incantations and Charms, which we are told *Melampus* employ'd in Diſeaſes. Theſe were coeval with Phyſic, and ſeem to have been originally introduced artfully, in order to impoſe a Belief upon thoſe not in the Secret, that the Perſon who exerciſed them, was particularly favoured by ſome ſuperior Being. This was attended with a very good Effect upon the Practitioner, as it excited a Veneration for him in the Minds of the Vulgar; and, in conſequence of this, the Patient was more eaſily prevailed upon to ſubmit implicitly to whatever was directed. Mean time the Cure was performed by ſome Remedy of real Efficacy, adminiſtred as a Part of, or only in Aid of, the Charm or Incantation, as the Patient was made to believe. If the Prieſts of *Iſis*, or *Æſculapius*, had been acquainted with the Virtues of the *Peruvian* Bark in the Cure of intermitting Diſorders, it would have been an eaſy Matter for them to have defrauded this Remedy of its Reputation, and transferred it to ſome myſterious Incantation performed at the time of its Exhibition. I muſt, however, confeſs, that the Solemnity of the Ceremony might poſſibly have ſome Effect on the Perſon upon whom it was performed, as it might exalt the Faith of the Patient in his Phyſician, a Circumſtance of no ſmall Moment, and, beſides, might give, in ſome Degree, a Turn to the Diſtemper, as the Body is manifeſtly influenced by the Affections of the Mind.

Thyodamas, the Son of *Melampus*, is ſaid to have inherited his Father's Medicinal Knowledge; but Hiſtory does not furniſh us with any remarkable Inſtances of his Practice. *Polyidus*, the next Phyſician upon Record, was either Grandſon or Nephew to *Melampus*; but we are not informed of any Particular, with regard to his Practice. We may however collect, that he was in great Reputation, by the fabulous Accounts which his Countrymen give of him. They relate, that *Glaucus*, the Son of *Minos* King of *Crete*, was accidentally ſuffocated; and buried in a large Veſſel of Honey, ſo that his Father could not find out what had been his Fate, or where he was, till *Polyidus*, by his Skill in Augury, diſcovered him, and then reſtored him to Life.

The next Phyſician, or Surgeon, for the two Profeſſions were not ſeparated till many Ages after, amongſt the *Greeks*, was *Chiron* the Centaur. This great Man, for ſuch he appears to have been, is much celebrated for his Knowledge in all the polite Sciences then cultivated, and particularly in the Medicine both of Man and Cattle; from which Circumſtance he was fabled to be half Man, and half Beaſt. His Name derived from χεὶρ, *Cheir*, which ſignifies a Hand, and the Appellation of *Chironean*, given to the moſt untractable Species of Ulcers, ſhould ſeem to be Evidences of his being principally concerned in the Chirurgical Part of Medicine. But as it is highly improbable, that he could have been ignorant of the Advances which had before his Time been made in Phyſic, we have the more Reaſon to depend upon the Teſtimonies of *Plutarch*, *Pliny*, and other Authors, who repreſent him as one well acquainted with the Virtues of Herbs, and as a Perſon who made ſome Improvements with regard to internal Remedies. Thus he is ſaid to have diſcovered the Virtues of Centaury, a Plant which we are told received this Name from him.

The extreme old Age to which *Chiron* lived, furniſhed the *Grecians* of Diſtinction, for more than one Age, with an Opportunity of giving their Children a liberal Education under his Tuition. Thus *Hercules* is ſaid to have been among the Number of his Pupils; but we meet with very little relating to his Medicinal Knowledge, except that the Fable of his deſtroying the *Hydra* of *Lerna* may be interpreted to import his draining the Fen of that Name with a medicinal Intention; I mean, that of delivering the adjacent Countries from endemial Diſtempers, to which the poiſonous Exhalations from ſuch a Marſh ſubjected them; and that he may be ſuppoſed to have cured *Alceſta*, the Wife of *Admetus*, of ſome very dangerous Diſtemper; whence the Fable, that he releaſed this Princeſs from Hell, after having conquered *Pluto*, that is, Death. It is obſervable, that many Plants derive their Names from *Hercules*, and that the Epilepſy has acquired the Appellation of the *Herculean Diſeaſe*; but I am of Opinion, that, with reſpect to theſe Plants, they were not originally called ſo, becauſe *Hercules* diſcovered their Virtues, but becauſe they were eſteemed irreſiſtible in the Cure of certain Diſorders; and as to *Herculean*, applied to the Epilepſy, it ſeems only to import the Diſeaſe being invincible, and not that *Hercules* was either acquainted with the Nature of it, or afflicted with it.

Another of *Chiron*'s Pupils was *Ariſtæus*, who appears to have been very well acquainted with natural Productions, and to have applied ſome of them to Uſes not univerſally known before his Days: Thus the Arts of making Oil and Cheeſe, and of collecting Honey, are ſaid to have been invented by him. And Mr. *Le Clerc* attributes the Diſcovery of Silphium, and its Uſes, to *Ariſtæus*.

A third Hero educated by *Chiron* was *Jaſon*, who commanded in the *Argonautic* Expedition, which has been the Subject of many Poems, and given Riſe to a Multitude of Fables. *Borrichius* takes a great deal of Pains to prove, that the celebrated *Golden Fleece* was a Book containing the Art of making Gold. But whoever conſiders the Circumſtances of this Expedition, will perceive it highly probable, that the *Greeks* gave a fabulous Turn to the *Argonautic* Exploit, in order to diſguiſe the real Intent of it, which was mere Robbery; and that the Riches of *Æetas* King of *Cholcis* allured this Band of Heroes, and inſpired them with the Deſire of plundering him, which, to their great Honour, they effected. Thus in all Ages Robbery and Murder have been eſteemed infamous in little Villains only, but glorious in Heroes.

Hecate, the Wife of *Oetas*, with *Circe* and *Medea* his two Daughters, is celebrated by Antiquity for her Phyſical Knowledge. The Reſearches of *Hecate* ſeem to have been made with a View of diſcovering the poiſonous Qualities of Plants, in which ſhe was very ſucceſsful; an Inſtance of which is the *Aconitum*, or Wolfſbane, the deleterious Qualities of which ſhe has the Reputation of having firſt remarked.

Circe, according to *Diodorus Siculus*, inherited her Mother's Skill, and acquired more by means of her own Reſearches; but the bad Uſe ſhe made of her Knowledge has rendered her Character the moſt infamous of any we meet with in Antiquity; for ſhe poiſoned her Husband, a King of the *Sarmatians*, for which, and ſome Exploits of the like Nature, ſhe was obliged to fly from her Country, and take Refuge either in *Italy*, or a deſart Iſland not very diſtant from it. A little of the *Grecian* Exaggeration made this Lady Daughter of the Sun, and a Sorcereſs; whence all the Romances we meet with in regard to her Hiſtory.

The Character of *Medea* her Siſter is more amiable, tho' much involved in Fable. Beſides her Knowledge of Vegetables, ſhe is the firſt, as is ſaid, who made uſe of warm Baths, and is therefore reported to have boiled People alive; and an Accident which happened to *Pelias* a King of *Theſſaly*, added Credit to the Scandal. This Prince, being very old, had an Inclination to try the Efficacy of this new Remedy, and died under the Experiment. She has farther the Reputation of having been able to reſtore Youth to old People; becauſe, as is conjectured, ſhe had a Method of communicating a black Colour to grey Hairs, by means of certain Plants, the Virtues of which ſhe firſt diſcovered; but others are of Opinion, that what gave Riſe to this Fable was, that ſhe had the Art of rendering the moſt effeminate Bodies ſtrong and vigorous, by directing ſuitable Exerciſes.

Angitia, or *Angerona*, is by ſome mentioned as Siſter to *Medea* and *Circe*, whilſt others think her the ſame as *Medea*: We, however, meet with nothing relating to her Medicinal Capacity, but what is fabulous.

Amongſt the Heroes of the *Argonautic* Expedition was the celebrated *Orpheus*, who, according to *Pliny*, wrote on the Subject of Plants; and is by others reported to have diſcovered Remedies for ſome Diſeaſes, the Particulars of which are not mentioned.

Linus the Poet alſo, on account of his having wrote on Fruits and Trees, is ſaid to have had ſome Knowledge in Medicine.

But with reſpect to Phyſic, the moſt eminent Pupil of *Chiron* was the *Grecian Æſculapius*, of whom I have given an Account under the Article of his Name.

About ſeventy Years after the *Argonautic* Expedition, the confederated Armies of *Greece* invaded the *Trojan* Territories; this gave Occaſion to a celebrated Period in Hiſtory, which anſwers to the Year 1194. before Chriſt. *Achilles*, one of the Heroes concerned in this War, was, in conſequence of his Education under *Chiron*, acquainted with Phyſic, and is mentioned as the Inventor of ſome Remedies, which are ſpecify'd under the Article of his Name. Nor was his Companion *Patroclus* ignorant of this Art, as we may infer from his dreſſing the Wound of *Eurypylus*, at the Requeſt of the laſt-mention'd Hero.

Proteſilaus the Son of *Iphiclus* was remarkable for being the firſt of the *Greeks* who was killed in the Expedition againſt *Troy*, and is farther celebrated by *Philoſtratus* for his great Skill in Phyſic; which he muſt have poſſeſſed in an eminent Degree, if it is true, that he could cure all Diſtempers, and particularly Dropſies, Conſumptions, Quartans, and Diſeaſes of the Eyes.

Pliny attributes the Diſcovery of the Virtues of the *Teucrium*, againſt Obſtructions of the Spleen, to *Teucer*, another of the *Grecian* Heroes.

About this Period, *Leucus* a Companion of *Ulyſſes*, as we learn from *Ptolemy* of *Alexandria*, uſually called *Ptolemæus Hephæſtionis*, quoted by *Photius*, dedicated a Temple to *Apollo* upon the Rock of *Leucas*; but it is probable, that the Cuſtom of leaping from this Rock into the Sea, with a View of curing Love, began long before, becauſe we are informed by the ſame Author, that *Venus*, by the Advice of *Apollo*, took this Method in order to cure herſelf of her Paſſion for *Adonis*.

Homer alſo celebrates *Agamede* the Daughter of *Mulius*, and tells us, ſhe was acquainted with all the Medicines which the Earth produces.

> Ἣ τόσα φάρμακα ἤδη ὅσα τρέφει εὐρεῖα χθών.

But *Machaon* and *Podalirius*, the Sons of *Æſculapius*, of all the *Greeks* concerned in the Siege of *Troy*, were the moſt eminent for their Medicinal Knowledge. We find them, however, concerned only in Chirurgical Caſes; but it is not probable, that theſe Heroes, who were thus deſcended, and Phyſicians by Profeſſion, could be ignorant of any thing which had at that Time been diſcovered with reſpect to internal Medicine, eſpecially if we reflect, that Phyſic, as well as Surgery, was cultivated in the Family of *Podalirius*, and received from time to time ſuch Improvements from his Poſterity, that *Hippocrates*, the ſeventeenth in lineal Deſcent, was enabled to bring theſe Arts to a ſurpriſing Degree of Perfection.

In the Hiſtory of *Podalirius*, we meet with the firſt Inſtance of Bleeding: This Hero, according to *Stephanus Byzantinus*, was, in his Return from the Siege of *Troy*, driven by a Tempeſt upon the Coaſts of *Caria*, where the Shepherd who received him, underſtanding that he was a Phyſician, conducted him to King *Damæthus*, whoſe Daughter had fallen from the Top of a Houſe. *Podalirius* cured the young Princeſs by bleeding her in both Arms. With this lucky Accident the King her Father was ſo well pleaſed, that he gave her in Marriage to him, and a Part of his Kingdom as a Dowry.

Antiquity furniſhes us with very few authentic Materials relative to the Hiſtory of Phyſic, from the Æra of the *Trojan* War to the Time of *Hippocrates*. Some, however, during this Interval are mentioned, who employed themſelves in Medicinal Reſearches, beſides the Deſcendants of *Æſculapius*. Thus *Solomon*, who lived about a hundred and ſixty, or a hundred and eighty Years after the *Trojan* War, is repreſented by *Joſephus*, as one perfectly well acquainted with the Medicinal Virtues of all natural Productions; which agrees with the Character we find in Scripture of this Prince. The ſame Author relates, That a Queen of *Ethiopia*, called in Scripture, the Queen of the *Eaſt*, whom the Reputation of *Solomon*'s Wiſdom brought to *Jeruſalem*, made a Preſent of the true Balſam-tree to her Royal Hoſt, who by Cultivation propagated this precious Plant in his Gardens about *Jericho*.

Epimenides has the Reputation of having taught the *Greeks* the Uſe of Squills. He is farther ſaid to have ſlept fifty-ſeven Years in a Cave; which is interpreted to mean, that he was ſo long abſent from his Country, and ſpent that Time in travelling, principally with a View of making Diſcoveries in Phyſic and Philoſophy.

Thales and *Pherecydes* are alſo ſaid to have travelled into *Egypt*, and thence to have imported the Sciences into *Greece*, and amongſt the reſt Phyſic.

Pythagoras, who is ſaid to have lived about the 60th Olympiad, that is, about 520 Years before Chriſt, travelled into *Egypt* and the *Indies*, in queſt of Knowledge; and upon his Return to his own Country, which is ſaid to have been *Samos*, finding it in a State of Slavery to the Tyrant then reigning, he removed to *Crotona*, where he founded a School much celebrated in Antiquity. *Celſus* mentions this Philoſopher, as being inſtrumental in the Advancement of Medicinal Knowledge. He ſeems to have ſtudied more the Preſervation of Health, and Prevention of Diſtempers, by means of a proper Regimen and Diet, than the Cure of Diſeaſes by Medicines. Vinegar of Squills, however, is ſaid to be a Remedy invented by him; but it is alſo ſaid, that he learned the Virtues of Squills from *Epimenides*. Neither *Pythagoras* nor any of his Diſciples were, properly ſpeaking, Practitioners of Phyſic, ſince they applied themſelves principally to the Theory of the Art, except *Empedocles*; at leaſt we read of no Cures performed by any other of them. As for *Pythagoras* himſelf, he neglected nothing that could improve his Mind, or increaſe his Knowledge. 'Tis highly probable, that he acquired his Skill in Medicine among the *Egyptians*; but we have only ſome ſmall Fragments of his Works, and ſome of theſe breathe the ſame Spirit of Superſtition, which had been the Bane of preceding Phyſicians; for what he has wrote concerning Phyſiology is very inconſiderable.

He imagined that at the Inſtant of Conception a certain Subſtance, containing a warm Vapour, deſcended from the Brain; and that the Soul, and all the Senſes, drew their Origin from this Vapour, whilſt the Fleſh, the Nerves, the Tendons, the Bones, the Hairs, and the Body in general, were formed of the Blood, and other Humours, conveyed to the Matrix. He aſſerted, that the Body of the Fœtus was formed, and become ſolid, in forty Days; but that, according to the Laws of Harmony, ſeven, nine, and for the moſt part ten Months were neceſſary to render it entirely perfect; and during that Time, according to his Doctrine, whatever was to happen to the Child in the whole Courſe of its Life, was regulated and determined. He affirmed, that the Veins, the Arteries, and the Nerves, were the Bonds of the Soul. According to him, the Soul was extended from the Heart to the Brain, and that Part of the Soul which is in the Heart, is the Source of the Paſſions; whereas Reaſon and Underſtanding reſide in the Brain. This Opinion, which is common to him with the ſacred Writers, he perhaps, received from the *Chaldeans*, with whom he had converſed.

As for the Cauſes of Diſeaſes, whatever Notions he entertained of them, were learned in the ſame School, and in that of the Magicians, whom he had alſo conſulted. The Air, he ſaid, was full of Spirits, Demons, or Heroes, which are the Authors of Dreams, Signs, and Diſeaſes, both to Men and Beaſts. Luſtrations and Expiations, according to him, had a Relation to theſe Demons and Spirits. In the ſame School, he no doubt learned what he wrote concerning the magic Virtues of Plants. Upon this Subject he compoſed a Book, by ſome aſcribed to a Phyſician called *Cleemporus*. As for the natural Properties of Plants, *Pliny* only informs us, that he laid a particular Streſs upon thoſe of Cabbage.

Some of the Maxims he laid down with regard to the Preſervation of Health are yet preſerved: If, ſays he, we intend to enjoy Health, we muſt accuſtom ourſelves to ſuch Food as is moſt ſimple, and may be found everywhere. For this Reaſon he eat no Fleſh, but lived upon Herbs and Water. He alſo prohibited the Uſe of Beans, probably in Imitation of the *Egyptians*. As he lived in this manner, it was eaſy for him to follow that Advice he gave, when he ordered not to approach a Woman, unleſs with an Intention to become weaker. He alſo aſſerted, that it was highly improper to run into Exceſſes, either with reſpect to Labour or Nouriſhment.

He made Health to conſiſt in a certain Harmony which is not explained. He aſſerted the ſame thing concerning Virtue, every thing which was good, and God himſelf; ſo that every thing in the univerſal Syſtem ſubſiſted by Harmony. By this Harmony he probably meant the Relation, or juſt Proportion, which all things ought mutually to bear to each other; or the natural Order of all things. As to the famous myſterious Doctrine of Numbers, each, according to him, was poſſeſſed of its proper Dignity, ſome being much more perfect than others. The odd Numbers, for Inſtance, were more conſiderable, and of a higher Virtue, than thoſe which were even. The former repreſented the Male, and the latter the Female. But the Number Seven was of all others the moſt perfect.

From this Opinion ſprung originally the Doctrine of Climacteric Years, the Diſcovery of which is attributed to the *Chaldeans*, from whom *Pythagoras* might have alſo learned it. This Name is given to every ſeventh Year of the Life of Man, and it is by ſome thought, that in this Year he runs the greateſt Riſque, not only with regard to Life and Health, but alſo with regard to the Goods of Fortune, in conſequence of the Changes which happen in theſe Years.

If we may believe *Celſus*, it is upon the ſame Foundation that the Perſuaſion of the Phyſicians is built with reſpect to the Force of the Number Seven in Diſeaſes, and the Difference between odd and even Days.

They who aſſert, that *Pythagoras* left no Writings, and that all we know of his Sentiments is taken from the Works of his Diſciples, may deny that this Philoſopher ever entertained any ſuch Notion. *Galen*, who for other Reaſons than thoſe drawn from the Perfection of Numbers, conſidered in themſelves, believed that we ought to pay Attention to odd and even Days, is aſtoniſhed that *Pythagoras* ſhould have been of this Opinion. "'Tis ſo eaſy, ſays he, to diſcover the Abſurdity and Vanity of what is advanced with reſpect to the Power of "Numbers, that we have juſt Reaſon to be ſurpriſed, that *Pythagoras*, who was in other reſpects ſo wiſe and "knowing, ſhould have attributed ſo much to them." This Philoſopher had enjoyed an Opportunity of examining them, and admiring the Reſult of their various Combinations, ſince, as is ſaid, he was acquainted with Arithmetic and Geometry; but that theſe rational Sciences ought rather to have given him a Diſguſt at the Trifles above-mentioned.

All this Theory of *Pythagoras*, with reſpect to Phyſic, affords an Occaſion of reflecting upon the Weakneſs, and at the ſame time upon the Vanity, of human Nature; for as the Whole of his Syſtem is either entirely falſe, or at beſt precarious, both theſe muſt have been concerned in prevailing on this otherwiſe extraordinary Man, for ſuch he appears to have been, to have propagated Chimeras which he had either learned or invented, inſtead of Realities; and to have impos'd imaginary Laws of Action upon the Animal Oeconomy, inſtead of inveſtigating the Rules by which it is actually governed. But, to do Juſtice to this celebrated Philoſopher, I muſt confeſs, that his particular Theory is neither better nor worſe, than thoſe which have been founded upon ſome more modern Syſtems of Philoſophy.

Zamolxis, whom the *Getæ* adored as their God, has paſſed for the Scholar of *Pythagoras*, tho' others believe him to be a great deal older. The Knowledge of Medicine has alſo been aſcribed to him. We are pretty much in the Dark as to this Particular; only we know, that he aſſerted, "That the Eyes could not be cured "without the Head, nor the Head without the reſt of the Body, nor the Body without the Soul." He alſo maintained, that the *Greek* Phyſicians wanted Succeſs in the Cure of moſt Diſorders, in conſequence of their Ignorance with regard to this Particular. The Remedies he uſed for the Cure of the Soul were Inchantments; not like thoſe uſed by *Æſculapius*; for if we may believe *Plato*, "The Inchantments of *Zamolxis* were nothing more than rational and moral Diſcourſes; for theſe produce Wiſdom in the Soul, which being once "acquired, it is eaſy to procure Health, both to the Head, and to all the other Parts of the Body."

But, amongſt all the Diſciples of *Pythagoras*, none made ſo great a Figure as *Empedocles*; of whom it is ſaid, that he diſcovered the Reaſons why *Sicily* was much ſubject to Peſtilence, and ſuch a Sterility of the Soil, as to cauſe Famine. Theſe were cauſed by a frequent South Wind, which, blowing through the Overtures of certain Mountains, had a bad Influence on the Country. He therefore directed theſe Overtures to be ſtopped up, and thereby prevented the Conſequences of theſe South Winds for the future.

He alſo acquired great Reputation by a Caſe which is related under the Article APNOEA, which ſee.

We learn from a Paſſage in *Plutarch* in his Treatiſe περὶ τῶν ἀρεσκόντων τοῖς φιλοσόφοις, that *Empedocles* was acquainted with the Cochlea of the Ear, where he ſaid Sounds were formed. We meet with no Inſtance before his Days of this Part of the Organ of Hearing being obſerved.

As to the Phyſiology of *Empedocles*, it does not appear, that he was more excellent than his Maſter *Pythagoras*: He made one Obſervation however, which appears to be very juſt, and is confirmed by modern Diſcoveries; which is, that the Seeds of Plants are analogous to the Eggs of Animals.

Empedocles was of *Agrigentum*, a Town in *Sicily*, and flouriſhed about the 84th Olympiad, that is, about 430 Years before Chriſt. He eſteemed Phyſic ſo much, that he ſaid the Phyſicians excelled all other Men, and approached the neareſt in Rank to the immortal Gods. This Sentiment was very different from that of the famous *Heraclitus*, who was of Opinion, that if it was not for the Phyſicians, the Grammarians might be placed in the higheſt Rank of Fools; perhaps this laſt-mentioned Philoſopher might be diſpleaſed with the Profeſſion, becauſe ſome of the Phyſicians, his Contemporaries, might be wiſe enough to oppoſe the Introduction of his Philoſophy into Medicine, and impertinent enough to aſk ſome Queſtions, which would give him a great deal of Trouble to anſwer.

Acron was a Countryman and Contemporary of *Empedocles*: What relates to him as a Phyſician, is ſpecified under the Article of his Name, which ſee.

Alcmæon of *Crotona* was another Diſciple of *Pythagoras*, who made Phyſic his favourite Study. His particular Notions are ſpecified under the Article ANATOMIA, which ſee. He is ſaid to have been acquainted with the Paſſage from the Palate to the Ear, now called the *Euſtachian Tube*, perhaps becauſe he aſſerted, that Goats reſpired by their Ears. *Abaris*, the famous *Scythian*, has the Reputation of having underſtood Phyſic, as is mentioned under the Article of his Name.

I have deſignedly omitted many fabulous Accounts of the Heathen Deities, who were ſaid to be Inventors of Phyſic, becauſe they are of little Importance in our preſent Inquiries; and, becauſe I would confine myſelf to the Hiſtory of Phyſic, I have taken no Notice of a great many Philoſophers, who were not Phyſicians by Profeſſion, and who conſidered Medicine only as an Appendage to Philoſophy. It will, however, be neceſſary to repreſent the State of Phyſic in ſome other Nations, and amongſt other People of Antiquity, beſides the *Egyptians* and *Greeks*, before I proceed to the Æra of *Hippocrates*.

The Druids were at the ſame time the Prieſts, the Judges, and the Phyſicians, of the antient *Gauls*. *Pliny* obſerves, with regard to their Practice, that they attributed a great deal to the Miſſeltoe of the Oak, which they looked upon as a Remedy of uncommon Efficacy againſt Barrenneſs, and all Poiſons whatever; and that they gathered it for Uſe with abundance of ſuperſtitious Ceremonies. The ſame Author alſo informs us, that the Druids highly recommended an Herb called *Selago*, ſomewhat reſembling Savin; but this Herb is not known in our Days. Beſides, from the ſixth Book of *Cæſar*'s *Commentaries*, we gather, that when any of the *Gauls* were ſeized with any terrible Diſorder, they made a Vow to ſacrifice human Creatures, with a View to recover their Health, and that the Druids were the barbarous Miniſters of theſe inhuman Rites. We cannot determine preciſely when the Druids began: *Aventinus*, in his Annals, thinks there was a College of Druids in the Time of *Herman*, or *Hermion*, a King of the *Germans*, by ſome ſaid to be contemporary with the Patriarch *Jacob*; but all this is fabulous. According to *Pliny* and *Suetonius*, their Order became extinct in the Times of *Tiberius* and *Claudius*; or, at leaſt, theſe Emperors iſſued out Edicts for baniſhing and exterminating them, becauſe they were looked upon as Magicians, and People who uſed unlawful and ſiniſter Arts.

With the Druids we may claſs that Species of the Gymnoſophiſts, of whom *Strabo* makes mention, who practiſed Phyſic, and boaſted of being able, by their Remedies, to enable thoſe who deſired it to have many Children, and theſe either Boys or Girls as they had a Mind. The Origin of the Gymnoſophiſts is very antient.

The *Chineſe*, and ſome other Oriental Nations, have been in great Reputation for their Knowledge in Arts and Sciences; it does not, however, appear, that this Character is altogether juſt. With reſpect to the Medicine of theſe Nations, I muſt be obliged to *Schulzius* for his Account of it, as I have not the Authors from whence he has extracted it.

Other Eaſtern Nations pretend, that the Knowledge of Medicine firſt flouriſhed among themſelves; but the principal Claims, with regard to this Particular, are laid by the *Chineſe*, the *Japaneſe*, and *Malabarians*. The *Chineſe*, with whom the *Japaneſe* agree in a great many Particulars, affirm, that Kings who lived long before the Deluge, were the Inventors of their Medicine. We have no Accounts of the Dignity of Phyſicians among them in theſe remote and early Times: However, as a public Body of Men, they are at preſent very inconſiderable, if we may believe *Johannes Neuhoſius*, in his *Deſcript. Legation. Batavic.* Notwithſtanding this unpromiſing Circumſtance, the *Europeans*, who live among them, are ſaid to commit the Care of their Health to them, in Preference to Phyſicians who are their own Countrymen. They acquire a Knowledge of Diſeaſes by a long and tedious Obſervation of Pulſes. This Method, they ſay, they were taught by one *Lipe*, and King *Hoamiti*, who, according to their Chronology, lived two thouſand ſix hundred and eighty-eight Years before *Chriſt*. Beſides the Pulſe, they conſider the Eyes, the Tongue, and the Face of the Patient, but neglect all other Circumſtances from which Prognoſtics might be drawn; for they neither interrogate the Patient with reſpect to his State, nor inſpect the Urine of thoſe who are under their Care. When they know the Pulſe, they form a Judgment of the Nature of the Diſeaſe, and make their Prognoſtics accordingly. After this they have recourſe to a moſt antient Book, which is the Standard of their Practice, find out the Denomination of the Pulſe, and the Remedies appropriated to the particular Diſeaſe, of which it is the concomitant Symptom. Moſt of their Medicines are ſimple, and eaſily prepared, ſuch as Decoctions. They are entirely ignorant of Chymiſtry, ſhamefully neglect Anatomy, and never admit of Phlebotomy, as *Cleyerus*, in *Fragment. Oper. Medic.* informs us. They imagine, that there is a certain Circulation of the Blood and Spirits, which conveys the radical Moiſture, and native Heat, thro' the Veins and Veſſels of the twelve Members. This Circulation is, according to them, performed fifty times in the Space of twenty-four Hours, according to the Revolution of the Heavens through the fifty Houſes. This phantaſtic and ridiculous Account of a Circulation of the Fluids in a human Body has induced ſome of the leſs wary and circumſpect of the *Europeans* to aſſert, that the Circulation of the Blood was very early known to the *Chineſe*. This Opinion *Cleyerus* aſſerts to be more than four thouſand Years old, tho' ſome maintain, that it is only of four hundred Years ſtanding. This Miſtake has, in all Probability, been owing to *Paſchius*, who, in his Work *de Novis Inventis*, has not accurately tranſcribed the Number from *Cleyerus*. Thus the Error of one has, as it generally happens, miſled Numbers of others.

They have formed a pompous kind of Pathology, in order to account for painful and ſpaſmodic Diſorders: Upon this Theory depend Acupuncture, and burning *Moxa* on the Parts affected. Tho' theſe two Pieces of Practice are equally familiar to the *Chineſe* and *Japaneſe*, yet they differ ſomewhat in the Method of performing them. Their Theory in general, however antient, is yet very imperfect and unphiloſophical: Notwithſtanding this, their Phyſicians, in conſequence of their Experience and Induſtry, make a conſiderable Figure, and attract the Eſteem and Veneration of our own Countrymen. For this Reaſon, the celebrated *Boyle* deſervedly inculcates the ſuperior Excellence of Practice and Experience.

The *Malabarian* Medicine, practiſed by the Bramines, is ſaid to be no leſs antient than that of the *Egyptians*. We owe our Acquaintance with the State of Medicine, in that Nation, to the incomparable *Joannes Erneſtus Grundlerus*, who, in the Year 1708. went to *Malabar*, in Quality of *Daniſh* Miſſionary. This worthy Gentleman, upon his Arrival in the *Indies*, read the Works of their Phyſicians, converſed with the moſt Learned and Skilful of the Bramines, and ſent to *Europe* a ſmall Work under the Title of *Medicus Malabaricus*; in which he informs us, that the Art of Medicine is very antient in that Nation; that it is principally learned from a Book of Inſtitutes, which, in their Language, is called *Wagadaſaſtirum*, and which, in ſix Books, contains all their medicinal Knowledge. They deduce the Origin of Medicine from what they call the Supreme God, and aſſert, that for many Myriads of Years it was handed down ſucceſſively thro' various Orders of Gods; that theſe communicated it to the Prophets, and the Prophets to the common Race of Mortals. Their Theory is not only lame and imperfect, but, for the moſt part, falſe and erroneous, as is obvious from their Doctrine of Pulſes; for they aſſert, that the Source and Origin of the Pulſe is ſituated about four Fingers Breadths below the Navel, and that ſeventy-two Thouſand Arteries are thence diſtributed thro' all the Parts of the Body. This Source or Origin is, according to them, four Fingers Breadth wide, and the Length of two Fingers in Height. They aſſert, that its Form reſembles that of Corals, and that it is the Place where Man was conceived. Their Theory of Reſpiration is equally abſurd and ridiculous: They divide their Medicines into ſix Claſſes, according to their reſpective Taſtes; that is, acid, ſweet, ſaline, bitter, acrid, and aſtringent. They include the whole curative Part of Medicine in eight Claſſes, according to the like Number of Species of Diſeaſes. But, before any one can excel in Medicine, he muſt run thro' all theſe Claſſes, and be well acquainted with each of them; and, ſince every one cannot lay a juſt Claim to ſuch an extenſive Degree of Perfection, hence it happens with them, that the Generality of Phyſicians confine themſelves to one, or, at moſt, two of theſe Claſſes, that, neglecting the others, they may excel in thoſe they particularly profeſs. To the firſt Claſs belong thoſe who underſtand the Diſeaſes of Children; to the ſecond, thoſe who know how to cure the Wounds made by venomous Animals;

to the third, thoſe who undertake to baniſh Demons, and remove the Diſorders of the Mind; to the fourth, thoſe who aſſiſt ſuch as are impotent, and incapacitated for Generation; to the fifth, thoſe who baniſh Diſeaſes in their Infancy, and theſe are held in greater Eſteem than any of the reſt; to the ſixth Claſs belong Surgeons, or thoſe who aſſiſt the Diſtreſs'd with their Hands; to the ſeventh, thoſe who avert old Age, and prevent Baldneſs; to the eighth, thoſe who know how to cure the ſeveral Diſorders incident to the Head and Eyes. Over each of theſe Claſſes ſome Deity preſides, as a Patron, and tutelary God: This imaginary Power theſe Phyſicians worſhip, and in his Name they exhibit their Medicines. Thus the Wind preſides over the Diſeaſes of Children; Water over the Diſorders ariſing from the Wounds made by venomous Animals; the Air is helpful in baniſhing Demons; and a fiery Wind aſſiſts the Impotent; the Sun preſides over thoſe who baniſh the firſt Attacks of Diſeaſes; and laſtly, the Soul of Man preſides over the Diſorders of the Eyes and Head, as a kind of tutelary God.

They affirm, that every one has three principal Diſeaſes born, at it were, with him. The firſt of theſe is called *Wodum*, that is, Wind or Flatulences in the Body; the ſecond is called *Bittum*, that is, a Vertigo or Fooliſhneſs; the third is denominated *Tſcheſtum*, that is, Impurities of the Humours: And theſe Diſeaſes, happening from various Cauſes, are prevalent according to the particular State and Condition of the Patient, and either excite or ſuppreſs others. They enumerate their primitive Diſorders, and thoſe ariſing from them; from one of the primitive Kind they ſometimes make three hundred and more to ariſe. The Diſeaſes of the Mind are, according to them, ſeven hundred and ninety-two in Number; and all the Diſeaſes both of Body and Mind, taken together, amount to two thouſand eight hundred and forty-ſeven. In order to diſcover the true Natures of Diſeaſes, they not only carefully obſerve the Pulſe, but diligently conſider the Excrements, and eſpecially the Urine. When they want to find out whether any Patient will die or live, they put ſome of his Urine in a Veſſel; then they immerſe a Straw in pure Oil, and ſuffer the Oil to drop off the Straw into the Urine: If the Drop ſubſides to the Bottom, the Patient dies; but if it floats on the Surface, they confidently affirm, that the Patient will live. In forming their Prognoſtics they pay a great Attention to the Stars; and the Phyſician, when going to viſit his Patient, ſuperſtitiouſly regards Auguries, conſiders Birds, and every Object that occurs, the Meſſenger that calls him, himſelf, and the particular Poſture in which he was found by the Perſon who called him.

They give very accurate Directions with regard to the Choice of Medicines, the Places where they are produced, the Times of gathering, and the Method of keeping them; as alſo how each of them ought to be prepared, and preſerved after Preparation. They alſo lay down Directions with regard to ſuch Subſtances as they eat and drink, determine how long they remain good and wholſome, and ſpecify the Veſſels moſt proper for preſerving them. They preſcribe a moſt accurate Regimen for their Patients, determine how much they ſhould ſleep or wake in ſuch or ſuch particular Diſorders, how often they ſhould cleanſe their Teeth, or waſh their Mouth, in what manner they ought to lodge, and how it is proper for them to ſup.

They cultivate Chymiſtry, which, they aſſert, was delivered to them in four Books by the God *Tſchiewen*. They treat of Mercury, Sulphur, Antimony, and other Minerals; of Salts, Vitriol, and Alum; of Corals, Gems, and Metals; of the Inſtruments uſed in Chymiſtry, and the Method of performing its various Proceſſes. They have ſeveral compound Medicines, and prepare univerſal Pills; but they exhibit every Medicine in a Vehicle appropriated to its Nature and Deſign. For particular Diſeaſes they alſo injoin a particular Regimen. Moſt of them are Strangers to Veneſection; and perform Scarifications very rarely, and that in a very unſkilful manner. They ſcarce know any thing of Iſſues and Clyſters: But ſuch of them as live intermix'd with the *Europeans*, gradually adopt Veneſection, and other Branches of our Practice.

In the Preparations of their Medicines, which is their Chymiſtry, they almoſt conſtantly uſe the Dung or Urine of Cows: This, no doubt, is owing to the high Opinion they entertain of the Sanctity of theſe Animals. They alſo uſe dry Cow-dung inſtead of Coals. With them there is no Diſtinction between Phyſicians and Apothecaries, but the ſame Man who prepares, alſo preſcribes the Medicines. The Phyſicians muſt, with them, be inroll'd in the Books of the Bramines; and every one muſt, as in *Egypt*, remain in his ſtated Condition, and exerciſe that Branch of the Art his Anceſtors had done before him. It is obvious, that theſe Eaſtern Nations, in many things, with regard to Phyſic, agree not only with each other, but alſo with the Medicine of the antient *Egyptians*. It were to be wiſhed, that *Wagadaſaſtirum*, that antient Book, were tranſlated into *Latin*, and publiſhed; ſince it is not to be doubted, but, from it, we might learn a great many Particulars relating to the Medicines imported from the Eaſtern Nations: Perhaps alſo it might be found to differ little from the Books of *Hermes*, which the *Egyptians* looked upon as their Standard of Practice.

Tho' we are obliged to take our Accounts of the State of Medicine among the *Chineſe* and *Malabarians* from modern Authors, yet we may reaſonably believe, that Phyſic, in theſe Nations, is of a very old Date, ſince it is in a manner interwoven with their Religion. We have alſo Reaſon to believe, that Medicine retained its antient Form in theſe Nations, till the *Europeans* began to trade with them; eſpecially if we add this Circumſtance, that they are univerſally known to be rigorouſly attached to their antient Forms and Cuſtoms.

I muſt not finiſh the Hiſtory of the Medicine of remote Nations, without obſerving, that, of all the People of whom Hiſtory gives us any Information, the *Americans* appear to have acted the moſt prudently, and, with reſpect to Phyſic, to have been the wiſeſt People of whom we have any authentic Accounts; becauſe it is indiſputably better to have no Theory at all, than one which is bad, and capable of introducing Errors into Practice.

Antonio di Solis, ſpeaking of *Montezuma*, Emperor of *Mexico*, ſays, That he took a particular Care to tranſplant into his Gardens all the choice Simples that benign Climate produced, where the only Study of the Phyſicians was to attain to the Knowledge of their Names and Properties. They had Herbs for all kinds of Pains and Infirmities; and in the Juices and Application of thoſe Herbs conſiſted all their Remedies, with which they effected ſurpriſing Cures; having, by long Experience, found out their Virtues, and which, without diſtinguiſhing the Cauſe of the Diſtemper, they applied, to the Patient's great Benefit and Relief.

The King freely diſtributed to all, who had Occaſion for them, ſuch of his Simples as were preſcribed by the Phyſicians, or deſired by the Sick; and uſed to inquire if the Patient had received any Benefit therefrom, either gratifying a ſort of Vanity he had in the ſucceſsful Operation of his Medicines, or believing that he fulfill'd the Obligation of a Sovereign, in taking ſuch Care of the Health of his Vaſſals.

The ſame Author, in another Place, ſpeaking of the Sickneſs of *Cortez*, informs us, that the Senate ſent for all the beſt Phyſicians of their Country, whoſe Skill conſiſted in the Knowledge and Choice of medicinal Herbs, which they applied with a wonderful Diſcernment of their Virtues and Effects, varying the Medicine according to the Condition and different Turns of the Diſtemper, and to them he was entirely beholden for his Cure: For making uſe at firſt of wholſome cooling Simples, to correct the Inflammation, and mitigate the Pain, which occaſioned the Fever, they proceeded by degrees to apply others, proper to ripen and heal the Wound, with ſo much Skill and good Fortune, that in a little time they reſtored him to his perfect Health.

Let the rational Phyſician laugh at Empirics; it is certain, however, that the firſt Knowledge of Phyſic was from Experience; and in a Country entirely unacquainted with Natural Philoſophy, which ſearches out Cauſes by Effects, it was no ſmall Matter to find ſo great a Progreſs made in the Knowledge of Nature.

Theory cannot aſſume, with any Appearance of Reaſon, the Power of diſcovering the Virtues of Simples in curing Diſtempers, tho', by inveſtigating the Cauſes of Diſeaſes, it may adapt known Remedies with greater Propriety, and perhaps Succeſs, to particular Caſes; provided always, that the Theory has its Foundation more in Truth, than in the Imaginations of the Whimſical and Trifling.

In conſequence, therefore, of neglecting all manner of Theory, and cultivating Experience, the *Americans* have been able to diſcover to the *Europeans* the moſt effectual Remedies yet known, as the *Peruvian* Bark, Ipecacuanha, and a Multitude of others, for which we are indebted to the Experience of the illiterate Inhabitants of the new World; whilſt all the boaſted Learning of the *Europeans* hath been ſo little productive of Improvements in Phyſic, that, with reſpect to our own Plants, we know very little more of their Virtues, than what we have learned from *Dioſcorides*, and ſome other of the Antients: And as to Diſtempers, thoſe which were eſteemed incurable two thouſand Years ago, would have remain'd ſo to this Day, if the Experience of the Virtues of the *Peruvian* Bark, Mercury, and Antimony, had not furniſhed us with the Means of relieving Patients labouring under ſome few.

I ſhall now proceed to the Æra of *Hippocrates*, in which we have more certain, as well as uſeful, Accounts of Phyſic; after having taken Notice of four celebrated Perſons, who were either contemporary with, or preceded that great Phyſician, a very few Years; I mean *Iccus*, *Herodicus*, *Democritus*, and *Ægimius*.

Iccus, then, if we may believe the Teſtimonies of ſome antient Authors, was a Phyſician who lived ſome time before *Herodicus* of *Selymbria*, and who was highly attached to Athletic Exerciſes: But he differ'd very conſiderably from ſome others of the ſame Claſs, becauſe he practiſed Temperance and Sobriety to ſuch an exalted Degree, as, on that Account, to become a Proverb. He is alſo ſaid to have remained all his Life unmarried, leſt he ſhould diſſipate and impair his Strength by conjugal Embraces. With the ſame View he adviſed other Wreſtlers to abſtain from Venery, during the Time they were preparing themſelves for entering the Liſts: But it cannot be ſaid, that all Athletics have follow'd his Example in this Particular, ſince we read of ſome who have been invigorated by a moderate Uſe of Venery.

Herodicus, or *Prodicus*, of *Selymbria*, was born ſome time before *Hippocrates*, and flouriſhed at the ſame time that Phyſician did; tho' *Pliny* informs us, that he was one of the Diſciples of *Hippocrates*. *Plato* makes him the Inventor of the Gymnaſtic Medicine, or that which, by various kinds of Exerciſes, procures and preſerves a good Habit, and removes Diſeaſes after they are formed. The ſame Author informs us, that being a Schoolmaſter of an infirm Conſtitution, and labouring under an incurable Diſeaſe, he firſt made a Trial upon himſelf, how much Exerciſe contributed to ſtop the Progreſs of Diſeaſes; and that he afterwards proceeded to cultivate the Whole of the Gymnaſtic Art, and teach what particular Exerciſes were calculated to prevent particular Diſeaſes; and, in this Branch of Medicine, he is, by ſome, aſſerted to have been Preceptor to *Hippocrates* himſelf. The very Mention of *Herodicus* renders it neceſſary, that we ſhould take a brief View of the Antiquity of the Gymnaſtic or Athletic Art, ſince the Gymnaſtic Medicine drew its Origin from it.

The Gymnaſtic Exerciſes, then, ſo much celebrated in antient *Greece*, are much older than the Gymnaſtic Medicine introduced by *Herodicus*, or any other Author whatever; for they were, at leaſt, practiſed at the Beginning of the Olympiads, an entire hundred of which, or four hundred Years, had certainly elapſed before the Days of *Hippocrates*.

Among the other *Grecian* Heroes, *Hercules* is celebrated as the principal Author of theſe Exerciſes: But after him, the Practice being dropp'd, *Iphitus*, by public Conſent, revived them, ſeven hundred and ſeventy-ſix Years before *Chriſt*. The *Olympic* Exerciſes were famous over all *Greece*. The *Pythic* were ſomewhat leſs ſolemn and pompous than theſe. The *Nemean* alſo, and the *Iſthmian* Games, tho' not ſo famed as the former, were yet celebrated every third Year. Theſe Games were called ἱεροὶ ἀγῶνες, or Exerciſes conſecrated to the Honour of the Gods. The Victors, in theſe Games, gained nothing by the Conqueſt, except the Glory of having overcome, and a certain Crown, which was beſtowed upon them as a Badge of Honour.

Beſides theſe, there were other Games inſtituted in private Cities, in which the Victors were rewarded with ſomething more than bare Glory. All theſe Circumſtances prevailed on the principal Inhabitants of *Greece* to conſider the Improvement of their bodily Strength, and their Breath, as a Thing of Importance enough to deſerve their ſerious Attention; and hence the Method of increaſing both, by proper Exerciſes and Regimen, was erected into a Science. Time and Experience made it evidently appear, that theſe had a great Influence on Health; it was therefore obvious enough, that the adopting this Science into Medicine would be attended with many Advantages.

Ægimius is ſaid to have lived before *Hippocrates*, and to have been the firſt who wrote upon the Pulſe. See the Article of his Name.

Democritus is ſaid to have been a great Traveller, and to have been much delighted in making Experiments; but the Accounts of him in general are involved in no ſmall Obſcurity, and his genuine Works are long ago deſtroy'd. The Hiſtorians who lived near his own Times have given us a few ſhort Hints concerning him; but later Authors have, from ſpurious Works, collected many Circumſtances relating to him, which have a direct Tendency to perplex and confound his Hiſtory. Notwithſtanding this Misfortune, we ſhall endeavour, in our Accounts of this Philoſopher, to diſtinguiſh betwixt Probability and Fiction.

That *Democritus*, then, was an *Abderite*, and conſequently a *Thracian*; that he was deſcended of a conſiderable Family, and was Maſter of a pretty ample Fortune, are Facts proved by a great many Circumſtances; for when *Xerxes* was paſſing into *Europe* with a Deſign to ſubdue *Greece*, the Father of *Democritus* is ſaid to have entertained that King, and to have received from him Magi and *Chaldeans*, with an Intention to educate his Son. After this *Democritus* ſtudied under *Leucippus*, the celebrated Maſter of the *Eleatic* School. He is alſo ſaid to have entertained a high Notion of the *Pythagoreans*, and to have improved himſelf by them. Prompted by an inſatiable Thirſt after Knowledge, he travell'd thro' *Egypt*, *Perſia*, *Arabia*, and *Ethiopia*, till he became old; converſed with the Gymnoſophiſts and *Babylonians*, and ſpent a Patrimony of an hundred Talents. On his Return home he led a ſolitary Life in a Country Garden given him by his Brother, where he tried Experiments, collected his former Obſervations, and wrote his Books. As he abhorr'd the Manners and Cuſtoms of his Countrymen, and laughed at the Fooleries they treated in a ſerious Manner, he began to be looked upon as a mad Man, and ſome inſiſted, that he ſhould be put to Death for ſquandering away his Patrimony. But, when he had read his Works to his Fellow-citizens, he was not only abſolved, but preſented with an incredible Sum of Money.

'Tis commonly reported, that the People of *Abdera* called *Hippocrates* to cure *Democritus* of Madneſs; and that when *Hippocrates* came, he found him employed in diſſecting various Animals, in order to diſcover the Nature of the Bile. *Hippocrates* is ſaid to have been charmed with the Man, and to have been much improved by his Converſation. But theſe Circumſtances are not ſufficiently atteſted to deſerve our Aſſent.

Petronius informs us, that he expreſſed the Juices of all Herbs, and ſpent his entire Life in making Experiments. Whether theſe Experiments were performed from a Principle of Curioſity, or with a View to inveſtigate the Properties of Medicines, is perhaps not eaſily determined: If, however, we may believe *Seneca*, this Author knew the Art of ſoftening Ivory, and of converting ſmall Stones into Emeralds, by boiling them.

Hence ſome are of Opinion, that *Democritus* was a ſkilful Anatomiſt, and a good Chymiſt; and maintain that he wrote on Subjects of both theſe Kinds. His Book intituled περὶ τῆς λίθου, which perhaps, treated of the Load-ſtone, they will have to relate to the Philoſophers-ſtone. Some chymical Manuſcripts, by ſome highly extolled, alſo bear his Name; but the more Judicious confeſs, that theſe are the Compoſitions of ſome later *Greek*. This ſeems to be obvious enough from the Fragments of that Work, which are preſerved.

To Authors of this Kind it has, no doubt, been owing, that ſome Moderns have confidently affirmed, that *Democritus* poſſeſſed the Divine Water, or the *Scythicus Latex*, by ſome called πνεῦμα, by the Aſſiſtance of which he could make potable Gold, and the Philoſophers-ſtone. *Schulzius* conjectures very prettily, that this *Scythicus Latex*, by others called ὕδωρ χρυσοκλκι, is the ſame with *Aqua Vitæ*, or inflammable Spirit of Wine, which in the *Sclavonic* Language is called *Korſolki*, a Word pretty near to the *Greek* χρυσοκλλον.

Democritus ſeems to have been the Author, or at leaſt, the Improver and Illuſtrator, of the *Corpuſcularian* Philoſophy, which in the School of *Epicurus* was ſubtilely accommodated to Phyſic by ſeveral, and particularly thoſe of the Methodic Sect, and in our own Days by the *Carteſians*.

Democritus is ſaid to have lived long, and when by a ſudden Loſs of Strength he perceived Death to be near, he for the ſake of his Siſter preſerved his Life for three entire Days. With what Remedy he effected this, is not univerſally agreed upon, ſince ſome affirm, that it was by the Smell of hot Bread, and others by that of Honey. If this Story is true, *Democritus* had an uncommon Complaiſance for his Siſter; becauſe the Motive of her deſiring him to live a few Days, was only that ſhe ſhould not be in Mourning, and, in conſequence of that, loſe the Diverſion of a certain Feſtival which was approaching.

We now proceed to more authentic Accounts, and more important Doctrines, relating to Phyſic, than any which Hiſtory has hitherto furniſhed us with, I mean thoſe which we learn from the celebrated *Hippocrates*. I have given his Deſcent with ſome other Particulars relative to the Poſterity of *Æſculapius*, under the Article ASCLEPIADÆ, and a Sketch of his Life under that of his Name. I ſhall now proceed to his Doctrine, after having obſerved, that he was born, according to the beſt Accounts, in the 80th Olympiad, about 460 Years before Chriſt.

In the following Detail of his Philoſophy and Phyſiology, I muſt acknowledge my Obligations to Mr. *Le Clerc*, who has with great Judgment and Accuracy extracted them from his Works, and given them ſo complete, that very little can be added to what he has ſaid.

If *Galen*'s Judgment may be taken, *Hippocrates* was no leſs diſtinguiſhed among the Philoſophers than Phyſicians. He aſſures us beſides, that *Plato* adopted all the Opinions of *Hippocrates*; that the Writings of *Ariſtotle* are nothing but Commentaries on the Philoſophy of *Hippocrates*; and that *Ariſtotle* was no more than an Interpreter of *Hippocrates* and *Plato*; that from them he borrow'd his Doctrine of the four firſt Qualities, *hot*, *cold*, *dry*, and *moiſt*. *Hippocrates* indeed ſeems, in ſome Places, to advance the Notion of theſe Qualities, where he admits of four Elements, *Air*, *Water*, *Fire*, and *Earth*; at leaſt he oppoſes, in his Book of the *Nature of Man*, thoſe who acknowledge only one. But in his firſt Book of *Diet* he eſtabliſhes another Syſtem, where he mentions only two Principles, *Fire* and *Water*, one of which gives Motion to all Things, and the other nouriſhes them, and ſupplies them with Matter for Accretion. Theſe Contradictions, and ſome others, proceed from confounding the Works of *Hippocrates* with ſeveral other Pieces which did not belong to him. The Book laſt cited is one of thoſe which in early Ages paſſed for ſuppoſititious.

What we are more certain of, and what is of the greater Importance, as it nearly relates to Medicine, is, that *Hippocrates*, in almoſt all his Works, ſhews that he acknowledged one *general Principle*, which, *Lib. de Alimento*, he calls *Nature*, which is above all others, and to which he attributes a great Power. "Nature, ſays he, is ſufficient in Animals for all things, or is to them inſtead of all things. It knows of itſelf whatever is neceſſary for them, without being taught, or being under a Neceſſity to learn of any one." And upon this Footing, as if *Nature* were indued with a Principle of Knowledge, he gives it the Title of *juſt*. He aſcribes to it a Power, (δύναμις) or Powers, which are in the Nature of Handmaids. "There is, ſays he, one Power alone, and there are more than one*." It is by theſe Powers that every thing is adminiſtred in the Bodies of Animals, theſe diſtribute the Blood, Spirits, and Heat, into all Parts; by which means they receive Life and Senſation." He ſays, in another Place, "It is the Power which nouriſhes all things, and makes them grow."

The Manner in which Nature acts, or its moſt ſenſible Adminiſtration, by the Mediation of the Powers, conſiſts, according to him, partly in attracting what is good or convenient for every Species; and in retaining, preparing, or altering it, partly in rejecting what is ſuperfluous or hurtful, after ſeparating it from what is uſeful. Upon theſe Principles almoſt the whole Phyſiology of *Hippocrates* is founded, or upon a natural Inclination which every thing has to unite itſelf with whatever has a proper Relation to it, and to avoid every thing which is contrary; ſuppoſing alſo an Affinity between the different Parts of the Body, from whence they mutually ſympathize with one another in thoſe Evils which they ſuffer, and partake in every good Thing which happens to each Particular, according to the great eſtabliſhed Maxim, that all Parts of the Body concur, conſent, and conſpire together, according to the Animal Oeconomy.

Thus we ſee what *Hippocrates* meant by the Term *Nature*: He gives no other Deſcription of this Principle of ſuch wonderful Actions, unleſs it be, that he ſeems to compare it to a ſort of *Heat*, of which he ſpeaks after this manner: "What we call *Heat*, or *hot*, ſays he, *Lib. de Carnibus*, ſeems to be ſomething that is immortal, which underſtands, hears, ſees, and knows, both what is paſt, and what is to come." At leaſt we ſee a near Relation between thoſe Effects which he aſcribes to this *Heat*, and thoſe which he attributes to *Nature*.

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* *Galen*, in his Commentary on the ſixteenth Aphoriſm of the ſecond Book, thus explains this Sentence. "*Hippocrates*, ſays he, every-where takes care to preſerve this mighty Power, or Virtue, which has the Direction of Animals: whether therefore he calls it *Power* in the Singular, or *Powers* in the Plural Number, it matters not. Thus, in his Book *de Alimento*, he ſays, "There is one Power, and more than one," meaning, that there is one Power in general, which comprehends many particular Powers."

We find in the Book of *Hippocrates* juſt now quoted, intituled *de Carnibus*, or, according to others, *de Principiis*, ſomething ſingular enough concerning the Formation of the Univerſe, and of Animals in particular. He ſuppoſes firſt, that the Production of Man, or his Being, the Soul which is within him, his Health or Sickneſs, the good or evil Events which befal him, his Birth and Death, all proceed from things elevated above us, (μετέωρα) or celeſtial Things. By theſe we might underſtand the Stars, which, according to this Author, have a mighty Influence upon human Bodies; but he explains himſelf by attributing all that has been juſt-now mentioned, to that immortal *Heat* before ſpoken of, which, as we ſaid, is the ſame thing which in other Places he calls *Nature*.

The greateſt Part, ſays he, of the *Heat* juſt now deſcribed having prevailed at the Time when all Things were in Confuſion, it formed what the Antients called *Æther*. Another Part of this *Heat*, reſiding in the loweſt Place, which we call *Earth*, there became indued with the Qualities of Cold and Dryneſs, and a great Diſpoſition to Motion. A third Part of this *Heat*, having poſſeſſed the middle Space between the Æther and the Earth, conſtituted what we call the *Air*, which is alſo a little hot. Laſtly, the fourth Part, which is next to the Earth, and the thickeſt and moſt humid, formed what is called the *Water*. All theſe things having been blended together by a circular Motion in the time of the Confuſion before ſpoken of, that Portion of Heat which reſided in the Earth, being diſperſed into different Quarters, and divided into various Parcels, more of it in one Place than another, the Earth by that means became dried, and aſſumed the Form of *Membranes*, or *Coats*; and the Subſtance incloſed within them being heated, as it were, by a kind of Putrefaction, the fatteſt and leaſt humid, being ſoon burnt, took the Form of *Bones*. The viſcous, and in ſome meaſure cold Matter, which was incapable of burning, produced *Nerves*, or rather *Tendons* and *Ligaments*, which are hard and ſolid. As to the *Veins*, they were made of the coldeſt, and of the moſt viſcous Parts of the Matter in Conjunction; for the viſcous Part, being torrefied or dryed by the Heat, produced the Membranes or Pellicles of which they are compoſed; and the Part which had nothing of a fat or viſcous Matter in it, being diſſolved, formed the liquid or humid Subſtance which they contain. The Bladder, with its Contents, was formed much after the ſame manner as all the other Cavities.

In thoſe Parts, continues *Hippocrates*, where the viſcous Matter prevailed over the Fat, *Membranes* were formed; but where the Fat was predominant, *Bones* were produced. The *Brain* being the Source or proper Seat of a cold and viſcid Matter, which the *Heat* could neither diſſolve nor burn, firſt there were formed Membranes on its Superficies, and afterwards Bones, by means of a ſmall Portion of Fat, which the *Heat* had torrefied. The *Spinal Marrow* was made after the ſame manner, being cold and viſcous like the Brain, and conſequently very different from the *Marrow of the Bones*, which, being ſimply Fat, is not incloſed in a Membrane. The *Heart*, having much of a viſcous Subſtance, became a hard and viſcid Piece of Fleſh, inveſted with a Membrane, and hollow; the *Lungs*, which are near the Heart, were produced after the ſame manner. The Heart, having by its Heat warmed the moſt viſcous Part of the Humidity, ſoon dried it, and reduced it to a kind of Froth full of Perforations or Pipes, with many ſmall Veins. The Liver was formed of a large Portion of hot and humid Matter, which contained nothing fat or viſcous in it; ſo that the Cold prevailing over the Heat, the Humidity became coagulated, or inſpiſſated.

Hippocrates reaſons on the ſame Footing concerning the Production of ſome other Parts; but the Account before us is ſufficient to give us an Idea of his Manner of philoſophiſing on that Head, and will furniſh us with this Reflection, that there ſeems to be no great Difference between this Syſtem of *Hippocrates*, and that of *Heraclitus*; that *Heat*, by means of which *Hippocrates* ſuppoſes all things were produced or formed, being much the ſame thing as the *Fire*, which, according to *Heraclitus*, was the Element or Principle of all Bodies. Several Paſſages might be taken out of the firſt Book of *Diet* to confirm what has been ſaid; what follows is expreſs to the Purpoſe. "In ſhort, ſays *Hippocrates*, the *Fire* has diſpoſed every thing within the Body in "Imitation of the Univerſe."

This may ſuffice to give an Idea of his general Philoſophical Notions.

We have a brief Account of the Anatomy of *Hippocrates* under the Article ANATOMIA, and, as he was very defective in this Part of Knowledge, have perhaps ſaid as much as the Subject deſerved. But when we come to conſider his Character as a Phyſician, he demands our higheſt Attention, calls for our greateſt Regard, and deſerves to have his Phyſiology inquired into with the ſtricteſt Accuracy, and utmoſt Impartiality.

Hippocrates, then, makes the human Body to conſiſt of three conſtituent Principles, the *Solids*, the *Fluids*, and the *Spirits*. Theſe three he elſewhere explains, by calling them the containing, and the contained Parts, and thoſe which excite Motion (ὁρμῶντα). By that which contains, muſt undoubtedly be underſtood the ſolid Parts, ſuch as the Bones, Nerves, Tendons, Ligaments, Cartilages, Membranes, and Fibres. By that which is contained, *Hippocrates* principally underſtood four Sorts of Humours, Blood, Phlegm, yellow Bile, and Melancholy, or black Bile. By thoſe which excite Motion, he meant what he otherwiſe expreſſes by the Word *Spirit*, which, according to him, is a Subſtance partaking of the Nature of the Air, from which it derives its Origin, and is diffuſed thro' all the Body.

With reſpect to the Humours, *Hippocrates* is of Opinion, that the Blood is naturally hot, fluid, of a red Colour, and ſweet to the Taſte; that the Phlegm is cold, fluid, white, viſcid, and ſomewhat ſaline; that the yellow Bile is dry, glutinous and bitter, and extracted from the moſt pinguious Parts of the Blood and Aliments; and that Melancholy is black, cold and dry, very glutinous, flatulent, and inclined to ferment.

The human Body, according to him, is compoſed of theſe four Subſtances; and it is by them that we either enjoy Health, or are afflicted with Diſeaſes. The State of Health is good ſo long as theſe Humours remain in their natural Conditions, with reſpect to their Quantities, their Qualities, and due Mixtures. The State of Health, on the contrary, is bad when any of theſe is either in a ſmaller or in a larger Quantity than it ought to be, when it is kept ſeparate from the reſt in any Part of the Body, and when all theſe Humours are not poſſeſſed of the requiſite Qualities, or are not mixed in a due and natural Proportion. Health and Sickneſs may, from what has been ſaid of each, be fully defined; but *Hippocrates* has given us no formal Definition of either, except in one Place, where he calls a Diſeaſe, whatever creates Pain or Uneaſineſs to a Patient. But this is too general to be a juſt and accurate Definition.

As for the Uſes of each particular Humour, he was of Opinion, that the Blood in a ſound and natural State nouriſhed the Parts, and was the Source of animal Heat, the Cauſe of a freſh Colour, and of good

Health. He imagined, that the yellow Bile preſerv'd the Body in its natural State, hindered the numerous ſmall Ducts, and capillary Veſſels, from being obſtructed, and kept the Inteſtines, allotted for the Diſcharge of the Fœces, open. He alſo maintained, that it contributed to quicken the Senſes, and promote the Digeſtion of the Aliments. The black Bile was, according to him, the Lees of the other Humours, which ſerv'd as a ſort of Baſis to them. The Phlegm, in his Opinion, ſerv'd to lubricate and facilitate the Motions of the Nerves, the Membranes, the Cartilages, the Joints, the Tongue, and other Parts of the Body.

Beſides the four Qualities of Fluidity, Dryneſs, Heat, and Cold, by *Hippocrates* aſcrib'd to the Humours, it appears, from ſeveral Paſſages, that he believ'd them poſſeſſed of a great Number of others, which, in a natural State, were uſeful, and only became prejudicial, when they acquired a preternatural Energy, degenerated from what they ſhould be, or ſeparated themſelves from the reſt. "The Antients," ſays he, in his Book *De Priſca Medicina*, "did not believe that Dryneſs, Cold, Humidity, or any other Quality of a like Nature, could produce "any Diſorder in the Conſtitution; but they were of Opinion, that an Exceſs of either of theſe, which "could not be ſurmounted by Nature, was the Source of the ſeveral Diſtempers with which Mankind were "afflicted; and their Endeavours were bent upon correcting or removing this Exceſs. Now, as among ſweet "Subſtances the ſweeteſt are the ſtrongeſt, ſo among thoſe which are bitter or acid, ſuch as are moſt ſo, are "moſt powerful. In a Word, among all Subſtances of every Kind, that which is moſt exalted in its Qualities, "is the ſtrongeſt and moſt efficacious. Subſtances of this Kind lodg'd in the human Body, were, according to "the Antients, the Sources of Pain and Diſeaſes. There really are in our Bodies bitter, ſaline, ſweet, ſour, "ſharp, inſipid, and a great many other Subſtances which aſſume different Qualities, according to their Quan-"tities or Strengths. Theſe different Qualities are not perceptible, nor productive of Injury, ſo long as the "Humours are duly mixed and blended together. But when the Humours are ſeparated from each other, and "remain ſo, then their Qualities become at once ſenſible and prejudicial."

From this Paſſage we may perceive, that *Hippocrates* did not imagine that theſe Subſtances acted by what the Philoſophers call Primary Qualities, eſpecially ſince a little after he tells us, "That Heat is not attended with "great Force, but ſour and inſipid Subſtances are, whether internally exhibited, or externally apply'd; whether "with reſpect to Meat or Drink, or external Applications, of whatever Kind." And he concludes, that among all the Qualities of Bodies, none are leſs powerful than Heat and Cold.

What we have ſaid of the Humours ſeparating from each other, has ſome Analogy with what *Hippocrates* frequently obſerves with reſpect to the Humours being put into a Commotion. He ſometimes expreſſes this Commotion by the Word ὀργᾶν, which implies an Impetuoſity reſembling the peculiar Motions of certain Animals, when violently ſtimulated by Nature to the Propagation of their Kind.

In ſome other Paſſages *Hippocrates* ſeems to aſcribe the Origin of Diſeaſes only to the Bile, and the Phlegm; And Diſorders are, according to him, produc'd when theſe two Humours mix themſelves with the Blood, when they are faulty either with regard to Quantity or Quality, or happen to be lodg'd in Places where they ought not naturally to be. But as he elſewhere ſpeaks of two Sorts of Bile; theſe, with the Phlegm, make three Humours, which, when added to the Blood, make four in all.

In other Paſſages he makes mention of a fifth Humour, which is Water; and of which he affirms the Spleen to be the Source, as the Liver and Brain are of the Blood, the Bile, and the Phlegm. Some Commentators are of Opinion, that this Water is the ſame thing with Melancholy, and that *Hippocrates* uſes them as convertible Terms: However, their Sentiment does not appear to be eaſily reconcilable with the Idea he form'd of Melancholy, which he conſider'd as the Lees of the other Humours, and conſequently little analogous to Water. Nor do they give a more ſatisfactory Account of the thing, who maintain, that there are two Kinds of Melancholy, one of which is that already deſcribed, and the other that which ought to be rather call'd black Bile, which is nothing but the yellow Bile ſuppoſed to be blacken'd, and render'd exceſſively hot; for ſuch a Subſtance has nothing in common with Water. But what ſeems to ſupport and give Credit to this Sentiment is, that, in the ſame Paſſage, this Water is affirm'd to be the moſt weighty Humour in the human Body. Beſides, we may with Reaſon aſſert, that this is a different Syſtem from that of *Hippocrates*, ſince the Books *De Morbis*, where this Water is mentioned, were by the Antients aſcrib'd to *Polybus*, Son-in-Law to *Hippocrates*.

This Water may alſo be analogous to what *Hippocrates* elſewhere calls *Ichor*, by which is commonly underſtood every clear and aqueous Humour in the human Body, whether in a ſound or a valetudinary State. But *Hippocrates* ſeems rather to reſtrain the Name *Ichor* to the clear and limpid Parts of ſuch Humours as are in a preternatural State, and corrupted; for he gives the Name of Ichor to that Species of Sanies which flows from malignant Ulcers, and which is clearer than good Pus ought to be. In ſome Paſſages he alſo makes mention of acrid, bilious, and burning Ichors.

We find, alſo, another Syſtem, with reſpect to the Cauſes of Diſeaſes, in that Book intituled Περὶ φυσῶν, which, though dignified with the ſacred Name of *Hippocrates*, is yet by many thought to be none of his. The Author of this Work ſometimes uſes the Word φυσαὶ, and ſometimes πνεύματα, with this Difference, that one of theſe Words imports the Air or Wind ſhut up within the Body, whereas the other is reſtrain'd to the external Atmoſphere, from which he nevertheleſs pretends that the Air within the Body is ſupply'd by means of Reſpiration, and the Air contained in the Aliments deriv'd. From this Book it appears, that he looks upon the Air or Wind to be the true Cauſe of Health or Sickneſs, rather than the Humours, which in this Caſe he takes to be no more than concurring Cauſes, inaſmuch as the Air mixes with them. But this laſt Sentiment may be reconciled with that already mentioned, and aſcrib'd to *Hippocrates*, with reſpect to the Effects of the Humours, by ſaying, that all they are obſerv'd to do with regard to Health and Diſeaſes, ſuppoſe a previous Impulſe of the Air, as a kind of *Primum Mobile*; and that for this Reaſon *Hippocrates* calls it what excites Motion.

According to *Hippocrates*, there are as many external Cauſes of Health and Sickneſs, as there are Objects without the Body capable of acting upon it. Health and Sickneſs are likewiſe influenced by Regimen, and all the ſeveral Accidents which occur during the whole Courſe of a Man's Life. As it is ſo, we muſt readily perceive, that Health and Diſeaſes depend in general on the following Cauſes: The Air, what we eat, what we drink, Sleep and Watching, Exerciſe and Reſt, Retention and Excretion, and, laſt of all, on the Paſſions of the Mind. We may alſo rank among the external Cauſes of Health and Diſeaſes, the Action of extraneous and foreign Bodies, which are ſometimes uſeful, but may alſo prove injurious and prejudicial to us. Among this laſt Claſs of Cauſes are Poiſons, and venomous Animals.

Hippocrates found a kind of Analogy and Relation between ſome of the internal and external Cauſes now mentioned; he compared, for Inſtance, the four Humours with the four Periods of human Life, the four Seaſons of the Year, and with thoſe Climates and Countries which are hot, cold, dry, or moiſt. He imagined that Infancy or Childhood, the Spring of the Year, and temperate Climates, muſt neceſſarily produce Blood, and conſequently ſuch Diſorders as ariſe from too large a Quantity of it, rather than Diſtempers which depend upon the other Humours. Youth, the Summer, hot and dry Countries, are, according to him, proper for generating Bile, and all the Diſeaſes produc'd by it. Manhood, the Autumn, and Places where the Air is thick and unequal, contribute to the Formation of Melancholy, and the Train of gloomy Diſorders ariſing from it. And, laſtly, old Age, Winter, cold and moiſt Countries, produce Phlegm, and phlegmatic Diſorders. He alſo carefully examin'd what particular Aliments produce Blood, Bile, or any of the reſt of the Humours. He conſiders the Effects of Sleeping and Watching, of Exerciſe and Reſt, and the other external Cauſes, with reſpect to the four Humours, and the Advantages reap'd, and the Injuries generally ſuſtain'd, by them.

Among all theſe Cauſes of Health and Diſeaſes, the moſt extenſive and general, according to *Hippocrates*, are the Air, and the Aliments, both which he examines with the utmoſt Accuracy and Attention poſſible; for he has wrote ſeveral Books upon Aliment, and taken particular Pains to diſtinguiſh what is good from what is bad, and what is proper from what is improper, according to the ſeveral States and Conditions of People. To this he was ſo much the more oblig'd, becauſe his Method of treating Diſeaſes turn'd almoſt entirely on the Choice of Aliment, as well with regard to the Quality as the Quantity, and proper Times of uſing it.

He attributed alſo a great deal to the Air, and what depends upon it. We have already ſeen what he thought with regard to the four Seaſons, and the Difference of Climates. He alſo examined the common and extraordinary Winds, the Irregularities of the Seaſons, the Riſing and Setting of the Stars, the Times influenced by certain Conſtellations, ſuch as the *Dog-ſtar*, *Arcturus*, and the *Pleiades*. He alſo conſider'd the Solſtices and Equinoxes, becauſe he believ'd that all theſe produc'd great Changes in Diſeaſes; but he does not explain how theſe Changes are brought about.

From what has been ſaid we may infer, that *Hippocrates* look'd upon a Knowledge of Aſtronomy, as a neceſſary Qualification in a Phyſician; and was convinc'd, that the Stars have ſome Influence on the human Body. This correſponds to what he elſewhere ſays of the heavenly Bodies, which he reckons among the Cauſes of Diſorders; and agrees with that celebrated Paſſage, where he aſſerts, That our Life, our Health, our Death, and every thing relating to our Being, depend upon things above us. And in all Probability he had ſomething of a like Nature in View, when he ſpeaks of a θεῖόν τι, or ſomething divine, as the Cauſe of Diſeaſes. Some of the moſt antient Commentators on his Works have imagin'd, that when he ſpoke in this manner, he alludes to what has been ſaid on this Subject by the Poets, eſpecially by *Homer*, who attributes certain Diſeaſes which afflict Mankind, to the Wrath and Diſpleaſure of the Gods. But *Galen* is not of the ſame Opinion with theſe Commentators, and juſtly obſerves, "That they who interpret or comment upon an Author, ought not to write every "thing which to themſelves appears to be true, or what they think the Author ought to have believ'd, but only "what is ſtrictly agreeable to his Sentiments, even though it ſhould be falſe." Now *Galen* maintains, that there is none of the Works of *Hippocrates*, in which the Cauſes of Diſeaſes are aſcrib'd to the Gods. Beſides, he proves that *Hippocrates* was not really of this Opinion, firſt, from his manner of accounting for the Symptoms of a Diſeaſe he deſcribes, and calls it by the ſame Names it uſually went under in his own Days. They who were ſeiz'd with it, were ſaid to be *ſtruck*, probably from a falſe and groundleſs Notion of the People, that Patients labouring under it were *ſtruck*, as with a Thunderbolt, by ſome Divinity: But *Hippocrates* expreſly obſerves, that the Antients did not give this Epithet to thoſe who were ſeiz'd with this Diſorder, for any other Reaſon, but becauſe after their Deaths their Sides were found livid and bruiſed, as if they had received Blows. Secondly, he proves his Opinion, from a Book of *Hippocrates*, *De Morbo Sacro*, where that antient Phyſician endeavours to root out of the Minds of the Vulgar, the Notion of the Gods being the Authors of Diſeaſes.

But to return to the Meaning of what *Hippocrates* called *divine* in Diſeaſes, the ſame *Galen* concludes, that this Phyſician meant no more by it than the Conſtitution of the Atmoſphere: But this does not determine the Queſtion, ſince ſuch may be the State of the Air, that we may find ſomething extraordinary in it, and conſequently ſomething we may call *divine*. This is the real Sentiment of ſome of the modern Commentators on *Hippocrates*, who imagine, that the θεῖόν τι of this Author, depended upon certain occult Qualities of the Air, which neither reſemble its known and obvious Qualities, nor any other Quality whatever. But this is not the Senſe of *Galen* in that Paſſage, nor of *Hippocrates* himſelf, who ſeems to declare againſt this Opinion, when in his Book *De Morbo Sacro*, or *Epilepſy*, he tells us, that "this Diſorder draws its Origin from the ſame Cauſes "which produce other Diſeaſes, that is, from things ſubject to Changes, ſuch as the Cold, the Sun, and the "Winds, which undergo perpetual Viciſſitudes. Now, continues he, though theſe things are all the Effects of "divine Inſtitution and Appointment, yet we have no Reaſon to look upon this Diſeaſe in particular as divine, "ſince all Diſeaſes ought to be at once both human and divine."

It may perhaps be ſaid, that it has been doubted if *Hippocrates* was Author of this Treatiſe. But if we reflect on the conſtant Cuſtom of *Hippocrates*, in exactly pointing out the Conſtitution of the Seaſons, in or after which the Diſeaſes he intends to deſcribe have appeared, we ſhall ſee, that of whatever Diſeaſe he intends to treat, thoſe of the peſtilential Kind not excepted, he only makes mention of the common and ordinary Changes of the Air, with reſpect to Heat or Cold, Dryneſs or Humidity. He obſerves, for Inſtance, that a rainy Spring has been preceded by a wet Winter, or followed by a ſcorching Summer; that ſuch or ſuch Winds have blow'd, without ſaying a ſingle Word of any other particular or occult Qualities of the Air, which are ſuppoſed to produce extraordinary Diſeaſes.

'Tis true there are ſome other Paſſages of his Works ſaid to lay a Foundation for the occult Qualities already mentioned, and which *Galen* himſelf, as well as the above-named modern Authors, believ'd. Firſt, then, in his Book *De Alimento*, the Words αἰτίη ἄδηλος, or *occult Cauſe*, occur. *Galen* maintains, that when *Hippocrates* ſpeaks of epidemical Diſeaſes, which, he ſays, proceed from the Air, or what we breathe, being impregnated with unwholſome Exhalations proper to breed Diſeaſes, he inſinuates, that theſe Exhalations do not act by ordinary Qualities, but by ſome hidden and inexplicable Properties. But I cannot find, that *Hippocrates* has explained himſelf with regard either to theſe Exhalations, or the Influence of the Stars, and the particular Manner in which they act upon terreſtrial Bodies; though, as we have already obſerv'd, he takes their real Action upon them for granted. Theſe Exhalations ſeem to be the ſame with what in his Book *De Flatibus*, he calls μιάσματα, contagious Impurities, or Infection. I ſhall put an End to what relates to the Cauſes of Diſeaſes, by obſerving, that in the ſame Paſſage wherein *Hippocrates* endeavours to make epidemical Diſeaſes proceed from the Air, he attempts to prove, that they are not produc'd by the Aliments, as other Diſeaſes are. From what has been ſaid we ſee, that, according to *Hippocrates*, the Air is the moſt extenſive and general Cauſe of Diſeaſes.

The Humours and the Air being, as we have ſeen, the Cauſes of Health and Diſeaſes, the ſolid or containing Parts, which make the third Species of Subſtance of which animal Bodies conſiſt, muſt be the Subjects affected, ſince they are obſerv'd to be ſound or indiſpoſed, according to the good or bad Diſpoſitions produc'd in them by the Humours, and the Air, and according to the advantageous or injurious Impreſſions made on them by external Objects. This Conſequence may be drawn from the following, and ſome other Paſſages of *Hippocrates*: " When," ſays he, in his Book *De Natura Hominis*, " any one of the Humours is ſeparated from the reſt, it " neceſſarily follows, that the Part whence it came muſt be diſorder'd; and that the Part to which it flows in too " large a Quantity, muſt endure Pain and Torment." In another Paſſage of the ſame Book he informs us, that " thoſe Diſeaſes which proceed from the moſt conſiderable Parts of the Body, are the moſt dangerous; for," continues he, " if a Diſeaſe muſt remain in the Part where it began, when a noble Part ſuffers, the whole Body " muſt be proportionably afflicted."

As for the Differences of Diſeaſes, we find nothing full upon this Subject in *Hippocrates*: However, we may gather from his Works, that the different Cauſes mentioned, and the different Parts of the Body which are affected, produce ſo many different Diſorders, as he informs us, in that celebrated Paſſage, in his Book *De Alimento*. " The Differences," ſays he, " of Diſeaſes depend upon the following things, Aliments, the Air, Heat, " the Blood, the Phlegm, the Bile, and all the Humours; as alſo on the Fleſh, the Fat, the Veins, the Arte- " ries, the Nerves, the Muſcles, the Membranes, the Bones, the Brain, the Spinal Marrow, the Mouth, the " Tongue, the Throat, the Œſophagus, the Stomach, the Inteſtines, the Diaphragm, the Belly, the Liver, the " Spleen, the Kidneys, the Bladder, the Matrix, and the Skin."

Among theſe Diſeaſes, *Hippocrates* look'd upon ſome as mortal, and upon others as only dangerous, whilſt others were very eaſily cur'd, according to the Cauſe which produc'd them, the Part affected, or the Conſtitution of the Patient.

He alſo makes another general Difference of Diſeaſes with regard to the Time of their ordinary Duration, when he diſtinguiſhes them into acute, or ſhort and violent, and ſuch as are chronical, or of long Duration; and all this with reſpect to the ſeveral Cauſes already mentioned, ſince, according to him, acute Diſorders are produc'd by the Bile, and the Blood; and that in the Flower of Youth, in the Spring, and in the Summer. Thoſe of a chronical Nature are, on the contrary, produc'd by Phlegm, and black Bile, and that in old Age, and during the Winter. Of the former Claſs of theſe Diſorders ſome are more and ſome leſs acute: This holds alſo true of thoſe which are chronical, and of a longer Duration.

Hippocrates alſo diſtinguiſhed Diſeaſes with regard to the Places in which they rag'd, either generally, or at particular Seaſons. Thoſe which were familiar and common to certain Places, he called endemic; and ſuch as rag'd ſometimes in one Place, and ſometimes in another, and with which many were equally ſeiz'd, during a certain Space of Time, he call'd epidemic Diſorders, ſuch as the Plague, the moſt terrible not only of this, but of all other Claſſes of Diſeaſes. He conſtituted a third Genus of Diſeaſes oppoſite to the preceding, and diſtinguiſhed them by the Name σποράδες, or diſperſed Diſeaſes, including under that Name all the Diſeaſes of different Characters which attack different Perſons indifferently at any Seaſon; in a Word, all the common and ordinary Diſeaſes, ſome of which are of one Kind, and ſome of another.

He alſo made a Diſtinction between thoſe Diſeaſes which are hereditary, and brought into the World with us; and thoſe which are afterwards produc'd by any Accident whatever.

Laſtly, he look'd upon ſome Diſeaſes as of a mild and benign, and others of an obſtinate and malignant, Nature. The former Claſs of theſe Diſorders was eaſily and moſt frequently cur'd, but the latter created a great deal of Trouble to the Phyſician, and often baffled his Skill, and put an End to the Patient's Life, in ſpite of all his Medicines.

Hippocrates extended his Views ſtill farther, and conſider'd the Changes which happen in Diſeaſes with regard to four different Periods, that is, the ἀρχὴ or Beginning, the ἐπίδοσις or Augmentation, the ἀκμὴ or Height, and the χάλασις or *Decline* of the Diſeaſe. But the Word *Decline* is only applicable to ſuch Diſorders as terminate happily; for in others Death enſues inſtead of the Decline. The third Period, or Height of the Diſeaſe, is, then, ſucceeded by the moſt conſiderable Change; for it decides with reſpect to the Life or Death of the Patient. This is generally, or at leaſt more frequently, brought about by a *Criſis*; by which *Hippocrates* meant no more than every ſudden Change which happens in a Diſeaſe, whether for the better, or the worſe; whether the Cure follows immediately, or ſome time after. This Change is, according to him, produced by Nature herſelf, who, as it were, ſits in Judgment, and either acquits or condemns the Patient, by a favourable or unfavourable Criſis. But that we may the better underſtand his Meaning, we muſt advert to the Idea he affixes to the Word *Nature*, which is that of a Principle, which governs and preſides in the animal Œconomy. If then Diſeaſes conſiſt in a Diſorder or Perturbation of this Œconomy, as we may gather from what has been ſaid concerning their Cauſes, Nature and Diſeaſes muſt always be mutual Antagoniſts. But as in the Struggle they have with each other, Nature is, as it were, both Judge and Party, ſhe muſt frequently have the better; for which Reaſon the Word *Criſis* is moſt commonly taken for a favourable Determination of Nature, which puts a happy Period to the Diſeaſe.

The Manner in which Nature acts upon this Occaſion, in order to deſtroy her Enemy, is by reducing the Humours, whoſe Diſorder occaſions that of the whole Body, to their natural State, with regard to their Quality and Quantity, their Mixture and Motion, the Places they poſſeſs, and every other Particular with regard to which they may be faulty. Among the ſeveral Means employ'd by Nature for this Purpoſe, *Hippocrates* laid the greateſt Streſs upon what he calls πέψις, or the Concoction of the Humours. This is her firſt Deſign; 'tis by this Concoction ſhe renders herſelf Miſtreſs, and brings things to a favourable Termination. The Humours being reduced to this State, whatever is ſuperfluous or hurtful is ſpontaneouſly diſcharged, or at leaſt may eaſily be eliminated, by proper Medicines. When what is ſuperfluous is evacuated, which happens either by a Diſcharge of Blood, a Flux of the Belly, Vomit, Sweat, a Diſcharge of Urine, Tumors, Abſceſſes, the Itch, Eruptions, Puſtules, or Spots in the Skin, Nature eaſily reduces other things to the ſame State and Condition in which ſhe found them before the Attack of the Diſorder.

But it muſt be obſerved, that theſe Evacuations are not, by *Hippocrates*, look'd upon as the Effects of a true and genuine Criſis, except when they are made in a conſiderable Quantity, ſmall and ſcanty Evacuations being, according to him, inſufficient to produce a happy *Criſis*; on the contrary they intimate, that Nature is burdened with a Load of Humours, which ſhe ſuffers to come away for want of Power to retain them, becauſe they prove a continual Stimulus to her. In this Caſe what is diſcharg'd is crude, becauſe the Diſorder is as yet at its Height; and ſo long as Matters remain in this Situation, we can only hope for a bad or imperfect Criſis, which either denotes the Triumph of the Diſeaſe, or that its Strength is equal to that of Nature. The Reſult of this is either Death, or a Protraction of the Diſeaſe. In this laſt Caſe Nature has often time to attempt a new Criſis, more favourable than the former, after having made more freſh and vigorous Efforts to promote the Concoction of the Humours.

'Tis of Importance to obſerve, that, according to *Hippocrates*, this Concoction of Humours cannot be perfected, but in a certain time, juſt as Fruit, which requires a certain time to bring it to Maturity; for he compares the Humours concocted by Nature, to Fruit that is perfectly ripe. The Time requiſite for this Concoction is regulated by the Differences of Diſeaſes. In ſuch Diſorders as *Hippocrates* calls very acute, the Concoction is perfect, and the Criſis made on the fourth Day. In thoſe which are only acute, theſe favourable Circumſtances do not happen till the ſeventh, ſometimes the eleventh, and ſometimes the fourteenth Day, which is properly the longeſt Time aſſign'd by *Hippocrates* to Diſorders of the truly acute Kind; though in ſome Paſſages he ſeems to extend the Time to the twentieth and twenty-firſt, and ſometimes to the fortieth and ſixtieth Day.

All Diſorders which exceed this laſt Number of Days, are claſs'd among thoſe of the chronic Kind. And whereas in thoſe which do not exceed the fourteenth, or at moſt the twentieth Day, every fourth Day either produces a Criſis, or is at leaſt a remarkable Day, by which we can determine whether there will be a Criſis on the fourth Day following, and whether it will be favourable or not; ſo in thoſe Diſtempers which are protracted from the twentieth to the fortieth Day, *Hippocrates* reckons no longer but by every ſeventh Day; and in thoſe which paſs the fortieth Day, he begins to reckon upon each twentieth Day, as appears from the following Progreſſion, which contains the Days expreſly mark'd by *Hippocrates*, the firſt of which is the fourth; from which he paſſes to the ſeventh; then to the eleventh, the fourteenth, the ſeventeenth, and the twentieth; from which he paſſes to the twenty-ſeventh, and the thirty-fourth; and from this laſt to the ſixtieth, the hundredth, and the hundred and twentieth. After this laſt Term, the critical Days are no longer reckon'd; and as thoſe Diſeaſes which are protracted to the hundred and twentieth Day have their Criſis regulated by the Number of Days, ſo thoſe which exceed that Term, are only conſider'd with reſpect to the general Changes of the Seaſons; ſo that ſome terminate about the Equinoxes and Solſtices, and others at the Riſing or Setting of the Stars and Conſtellations already mentioned: Or if Numbers are ſtill to come into the Account, the Reckoning is made by Months, and even by whole Years. On the ſame Principles *Hippocrates* ſuppoſes, that ſome Diſeaſes of Children come to a Criſis in the ſeventh Month from their Nativity; and others only in their ſeventh, or perhaps their fourteenth Year.

We have one Remark more to make concerning the twentieth and twenty-firſt Days, which is, that both are equally diſtinguiſh'd as critical Days in different Places of our Author's Works. The Reaſon he gives in one of thoſe Places why he prefers the firſt of thoſe Days to the other, which makes up three complete Septenaries, "is, becauſe the Duration of a Diſtemper is not to be reckon'd by complete Days, ſince neither the " Years nor the Months conſiſt of ſuch." But this Reaſon does not hinder him from marking, in other Places, the one-and-twentieth for a true critical Day, as indeed he does almoſt all odd Days, which appear to him ſo well diſpoſed for a Criſis, that he ſays, in one of his Aphoriſms, "Sweats which begin on the third, fifth, ninth, " eleventh, fourteenth, ſeventeenth, twenty-firſt, twenty-ſeventh, thirty-firſt, and thirty-fourth Day of a Fever, " are good; and that thoſe which happen on other Days prognoſticate great Trouble and Danger to the Patient; " and that the Diſeaſe will be long, and ſubject to Relapſes." And in another Aphoriſm he ſays, in expreſs Words, "That a Fever which leaves the Patient on any but an *odd* Day, is commonly ſubject to a Return." *Galen*, in explaining this Paſſage, pretends, that inſtead of *odd Day*, we ſhould read *critical Day*; but he might have ſpar'd his Criticiſm, for the ſame thing is found in ſome other Places, as in the ſecond of the Epidemics, where there is a Paſſage parallel to that juſt quoted; and another which ſays, "That they who die of a Diſeaſe, " neceſſarily die in one of the odd Days; and if the Diſeaſe be long, in a Month or Year that falls out of an odd " Number." We have more on the ſame Subject in the fourth Book of Diſeaſes, where what has been juſt now ſaid of odd Days is looked upon as a generally receiv'd Notion; and therefore if any one ſhould object, that this Book was not written by *Hippocrates*, but by *Polybus* his Son-in-Law, the Proof would loſe nothing of its Force; for the Author does not deliver it as his private Sentiment, but the general Opinion of Mankind.

Galen was obliged to declare againſt odd Days, for the ſame Reaſon that he rejects every thing which concerns the Dignity of the Number *Seven*, and other *Numbers*, which were look'd upon by the *Pythagoreans* to have ſome ſort of Virtue in them, and to be more perfect one than another, after the manner before ſpoken of. And though he agrees that *Criſes* happen in Septenaries, it is not by virtue of the Number *Seven*, but by the Influence of the Moon, which governs the Weeks that are compoſed of ſeven Days. I know not whether *Hippocrates* thought upon the Influence of the Moon upon this Occaſion; but what he ſays in one of his Books before cited, "of an Harmony which reſults from the Conjunction of certain Numbers more perfect and entire than others," plainly ſhews, that he had eſpouſed the Opinion of *Pythagoras*; and of this *Celſus* was very ſenſible, when he ſays, that "the Numbers of the *Pythagoreans* were formerly much celebrated, and were the Cauſe that the antient " Phyſicians fell into Errors." Here it is plain that he had an Eye to *Hippocrates*.

But whatever Opinion *Hippocrates* might entertain concerning the Power of odd Days, and other critical Days, before indicated, he does not ſcruple to acknowledge that the thing ſometimes varies. This appears by an Example brought by himſelf, of a ſalutary Criſis, which happen'd on the ſixth Day of a Diſeaſe; and of another of the ſame Nature, which fell out on the fifteenth; but theſe are rare Caſes, and are no Hindrance to the Eſtabliſhment of his general Rule.

We muſt not, on this Occaſion, forget to obſerve, firſt, that *Hippocrates* did not pretend that all Diſeaſes terminated univerſally in Criſes; but he was nevertheleſs of Opinion, that they could not without theſe terminate ſecurely; and that when a Cure was perform'd without a Criſis, the Patient was ſubject to Relapſes. Secondly, we muſt obſerve, that beſides theſe Changes in Diſeaſes, in Conſequence of which the Patient either dies, or is cur'd, *Hippocrates* often ſpeaks of another Change, which is, when the Diſeaſe, inſtead of terminating, only changes its Species; as when a Pleuriſy becomes an Inflammation of the Lungs, or an Ophthalmy a Phthiſis, or when a Cancer of the Breaſt becomes one of the Uterus. Changes of this Kind are produced when the material Cauſe of the Diſeaſe is removed from one Part to another.

Whatever Opinion we may entertain of the general Philoſophy and Phyſiology of *Hippocrates*, in which, by the way, we find nothing ſo extravagant and trifling as in many modern Theories, founded, as is boaſted, on anatomical Diſcoveries, and mechanic Principles, a Phyſician muſt have practiſed his Profeſſion with very little Improvement to himſelf, and Advantage to his Patients, if he has not, in almoſt every Caſe he has attended, obſerved the extenſive Uſefulneſs of the Doctrine relating to the Concoction of the Humours, and Termination of Diſeaſes. But the Reputation *Hippocrates* gained was principally owing to his exact Obſervation of the moſt minute Circumſtances of Diſeaſes, and the Care he took to give us a Detail of what preceded them, the Symptoms with which they were attended, what afforded Relief, and what exaſperated the Diſorder. This is, properly ſpeaking, to give the Hiſtory of a Diſeaſe; and by following this Method, *Hippocrates* not only learned to diſtinguiſh one Diſeaſe from another, by the Symptoms peculiar to each Species of Diſorder, but he alſo acquired a ſurpriſing Dexterity at predicting Diſeaſes before they happen'd, and determining their Events when they really ſeized the Patient, by comparing the Diſeaſes which attack'd different Perſons, and the Symptoms which generally preceded or followed them. He ſeems, in ſome Paſſages, to inſinuate, that he himſelf was the firſt who proceeded upon theſe Principles, and taught the Manner of foretelling the Event of a Diſeaſe, or making what we commonly call the Prognoſtic. On this Account all Antiquity ador'd him, and was perſuaded, that the Phyſician who from certain Symptoms of a Diſeaſe could tell the Patient every thing that happened, and who could even recount the Circumſtances the Patient had omitted, and foretel how a Diſeaſe would terminate, was a real Judge of the State of the Patient, and deſerv'd to have a great deal of Confidence repoſed in him. And as it is not always in the Power of a Phyſician to ſave his Patients, he may, at leaſt, ſave his own Character, by making a juſt Prognoſtic. *Hippocrates* was ſo well acquainted with Symptoms, that this Branch of Phyſic might be ſaid to be his Maſter-piece: And *Celſus* juſtly obſerves, that whatever Improvements later Phyſicians may have made, yet they were ſtill obliged to adhere to *Hippocrates*, in what he deliver'd with regard to Symptoms. All his Works are full of Obſervations relating to the Symptoms of Diſeaſes; but they are in a particular manner collected and reduced into a Body in his Aphoriſms, his Prognoſtics, his Predictions, and *Coacæ Prænotiones*. *Galen* is not of Opinion, that the two laſt of theſe Works belong to *Hippocrates*; becauſe they are full of Blunders and Imperfections: He alſo adds, that whatever is good and valuable in them, has been taken from the two firſt, and from his Epidemics. But this Circumſtance has not hindered Numbers of learned Men from commenting upon them, and holding them in the higheſt Eſteem. Before a Prognoſtic can be depended upon, one muſt have obſerv'd it to hold univerſally, or at leaſt for the moſt part; for one or two Obſervations are of no conſiderable Moment. This cannot be ſaid of all the Prognoſtics of *Hippocrates*, ſince ſome of them ſeem to be no more than Obſervations made by certain Perſons, who obſerved what happened from the Beginning to the End of a Diſeaſe; and comparing what Symptoms occur'd in the firſt Stage, with what appear'd about the Termination, drew Prognoſtics accordingly. This *Galen* ſeems to inſinuate, when he affirms, that ſome of his Prognoſtics have been taken from his Epidemics. 'Tis poſſible *Hippocrates* might have thought, that the beſt Method of ſucceeding in this Particular, was to examine the Hiſtories of Diſeaſes related by the beſt Maſters, and to draw ſuch Conſequences from them, as made moſt for his Purpoſe. This, to be ſure, was a very proper and rational Method of going to work; but to prevent the Danger he was in of falling into Miſtakes, he muſt have collected an infinite Number of Obſervations upon each Diſorder, with a View to find parallel Caſes in every Species of Diſeaſe; ſo that we might with Juſtice affirm, that when ſuch a Set of Symptoms appear, the Patient muſt die; and that when others appear, he recovers. If, for Inſtance, among twenty Patients labouring under continued Fevers, fifteen or eighteen who have diſcharg'd a few Drops of Blood at the Noſe, and had a little Sweat only on their Heads and Breaſts, have died; and if among twenty who have had a plentiful Diſcharge of Blood, and a large and univerſal Diaphoreſis, fifteen or eighteen have recover'd, we may from theſe Circumſtances conclude, that the former Symptoms are fatal, and the latter ſalutary. But 'tis not probable, that they who have collected theſe Prognoſtics, and eſpecially the *Prænotiones Coacæ*, have always taken care to have a ſufficient Number of Examples of the Caſes they propoſe. The Life of one Man is not ſufficiently long for this Purpoſe, as *Hippocrates* himſelf acknowledges. The Advantages this Phyſician enjoy'd in this Particular were very ſingular; for he ſupply'd the Defects of his own Experience by that of the *Aſclepiadæ*, his Predeceſſors, who were, in all Probability, capable of making Obſervations juſtly, the Difficulty of which *Hippocrates* confeſſes to be ſo great, that he affirms we may very readily be deceiv'd, eſpecially with reſpect to Prognoſtics. The Predictions, ſays he, with regard to acute Diſtempers, are uncertain; and we cannot preciſely determine whether the Patient ſhall die or live. He not only draws his Indications from the component Principles of the human Body, in order to predict Diſeaſes, and their Events, but he conſiders the natural Functions, the Actions, the Habitudes, and Cuſtoms, of each Patient. He alſo takes a View of what happens before the Diſeaſe, and during the Time it rages; of what is produc'd by our own Negligence, or that of others; by the interior Diſpoſition of our Bodies, or by the external Objects which ſurround us. All theſe Circumſtances furniſh'd *Hippocrates* with Symptoms, by which he was enabled to judge of People's State and Condition, with reſpect not only to preſent, but alſo future Diſorders.

The firſt thing *Hippocrates* conſider'd, eſpecially in acute Diſeaſes, was the Viſage of the Patient. It was, according to him, a good Sign, when the Patient had the Countenance of a healthy Perſon; and accordingly as it receded from this State, there was a proportionable Danger. He gives us the following Deſcription of the Viſage of a dying Perſon. "When," ſays he, "the Patient has a ſharp Noſe, ſunk Eyes, hollow Temples, "cold and retracted Ears, the Skin of the Forehead hard, tenſe, and dry, and a livid or leaden Colour, we may "be ſure Death is not at a great Diſtance, unleſs the Patient has been exhauſted by long Watching, by a Flux, "or long Faſting." This by Phyſicians is call'd the *Facies Hippocratica*, in order to denote, that the Obſervation was made by him. Fallen, relaxed, and cold Lips, are elſewhere look'd upon, by the ſame Author, as a Symptom which predicts the ſame Event. This Phyſician drew his Indications alſo from the Eyes in particular. When a Patient cannot ſupport the Light, ſheds Tears involuntarily, and in his Sleep diſcovers a Part of the White of his Eyes, theſe are unfavourable Symptoms, eſpecially the latter, except when the Patient has a Habit of doing ſo, or labours under a Flux. Dull Eyes are alſo a Preſage of Death, or of a great Loſs of Strength. Sparkling, fix'd, and ghaſtly Eyes, denote either a preſent, or an approaching Delirium and Phrenſy. When the Patient ſees ſomething red like Sparkles, or like Lightning, paſſing before his Eyes, it is a Sign of a ſubſequent Hæmorrhage, or Loſs of Blood, which often happens before the Criſis, which ought to be made in this Way.

The Patient's manner of lying alſo indicates his State and Condition. If he lies on one Side, with his Neck, his Arms, and Limbs, a little retracted, this is a good Sign, becauſe 'tis the Poſture of a Perſon in Health. On the contrary, if the Patient lies on his Back, with his Arms ſtretched out, and his Limbs extended, and eſpecially when he ſlides or ſlips towards the Feet of the Bed, this is a Sign of Decay of Strength, and of approaching Death. When a Patient lies upon his Belly, this, unleſs he is accuſtomed to do ſo when well, indicates a Delirium, or a Pain of the Belly. When Perſons labouring under burning Fevers are always feeling for ſomething with their Hands, and putting them to their Eyes, as it were to take away ſomething that paſſes before them: When they move their Hands over the Bed and Cloaths, as it were to ſeek for ſomething, or to pick the Flocks of Wool out of them, all theſe are Signs of a Delirium, and of Death. When a Patient naturally ſilent begins to ſpeak more than he uſually did, or when a great Talker becomes ſilent, this Change is itſelf a kind of Delirium, or at leaſt denotes the ſudden Approach of one, and is accordingly by *Hippocrates* mentioned as a Sign thereof. The Subſultus, or convulſive Motions of the Tendons at the Wriſts, alſo preſage a Delirium. As for the different Sorts of Deliriums, *Hippocrates* dreaded the Conſequences of thoſe moſt which turn'd upon Subjects of a gloomy and terrible Nature; but thought thoſe leſs dangerous, which were accompany'd with Gaiety and Pleaſantry. A frequent and uneaſy Reſpiration imports either the Pain the Patient ſuffers, or an Inflammation of the Parts above the Diaphragm. A long Reſpiration, or ſuch as requires a great deal of Time, is a Sign of a Delirium; but an eaſy and natural Reſpiration is always a happy Symptom in acute Diſorders. 'Tis obvious *Hippocrates* depended very much upon the Signs drawn from Reſpiration; ſince, in ſeveral Paſſages, he is at ſingular Pains to deſcribe the different Manners in which the Patients reſpire. Thus he mentions an uneaſy, a ſlow, a great, and a ſmall Reſpiration; a Reſpiration which is great or long *outwardly*, that is, in the Time of Expiration; a Reſpiration which is ſmall and ſhort *inwardly*, that is, when the Breath is drawn in; a Reſpiration which is, as is were, doubled, and ſome other Kinds. Continual Watchings in acute Diſorders denote either preſent Pain, or an approaching Delirium. All the Excrements of the human Body alſo ſupply'd *Hippocrates* with Signs, upon which he very much depended. He was very careful in examining the Urine, the Fœces, the Wind diſcharg'd, the Sweat, the Spit, the Saliva, Excrements of the Noſe, the Tears, the Wax of the Ears, and the Pus of Ulcers; and all theſe he look'd upon as things from which he might draw the moſt certain Signs with regard to the State and Diſpoſition of the Humours. But theſe Circumſtances lay us under no Obligation to believe *Cælius Rhodiginus*, when he tells us, that *Hippocrates* was ſo fond of improving in his Profeſſion, that he was not aſham'd to taſte the Excrements themſelves. If any one before this Author has aſſerted this Circumſtance concerning *Hippocrates*, it has undoubtedly been with a View to turn this great Phyſician into Ridicule.

Hippocrates, indeed, examined all theſe Subſtances with regard to their Qualities, that is, their Colour, Smell, and Conſiſtence, the extraneous or extraordinary Matter they contained, their Heat, their Coldneſs, and their ſharp and acrid Quality. He alſo examined them with reſpect to their Quantity, the Places whence they were diſcharged, the Time they had been retained, the Manner, and other Circumſtances, with which they were evacuated. 'Tis not to be denied, but he judged of ſome of theſe Subſtances by the Taſte, but then he depended upon the Patient's, and not upon his own Taſte. He drew, for Inſtance, certain Indications from ſaltiſh or ſweet Spit; from the Sweat, the Tears, or Excrements of the Noſe which were either ſaltiſh or ſour. The Wax of the Ears is, indeed, according to him, ſweet in ſuch as are a dying, or will not recover from their Diſorder; but bitter in thoſe who will eſcape. Except this, there is not a ſingle Caſe in which the Patient may not be made to judge of the thing himſelf. But nothing hinders the Phyſician who looks upon this as a material Circumſtance, from making thoſe who are nearly intereſted in the Patient, or ſuch as are employed in the loweſt Services of Life, to try the Experiment. In another Paſſage, *Hippocrates*, ſpeaking of the Excrements of the Belly, ſays, that in certain Caſes they are, as it were, ſaltiſh. In another Paſſage he makes mention of a Fever, which he calls *Salt*. But, with reſpect to this, *Galen* obſerves, that tho' Salt is generally diſcovered by the Taſte, and not by the Touch; yet the Phyſician, in feeling the Pulſe of ſuch a Patient, finds ſomething rough and ſtimulating, as if he applied his Hand to Fleſh that had been ſalted, or ſoaked in Brine. I am really of Opinion, that certain Species of Salts may be diſcovered by the Touch, and that the Salt of the Excrements mentioned in the firſt Paſſage may be known by the Manner in which the Anus is ſtimulated when the Fœces are diſcharg'd. But in this Caſe the Patient is Judge, and not the Phyſician.

Among all the Excrements, the Urine and the Fœces ſupplied *Hippocrates* with the largeſt Number of Prognoſtics, with regard almoſt to all Diſeaſes. The beſt Urine, according to him, is that whoſe Sediment is white, ſoft, and ſmooth. When the Urine continues thus thro' the whole Diſeaſe till the Criſis happens, the Patient runs no Riſque, and is ſoon cured. This *Hippocrates* called a concocted Urine, or ſuch as imported the Concoction of the Humours. He obſerved, that this Concoction did not often appear to be full and complete, except on the critical Days, which give a lucky Termination to the Diſeaſe. There is a Neceſſity, ſaid he, for comparing Urine with the Pus which flows from Ulcers. As the Pus, which is white, and poſſeſſed of the Qualities of ſuch Urine as we have mentioned, is a Sign that the Ulcer is nearly cured; ſo the Pus, which is of a different Colour from white, and of a bad Smell, is a Sign, that the Ulcer is malignant, and conſequently to be cured with Difficulty. Juſt ſo all the Urines which are like thoſe we have already deſcribed, are good, whilſt all others are bad, and only differ from each other in Degrees. The firſt Species never appears till Nature has got the better of the Diſorder, and is an Indication, that the Humours are concocted, without which a Cure cannot reaſonably be expected. But Urine of the latter Species is diſcharged, ſo long as the Crudities ſubſiſt, or ſo long as the Humours are not concocted. Among Urines of this laſt Species, the beſt are ſuch as have a reddiſh Colour, with a ſoft and ſmooth Sediment. Theſe denote that the Diſeaſe will be ſomewhat long, but not dangerous. The worſt Species of Urines are ſuch as have a high-red Colour, and are at the ſame time clear, and without Sediment; and ſuch as, when juſt diſcharg'd, appear confuſed and turbid. Urines have alſo ſometimes a certain Cloud ſuſpended in them. In proportion as this Cloud is at a greater or ſmaller Diſtance from the Bottom of the Veſſel, or differs from the Colour of which the Sediment ſhould be, the larger or ſmaller Quantity of Crudities is contained in the Body. Urines which are white and clear like Water, alſo denote great Crudities, and ſometimes a Tranſlation of the Bile to the Brain. Thoſe Urines which are yellow, or reddiſh, denote too large a Quantity of Bile. Urines which are black, are worſt of all, eſpecially if they have a diſagreeable Smell, or are either entirely thick, or entirely limpid. Urines whoſe Sediment reſembles coarſe Meal, Bran, ſmall Laminæ or Scales, are bad Preſages, but eſpecially the laſt, ſince by this means we may be aſſured of the bad Diſpoſition of the Bladder and Kidneys. The Fat which ſometimes ſwims at the Top of Urine in form of a Spider's-web, denotes a Conſumption of the Fleſh and Solids. A Diſcharge of a large Quantity of Urine is a Sign of a Criſis.

We muſt not forget to obſerve, that *Hippocrates* compared the State and Diſpoſition of the Tongue with that of the Urine; that is, if the Tongue was yellow, and coloured with Bile, the Urine muſt be of the ſame Colour; and on the contrary, when the Tongue is red and moiſt, the Urine is of a natural Colour. The Fœces which are ſoft, of a reddiſh Colour, and a due Conſiſtence, which are not extraordinarily fetid, and which correſpond to the Quantity of Aliment taken, are beſt of all. They ought alſo to become ſomewhat thicker when a Criſis draws near. It is alſo a good Omen, when round long Worms are diſcharged at the ſame time. But if the Matter of the Fœces is liquid, it may afford the Patient Relief, provided it is diſcharg'd without much Noiſe, and not too frequently in ſmall Quantities, nor in ſuch large Quantities, or ſo often, as to bring on Faintings. Fœces which are aqueous, white, or of a greeniſh pale Colour, red, frothy, or glutinous, are bad. That Excrement which is black, that which reſembles Fat, that which is livid, or like Verdegriſe, are the moſt fatal, and of the worſt Preſage. That which is purely black, or is only a Diſcharge of the black Bile, is univerſally a bad Omen; ſince this Humour, from whatever Quarter it comes, denotes the bad State of the Viſcera. Excrements of various Colours denote the Length of the Diſeaſe, and ſhew that it is not altogether free from Danger. *Hippocrates* ranks among the ſame Claſs Excrements which are bilious or yellow, or mixed with Blood, thoſe that are green and black, and thoſe which reſemble Scrapings of the

Bowels. He alſo eſteemed thoſe Stools bad which contained only pure Bile, or Phlegm alone. The Subſtance diſcharged by Vomit ought to be mixed with Bile and Phlegm; and that in which one of theſe is only found is bad. When this Matter is black, livid, green, or of a porraceous Colour, 'tis a fatal Symptom. The Matter which is very fetid is ſo likewiſe; but when it is fetid and livid at the ſame time, Death will ſoon be the Fate of the Patient. A Vomiting of Blood very often proves mortal.

The various Kinds of Spit, which in Diſorders of the Lungs and Pleuriſies afford the moſt Relief, are ſuch as are expectorated moſt ſpeedily and eaſily. It is alſo a good Sign, if they are at firſt mixed with a great deal of yellow Matter; but if they appear all of the ſame Colour, or are red, long after the Beginning of the Diſorder, or if they are ſaltiſh, acrid, or occaſion a violent Cough, they are bad. Spits purely yellow are alſo bad, and ſuch as are white, glutinous, and frothy, afford no Relief. Whiteneſs of the Spit is alſo a Mark of Concoction; but it muſt not be viſcid, too thick, or too clear. The ſame Judgment may be formed of the Excrements of the Noſe, with regard to Concoction or Crudities. Black, green, or red Spit, is of bad Preſage. In Inflammations of the Lungs, Spit mixed with Bile and Blood is a good Omen, if it appears at the Beginning; but bad, if it only appears about the ſeventh Day. But in theſe Diſorders, the worſt of all Signs is when the Spit is retained, and when the too great Quantity of Matter, which preſents itſelf for Expectoration, produces a Stertor, or Rattling in the Throat and Breaſt. Spitting of Blood is followed by a Spitting of Pus, then by a Phthiſis, and laſt of all by Death.

Good Sweats are thoſe which happen on a critical Day, which are plentiful, univerſal, and remove the Fever. Cold Sweats are bad, eſpecially in acute Fevers; for in others they only denote the Length of the Diſorder. When a Diaphoreſis only appears on the Head and Neck, 'tis a Sign that the Diſorder will be long and dangerous. A gentle Sweat or Moiſture appearing on any Part, ſuch as the Head or Breaſt, does not afford Relief, but denotes the Seat of the Diſtemper, and the Weakneſs of the Part on which it appears. This ſort of Sweat *Hippocrates* calls *Ephidroſis*.

During the Time that Pus is forming in any Part, Pain is felt, and the Fever continues; but, as ſoon as the Pus is form'd, or prepar'd, the Pain and Fever ceaſe. The Hypochondria and Belly ought always to be ſoft and equal, both on the Right and Left Side, and every-where elſe. When theſe Parts are hard, unequal, hot, elevated, or when the Patient cannot ſuffer them to be handled, it is a Sign of the bad State and Diſpoſition of the Viſcera, except in Caſes where there are external Inflammations.

Hippocrates alſo examin'd the State of the Pulſe, or the Beating of the Arteries; and, according to the Obſervation of *Galen*, he was the firſt Phyſician who was known to uſe Σφυγμὸς (the Pulſe) in the Senſe in which it is commonly taken, that is, a Beating of the Arteries. For we muſt obſerve, that the antient Phyſicians, and even *Hippocrates* himſelf, for the moſt part, meant by this Word the extraordinary Pulſation, or violent Beating, which is felt in any Part that is inflam'd, without applying the Fingers to it. But *Galen*, who gives us this Account of *Hippocrates*, in another Paſſage informs us, that the Pulſe is the only Part of Medicine upon which this antient Phyſician has not touch'd. Some *Greek* Authors, of a later Date than *Galen*, have alſo made the ſame Obſervation. We may, however, collect ſeveral Obſervations, with reſpect to this Particular, from the Writings of *Hippocrates*: When, for Inſtance, in the fourth Book of his Epidemics he informs us, that, in very acute Fevers, the Pulſe is very frequent, and very great; when, in the ſame Paſſage, he makes mention of tremulous and ſlow Pulſes; and when he obſerves, in ſpeaking of the *Fluor Albus*, that, when the Pulſe beats in a gentle and languid Manner, it is a Sign of approaching Death. In like manner he obſerves, in his *Coacæ Prænotiones*, that lethargic Patients have a ſlow and languid Pulſe. He alſo informs us, in the ſecond Book of his Epidemics, that, when the cubital Vein *(that is, Artery)* beats, the Patient is in danger of becoming furious, or is a Perſon naturally prone to Anger. Theſe Quotations ſhew us, that *Hippocrates* was not entirely ignorant of the Signs drawn from the Pulſe; but it muſt be own'd, his Precepts, with reſpect to this Particular, are very few, in compariſon to what has been deliver'd with ſo much Exactneſs, and frequently more than once, concerning all the other Signs. Neither does it appear, that he himſelf, in Practice, made any Uſe of the Rules he has laid down with reſpect to the Pulſe; at leaſt, in his Epidemics, which are a ſort of Journal of a great Number of Caſes he had treated, we find nothing relating to this Subject, except the two Paſſages already quoted. And it is ſurpriſing, that, conſidering his Exactneſs in every other reſpect, and his Care to obſerve the moſt minute Circumſtances, he ſhould forget to make the leaſt Mention of the State of his Patients Pulſes. In all Probability he did not judge whether his Patients were feveriſh or not, or of the Degrees of their Fever, if they were really ſo, by the Pulſe. Perhaps the different Degrees of Heat and Cold the Patients felt, their greater or leſs Inquietudes, and particularly their Manner of Reſpiration, which he generally obſerv'd with the utmoſt Care, were by him thought Points of the greateſt Importance, and the Marks by which he diſcover'd whether his Patients labour'd under a Fever or not, and whether that Fever was conſiderable or not. Theſe Obſervations of *Hippocrates* relate principally to the Prognoſtics of Diſeaſes; and if, in this Particular, he was in the right, it was the Effect of his Judgment, his Exactneſs, and his particular Attention to the Nature of every Diſorder that occur'd: this made *Galen* very juſtly affirm, that *Hippocrates* was the moſt careful, and the moſt exact, of all Phyſicians. Care in obſerving every thing that happen'd to the Patient, was ſo material and conſtituent a Part of his Character, that, notwithſtanding his philoſophical Turn, he was not by far ſo much attach'd to reaſoning upon the Symptoms of Diſeaſes, as careful in relating them with Candor and Honeſty. He was principally taken up in obſerving the Symptoms of Diſeaſes, in order to diſtinguiſh them, and judge of the Events of thoſe which he had actually under his Management, by comparing them with ſimilar Caſes he had formerly treated; and he was ſeldom at any great Pains to aſſign a Reaſon, why, when ſuch a Symptom appeared, it was generally follow'd by ſuch another. The Empirics, a Sect of Phyſicians, who aroſe after him, for this Reaſon diſputed, with the Dogmatic or Reaſoning Sect, the Honour of having this Father of Phyſicians on their Side; for the former maintained, that the Method of *Hippocrates* was not different from their own, and look'd upon him as an Author of their own Sect. *Galen* had ſome Reaſon to blame them in this Particular; for 'tis not to be doubted but *Hippocrates* reaſon'd, and even ſometimes philoſophiz'd, in the Courſe of his Profeſſion. The Empirics, indeed, had been in the right, if they had only aſſerted, that the Philoſophy of *Hippocrates* was none of the beſt; and ſaid, that they prefer'd the bare Deſcriptions he had given of Diſeaſes, and their Symptoms, and his Directions and Obſervations with regard to the Method of treating them, before all his Reaſonings on the Cauſes of theſe Diſorders. 'Tis, however, certain, that *Hippocrates* has recommended his Medicine to Poſterity by thoſe very things for which the Empirics admire him; and 'tis by theſe means he has made himſelf eſteemed even by thoſe who were no Favourers of his Theory. We may add, that the Books of *Hippocrates*, which contain the moſt Reaſoning and Philoſophy, are aſcribed to other Authors; ſuch as his Book *de Natura Hominis*, that *de Natura Pueri*, that *de Ventis*, the firſt of thoſe *de Diæta*, and ſome others. The Author of the Book *de Subfiguratione Empirica*, which is among the Works of

Galen, is of the ſame Opinion, when he ſays, "That if *Hippocrates* has in the Eyes of Poſterity acquired a "Character equal to that of *Æſculapius*; it was becauſe he cured Luxations, Fractures, and Ulcers, which others "could not cure;" and becauſe he told beforehand what was to happen, and what had happened to Patients without any Information; and not becauſe he wrote large Volumes, or advanc'd curious and fine-ſpun Speculations.

Beſides, it ought to be obſerved, that the Skill of *Hippocrates*, and the Phyſicians who came after him, and imitated him with reſpect to the Prognoſtics of Diſeaſes, made the People, who did not know how far their Knowledge extended, look upon them as Perſons of a divine Character, and exact things of them which were far beyond their Skill. Some of theſe Phyſicians have been very fond of keeping up this Opinion amongſt the Vulgar, with a View to the Profit they expected to reap from it; ſince, ſaid they, if the People will be deceived, let them be ſo.

What obliges ſome Phyſicians, in our Days, to go upon this diſhoneſt and unworthy Maxim, is their really obſerving, that the People will be deceived; and that thoſe Phyſicians, who, believing themſelves capable of ſatisfying reaſonable Patients, ſcorn to turn Quacks and Mountebanks, have very little Practice, and are abandon'd in favour of a Set of miſerable Blunderers, who can neither read, nor write, but who are ſought after eagerly, in order, from a Glaſs of Urine, to give an Account of a Diſorder, which, perhaps, they could not diſcover, tho' they ſaw the Patient himſelf. When we ſpeak of the People, we do not mean the Dregs of Mankind; for People of this Character are equally ſpread thro' all Conditions of Life, and are, generally, the moſt numerous in every Community. It often happens, I know not for what Reaſon, that People, otherwiſe valuable for Penetration and good Senſe, are as much miſled in this Particular, as the meaneſt of the Vulgar.

But, to return to *Hippocrates*, 'tis a Circumſtance which does not a little contribute to raiſe his Merit, that, notwithſtanding he lived at a Time when Medicine was involved in Superſtition, yet he never ſuffered himſelf to be drawn away by the prevailing Folly. Neither his Reaſonings, his Obſervations, nor his Remedies, have the leaſt Tincture of this Weakneſs, which was ſo general in his Days, and is ſtill ſo prevalent among ſome Phyſicians. The Prognoſtics alſo of *Hippocrates* have no other Foundation than purely natural Things. 'Tis true, in his Book *de Inſomniis*, he ſpeaks of ſome Ceremonies or Sacrifices to be performed to certain Divinities, according to the Nature of the Dreams; but theſe Fooleries were no more in him than the Duties injoined by his Religion. His good Senſe in other Parts of that Work appears by his accounting for Dreams from what People have done or ſaid; he alſo draws Conſequences from them with reſpect to the State of the Body, accordingly as it is loaded with Bile, Phlegm, or Blood. This he infers from the Subjects of different Dreams, and the various Circumſtances with which they are accompanied.

Thus we ſee, that almoſt whatever we know with reſpect to the Signs and Symptoms of Diſeaſes, has been learned from *Hippocrates*; and we are not leſs obliged to him for ſeveral important Maxims relative to the Preſervation of Health, and the Cure of Diſeaſes, which the modern Phyſician muſt never loſe Sight of, if he intends to be ſucceſsful in his Practice. Thus he informs us, that the Preſervation of Health principally depends upon eating without Satiety, and uſing ſuitable Exerciſe; for, ſays he, it is impoſſible for a Perſon to continue in Health, if he eats, without Labour; becauſe Eating and Exerciſe mutually aſſiſt each other. Exerciſe conſumes the Superfluities of the Aliment received into the Body; and Aliment again repleniſhes the Body, and ſupplies the Deficiencies of what is worn away and conſum'd by Exerciſe. But he ſtrongly recommends Temperance, or Moderation, with reſpect to Meat, Drink, Sleep, Exerciſe, and Venereal Enjoyments.

What the Moderns have ſaid, in a thouſand Volumes, may be reduc'd to theſe ſhort Rules, which are ſo excellent, that if they were univerſally put in Practice, however beneficial they would be to Mankind in general, they would ruin the Phyſicians, by rendering their Art in a great meaſure uſeleſs; for very few Diſeaſes would occur, except ſuch as are Endemial, Epidemical, or produc'd by Accident; and even theſe would generally be ſo mild, as to admit eaſily of a Cure.

Hippocrates has, farther, been very expreſs in his Obſervations concerning Air, Water, particular Situations, and Climates. His indefatigable Induſtry, alſo, furniſh'd him with a great Number of important Remarks, relative to particular Sorts of Aliments, and Exerciſes, conſider'd both as a Preſervative from, and curative of, Diſeaſes; nor has he omitted taking Notice, that Baths, Clyſters, Frictions, and gentle Vomits, may be advantageouſly employ'd as Aids or Succedanea to Exerciſe, for the Preſervation of Health. On this Occaſion I cannot omit remarking, that Dr. *Cheyne* lays great Streſs, in many Parts of his Works, upon frequent gentle Vomits, with the ſame View, in valetudinary Conſtitutions.

With reſpect to chronical Diſtempers, the Method of Cure, practiſed by *Hippocrates*, conſiſted principally in regulating the Diet, directing proper Exerciſes, and preſcribing Baths, Unctions, Frictions, and a very few Medicines; and it does not clearly appear, that, at this Day, notwithſtanding all our boaſted Improvements, we can treat chronic Caſes in a manner more rational, or more frequently attended with Succeſs. I know there are other, but perhaps leſs ſucceſsful, Methods of treating theſe Caſes, by the frequent Exhibition of Remedies, ſome of which operate with conſiderable Violence; but it has been diſputed, perhaps not without Reaſon, whether theſe Medicines, by their Operation, tho' they may remove the preſent Complaint, may not injure the Conſtitution ſo far, as to lay a Foundation for other Diſeaſes, or to ſhorten Life. This *Quarles* alludes to, when he repreſents a Phyſician perpetually ſnuffing a Candle, inſinuating, that it burns the clearer for his Aſſiſtance, but waſtes, at the ſame time, the faſter. I would not be underſtood to mean, that ſuch Medicines are never to be uſed; for there are *Herculean* Diſeaſes, which require adequate Remedies; and of this *Hippocrates* was abundantly ſenſible, and accordingly apply'd them, when more gentle Treatment fail'd of Succeſs.

The extraordinary Sagacity, however, of *Hippocrates*, made him diſcover, that Exerciſes of all Sorts were prejudicial in acute Diſeaſes; accordingly he never directed them in theſe Caſes; and in the ſixth Book of his Epidemics, he ſhews the Abſurdity of *Herodicus* in conducting in a different Manner.

In Diſeaſes of the acute Kind, *Hippocrates* was convinc'd by Experience, that Nature alone bore a great Share, and was very powerful in conducting the Diſeaſe through all its Stages, preparing or concocting the morbific Matter for Expulſion, and bringing it to a Criſis. In purſuance of this Opinion, inſtead of diſturbing Nature in her ſalutary Operations, by adminiſtring a Multitude of Remedies, he induſtriouſly waited on her, though not as an idle Spectator; for he endeavour'd to promote the Concoction and Preparation of the Humours, and to moderate the Symptoms, when exceſſive, by a juſt Regimen, and a few Remedies; and when evident Signs of Concoction appear'd, and not before, he aſſiſted Nature, when deficient, in the Expulſion of the morbific Matter, by thoſe Evacuations to which he obſerv'd a ſpontaneous Tendency.

The principal Rules by which he regulated his Practice, are the following.

Firſt, that Contraries or Oppoſites were the Remedies of their Oppoſites; that is, if we ſuppoſe certain things oppoſite to each other, we muſt employ them againſt each other. He explains this Maxim in that Aphoriſm where he ſays, that Evacuation cures the Diſeaſes which proceed from Repletion, and Repletion thoſe which proceed from Evacuation. Thus Heat deſtroys Cold, and Cold Heat.

In the ſecond Place he aſſerted, that Medicine was no more than an Addition of what was wanting, and a Subtraction or Retrenchment of what was ſuperfluous. This Axiom is explained by what *Hippocrates* ſays, when he informs us, that there are certain Juices or Humours, which, on certain Occaſions, muſt be evacuated, diſlodg'd, or dry'd up; and others which muſt be recruited, and produc'd afreſh in the Body.

As for the Manner of doing this, he cautions us in general, to beware of evacuating, or filling too ſuddenly, or too plentifully; and informs us, that it is dangerous to become ſuddenly hot, or ſuddenly cold; ſince all Exceſſes are prejudicial to Nature.

In the fourth Place *Hippocrates* aſſerted, that it was ſometimes neceſſary to dilate, and ſometimes to contract: To dilate and open the Paſſages by which the Humours are naturally evacuated, when they are either not ſufficiently open, or entirely obſtructed; and, on the contrary, to brace up the relaxed Paſſages, when the Juices which paſs through them ought either not to be evacuated at all, or are actually diſcharging in too large a Quantity. He adds, that there are certain Occaſions, on which the Phyſician ought to mitigate; others, on which he ought to indurate; others, on which he ought to ſoften; ſometimes he muſt attenuate, and ſometimes inſpiſſate; ſometimes he muſt rouſe, and give a Stimulus; and ſometimes ſtupefy, and render void of Senſation; and all this with regard to the Humours, and the ſolid Parts of the Body.

In the fifth Place he adviſes us, to have a particular Regard to the Courſe of the Humours, and diligently to obſerve whence they come, and whither they tend; and in Conſequence of this he adviſes, that when they tend where they ſhould not go, we ſhould derive them to ſome other Part, and alter their Direction, almoſt in the ſame manner in which the Water of a Rivulet is turn'd. Or, upon other Occaſions, we muſt endeavour to divert theſe Humours, deriving thoſe upwards which tend downwards, and thoſe downwards which tend upwards. This is neither more nor leſs than the modern Doctrines of Derivation and Revulſion.

In the ſixth Place he obſerves, that what muſt neceſſarily be diſcharg'd, ought to be carried off through proper Paſſages.

Seventhly, When, ſays he, we do any thing according to Reaſon, though the Succeſs does not always anſwer, yet we ought not too eaſily, or too quickly, to change our Method of acting, ſo long as our firſt Reaſon remains in Force. But, as this Maxim may ſometimes prove fallacious, the following may be a kind of Limitation and Correction to it. "We muſt," ſays *Hippocrates*, "pay a great Attention to that which "affords Relief, and that which does Injury; that which the Patient eaſily bears, and that which he is not "able to ſupport."

His ninth Advice is of the greateſt Importance. We muſt, ſays he, do nothing raſhly. We muſt ſometimes remain at Reſt, or without doing any thing. By this means, if we do no Good to the Patient, we at leaſt do him no Harm. To violent Diſorders we muſt, according to *Hippocrates*, apply violent Remedies. What reſiſts the Force of Medicines, the Knife may cure; what the Knife cannot cure, Fire may relieve; but what Fire cannot cure, ought to be look'd upon as incurable. In the laſt Place *Hippocrates* adviſes againſt undertaking deſperate Diſeaſes, ſince their Cure is beyond the Force and Power of Medicine.

Theſe are the moſt general and important Maxims on which *Hippocrates* founded his Practice; and moſt of them preſuppoſe that fundamental Principle he lays down at firſt, which is, that Nature herſelf cures Diſeaſes.

Under the Article Alcali I have given ſo full an Account of the Regimen recommended by *Hippocrates* in acute Diſtempers, that it would be ſuperfluous to take farther Notice of it in this Place. I ſhall therefore proceed to the Remedies known and uſed by *Hippocrates*.

Though the more gentle and lenient Cathartics, with which the *Arabians* and ſome others have enrich'd Medicine ſince the Time of *Hippocrates*, could not be known to him, yet he appears to have been abundantly ſenſible, that keeping the Belly ſoluble, or purging gently, was of the utmoſt Importance in the Cure of Diſeaſes. For this Purpoſe he made uſe of a Decoction of the Herb Mercury, with an equal Quantity of Ptiſan, and a ſmall Portion of Honey, which he directs to be given at Intervals. Sometimes he preſcribes Cabbage, or its Juice; and, if this did not anſwer the Intention, the Leaves of Elder. With a View of procuring Stools, he likewiſe orders a Decoction of Beet with Honey, and of Cabbage with Salt. But he more frequently recommends Aſs's Milk, and that in ſo large a Quantity ſometimes, as ſixteen Heminæ, which is more than eight Pints; nor does he omit the Milk of Cows, Goats, and Mares. He directs, moreover, the Uſe of Whey, which he generally orders to be boil'd; and, according to the Interpretation of *Schulzius*, of a Paſſage in his Treatiſe *De Internis Affectionibus*, Buttermilk of Mares Milk. *Hippocrates* alſo uſed Clyſters and Suppoſitories.

His Methods of provoking a gentle Vomiting were, to fill the Stomach with ſome of the above-mentioned laxative Vegetables, and to make the Patient drink after it a Decoction of Lentils, with an Addition of Honey and Vinegar; or to exhibit large Quantities of a Decoction of Hyſſop, with a little Salt or Vinegar; or of Honey and Water, with a little Vinegar; and if this did not ſucceed, he gave the Patient, ſome little time after, a Draught of warm Water.

The Draſtic Purges employ'd by *Hippocrates* were Hellebore, both black and white; Peplium, Colocynthis, the Grana Cnidia, Cneorum, Elaterium, Scammony, and Thapſia, which ſee under their reſpective Articles.

Hippocrates orders Blood to be taken away on ſeveral Occaſions, and from ſeveral Parts, as the Arms, the Noſtrils, the Forehead, the Occiput, the Veins in the Anus, thoſe under the Tongue, and in the Hands; he appears alſo to have been well acquainted with the Uſes of Cupping and Scarification. See Phlebotomia.

It does not appear, that he made any great Uſe of Narcotics, or Medicines which induce Sleep; though in ſome few Paſſages of his Treatiſes of the Diſorders of Women, he ſpeaks of the Juice of Poppy, as conducive to the Cure of what we now call Hyſterics. He likewiſe takes Notice of Mandrake, but cautions againſt exhibiting it in Quantities ſufficient to cauſe Madneſs; and of Henbane.

As to Fomentations, Baths, Inſeſſions, Suffumigations, and Gargariſms, he ſeems to have been perfectly well acquainted with their Efficacies, and the proper Seaſons and Manners of uſing them; and he lays a particular Streſs upon Ointments. I don't know, that he any-where mentions Plaiſters; but inſtead of theſe he frequently directs Cataplaſms, in Caſes where we, perhaps, might find them preferable to Plaiſters.

There is ſomething too ridiculous in the Notion entertain'd by ſome of *Hippocrates* being an Adept in Chymiſtry, to require a ſerious Examination.

When Veneſection, and the Uſe of Purgatives, which were the two principal and moſt general Means uſed by *Hippocrates* for diminiſhing the Superfluity of the Blood and Humours, were not ſufficient for that Purpoſe, he then had recourſe to Diuretics. This he ſeems to inſinuate in the following Paſſage of his Work *De Ratione Victus in Acutis*. “ All Diſeaſes,” ſays he, “ terminate, or are cur'd by Evacuations made either by the Mouth, “ the Belly, the Bladder, or ſome other like Outlet; but Sweat is common to all Diſeaſes, and equally terminates them all.”

The diuretic Medicines, or ſuch as provoke Urine, were differently prepared, according to the Nature of the Caſe, or the Diſpoſition of the Patient. Sometimes the Bath was uſed for this Purpoſe; and, at other times, ſweet Wine was exhibited with the ſame Intention. The Aliments taken alſo contributed to the ſame Purpoſe. Among the Herbs commonly uſed, *Hippocrates*, for this Intention, recommended Garlick, Onions, Leeks, Cucumbers, Melon, Citruls, Cytiſus, both Sorts of Apium, Fennel, Maidenhair, and Nightſhade, as well as all acrid Subſtances. In the ſame Claſs he puts Honey mixed with Water and Vinegar, and all ſalted Aliment. But when he intended to anſwer that Intention with ſomewhat more Briſkneſs and Violence, he took four Cantharides, from which he cut the Wings and Feet, and exhibited the Powder in Wine and Honey. He ordered theſe ſeveral Remedies in various chronical Diſorders, after Purgation, when he believed the Blood to be ſtill loaded with that Species of Humour which he call'd *Ichor*, or when there was a Retention of Urine.

In ſome Caſes *Hippocrates* propoſes exciting a Diaphoreſis, as well as provoking Urine; but he does not inform us in what manner it is to be done. In another Paſſage he tells us, that we muſt carefully examine whether Sweating be proper or not; and if it is, when, and in what manner, it ought to be excited: But he does not ſpecify the Means proper for that Purpoſe. There is only one Paſſage where he ſpeaks of provoking Sweat, by pouring warm Water on the Head of the Patient, till his Feet ſweat; that is, till a Sweat breaks out on all the Parts of his Body. After this he orders the Patient to eat a large Quantity of boil'd Meal, to drink ſome pure Wine upon it, to be cloſe cover'd up, and to remain in that State for ſome time. What he adds immediately after, of eating two or three Roots of Narciſſus for Supper, does not appear to have any Relation to the Intention of exciting a Diaphoreſis, ſince *Dioſcorides* claſs'd the Narciſſus among Emetics. 'Tis poſſible *Hippocrates* might have given the Patient his Choice, whether he would ſweat or vomit. 'Tis alſo poſſible, that the *Narciſſus* of which *Hippocrates* ſpeaks, was not afterwards known by the ſame Name, which has been the Fate of ſeveral other Simples. In the Works of *Hippocrates* we meet with no other Sudorifics to be taken internally. The Diſeaſe for which he propoſes theſe Medicines is ſuch a Fever, as does not proceed from Bile or Phlegm, but from a Laſſitude, or any other Cauſe. From this Paſſage we may ſee, that *Hippocrates* did not approve of exciting a Diaphoreſis in any Fevers, except that particular Species he mentions; and we ſhall ſee in the Sequel, that the deſtructive Practice of adminiſtring ſtrong Diaphoretics was of much later Date, and founded on a falſe Theory.

In the Days of *Hippocrates* Surgery was ſo connected with Medicine, that the former was ſcarce diſtinguiſhed from the latter by any peculiar and diſcriminating Name. The Book intituled *De Officina Medici* gives ſo full an Account of a chirurgical Apparatus, that it might almoſt be taken for a modern Treatiſe of Surgery. That *Hippocrates* himſelf aſſiſted the Sick by manual Operation, is a Fact which cannot be called in Queſtion. How this Phyſician acquitted himſelf when he had a Wound or Ulcer to cure, we learn from that Book intituled *De Ulceribus*, which, notwithſtanding its Title, treats principally of recent Wounds. But ſince it is univerſally eſteem'd genuine, we ſhall make uſe of it in giving an Account of the Surgery of *Hippocrates*.

This Phyſician, then, forbids a recent Wound in any Part, except in the Joints, to be waſh'd with any thing but Wine. He requires no other Dreſſings beſides a Cataplaſm, which is not to be apply'd immediately to the Wound itſelf, but to the adjacent Parts.

The Food and Drink muſt be exhibited in moderate Quantities; and the harder they are of Digeſtion, their Quantities muſt be proportionably the leſs. The Patient muſt alſo remain in a State of Reſt and Eaſe. When the Wound is not in the Abdomen, but only in the Extremities, he ſuffers the Blood to diſcharge itſelf plentifully, ſince by that means the Parts become leſs full, and a leſs conſiderable Corruption enſues. Oils, and oleous Subſtances, are by no means proper for recent Wounds. In many Wounds, eſpecially where a Corruption is threatened, Purging is of ſingular Service. If a Wound is not thoroughly cleanſed, it will neither heal ſpontaneouſly, nor even when its Lips are brought into Contact.

An *Eryſipelas* accompanying a Wound renders Purging abſolutely neceſſary. Where there is a Wound with Contuſion, a Suppuration muſt be made before the Cure can be performed. For anſwering this Intention therefore, Cataplaſms muſt be apply'd to the tumid Part, but not to the Wound itſelf.

Theſe are his general Directions with regard to Wounds, to which he ſubjoins an Account of the Cataplaſms to be uſed; and of ſuch as are proper for cleanſing ſordid Ulcers. He there alſo gives us an Account of a Medicine proper both for recent and inveterate Ulcers; and that Preparation comes pretty near to the Nature of the *Unguentum Ægyptiacum*, at preſent uſed for the ſame Intention.

Towards the End of the Book there are ſome things relating to an Oedema and Varices. He orders œdematous Swellings of the Feet to have a large Number of ſmall deep Wounds made in them; and directs, that a Varix ſhould be prick'd here-and-there, that the Blood may flow in ſmall Quantities from the little Orifices. In another Paſſage he aſſigns a Reaſon for this ſeemingly unaccountable Piece of Practice. “ Though,” ſays he, “ it is “ not expedient to allow a full and thorough Effuſion of Blood, yet Neceſſity often calls upon us to take away “ ſome.”

With regard to Bandages, he gives the following Direction: “ We ought, ſays he, to deſpiſe thoſe whimſical “ and curious Bandages, which pleaſe the Eye of the Spectator, without anſwering the Intention for which they “ are apply'd; for they are not only troubleſome and idle, but alſo frequently hurtful and prejudicial; and 'tis “ obvious, that the Afflicted ſeek rather a Relief from their Pains, than a conceited and ſuperfluous Elegance in “ their Dreſſings.” What we are to obſerve, with regard to Bandages, he elſewhere accurately lays down, provided the Book *de Officina Medici* claims him as its genuine Author.

His Book *de Fiſtulis* treats almoſt wholly of thoſe of the *Anus*. After he has laid down the Cauſes whence they proceed, he informs us how to make a Search, by introducing a Stalk of freſh Garlick. Then he orders a fivefold Thread, or a Hair, to be paſſed thro' the Orifices of the Fiſtula, and to be gradually drawn cloſer, that its Sinus may be open'd. Then he preſcribes ſeveral Medicines neceſſary for the Cure of this Diſorder, but makes no mention of the Method by cutting.

Hitherto the Surgery of *Hippocrates* appears to be not very bold; but, in his other Chirurgical Pieces, we find him employ'd in cutting and burning. When treating of Wounds of the Head, he directs us when, and how far, the Bone is to be ſcrap'd or perforated. When the Surgeon neglects this, where it ought to have been uſed, a Suppuration happens internally, and the Patient dies convulſed and delirious. “ But, ſays he, this Convulſion “ ſeizes moſt Patients in the oppoſite Side of the Body; for, if any one has an Ulcer on the Left Part of his “ Head, the Convulſion ſeizes the Right Part of his Body, and *vice verſa.*”

That *Hippocrates* had ſeveral Inſtruments for Perforation, we learn from many Paſſages of his Works. Among theſe there is mention made of a certain ſerrated and hollow Terebra, deſign'd for cutting the Bones to the very Membranes, and not unlike to that Inſtrument which we call the Trapan. In his Book *De internis Affectionibus*, we are inform'd, that this Inſtrument was uſ'd in perforating the Ribs, in order to diſcharge the Water, in a Dropſy of the Breaſt; tho' others maintain, that this Operation was perform'd by means of a ſimple *Terebra*.

As for Fractures, *Hippocrates*, after making a due Extenſion, replac'd them, apply'd a Bandage ſuited to the Nature of the Caſe, laid proper Compreſſes, ſlightly cover'd with ſome Cerate, over the Bandage, and ſecured the Compreſſes with Linen Swaths. Then he apply'd Splints, to be ſecur'd by very looſe Ligatures; only for the ſake of Eaſe to the Patient, but not with a View, that the Splints ſhould contribute any thing to the Compreſſion. This Caution he inculcates in the moſt earneſt manner. The Surgeon muſt alſo be able to make a judicious Eſtimate of the Time in which Bones are generally united and conſolidated, by the Formation of a Callus. He gives accurate Directions with regard to this Matter; but informs us, that Difference of Ages and Conſtitutions muſt produce a Variation with reſpect to the Time. The Bones of the Cubitus are conſolidated in the Space of thirty Days, during the firſt ten of which the Diet muſt be ſpare, and of an attenuating Nature. On the tenth Day we are diligently to inquire, if Circumſtances call for it, whether the Reduction has been duly and accurately made. Then the Bandages and Splints are to be again duly apply'd; and, if no Itching is felt, nor an Exulceration ſuſpected, they are to remain in that State till the twentieth Day. The Patient, in the mean time, is gradually to be ſtrengthened by a larger Quantity of more nouriſhing Food, in proportion as the Cure advances. Two Thirds of the thirty Days being thus expir'd, the Bandages are to be made gradually looſer, and fewer, till the Cure is completed.

This is the whole Proceſs, and, as it were, a general Model for reducing and curing broken Bones; for he himſelf adds, "Theſe Directions are, as it were, a juſt and ſtated Law for the Cure of Fractures, inſtructing us "at once how they ought to be treated, and what are the Events of their being ſkilfully manag'd." Here there is no Mention made of Plaiſters, nor do we read of their being apply'd to theſe Purpoſes for a conſiderable Time after the Days of *Hippocrates*; at leaſt we do not find, that *Paulus Ægineta*, who lived many Years after Chriſt, uſed any Plaiſters in the Cure of Fractures.

In his Book *De Articulis*, the Doctrine of Luxations is delivered at great Length: Where, in ſlight Caſes, he adviſes to make the Reduction with the Hand alone; but, in more terrible Caſes, ſuch as a Luxation of the Spine, he makes uſe of an Inſtrument, which he calls Διαναγκασμὸς, the Structure and Uſe of which he deſcribes at Length. Thus alſo, in the Reduction of a luxated Humerus, after enumerating the ſeveral Methods generally uſed, he deſcribes a Machine, under the Name of AMBE, by which the Humerus is moſt eaſily reduc'd; and this very Inſtrument is ſtill uſed by ſome modern Surgeons for that very Purpoſe. *Hippocrates* himſelf ſeems to have been the Inventor of this Machine, which, in all ſucceeding Ages, has bore his venerable Name. He ſeems alſo to have been highly diligent in finding out compendious Methods of Cure in Chirurgical Caſes. As a Proof of his Induſtry in this Particular, we need only conſider his giving an Account of a fruitleſs Experiment he himſelf made, and the Reaſon he aſſigns for acquainting the World with his want of Succeſs. "This, ſays he, "I wrote on Purpoſe; for 'tis inſtructive to know thoſe things which, upon Trial, were not attended with Suc-"ceſs, and the Reaſons why."

Hitherto we have had a Specimen of the Surgery of *Hippocrates*, with regard to Wounds, Ulcers, Fractures, and Luxations; in which Caſes we often find him not afraid to add one Wound to another, or to make Inciſions, for the Relief of the Patient, and the Cure of the Diſorder. He alſo perform'd curious Operations on the Eyes.

In Suppurations of the Kidneys, if a Tumor appears about the Spina, he open'd it, by making a deep Inciſion, that the Pus might be diſcharg'd. He order'd the Paracenteſis to be perform'd on the Breaſt, for evacuating the Pus and Water contain'd in its Cavity. He alſo order'd the ſame Operation to be perform'd in the Abdomen, for carrying off the Water collected in it, in that Species of Dropſy call'd Aſcites; tho', for the moſt part, he ſaid theſe Operations were follow'd by none of the beſt Conſequences. In theſe Diſorders he ſometimes uſed the actual Cautery inſtead of Inciſion.

In general it may be ſaid, that *Hippocrates* was not afraid of uſing the actual Cautery, ſince 'tis certain, that he lays down plain and accurate Directions for cauterizing the Shoulder, or rather the Parts about the Arm-pit, in Caſes where the Humerus frequently ſlips out. He alſo ordered raw Flax to be burnt upon the Parts immediately affected with arthritic Pains, which Piece of Practice has been retain'd by his Followers.

He alſo extracted the Fœtus, when dead, by the Help of Inſtruments, as is obvious from his ſmall Book *De Exſectione Fœtus*: But he not only diſcharged his Diſciples from cutting for the Stone, but alſo bound them by a ſolemn Oath, to leave this Operation to thoſe whoſe Province it came under. That he did ſo, is certain, provided that Form of Oath which paſſes under his Name, was by him really adminiſter'd to his Diſciples; but the moſt Judicious think they have juſt Reaſon to doubt of the Truth of this Circumſtance. In all Probability, the Operations for the various kinds of Herniæ were not practiſed in his Days, ſince Herniæ are only once mention'd by him in his Works.

In order to ſhew the Progreſs which Phyſic had made in the Time of *Hippocrates*, Mr. *Le Clerc* very judiciouſly gives a Catalogue of the Diſeaſes mention'd or deſcrib'd by him, which he diſtributes into five different Claſſes: Under the firſt he comprehends all thoſe Diſtempers which have retain'd the Names he gave them, and are known, by the Signs and Symptoms, to be the ſame which he deſcribes.

The ſecond Claſs contains thoſe Diſtempers which are known by Names different from thoſe by which *Hippocrates* call'd them, but are diſtinguiſhed by the Symptoms which he attributes to them.

The third includes ſuch Diſtempers as *Hippocrates* has call'd by no particular Name, but only deſcrib'd.

Under the fourth are comprehended Diſtempers, which, tho' nam'd and deſcrib'd, are, however, not known at preſent.

The fifth contains ſuch Diſorders as are call'd by Names which at preſent we do not underſtand, and which are not deſcrib'd.

First Class.

A

Ἀγκύλη, Ancyloſis.
Ἀγμοὶ,
Κατάγματα, } Fractures.
Οἱς τὸ αἰδοῖον ἐπαίρειν ἀδύνατον, Impotence.
Αἰδοίων σηπεδόνες, Putrefactions of the Pudenda.
Αἵματος πτύσις, Spitting of Blood.
Αἱμωδίη, Stupor of the Teeth.
Αἱμοῤῥαγίη, Hæmorrhage.
Αἱμοῤῥοΐδες, Hæmorrhoides.
Ἀκροχορδόνες, Warts.
Ἀλγήματα, Pains.
Ἀλυσμὸς,
Βληστρισμὸς,
Ῥιπτασμὸς,
Ἀλύκη, } Anxiety or Reſtleſneſs.
Ἄλφος, White Leproſy.
Ἀλώπηκες, Alopecia.
Ἀμβλυωγμὸς, Dimneſs of Sight.
Ἀναυδίη, Privation of Voice.
Ἄνθραξ, Carbuncle.
Ἀνορεξίη, Loſs of Appetite.
Ἀντιάδες, Tumors of the Tonſils.
Ἀποπληξίη,
Βλητοὶ, } Apoplexy.
Ἀπόληψις φλεβῶν. See the Article Apolepsis.
Ἀπόστημα,
Ἀπόστασις, } Abſceſs.
Ἀποφθορὴ,
Ἔκτρωσις,
Διαφθορὴ,
Ἐκβολὴ, } Miſcarriage.
Ἄρθρα τοῦ πλεύμονος σπασθέντα, Spaſmodic Contractions of the Lobes of the Lungs.
Ἀρθρῖτις, Gout.
Ἀρθρῖτις μετ᾽ ἐπιπωρωμάτων περὶ τοῖσιν ἄρθροισιν, Gout with indurated Matter at the Joints.
Ἆσαι, Nauſeating of Food.
Ἆσθμα, Aſthma.
Ἀσκαρίδες, Worms call'd Aſcarides.
Ἄτοκοι, καὶ ἄφοροι γυναῖκες, Sterility in Women.
Ἄφθαι, Aphthæ.
Ἀφωνίη, Dumbneſs.
Ἀψυχίη,
Λειποθυμίη, } Fainting.

B

Βαρηκοΐη, Dulneſs of Hearing.
Βὴξ, Cough.
Βλεφάρων ἐπιφύσεις ἢ σῦκα, Excreſcences on the Eyelids.
Βλεφάρων ἐκτροπὴ, A Turning of the Eye-lid outwards. See Ectrope.
Βλεφάρων ξύμφυσις, Coaleſcence of the Eye-lids.
Βλεφάρων ψῶρα, Scabby Eye-lids.
Βλητοί. Thoſe were thus call'd who were either apoplectic, or dy'd of a Pleuriſy, and had a Lividneſs on their Sides after Death.
Βόμβοι ἐν ὠσὶν, or ἦχοι, Ringing in the Ears.
Βουβῶνες, Buboes.
Βράγχος, Hoarſeneſs.

Γ

Γαγγραινώδες,
Σηπεδόνες μέλαιναι καὶ ξηραὶ,
Σφάκελος,
Σφακελισμὸς, } Gangrene and Sphacelus.
Γαλιάγκωνες, Shortneſs of the Arms.
Γαργαρέων ἀνεσπασμένος, Retraction of the Uvula.
Γλαύκωμα,
Γλαύκωσις, } Glaucoma.
Τῆς Γνάθου σφακελισμὸς, Sphacelation of the Cheek.
Γογγρῶναι, Hard round Tumors in the Neck.
Τὸ Γονοειδὲς διελθὸν, Involuntary Diſcharge of the Semen, ſimple Gonorrhea.

Δ

Διαῤῥοίη, Diarrhea.
Διαστρέμματα,
Ἐκπτώσεις,
Ἐξαρθρήματα,
Ἐξαρθρώματα, } Luxations and Sprains.
Δοθίην, A Bile.
Δυσεντερίη, Dyſentery.
Δυσουρίη, Dyſury.
Δυσπνοίη, Dyſpnœa.
Δυστοκία, Difficult Labour.

E

Ἐγκεφάλου σεισμὸς, Concuſſion of the Brain.
Ἕδρη ἐπιφλεγμαινούση, Inflammation of the Anus.
Παρὰ τὴν Ἕδρην φῦμα σκληρὸν, A hard Tubercle near the Anus.
Εἰλεὸς,
Χορδαψὸς, } The Iliac Paſſion.
Εἰλεὸς ἰκτερώδης, Iliac Paſſion, attended with a Jaundice.
Ἔκπληξις, A ſudden Privation of Senſation.
Ἔκπτωσις τῆς ὑστέρας, Falling down of the Uterus.
Ἐκπύησις,
Ἐμπύημα, } Empyema.
Ἔκστασις, Alienation of Mind.
Ἔκστασις μελαγχολικὴ, Alienation of Mind, caus'd by Melancholy.
Ἐκχύμωμα,
Ἐκχύμωσις, } Ecchymoſis from Contuſions.
Ἕλκεα, Ulcers.
Ἕλκεα κακοήθεα, Malignant Ulcers.
Ἕλκεα συριγγώδεα, Fiſtulous Ulcers.
Ἕλκεα χοιρώδεα, Scrophulous Ulcers.
Ἕλλωσις,
Ὀμμάτων διαστροφὴ, } Diſtortion of the Eyes.
Ἕλμινθοι,
Εὐλαὶ,
Θηρία, } Worms.
Ἕλμινθοι πλατεῖαι, Flat Worms.
Ἕλμινθοι στρογγύλαι, Round Worms.
Ἔμετος αἱματηρὸς, Vomiting of Blood.
Ἐμπροσθότονος, Emproſthotonos, a Sort of Convulſion.
Ἐξανθίσματα, Cutaneous Eruptions.
Ἐπικύημα, Superfetation.
Ἐπιληψίη, Epilepſy.
Ἐπιμήνια διάπυα, Purulent Catamenia.
Ὑμενώδεα, &c. Unnatural Catamenia of all Sorts.
Ἐπινυκτίδες, Epinyctides.
Ἕρπης, Herpes.
Ἐρυσίπελας, Eryſipelas.
Ἐφηλίδες, Freckles.

H

Ἡπατίτης,
Ἧπαρ φλεγμαίνων, } Inflammation of the Liver.

I

Ἱδρῶα, Puſtules proceeding from an acrimonious Sweat.
Ἴκτερος, Jaundice.
Ἴλιγγοι, Vertigos.
Ἴονθοι, Hard Tubercles on the Face.
Ἰσχίας, Sciatica.
Ἰσχνοφωνίη,
Ψελλισμὸς, } Heſitation.

K

Κάτοχος,
Κατοχὴ, } Catoche.
Καρδιαλγίη,
Καρδιωγμὸς, } Heart-burn.
Καρηβαρίη, Heavineſs of the Head.
Καρκῖνος,
Καρκίνωμα, } Cancer.
Καρκῖνος ἀκρότατος, External Cancer.
Καρκῖνος κρυπτὸς, Latent or internal Cancer.
Καρκῖνος σύμφυτος, Hereditary Cancer.
Κάρος, Carus.
Καταμήνια, ἢ τὰ γυναικεῖα πλείονα, Redundancy of the Catamenia.
Καταμήνια ἀκρήτως γινόμενα, Natural Catamenia.
Καταμήνια ἄχροα, Colourleſs Catamenia.
Καταμήνια ἐκλείποντα, Retention of the Catamenia.
Καταμήνια ὀλίγα, Deficient Catamenia.
Κατάῤῥοι συντόμως ἀπόλλυντες, Suffocating Catarrhs.
Κατάῤῥοος, A Defluxion or Rheum.
Καταφορὴ, Cataphora.
Καῦσος, Cauſus, or burning Fever.
Καχεξίη, Cachexy.
Κεφαλαλγίη, Head-ach.
Κῆλαι, Ruptures.
Κηρίαι,
Ἄχωρ, } Favi and Achores.
Κίονες τηκόμενοι, Putrefactions of the Uvula.
Κιρσοὶ,
Ἰξίαι, } Varices.
Κιρσὸς ἐν πλεύμονι, Varix of the Lungs.
Κίων ἐν αἰδοίοις, Excreſcence in the Pudenda.
Κνησμὸς,
Κνιπότης, } Itching.
Κνίδωσις διὰ τὸ σῶμα, A pungent Itching in the Mouth.
Κόνδυλοι ἄνωθεν τῶν οὔλων, Tubercules of the Gums.
Κόραι αἱ σμικρότεραι φαίνοντες, ἢ γωνίας ἔχουσαι, The Pupil of the Eye too ſmall, or angular.
Κόρης ἕλκωσις, Exulceration of the Pupil.
Κορύζα, Coryza.
Κριθὴ ἐν βλεφάρῳ, Hordeolum on the Eyelids.
Κυνάγχη, Quinſey.
Κυνάγχη ἐς τὴν πλεύμονα, A Quinſey affecting the Lungs.
Κύρτωσις,
Κύφωσις, } Crookedneſs.
Κύστις ἀποληφθεῖσα, Retention of Urine.
Κῶμα, Coma.
Κῶμα οὐχ ὑπνῶδες, Coma Vigil.
Κώφωσις, Deafneſs.

Λ

Λειεντερίη, Lientery.
Λειχῆνες, Tetters.
Λέπρη, Leproſy.
Λεύκη, The white Leproſy.
Λήθαργος, Lethargy.
Λημαὶ, Blear Eyes.
Λημαὶ ξηραὶ, Dry blear Eyes.
Λίθος,
Λιθίασις, } Stone.
Λιμὸς, Canine Appetite.
Λοιμὸς, The Plague.
Λοποὶ, Deſquamations of the Skin.
Λόρδωσις, Diſtortion of the Spine forwards.
Λοχείη κάθαρσις κατεχομένη, Retention of the Lochia.
Λύγμος, Hiccough.

M

Μάδισις, Baldneſs
Μανίη, Madneſs.
Μελαγχολίη,
Τὰ Μελαγχολικὰ, } Melancholy.
Μύλη, A Mole.
Μώρωσις, Stupidity.

N

Νάρκωσις, Torpor, or Loſs of Senſation.
Νεφέλαι, { Clouds,
Ἄχλυες, { Cicatrices
Αἰγίδες, { Pearls
Ἄργεμων, { Albugo } in the Eyes.
Νεφρῖτις, Any Affection of the Kidneys.
Νηπίων ἐκλάμψιες, Epileptic Fits in Children.
Νυκτάλωπες. See the Article NYCTALOPS.

O

Ὀδαξισμὸς, Pains of the Gums in Children from their breeding Teeth.
Πρὸς τοὺς Ὀδόντας ἀλγήματα, Tooth-ach.
Πρίσις τῶν Ὀδόντων, Gnaſhing or Grinding of the Teeth.
Συνερισμὸς Ὀδόντων, Fixing of the Teeth, of the upper and lower Jaws, together.
Ὀδύναι, Pains.
Οἴδημα, Tumor.
Ὄμφαλος φλεγμαίνων, Inflammation of the Navel.
Ὀνείρωγμοι, Nocturnal Pollutions.
Ὀπισθότονος, A Specimen of Convulſion call'd *Opiſthotonos*.
Ὀρθοπνοίη, Streightneſs of Breathing.
Ὄρχις μέγας, Tumefy'd Teſticles.
Ὀσφύος πόνοι, Pains of the Loins.
Οὖλαι μέλαιναι, Blackneſs of the Gums.
Οὐλὴ ἐν κόρῃ, a Cicatrix in the Pupil of the Eye.
Οὖρον κατεχόμενον, Retention of Urine.
Ὀφθαλμὸς ἐῤῥωγὼς, Rupture of the Eye.
Ὀφθαλμοῦ ἕλκωσις, Exulceration of the Eye.
Ὀφθαλμίη ὑγρὴ, Moiſt Ophthalmy.
Ξηρὴ, Dry Ophthalmy.
Ὄψιες διεφθαρμέναι, Pupil of the Eye ſpoil'd.
Τῆς Ὄψιος μετακίνημα, The Pupil remov'd from its natural Situation.
Ὄψις διὰ τῆς ῥώγμης ὑπερέχουσα, Prominence of the Pupil, occaſion'd by a Rupture of the Eye.

Π

Παλμὸς, Palpitation.

Παραφροσύνη,
Παραφορὴ,
Παρακοπὴ, } Delirium.
Παράκρουσις,
Παραλῆρος,

Παρακυνάγχη, a Species of Quinſey.
Παράνοια, Madneſs, Loſs of the Senſes.
Παράστρεμμα ἐν ϖροσώπῳ, Diſtortion of the Mouth.
Παρίσθμια, Diſorders of the Tonſils.
Παρονυχὶη, Whitlow.
Περιπνευμονίη, Peripneumony.
Περιῤῥοὶη, Great Diſcharges of the morbid Humours.
Πιτυρίασις, a ſcurfy Head.
Πλάναι τῶν ὑστερέων, Hyſterical Symptoms.
Πλεύμων ἔμπυος, Suppuration of the Lungs.
Πλευρῖτις, Pleuriſy.
Πλευρῖτις ξηρὴ, Dry Pleuriſy.
Πλευρῖτις ὑγρὴ, Moiſt Pleuriſy.
Πνὶξ ὑστερικὴ, Hyſteric Suffocations.

Πόδαγρα,
Ποδαγρικὰ, } Gout in the Feet.

Πολύπους, Polypus in the Noſe.
Πτερύγιον, the Unguis, a Diſorder of the Eyes.
Πτυαλισμὸς, Spontaneous Salivation.
Πύον διὰ ῥινῶν, A Diſcharge of Pus by the Noſtrils.
Πῦρ, A burning Fever.
Πῦρ ἄγριον, A ſort of inflammatory Tetter, perhaps the Shingles.
Πυρετὸς, Fever.
Πυρετὸς ἀκατάστατος, An irregular Fever, fixed to no certain Period.
Πυρετὸς ἀκρητίχολος, A pure bilious Fever.
Πυρετὸς ἁλμυρώδης, A ſalt Fever.
Πυρετὸς ἀμφημέρινος, A quotidian Fever.
Πυρετὸς ἡμέρινος, A Fever, whoſe Paroxyſms ſeize the Patient in the Day-time.
Πυρετὸς ἀσώδης, A Fever attended with Anxiety.
Πυρετὸς ἄτακτος, An irregular Fever.
Πυρετὸς ἀχλυώδης, A Fever attended with Dimneſs of Sight.
Πυρετὸς βληχρὸς, A ſlight Fever.
Πυρετὸς γλίσχρος. See the Article **Glischros**.
Πυρετὸς δακνώδης, ἢ ϖρήνης τῇ χειρὶ, A Fever which is pungent, or one which is mild to the Touch.
Πυρετὸς διαλείπων, An intermittent Fever.
Πυρετὸς ἐξέρυθρος, A Fever attended with great Redneſs.
Πυρετὸς ἔξωχρος, A Fever attended with great Paleneſs.
Πυρετὸς ἐϖαναδιδὼν, An increaſing Fever.
Πυρετὸς ἐπίαλος, A Fever attended with Shivering.
Πυρετὸς εὐήθης, A Fever of a mild Kind.
Πυρετὸς ἡμιτριταῖος, A Hemitritæus.
Πυρετὸς ἰδεῖν δεῖνος, A terrible Fever.
Πυρετὸς ἰλιγγώδης, A Fever attended with a Vertigo.
Πυρετὸς κακοήθης, A malignant Fever.
Πυρετὸς κοπώδης, A Fever attended with Laſſitude.
Τὰ λειπυρικὰ, Fevers wherein the external Parts are cold, whilſt the internal are extremely hot.
Πυρετὸς λυγγώδης, A Fever attended with Hiccoughs.
Πυρετὸς μακρὸς, A long Fever.
Πυρετὸς μαλθακὸς, A ſoft Fever.
Πυρετὸς νοτιώδης, A moiſt Fever.
Πυρετὸς νυκτέρινος, A nocturnal Fever.
Πυρετὸς ξηρὸς, A dry Fever.
Πυρετὸς ξυνεχὴς, A continual Fever.
Πυρετὸς ὀξὺς, An acute Fever.
Πυρετὸς πελιὸς, A livid Fever.
Πυρετὸς ϖεμπταῖος, A Fever returning every fifth Day.
Πυρετὸς ϖεμφιγώδης, A flatulent Fever.
Πυρετὸς ϖερικαὴς, a burning Fever.
Πυρετὸς ϖεριψυχθεὶς, A cold Fever.
Πυρετὸς ϖλανήτης, An Erratic Fever.
Πυρετὸς τεταρταῖος, A Quartan.
Πυρετὸς τριταῖος, A Tertian.
Πυρετὸς τριταιοφυὴς, A Fever reſembling a Tertian.
Πυρετὸς φονώδης, a deſtructive Fever.
Πυρετὸς χειμερινὸς, A Winter Fever.
Πυρετὸς χλιαρὸς, A moderately hot Fever.

Πῶροι,
Ἐπιπωρώματα, } Chalk-ſtones in the Joints.
Συστρέμματα,
Λιθίδια περὶ τοῖσιν ἄρθροισιν,

Ρ

Ῥάχιος διαστροφὴ, Diſtortion of the Spine.

Ῥέγχος,
Κέρχνος, } A Stertor.

Ῥεῦμα, A Catarrh.

Ῥεῦμα ἁλμυρὸν, A ſalt
—— νιτρῶδης, nitrous } Catarrh.
—— δριμὺ, ſharp
—— θερμὸν, hot

Ῥήγματα, Ruptures of any Veſſels, or of an Abſceſs; or Fiſſures of the Lips, or Tongue.
Ῥίγος, Exceſſive Shivering.

Ῥόος ἐρυθρὸς, Ruber.
Ῥόος λευκὸς, } Fluor { Albus.
Ῥόος ϖυῤῥὸς, Ruffus.
Ῥοῦς γυναικεῖος, Muliebris.

Σ

Σκληρύσματα, Indurated Tumors.

Σκοτοδίνη,
Τὰ Σκοτώδεα, } Vertigo attended with Dimneſs of Sight.

Σπάσματα, Contractions of the Fibres.
Σπασμοὶ, Convulſions.

Σπλῆν ἐπηρμένος,
Σπλῆν μέγας, } Tumor of the Spleen.

Σπληνῖτις, Inflammations of the Spleen.
Σταφύλη, Relaxation of the Uvula.
Στῆθος ἢ μετάφρενον ῥαγὲν, Fracture of the Breaſt, or Back-bones.
Στόμα ἀνεσπασμένον, Diſtortion of the Mouth.
Στόμα δυσῶδες, Fetid Breath.
Στραγγουρίη, Strangury.
Στρεβλοὶ, Wry Neck.
Στρόφοι καὶ ἀνείλησις, Griping of the Inteſtines.
Σύριγγες, Fiſtulas.
Σῶμα νωθρῶδες, Torpidneſs of the Body.

Τ

Ταχυγλωσσότεροι, Too great Volubility of Speech.
Τενεσμὸς, Teneſmus.
Τερηδὼν, Caries.
Τερμινθοὶ, Terminthi.
Τετανὸς, Tetanus.
Τραυλισμὸς, Stammering.
Τρίχωσις, Trichoſis.

Τρόμος, Tremor.
Τρώματα, Wounds.
Τύφλωσις,
Ὀφθαλμῶν στέρησις, } Privation of Sight.

Υ

Ὕδρωψ,
Ὕδωρ, } Dropſy.
Ὕδρωψ λευκὸν φλέγμα,
Ὕδρωψ λευκοφλεγματίη, } Leucophlegmatia.
Ὕδρωψ ξηρὸς, A dry Dropſy.
Ὕδρωψ πλεύμονος, A Dropſy of the Lungs.
Ὕδρωψ ὑποσαρκίδιος, Anaſarca.
Ὕδρωψ μετ᾽ ἐμφυσημάτων, A flatulent Dropſy.
Ὑπερέμετος τῶν φλεβίων περὶ τὴν ἐγκέφαλον, Ruptures of the Veſſels in the Brain.
Ὑπερσάρκωσις, Hyperſarcoſis.
Ὑπογλώσσις, Tumor under the Tongue.
Τὰ Ὕστερα κατεχόμενα, Retention of the Secundines.
Ὑστερικὰ, Various Diſorders of the Uterus.

Φ

Φαλακρώτης, Baldneſs.
Φθίσις,
Φθίη,
Φθινώδεα νοσήματα,
Τῆξις, } Conſumption.
Φθίσις ἕξιος, Conſumption of the whole Habit.
Φθίσις ἰσχιαδικὴ, Iſchiadic Conſumption.
Φθίσις νεφριτικὴ, Nephritic Conſumption.
Φθίσις νωτίας, Tabes Dorſalis.
Φλεγμονὴ, Inflammation.
Φλυκταῖναι, Phlyctænæ.
Φόβοι ἐν ὕπνοις, Frightful Dreams.
Φρενῖτις, Phrenitis.
Φρίκη, Horror, Shivering.
Φύματα,
Κόνδυλοι,
Συστρέμματα, } Various ſorts of Tubercles.
Φύματα περὶ τὴν κύστιν, Tubercles in the Bladder.
Φύματα ἐν τῇ οὐρήθρῃ, Tubercles, or Caruncles, in the Urethra.
Φύματα χοιρώδεα, Scrophulous Tubercles.
Τὰ παρ᾽ οὖς Φύματα,
Φῆρεα, } Tubercles about the Ears.
Φωίδες, Red Blotches on the Legs, cauſed by ſitting too near the Fire.

Χ

Χάσμη ξυνεχὴς, Perpetual Gaping.
Χίμετλα, Chilblains.
Χοιράδες, King's-evil.
Χολέρα, Cholera Morbus.
Χολέρα ξηρὴ, dry
Χολέρα ὑγρὴ, moiſt } Cholera Morbus.
Χρῶμα πονηρὸν, Bad Colour.
——— χλωρὸν, Green-ſickneſs.
Χώλωσις, Limping.

Ψ

Ψώρα, The Itch.

Ω

Ὠμὸν φῦμα ἐν πλεύμονι, Crude Tubercles in the Lungs.
Ὤτων πόνοι, Pains of the Ears.
Ὤτων ὑγρότητες, Redundant Moiſture of the Ears.

In the ſecond Claſs are contained only two Diſeaſes, which are,

Ἀυαντή. See the Article **Auante.**

Φροντὶς νοῦσος χαλεπή. See the Article **Phrontis.**

The third comprehends three Diſeaſes, one of which is deſcribed in the Treatiſe *de Aere, Locis, Aquis*, which I have inſerted under the Article Aer. This Diſtemper is peculiar to the *Scythians*.

Another is thus deſcribed.

"Thoſe whoſe Spleens are tumefied, are affected with putrid Gums, and have a fetid Breath: But if a "Largeneſs of the Spleen be neither attended with Hæmorrhages, nor a fetid Breath, the Patient is afflicted "with malignant Ulcers, and black Cicatrices in the Legs. If there be a manifeſt Abſceſs in the Face, a "grave or deep Tone of the Voice, or a Pain of the Teeth, we may expect an Hæmorrhage from the Noſe. "They who have the Parts under the Eyes very much elevated, will be found to have large Spleens; and if "their Feet alſo ſwell, will appear as if they were hydropic; but the Belly and Loins are alſo to be obſerv'd."

The Symptoms here enumerated leave no Room to doubt of the Author's meaning that Diſtemper which we call the Scurvy.

The third Diſtemper is deſcribed in the third Book of the Epidemics, Section the third.

Before the Beginning of the Spring, the Seaſon being cold, Eryſipelaſes were very frequent, ſome owing to a manifeſt Cauſe, others not; they were however, of a malignant Kind, and very mortal. Many laboured under Diſorders of the Fauces, and had their Voice affected; burning Fevers, alſo Phrenſies, Aphthæ in the Mouth, Tubercles (φύματα) in the Pudenda, Ophthalmies, and Carbuncles, Looſeneſſes, Averſion to Food, attended in ſome with a Thirſt, in others not, were very frequent. The Urine was turbid, much in Quantity, and of an ill Quality; the Patients for the moſt part laboured under a Coma, ſucceeded by want of Sleep. Oftentimes the Diſeaſe had no Criſis at all, (for ἀκρασίαι, I read ἀκρισίαι with *Foeſius*) and ſometimes one that was imperfect; Dropſies alſo and Conſumptions were frequent.

In many Perſons an Eryſipelas, taking its Riſe from very ſmall and inconſiderable Puſtules, (τρωματίοισιν) diſperſed itſelf all over the Body; but if the Patient were about ſixty Years of Age, and in the leaſt negligent, it principally affected the Head. Many, even while under Cure, were ſeized with violent Inflammations, and the Eryſipelas increaſed, and quickly ſpread itſelf every-where. In moſt who were thus affected, the Puſtules (ἀποστάσιες) came to a Suppuration, attended by an extraordinary Putrefaction and Separation of the Fleſh, Nerves, and Bones; for the Collection of Humours was not like good Pus, but a Confluence of corrupt and putrid Matter of many and various Kinds. Thoſe who happened to be thus affected about the Head, ſuffered the Loſs of the Hair from their Head and Beard, with the Denudation and Luxation of the Bones, and a great Defluxion of Humours, with or without a Fever. Theſe Symptoms, however, were more terrible than dangerous; for moſt of thoſe in whom the Matter ripened, and came to a Suppuration, recovered; but thoſe who, after the Removal of the Inflammation and Eryſipelas, remained free from an Abſceſs, died in great Numbers. And thus it happened, whatever Part of the Body the Diſeaſe infeſted; ſometimes the Arm from the Humerus to the Cubit, or the Part below it, had the Bone laid bare, ſome had their Sides affected, others their Fore-part, or Back-part. Sometimes the Thigh, or the Leg, or the whole Foot, were deprived of Fleſh; but the moſt diſmal Caſe of all was, when the Diſtemper ſeized upon the Pubes and Pudenda.

This Deſcription, I ſhould think, agrees pretty well with a malignant Species of the Small-pox; but I am ſenſible, that many are of a different Opinion. As I have given the Paſſage, others may judge for themſelves.

The fourth Claſs includes only two Diſtempers.

Τύφος. See the Article TYPHUS.

Παχὺ νόσημα. See the Article PACHYS.

In the fifth Claſs Mr. *Le Clerc* rekons the following Diſtempers.

Ἀνεμίη, Anemia.

Ἱππȣ̃ρις. See the Article HIPPOURIS.

Νȣ̃σος φθινική. See the Article PHTHINICE.

Ταγγαί. See the Article TANGÆ.

Τυφομανίη. See the Article TYPHOMANIA.

The above-quoted Author mentions φήρεα in this Claſs; but improperly, ſince it is known to import Tubercles under the Ears.

The Medicines taken Notice of by *Hippocrates* are principally the following. But it muſt be remarked, that as the *Greek* Language in general underwent Variations, ſo the Names of Plants were frequently changed; and hence ariſes an Impoſſibility of being certain, that this Catalogue is entirely juſt.

A.

Abrotanum.
Abſinthium.
Acacia.
Acetum.
Adiantum.
Ærugo Æris.
Æs.
Æris Flos.
Æris Limatura.
Æris Squama.
Æs Uſtum.
Agnus Caſtus.
Alica.
Allium.
Althæa
Alumen.
Alumen Ægyptium.
Alumen Sciſſile.
Alumen Uſtum.
Ammoniacum.
Amomum.
Amygdalæ.
Anagallis.
Anagyris.
Anchuſa.
Anemone.
Anethum.
Aniſum.
Anſeris Axungia.
Anſeris Medulla.
Anſeris Stercus.
Anthemis.
Aparine.
Aqua marina.
Argentum.
Argenti Flos.
Ariſtolochia.
Aromatica varia.
Artemiſia.
Atriplex.
Aſinus.
Aſini Stercus.
Aſpalathum.
Aſparagus.
Aſphodelus.
Avena.
Auripigmentum.
Axungia.

B.

Baccharis.
Beta.
Bilis Bovina.
Bilis Porcina.
Bilis Scorpii marini.
Bitumen.
Blitum.
Bombylium. *A Sort of Bee.*
Braſſica.
Bryonia.
Bulbus albus.
Bulbus inter ſegetes naſcens.
Bupreſtis Animal. Bupreſtis Herba.
Butyrum.

C.

Cachrys.
Calamintha.
Calamus Aromaticus.
Calx viva.
Canis.
Cantharides.
Capparis.
Capra.
Capræ Lac.
Capræ Axungia.
Capræ Stercus.
Capræ Sudor.
Carabe.
Cardamomum.
Caſeus.
Caſtoreum.
Cedria.
Cedrus.
Centaureum.
Cepa.
Cera.
Cera alba.
Cervus.
Cervi Cornu.
Cervi Medulla.
Chalcitis.
Chamæleon.
Charien.
Chondrus.
Chryſitis.
Chryſocolla.
Cicer.
Cicuta.
Cinnamomum.
Cneorum.
Cneſtrum.
Cnicus.
Cnidia Grana.
Colocynthis.
Conyza.
Coriandrum.
Cornu Bovinum }
Cornu Caprinum } raſum & uſtum.
Cornu Cervinum }
Cratæogonon.
Crinanthemum.
Crithmum.
Crocus.
Cucumis.
Cucumis ſylveſtris.
Cucurbita.
Cuminum.
Cuminum Æthiopicum.
Cupreſſus.
Cyclamen.
Cydonia.
Cyperus.
Cytiſus.

D.

Daphnoides.
Daucus.
Dictamnus.
Dictamnus Creticus.
Dracontium.
Dracunculus.

E.

Ebenus.
Echinus.
Echinus marinus.
Elaterium.
Epipetron.
Ericé.
Eruca.
Ervilia.
Ervum.
Eryſimum.
Euanthemum.

F.

Faba.
Farinæ variæ.
Ferula.
Ficus ſativæ }
Ficus ſylveſtris } Lignum, folia, fructus.
Fœniculum.
Fœnugræcum.
Fraxinus.
Fuligo.
Fungus.

G.

Galbanum.
Galla.
Glans Ægyptia.
Glaſtum.
Glycyrrhiza.

H.

Hedera.
Helleborus albus.
Helleborus niger.

Hippomarathrum.
Hippophae.
Holoconitis.
Hordeum.
Hordeum Achilleum. See ACHILLEIS.
Horminum.
Hyoſcyamus.
Hypociſtis.
Hyſſopus.
Hyſſopus Ciliciæ.

I.

Ilex.
Iris.
Iſatis.
Juncus Odoratus.
Juniperus.

L.

Lac Aſininum.
Lac Caninum.
Lac Equinum.
Lac Ovinum.
Lac Vaccinum.
Lactuca.
Lagopyrus.
Lapis Cyaneus.
Lapis Magneſius.
Laſerpitium.
Laurus.
Lens.
Lentiſcus.
Leporini pili.
Lepus.
Linum.
Lotus.
Lupinus.

M.

Magnes.
Malicorium.
Malva.
Malum Punicum.
Malus.
Mandragora.
Meconitis.
Meconium Catharticum.
Meconium Infantum.
Meconium Somniferum.
Mel.
Mel Cedrinum.
Melanthium.
Melilotus.
Meliſſæ duæ Species.
Mentha.
Mercurialis.
Milium.
Minium.
Miſy.
Modus Radix.
Molybdæna.
Morus.
Mulus.
Muli Stercus.
Muſcus.
Myrrha.
—— Stacte.
Myrica.
Myrtidanum.
Myrtus.

N.

Narciſſus.
Nardus.
Naſturtium.
Niſus.
Nitrum.
Nitrum rubrum.
Nux.
Nux Thaſia.

O.

Ocymum.
Oenanthe.
Oeſypos.
Oleæ Folia.
Oleæ Fructus.
Oleæ Galla.
Oleæ Lignum.
Oleæ Nucleus.
Oleæ Oleum.
Oleum.
Omphacium.
Origanum.
Orobus.
Ova.
Oxyacantha.

P.

Pæonia.
Panax.
Papaver.
Parthenium.
Paſtinaca.
Pentaphyllum.
Peplium.
Peplus.
Pepo.
Perſea.
Petroſelinum.
Petroſelinum criſpatum.
Peucedanum.
Phaſeolus.
Philiſtium.
Pinei Nuclei.
Pinus.
Piper.
Piſum.
Polium.
Polygonum.
Populus.
Porrum.
Portulaca.
Praſſium.
Pſeudodictamnus.
Pulegium.
Pyra.

Q.

Quercus.

R.

Radix alba.
Rana.
Ranunculus.
Rapa.
Raphanus.
Reſina Lentiſcina.
Reſina Terebinthinæ.
Rhamnus.
Rhus.
Ricinus.
Roſa.
Roſmarinus.
Rubia.
Rubus.
Ruta.

S.

Sagapenum.
Sal.
Sal Thebanum.
Salix.
Salvia.
Sambucus.
Sandaracha.
Satureia.
Scammonium.
Scarabæus.
Scilla.
Scolopendrium.
Secundinæ humanæ.
Seleri.
Sepia.
Sepiæ Os.
Sepiæ Ova.
Serpens.
Serum Lactis.
Seſamoides.
Seſamum.
Seſeli.
Sinapi.
Siſymbrium.
Solanum.
Sorbus.
Spodium.
Stœbe.
Staphyſagria.
Struthium.
Stoibe.
Stybe.
Stybos.
Styrax.
Succinum.
Sulphur.

T.

Tæda.
Tauri Bilis.
Tauri Hepar.
Tauri Urina.
Telephium.
Terebinthina.
Terra Ægyptia.
Terra Alba.
Terra Samia.
Teſtudo.
Thapſia.
Thlaſpi.
Thus.
Thuris Manna.
Thymbra.
Thymus.
Tithymalus.
Torpedo Piſcis.
Tragus Herba.
Tribulus.
Trigonum.
Trifolium.

V.

Verbaſcum.
Verbena.
Vermes.
Vina varia.
Vini Fœces.
Vini Fœces calcinatæ.
Viola alba.
Viola nigra.
Vitis.
Vitis Capreoli.
Vitis Pampinus.
Vitis Sarmenta.
Vituli marini Pulmones.
Vitulus marinus.
Umbilicus Veneris.
Urina.
Urtica.
Uvæ Paſſæ.
Uvarum poſt preſſionem magma.
Vulpes.
Vulpinum Stercus.

X.

Xanthium.

Z.

Zea.

I ſhall add to my Accounts of *Hippocrates*, and his Medicine, the Character a celebrated Modern gives him, who was a moſt excellent Judge of his Merits; and for the ſake of Truth I muſt confeſs, that many Cenſures, which, by the way, he paſſes on Medicinal Writers, are too applicable to the Medicinal Dictionary, whatever Pains I may have taken to avoid deſerving ſuch Reproaches.

'Tis univerſally allow'd, that the Duty of a Phyſician conſiſts in preſerving the Health of Mankind, and removing thoſe Diſeaſes which interfere therewith. The happy Man who is capable of rendering this important Service to thoſe who demand his Aſſiſtance, may juſtly claim the Seat of Honour among the Sons of *Apollo*; and is a genuine Glory and Ornament to his Profeſſion.

But whatever the unthinking Vulgar may imagine, yet the ſagacious and diſcerning Few are well appriſed, that ſuch a Degree of Knowledge is not eaſily acquir'd; and that the Road to a competent Skill, much more to Perfection, in the *Healing Art*, is on all Hands obſtructed, and beſet with almoſt inſurmountable Difficulties. For the Nature of Health, and of Diſeaſes, lies, in a great meaſure, in Obſcurity; their reſpective Cauſes cannot be fully and adequately diſcover'd; and though they could, yet ſtill the Virtues of Remedies are not ſufficiently known. All theſe extenſive Branches of Knowledge muſt, however, be examin'd with Accuracy, by one and the ſame Man, before he can lay a juſt Claim to the Character of a perfect Phyſician.

Though it has always been diſputed whether the Healing Art has receiv'd the moſt conſiderable Advances from the Leſſons taught by Experience, or from the Deductions of Reaſoning and Argumentation, yet luckily there have never been wanting ſome Men of a ſuperior Genius, who have laudably endeavour'd to ſhew their mutual Subſervience to each other, and prove that the former is defective without the latter, which, in its Turn, is equally imperfect without the former. For before Medicine aſſumed the Form of an Art, and began to be regularly cultivated as a Science, the Sick, prompted by the Agonies of their reſpective Diſorders, had recourſe to unknown Remedies, in order to remove Diſtempers, the Symptoms of which they had learned from their own woful Experience. When by Chance, or a Concurrence of favourable Circumſtances, any of theſe Medicines prov'd ſalutary, an Obſervation of the Effects produc'd by them laid the firſt Foundation for the Art of Phyſic, which has ſince prov'd ſo valuable a Bleſſing to the World. Afterwards expoſing the Sick in the moſt publick Places of Reſort, they enacted a Law, injoining every one who paſs'd by to give his Advice to the Diſtreſs'd, on a Suppoſition, that he might have formerly labour'd under the ſame Diſorder, and receiv'd Relief from ſome particular Remedy. This was the ſecond Step which the *Babylonians* and *Chaldeans*, theſe moſt antient Sources of human Literature, made towards the Improvement of Medicine; which, when carry'd into *Egypt* in this imperfect State, was gradually more and more improv'd by that penetrating and induſtrious People; for by hanging up Tables in the Temples of the Gods, with the ſeveral Species of Diſeaſes enumerated, and the moſt proper Remedies ſpecified upon them, and by committing the Charge of each Diſeaſe to particular Phyſicians, they reduced their indigeſted and diſorderly Experiments to a certain Form, more accommodated to Uſe and Practice than they formerly were.

At laſt Mankind being convinc'd, that Remedies alone were not ſufficient to carry Medicine to a due Degree of Perfection, began to implore the Aſſiſtance of Ratiocination, the Uſe of which, in diſtinguiſhing and curing Diſorders, they had long perceiv'd to be abſolutely neceſſary. Upon this, as generally happens in Caſes of a like Nature, Subtilty of Genius was preferr'd to the tedious Method of improving by Experience; and what ought to have gone Hand-in-hand, I mean Theory and Fact, were fooliſhly ſeparated and disjoined; ſpecious and fine-ſpun Speculations were, without conſidering their Influence on Practice, or their Conformity to Truth, obtruded on Mankind as the Baſis of Phyſic, and the ſureſt Foundations of Medicine. But though the Healing Art might, in this imperfect State, be cloathed in all the gaudy Pomp of Eloquence, and recommend itſelf to thoſe of a ſpeculative and philoſophical Turn, yet it ſoon diſcover'd its Defects by proving prejudicial and fatal to the unhappy Patients. Nor will this appear a Myſtery to him who conſiders the Affair in an impartial Light; for Health, as well as Diſeaſes, are no more than ſtated and neceſſary Effects ariſing from a certain particular Concurrence of all thoſe Circumſtances, which, taken in Conjunction, operate as a Cauſe in producing its Effect. But before this Cauſe can be ſo clearly inveſtigated, as that its Method of acting ſhall become the proper Subject of a mathematical Demonſtration, each of its Properties and Virtues muſt be diſcover'd, and conſider'd ſeparately and apart; after which their mutual Relations muſt be diligently compar'd, and the additional Properties reſulting from theſe Relations carefully inveſtigated. Now as theſe Properties only come under our Cognizance, and manifeſt themſelves to our Senſes, by their Effects, it is obvious, that whether in a ſound or a valetudinary State, the Cauſe, the Accidents, and Effects, muſt be inveſtigated and deſcrib'd, before we can either pronounce rationally, or preſcribe judiciouſly: For the Phyſician is to encounter real Effects produc'd by their adequate Cauſes, which often, if not always, depend upon a Train of Circumſtances of ſo peculiar and circumſtantiate a Nature, that the Force of a general and abſtruſe Demonſtration is by no means ſufficient to qualify him for practiſing with Succeſs. There is ſuch an inconceivable Variety of Diſorders, and in each of theſe ſo incredible a Number of Symptoms and Circumſtances to be obſerved, that the ſhort Period of human Life, the Frailties both of Body and Mind, to which Men are by the Condition of their Natures ſubjected, the Difficulties they have to encounter, and the Avocations with which they muſt unavoidably meet, can never enable any one Man to form a ſufficient Number of Obſervations for eſtabliſhing a rational and unexceptionable Theory, and practiſing according to it, like a real and ſkilful Phyſician. Hence 'tis obvious, that we muſt be indebted to the Knowledge of others, conſult the Living and the Dead, peruſe the Works of antient Sages, inquire into the Improvements of Moderns, and always make Truth the ſacred Mark at which we aim. But leſt we ſhould at laſt miſcarry in our Views, we muſt not wantonly drink at every Spring, nor draw our Stores of Knowledge from impure and turbid Fountains; for to read much is not always to be learned. The Phyſician therefore ought to contract his Views, form his Taſte upon noble Models, deſpiſe the common Herd of Authors, and draw his Fund of Knowledge from thoſe who repreſent Nature in her true and genuine Shape; from thoſe who have too ſacred a Regard to Honour to forge Facts for the Support of a favourite Theory; from thoſe who follow Truth where-ever ſhe leads them, and in their Accounts of Things diſdain, from partial and intereſted Views, either to add or ſuppreſs a ſingle Circumſtance. Theſe are the ſacred Fountains, of which the Phyſician can never take too liberal Draughts: Theſe the Men whoſe Labours pave the Phyſician's Way to Glory and Honour. Ever ſince Phyſic aſſum'd the Appearance of an Art, the World has been bleſs'd with ſome one or other of this Stamp. *Hippocrates*, for Inſtance, in the very Dawn of Medicine, appear'd, and like the Sun in his meridian Splendor diffuſed a noble Light, which will for ever ſhine with diſtinguiſh'd Luſtre. This venerable Man is to the Phyſician, what the Pole Star is to the Mariner, his Guide, his Director, and that of which when he loſes Sight, he is ſure to be bewilder'd, and err from his Courſe. The divine *Hippocrates* is always ſure to repreſent Things as they are in their own Natures. He has no intereſted Views to ſerve, no particular Bias to draw him aſide from Truth. He is always clear, always conciſe, and intelligible. He no-where obſcures his Meaning, throws a Cloud over the Natures of Diſorders, or miſrepreſents their Symptoms and Terminations, by the unintelligible Jargon of the four Elements, or the ſtill more abſurd and ridiculous Whim of the four primary Qualities reſulting from them. Vain and idle Controverſies concerning the firſt Temperament of the ſimple Stamina of Life never hinder him from penetrating into the true Events of Things. The Purity and Glory of his Compoſitions are not ſtain'd and ſullied with the uſeleſs Notions of the *Calidum Innatum*, and the *Humidum Radicale*. Subtile and uninſtructive Diſtinctions of Diſeaſes, and their ſeveral Cauſes, are not to be met with in the Works of this venerable Parent of the Healing Art. The Man deſerves rather to be laugh'd at, than confuted in a grave and ſerious manner, who imagines that *Hippocrates* was miſguided by the unmeaning Whims of unintelligible Chymiſts, and drawn aſide by the ſpecious Dreams of Acids and Alcalis. Theſe were Speculations which his exalted Genius, and well-formed Taſte, deſpiſed. He was no leſs conſpicuous for the Impartiality of his Repreſentations, than the Force and Strength of his Genius; for he no-where aſſerts Things which he had not ſeen, nor does he ever neglect to give a faithful Account of real Circumſtances. He repreſents, but does not diſguiſe or change, the Operations of Nature, in order to procure Honour or Stability to any particular Hypotheſis. This is the amiable, this the lovely, I had almoſt ſaid the perfect Character of the divine *Hippocrates*. No Wonder then, if his Accounts of Things, and his Deſcriptions of Diſeaſes, have in all Ages procured the Attention, and attracted the Eſteem, of the Sagacious and Diſcerning. To him we may juſtly add *Aretæus* of *Cappadocia*, and *Rufus Epheſius*, who, from his Example, became ſkilful Phyſicians, and were equally religious Obſervers of the Laws of Truth. But few of the *Greeks* trod in his ſacred Footſteps before the Days of *Galen*. When the Labours of other *Greek* Phyſicians are laid in the Balance with theſe of *Hippocrates*, how light, how defective and imperfect are they found to be! Some of them, blindly and implicitly devoted to a particular Sect, eſpouſed the Tenets peculiar to it, without regarding whether they were true or falſe; ſome of them dreſs up Things in falſe and fictitious Colours, whilſt others, equally miſtaken, are little ſolicitous about Facts, and are only taken up in inveſtigating the phyſical Cauſes of Diſorders, and their Symptoms. Beſides, Penetration and Impartiality, a natural Simplicity of Style, a Clearneſs and Perſpicuity of Diction, are requiſite in the Phyſician. Health is of more Importance than Oratory; and Life a Circumſtance of more Moment than ſtriking Images, quaint Phraſes, or well-turn'd Periods. The Phyſician muſt not trifle, or play the Fool, where Matters of the laſt Moment are at Stake. A fooliſh Affectation of uncouth and obſolete Expreſſions, the pompous Flowers of Rhetoric, or a pedantic Playing with Words, muſt never draw a Veil over his real Meaning, or divert the Attention of the Reader. An unſeaſonable Oſtentation of an Acquaintance with antient Hiſtory, a pompous Enumeration of the Opinions of different Authors, or ſubtile Reſearches into the firſt Cauſes of Diſorders, however effectually they may prove the Author's Learning, are yet of little or no Service either in the Cure, or in the Prevention of Diſeaſes, in which the Whole of a Phyſician's Buſineſs conſiſts. However agreeable Labours of this Kind may prove to ſpeculative *Literati*, yet they never fail to create a Diſguſt in the Man who, being intent upon finding out the clear, the certain, and infallible Signs of Health and Sickneſs, thinks it his only Buſineſs to preſerve the former, and find out proper Remedies for removing the latter. Deſpiſing therefore what the elegant Tongue, the fine Imagination, or the ſparkling Genius, have wantonly advanc'd on phyſical Subjects; rather to diſplay their Parts, than advance and improve the Art, we ought carefully to peruſe the plain, the ſimple Writings of *Hippocrates*, in which the ſacred Oracles of Nature herſelf are delivered pure and uncontaminated; where nothing is darkened by an Obſcurity of Words; where every Line is richly pregnant with Thought and Senſe; and where the moſt important Truths are told at once with *Laconic* Brevity, and *Attic* Perſpicuity. This is the diſtinguiſhing Character of *Hippocrates*; in theſe reſpects none come up to him: For whoever applies to moſt other Authors for Improvement and Inſtruction, will, for the moſt part, either be glutted with nauſeous Repetitions, or diſguſted with barbarous Lumber; or, which is almoſt as bad, he meets with nothing but an affected and uninſtructive Oſtentation of an Acquaintance with the Languages, Antiquities, Hieroglyphics, and Fables. So few there are who conſult the real Glory, the true and genuine Intereſts of Phyſic. For as amongſt the *Arabians*, and barbarous Interpreters of *Galen*, there is a deteſtable and diſguſting Impurity of Language, ſo among the more learned and polite Commentators on *Hippocrates*, there is more to be found that has a Tendency to form the ſhining Orator, than to produce the knowing and the ſkilful Phyſician. But there are ſtill other Circumſtances of greater Moment, which render the divine *Hippocrates* juſtly preferable to all others: Witneſs his unwearied and indefatigable Attention of Mind, which enabled him to view every Circumſtance in the moſt proper Light; witneſs his unwearied and incomparable Diligence, by which he inveſtigated and diſcover'd every thing which had the leaſt Tendency to clear his Subject; witneſs the noble and generous Freedom with which he convey'd his uſeful Labours to the World. Which ever of theſe the impartial Mind conſiders, the divine *Hippocrates* will be found great beyond the Poſſibility of a Rival, and lucky beyond the Fate of Mortals; a Competitor with *Apollo* himſelf; and the *Eſculapius* of the *Coans*. He was ſo quick-ſighted an Obſerver of Nature, that in every Diſorder he plainly knew her firſt Deviations, her preſent Irregularities, and the Periods where ſhe would terminate. If we attentively advert to the accurate Diſtinction he makes between thoſe Symptoms that are the Effects of Ignorance in the Phyſician, Negligence or Raſhneſs in the Attendants, or of the Medicines uſed, and theſe that are the natural Reſult of the Diſeaſe itſelf, we cannot forbear pronouncing him the moſt diſcerning, the moſt judicious and penetrating, of all the Phyſicians the World has hitherto ſeen. And, which is more, the joint Labours of all the phyſical Writers who have appear'd from the Infancy of Medicine to this very Day, ſcarce furniſh us with ſo large a Number of the Symptoms and Phenomena of Diſeaſes, as this great and incomparable Author has alone deſcrib'd. He firſt diſcover'd the various Seaſons of the Year to be the Cauſes of the particular Diſorders which generally rage in them; and taught, that the Viciſſitudes of the Air, the ſcorching Heats, and pinching Colds, the Showers and Fogs, the ſtagnating Atmoſphere, and the impetuous Blaſts of Wind, were productive of their reſpective Diſorders. From the Situation of Countries, the Nature of Soils, the Motion or Stagnation of Waters, the Exhalations of the Earth, and the Poſition of Mountains, he accounted for the Cauſes of endemial Diſorders; and by that means preſerved whole Nations, ſav'd Kingdoms, and, like the Sun, diffuſed an univerſal and a happy Influence. By examining the Courſe of Life, the Food, the Drink, and the Cuſtoms of particular Nations, he found out the Source of the Diſorders to which they were moſt ſubject; and in all he does, he is ſo minute and circumſtantiate, that to the ſhallow and ſuperficial Genius he appears trifling; but to the Sagacious and the Judicious, diſtinct, accurate, and important.

His Work *De Aere, Locis, & Aquis*, is ſuch a Maſter-piece, that it may be ſaid not only to have laid the Foundation, but to have carry'd Phyſic almoſt to the ſame Degree of Perfection with which it now ſhines. Here we have the venerable old Man accurately deſcribing epidemical Diſorders, and ſagaciouſly informing us, that we are not only to have a regard to the Differences of Age, Sex, and Conſtitution, but alſo to the Exerciſe, the

Cuſtoms, and the Method of Life, uſed by the Patient; and that an Account of the State of the Air alone is not ſufficient for accounting why ſome ſhould be more remarkably afflicted with epidemical Diſorders than others. We ſhall here find him deſcribing the Eyes, the Hair, and the Skin, in a juſt and accurate Manner; and making the moſt judicious Remarks upon the voluble and the ſtammering Tongue, upon the ſhrill and the grave Tone of Voice; and all this with a View to diſcover, and point out, the particular Temperament and Conſtitution of thoſe who were more ſubject to raging Diſorders, than others who wanted theſe Characteriſtics. Hence 'tis obvious, that none ever deliver'd the diagnoſtic Signs of Diſeaſes with greater Exactneſs, deſcribed the Diſorders with which theſe Signs were connected with greater Accuracy, or form'd a more juſt and infallible Judgment with regard to their Events and Terminations, than the divine *Hippocrates*. Nor was he leſs happy in diſcovering the Natures, Symptoms, and various Turns, which Diſeaſes might take, than ſucceſsful in relieving the miſerable Patient from the Fury of their Aſſaults; for he was neither raſh in applying his Medicines, haſty in judging of their Effects, afraid of confeſſing his want of Succeſs, nor proud of his Skill, when every thing anſwer'd his Expectations. Diſeaſes, like weak and feeble Enemies, yield themſelves the willing Captives of his Skill; he leads them where-ever he has a Mind, and, at laſt, deſtroys the very Seeds of their Exiſtence; and, for all theſe mighty Purpoſes, he uſed Medicines which were few in Number, but ſure in their Effects, and of a ſmall Price, but excellently accommodated to the Diſorder. He was not ſolicitous about a Variety of Medicines, provided he found a few that were neceſſary, and knew how to exhibit them at proper Seaſons, and in due Quantities. Accurately viewing the Stages and Periods of Diſeaſes, obſerving their lucky or unlucky Days, checking or forwarding the Motions of the morbid Matter, digeſting its Crudities, carrying what was concocted thro' Ways pointed out by the Diſeaſe itſelf, directing its Elimination, and bringing what was recrementitious and ſuperfluous to a proper State of being expel'd, he was rather an Imitator and Aſſiſtant of Nature, than a bold Intruder upon her Province, or a raſh Diſturber of her Operations. After Chance or Skill had diſcover'd to him what Medicines were prejudicial, and what were ſalutary, and after he had found the Time and Manner in which Nature, left to herſelf, routs her Enemy, he then eſtabliſh'd Rules for the ſafe and proper Uſe of Medicines. After theſe Medicines were recommended by a long Courſe of daily Experience, and had the Sanction of a thouſand happy Cures in their Favour, he thought himſelf ſufficiently qualify'd to deſcribe the Virtues of Herbs, Foſſils, and Animals, not in a dry, a barren, and uninſtructive Manner, but enrich'd with the moſt valuable Cautions and Admonitions, ſufficient to deter the Ignorant, the Bold, and the Unſkilful, from encroaching on the ſacred Province of Phyſic. This, to ſpeak with Impartiality, is the true, the only Method, to ſupport the Dignity of Medicine, and afford proper Relief and Aſſiſtance to the Diſtreſs'd and Afflicted. This is the admirable, the uſeful, the divine Method, illuſtrated by the Writings, and recommended by the Practice, of *Hippocrates*. But, ſince his Days, Phyſic has aſſum'd various, but ſtill leſs lovely Forms. Experience has been neglected, and the wanton Sallies of a roving Imagination been greedily liſten'd to. At other Times, a ſupine Indolence has tarniſh'd the Glory of Medicine. Fact and Obſervation have fallen lamented Victims to the Tenets of Philoſophers. The Dictates of Nature have been ſhamefully baniſhed, to make room for an unintelligible Jargon of Words; and monſtrous Fictions have been prefer'd to the ſacred and important Obſervations of *Hippocrates*. Surpriſing Cures are now impudently ſaid to have been perform'd by ſuch and ſuch Medicines; but, when theſe are exhibited in parallel Caſes, the miſerable Patient is left to bewail his Misfortune, by having his Diſorder increaſed and exaſperated, inſtead of being allay'd and remov'd. The Condition of Humanity is already too wretched to call for the Addition of thoſe intolerable Evils with which Avarice, and its deform'd Offspring Quackery, ſupply the deceiv'd and bewilder'd World. The Conceits and extravagant Whims of the Chymiſts have no leſs ſhamefully diſguis'd the genuine Form, and chang'd the native Features, of Medicine; and the nobleſt of Arts has been proſtituted to the meaneſt and moſt ignoble Purpoſes, by being made baſely ſubſervient to the Ends of Quackery and Empiriciſm. And, what is ſtill more to be lamented, Men of Parts and Abilities, who might have otherwiſe prov'd Bleſſings to Mankind, have been fatally and wofully miſled by Impoſitions of this kind. And, as if the Number of Simples was not already too great, the Confuſion of compound Medicines too intolerable, and the Variety of Methods too inſupportable, they muſt enlarge the Proſpect, and add the impertinent Productions of Error and Impudence. But the Writings of *Hippocrates*, like pure and limpid Fountains, are neither ſtain'd with Falſhoods, darken'd with Ignorance, nor ſully'd with the boaſting Frauds of Quackery, or the forbidding Vanities of Chymiſtry: He is every-where ſo clear, ſo diſtinct, ſo copious and full, that he may ſafely be pronounc'd the greateſt and moſt perfect Maſter of the Healing Art, the World has hitherto ſeen. Some may poſſibly think this repugnant to Truth, becauſe, ſay they, Medicine is improv'd by Obſervation, and has receiv'd incredible Advances ſince the Days of *Hippocrates*; ſo that, in his Time, the Art muſt have been rude, imperfect, and, as it were, in its Infancy. This is, in ſome meaſure, true; but 'tis equally true and certain, that *Hippocrates* had the Experience and Improvements of Numbers who had gone before him, to form himſelf upon; for we are told by authentic and unexceptionable Hiſtorians, that *Hippocrates*, lineally deſcended from *Apollo*, the firſt Phyſician among the *Greeks*, poſſeſs'd, by an hereditary Right, the Secrets of the Medicinal Art. *Æſculapius*, the Son of this *Apollo*, perfected the Secrets handed down by his Father, and left them enlarg'd with his own. From *Æſculapius* ſprung thoſe celebrated Phyſicians, *Chryſamides*, *Cleomittades*, *Theodorus*, *Soſtrates*, *Nebrus*, *Cnoſidicus*, *Hippocrates* the Firſt, and *Heraclides*, the Father of the divine *Hippocrates*, of whom we now ſpeak; ſo that the Art of Phyſic ſeems to have been convey'd from Father to Son, till it reach'd this divine, this incomparable Genius, who, according to the hiſtorical Accounts of the Family, was the nineteenth from the common Stock. To theſe Circumſtances if we add his Care, his Diligence, the Length of his Life, his Travels thro' *Babylon*, *Egypt*, and the *Indies*, we ſhall eaſily perceive, that he muſt have had a large Fund of experimental Knowledge. But, unſatiſfy'd with the Inſtructions handed down from his Anceſtors, and the Stores of Wiſdom he had treaſur'd up in his Travels, he apply'd himſelf, with indefatigable Diligence, to gain an Acquaintance with the Opinions and Sentiments of others. There was, at this Time, a celebrated Temple in *Cnidus*, whoſe Walls were adorn'd with Tables, on which were wrote the choiceſt and moſt valuable Obſervations in Phyſic: Theſe he viſited, theſe he wrote out for his own Uſe, and acquired ſuch a Degree of Reputation, that he was thought worthy to be let into all the Secrets of the *Cnidian* School. We have no Reaſon to believe, that Medicine was a Science ſo imperfect and barren as 'tis thought to have been in the Days of *Hippocrates*, when we are inform'd by the Hiſtories of theſe Times, that it was divided into Sects, conſign'd to Writing, and promoted by the Aid and Concurrence of other Sciences, as may be ſeen by any one who conſults his Books, concerning the antient State of Phyſic, wholſome Food, the Regimen of Patients under acute Diſeaſes, and his Chirurgical Pieces, all which are wrote in the genuine and uncounterfeited Style of *Hippocrates*. Among the numberleſs Inſtances in which he improv'd both that Knowledge he had receiv'd from his Anceſtors, and that which he had learn'd in foreign Nations, there is one of a ſingular Nature, and entirely peculiar to himſelf; for he ſent his elder Son *Theſſalus* into *Theſſaly*, *Draco* his younger Son to the *Helleſpont*, *Polybus* his Son-in-law to another Quarter of *Greece*, and a large Number of his Scholars all over the Country, after having duly inſtructed them in the Principles of their Art, and furniſh'd them with every thing neceſſary for Practice. Theſe were order'd to cure the Sick expoſed on the Highways, to obſerve the Terminations of Diſeaſes, to advert carefully to the Operations and Effects of Medicines, and to give a faithful and impartial Account of all to their great and worthy Conſtituent *Hippocrates*. Theſe, to be ſure, were a Set of the moſt fortunate Circumſtances that ever yet concurred to the Formation of any one Phyſician; and the divine *Hippocrates* well knew how to make the beſt Advantage of them; for from the Labours and Obſervations of this large Number of Phyſicians, form'd upon his own Model, judging, as it were, with his own Eyes, and practiſing upon his own Principles, he form'd the moſt perfect, the moſt extenſive, and the moſt judicious Body of Phyſic. Other Phyſicians ſee only with their own Eyes, but *Hippocrates* ſaw with thoſe of a large Number of others. Moſt Practitioners draw their Knowledge from a ſcanty Number of Patients, but *Hippocrates* was ſupply'd from every Invalid in *Greece*. Few practical Authors have deſcrib'd the Diſeaſes which rage in a ſingle Town, but *Hippocrates* has judiciouſly animadverted on all the Diſorders that occur'd thro' all the Towns, Villages, and Provinces of *Greece*. This is, no doubt, a ſufficient Reaſon why *Hippocrates* ſhould appear ſo much ſuperior to others, who were deſtitute of the like Opportunities, and plac'd in leſs favourable Circumſtances: Hence it happens, that his Labours have ſtood the Shocks of Envy, the Aſſaults of Oppoſers, and the Malice of Critics, for ſo many Centuries, and, like burniſh'd Steel, become the more bright and reſplendent by Uſe. When peruſed with the niceſt Judgment and the ſtricteſt Care, the ſmalleſt Inconſiſtence cannot be found, and Truth and Nature every-where appear in their moſt awful and commanding Shapes. Upon the whole, ſo accurate and extenſive was the Skill of *Hippocrates*, that the learned *Greeks*, the polite *Romans*, and the induſtrious *Arabians*, have done nothing but repeat and confirm his Doctrines; whatever is or was excellent among the more celebrated *Greeks*, ſuch as *Diocles*, *Aretæus*, *Rufus Epheſius*, *Soranus*, *Galen*, *Ægineta*, *Trallian*, *Aetius*, and *Oribaſius*, is originally borrow'd from *Hippocrates*. The more valuable and judicious of the *Romans*, ſuch as *Celſus* and *Pliny*, had recourſe to the Determinations of *Hippocrates*, as to ſo many Oracles. The *Arabians*, again, did nothing but tranſcribe from *Galen*, who, where-ever he conforms to Truth, is nothing more than a Tranſcriber from *Hippocrates*. The Worth of this Author is ſtill confirm'd from a Circumſtance, which, if inquir'd into, will, at leaſt, be found, for the moſt part, if not univerſally, to prove true; and that is, that, in all Ages, the moſt celebrated and diſtinguiſh'd Phyſicians have either form'd themſelves immediately upon *Hippocrates*, or upon thoſe who had done ſo before them. His Merit could not be confin'd to particular Parts of the World; it diffuſed itſelf with irreſiſtible Force, and procur'd him the Eſteem and Veneration of the *Theſſalians*, the *Coans*, the *Argives*, the *Macedonians*, the *Athenians*, the *Phocians*, and the *Dorians*. The *Illyrians* and *Peonians* ador'd him as ſomething more than human, and *Barbarian* Kings publickly implor'd him as their tutelar Genius; powerful and opulent Nations rewarded his Merit by munificent Preſents; and Hiſtories inform us, that Phyſicians have, in all Ages, been recommended to Potentates, and loaded with Glory, Honour, and Riches, by treading in the Steps of *Hippocrates*.

As I am convinc'd, that the moſt important Service I can do to Phyſic is, to give Mankind a Reliſh for the Writings of the great *Hippocrates*, I ſhall add, to what has been already ſaid, the following Quotation from *Hoffman*, in Confirmation of my own Opinion.

“ As *Hippocrates* was the firſt who laid a happy and ſure Foundation for a rational and ſucceſsful Practice, ſo we
“ have juſt Reaſon to be ſurpris'd, that, in ſucceeding Ages, the Healing Art has not been carry'd to a higher
“ Degree of Perfection than it really is. This Misfortune is owing to the fooliſh Conduct of the Succeſſors of
“ that great Phyſician, who, forgetting Facts, and diſregarding Obſervations, rather corrupted the Art, by
“ reaſoning upon precarious Principles, than enrich'd it by a proper Store of neceſſary and uſeful Obſervations.
“ As then the Miſcarriages of our Predeceſſors, the Barrenneſs of Phyſic, and the Imperfection of Medicine,
“ have unqueſtionably been owing to this unlucky Turn, we ought to beware of ſplitting on the ſame Rock, and
“ falling into a like Error, ſince, by treading in the Steps of the divine *Hippocrates*, by ſupplying his Defects by
“ our own Induſtry, and by an accurate and unwearied Obſervation of Facts, we might render both the Theory
“ and Practice of Phyſic far more perfect, than they at preſent are.”

Hippocrates left two Sons, *Theſſalus* and *Draco*, who ſucceeded their Father in the Practice of Phyſic; and one Daughter, whom he marry'd to *Polybus*, one of his Pupils. Of theſe Sons *Theſſalus* ſeems to have been the moſt eminent; for we learn from *Galen*, that he ſpent the greateſt Part of his Life in high Reputation at the Court of *Archelaus*, King of *Macedon*. As to *Draco*, the other Son, we find nothing very remarkable relating to him, except that he had a Son nam'd *Hippocrates*, who was Phyſician to *Roxana*, the Queen of *Alexander* the Great. *Polybus* ſeems to have made a greater Figure in his Profeſſion than the two Sons of *Hippocrates*, and is ſaid to have been the genuine Author of ſome Treatiſes attributed to his Father-in-law. *Galen* commends him for his Induſtry, and celebrates him for his Experience. His Syſtem and Practice were, according to the ſame Author, exactly conformable to thoſe of *Hippocrates*.

The firſt celebrated Phyſician who appear'd after *Hippocrates* and his Offspring was *Diocles Caryſtius*, whoſe Skill was ſo extenſive, that the *Athenians* dignify'd him with the honourable Title of *Hippocrates the Second*. All antient Authors agree, that he appear'd ſoon after *Hippocrates*, and ſucceeded him at once in reſpect of Time and Reputation. He is ſaid to be the Author of a Letter, ſtill extant, addreſs'd to *Antigonus*, King of *Aſia*; a Circumſtance which ſufficiently intimates, that he liv'd in the Days of that Succeſſor to *Alexander*, and not in the Time of *Darius Hyſtaſpis*, as ſome modern Authors have affirm'd. But the Errors of Chronology, with reſpect to the pretended Letters of *Hippocrates*, lay a ſufficient Foundation for our not putting a great Streſs upon a Proof of this Nature, ſince the Letter, ſaid to be wrote by *Diocles*, may be equally ſpurious with the reſt. They who have made *Diocles* contemporary with *Darius* the Son of *Hyſtaſpes*, have not ſufficiently adverted to what they ſaid; ſince, in that Caſe, he muſt have gone before *Hippocrates*, which Circumſtances prove to be impoſſible. They who ſuppoſe him to have been contemporary with *Antigonus*, are not, whatever may be ſaid to the contrary, much miſtaken. *Diocles*, who certainly appear'd after *Hippocrates*, and who is found to have liv'd before *Praxagoras*, who was Preceptor to ſome Phyſicians, Contemporaries with *Ptolemy Soter*, may have poſſibly liv'd much about the Time of *Ariſtotle*. Taking this for granted, it is not impoſſible but *Diocles* might have surviv'd *Ariſtotle*, and conſequently might have ſeen the Beginning of the Reign of *Antigonus*, and the other Succeſſors of *Alexander*, who dy'd about two Years before *Ariſtotle*. This may be advanc'd for the Poſſibility of *Diocles* having wrote to *Antigonus*. Abſtracting from theſe Circumſtances, Mr. *Le Clerc* believes the former more antient than *Ariſtotle* by ſome Years.

This Letter of *Diocles* contains Precepts relating to the Preſervation of Health. Theſe Precepts conſiſt in predicting Diſeaſes by certain Signs, and preventing them by certain Remedies. The Body is, in it, divided into four Parts, the Head, the Breaſt, the Belly, and the Bladder. In it we have alſo Remedies for preſerving theſe four

Parts from the Diſtempers commonly incident to them. With reſpect to the Head, Gargariſms are propos'd for purging it, and Frictions are recommended; with reſpect to the Breaſt, Vomits, either upon a full, or an empty Stomach, are preſcrib'd; as for the Belly, 'tis order'd to be kept eaſy and open, not by Medicines, but by a proper Regimen, the Uſe of Blites, the Herb Mercury, boil'd Garlick, ſharp-pointed Dock, Water in which Cabbage has been boil'd, and Preparations of Honey; laſtly, with reſpect to the Diſeaſes of the Bladder, ſome Medicines, which provoke Urine, are preſcrib'd, ſuch as the Roots of Apium and Fennel, boil'd in Wine, with Water in which wild Carrot, Alexanders, Elecampane, and Chiches, have been boil'd.

This is a ſuccinct Account of the Contents of this Letter, which ſeems to be a kind of Extract from ſome Books of *Diocles*, in which he treated fully of the Preſervation of Health, and of ſuch Subſtances as are proper for that Purpoſe. One of theſe Books was addreſs'd to *Pliſtarchus*. *Diocles* wrote ſome others, which are loſt, as well as theſe we have now mention'd. *Athenæus* makes mention of a Book, in which that Phyſician treats of Fiſhes; and of another, in which he taught the Method of preparing Aliments. The ſame *Athenæus* alſo informs us, that ſeveral antient Phyſicians wrote upon the laſt of theſe Subjects. Among others who had done ſo, he mentions *Philiſtion*, *Eraſiſtratus*, *Philotimus*, *Euthydemus*, *Glaucus*, and *Dionyſius*. Their Deſign, in theſe Writings, was not, in all Probability, to direct what was agreeable to the Palate, but what contributed to the Preſervation of Health. *Plato* nevertheleſs complains, that the Art of Cookery being introduced into Medicine, under a Pretext of rendering Aliments more ſalutary, produced a quite contrary Effect. This Philoſopher alſo maintains, that the Art of Cookery is the ſame with regard to Medicine, as the Arts of Painting and Perfuming are with regard to the Gymnaſtic Art. From this Paſſage we muſt obſerve, that in the Times of *Plato* People had begun to write upon this Subject; and perhaps what that Author ſays, may relate to the Books of *Diocles*, who, in all Probability, wrote during the Life of that Philoſopher.

Diocles compoſed another Book concerning Diſeaſes, their Cauſes and Cures. Of this Work *Galen* quotes a Fragment relating to a Diſeaſe which *Diocles* called the melancholic or flatulent Diſeaſe, and which he deſcribed in this manner. “There is, ſays he, a Diſeaſe, by ſome called the melancholic Diſeaſe, by others, the flatulent or windy Diſtemper, in which the Patient, after eating Aliments of a difficult Digeſtion, diſcharges a large Quantity of clear Saliva. He is alſo afflicted with acid Eructations, Flatulences, Heat of the Hypochondria, and a Murmuring of the Inteſtines not immediately upon eating, but ſome time after. He feels ſometimes alſo great Pains of the Stomach, and in ſome Patients theſe Pains affect the Back itſelf. When the Aliments are digeſted, all theſe Symptoms ceaſe, but return when the Patient takes his next Meal. The ſame Symptoms ſometimes alſo appear when the Patient is faſting, and ſometimes immediately after his Meals; ſo that he often vomits up his Aliment crude, and often hot and bitter Phlegm, or acid Phlegm, by which the Teeth are ſet on Edge. Theſe Diſorders, for the moſt part, begin when the Patient is young; but at whatever time they appear, they generally laſt a great while. We may reaſonably ſuſpect, continues *Diocles*, that they who are afflicted with this Diſorder, have a preternatural Heat in the Veins, which receive the Aliment from the Stomach; and, that the Blood which they contain is inſpiſſated; for we have a manifeſt Proof, that theſe Veins are obſtructed and blocked up, ſince the Nouriſhment is not diſtributed thro' the Body, but remains crude in the Stomach, and inſtead of paſſing into the Inteſtines, which ought to receive it, and carry it into the lower Belly, it is diſcharged the following Day by Vomit. Another Proof that there is a preternatural Heat in theſe Veins is, that the Patients are in reality very hot, and relieved by the Uſe of cooling Subſtances. *Diocles* adds, that ſome affirm, that in Diſorders of this Kind the Orifice of the Stomach, which communicates immediately with the Bowels, is inflamed, and that this Inflammation cauſes the Obſtruction, and hinders the Aliments from paſſing into the Bowels at the accuſtomed Time; ſo that, remaining in the Stomach, they produce the Inflation, the Heat, and the other Symptoms mentioned.”

Diocles alſo treated of the Diſeaſes peculiar to Women, and of Plants; he compoſed a Book intituled, *The Shop of the Phyſician*, which is the ſame Title *Hippocrates* has given to one of his Books. He alſo wrote a Book intituled, περὶ ἑβδομάδων, or concerning the Weeks, probably meaning the Weeks of Geſtation.

As for the Practice of *Diocles*, it was almoſt the ſame with that of *Hippocrates*. He let Blood, and purged in the ſame manner, and for the ſame Intentions. *Cælius Aurelianus* gives us a fuller Account how he treated particular Diſeaſes. The ſame Author alſo informs us, that he ordered Bulls-glew boiled in Water with Meal and Brambles to be drunk by thoſe who were afflicted with a Spitting of Blood. He alſo preſcribed ſwallowing a ſmall Ball of Lead for thoſe who were afflicted with the *Ileus*. This Remedy is not mentioned by *Hippocrates*. Beſides, he made a Diſtinction between the *Ileus* and *Chordapſus*, two Names which *Hippocrates* ſeems to give to one and the ſame Diſeaſe. But *Diocles* was of Opinion, that the Chordapſus was a Diſorder of the large Inteſtine.

Galen alſo informs us, that *Diocles*, as well as *Hippocrates*, practiſed Phyſic from a Principle of Humanity and Compaſſion, and not from the more baſe and ignoble Motives of Intereſt and Glory, as moſt other Phyſicians do. *Galen* elſewhere ſpeaks of him as a great Phyſician, and aſſerts, that his Skill was very extenſive. *Diocles* ſaid, that thoſe were not to be confided in, who imagined that there was a Poſſibility of accounting for every thing. He alſo affirmed, that we might juſtly depend upon a Remedy we had often experienced, tho' we ſhould be entirely ignorant of the Cauſe productive of the Effects which follow its Exhibition; but that it was nevertheleſs expedient to inquire after the Cauſe, that we might be the better able to aſſure thoſe with whom we have to do of the Effects.

Praxagoras is the next Phyſician who made any conſiderable Figure. Mr. *Le Clerc* ſuppoſes him to have been ſomewhat younger than *Ariſtotle*. He was Son to *Nearchus*, of the Iſle of *Cos*, and of the *Æſculapian* Family, of which he was the laſt, of any conſiderable Reputation. The celebrated *Herophilus* was his Pupil: He was of the Dogmatic Sect; but ſeems to have been one of the firſt who deviated from the Method of *Hippocrates*. For we learn from *Rufus Epheſius*, and *Galen*, that he accounted for Diſeaſes from the Qualities of the Humours, of which he reckoned ten Sorts, beſides the Blood; and as this Theory probably had ſome Influence on his Practice, it would be more likely to lead him into Errors, than to guide him right. *Praxagoras*, as we learn from *Cælius Aurelianus*, made great Uſe of Vomits in his Practice, inſomuch as to exhibit them in the Iliac Paſſion, till the Excrements were diſcharged by the Mouth. In this Diſtemper he alſo adviſed, when Medicines failed, to open the Belly, cut the Inteſtine, take out the indurated Fœces, and then to ſew all up again; a Piece of bold Practice, which has not been followed by ſucceeding Phyſicians.

Celſus, *L.* 2. *C.* 9. takes Notice of *Petron* a Phyſician, who lived before *Herophilus* and *Eraſiſtratus*, but after *Hippocrates*, whoſe Practice it was to cover his Patients, when labouring under a Fever, with Heaps of

Cloths, in order to excite a vehement Heat and Thirſt. Afterwards, when the Fever began a little to remit, he gave them cold Water to drink; and if by ſuch means he could get them to ſweat, he judged that he had effectually relieved them. If no Sweat was procured, he gave them more cold Water, and then forced them to vomit. If either way he freed the Sick from the Fever, he immediately treated them with roaſted Swines-fleſh and Wine. If he failed of expelling the Fever, he boiled Water and Salt together, and made the Patient drink it, till it both vomited and purged him.

By the Account I have given of *Hippocrates*, and his Method, we may perceive, that if he did not bring the Art of Phyſic to the greateſt Degree of Perfection of which it is capable, he, at leaſt, left it in a fair way to be improved, and pointed out the moſt rational Methods for its Advancement. The preſent State of Phyſic, and the perpetual and too ſucceſsful Attempts which have been made in all Ages by Philoſophers of all Sects, to deſtroy the Progreſs it had already made, and retard its farther Improvement, give us abundant Reaſon to lament, that the Scheme of *Hippocrates* was not purſued; for in all ſucceeding Ages, we ſhall have the Mortification of finding ſubtle Hypotheſes, trifling Diſtinctions, whimſical, or at beſt uncertain Cauſes, and an unmeaning Jargon of Words, ſubſtituted inſtead of Details of Facts eſtabliſhed by accurate Obſervations, and of unqueſtionable Events confirmed by Experience. I am abundantly ſenſible, that Phyſicians in all Ages, who have founded their Practice upon Hypotheſes built upon any Philoſophy whatever, have this to ſay in Support of their Theory, That many of their Patients have recovered. This Argument might be of ſome Force, provided there were no Diſtempers ſo mild, and no Conſtitutions ſo ſtrong, as ſcarcely to permit a Patient to ſink under any ſort of Treatment; but it does not amount to an Evidence, that Numbers have not periſhed, for one that has eſcaped.

Amongſt thoſe who have attempted to reaſon Experience out of Countenance, one of the firſt was *Chryſippus*, a Phyſician of *Cnidos*, whom Mr. *Le Clerc* places about the Time of *Philip*, the Father of *Alexander the Great*. *Pliny* reports, that he overthrew the Maxims of preceding Phyſicians by his exceſſive Prating (*multa garrulitate*). *Galen* tells us, that he diſapproved of Veneſection, and condemn'd Purgatives, tho' he ſometimes made uſe of Emetics and Clyſters. We cannot poſſibly be acquainted with the Reaſons he had for his Conduct in theſe Particulars, becauſe his Works, which were become ſcarce in the Time of *Galen*, have not reach'd our Hands; and becauſe *Galen* does not take ſo much Notice of *Chryſippus*, as of *Eraſiſtratus* his Scholar, who was of the ſame Sentiments with his Maſter.

Ariſtotle is more famous for his Philoſophy, than for any Medicinal Knowledge he poſſeſſed. As it does not appear, that he was much concern'd in the Practice of Phyſic, I ſhall not trouble the Reader with a Detail of his Philoſophical Romances, but proceed to his Pupil *Alexander*, who ſeems to have been the Cauſe of greater Improvements in Phyſic than his Tutor. This Prince by his *Indian* Expedition, and the Foundation of *Alexandria*, open'd a Commerce to the *Eaſt* unknown to the *Egyptians* and *Greeks* before his Days; and, in conſequence of this, the *Materia Medica* was enriched with many Aromatics, and Medicinal Drugs, which we find no Account of before this Æra. The *Arabians* have a Tradition, that the Fleet of *Alexander*, in its Return from *India*, touched at the Iſland of *Succotra*; and finding Plenty of the beſt Aloes there, this Monarch tranſported the Inhabitants to ſome other Country, and ſettled a Colony of *Greeks* in their Iſland, to whom he committed the Care and Cultivation of Aloes. This Story receives no ſmall Confirmation, from the Accounts given us of the above-mention'd Iſland by modern Travellers, who relate, that it is inhabited by two very different Sorts of People; ſome of which are black, and have woolly Hair; the others white, with long Hair like the *Europeans*. It is, however, certain, that no Author before the Time of *Alexander* takes Notice of that inſpiſſated Juice, which is called *Aloes*; and that, ſoon after the Foundation of *Alexandria*, we find it mentioned by moſt Authors who wrote on Medicinal Subjects.

Eraſiſtratus was a Native of *Iulis* in the Iſle of *Cea*, or *Ceos*. *Suidas*, from whom we have this Account, adds, that this Phyſician was buried over-againſt *Samos*, upon Mount *Mycale*. This Circumſtance perhaps, induced the Emperor *Julian* to think, that *Eraſiſtratus* was a Native of *Samos*. *Stephanus Byzantinus* is evidently miſtaken, when he affirms him to be a Native of *Cos*, the happy Iſland which gave Birth to the divine *Hippocrates*, ſince he took *Cos* for *Ceos*. *Chios* is alſo by ſome Authors taken for the native Country of *Eraſiſtratus*; becauſe the Name approaches pretty much to that of *Ceos*.

There is alſo ſome Difficulty in aſcertaining the preciſe Time in which *Eraſiſtratus* lived. *Euſebius* is of Opinion, that he flouriſhed under the Reign of *Ptolemy Philadelphus*, or about the hundred and thirty-firſt Olympiad. But in all Probability he muſt have been ſomewhat older, otherwiſe he could not have exerciſed his Profeſſion, and acquired ſo great a Character in the Days of *Seleucus Nicator*, who died in the hundred and twenty-fourth Olympiad, twenty-eight Years before the Time ſpecified by *Euſebius*. But that *Eraſiſtratus* had acquired an uncommon Fame before the Death of *Seleucus*, is obvious, from the celebrated Story of *Antiochus* falling in Love with *Stratonice*, the ſecond Wife of *Seleucus* his Father, and being cured of his Paſſion by this Phyſician.

The Character *Eraſiſtratus* bore among the antient Phyſicians, renders it highly neceſſary to give ſome Account of his Practice. *Galen* then affirms, that this Phyſician, as well as his Maſter *Chryſippus*, entirely baniſh'd Veneſection from Medicine; and in Support of his Aſſertion, produces the Teſtimony of one of the principal Scholars of *Eraſiſtratus*, called *Strato*, who commends him for having treated without Veneſection all thoſe Diſeaſes in which the Antients uſed it. He alſo proves it from this Circumſtance, that in all the Works of *Eraſiſtratus*, Veneſection is only once mentioned, when talking of a Vomiting of Blood; and that with a Deſign to ſhew, that it was uſeleſs in that very Diſorder. From the Writings of *Eraſiſtratus* himſelf, it was alſo obvious, that he neglected to bleed one *Crito*, who died of a Quinſy, and a young Girl of *Chios*, whoſe Blood regurgitated on her Lungs, in conſequence of her Menſes being obſtructed, and who alſo died. One of the Remedies, by which *Eraſiſtratus* ſupply'd the want of Veneſection in Hæmorrhages, was the Application of Ligatures on the Extremities, the Arms for Inſtance, and the Legs. The reſt of the Cure was principally performed by Regimen.

Tho', from what has been ſaid, we might be tempted to think, that *Eraſiſtratus* declared againſt Veneſection in general, yet his Abettors and Followers maintain, that he did not abſolutely condemn it, tho' he uſed it leſs frequently than other Phyſicians. *Cœlius Aurelianus* is of the ſame Opinion; for he aſſures us, that, in Hæmorrhages, *Eraſiſtratus* uſed Veneſection; and adds, that only ſome of his Followers condemned that Practice. But this Aſſertion is directly contrary to that of *Galen*.

Galen aſſigns one Reaſon why *Chryſippus*, the Maſter of *Eraſiſtratus*, diſapproved of Veneſection, which is, That the Abſtinence injoined to Patients, eſpecially in Fevers and inflammatory Diſorders, render'd it improper, for fear of weakening them too much. But he adds, that the Diſciples of *Eraſiſtratus* were not agreed among themſelves as to the Reaſons why their Maſter condemned Phlebotomy. *Apemantus* and *Strato*, continues he, advance very frivolous ones for his ſo doing. What they ſay on this Subject may be reduced to the following Particulars. “It is difficult to ſucceed in Veneſection, becauſe we cannot always well diſcern the Vein we intend to open, and becauſe we are not ſure but we may miſtake an Artery for a Vein. Some have died thro' Fear, or in conſequence of a Deliquium, either before or after the Operation. Others of his Diſciples affirm, That we cannot know the preciſe Quantity to be taken. If, ſay they, we take too little, the Intention is by no means anſwered; if, on the contrary, we take too much, we run a Riſque of deſtroying the Patient. Others of the Followers of *Eraſiſtratus* affirm, that the Evacuation of the venous Blood is ſucceeded by that of the Spirits, which, on that Occaſion, paſs from the Arteries into the Veins. Others of them affirm, that as the Inflammation is formed in the Arteries by the Blood, coagulated in their Orifices, Veneſection muſt of courſe be uſeleſs, and of no Effect.”

As *Eraſiſtratus* did not approve of Veneſection, ſo neither did he preſcribe Purgatives, except very rarely, tho' he exhibited Clyſters and Vomits, as did his Maſter *Chryſippus*. But he was of Opinion, that Clyſters ſhould be mild, and condemned the large Quantity, and the acrid Quality, of thoſe uſed by the Antients. The Reaſon why Purgatives were not much uſed by him, is, that, in his Opinion, Purging and Veneſection anſwered the ſame Intention, ſince they had an equal Tendency to diminiſh Plenitude; for which Purpoſe he maintained, with *Chryſippus*, there were ſurer and more effectual Means than either Phlebotomy or Purgation. He aſſerted, that the Humours, diſcharged by Purgatives, were not the ſame in the Body they appeared to be after their Diſcharge; but that Cathartics change their Nature, and produce a kind of Corruption in them. This Opinion has been ſince embraced by a great Number of Phyſicians.

We muſt alſo obſerve, that *Eraſiſtratus* did not believe, with *Hippocrates*, that Purgatives acted by Attraction; but he ſubſtituted in the room of this imaginary Attraction, what he called τὴν πρὸς τὸ κενούμενον ἀκολουθίαν, which Mr. *Le Clerc* imagines to be ſomewhat like the *Ariſtotelian Fuga Vacui*, Abhorrence of a Vacuum. With regard to particular Humours being evacuated by particular Medicines, ſome of his Diſciples aſſerted, that the moſt ſubtile and attenuated Humours were diſcharged firſt, and the coarſeſt and thickeſt laſt; ſo that the weakeſt Medicines diſcharge only ſome Waters; ſuch as are a little ſtronger diſcharge Bile; and thoſe which are moſt draſtic and powerful of all, purge black Bile: But *Galen* objected againſt this Explication, as not agreeable to the real Sentiments of their Maſter. *Galen* alſo makes mention of a Medicine in a ſolid Form, in which Caſtor was an Ingredient, and which *Eraſiſtratus* uſed in order to purge, or at leaſt keep the Belly ſoluble: But it is not known what purgative Ingredients he mixed with the Caſtor, ſince the Compoſition is not deſcribed by *Galen*, who adds, that if it was purgative, *Eraſiſtratus*, in all Probability, uſed it very rarely.

The principal Remedy he ſubſtituted in the room of Veneſection and Purgatives, was Faſting or Abſtinence. When this, in Conjunction with Clyſters and Vomits, was not ſufficient to remove Plenitude, which, according to him, was the moſt general Source of all Diſorders, he then had recourſe to Exerciſe. *Eraſiſtratus* not only look'd upon the Fulneſs of the Veins, as the original Cauſe of Diſeaſes, but alſo maintained, that this Fulneſs was followed by a Transfuſion of the Blood from the Veins into the Arteries, and conſequently by a Fever and Inflammation. He alſo acknowledg'd another particular Species of Plenitude, which was that of the Part affected. Of this there is an Example, in the Hiſtory given of the Diſeaſe under which *Crito* labour'd. This Diſorder, which was a Quinſey, he calls ſynanchic Plenitude; that is, continues he, an Inflammation of the Amygdalæ and Uvula. He might, with equal Reaſon, have call'd an Apoplexy an apoplectic Plenitude; and a Pleuriſy a pleuritic Plenitude, or a Plenitude of the Pleura. At this rate Plenitude was continually both the Cauſe, and the Genus or Kind, of the Diſeaſe.

But to return to his Method of preventing and curing Diſeaſes by Abſtinence and Exerciſe. He adviſes, “That thoſe who have been accuſtomed to much Exerciſe, ſhould uſe a little more than they ordinarily do, when they perceive a Plenitude in themſelves, that by this they may prevent a Diſeaſe. After they have uſed ſufficient Exerciſe, they are to go into a warm Bath, in order to ſweat. After this, if they find themſelves overheated, they are for ſome Days to uſe the cold Bath. When this is done, let them keep themſelves in a State of Eaſe for ſome time longer, and uſe a very ſmall Quantity of Aliments, abſtaining from Dinner entirely, and Supping very moderately. They ought alſo to take care, that the Aliments they uſe, ſhould poſſeſs as little of a nutritive Quality as poſſible. Of this Kind are moſt Species of Herbs, whether crude or prepar'd; as alſo Citruls, Cucumbers, Melons, Figs, and Pulſes, which ought to be boil'd with Herbs. The Bread they eat ought alſo to be very good. By this Regimen they will not only keep their Bodies ſoluble, but live upon ſuch Aliment as is not too ſtrong. The Reverſe of this would happen, if they ſhould live upon Fleſh, Fiſh, or Aliments either entirely conſiſting of Meal, or thoſe in which Meal is an Ingredient; ſince theſe are too nouriſhing, and conſequently ought not, on ſuch Occaſions, to be uſed at all, or at leaſt very ſparingly. This Regimen muſt carefully be follow'd, in order thoroughly to remove Plenitude, which is the Cauſe of Diſtempers. As for thoſe who are not accuſtomed to ſtrong Exerciſe, or hard Labour, they reap no great Advantage from exerciſing themſelves much, though Exerciſe in itſelf is very proper for evacuating the Superfluities of the Body. For thoſe who vomit eaſily, Emetics are always uſeful after Supper, provided too long a Time does not intervene between Supper and the Emetic to be taken, ſo that they may vomit almoſt at the very Time when the Chyle has fully diſtributed itſelf, and the remaining Maſs of Aliments is ſtill lodg'd in the Stomach. The following Day they muſt bathe and ſweat, and afterwards return gradually to their ordinary and accuſtomed Courſe of Life.

“As Plenitude, continues *Eraſiſtratus*, occurs in various Parts, the Liver, for Inſtance, and the Abdomen, and as, in ſome Patients, it produces Epileptic Fits, and, in others, Pains of the Joints, the Cure of theſe Patients muſt, of courſe, be differently regulated. They, for Example, who are inclin'd to Epilepſies, ought not to be treated in the ſame manner with thoſe who ſpit Blood: The former ought to be in continual Exerciſe, whereas the latter ought to avoid Fatigue and Labour, leſt the Veſſels, already open, ſhould be render'd ſtill more ſo. Patients, ſubject to the Epilepſy, ought continually to expoſe themſelves to Labour and Fatigue, to eat and drink very little, to bathe rarely, and avoid every thing which has the leaſt Tendency to produce either too great, or too ſudden, a Change in the Body. On the contrary, they who are ſubject to the Gravel, ought to uſe Aliments of eaſy Digeſtion, bathe frequently, and drink often; leſt their Urine, becoming acrid, ſhould corrode the Parts thro' which it paſſes. To Patients of this kind, too much Exerciſe is prejudicial. Thoſe, alſo, who are ſubject to Defluxions on the Liver, or Spleen, ought to abſtain from too violent Exerciſe, and the Uſe of cold Baths, and rather ſeek for a Cure in Abſtinence from Meat and Drink, and in the Uſe of warm Baths.”

Theſe Words of *Eraſiſtratus*, quoted by *Galen*, ſhew us, that, tho' he did not abſolutely condemn Exerciſe, yet he only approv'd of it as a Remedy to be practis'd by thoſe who were conſcious of their Veſſels being too full; and thought it entirely uſeleſs to ſuch as enjoy'd a good State of Health. In this Particular his Sentiments were oppoſite to thoſe of *Hippocrates*, as they alſo were with regard to Bleeding, Purging, and Abſtinence.

Galen informs us, that *Eraſiſtratus* attributed ſo much to *Succory*, in Diſeaſes of the Viſcera and lower Belly, and eſpecially thoſe of the Liver, that he took particular Pains to deſcribe the Method of preparing it; which was, “ To boil it in Water till it was tender; then to put it a ſecond time into boiling Water, in order to deſtroy its “ Bitterneſs; and afterwards to take it out of the Water, and preſerve it in a Veſſel with Oil; and, laſtly, when “ 'tis to be us'd, to add a little weak Vinegar to it. ” So minute and circumſtantiate was *Eraſiſtratus*, with regard to the Preparation of his favourite Succory, that, if we may believe *Galen*, he gave Orders to tie ſeveral of the Plants together, becauſe that was the more commodious Method of boiling them; “ As if, ſays *Galen*, Cooks and Kitchen-maids “ had not known how to boil a Bunch of Succory. ” What induc'd *Eraſiſtratus* to this was, probably, that the Medicine of the Time in which he liv'd, conſiſted almoſt entirely in Regimen, to which this Phyſician added ſome topical Remedies, ſuch as Fomentations, Cataplaſms, and Unctions. He alſo approv'd of the moſt ſimple Medicines, and exclaim'd againſt the Royal Compoſitions and Antidotes, which his contemporary Phyſicians call'd the *Hands of the Gods*. He could not ſuffer, that Minerals, Plants, and animal Subſtances, Things taken from the Sea, and Things produc'd by the Earth, ſhould be mixed together. It would, ſaid he, be much better to uſe only Ptiſan, Citruls, and Hydrelæum. By Ptiſan and Citruls he underſtood the Diet, and by Hydrelæum, or Water and Oil, he meant Clyſters, Ointments, and Fomentations. Thus he reduc'd Phyſic to a very ſimple and compendious Art.

Eraſiſtratus was no leſs implacable an Enemy to ſuperfluous and fine-ſpun Reaſonings, than to too compound Medicines. He was afraid, leſt the Errors he ſhould fall into, in reaſoning upon the Cauſes of Diſeaſes, might influence his Practice, and deceive him in the Cure of Diſorders. *Eraſiſtratus* and *Herophilus*, ſays *Galen*, were but half Dogmatics; they would only treat with the Remedies ſuggeſted by Reaſon, the Diſeaſes of the organical or inſtrumental Parts.

It were to be wiſh'd we had ſtill a Book, wrote by *Eraſiſtratus*, intituled, *Of Cauſes*; if we had, we ſhould, in all Probability, find ſomething curious enough upon this Subject. This Book is quoted by *Dioſcorides*, who informs us, that this Phyſician was not ſo much in the Empirical way of Thinking, as to believe it unneceſſary to inquire into the Cauſes of other Diſorders, beſides thoſe of the organical Parts, which *Galen* would inſinuate. 'Tis true, he ſeems to agree with the Empiric Sect, which began almoſt in his own Time, that we cannot always diſcover the ſpecific or particular Cauſes of ſeveral Diſorders. But, ſaid he, it does not follow, that it is ſo with the general Cauſes, which are apparent, ſenſible, and ſupply us with ſure Indications. In order to illuſtrate this, he brought the Example of thoſe who had taken Poiſon, or were bitten by ſome venomous Animal. This Poiſon, continu'd he, does not furniſh us with a curative Indication, drawn from its ſpecific Nature, which is unknown to us. But this does not hinder us from drawing a general Indication from the Effects produc'd by the Poiſon, upon which we may conduct ourſelves in the Cure of this Diſorder, by reaſoning thus: The Cauſe of the Effects, we ſee, depends upon a venomous Matter, which, in a ſhort time, deſtroys the Parts it touches, and cauſes Death, by quickly inſinuating itſelf into all the Parts of the Body. We muſt, therefore, try to extract it as ſoon as poſſible, and prevent its penetrating farther and deeper. In order to anſwer this Intention, if any one has taken Poiſon, we muſt forthwith make him drink a great deal of Water, and afterwards cauſe him to vomit, that the Poiſon may be diſcharged from his Stomach. If, on the contrary, any one has been wounded by a venomous Animal, the Wound muſt forthwith be dilated, ſuck'd, and Cupping-glaſſes muſt be apply'd; the Part muſt alſo be ſcarify'd, cauteriz'd, and drawing Medicines muſt be apply'd to it; and, if there is an abſolute Neceſſity for it, the whole Member muſt be cut off; and all this with an Intention to draw out the Matter of the Poiſon, and prevent its ſpreading.

It may, perhaps, be aſk'd, whether *Eraſiſtratus*, to the Medicines already mention'd, did not join Antidotes. It is probable he did; tho', at the ſame time, he did not approve of ſuch as were very compound, and only uſed them as Remedies authoriz'd by Experience, without having, in that Particular, any Regard to the Cauſe of the Diſeaſe, or the Manner in which Antidotes acted; otherwiſe he muſt have reaſon'd a great deal, and had recourſe to ſpecific and particular Cauſes, a thing as contrary to his Principles as to thoſe of the Empirics. Not that he entirely neglected theſe laſt-mention'd Cauſes, ſince he ſearch'd for that of a Fever, the moſt difficult of all others to be diſcover'd. But, in all Probability, tho' this Phyſician thought it allowable to give a Looſe to the Imagination in Reſearches of this kind, yet he did not look upon them as eſſential to the Practice of Phyſic, ſince he did not ſcruple to affirm, that we could only reaſon ſolidly upon ſenſible Cauſes, and that theſe alone could furniſh us with certain and infallible curative Indications.

There are ſeveral Diſeaſes on which *Eraſiſtratus* wrote nothing, perhaps for want of an Opportunity of making ſufficient Obſervations upon them. This appears ſo much the more probable, becauſe, as *Galen* obſerves, it was reported of this Phyſician, that he neglected Practice, kept himſelf at home, and rarely ſaw any Patients.

He, nevertheleſs, apply'd himſelf to all the Parts of Medicine, and cultivated Surgery with as much Care as the Phyſicians who preceded him: He appears to have been a bold Surgeon, and a cruel Anatomiſt, if 'tis true, that he diſſected Men alive. In a ſcirrhous Liver, or in Tumors of that Organ, *Cælius Aurelianus* obſerves, that *Eraſiſtratus* made an Inciſion thro' the Skin and Integuments, and, having open'd the Abdomen, he apply'd Medicines immediately to the Part affected; but, leſt it ſhould be thought, that this is not the real Meaning of the Paſſage, the Words in the Original run thus: *Eraſiſtratus in jecoroſis præcidens ſuperpoſitas jecori cutes atque membranam, utitur medicaminibus quæ ipſum jecur late amplectantur; tum ventrem deducit, audacter partem patientem nudans.*

Tho' *Eraſiſtratus* was thus bold in performing Operations on the Liver, yet he did not approve of the *Paracenteſis*, or Tapping, in the Dropſy; becauſe, ſaid he, the Waters being evacuated, the Liver, which is inflam'd, and become hard like a Stone, is more preſſed by the adjacent Parts, which the Waters kept at a Diſtance from it, ſo that by this means the Patient dies.

This Phyſician alſo declar'd againſt drawing Teeth which were not looſe. He uſed to tell thoſe who talk'd with him on this Operation, “ That, in the Temple of *Apollo*, there was to be ſeen an Inſtrument of Lead for drawing “ Teeth; in order to inſinuate, that we muſt not attempt the Extirpation of any but ſuch as are looſe, and call “ for no greater Force for their Extirpation, than what may be ſuppoſed in an Inſtrument of Lead. ”

Eraſiſtratus wrote ſeveral Books, the Titles and Fragments of ſome of which are preſerv'd in *Galen* and *Cælius Aurelianus*. The former of theſe Authors informs us, that he wrote very accurately on the Dropſy. He alſo quotes the following Books; that in which *Eraſiſtratus* treated of *the Diſeaſes of the Belly*; that on *the Preſervation* *of Health*; that on *Things ſalutary*; that on *Habit*; that on *Fevers and Wounds*; that on *Diviſions*, in which he related the ſeveral Obſervations he had made upon Diſeaſes; that concerning *Vomiting*, and *Spitting of Blood*. *Galen* alſo quotes another Book of his, concerning the *Evacuation of Blood*, or *Veneſection*. But this ſeems to be inconſiſtent with what *Galen* had ſaid before, when he tells us, that *Eraſiſtratus* did not write upon Veneſection. It is probable there may be ſome Error in this Paſſage of *Galen*.

Eraſiſtratus alſo wrote concerning the Palſy and the Gout. In the former of theſe Works he made mention of a Palſy of the Peritoneum, ſucceeded by a Retention of Urine: Becauſe, ſaid he, in this Caſe the Peritoneum does not preſs the Bladder, in order to diſcharge its Contents. He alſo ſpoke of another Species of Palſy, which he call'd *Strange*, or *Extraordinary*; becauſe, by it, the Patient was ſuddenly conſtrain'd to ſtand ſtill, without being able to walk, but, ſoon after, walk'd eaſily and freely. We know nothing of the Contents of his Book on the Gout, except that, in that Diſorder, he condemn'd Purgatives, and promiſed King *Ptolemy* a Cataplaſm for the Gout, of which he gave no Deſcription. He alſo wrote againſt the Phyſicians of *Cos*, among whom was *Hippocrates*, whom he contradicted for the moſt part. He alſo wrote ſeveral Books of Anatomy, when he was pretty far advanc'd in Years.

Petrus Caſtellanus, in his Lives of the Phyſicians, ſays of *Eraſiſtratus*, that when he was very old, and had ſuffer'd long under an incurable Ulcer of one of his Feet, he put an End to his Life, by ſwallowing the Juice of Hemlock.

This Hiſtory of the Practice of *Eraſiſtratus* and his Diſciples will furniſh us with Matter for a Remark of ſome Importance in Phyſic, and which a Practitioner ſhould never forget, if he intends to make a Figure in his Profeſſion, and ſatisfy his own Conſcience, by a religious Diſcharge of his Duty to thoſe who commit their Healths and Lives to his Care. It is, that the Inſtant Mankind began to dignify Imagination with the ſpecious Title of Reaſon, and to prefer the Authority of the uncertain Dictates thereof, to that of Facts eſtabliſh'd by the Experience of Ages, an Attempt was made to deprive Medicine of the moſt certain and effectual Means of Relief, which had at that time been diſcover'd, or even that at this Day we are acquainted with, I mean Bleeding and Purging. But Phyſic is not the only Science which too juſtly complains of the Arrogance of falſe, and Deviation from right, Reaſon; for there is nothing ſerious or ſacred, which has not been attack'd in the ſame manner; nothing certain, either human or divine, which has not been diſputed; and nothing valuable and uſeful, which has not ſuſtain'd ſome Injury by the Inſolence of human Reaſon, which ten thouſand Errors demonſtrate to be not infallible.

Herophilus is generally thought to have been contemporary with *Eraſiſtratus*, though ſomewhat his Senior. We have already given ſome Account of his Anatomy, under the Article ANATOME. But this was not the only Branch of Medicine to which he apply'd himſelf; for he underſtood Surgery, cultivated Botany, and held Herbs in ſo great Eſteem, that, according to *Pliny*, in the ſecond Chapter of his twenty-fifth Book, he aſſerted, that thoſe we trod under our Feet, were poſſeſs'd of very valuable Qualities.

Herophilus is ſaid to have been the firſt Phyſician of the Dogmatic Sect, who made ſo great an Uſe of Medicines, both of ſimple and compound, that neither he nor his Diſciples would undertake the Cure of any Diſorder without them. *Celſus*, who makes this Obſervation, ſuppoſes, that preceding Phyſicians uſually practis'd without them. *Herophilus* uſed to ſay, that Medicines were either nothing at all, or the Hands of the Gods, according as they were uſed and employed.

This Phyſician is alſo ſaid to have been the firſt who treated with Accuracy the Doctrine of the Pulſes, which before that Time had been much neglected. *Pliny*, indeed, aſſerts, that he carried Matters too far with reſpect to that Subject. According to *Herophilus*, ſays that Author, "it would be neceſſary to be both Muſician and "Geometrician, in order to know perfectly the Doctrine of Pulſes, that is, to underſtand their juſt Meaſure "and Cadence, according to the different Ages and Diſeaſes of Patients."

But this Obſervation of *Pliny* is founded upon a vulgar Error, which repreſented *Herophilus* in this injurious Light, becauſe he was unqueſtionably the firſt who, in treating that Subject, had uſed the Word ῥυθμὸς, or *Meaſure*, a Term uſed by Muſicians, but which he apply'd to the Pulſe, and which has been retained by the Phyſicians of all ſucceeding Ages. *Galen*, indeed, by whom we are informed, that *Herophilus* wrote copiouſly on the *Meaſure* of the Pulſes, aſſerts, that he has involv'd himſelf in Difficulties, and advanc'd Abſurdities, in handling the Subject; but his having been the firſt who made ſuch an Attempt, will ſufficiently apologize for his Blunders.

What *Pliny* adds, with reſpect to the Sect of *Herophilus* being deſerted, becauſe his great Subtilty was not reliſhed by every one, is by no means probable, ſince *Herophilus* had a great Number of Followers long after his Death. Beſides, 'tis not eaſy to reconcile this great Subtilty, which *Pliny* aſcribes to *Herophilus*, with the Account *Galen* gives of him, when he calls him half Empiric in his Sentiments; or when in another Part of his Works he claſſes him, and his Followers, among the Empirics.

Galen farther informs us, that *Herophilus* wrote againſt the Prognoſtics of *Hippocrates*, a Work which of all others has had the feweſt, and at the ſame time the leaſt ſucceſsful Attacks made upon it. As *Hippocrates* did not much depend on the Pulſe, and the Signs furniſhed by it, this, perhaps, is the Reaſon why *Herophilus* attack'd him in this Particular.

Cælius Aurelianus, who gives us ſome Inſtances of the Practice of *Herophilus*, informs us, that this Phyſician wrote nothing concerning the Cure of ſeveral Diſeaſes, even ſuch as moſt uſually occur, as the Pleuriſy and the Quinſey, though he treated of the Nature of theſe Diſorders; ſince, among other Things, he maintains, that "the "Lungs are the Parts affected in a Pleuriſy; and that a Peripneumony does not differ from a Pleuriſy, except "that in the former the entire Lungs are affected, whereas in the latter a Part of them only ſuffers." He made mention of a Diſeaſe which is pretty rare, and which he call'd a Palſy of the Heart; but all he ſays of it is, that certain ſudden Deaths are to be aſcribed to it. *Herophilus* followed the Sentiments of *Praxagoras* his Maſter, and thoſe of *Hippocrates*, with reſpect to the Humours, Health, and Diſeaſes. His Practice was alſo very near the ſame with theirs. He repoſed a particular Confidence in white Hellebore, and compared this Remedy to a valiant Captain, who boldly marches out of the Gates of a City to meet the Enemy, after having ſufficiently animated thoſe who were to follow him.

If we may credit *Celſus*, it was near the Time of *Eraſiſtratus* and *Herophilus*, that Medicine, which till then had in all its Parts been practiſed by one Perſon, was divided into three Branches, which became the Occupations and Employments of three diſtinct Claſſes of Men.

Theſe three Branches were the Dietetic, the Pharmaceutic, and the Chirurgical Medicine. The firſt employ'd a proper Regimen in the Cure of Diſeaſes, the ſecond Medicines, and the third the Operation of the Hands. If this Diviſion was to be underſtood ſtrictly, according to the Letter, we might infer from it, that thoſe who uſed

Regimen could not preſcribe Medicines; nor thoſe who exhibited Medicines, and operated with their Hands, employ Diet. But *Celſus*, in the Preface to his fifth Book, explains himſelf thus: "All the Parts of Medicine," ſays he, "are ſo connected with each other, that they cannot be ſeparated; that which treats the Patients by Regimen, ſometimes adds Medicines; and that which employs Medicines, has alſo need of a Regimen: So that each Part takes its Name from that about which it is principally employ'd."

This Diviſion lays a kind of Foundation for our believing, that *Celſus* intended the three Profeſſions to which Medicine is at preſent confined, thoſe of Phyſicians, Apothecaries, and Surgeons. But Matters did not then ſtand preciſely on the ſame Footing they now do. Thoſe who practiſed the firſt Branch, which was the Dietetic, were indeed the ſame with our Phyſicians; but the others were not equivalent to our Apothecaries and Surgeons. As the Phyſicians had the Care of internal Diſorders, whoſe Cauſes are generally moſt difficult to be found out, they have, in all Ages, been held in the greateſt Eſteem. What made the People pay them a ſuperior Deference, was their affirming, that in order to exerciſe their Art ſkilfully, they were oblig'd to be Philoſophers, and have an Acquaintance with almoſt every Object in Nature.

Thoſe who exerciſed the third Branch differ'd from our Surgeons in this, that their Art did not comprehend ſo many things. They meddled with nothing but Surgery, ſtrictly ſo call'd, that is, barely with manual Operations; and did not undertake the Cure of Patients, who could find Relief by any other Method. They were not even allowed, according to *Celſus*, to treat Wounds, much leſs Ulcers and Tumors, except in Caſes where there was an abſolute Neceſſity for making an Aperture or Inciſion.

Wounds, Ulcers, and Tumors, belong'd to the Province of thoſe who exercis'd the pharmaceutic Part. Theſe they treated by the Application of Medicines which ſtop Blood, which conſolidate, which deterge, which incarn, which ſuppurate, and which break or evacuate Abſceſſes. Upon the Whole, this Claſs of Men undertook all Diſorders, the Cure of which is to be brought about by the external Application of Medicines. But when they could not ſucceed, and when there was a Neceſſity of having recourſe to Fire, and the Knife, they then deliver'd over their Patients to the Care of the Surgeons, ſo that they differ'd very widely from our Apothecaries.

Before this Diviſion was made, thoſe call'd Phyſicians diſcharg'd all the ſeveral Offices belonging to the three Profeſſions; and there were only two Kinds of Phyſicians, the one called ἀρχιτεκτονικοὶ, who only gave their Advice to the Patients, and Directions to the inferior Claſs, who were call'd δημιουργοὶ, who labour'd with their Hands under the Inſpection of the former, whether in performing Operations, in the Compoſition, or Application, of Remedies. The ſame thing, according to *Ariſtotle*, holds good in all Arts. But it happen'd, that the laſt-mentioned Order of Men, who were the Servants of the former, and ſometimes their Children, or Diſciples, began to perform alone, what they formerly did under the Inſpection of another, and each profeſs'd what he underſtood beſt, either in Surgery or Pharmacy; ſo that Medicine was divided in the manner above-mentioned. Thoſe who practiſed Surgery, bore the ſame Name they at preſent do. In the firſt Chapter of the twenty-ninth Book of *Pliny*, we alſo find the Name *Vulnerarius*, or *Vulnerum Medicus*, the Phyſician of Wounds; but this Appellation ſeems rather to belong to thoſe who exerciſed the pharmaceutic Part of Medicine, ſince Wounds belong'd to their Province, according to *Celſus*; tho' 'tis poſſible *Pliny* might have intended a Surgeon by that Name, ſince theſe two Profeſſions have not been ſo accurately diſtinguiſh'd, as to prevent the one from being taken for the other.

Thoſe who applied to the Pharmaceutic Part were called *Pharmaceutæ*; for the Word *Pharmacopæus* was taken in a bad Senſe, and generally imported a Poiſoner, who was alſo called φαρμακὸς and φαρμακεὺς, from the Word φάρμακον, which ſignifies indiſcriminately every Drug or Compoſition, whether good or bad, and every Medicine or Poiſon, whether ſimple or compound. The *Latins* have in like manner uſed the Word *Medicamentum* for Poiſon, and the Word *Medicamentarius* for a Poiſoner; tho' this laſt Word ſignify'd alſo an Apothecary, as did the firſt a Medicine.

The Word *Pharmacopola* among the Antients ſignified another Species of Profeſſion. This Name was given to all without Exception who ſold Medicines, tho' they did not prepare them: But the Name was in a particular manner applied to thoſe we call Mountebanks, who ſtroll from Place to Place in order to ſell their Medicines: For this Reaſon they were alſo called *Circulatores*, *Circuitores*, and *Circumforanei*. They were alſo called ἀγυρταὶ, from a *Greek* Word which ſignifies to aſſemble; becauſe they gathered a Croud about them, and found Fools enough to believe what they ſaid, as their Brethren of the Profeſſion at this time do. They were alſo for the ſame Reaſon called ὀχλαγωγοί. They were alſo called *Sellularii Medici*, ἐπιδίφριοι ἰατροί. This is the Trade with which *Epicurus* upbraided *Ariſtotle*: This the Buſineſs followed by *Eudamus*: This the Profeſſion of one *Chariton*, from whom *Galen* has taken ſome Deſcriptions of Medicines, and whom he calls ὁ, λαγωγός. This, in ſhort, was the Buſineſs of *Lucius Clodius* of *Ancona*, whom *Cicero* calls *Pharmacopola Circumforaneus*.

It cannot well be determined whether what they called the *Pharmacotribæ*, that is, Mixers or Compounders of Medicines, were the ſame with the *Pharmoceutæ*, or if thoſe were only ſo called who compoſed the Medicines, tho' they did not apply them. Theſe laſt might poſſibly be the Servants of the Druggiſts, who by the *Latins* are called *Seplaſiarii* and *Pigmentarii*, and by the *Greeks* παντοπῶλαι, and καθολικοὶ, becauſe they ſold all Kinds of Drugs. They were alſo ſtyled ῥωποπῶλαι, μιγματοπῶλαι, and in the later Ages of *Greece* πημενταριοὶ, a Name formed from the *Latin*.

The Shops of theſe Dealers were called *Seplaſia* in the Plural Number, and Neuter Gender, and their Profeſſion *Seplaſia* in the Singular Number, and Feminine Gender. They ſold to Phyſicians, Painters, Dyers, and Perfumers, all the Materials for which they had Occaſion. Theſe Venders, as well as Compoſers, of Medicines, were ready to ſell bad and ill-prepared Medicines, and there were formerly, as well as now, incredible and wicked Frauds in theſe Profeſſions. This Circumſtance induced *Pliny* to cenſure the Phyſicians of his own Time, for not applying themſelves to the Knowledge of Drugs, and for taking ſimple, as well as the compound Medicines, which they uſed upon the Word of thoſe who ſold them, and neglecting to inſpect them, and compound them, as the antient Phyſicians did.

The Phyſicians purchaſed Medicines not only from the Druggiſts, but alſo the moſt common Simples from the *Herboriſts*, whom the *Latins* called *Herbarii*, and the *Greeks* ῥιζοτόμοι, or Cutters of Roots, and βοτανολόγοι, or βοτανικοὶ, Gatherers of Herbs, and not βοτανισταὶ, this latter Word being appropriated to thoſe who cleaned the Corn, or took the bad and ſuperfluous Herbs out of it. The Herboriſts, to raiſe at once the Dignity and Profit of their Buſineſs, ſuperſtitiouſly affected to gather Simples at certain particular Seaſons, with various Precautions, and ridiculous Ceremonies. They were alſo very ready to give the Phyſicians one Herb or Root for another, when they happened not to be very ſkilful in ſuch Affairs.

The Herboriſts, and thoſe who exerciſed the Pharmaceutic Art, had alſo proper Places for holding their Drugs, their Simples, and their Compoſitions. Theſe Places the *Greeks* called Ἀποθῆκαι, a general Name ſignifying all ſorts of Places in which any thing is kept or depoſited.

The Shops of the Surgeons were by the *Greeks* called ἰατρεῖα, from the Word ἰατρὸς, a Phyſician; becauſe all thoſe who were concerned in any Branch of Medicine, were antiently called Phyſicians, and becauſe the Phyſicians were alſo Surgeons. The Word ἰατρεῖον, *Plautus* renders by that of *Medicinæ*; and as in his Time Medicine was not divided in *Rome*, but the Phyſician, the Surgeon, the Apothecary, and the Druggiſt, were all one; that Name, in the Comic Poet, agrees to all the Shops in general, where any Branch of the Medicinal Art was practiſed, whether Medicines and Drugs were ſold in them, or whether they were deſigned for dreſſing the Wounded. In like manner the Word *Medicus*, with that Poet, ſignifies a Vender of Drugs.

But to return to the Diviſion of Medicine, we have explained it preciſely in the Senſe of *Celſus*, whether the State of Things was actually ſuch in his Days, or whether he only formed ſuch a Plan as he thought ſhould have been purſued. The Face of Affairs, however, changed afterwards; ſome encroached on the Profeſſions of others, or exerciſed more Branches of the Buſineſs than one, or the ſame Names remained, tho' the Employments were no longer the ſame. Some Ages after *Celſus*, thoſe who were by the *Greeks* called πιμεντάριοι, and by the *Latins Pimentarii*, and *Pigmentarii*, and who, properly ſpeaking, ought to be Druggiſts, alſo diſcharged the Office of an Apothecary. As a Proof of this, we may bring that Paſſage of *Olympiodorus*, an antient Commentator upon *Plato*: The Phyſician, ſays he, preſcribes, and the *Pimentarius* prepares every thing neceſſary. We cannot preciſely determine when this Change happened; but the Author now quoted lived about four hundred Years after *Celſus*.

The Diviſion already mentioned did not, however, hinder ſeveral Phyſicians, both in the Time of *Celſus*, and afterwards, to adhere to the antient Cuſtoms; and tho' their Profeſſion derived its Name from the Word DIET, yet they were not ſo rigidly attached to that alone, for the Relief of the Afflicted, but that they employed not only other Medicines, but had alſo Operators under them, who blooded, ſcarified, applied Cupping-glaſſes, exhibited Clyſters, applied Cataplaſms and Plaiſters, anointed, fomented, bathed, and prepared Medicines.

After the Days of *Herophilus*, in or about whoſe Time this Diviſion was made, ſeveral famous Phyſicians wrote upon Surgery, and Pharmacy in particular; which proves, that they profeſſed a Knowledge of every Branch of Medicine, as they had formerly done: And, firſt, with regard to Medicines, tho' various Deſcriptions of them were found in the Writings of preceding Phyſicians, ſuch as *Hippocrates* and *Diocles*, yet theſe Deſcriptions were ſcattered here-and-there in their practical Works; and Books, on the particular Subject of Medicines, were, in theſe Days, very rare, as *Galen* obſerves; ſo that it was properly at the Time of the Diviſion of Medicine, that People began to write on this Subject in particular, or to compoſe Works of this Kind; and the Phyſicians were the Perſons who employ'd themſelves in carrying on the Deſign. *Herophilus* began to make more Uſe of Medicines than had formerly prevailed. He was ſucceeded by his Diſciples, who, by reaſon of the great Regard they had for their Maſter, did not fail to write in particular upon this Subject. Among the Followers of *Herophilus* who diſtinguiſhed themſelves moſt in this Way, *Celſus* mentions *Zeno*, *Andreas*, and *Apollonius Mus*; and to theſe *Galen* adds *Mantias*.

The firſt grand Revolution which happened to Phyſic, after *Eraſiſtratus* and *Herophilus*, was occaſioned by the founding of the Empiric Sect. This happened about 287 Years before the Birth of *Chriſt*. *Serapion* of *Alexandria* was, according to *Celſus* in the Preface to his firſt Book, the firſt who aſſerted, that there was no Neceſſity for Reaſoning in Medicine, and that we ought entirely to depend upon Experience; or, at leaſt, as he was the firſt who eſpouſed this Sentiment vigorouſly, and was followed in it by others, he was erected Chief of the Empiric Sect.

Others have aſcribed the ſame thing to *Philinus*, of the Iſle of *Cos*, a Diſciple of *Herophilus*, who is ſuppoſed to have furniſhed *Philinus* with an Occaſion of eſtabliſhing this Sect. We are not told how this happened; but we may eaſily conjecture at it, ſince *Herophilus* was half an Empiric; becauſe he imagined, that we ought not to reaſon in Medicine, except in Diſeaſes which depend upon ſome Diſorder of the inſtrumental or organical Parts. *Herophilus*'s having ſo ſtrongly recommended Medicines, and his Diſciples being of the ſame Sentiments in that Particular, are two Circumſtances which amount to an additional Proof; for it is well known, that the ſole Deſign and Intention of the Empirics was the Inveſtigation of Medicines. It is, no doubt, for this Reaſon, that *Herophilus*, and ſome of his Followers, ſuch as *Zeuxis*, *Heraclides* the *Erythrean*, and *Bacchius*, are, by *Galen*, claſs'd among the Empirics; tho' that Author well enough knew the Difference between the Sect of *Herophilus*, and that of *Philinus* or *Serapion*.

Others are of Opinion, that *Acron* of *Agrigentum* was the Founder of this Sect; and the Empirics themſelves aſſerted, that he was ſo, in order to have the Advantage of Antiquity over the Dogmatic Phyſicians, who began only in the Days of *Hippocrates*. In order to clear up this Difficulty, we muſt obſerve, that there were two Kinds of Empirics among the antient Phyſicians. Thoſe who lived from the Days of *Æſculapius*, or whoever firſt reduced Medicine to an Art, till the Time in which Reaſoning and Philoſophy were introduced into Medicine, were the firſt Empirics; but there is this Difference betwixt them and thoſe of the Sect of *Serapion* and *Philinus*, that the former were Empirics without receiving that Name, ſo that they cannot properly be look'd upon as Sectaries, ſince they were the firſt of all Phyſicians; whereas the later Empirics made Choice of that Name for themſelves, and affected to make a diſtinct Sect from the Dogmatics. Laſtly, the Empiriciſm of the former was purely natural; whereas that of the latter was the Effect of their Meditation and Reaſoning, which they well knew how to employ for the Support of their Party, tho' they declared themſelves openly againſt ſuch as reaſoned in medicinal Affairs; conducting on this Occaſion, ſomewhat like many of the Moderns, who notwithſtanding their Contempt of Theory, are nevertheleſs attached to one of their own.

Philinus and *Serapion* muſt have lived pretty near each other; the former flouriſhed in the Days of *Herophilus*, whoſe Diſciple he was. *Athenæus* informs us, that he wrote concerning Plants, and commented upon *Hippocrates*; but we know not what particular Meaſures he took in order to eſtabliſh his Sect.

As for *Serapion*, he probably practiſed Phyſic at *Alexandria*, the Place of his Birth. The Time in which he lived is not preciſely known; but we may ſuppoſe he lived near the Days of *Philinus*, or was contemporary with the Diſciples of *Herophilus*; becauſe he came after *Hippocrates*, againſt whom he reaſoned; and becauſe he preceded the famous Empiric *Heraclides* of *Tarentum*. We are informed by *Galen*, that *Serapion* uſed *Hippocrates* very ill in his Writings, in which an intolerable Exceſs of Pride, Self-praiſe, and Contempt for all the valuable Phyſicians who went before him, were diſcovered. He wrote a Book concerning ſuch Medicine as may be eaſily prepared; and we have ſome Sketches of his Practice in *Cælius Aurelianus*, which convince us, that he retained the Medicines of *Hippocrates*, and the other Phyſicians who lived before him, tho' he rejected their Reaſonings. We know not what Arguments he advanced for the Support of his Sentiments, ſince his Works are loſt, as well as thoſe of all the other Empirics; and we ſhould know nothing relating to any of them, if their Adverſaries had not quoted them in order to confute them.

Cælius Aurelianus, when treating of the Cure of a *Cholera*, makes mention of certain Pills uſed by *Serapion* and *Heraclides* of *Tarentum*, compounded of the Seeds of Henbane, Aniſe, and Opium. In each Doſe of theſe there was to be one Grain of Opium, and four Grains of the Seeds of Henbane. And indeed among all the antient Sects, we find none more attach'd to the internal Uſe of Opium than the Empirics. *Serapion*, if we may believe *Cælius Aurelianus*, in the Cure of the Iliac Paſſion, uſed a Pill compounded of Filings of Lead, the Grana Cnidia, Salt, Elaterium, Reſin, Caſtor, and Diagrydium. In this Compoſition there are two Ingredients worth our Attention; the Filings of Lead perhaps exhibited with a View of facilitating their Paſſage by their Weight, and the Caſtor with an Admixture of Purgatives; which laſt Ingredient is ſtill the more worthy of our Attention, becauſe *Eraſiſtratus* uſed Pills with Caſtor for the Intention of purging. Beſides, Caſtor was frequently uſed by the Empirics, as we learn from ſome other of their Compoſitions ſpecified by *Cælius Aurelianus*. I don't however apprehend, that *Caſtor* was intended as a Cathartic, but as a Corrector of the brisker Purgatives, in which Intention it is of conſiderable Efficacy.

When *Cælius Aurelianus* propoſes the Cure of an Epilepſy, he gives us, from *Serapion*, a long Catalogue of antiepileptic Medicines, ſuch as Caſtor, the cruſty Warts on the fore Legs of Horſes, the Brain and Gall of a Camel, the Coagulum of the Sea-calf, a Medicine prepared of the Dung of the Land-crocodile, the Heart and Loins of a Hare, the Blood of a Sea-tortoiſe, or the Teſticles of a Boar, a Ram, or a Cock. But before the Uſe of theſe Medicines he preſcribed Veneſection, and ſometimes Emetics, ſuch as white Hellebore, and ſometimes Purgatives, ſuch as Scammony and black Hellebore.

Celſus gives us an Account of a Medicine recommended by *Serapion* for the Cure of impetiginous Diſorders. This Preparation conſiſted of Nitre two Parts, and Sulphur four Parts, made up with a large Quantity of Roſin; but by *Nitre*, what we now call by this Name is not meant. *Aetius* commends his *Emplaſtrum Melinum*, tho' he gives us no Deſcription of it. In *Nicolaus Myrepſus* we read of a certain Preparation of his, which he calls *Antidotus Choragus*, ſo called, becauſe it invigorated thoſe who were impotent. The principal Ingredients in this Antidote were Satyrion and the Scink. From theſe Specimens we may form a Judgment not only of the *Materia Medica*, but alſo of the Practice of *Serapion*. But whether *Philinus* or *Serapion* was the Founder of the Empiric Sect, it muſt be both curious and inſtructive to inquire into the Principles by which the Phyſicians belonging to it conducted themſelves.

They admitted only one Method of acquiring a genuine Skill in the Medicinal Art, which was by Experience, called by the *Greeks* ἐμπειρία. From this celebrated Word they derived their Name, and would not be denominated either from the Founder, or from any Champion of their Sect.

They defined Experience a Knowledge acquir'd by the Evidence of Senſe. This Evidence, they ſaid, was either fortuitous, as when, without any Deſign or Intention of a rational Agent, an Accident of ſuch a Nature happens to a Patient as frees him from his Diſeaſe; when, for Inſtance, any one labouring under a Head-ach, caſually cuts himſelf in ſuch a manner as to open the frontal Vein, and get free of his Diſorder by the Effuſion of the Blood; or if a Hæmorrhage from the Noſtrils ſhould happen to a feveriſh Patient, and his Indiſpoſition be remov'd by that Accident. Or this Evidence was acquir'd by *Deſign*, as when one bit in a Field, or on a Mountain, by a Serpent, applies to the Wound any Herb which occurs to him, and obſerves a ſalutary Effect from it; or when any one in parallel Caſes frequently exhibits what has often prov'd beneficial, and obſerves the Events. This they called Imitation.

For acquiring a practical Habit, they recommended what they called τήρησις, or one's own Obſervation, and the reading of Hiſtories and Caſes faithfully related by others, and which diſtinctly enumerate the ſeveral Accidents of Diſeaſes, and give an Account of the Effects produced by particular Remedies. Hence they thought we might be enabled juſtly to know a Diſeaſe by its Similitude to another; and, when new Diſeaſes occur'd, to conclude what was proper to be done from the Symptoms they had in common with others before known. This they called *Epilogiſmus*, or ἀπὸ τοῦ ὁμοίου μετάβασις. Which the *Latins* tranſlate *Tranſitus ad Simile*, or rather, according to *Le Clerc*, *Subſtitutio ſimilis*.

Thus the Evidence of Senſe, Hiſtories of Caſes, and the *Epilogiſmus*, or arguing from Analogy, or, as others expreſs it, Senſe, Memory, and Epilogiſm, were by them eſteem'd the three principal Foundations of Medicine, or, in the Words of *Glaucias*, ἡ τρίπους τῆς ἰατρικῆς, the threefold Foundation of Phyſic.

They aſſerted, that Obſervation ought to be principally employ'd in two Ways; firſt in diſcovering what things are ſalutary, and what are of an indifferent Nature; and ſecondly, what particular Diſeaſe is form'd or produced by a certain given Concurrence of Symptoms; for they did not call every Symptom a Diſeaſe, but only ſuch a Combination of them, as from long Experience they found to accompany each other, and produc'd ſuch Diſorders as began, increas'd, rag'd, declin'd, and terminated in the ſame manner. Such a Complication of Symptoms they called a Diſeaſe, and gave it a particular Name.

Some of the Empirics, it muſt be own'd, differ'd from the reſt, eſpecially with regard to the Diviſion of Medicine; but theſe Differences, as little interfering with the fundamental Principles of the Sect, were overlook'd, or at leaſt not much regarded.

As my Deſign in this Preface is to ſpecify the principal Revolutions Phyſic has been ſubjected to by the Introduction of new Theories, and the Influences theſe have had upon Practice, it will be neceſſary in this Place to give the Arguments of the Dogmatic Phyſicians, in Defence of Ratiocination in Medicine, and thoſe of their Adverſaries the Empirics, in Oppoſition to it.

The Phyſicians of the Dogmatic Sect maintain'd, that there was a Neceſſity for knowing the latent, as well as the evident, Cauſes of Diſorders, and that the Phyſician ought to underſtand the natural Actions and Functions of the human Body, which neceſſarily preſuppoſes a Knowledge of the internal Parts. By ſecret or latent Cauſes they meant ſuch as related to the Elements, or Principles of which our Bodies are compoſed, and which are the Origins of a good or bad State of Health. They aſſerted, that it was impoſſible to know how to cure a Diſeaſe without knowing the Cauſe whence it proceeded; becauſe, without Doubt, if Diſeaſes in general proceeded from an Exceſs or Defect, as ſome Philoſophers believ'd, of the four Elements, they ought to be treated in a quite different manner from what they ſhould be, if they proceeded from the Humours, as *Herophilus* believed; and in another manner, if they drew their Origins from the Air, as *Hippocrates* imagin'd; and ſtill in another, and a different manner, if the Blood paſſing from the Veins deſtin'd to contain it, into thoſe which ought to contain only Spirits, excites Inflammation; and if this Inflammation produces the preternatural Motion obſervable in Fevers, as *Eraſiſtratus* believ'd. And laſtly, in a ſtill different manner, if they proceeded from ſmall Bodies ſtopping in the minute Paſſages, and blocking up the Conveyances which Nature intended to be pervious and open, as others aſſerted. This being taken for granted, 'tis certain that the Phyſician who is leaſt miſtaken with reſpect to the original Cauſes of Diſeaſes, muſt ſucceed beſt in their Cure.

The Dogmatics did not deny the Neceſſity of Obſervations; but they aſſerted, that theſe Obſervations could not be judiciouſly nor accurately made without the Help and Aſſiſtance of Reaſoning. They added, that thoſe who firſt began to practiſe Medicine, did not, in all Probability, preſcribe what firſt ſtruck their Imaginations; but that they thought over and over again upon the Matter, and that the Effects produced by the things preſcrib'd afterwards enabled them to know whether they had reaſoned well or ill. They ſaid it was of no Importance to advance, that the Virtues of Medicines were firſt known by Experience, provided it was allowed, that the Experiments, which confirm'd their Uſe, were the Reſults of Reaſoning in thoſe who made them.

They ſaid we often obſerv'd new Species of Diſeaſes, againſt which Uſe and Experience had as yet taught nothing; and that it was conſequently neceſſary to conſider whence they proceeded, and how they began, otherwiſe no one could aſſign a Reaſon for his preſcribing one thing rather than another for their Cure. Theſe, according to the Dogmatics, are the Reaſons which render a Reſearch of the hidden and latent Cauſes of Diſeaſes neceſſary. As for the evident Cauſes, which were of ſuch a Nature as to be obſerv'd by every body, and where all that was neceſſary was only to know whether the Diſeaſe proceeded from Heat or Cold, from Hunger or Repletion, and the like, they confeſſed there was a Neceſſity for knowing theſe, and making ſuitable Reflections on them; but then they maintain'd, that we were not to content ourſelves with diſcovering theſe alone.

With reſpect to the natural Actions, they ſaid it was neceſſary to know why and how we receive the Air into our Lungs, and why it is diſcharg'd from them, after it has enter'd them; why we take Aliments, and how they are prepar'd, and afterwards diſtributed to all the Parts of the Body; why the Arteries riſe and fall, and what are the Cauſes of Watching and Sleep: And they maintain'd, that we could not cure Diſorders incident to theſe Functions, without knowing all theſe things. But to illuſtrate this Matter by an Example drawn from the Preparation of the Aliments: They are, ſaid theſe Phyſicians, either triturated in the Stomach, as *Eraſiſtratus* believ'd; or they putrify there, according to the Opinion of *Pliſtonicus* the Diſciple of *Praxagoras*; or they are there concocted by means of a particular Heat, according to *Hippocrates*; or, according to *Aſclepiades*, all theſe Opinions are equally falſe, and nothing is concocted, but the Aliments are diſtributed thro' the Whole of the Body crude as they were taken. With reſpect to theſe various Sentiments, it muſt be allow'd, that one Species of Aliment is proper for the Sick, if the Doctrine of *Hippocrates* is true; and another, if that of *Eraſiſtratus*, or any of the reſt, is better founded. If it is neceſſary, that the Aliments ſhould be triturated, ſuch as are moſt eaſily reduc'd to a proper State ought to be choſen; if they putrify, thoſe which moſt eaſily become putrid are moſt proper; if they are concocted by a particular Heat, ſuch as are moſt proper for exciting that Heat are to be preſcrib'd; but if nothing is concocted or chang'd, we have no Occaſion for ſo much Trouble, or rather we ought to preſcribe ſuch Aliments as are leaſt ſubject to have their Natures chang'd.

They alſo maintain'd, That as the moſt conſiderable Pains and Diſorders proceeded from the internal Parts, it was impoſſible to cure theſe without a Knowledge of the Parts affected; that it was conſequently neceſſary to open the Bodies of the Dead, with a View to examine their Viſcera; and that it would be ſtill more advantageous to imitate the Practice of *Herophilus* and *Eraſiſtratus*, who diſſected condemn'd Criminals, and ſuch as the Kings made them Preſents of, before they expir'd; a favourable Circumſtance, which procured to thoſe Phyſicians the Advantages of ſeeing openly what Nature in other Caſes kept concealed, and of conſidering the Situation, the Colour, the Figure, the Bulk, the Order, the Hardneſs, the Softneſs, the Roughneſs, the Smoothneſs, the Eminences, and Cavities of every Part, in order to diſtinguiſh that which receives, from that which is receiv'd. They added, That when any one labour'd under an internal Pain, it was impoſſible to know what Part was affected, without being acquainted with the preciſe Situation of all the Viſcera, and internal Parts; and that a Perſon unacquainted with a diſorder'd Part would not be likely to cure it; that when the Viſcera of a wounded Perſon appear thro' the Wound, he who is ignorant of the natural Colour the ſound Part ought to have, cannot diſtinguiſh what is in a good State from that which is corrupted or alter'd; and conſequently cannot apply a proper Cure; that, on the contrary, ſafe and proper Remedies may be applied by one who knows the natural State of the injur'd Parts; and that it is not the leaſt Degree of Cruelty to make a few profligate Wretches ſuffer, in order to find out proper Means of Relief for an infinite Number of innocent Perſons.

To this the Empirics reply'd, That they pretended to know only the evident Cauſes of Diſeaſes, imagining that all the Diſputes with reſpect to the obſcure and latent Cauſes, or the natural Actions, were entirely ſuperfluous, becauſe Nature herſelf was incomprehenſible. This Truth, ſaid they, could not be denied them by any one who reflected on the Diverſity of Opinions entertain'd by thoſe who had wrote on theſe Subjects, ſince neither Philoſophers nor Phyſicians had ever come to an Agreement about them. Why, ſaid they, ſhould we believe *Hippocrates*, rather than *Herophilus*, or *Herophilus* rather than *Aſclepiades*? If we were to put up with Reaſonings, perhaps thoſe of both Parties may appear equally probable and concluſive. If we look for a Cure in theſe Reaſonings we find it in none of them, and conſequently cannot know to which Party we ought moſt reaſonably to adhere: That if Reaſoning were only requiſite to conſtitute a Phyſician, the Philoſophers would be the moſt ſkilful Phyſicians of any; but that unfortunately they were entirely ignorant of the Art of Healing, notwithſtanding their happy Turn for Reaſoning: That the Means of preſerving and reſtoring Health were different according to the Difference of Climates: That one Set of Remedies were neceſſary at *Rome*, another in *Egypt*, and a third in *Gaul*; a Circumſtance which would not happen, if the Cauſes of Diſeaſes were univerſally the ſame. They ſaid, That the Cauſes of Diſorders were often manifeſt as in Wounds, but that it did not thence follow, that the Remedies to be applied to them are equally eaſy to be found out and diſcover'd. If then the Knowledge of evident Cauſes cannot ſuggeſt the Remedies neceſſary to be uſed, it is by no means probable, that the latent, obſcure, and dubious Cauſes can furniſh us with more Inſight into the Natures of Diſorders; and if theſe laſt-mention'd Cauſes are uncertain, and almoſt incomprehenſible, is it not more reaſonable to expect Aſſiſtance from things which are certain, and vouched by Experience on ſeveral Occaſions? This they aſſerted to be the Practice with reſpect to all other Arts, and affirm'd, that a Labourer, or a Philoſopher, did not become ſkilful in their reſpective Profeſſions by Diſpute and Argumentation, but by Uſe and Experience. They ſaid we might certainly conclude, that theſe intricate Queſtions were not eſſential to Medicine, ſince Phyſicians of different Sentiments recover'd their Patients; which would not happen, if, inſtead of conducting themſelves by the latent Cauſes of Diſorders, they did not adhere to the Experiments which have formerly ſucceeded with them. They affirmed, that Medicine did not draw its Origin from Queſtions of this Nature, but from Experiments, and Obſervations of the kind now mentioned.

Some Patients, continued they, who were at firſt without Phyſicians, took large Quantities of Aliments in the firſt Days of their Diſorders, becauſe their Appetite was good; others eat nothing at all, becauſe they loathed Food of every kind. Upon this it was obſerved, that thoſe who had taken nothing, found themſelves in the beſt and moſt favourable Condition. Some took Aliments in the immediate Paroxyſm of a Fever, ſome a little before, and others after the Fever had left them; and it was obſerved, that thoſe who waited till the End of the Paroxyſm, were leaſt injured. Accidents of this Nature happening pretty often, ſome People were careful to make Obſervations of what had ſucceeded beſt, and afterwards adviſed Patients labouring under the like Diſorders, to follow the ſame Meaſures: That thus Medicine had derived its Origin from Experiments, made ſometimes to the Detriment, and ſometimes to the Advantage, of the Afflicted; and that Phyſicians had firſt of all learned, at the Expence of their Patients, to diſtinguiſh between what was prejudicial, and what was ſalutary: That the Medicines proper for each Diſorder being thus gradually diſcovered by this Method, Men began to reaſon, and inquire why theſe Remedies acted in ſuch or ſuch Manners; and that thus Medicine was not invented after Reaſoning, but Reaſoning after Medicine. The Phyſicians of the Empiric Sect aſked thoſe of the Dogmatic, Whether Reaſonings taught them the ſame Things Experience did, or the contrary; and aſſerted, that, if Reaſonings taught them the ſame Things, they were ſuperfluous; and that if any thing contrary to Experience was deduced from them, they were prejudicial. They owned, that, at firſt, there was a Neceſſity for making Experiments with a great deal of Care and Application; but that, in their Days, there was a ſufficient Stock made to their Hands, ſo that it would be criminal in them to make new ones at the Expence of their afflicted Patients; and that they had nothing to do, but to enjoy the Advantages ariſing from the Labours of the Antients.

They aſſerted, that we ought not to imagine, that new Species of Diſorders, or ſuch as require new Medicines, happen; but that if an unknown Species of Diſorder ſhould occur, there was, at firſt, no Neceſſity for having recourſe to an obſcure Cauſe; and that, in ſuch a Caſe, the ſkilful Phyſician ought to conſider ſome well-known Diſorder, with which the new one has the moſt Analogy, and make Trial of the Remedies which have ſucceeded in the Cure of the former.

They alſo ſaid, they were by no means of Opinion, that a Phyſician ought not to reaſon, or that an Animal without rational Powers could practiſe Medicine, tho' they were convinc'd, that the Conjectures, drawn from latent and occult Cauſes, were of no Importance; ſince the Buſineſs of a Phyſician was not to diſcover what caus'd the Diſeaſe, but what cur'd it; and that the Phyſician need not trouble himſelf to find out the Manner in which the Concoction or Digeſtion of the Aliments is perform'd, provided he knows thoſe Aliments which are moſt eaſily concocted and digeſted. They alſo ſaid it was to no Purpoſe to inquire how and why we reſpir'd; but that the Phyſician ought rather to know Remedies for a Cough, a Shortneſs of Breath, and the other Accidents which diſturb Reſpiration: That there was no Reaſon to trouble ourſelves about finding out why the Arteries beat; but that our principal Buſineſs was rather to know what the particular Changes and Alterations of their Pulſations denoted, which could only be learned from Experience: That, with reſpect to all the other Queſtions propoſed by the Dogmatics, either Side of the Queſtion might be diſputed upon with equal Appearance of Truth; and that generally the brighteſt Genius, or the moſt voluble Tongue, carry'd the Victory. 'Tis not, ſaid they, fine-ſpun Arguments, or elegant Diſcourſes, but proper and well-choſen Remedies, which cure Diſorders; and, if a dumb Perſon ſhould have good Medicines, the true Uſe of which he has learn'd from Experience, he is, without Doubt, a more ſkilful Phyſician, than the Man who has the Uſe of his Tongue, but knows not how to apply Remedies.

Laſtly, the Empirics affirm'd, that the Dogmatics were attach'd not only to things ſuperfluous and uſeleſs, but alſo ſuch as evidently ſhock'd the moſt obvious Principles of common Humanity. What valuable Purpoſe, ſaid they, does it ſerve to diſſect People alive, and make Medicine, which ought to be ſubſervient to the Safety of Mankind, the cruel Inſtrument of its Deſtruction; ſince, by Methods ſo barbarous, we cannot diſcover what we wiſh; and ſince, on the other hand, we may acquire as much Knowledge as is neceſſary, without committing any Crime? Neither the Colour, the Softneſs, the Hardneſs, nor moſt other Properties of that kind, are the ſame in a Body we have laid open, as they are in a ſound living Body; for, ſince Fear, Grief, Abſtinence, too much Aliment, Wearineſs, and a thouſand other ſlight Inconveniences, are able to produce a Change, with reſpect to theſe Particulars, in the external Parts of living Bodies, how is it poſſible, that the internal Parts, which are extremely tender, and which may be alter'd by the Air, or the Light alone, to which they were never before expos'd, ſhould not, in like manner, be chang'd by Diſſection, or by cruel Wounds; and that a ſtill greater Change ſhould not be produc'd by Death? What can be more ridiculous, than to imagine, that things muſt be ſtill the ſame in a Perſon either dying, or already dead, as they were when he was alive? We may, indeed, lay open the lower Belly, and run over the Viſcera contain'd in it, before Reſpiration is ſtopt; but, as ſoon as the Diaphragm is broken, the Patient forthwith expires. This, however, is the only Means by which the Heart, and the Parts ſurrounding it, can be expoſed to the Eyes of the cruel and butchering Phyſician, not in the State in which they were during Life, but ſuch as they are after Death. And thus all that ſuch a Phyſician, or rather Butcher, has done, is to have kill'd a Man in the moſt barbarous manner imaginable, without being able, after all his Labour, to diſcover by that means how the Parts he ſaw were ſituated before the Patient expir'd. The Empirics added, That if there was any internal Part which could be ſeen whilſt the Man was alive, Chance furniſh'd the Phyſician with Opportunities of obſerving it: When, for Inſtance, a Gladiator in the Circus, a Soldier in the Field of Battle, or a Traveller attacked by Robbers, are ſeverely wounded. They ſaid this was a lawful Method of inſtructing ourſelves with reſpect to the Situation and Figure of the Parts, and all the other Things that can be known concerning this Matter, by Acts of Compaſſion and Humanity, and not by deteſtable Cruelty; ſince the End of Inquiries of this Nature is not to inflict Death, but to preſerve Life. They alſo maintain'd, That it was not neceſſary to diſſect Carcaſſes; ſince, if it was not a cruel, it was at leaſt a filthy Practice; and aſſerted, that things being much changed in the Body by Death, it was much better to abſtain from diſſecting the Dead, and rather content ourſelves with the Knowledge which might be acquired by attending the Living.

Celſus, who relates theſe Arguments of the Empirics and Dogmatics, gives his own Sentiments with reſpect to both, in the following manner: " Since, ſays he, theſe important Topics have often been made the Subjects of " large Volumes, and laid a Foundation for the keeneſt Diſputes, and warmeſt Altercations among Phyſicians, I " ſhall ſtrip myſelf both of a fond Attachment, and a groundleſs Averſion, to either Party, endeavour to keep " within the Bounds of a due Medium, and thus declare my Sentiments, with that Candour and Impartiality " which become a ſincere and unbias'd Inquirer after Truth.

“What the Cauſes of Health then are, what excites Diſeaſes, the particular Manner in which the Spirits are diſtributed, or the Aliments digeſted, are things of a Nature ſo abſtruſe and remote from our Senſes, that the moſt learned Phyſicians can only form Conjectures about them, without being able thoroughly to comprehend them. Now Conjecture, or Opinion, with reſpect to a Diſeaſe not perfectly known, can never diſcover a certain and infallible Remedy for its Cure; and it is an unqueſtionable Truth, that nothing more directly contributes to a ſafe and prudent Method of Cure than *Experience*. But as, in other Arts, there are many Things, properly not belonging to the Arts themſelves, which have, nevertheleſs, a Tendency to excite the Curioſity, and form the Genius, of the Artiſt; juſt ſo it is with reſpect to Medicine; for tho' a Contemplation of the Natures of Things does not form the Phyſician, yet it renders him better qualify'd for the Practice of Phyſic, than he would have otherwiſe been. 'Tis highly probable, that *Hippocrates*, *Eraſiſtratus*, and others, not ſervilely confining themſelves to the Cure of Ulcers and Fevers, but launching out, in ſome meaſure, into the Natures of Things, did not, by that means, become Phyſicians; tho', 'tis certain, they had not been ſo great in their Way, nor ſuch Ornaments to their Profeſſion, if they had confin'd themſelves to Experience only. The Deductions of Reaſon are highly ſerviceable and neceſſary to Medicine, if not always, yet at leaſt very often, in diſcovering latent Cauſes, and accounting for the natural Actions: For Medicine is a conjectural Art, and ſometimes neither the happieſt Conjectures, nor the Skill acquir'd by Experience, are ſufficient to anſwer its main Intention. Sometimes Fevers appear in different Shapes, the Digeſtion of the Aliments varies, and the Degrees of Sleep and Watching alter. New Diſeaſes alſo happen ſometimes, tho' rarely; and to affirm that they do not, is a manifeſt Falſhood; ſince, in our own Days, a certain Lady expir'd in a few Hours, in conſequence of the Fleſh becoming dry, and falling from the Pudenda; ſo that the moſt ſkilful Phyſicians neither diſcovered the Nature of her Diſorder, nor a Remedy capable of curing it. They were, probably, deterred from trying Experiments upon this Patient, who was a Lady of Diſtinction, leſt, by following their own Conjectures, they ſhould have been thought to kill her, unleſs ſhe recover'd. But 'tis probable, that if ſuch a criminal Modeſty had been laid aſide, ſomething might have been thought upon for her Relief, and, perhaps, the very Thing thought upon might, upon Trial, have anſwered the End. In Caſes of this Nature, Similitude, or apparent Analogy, is not always to be our Standard; and when it is, yet it is ſtill reaſonable, that, amidſt ſo many ſimilar kinds of Diſeaſes and Remedies, we ſhould think and conſider what particular Medicines are principally to be uſed. When ſuch a Caſe, therefore, happens, the Phyſician muſt find ſuch a Remedy as, tho' perhaps not always crowned with Succeſs, yet, for the moſt part, anſwers the Intention. He muſt alſo ſeek for new Information, not from latent Circumſtances, which are dubious and uncertain, but from ſuch things as are capable of being fairly inveſtigated, that is, evident Cauſes; for it is of Importance to know whether the Diſeaſe proceeded from Fatigue, from Thirſt, from Cold, from Heat, from Watching, from Hunger, from an Exceſs of Wine or Aliments, or an immoderate Indulgence of Venery. The Phyſician muſt alſo know the particular Conſtitution of the Patient, whether it is moiſt or dry, whether his Nerves are ſtrong or weak, whether he is frequently or rarely indiſpoſed; and, when he is actually ſo, whether his Diſorder be ſevere or ſlight, long or ſhort. He muſt alſo conſider the particular Courſe of Life he has led; whether of the laborious, or of the eaſy and indolent Kind; and whether he has lived luxuriouſly, or frugally and ſparingly; for from theſe Circumſtances, and others of a like Nature, a new Method of Cure is often happily indicated; tho', at the ſame time, theſe are not to be conſidered as admitting of no Diſpute; for *Eraſiſtratus* maintained, that Diſorders did not ariſe from them, ſince many have been known to have endured theſe, without being ſubjected to Fevers thereby.”

The Dogmatics and Empirics ſeem to have conducted, on this Occaſion, much like all other Diſputants; that is, they have argued, not with a View of coming at Truth, but for Victory; otherwiſe the Diſpute would be eaſily determined, as lying in a very narrow Compaſs. If, as the Dogmatics aſſerted, Remedies could not be adapted properly to the Cure of Diſeaſes, without knowing their latent or remote Cauſes, miſerable would be the State of Phyſic, as well as the Condition of the Sick; the former of which would make a very inconſiderable Figure, and the latter muſt ſubmit generally to ſink under a great many Diſorders, which Nature, unaſſiſted by Art, is not ſufficient to remove.

On the other hand, as all things have ſome mechanical Cauſe, it would be of infinite Service to Medicine, if theſe could be demonſtrated and made plain beyond all Poſſibility of Contradiction; for this would be a ſure Guide to the Phyſician in the Application of Remedies already known; but whatever in Theory is doubtful, or admits of the leaſt Diſpute, is not to be depended upon in Practice, as being capable of leading into Errors. The Abuſe, therefore, and not the Uſe of Ratiocination, is to be condemned. Hypotheſis cannot eaſily miſlead Men who have Judgment ſufficient to enable them to diſtinguiſh it from Demonſtration; but Theory, in the Hands of People deſtitute of Abilities, is not leſs dangerous than an Inſtrument of Death in the Hands of a Madman.

As to the Uſes of Anatomy in Medicine, on which the Phyſicians of the Empiric Sect ſeem to lay no great Streſs, I have, I think, given ſome irrefragable Inſtances in its Favour, under the Article ANATOME. But I muſt confeſs, that I am afraid it has been very greatly miſapply'd, and, inſtead of being made the ſolid Foundation of a rational Phyſiology, has ſometimes been proſtituted to the diſtorted Imaginations of trifling Diſſectors, whoſe Dexterity at dividing a Muſcle, tracing the Courſe of a Nerve, or a Blood-veſſel, or, perhaps, diſcovering the Structure of ſome particular Organ, has encouraged them to erect Hypotheſes not leſs extravagant than any contained in the *Wagadaſaſtirum* of *Malabar*; and, which is worſe, upon theſe to eſtabliſh Modes of Practice, not leſs abſurd and deſtructive, than any we meet with Accounts of, even amongſt the moſt barbarous Nations. And this is what Dr. *Freind*, with too much Juſtice, inſinuates, in a Paſſage I have ſomewhere quoted.

Having thus given ſome Account of the Founders of the Empiric Sect, and of the general Principles by which they conducted themſelves, we ſhall take ſome Notice of the moſt celebrated Authors who eſpouſed their Tenets, and trod in their Steps. *Celſus*, in the Preface to his firſt Book, informs us, that *Apollonius* ſucceeded *Serapion*; but, among ſo many of that Name, 'tis no eaſy Taſk to diſcover preciſely who the *Apollonius* there mention'd was. *Galen* mentions two by this Name of *Antioch*, the Father and the Son, as Champions of the Empiric Sect; and *Celſus* himſelf, in his Catalogue of celebrated Surgeons, ſpeaks alſo of two. *Cælius Aurelianus* ſpeaks of one *Apollonius Glaucus*, who wrote concerning internal Diſeaſes; but there were ſo many of the Name, and the Hiſtory and Chronology relating to them, are involved in ſo much Obſcurity and Uncertainty, that it would be both tedious and uſeleſs to attempt any farther Account of them.

After *Apollonius*, *Celſus* places *Glaucias*; ſome time after whom flouriſhed *Heraclides Tarentinus*. The former of theſe is frequently mentioned by *Galen*, tho' nothing memorable is ſaid of him, except that he commented upon *Hippocrates*, and particularly upon the ſixth Book of his Epidemics; he alſo praiſes ſome of his Medicinal Compoſitions. *Pliny*, in the twenty-third Chapter of the twenty-ſecond Book of his Natural Hiſtory, quotes him, as maintaining that the *Boletus* is a good Stomachic, and that the *Dracontium Sylveſtre* was the ſame with *Arum*; from which Circumſtance we may collect, that he alſo wrote concerning Plants.

But the moſt celebrated and learned of all the Empirics was *Heraclides Tarentinus*, who, according to *Galen*, was the Scholar of *Mantias*, the Diſciple of *Herophilus*; and who imitated his Maſter not only in rendering the *Materia Medica* more perfect, but alſo in cultivating the dietetic Part of Medicine. Theſe two Authors *Galen* aſſerts to be the beſt who had wrote upon that Subject, ſince they had advanced nothing but what was founded on Experience.

Heraclides Tarentinus, if we may believe *Galen*, wrote concerning ſimple Medicines; and *Epiphanius* gives him a Place among the Authors who treated on Herbs. He is alſo ſaid to have wrote upon Pulſes, and to have dared to contradict *Herophilus* in that Particular. He alſo treated of Surgery, in a Work expreſly on that Subject, the fourth Book of which *Galen* quotes, and beſtows ſingular Encomiums on the Author. As the Paſſage of this Work, quoted by *Galen*, relates to an important Controverſy, much agitated both in former Ages and at preſent, I ſhall give the whole Paſſage: "That the Thigh-bone ſometimes ſtays in, when reduced, is ſuffi-" ciently vouched by *Heraclides Tarentinus*, an Author who never advanced a Falſhood in Confirmation of an " Hypotheſis, as moſt of the Dogmatic Sect did; and who was as good a Judge of Medicinal Subjects as any " one." *Galen* ſubjoins a pretty long Speech of *Heraclides*, from which it appears, that he practiſed Surgery with Succeſs, and reduced the diſlocated Thigh-bones of two Boys in ſuch a manner, that they remained in their due and natural Situation. By theſe Inſtances he intends to refute thoſe who aſſert, that the Thigh-bone, when reduced, cannot be retained in its Place; becauſe the Ligament, which fixes the Thigh-bone to the *Acetabulum Coxæ*, is broken.

Galen alſo informs us, that he wrote Commentaries on all the Works of *Hippocrates*: And *Cælius Aurelianus*, who quotes his *Libri Curationum interiorum Paſſionum*, every-where gives us Specimens of his Practice. The ſame Author alſo makes mention of a Work of his called *Liber Regularis*, and another intituled *Nicolaus*.

As for his Practice, *Celſus* approves of the Advice he gives to feveriſh Patients, where the Bile or Crudities are offenſive. The Advice is, that, by drinking moderate Potions, they ſhould mix new Matter gradually with that which is corrupted: But he does not approve of his Method of curing a quartan Fever; for he ordered Purging in the firſt Days of the Diſorder, and Abſtinence for ſeven Days afterwards; by following which Advice, the Patient, tho' he ſhould get free of his Diſorder, will ſcarcely have Strength enough remaining to recover; and if the Paroxyſms are frequent, they are ſure to prove mortal.

From what has been ſaid it is obvious, that however *Heraclides*, and the other Empirics, might be attached to Medicines, yet they did not neglect the dietetic Part of Phyſic, which principally conſiſted in Abſtinence, and a ſeaſonable Uſe of Aliments; and that *Celſus* was in the right, when he aſſerted, "That the dietetic Part of Medicine " was divided into two Parts," ſince ſome made it a theoretic Art, and others grounded it upon Experience.

Beſides thoſe already mentioned, there were ſeveral other Phyſicians who made a conſiderable Figure among the Empirics, ſuch as *Dionyſius*, *Crito*, *Menodotus*, *Theodas*, or *Theudas*, by *Galen* quoted as one of thoſe who wrote beſt in Defence of the Empiric Sect; *Herodotus* of *Tarſus*, *Sextus* ſurnamed *Empiricus*, three of whoſe Books are ſtill extant, which contain the Sentiments of the *Pyrrhonians*, and ten others, in which he diſputes againſt the Sciences in general; *Saturninus*, ſurnamed *Cythenas*; *Callicles*; *Diodorus*; *Lycus*; *Æſchrion*, the Townſman and Maſter of *Galen*, of whom that celebrated Phyſician gives a great Character, and of whom, he ſays, he learned a Medicine againſt the Bites of mad Dogs; *Philippus*, *Plinius*, *Valerianus*, and ſome others of inferior Note.

As Opium is thought to be a Remedy of great Importance in Phyſic, I muſt, on this Occaſion, remark, that the firſt Account we have of it is in *Homer*, provided the *Nepenthe* there mentioned is Opium, or a Preparation of it, which is very probable: But it does not appear, that it was uſed in his Days as a Remedy for Diſtempers, but rather as a ſort of Entertainment, as it is at this Time in the Eaſt. *Hippocrates* takes Notice of the Juice of the Poppy, and of the ſomniferous Poppy; but his directing the Uſe of it very ſeldom amounts to an Evidence, that it was not in his Days a Remedy much in Vogue. *Dioſcorides*, *L.* 4. *C.* 65. from *Eraſiſtratus*, relates, that Opium was condemned by *Diagoras* in Diſorders of the Eyes and Ears, meaning, I ſuppoſe, the external Application. Now *Diagoras* was, as is ſaid, the Servant of *Democritus*, and conſequently contemporary with *Hippocrates*; and this is a ſort of Evidence, that Opium was not in great Repute in his Time. Afterwards we meet with very little relating to it, till the Eſtabliſhment of the Empiric Sect, and then we find it much preſcribed. The Empirics, therefore, were probably the firſt who brought it into Reputation as a Medicine.

I ſhall ſay nothing in this Place of the Introduction of Phyſic into *Rome* by *Archagathus*, and the Fate of that Phyſician, becauſe I have treated this Subject under the Article ARCHAGATHUS.

The next grand Innovation in Phyſic was introduced by *Aſclepiades*, who lived in the Century immediately preceding the Birth of *Chriſt*; and who appears to have been a Perſon of great Abilities, and one perfectly well acquainted with the Weakneſſes of Mankind. I have given ſome Particulars of his Life under the Article of his Name, and ſhall now ſpecify his general Theory and Practice.

Galen ſays, that thoſe who would either underſtand themſelves, or explain to others, the Writings of *Aſclepiades*, muſt know what he means by *incongruous or diſſonant Elements* (ἀναρμὰ ϛοιχεῖα), by *Molecules* (ὄγκοι), by *Pores* (πόροι), and by a *particular Motion tending to ſubtilize the Parts of Matter* (περὶ τὸ λεπτομερὲς φορά). This Account given us by *Galen*, ſuppoſes, that theſe Terms were familiar to *Aſclepiades*, and made, as it were, the Baſis and Foundation on which the Whole of his philoſophical Syſtem was erected. *Galen* alſo, elſewhere, obſerves, that, according to *Aſclepiades*, Matter, conſidered as ſuch, was of an unchangeable Nature; and that all the Objects which came under the Cognizance of our Senſes, were compoſed of a Number of ſmall Bodies, between which there were ſeveral Vacuities, or Interſtices, void of Matter. He adds, that this philoſophical Phyſician thought the Soul itſelf compoſed of theſe ſmall Bodies; and when he makes the Compariſon between the Sentiments of *Aſclepiades* and thoſe of *Hippocrates*, in order to render the Diſparity more conſpicuous, he ſays, the latter believed, that Subſtance or Matter, conſidered abſtractedly, was univerſally the ſame; but that it was ſuſceptible of Changes and new Modifications: That Nature, who, in all her Meaſures, took the juſteſt Steps, and acted according to the higheſt and moſt exalted Principles of Art, had, amidſt the amazing Variety of her other Productions, formed Plants, and the Bodies of Animals, and liberally given them Appetites and Propenſities, by which every Plant, and every Animal, eagerly deſires, and, as it were, attracts what is ſuited and adapted to the Condition of its Nature; and, with a ſecret Kind of Horror, flies from that which is oppoſite to it, or deſtructive of it. That this ſame bountiful Nature, diffuſing her Benevolence ſtill farther, provided againſt the Neceſſities of each Species, eſpecially Man, the Glory of her other Productions, whom ſhe powerfully aſſiſted in the Expulſion of Diſeaſes; as we might, in a particular Manner, obſerve on what he called *Critical Days*: *Aſclepiades* denied all this, ſneer'd at the boaſted *Nature* of *Hippocrates*, laughed at his imaginary *Faculties*, and ſtill more at what he called *Attraction*; a Principle which *Aſclepiades* did not admit in any Caſe whatever, not even with reſpect to the Load-ſtone and Steel, imagining that this Phenomenon was produced by a Concourſe of Corpuſcles, and a particular Diſpoſition or Modification of the Pores.

Aſclepiades, continues *Galen*, did not believe, that the Soul had originally any Fund of Knowledge implanted in it; that it had neither any darling Propenſity, nor any natural Averſion, to any particular Object; that it was ſo formed as not to diſtinguiſh between theſe widely different Things, *Juſt* and *Unjuſt*, *Right* and *Wrong*; but that every thing, which ſeems to paſs within us, is produced by mere Senſation, and depends entirely upon the Senſes: That, beſides this, the Animal is conducted and influenced to Action by certain φαντασίαι, that is, Images or Ideas repreſented to it, and by a certain Power of Memory, or Principle of Recollection. *Galen* informs us, that ſome of the Abettors of this wild Philoſophy maintained, that the Soul was not dignified with a *rational Faculty*; but that we were neceſſarily and irreſiſtibly led the miſerable Captives of our Appetites and Paſſions, like the Brute Creation; and that we could neither wiſh nor hope for any thing but what was ſuggeſted to us, and forced upon us, by theſe cruel Tyrants; ſo that, according to theſe hopeful Philoſophers, Generoſity, Prudence, Moderation, Continence, and, in a Word, all the moral Virtues, were mere Chimeras, and Burdens and Impoſitions upon Mankind. They alſo maintained, that we neither loved each other, nor our own Off-ſpring; that the Gods delighted in a State of profound Indolence, and were entirely regardleſs of the Intereſts of Mortals; and that Dreams, Auguries, Prodigies, and Aſtrology, were Vanities, that rather deſerved the Contempt, than called for the Veneration of Mankind.

Galen, who was of quite oppoſite Sentiments, has given us this Account of the moſt conſiderable Principles of the Philoſophy of *Aſclepiades*, which, as every one muſt perceive, is almoſt the ſame with that of *Democritus* and *Epicurus*; in whoſe Writings, or in thoſe of their Commentators, we find moſt of the Doctrines, now advanced, more fully explained.

But the only antient Author now extant, from whom we can learn the genuine Sentiments of *Aſclepiades*, both with reſpect to Philoſophy, and its Application to the Practice of Phyſic, is *Cælius Aurelianus*. *Aſclepiades*, ſays that Author, eſtabliſhed, as the conſtituent Principles of all Bodies, *Atoms*; which, according to him, are ſmall Bodies, perceptible only by the Imagination, and are poſſeſs'd of no Quality; but which, from the Beginning of Time, being in an eternal and uninterrupted Motion, and happening caſually to meet and daſh againſt each other, by that means render'd themſelves ſmaller, and are divided into an infinite Number of Particles, of different Bulks and Figures. He alſo maintained, that theſe Particles afterwards uniting, and mutually approaching each other, as they moved in their various Directions, form'd all the ſeveral Objects of Nature, which ſtill preſerve the ſame Diſpoſition and Propenſity to *Change*, as the Particles of which they were compoſed; and whoſe Bulk, Figure, Number, and Order, were caſually altered and varied. When he was aſked, Whence it happened, that theſe Atoms or Particles had no Qualities, ſince the Bodies compoſed and made up of them poſſeſs'd a conſiderable Number; he anſwer'd, That theſe Qualities were the direct and immediate Reſults of the Order, the Figure, the Number, and the Bulk, of many of theſe Atoms joined together; and for illuſtrating this Doctrine, he brought an Inſtance from Silver, which, when in the common Maſs, was white, but black when filed down; and another from certain kinds of Horns, which, when entire, are black, but become white when raſped down.

From what has been ſaid, it is obvious, there was ſome Difference between the Sentiments of *Aſclepiades* and thoſe of *Epicurus*, or *Democritus*, tho' both Parties acknowledged *Atoms*; for the Atoms of theſe two laſt-mentioned Authors were not diviſible; whereas thoſe of *Aſclepiades* are ſuppoſed infinitely diviſible, by their various Encounters and Colliſions. What *Cælius Aurelianus* here calls Atoms, are, in all Probability, the ſame with what *Galen* calls ὄγκοι, *Molecules*. *Epicurus* acknowledged Molecules as well as *Aſclepiades*; and *Lucretius*, who was preciſely contemporary with this Phyſician, ſpeaks of ſomething of a like Nature. But there is this Difference between the two Syſtems, that *Epicurus* and *Lucretius* do not look upon their Molecules as the fundamental and conſtituent Principles of Bodies, but only as the firſt Reſults and Effects of an Aſſemblage of Atoms, which, according to them, were the firſt, the true, and genuine Principles of Bodies; whereas *Aſclepiades* ſeems to deduce his *Atoms* from Molecules, tho', according to the Repreſentation of *Cælius Aurelianus*, he gives the Name of Atoms to Molecules themſelves. But we ſhall be induced to believe, that this Author either did not juſtly tranſlate, or, at leaſt, did not perfectly underſtand *Aſclepiades*, if we reflect upon what *Galen* ſays in his Work *De Theriac. ad Piſon. Cap.* 11. where he informs us, “ That *Aſclepiades*, retaining the real Sentiments of *Democritus* “ and *Epicurus*, with reſpect to the Principles of Bodies, did nothing but change the Names of Things, calling “ Atoms *Molecules*, and a Vacuum *Pores*.” But *Galen* himſelf eſtabliſhed a formal Difference between the Sentiments of *Aſclepiades* and thoſe of *Epicurus* and *Democritus*, and repreſented them as directly oppoſite to each other; for, in his Work *De Hippocrat. & Platon. Decret. Lib.* 5. *Cap.* 3. he has theſe Words: “ Whether the “ Bodies of Animals are compoſed of Molecules and Pores, as *Aſclepiades* believed; or whether they conſiſted of “ ſmall indiviſible Bodies, as *Epicurus* maintained.” The former of theſe Books is ſuſpected not to have been wrote by *Galen*, but the latter certainly claims him as its Author. The Author of the Book intituled *Introductio*, which is alſo aſcribed to *Galen*, tho' it is the Compoſition of another Hand, tells us, in the ninth Chapter of that Work, that the Elements of *Aſclepiades* were ὄγκοι θραυστοί. ſmall brittle Molecules or Maſſes; and that it was this Brittleneſs which properly diſtinguiſh'd between the Principles or Elements of *Aſclepiades*, and thoſe of *Epicurus*, which were Atoms indiſſoluble and indiviſible.

Cælius Aurelianus alſo informs us, that *Aſclepiades* maintained, that nothing happened or was produced without ſome Cauſe, but that every thing was carried on by a certain Neceſſity; and that what was called *Nature*, was in reality no more than *Matter* and *Motion*. From this laſt Principle he inferr'd, that *Hippocrates* knew not what he ſaid when he ſpoke of *Nature* as an intelligent Principle, and aſcrib'd to her what he call'd attractive, retentive, and repulſive Faculties. He alſo ridiculed the Sentiments of that antient Phyſician, with reſpect to the Manner in which Nature puts a Termination to Diſeaſes; or, in other Words, the Doctrine of *Criſes*, which *Hippocrates* fixed to certain Days, ſuch as the ſeventh, the fourteenth, and ſome others; adding, that theſe Criſes are always moſt favourable when Nature is moſt ſtrong, and always difficult when the Diſeaſe is ſuperior to Nature; as if Nature and the Diſeaſe were two diſtinct Beings, acting with Intelligence, and exerting their mutual Endeavours to foil and rout each other. According to *Aſclepiades*, all that *Hippocrates* obſerved, with reſpect to this, may be accounted for from Matter and Motion, two Principles which he thought ſufficient to produce all the Effects commonly aſcribed to Nature. According to *Cælius Aurelianus*, he maintained, that *we were deceived, if we imagined, that Nature always did Good, ſince ſhe often did a great deal of Harm*. As for the Days particularly fixed for *Criſes*, or the Days in which *Hippocrates* aſſerted we generally obſerved a Change in the Diſtemper, either for the better or the worſe, *Aſclepiades* denied that ſuch Alterations happened on theſe Days rather than on others. He went ſtill farther, and aſſerted that the Time of a *Criſis* did not happen of its own Accord, nor according to any particular Determination of the Gods for the Cure of Diſorders; but that it rather depended on the Addreſs and Dexterity of the Phyſician; that is, we muſt never wait without doing any thing till a Diſorder terminates of its own Accord, in a certain Time, as *Hippocrates* did; but the Phyſician muſt, by his Care and Medicines, haſten on and advance the Time of the Cure. *Aſclepiades* probably had this Inaction of *Hippocrates* in View, when he ſneeringly ſaid, *That the Medicine of the Antients was only a Meditation, or a kind of Study of Death*; by which he, no doubt, intended to inſinuate, that the antient Phyſicians attended their Patients with a View to obſerve in what Manner, and by what Accidents, they died, rather than to prevent their Death, under a Pretence, that Nature ought, on ſuch Occaſions, to do all herſelf.

This is the Manner in which *Aſclepiades* diſputed againſt *Hippocrates*, and this the Syſtem he embraced, with reſpect to the Cauſes of Health and Diſeaſes, at leaſt in as far as we can collect it from *Cœlius Aurelianus*, who is not always very clear, and who handles the Subject very briefly.

The particular Aſſemblage, ſaid *Aſclepiades*, of the various Corpuſcles already mentioned, and repreſented as of different Figures, is the Reaſon why there are ſeveral Pores or Interſtices, within the common Maſs, form'd by theſe Corpuſcles; and why theſe Pores are alſo of a different Size and Largeneſs. This being taken for granted, as theſe Pores are in all the Bodies we obſerve, it muſt of courſe follow, that the human Body has ſome peculiar to itſelf, which, as well as thoſe of all other Bodies, contain other minute Bodies, which paſs and repaſs by thoſe Pores that communicate with each other; and as theſe Pores or Interſtices are larger or ſmaller, ſo the Corpuſcles which paſs thro' them differ proportionably as to Largeneſs or Minuteneſs. The Blood conſiſts of the largeſt of theſe Corpuſcles, and the Spirits or the Heat of thoſe which are ſmalleſt.

From theſe Principles *Aſclepiades* infers, that the human Body remained in its natural State ſo long as theſe Corpuſcles were freely received by the Pores; and, on the contrary, that it began to recede from that State when theſe Corpuſcles found any Obſtacle to their Paſſage; ſo that, according to him, Health depended on a juſt Proportion between the Pores, and the Corpuſcles they were deſtined to receive and tranſmit; as Diſeaſes, on the contrary, proceeded from a Diſproportion between theſe Pores and the Corpuſcles. The moſt uſual Obſtacle, on this Occaſion, proceeds from the Corpuſcles embracing each other, and being retained in ſome of their ordinary Paſſages, whether theſe Corpuſcles arrive in too large a Number, whether their Figures are irregular, whether their Motions are too much accelerated, or whether, on the contrary, they move too ſlowly. But it alſo often happens, that the Paſſages or Pores themſelves are ill-diſpoſed for receiving and admitting the Corpuſcles; when, for Inſtance, they become too ſmall, or acquire an oblique Situation; or when they are braced up, or opened, and relax'd more or leſs than in a natural State they ought to be.

Among the Diſorders produced by the Corpuſcles ſtopping, of their own Accord, in the Paſſages, *Aſclepiades* reckon'd Phrenſies, Lethargies, Pleuriſies, and burning Fevers. Pains, in particular, are claſs'd among the Accidents which derive their Origins from a Stagnation of the largeſt of all the Corpuſcles, of which the Blood conſiſts. On the contrary, he claſs'd, among the Diſorders ariſing from the bad State and Diſpoſition of the Pores, Deliquiums, Languors, Extenuations, Leanneſs, and Dropſies. Theſe laſt-mentioned Diſorders proceed from the Pores being too much relaxed and opened; and the Dropſy, in particular, proceeds from the Fleſh being perforated with various ſmall Holes, which convert the Nouriſhment, received into them, into Water. Hunger, and eſpecially that Species of it call'd *Fames Canina*, is produced by the Opening of the large Pores of the Stomach and Belly; and Thirſt by the Opening of their ſmall ones.

Aſclepiades ſeems to acknowledge ſtill a third Cauſe of Diſorders, which conſiſted in a Perturbation and Confuſion of the Juices or Fluids, and of the Spirits; but he maintained, that theſe Juices and Spirits were only the antecedent, but not the concomitant or more immediate Cauſes of Diſorders. He aſſerted the ſame with reſpect to Plenitude, which, according to him, often augmented the Diſorder, tho' it was not the principal Cauſe of it.

Aſclepiades, upon the ſame Principles, accounted for the Cauſes of intermitting Fevers. Quotidian Fevers, ſaid he, or thoſe whoſe Paroxyſms return every Day, are cauſed by a Retention of the largeſt of the Corpuſcles. Thoſe of the tertian Kind, or ſuch as return every third Day, depend upon a Retention of Corpuſcles ſomewhat ſmaller than the former; and, laſtly, quartan Fevers are produced by the Retention of the ſmalleſt of all the Corpuſcles: This, in his Opinion, happens becauſe the Pores may be ſooner filled or emptied of the large Corpuſcles, than of thoſe which are ſmall; at leaſt this ſeems to be the Meaning of *Cœlius Aurelianus*, tho' he ſpeaks in ſuch a manner, as to lay a Foundation for our thinking, that the Corpuſcles, and not the Pores, emptied themſelves.

The Practice of *Aſclepiades* was, in a great meaſure, founded upon the Syſtem of which we have now given an Account. This Phyſician compoſed a Book concerning common Remedies, which he principally reduced to three, Geſtation, Friction, and the Uſe of Wine, in every Diſorder.

Aſclepiades pretended to be the firſt who had treated of the two firſt of theſe Articles; but *Celſus* obſerves, that *Hippocrates* had done it before him, tho', in his uſual Manner, he handled the Subject in a conciſe and ſuccinct manner. All the Authors who treated of the Gymnaſtic Art, muſt alſo have made mention of theſe two Remedies; and *Herodicus*, the Inventor of that Art, did not neglect them. As for the Relief Patients might receive from the Uſe of Wine, *Aſclepiades* received this Notion from *Cleophantus*, a Phyſician who was contemporary with *Eraſiſtratus*, or lived ſoon after him, and who wrote on the Medicinal Uſes of Wine.

Aſclepiades propoſed, by various Exerciſes, to render the *Pores* more open, and to make the Juices and ſmall Bodies, which cauſe Diſeaſes by their Retention, paſs more freely; and whereas former Phyſicians had not recourſe to Geſtation till towards the End of long continued Diſorders, and when the Patients, being entirely free from the leaſt Degree of a Fever, were yet too weak to take ſufficient Exerciſe by Walking, *Aſclepiades* went much farther, and uſed Geſtation from the very Beginning of the moſt burning Fevers. He laid it down as a Maxim, that one Fever was to be cured by another; that the Strength of the Patient was to be exhauſted by making him watch, and endure Thirſt to ſuch a Degree, that, for the two firſt Days of the Diſorder, he would not ſo much as allow them to cool their Mouths with a Drop of Water. It may poſſibly be ſaid, that this Practice of *Aſclepiades* cannot be reconciled with the Indulgence he promiſed his Patients. This is alſo obſerved by *Celſus*, who adds, that tho' this Phyſician treated his Patients like a Butcher, during the firſt Days of the Diſorder, he indulged them ſo far afterwards, as even to give Directions for making their Beds in ſuch a manner, that they ſhould lie moſt ſoftly and delicately.

Aſclepiades alſo uſed Frictions on ſeveral Occaſions, with a View to open the Pores. The Dropſy was one of the Diſorders in which he practiſed this Remedy; but the moſt ſingular Occaſion on which he practiſed it, was when, by the Force of Friction, he endeavoured to lull phrenetic Patients aſleep. Upon the Whole, he placed ſuch a Confidence in Frictions, that he wrote far more largely on it than on the other two Remedies mentioned.

'Tis pretty ſurpriſing, that *Aſclepiades*, who ſo warmly injoined Exerciſe to the Sick, ſhould condemn it in ſuch as were ſound and in Health, and affirm, that it was not neceſſary for them: An Opinion which he borrowed from *Eraſiſtratus*.

As for Wine, the third Panacea of *Aſclepiades*, he did not rigidly adhere to the Rules obſerved by other Phyſicians in exhibiting it to their Patients: He readily allowed it to ſuch as laboured under a Fever, provided the firſt Violence of the Diſorder was ſomewhat abated. He did not forbid the Uſe of Wine to phrenetic Patients; and, what is ſtill more ſurpriſing, he ordered them to drink it till they were intoxicated, pretending, by that means, to make them ſleep; becauſe, ſaid he, Wine had a narcotic Quality, and procured Sleep, which he thought abſolutely neceſſary for thoſe who laboured under that Diſorder. For this very Reaſon, one would think that he ought not to have preſcribed it for lethargic Patients, who ſleep too much; but he, nevertheleſs, allowed them the Uſe of it, in order to excite and rouſe their Senſes: He alſo made them ſmell ſtrong-ſcented Subſtances, ſuch as Vinegar, Caſtor, and Rue, in order to make them ſneeze; and applied to their Heads Cataplaſms of Muſtard made up with Vinegar. *Aſclepiades* did not always give pure Wine to his Patients, but ſometimes mixed it with Sea-water, imagining that the Salt with which that Water was impregnated, penetrated farther, and opened the Pores more powerfully than the Wine alone. He allowed a Pint of this Wine for one Doſe. He alſo ordered thoſe who had the Jaundice to drink ſalt Water, in order to render the Body ſoluble. He was not, however, ſo rigidly attached to the Uſe of Wine, but he ſometimes preſcribed Water, and ordered the Wine to be diluted for ſuch as uſed it; except in ſome particular Caſes, ſuch as the Phrenſy, which he pretended to cure by Intoxication. He ordered, ſays *Cælius Aurelianus*, thoſe who had Catarrhs, to drink double or triple the Quantity of Wine they uſed to do. So that, continues he, he made them drink half Water, half Wine. By this we ſee, that the Antients were very temperate with reſpect to the Uſe of Wine, when in perfect Health; and that, for the moſt part, they only uſed a fourth or a ſixth Part of it, mixed with Water. Thus it is not ſurpriſing, that, conſidering their Moderation in this Particular, ſome Phyſicians ſhould not diſcard the Uſe of Wine in Fevers. For thoſe who laboured under Fluxes, he preſcribed the drinking Water very cold; and, in ſeveral Caſes, ſtrongly recommended cold Water, and cold Baths.

To the Remedies now mentioned *Aſclepiades* joined a particular Regimen with reſpect to Diet. *Celſus*, in the fourth Chapter of his third Book, informs us, that, after this Phyſician had confin'd his Patients to Abſtinence for the firſt three Days, he allowed them Aliments on the fourth. But *Cælius Aurelianus*, *Lib.* 1. *Cap.* 4. *Acutor.* ſpeaks of no preciſe Time. " *Aſclepiades*, ſays he, began to nouriſh his Patients as ſoon as the Acceſſion was " diminiſhed, not waiting till an entire Remiſſion, giving to ſome Aliments on the firſt, to others on the ſecond, " to others on the third, and ſo on to the ſeventh Day." 'Tis ſcarce credible, that Faſting could be carried on, and continued till this laſt-mentioned Term. *Celſus*, however, when ſpeaking of the Manner in which the Predeceſſors of *Aſclepiades* conducted themſelves, with reſpect to their Patients, in this Particular, allows, that theſe Phyſicians injoined an Abſtinence for ſix Days; adding, that the Climate of *Aſia*, or that of *Egypt*, might allow of ſuch a Degree of Abſtinence; by which it would ſeem, that he thought the ſame thing could not be practiſed in *Greece* and *Italy*; tho', in the fifteenth Chapter of his third Book, he obſerves, that *Heraclides Tarentinus* ordered thoſe afflicted with Quartan Fevers to faſt till the ſeventh Day. Now *Tarentum*, from which that Phyſician derived his Surname, was in *Italy*, or in what was called *Græcia Major*; but we are not certain whether *Heraclides* practiſed in his own Country. One would think, that a total Abſtinence is not here meant, and that the Patients only refrained from ſolid Food, uſing clear Decoctions of Barley, like thoſe preſcribed by *Hippocrates*, in the very Height of the Fever. But, if it had been ſo, theſe Authors would have infallibly taken notice of ſuch a material Circumſtance, whereas they do not ſo much as mention it.

We muſt not form a Judgment of what Nature was then able to bear, by what ſhe can at preſent ſupport, ſince the Method of Life followed by the Antients was widely different from ours.

Almoſt the whole Practice of *Aſclepiades* conſiſted in the Remedies above-mentioned, or, at leaſt, theſe were the principal of them. And, as he baniſhed from Phyſic the greateſt Part of the Medicines generally uſed by other Phyſicians, this Circumſtance made ſome affirm, that he diſcarded Medicines entirely. *Scribonius Largus*, who lived about an hundred, or an hundred and twenty Years after him, repreſents the Aſſertors of this as guilty of Falſhood; and, after having treated them pretty roughly, concludes, that tho' *Aſclepiades* did not generally preſcribe Medicines in acute Diſorders, believing that Aliments and Wine, ſeaſonably exhibited, were ſufficient for anſwering the Intention; yet this did not hinder him from uſing, as well as other Phyſicians, Medicines in chronical and long-continued Diſorders. This *Scribonius Largus* proves by a Paſſage of a Book wrote by *Aſclepiades*, and intituled Περὶ παρασκευαστικῶν, in which he expreſly aſſerts, *That he was a wretched Phyſician who had not two or there Compoſitions in readineſs, and whoſe Efficacy he knew with reſpect to all kinds of Diſorders.* 'Tis probable the Compoſitions here meant by *Aſclepiades* were rather topical Medicines than ſuch as were deſigned for internal Uſe. The former of theſe he uſed at leaſt as much, and as frequently, as any other Phyſician. He anointed his Patients with Oil, covered them with Ointments and Cataplaſms, uſed Perfumes, Sternutatories, and Gargariſms, beſides Clyſters, of which he made frequent Uſe.

But what has made ſome aſſert, that he diſapproved of all Medicines, is, that he very ſeldom preſcribed Purgatives, the Word *Medicamentum*, among the *Latins*, and Φάρμακον, among the *Greeks*, which ſignify a Medicine in general of whatever kind, being alſo taken, in a more reſtrained Senſe, for a purgative Medicine. It is obvious, that when *Pliny*, *Lib.* 3. *Cap.* 26. ſays, *That* Aſclepiades *declared againſt all Medicines ordered to be taken by Patients, as injurious to the Stomach*, he only meant purgative Medicines. 'Tis in the ſame Senſe *Celſus* has affirmed, that *Medicines generally prove offenſive to the Stomach.* The Word *Medicamentum*, or *Medicamen*, is, by *Cælius Aurelianus*, placed alone, to ſignify a purgative Medicine. *Hippocrates*, ſays that Author, *Cap.* 13. *Lib.* 2. *Acutor.* waited till the fourth Day before he gave a Medicine; that is, as appears from what went before, a purgative Medicine. To theſe Authorities we may add that of *Hippocrates*, who uſes the Word Φαρμακεύειν to ſignify Purgation in particular, oppoſing the Word to Φλεβοτομεῖν, to bleed. In *Aphor.* 47. *Lib.* 6. he ſays, thoſe to whom Veneſection and Purgation are neceſſary, ought to bleed and purge in the Spring.

We have already obſerved, that *Aſclepiades* followed the Opinion of *Eraſiſtratus* in ſome reſpects; he alſo embraced his Sentiments with regard to purgative Medicines. *Eraſiſtratus* thought, that what was evacuated by means of Purgatives, came from the Blood and ſolid Parts of the Body, which were, as it were, melted and colliquated; ſo that, according to him, Purgatives produced Humours, inſtead of evacuating them. Thus *Scammony*, for Inſtance, changed the Blood into Bile; *Flos Æris* converted it into Water; Baſtard-ſaffron, and the *Grana Cnidia*, into Phlegm. *Aſclepiades* believed the ſame thing; and when it was objected to him, that ſeveral

Patients recovered after an Evacuation of theſe Humours by proper Purgatives, he anſwered, that their Recovery was not owing to a Diſcharge of the bad Humours, as was commonly believed, but to a Diminution of Plenitude, or what was ſuperfluous in the whole Body, tho' that ſuperfluous Part was not more corrupted, nor in a worſe State, than the reſt of the Humours. According to *Cœlius Aurelianus*, *Acutor. Lib.* 1. *Cap.* 4. he alſo aſſerted, that the Excrements are not naturally excrementitious, nor ſo uſeleſs and prejudicial as is commonly thought, ſince ſome Animals fed upon them, and were nouriſhed by uſing them. But, tho' he believed, that ſome Relief might be obtained by Evacuations of this kind, yet he thought they were very rarely to be put in Practice, becauſe the Good produced by them was counterbalanced by the Injury which Purgatives did, in other reſpects, to the Body.

Another Reaſon why *Aſclepiades* purged ſo rarely was, his not thinking that Plenitude, or too large a Quantity of Humours, could be the conjunct and moſt immediate Cauſe of Diſeaſes, that is, the Cauſe which produces, and ſupports or continues them, ſo that this Cauſe being removed, the Diſorders muſt of courſe ceaſe and terminate. "If it was ſo, ſaid *Aſclepiades*, it would thence follow, that, after ſufficient and large Evacuations made in "the Beginning of the Diſeaſe, the Patient muſt be forthwith cured; whereas the Diſorder, inſtead of ceaſing "after theſe Evacuations, often increaſes." Plenitude, then, according to him, was no more than an antecedent or an accidental Cauſe of Diſeaſes.

When the Patient was coſtive, *Aſclepiades* thought Clyſters ſufficient to render the Belly ſoluble. Theſe he exhibited almoſt in every Diſeaſe, tho' more rarely, and with greater Precaution, than other Phyſicians. But he was particularly afraid, leſt the too frequent Uſe of this Remedy ſhould make too large Evacuations, and, conſequently, weaken the Patient too much. He alſo preſcribed Vomits, which he ordered to be taken after Supper; but as for Purgatives, he almoſt baniſhed them entirely from his Practice. What he thought, with reſpect to their manner of acting, muſt have influenced him to diſcard them. And the Authorities of *Celſus* and *Pliny* are not the only Foundations we have to believe, that this Phyſician rarely uſed them; ſince *Cœlius Aurelianus*, who gives us an Account of the Practice of *Aſclepiades* in ſeveral Diſorders, never repreſents him as preſcribing a Purgative, except in the Caſe of a Palſy and a Catalepſis.

But if *Aſclepiades* followed *Eraſiſtratus* with reſpect to Purging, he diſſented from him with regard to Veneſection, whether the manifeſt Relief afforded by this Remedy convinced him of the Neceſſity of uſing it, or whether he found it more conſonant to his Principles than Purgation. "Tho' *Aſclepiades*, ſays *Galen*, *de Ven.* "*adverſ. Eraſiſtrat.* has not ſuffered any of the Tenets of the Antients to paſs without Cenſure, having "ſpared none of the Phyſicians who went before him, *Hippocrates* himſelf not excepted; and, tho' he has been "daring enough ſneeringly to call the Medicine of the Antients *a Contemplation of Death*, yet he was not fool-"hardy enough to baniſh Veneſection from Phyſic."

Aſclepiades laid a particular Streſs upon Veneſection in Pains, becauſe, ſaid he, theſe being produced by the Retention of the largeſt of the Corpuſcles in the Paſſages, and theſe Corpuſcles being compoſed of Blood, nothing but Veneſection can draw them thence. For this Reaſon he blooded in the Pleuriſy, becauſe that Diſorder is accompanied with Pain; but in a Peripneumony, or Inflammation of the Lungs, he diſcarded Phlebotomy, becauſe the Diſeaſe is generally unattended with Pain. Neither did he bleed in any Species of Fevers, nor even in a Phrenſy. Since he did not bleed in theſe laſt-named Diſorders, it appears ſurpriſing, that he ſhould put this Remedy in Practice, in what *Cœlius Aurelianus*, *Acutor. Lib.* 2. *Cap.* 38. calls *Cardiaca Paſſio*, or Paſſion of the Heart, the Symptoms of which are a ſmall and frequent Pulſe, a general Loſs of Strength, ſudden Deliquiums, cold Sweats, and Coldneſs of the Extremities. What induced *Aſclepiades* to uſe Veneſection in this Caſe was, his believing, that the Diſorder was produced either by a Tumor formed near the Heart, or by too great a Congeſtion, or too violent a Compreſſion of the Corpuſcles in the Pores of that Organ, which could not be diſengaged, or ſet at liberty, by any other Means than Veneſection. He alſo blooded in the Epilepſy, and, in general, in all convulſive Diſorders, as alſo in Hemorrhages, and Loſſes of Blood of every kind.

According to *Cœlius Aurelianus*, he uſed the ſame Remedy in the Quinſey, opening ſometimes the Veins of the Arms, ſometimes thoſe under the Tongue, ſometimes the frontal Vein, and ſometimes thoſe in the Corners of the Eyes, uſing alſo Cupping, with Scarification, and all with a View to open the Pores. If theſe Remedies did not anſwer the Intention, he made an Inciſion in the Amygdalæ, and even proceeded to what we now call the Operation of Bronchotomy, that is, the opening of the Larynx, or *Aſpera Arteria*. But *Cœlius Aurelianus*, *Acutor. Lib.* 3. *Cap.* 4. ſpeaks of this laſt-mentioned Operation as fabulous and imaginary, affirming that none of the Predeceſſors of *Aſclepiades* had mentioned it; that it was the bold Invention of that Phyſician; and that none were fooliſh enough to practiſe it.

Aſclepiades declared himſelf alſo for the Paracenteſis, that is, piercing the Abdomen, in the Dropſy; but he ordered, that only a very ſmall Perforation ſhould be made. Theſe two Operations ſufficiently ſhew, that he did not religiouſly and univerſally ſtand to his Promiſe of employing only the mildeſt and moſt agreeable Remedies. Theſe few Sketches are ſufficient to give us a general Idea of his Method.

This Theory and Practice of *Aſclepiades*, which Mr. *Le Clerc* has, with great Judgment, collected from all the Authorities extant, will furniſh us with ſome Remarks, which muſt not be omitted.

In the firſt Place, then, however deteſtable his general Philoſophy may appear, as deſtructive of all Morality, his Principles, with reſpect to Phyſic, ſeem to differ very little from thoſe which are at this time generally received; tho' our Knowledge of the Circulation of the Blood, and ſome other anatomical Diſcoveries, have enabled us to explain ourſelves better, and render our Ideas more intelligible. Thus his ὄγκοι *(Molecules)* cannot mean the ſame as the *Atoms* of *Epicurus*, but an Aſſemblage of theſe, forming ſmall Bodies or Particles, blocking up the πόροι, or Paſſages, in order to form a Diſeaſe. Theſe Molecules reſemble the Obſtructions or obſtructing Matter of the Moderns, as the πόροι, or Paſſages, do the Capillary Veſſels, in which they ſtagnate, or which they obſtruct; for, by *Pores*, he does not mean what we call by that Name, but the Paſſages, or Interſtices, thro' which the Molecules are conveyed. And the πρὸς το λεπτομερὲς φορὰ, or Motion tending to break and ſubtilize the obſtructing Molecules, muſt mean the ſame thing which we underſtand by the Attenuation of the obſtructing Matter, and which implies the very ſame as the πέψις, or Concoction of the Humours, ſo much inſiſted on by *Hippocrates*. According, therefore, to *Aſclepiades*, Health conſiſted in a free Tranſmiſſion of his Molecules, or little Maſſes, thro' the Paſſages, or Interſtices, betwixt the ſolid Parts of the Body; according to us, in the uninterrupted Circulation of the Blood thro' the Veſſels. Diſeaſes were cauſed, according to his Syſtem, by whatever interfered with ſuch a free Tranſmiſſion of theſe Molecules; according to ours, by whatever interferes with the Circulation of the Blood and Juices thro' the Canals adapted naturally to convey them. The Cure of Diſtempers, in his way of Thinking, was brought about by ſubtilizing the Molecules or Maſſes, and opening the Paſſages deſtined to their Tranſmiſſion; according to the modern Theory, by attenuating or dividing the Particles of the obſtructing Matter, and rendering the Capillary Veſſels pervious.

The other Remark I would make is, that, with reſpect to the Application of particular Remedies, *Aſclepiades* ought to have experienced firſt, and reaſoned afterwards; whereas he firſt reaſoned himſelf into a good or a bad Opinion of certain Things, and, on this Foundation, condemned them or extolled them, and that without Moderation, having no Regard to the Experience of many Centuries, which had either eſtabliſhed the Reputation of their Efficacy, or baniſhed them from Practice, as pernicious. Thus he almoſt diſcharged Purging, a Remedy without which Phyſic would be an Art, at beſt, very trifling. Thus, alſo, he debarred his Patients from cooling Liquors, at the time when they might have been uſed to great Advantage; and intoxicated thoſe labouring under a Phrenitis; a Practice which, however execrable, is leſs deleterious than the other; for I have known more Inſtances than one of Patients, who have been cured of Fevers, attended with a ſtrong Delirium, in conſequence of having been ſuffer'd, by Accident, to make themſelves exceſſively drunk.

It has happened, unfortunately for thoſe Adventurers in Phyſic, in all Ages, who, like *Aſclepiades*, have truſted to their Imaginations more than their Senſes, and who, like Don *Quixot*, have framed to themſelves chimerical Difficulties, in order to ſhew their Addreſs in conquering them, that their Practice has, like that of the abovementioned Knight Errant, been very offenſive to many innocent People, who have had the Misfortune to be the Subjects of it; and has farther expoſed them to the Ridicule and Contempt of the Judicious.

Several Ladies among the Antients have been celebrated on account of their Medicinal Knowledge, ſome of which have been already taken Notice of. To theſe we muſt add the famous *Cleopatra*, Queen of *Egypt*, who lived a very few Years before the Birth of *Chriſt*. There are ſtill extant ſome Books which bear her Name, and which treat of the Diſorders incident to Women. If theſe Books were not ſpurious, the Preface would not allow us to doubt of their being wrote by this Princeſs, ſince the Author there affirms of herſelf, that ſhe is the Siſter of *Arſinoe*. Now it is well known, that *Cleopatra* had a Siſter of that Name, who was put to Death by *Marc Antony*, in order to gratify the Ambition of that haughty Queen. It may perhaps be ſaid, that theſe Books and the Preface are equally ſpurious; and, in all Probability, they are ſo; but, at the ſame time, it cannot be denied, that there were other very antient Medicinal Writings publiſhed under the Name of *Cleopatra*, ſoon after her Death. *Galen* makes mention of ſeveral Compoſitions relating to the Ornament and Embelliſhment of the Body, taken from the Books of one *Cleopatra*, and he does not quote theſe Books as recent: Now *Galen* lived about two hundred Years after this Queen of *Egypt*, of whom we now ſpeak. What lays a Foundation for our aſcribing them to this Lady, is, that Hiſtorians ſpeak of her as a Princeſs extremely curious and learned. *Plutarch*, in the Life of *Marc Antony*, informs us, that ſhe ſpoke ſeveral Languages: He alſo obſerves, that ſhe ordered Experiments to be made on all Poiſons, in order to know which work'd moſt expeditiouſly, and with leaſt Pain. We have ſtill a more ſatisfactory Proof of the Curioſity of *Cleopatra*, with regard to Medicine, which is the Experiment ſhe performed before *Marc Antony*, when ſhe diſſolved a Pearl of great Value in Vinegar. As for the Books of *Cleopatra* ſtill extant, they contain nothing very particular; and we only find in them the ſame Remedies the Phyſicians uſed in Diſorders incident to Women. Among theſe Books we do not reckon thoſe concerning Chymiſtry, which are aſcribed to her, but which are evidently ſpurious.

Cleopatra was not the only one of her Sex and Quality who applied to Medicine. The celebrated *Artemiſia*, Queen of *Caria*, had alſo the Reputation of underſtanding the ſame Art. She is ſaid to have given her Name to the Herb which the *Latins* call *Artemiſia*, and to which we give the Name of *Mugwort*; but others think, that this Herb rather derived its Name from the Goddeſs *Diana*, whom the *Greeks* called Ἀρτεμις, *Artemis*. *Artemiſia* lived about the hundredth Olympiad, more than four hundred Years before *Cleopatra*. There was alſo another *Artemiſia*, more antient than this.

It may be ſaid, that little Confidence is to be repoſed in the fabulous Stories relating to the Women of Antiquity who practiſed Phyſic; but tho' important Truths are ſometimes wrapt up in fabulous Relations, yet it is not upon this ſingle Circumſtance, nor on the Hiſtories of *Cleopatra* and *Artemiſia*, that we maintain there were formerly ſeveral Women who not only ſtudied, but alſo practiſed Medicine.

The Reluctance of moſt Women to diſcover certain ſecret Diſorders to Phyſicians obliged them to look out for other Women, to whom they might intruſt the Secret, and who could afford them Relief. Formerly this Right of practiſing Phyſic was diſputed with the Women; and, in ſome Places, their Eſtabliſhment in that way was openly oppoſed. An antient Law, enacted by the *Athenians*, ſo ſtrictly forbid Women and Slaves from being concerned in Medicine, that the Art of delivering Women in Child-birth, which was thought a Branch of it, could be exerciſed only by Men: But ſome of the *Athenian* Ladies chooſing rather to die than admit of the Aſſiſtance of Men, it is ſaid, that one of them, called *Agnodice*, who had learned Medicine, and the Art of Delivering, from one *Herophilus*, diſguiſed herſelf in the Habit of a Man, in order to aſſiſt the others. This being diſcovered, the *Athenians* enacted another Law, permitting free Women to learn Medicine.

Long before this the *Egyptians* had Midwives; and the *Sacred Hiſtory*, *Exod. Chap.* 1. has preſerved the Names of two *Egyptian* Women who exerciſed this Profeſſion, and who ſaved a great Number of *Jewiſh* Children from falling the guiltleſs Victims of *Pharaoh*'s Cruelty. One of theſe was called *Shiphrah*, and the other *Puah*.

The Midwives of *Greece* and *Italy* not only delivered Women, but alſo practiſed Medicine: Hence the *Latin* Words *Obſtetrix* and *Medica* are uſed as convertible Terms, in the Writings of the antient Lawyers. Accordingly *Ulpian*, *Lib.* 1. has theſe Words: *Quoties de prægnatione dubitatur, quinque obſtetrices, id eſt, Medicæ, ventrem jubentur inſpicere.* "In Caſes where Pregnancy is dubious, five Midwives, or Female Phyſicians, are appointed to inſpect the Womb." The Greeks had alſo their Ιατρεῖναι, a Word which exactly correſponds to the *Latin* Word *Medicæ*. Theſe Women treated all Diſorders peculiarly incident to the Sex; and Hyſteric Affections belonged principally to their Province, as we may infer from a Paſſage of *Galen de Locis Affectis*, *Lib.* 6. *Cap.* 5. where it is obſerved, that theſe Women themſelves gave the Name *Hyſteric* to the Diſorder, which ſtill bears that Name. Theſe very Women, and the Diſeaſe now named, are mentioned in an Epigram of *Martial*'s, which begins,

Hyſtericam vetulo ſe dixerat eſſe Marito.

They alſo applied to every thing relative to the Ornament or Embelliſhment of the Body; ſuch as not only all kinds of Paints, but alſo all Medicines which remove or conceal the Imperfections and Deformities produced by Diſeaſes, or any Accidents whatever.

Several of theſe Women alſo wrote Books upon Medicinal Subjects, which are cited by the antient Phyſicians. In *Ætius* we find ſeveral Fragments of the Books of one *Aſpaſia*; but we know not whether this *Aſpaſia* is the ſame with the beautiful Lady who was Miſtreſs to *Cyrus* the younger, and *Artaxerxes*, Kings of *Perſia*. *Elian*, who gives us a pretty large Account of this Lady, makes no mention of this Circumſtance; but ſince he repreſents her as of ſo vaſt and extenſive a Genius, that the Princes above-mentioned conſulted her in the moſt important Points of Politics, it is poſſible ſhe might have alſo underſtood Medicine, and wrote upon it; or, at leaſt, that her Knowledge of it may have given Occaſion to publiſh the Books, now mentioned, under her Name.

There are ſome good Remedies among thoſe *Aſpaſia* propoſes, in ſeveral Diſorders of Women; at leaſt, *Ætius* was of this Opinion, ſince he gave them a Place in his Collections; into which he, in all Probability, put what he thought beſt in the ſeveral Authors he peruſed. Others of *Aſpaſia*'s Remedies were dangerous, ſuch as thoſe ſhe ordered to procure Abortion, and render Women barren: Things which were equally criminal among the Pagans as among us, as we may infer from the Oath of *Hippocrates*, and from the Laws antiently enacted againſt them. *Aſpaſia*, however, aſſerted, that her Views, in this Particular, were by no means criminal; ſince ſhe only propoſed to preſerve the Lives of ſuch Women as cannot be delivered without a manifeſt and unavoidable Danger of their Lives.

Galen and *Pliny* mention one *Elephantis*, who alſo wrote concerning abortive Remedies, and Paints. In all Probability, this is a different Perſon from her who became famous for her laſcivious Verſes, and who is mentioned by *Suetonius* and *Martial*.

Galen alſo gives us ſome Medicinal Compoſitions of one *Antiochis*, who probably was the ſame with her to whom *Heraclides Tarentinus* dedicated ſome of his Books.

We alſo find one *Olympias* of *Thebes*, one *Sotira*, one *Salpe*, and one *Lais*, cited by *Pliny*, who tells us, that *Sotira* was alſo a Midwife: Their Remedies were, for the moſt part, ſuperſtitious; but this is no ſurpriſing Circumſtance, ſince Medicines of that Nature have, in all Ages, ſuited the Taſte of the Vulgar, eſpecially that of the Women.

In *Galen* there is mention made of one *Fabulla Libyca*, who is by ſome claſs'd with the preceding Female Phyſicians. *Cornarius* is of Opinion, that we ought to read *Livia*, and not *Libyca*; and he maintains, that this Woman did not practiſe Phyſic, but that *Galen* only mentions her as the Perſon for whom the Medicine was prepared.

Victoria, *Salviana*, or *Salvina*, and *Leoparda*, are quoted by *Theodorus Priſcianus*. One *Africana* is alſo mentioned by *Marcellus Empiricus*; but whether this was the proper Name of a Woman who practiſed Phyſic, or an Epithet beſtow'd on her from her Country, is hard to determine. *Scribonius Largus* ſpeaks of an *African* Woman, of whom he purchaſed a Secret for the Colic.

To all theſe Female Phyſicians ſome add *Trota*, or *Trotula*, and one *Achromos*, of whom *Tiraqueau* thinks *Hippocrates* has ſpoke, and made mention of a Remedy which that Woman had for the Dyſentery. See the Article ACHROMOS.

The *Greeks* had alſo their ἀκεστρίδες, and their ἰατρῖναι, Words which anſwer to the *Latin Medicæ*. The former of theſe Words occurs towards the End of *Hippocrates*'s Work *De Carnibus*; and, from what follows, it is evident he gives that Name to the Midwives, who were commonly called μαῖαι. The latter occurs in *Galen*, *de Locis Affectis*, *Lib.* 6. *Cap.* 5.

If it ſhould be aſked, whether theſe *Iatrinæ*, or *Medicæ*, were all Midwives; and if there were none of them who, without meddling with Deliveries, treated Women in their other Diſorders; it is poſſible, there were ſome who only exerciſed the laſt of theſe Branches, and that all the Midwives were Female Phyſicians; tho' all the Female Phyſicians were not Midwives.

I cannot finiſh this Account of Female Practitioners, without retracting an Error I have been guilty of, with reſpect to *Agamede*, and which I was led into inadvertently by many Authors who have wrote on the Hiſtory of Phyſic. The Knowledge of φάρμακα, which *Homer* attributes to this Lady, does not ſeem to import any Medicinal Skill ſhe was poſſeſſed of; but that ſhe was an infamous Sorcereſs; and it is in this Light that *Theocritus* places her, if I remember right.

The next grand Revolution in Phyſic was brought about by *Themiſon*, a Native of *Laodicea*, and Diſciple of *Aſclepiades*, who lived not long before *Celſus*, as we may infer from a Paſſage in this Author, who ſpeaks of him as a Man whom he might have ſeen, but who was not alive at the Time he wrote; for in his Preface he has theſe Words: *Ex Aſclepiadis ſucceſſoribus Themiſon, nuper, ipſe quoque quædam in ſenectute deflexit.* "Among the Succeſſors of *Aſclepiades*, *Themiſon* himſelf has lately, and in his old Age, made ſome Innovations in the Syſtem of his Maſter." The Word *nuper* implies, that this had happened a ſhort time before *Celſus* wrote; now *Celſus* wrote towards the latter End of the Reign of *Auguſtus*, or about the Beginning of that of *Tiberius*.

The Sect which *Themiſon* founded was called the *Methodic*, becauſe he endeavour'd to find a Method of rendering Medicine more eaſy, both to be learned and practiſed, than it formerly was. His Principles were the following:

I. He aſſerted, that a Knowledge of the Cauſes of Diſeaſes was not neceſſary, provided we had a due Regard to what Diſeaſes have in common, and analogous among themſelves. This Foundation being laid, he ranked all Diſorders under two, or at moſt three, principal Genuſes: The firſt included Diſorders ariſing from Stricture; the ſecond thoſe ariſing from Relaxation; and the third thoſe of a mixed Nature, or ſuch as partook both of Stricture and Relaxation.

II. *Themiſon* alſo obſerved, that Diſeaſes are ſometimes acute, and ſometimes chronical; that for a certain time they increaſe; that at another time they are at their Height; and that, at laſt, they were obſerved to diminiſh. This is the ſame Diſtinction *Hippocrates* made before him. In conſequence of this, *Themiſon* ſaid, that acute Diſeaſes muſt be treated in one way, and thoſe which are chronical in another; that one Method muſt be follow'd with ſuch as are in their Augmentation, another with ſuch as are at their State or full Height, and ſtill another with thoſe which are in their Declenſion. He maintained, that the Whole of Medicine conſiſted in the Obſervation of that ſmall Number of Rules which are founded upon Things altogether evident. He ſaid, that all Diſorders of every Nature, included under any of the above-mentioned Genuſes, ought to be treated in the ſame manner, from whatever Cauſes they proceeded, whatever Parts they attacked, in whatever Country, or whatever Seaſon, they ſhould happen. Upon theſe Principles he defin'd Medicine to be *a Method conducting to the Knowledge of what Diſeaſes have in common with each other, and which at the ſame time is evident.*

Thus *Themiſon* agreed with the Empirics in this, that he did not depend upon Circumſtances of an obſcure and uncertain Nature; and with the Dogmatics in this, that he admitted Reaſonings as well as they. He alſo agreed with theſe laſt in this, that he eſtabliſhed, as the Foundation of his Method, *Indication*; which, being the Reſult of Reaſoning, was of courſe rejected by the Empirics. But if he agreed with the Dogmatics, with reſpect to the Doctrine of Indication in general, yet he differ'd from them in acknowledging no other Indication, than what was furniſh'd by the *Genus* of the Diſeaſe; whereas the Dogmatic Sect maintained, that neither the Genus nor the Species of the Diſeaſe could indicate the Remedy proper to be uſed, and the Meaſures to be taken, for promoting a Cure; but that, on ſuch Occaſions, we ought rather to conſider the Cauſe which originally produced, and ſtill maintains and ſupports the Diſorder. This Cauſe, ſay they, naturally indicates the Remedy; ſince, in all Diſeaſes, the Remedy conſiſts in removing the productive Cauſe. *Themiſon* alſo rejected the other Indications, which the Phyſicians of the Dogmatic Sect drew from the Age of the Patient, his Strength, his Country, his Manner of Life, the Seaſon of the Year, and the Nature of the affected Part. In this reſpect he alſo differed from the Empirics, who, tho' they would not hear of Indications, had nevertheleſs a great Regard to the above-mentioned Circumſtances.

'Tis not difficult to perceive the Difference between the Syſtem of *Themiſon*, and that of *Aſclepiades* his Maſter. The latter thought, that Health conſiſted in a juſt Proportion between the Pores or Paſſages of the Body, and the Corpuſcles or Maſſes which ought to paſs thro' them; and that Diſeaſes were produced by a Diſproportion of theſe ſame Pores and Corpuſcles. This Opinion of *Aſclepiades* laid a Foundation for that of *Themiſon*; but tho' the former conſider'd a Part of theſe Pores as Cavities, or inviſible Interſtices, produced by a Concourſe of Atoms at the Formation of each Body, and reaſoned upon this Topic like a Philoſopher, yet the latter did not carry the Matter ſo far, but, in all Probability, only believed, that there were Pores of ſome Kind, tho' inviſible, in various Parts of the human Body. This, at leaſt, was the Sentiment of ſome of the Methodics who ſucceeded him, and who, for illuſtrating their Opinion, brought, as an Inſtance, the Skin; the Pores of which are not perceptible, tho' it is very certain, from the Sweats diſcharged from it, that it is furniſhed with a conſiderable Number. *Themiſon* could not admit the Pores of *Aſclepiades*, ſince that would have been contrary to his Principles, which ought, as we have already obſerved, to be drawn from evident Circumſtances. He acknowledged Pores, but would not determine of what Nature they were. The Pores, ſaid he, are not ſubjected to our Senſes; but I can form an Idea of them, from the Sweat diſcharged by them. In this Senſe it was that the Methodics maintain'd Medicine to be a Means or Method of leading from one Thing evident and apparent, to another which was not before known.

But the principal Difference with reſpect to the Means of finding Remedies, between the Sentiments of *Aſclepiades* and theſe of *Themiſon*, is, that tho' the former ſought for the Cauſes of Health and Diſeaſes in the Proportion or Diſproportion of the Pores, yet he did not believe, that this general Idea was ſufficient for a Phyſician, but that he muſt inform himſelf of other Circumſtances of a more particular Nature. *Aſclepiades* believ'd with *Hippocrates*, and all other Phyſicians except the Methodics, that we ought to obſerve what Diſeaſes have in common with each other, and what they have peculiar to them. But *Themiſon* did not, like *Aſclepiades*, apply himſelf to the Inveſtigation of the Cauſes of Diſeaſes. He wanted only to know their Genuſes, which, he ſaid, he diſcover'd by evident Signs in the ſame manner as the Empirics pretended to know, and diſtinguiſh Diſeaſes by their Signs, and not by their Cauſes, which they took to be incomprehenſible. In this the Empirics and Methodics agreed, for both inform'd themſelves of the Nature of Diſeaſes from their Signs, a Circumſtance which made them very exact and circumſtantial in enumerating all.

Moſt of theſe Particulars are taken from *Celſus*, and they are all we can diſcover with reſpect to the Syſtem of *Themiſon*, which appears to differ conſiderably from that of *Aſclepiades*; tho' *Celſus* ſeems to inſinuate, that the Difference is not great. 'Tis true, that *Themiſon*'s Practice came pretty near that of *Aſclepiades*, as we ſee from ſome Extracts from his Works preſerv'd by *Cælius Aurelianus*. But as he did not invent his Method till he was old, it is probable he had not Time to adapt and accommodate his Remedies to his Reaſonings on the Nature of Diſeaſes. "*Themiſon*, ſays *Cælius Aurelianus*, *Lib.* 1. *Cap.* 1. *Tardar.* was as yet involv'd in the Errors " of *Aſclepiades*, and the Methodic Sect was then only in its Infancy, and not well form'd."

Among the Faults *Themiſon* committed againſt the Laws of *Method*, he is ſaid to have order'd cold Water to be drunk by ſuch as had been blooded, which, according to the other Methodics, was ordering two Remedies directly contrary to each other; Bleeding in order to relax, and cold Water in order to brace up, or contract. *Cælius Aurelianus* alſo obſerv'd, that in ſeveral Diſorders, *Themiſon* order'd Cathartics. He purg'd, for Inſtance, in Aſthmas with Diagrydium, and in Lethargies with Aloes diſſolv'd in Water. In the Diſeaſe called *Catalepſis*, he alſo purg'd with Diagrydium, to which he join'd Caſtor, probably as a Corrector. He alſo uſed ſome other Purgatives, of which the Methodics afterwards diſapprov'd. *Themiſon* alſo differ'd from the ſucceeding Methodics, with reſpect to the proper Times of taking Aliments, of uſing Exerciſe, of Bathing, of Bleeding, of applying Cupping-glaſſes and Leeches, which laſt Remedy was not, in all Probability, firſt introduced into Practice by *Themiſon*. This Remedy was however, continued by the Phyſicians of the Methodic Sect, who imagin'd that as the opening of the great Veins produc'd a general Relaxation thro' all the Body, ſo Leeches cauſed a Relaxation of the particular Parts, to which they were apply'd almoſt like Cupping-glaſſes, which they ſometimes put on, after the Leeches dropt off, in order to extract more Blood, or, in their own Words, *to relax more.* Tho' it is probable, that the Uſe of Leeches was firſt obſerv'd by Peaſants, upon obſerving the Effects they produc'd when they fixed upon their Legs, yet we cannot preciſely determine the particular Time at which Phyſicians began to uſe them as a Remedy.

Dioſcorides informs us, that *Themiſon*, being once bit by a mad Dog, or, which is more ſurpriſing, having only conſtantly attended one of his Friends, who was mad from this Cauſe, fell into the ſame Diſorder; but was at laſt cur'd after having ſuffer'd a great deal. *Cælius Aurelianus* tells us, that *Themiſon*, being ſubject to this Diſorder, frequently propoſed to write upon it, but that he relapſed every Time he attempted to put this Deſign in Execution. *Juvenal* has upbraided this Phyſician, or at leaſt a Phyſician of this Name, with the large Number of Patients he killed.

Quot Themiſon *ægros autumno occiderit uno.*

This Line, however ſarcaſtical it may at firſt View appear, does not convey a very diſadvantageous Idea of *Themiſon*, ſince it ſeems to amount to a Proof, that Numbers committed themſelves to his Care. *Galen*, *Medicam. Local. Lib.* 7. *Cap.* 2. informs us, that *Themiſon* was the firſt who gave a Deſcription of the *Diacodium*, which is a Medicine compoſed of the Juice and Decoction of the Heads of Poppies, and Honey. *Galen* alſo obſerves, that he wrote a Book concerning Plantain, in which he aſſerted, that he was the firſt Diſcoverer of that Plant. He alſo invented a purgative Medicine called *Hiera*.

Themiſon had in all Probability, ſeveral Diſciples, but we have only the Names of two of them left upon Record, one *Proculus*, and one *Eudemus*, mention'd by *Cælius Aurelianus*. As for his Followers, all the Methodic Sect may be look'd upon as ſuch, tho' they made conſiderable Innovations in his Principles, and each endeavour'd to erect himſelf as Chief of the Sect. We have very imperfect Accounts both of *Procu-*

lus and *Eudemus*. *Cælius Aurelianus* only informs us, that the latter of theſe gave Clyſters of cold Water to thoſe Patients who were called *Cardiaci*.

Vectius Valens is by *Pliny* repreſented as the Founder of a new Sect, and, in all Probability, he ſtruck into that of *Themiſon*, but began to make ſome Innovations in it; as did almoſt all the Methodics who came after him, every one of whom pretended for this Reaſon to be the Author of a new Sort of Medicine. *Pliny* informs us, that this *Valens* was very eloquent, and acquir'd an uncommon Reputation for his Skill in his Profeſſion. In all Probability, this *Valens* is the ſame with the Perſon whom *Cælius Aurelianus* calls *Valens* the Phyſician.

Themiſon, as we have already obſerv'd, being old when he laid the Foundation of his Sect, and not having ſufficient Time to meditate maturely upon his infant Syſtem, left the Charge of it to thoſe who were to come after him. His Diſciples, of whom we have already ſpoke, ought to have endeavour'd at once to eſtabliſh and improve it. But we read of nothing they did in this way; nor do we hear of any Advances made by *Vectius Valens*. In all Probability, the Methodic Sect was not ſo much promoted by the joint Endeavours of theſe Men, as by the ſingle Attempts of *Theſſalus*, who lived under *Nero*, about fifty Years after *Themiſon*, and who firſt enlarg'd or corrected the Principles of that Phyſician ſo ſucceſsfully, that he acquir'd the Reputation of having perfected the Method. This *Theſſalus* was a Native of *Tralles* in *Lydia*; and if we may believe *Galen*, the Son of a Wool-carder, by whom he was brought up among a Set of Women. But the Meanneſs of his Extraction, and the little Care which had been taken of his Education, did not prevent his riſing in the World, and making a very conſiderable Fortune. The Means he uſed for this Purpoſe, were to get himſelf introduced to the Great, and, as he knew they lov'd Flattery, he forgot none of the fawning Arts that could gain him a Place in their Favour. He was of a ſingularly complaiſant and ſubmiſſive Behaviour, which, according to *Galen*, was a Character quite the Reverſe of that ſuſtained by the antient Phyſicians, eſpecially the Deſcendants of *Eſculapius*, who commanded their Patients, as a General does his Soldiers, or a Prince his Subjects. *Theſſalus*, on the contrary, was as obſequious to his Patients as a Slave is to his Maſter. If they were inclin'd to bathe, he allow'd it; if they wanted Ice or Snow to quench their Thirſt, he order'd it; and if they deſired Wine, they might have it. Theſe Reflections of *Galen*, who adds, that *Theſſalus* had many Fellow-labourers in the cozening Art, ſhew us, that long ago, as well as now, Mankind made a Diſtinction between the *End of an Art*, and *the Profit of the Artiſt*.

Galen and *Pliny* accuſe *Theſſalus* of exceſſive Inſolence and Vanity, and report that he gave himſelf the Air of deſpiſing all other Phyſicians, whether his Predeceſſors or Contemporaries, with a View, no doubt, of enhancing his own Character, a Practice too frequent amongſt the Mean-ſpirited and Diſingenuous, and the certain Characteriſtic of a Scoundrel. So intolerable was the Vanity of *Theſſalus*, that he aſſumed the pompous Title of *Conqueror of the Phyſicians*, which he cauſed to be put upon his Tomb in the *Appian* Way. Never was Mountebank, continues *Pliny*, attended with a larger Number of Attendants, than *Theſſalus* generally had about him; and this Circumſtance is the leſs to be wonder'd at, if we conſider, that he promiſed to teach the whole Art of Medicine in ſix Months; and in reality the Art might be learned much ſooner, if it comprehended no more than what the Methodics thought neceſſary; for they cut off the Dogmatics Examination of the Cauſes of Diſeaſes; and ſubſtituted, in the room of the laborious Obſervations of the Empirics, Indications drawn from the Analogy of Diſeaſes, or the mutual Reſemblance they bore to each other. So that ſcarce any thing remain'd for the Methodics to do, but to know and make a Choice of Remedies, which was alſo no difficult Task, ſince they uſed only two Sorts.

Galen gives us the following Account of the Difference between the Sentiments of *Theſſalus* and *Aſclepiades*, by which we may be ſomewhat let into the Syſtem of the former. "*Theſſalus*, ſays he, *Method. Medend.* " *Lib.* 1. *Cap.* 6. has reduc'd all Diſorders curable by Regimen to two Kinds, as *Aſclepiades* did. But he has " abandon'd, as uſeleſs, ſeveral Particulars in the Practice of *Aſclepiades*." That is, tho' *Aſclepiades* look'd upon the Dilatation or Contraction of the Pores to be the Circumſtances which conſtitute the principal Kinds of Diſeaſes, yet he believ'd, that we muſt ſeek for more particular Differences, and diſtinguiſh what each Diſeaſe has peculiar to itſelf. *Galen, Method. Medend. Lib.* 4. *Cap.* 4. makes *Theſſalus* oppoſite both to *Aſclepiades* and *Themiſon*: " *Theſſalus*, ſays he, has chang'd ſome things in the Syſtem of *Aſclepiades* and *Themiſon*: For whereas " theſe believ'd, that, as Health conſiſts in the Symmetry and Proportion of the Pores, and Diſeaſes in their " Diſproportion, the Reſtoration of this Symmetry was the Re-eſtabliſhment or Recovery of Health; *Theſſalus* " thought, that in order to cure a Diſeaſe, it was neceſſary entirely to change the whole State of the Pores of " the affected Part. It is, adds *Galen*, from this Opinion that the Word *Metaſyncriſis* has been deriv'd; " which ſignifies nothing more than a Change happening in the Pores."

As for the other Circumſtances in which the Syſtems of *Theſſalus* and *Themiſon* differ, we know nothing certain about them; only this in general we are aſſured of, that *Theſſalus* chang'd the Tenets of *Themiſon*, and was thought to have perfected the Methodic Medicine; ſo that we may aſcribe to *Theſſalus* all the Principles of the Methodics who came after him. But we learn from *Galen*, that the Phyſicians of this Sect did not agree very well among themſelves. Some of them, for Inſtance, maintain'd, that Relaxation and Stricture were common to all Diſtempers in general; others, that this Relaxation and Stricture did not ſerve as Indications, but in Diſeaſes to be cur'd by Regimen only. By this means they in a particular manner excluded thoſe Diſeaſes which call for the Aſſiſtance of Surgery. 'Twas no doubt this Opinion which oblig'd the Author of the Book intituled, *The Introduction*, aſcrib'd to *Galen*, to add new Relations or Reſemblances to theſe of *Themiſon*; and 'tis poſſible, theſe new Relations or Reſemblances are thoſe invented by *Theſſalus*.

The Author of *The Introduction* obſerves, that there are not only Relations or Agreements with reſpect to Diſeaſes, but alſo with reſpect to their Cures; and that the former are called paſſive, and conſiſt in Stricture and Relaxation; and the latter curative, and conſiſt in relaxing and contracting, beſides another Kind of Relation which he calls *temporary*, and which reſpects the different Manners of proceeding in the different Stages of Diſeaſes. After making theſe Remarks, which give us a general Hint of the Sentiments of *Themiſon*, he adds, that there are *Relations* which concern Surgery in particular, and which are different from the others. Theſe laſt-mention'd *Relations* conſiſt in taking away or removing what is foreign to the Body in its natural State.

Two Kinds of Things, continues this Author, may be called foreign with reſpect to the Body; that is, things external, and things internal. The external things are, for Inſtance, a Thorn, or an Arrow, or any other external Object which wounds, and which, remaining in the wounded Part, proves troubleſome, and prevents its Cure. 'Tis obvious, that foreign things of this Nature ought to be extracted. As for internal things, the ſame Author makes three Sorts of them: There are, ſays he, certain things in our Bodies which are Parts of them, and which are, nevertheleſs, as troubleſome and offenſive as if they were foreign. When, for

Inſtance, Bones are diſlocated or fractur'd, theſe Circumſtances demand, that they ſhould either be remov'd from the Situation in which they are, or again reduc'd to their natural Poſition.

Secondly, things become foreign by their Exceſs, ſuch as their Largeneſs, Bulk, or Superfluity: Of this Kind are all the different Kinds of Tumors, all Abſceſſes, Excreſcences, Warts, or a ſixth Finger. Some of theſe demand only to be laid open, or to be diſcuſſed; others require Amputation, or being remov'd. There are alſo foreign things ariſing from a Defect, ſuch as deep Ulcers, and the Hare-lip, which indicate a Neceſſity of ſupplying what is wanting.

Theſe are the Relations of Chirurgical Diſorders, and of the Remedies appropriated to them. This Author adds another Species of Relations, which he calls Prophylactic, and which regard Diſeaſes cauſed by Poiſons, venomous Beaſts, and, in general, by every thing that can ſecretly, and without being diſcovered, produce Diſorders of any kind.

Tho' we are not abſolutely certain, that *Theſſalus* was the Author of all theſe Relations, yet 'tis highly probable, that he invented thoſe which regard Surgery; ſince 'tis well known, that he eſtabliſhed ſeveral different Species of the Genuſes already mentioned. “ Thoſe, ſays *Galen*, *Method. Medend. Lib.* 5. *Cap.* 1. who followed *Theſſalus*, believe, that all Ulcers, in whatever Part of the Body, ought to be cured in the ſame manner. If they “ are hollow, they muſt always be incarned; if equal with the reſt of the Surface of the Body, they muſt always “ be cicatrized; if fungous and ſuperfluous Fleſh ariſes, it muſt always be conſumed; if they are recent and “ bloody, their Lips muſt be forthwith united and conſolidated.”

Theſſalus alſo eſtabliſhed a Relation or Analogy with reſpect to old Ulcers in particular. His own Words, taken from *Galen*, are as follows: “ The Relations of inveterate Ulcers, which will not cloſe, or which, being once “ cicatrized, open afreſh, are of the higheſt Importance; ſince, with reſpect to the former, we muſt neceſſarily “ know what hinders them from cloſing, in order to remove it; and, with reſpect to thoſe which break out again “ after they have been once cicatrized, we muſt know what is the Cauſe of their appearing afreſh, that we may “ take effectual Meaſures for rendering the Cicatrix ſecure and durable, by changing the Habitude and Diſpoſition “ of the Part affected, or of the whole Body; by inducing ſuch an Alteration, as that it may not any more be ſubject “ to the like Infirmity; and that this End may be obtained by metaſyncritical Medicines.”

On this Occaſion I cannot forbear remarking, that this Doctrine of *Theſſalus* has been embraced, with great Reaſon, by all ſucceeding Surgeons. Mr. *Sharp*, in the following Paſſage, means the ſame thing.

“ It will be often in vain to purſue the beſt means of Cure by topical Application, unleſs we are aſſiſted by “ internal Remedies; for, as many Ulcers are the Effects of a particular Indiſpoſition of Body, it will be difficult to “ bring them into Order, while the Cauſe of them remains with any Violence; and, indeed, there are hardly any “ Conſtitutions where Ulcers are not aſſiſted by ſome Phyſical Regimen.”

Theſſalus, a little afterwards, goes on thus: “ Inveterate Ulcers, which do not cloſe, or which, being brought “ to a Cicatrix, open afreſh, furniſh the following Indications. Firſt, thoſe which cannot be cicatrized, indicate “ the Removal of the Cauſe which hinders their Cicatrization, the Renovation of the Parts affected; and that, “ after they have been reduced to the State of a recent Wound, they ſhould be treated as ſuch. If this ſhould “ not ſucceed, we muſt uſe lenitive Medicines, and ſuch as are preſcribed in Tumors accompanied with Inflam- “ mation. As for Ulcers which, being once cicatrized, open afreſh, when they are beginning to exulcerate, or “ appear a ſecond time, they indicate, that they ſhould be treated like a Phlegmon, or a recent Tumor with “ Inflammation; and that we ſhould apply lenitive Cataplaſms to them, till the Irritation is over, after which the “ Surgeon muſt endeavour to induce a Cicatrix, and afterwards apply, all around the Part where the Ulcer was, a “ Plaiſter in which Muſtard is an Ingredient, and which may produce a Redneſs of the Part, or ſome other “ Medicine which may alter the Diſpoſition of the Parts, ſo that they may not, for the future, be ſuſceptible of the “ ſame Diſorder. If, by theſe means, the bad Diſpoſition of the Part cannot be corrected, we muſt endeavour “ to change the Habit of the Body in general by a *Metaſyncriſis*. This End may be obtained by performing various “ Exerciſes, with reſpect to which, thoſe who are ſkilled in the Gymnaſtic Art are to be conſulted, or by aug- “ menting and diminiſhing the Quantity of Aliments alternately.”

From what has been ſaid, it appears, that *Theſſalus* did not adhere to the Relations of *Themiſon*; and that what the former meant by *Metaſyncriſis*, was a Change he pretended to make either in the whole Body, or in ſome particular Part of it. See METASYNCRISIS.

If *Theſſalus* was not the Author of the *Metaſyncriſis*, yet 'tis certain he was the firſt who introduced Abſtinence for three Days, by which the Methodics began the Cure of all Diſorders, and from which they were afterwards called *Diatritarii*, from the *Greek* Word Διατριτὸς, the Name given by *Theſſalus* to this Abſtinence.

Theſſalus's Arguments for not uſing Purgatives are almoſt the ſame with thoſe of *Eraſiſtratus* or *Chryſippus*, who were the firſt who declared againſt Medicines of this kind, and were afterwards ſupported by *Aſclepiades*. Upon this Topic *Theſſalus* argued in the following manner: “ Let us take, ſays he, an Athletic, as robuſt and “ vigorous as we can poſſibly find; let us give him a purgative Medicine, and we ſhall find, that, tho' before he “ had no Complaint, the Matter evacuated by the Medicine ſhall be corrupted. Hence we infer, that the cor- “ rupted Matter diſcharged was not before in the Body of the Man, ſince he was bleſſed with a good State of “ Health. Hence alſo we infer, in the ſecond Place, that the Medicine has, on this Occaſion, produced two “ Effects: The firſt of which is, the corrupting what was before uncorrupted, and the ſecond, the evacuating or “ diſcharging it.” *Theſſalus* adds, a little after, “ That the Phyſicians of the *Hippocratic* Sect were Fools for not “ adverting, that, when they intended to purge Bile, they purged Phlegm; and, on the contrary, when they “ intended to evacuate Phlegm, they diſcharged Bile; whence he draws this Conſequence, that Purgatives muſt “ prove prejudicial, becauſe they produce Effects quite the reverſe of what were intended by them.”

By this way of arguing, without conſulting the real Effects of Medicines as warranted by Experience, all the Remedies which have ever been employ'd for the Relief of the Sick, may be reaſoned out of Practice, with an equal Appearance of Juſtice.

We have nothing more to obſerve with reſpect to *Theſſalus*, except that he wrote ſeveral large Volumes, a Piece of Conduct not to be reconciled with his profeſſing to teach the Whole of Medicine in the Space of ſix Months, ſince, in all Probability, it would take a longer Time to read theſe Productions.

The moſt ſkilful of all the Methodic Sect, and the Man who put the laſt Hand to the Method, was *Soranus*. At leaſt this is the Judgment formed of him by *Cælius Aurelianus*, who was of the ſame Sect, and who obſerves ſeveral Faults committed by *Theſſalus*, with reſpect to the Principles of the Methodic Sect, tho' others looked upon him as the Perfector of that Species of Medicine. 'Tis probable, that the Methodics being divided among themſelves, one Party of them gave the Preference to one Phyſician, and another to another, and that *Cælius Aurelianus* only prefers *Soranus* to *Theſſalus*, becauſe he was prejudiced in favour of the Sentiments of the former. But *Soranus* was eſteemed by Phyſicians who were not of his own Sect. *Galen*, who does not ſpare the Methodics, and particularly abuſes *Theſſalus*, ſays nothing againſt *Soranus*. On the contrary, when giving a Deſcription of ſome Medicines uſed by him, he ſays, that he himſelf had, from Experience, found them to be good. *Suidas* alſo informs us, that *Soranus* wrote ſeveral Books, which were very much eſteemed.

Soranus lived under the Emperors *Trajan* and *Adrian*. He was a Native of *Epheſus*, and his Father's Name *Menander*, and that of his Mother *Phebe*. He afterwards remained for ſome time at *Alexandria*, but at laſt ſettled at *Rome*, where he practiſed Medicine under the above-named Emperors. His Writings are loſt, but this Misfortune is, in ſome meaſure, retrieved by the Works of *Cælius Aurelianus*, who tells us himſelf, that he has done no more than tranſlate the Productions of *Soranus*.

There were three or four other Phyſicians of the Name of *Soranus*. The firſt was an *Epheſian*, as well as the *Soranus* already mentioned, but lived a great while after him. *Suidas* alſo obſerves, that the ſecond *Soranus* wrote ſeveral Medicinal Books, one of which was intituled, *Of the Diſorders of Women*, or *The Things relating to Women*. This was publiſhed in *Greek* at *Paris* in 1554. with *Rufus Epheſius*, by *Turnebus*. The third *Soranus* was a Native of *Malles* in *Cilicia*, and is diſtinguiſhed from the others by the Surname of *Mallotes*. *Suidas* informs us, that a Phyſician and Philoſopher of the Name of *Aſclepiodotus*, on whom he beſtows a great Character, placed this *Soranus* in the firſt Rank among all the Phyſicians who came after *Hippocrates*. Some believe, that the ſmall *Latin* Book, intituled *Introductio ad Medicinam*, and printed at *Baſil* and *Venice*, under the Name of *Soranus* of *Epheſus*, was wrote by *Soranus Mallotes*. *Voſſius* thinks, that this belongs to neither: and, indeed, his Conjecture ſeems to be well founded. The Author of that Work addreſſes himſelf to *Mecenas*, in the fifth Chapter, with a View to make the World believe, that he lived in the Time of that Favourite of *Auguſtus*; but the Impoſture is too palpable not to be detected.

But it would be ſuperfluous to ſpend Time in giving a fuller Account of *Soranus*, ſince *Cælius Aurelianus* ſays a great deal of his Principles and Practice.

Cælius then wrote in *Latin*, and was a Native of *Africa*, as appears from his Style, which has ſomething pretty ſingular in it. Beſides, the Place of his Birth is aſcertained by the Title of his Book, where he is called *Cælius Aurelianus Siccenſis*. Now *Sicca* was the Name of a City in *Numidia*. Others have called him *Lucius Cælius Arianus*, inſtead of *Aurelianus*, as if he had been a Native of *Aria*, or *Ariana*, Provinces of *Aſia*; but moſt of the Learned declare in favour of the former Name. In *Caſſiodorus* we read of one *Cælius Aurelius*, who muſt have been the ſame with the Author of whom we now ſpeak.

We know nothing certain as to the particular Time in which *Cælius Aurelianus* lived. Some think him more antient than *Galen*, becauſe, among the ſeveral Authors whoſe Sentiments he relates, he makes no mention of that Phyſician. But *Cælius* might have lived after *Galen*, and yet not have quoted him, becauſe he was a ſworn Enemy to the Methodics. This is the Conjecture of the judicious *Reineſius*, who, from this Author's Air and manner of Writing, will have him to live in the fifth Century after Chriſt. Tho' *Cælius Aurelianus* confeſſes, that he tranſlated *Soranus*, yet 'tis obvious, that he did not barely tranſlate what that Phyſician wrote, ſince he often tells us, that *ſuch a Phyſician was of ſuch an Opinion*; *but that* Soranus, *whoſe Admirer he profeſſes himſelf to be, was of a contrary Sentiment.*

Beſides, what proves that *Cælius Aurelianus* was not a ſimple Copier of the Works of another, is his quoting ſeveral Books of his own Compoſure; and, among others, a Book of *Greek* Letters, addreſſed to one called *Prætextatus*, in which he ſtrongly oppoſed the Uſe of *Hiera*, a purgative Medicine uſed by *Themiſon*. *Cælius Aurelianus* alſo quotes another Book, which he dedicated to one *Lucretius*, and which contained an Abridgment of Medicine, by way of Queſtion and Anſwer. He alſo quotes his own Books upon Surgery; others concerning Fevers; the Cauſes of Diſorders; common Remedies; the Compoſition of Medicines; the Diſeaſes of Women; and the Preſervation of Health. Now 'tis by no means probable, that all theſe Books were copied from *Soranus*. Whether it was really ſo or not, we have none of the Writings of *Cælius Aurelianus* now extant, except thoſe Books, the principal Honour of which he aſcribes to *Soranus*. But luckily theſe are of the greateſt Importance, ſince they contain the Manner uſed by the Methodics in treating almoſt all Diſorders, except ſuch as demand the Aid of Surgery. Another Advantage we draw from them is, that our Author, in refuting the Sentiments of ſome celebrated antient Phyſicians, preſerves ſome Specimens of their Practice; of all which we ſhould have been entirely ignorant, except what relates to *Hippocrates*, of whom he alſo relates ſome things not to be found in his Works. The other Phyſicians he quotes moſt frequently are, *Diocles*, *Praxagorus*, *Heraclides Tarentinus*, *Aſclepiades*, and *Themiſon*. Theſe are the Phyſicians whoſe Practice he has moſt carefully and accurately examined. He, indeed, joins *Eraſiſtratus* and *Herophilus* to them; but, as theſe Authors did not write upon all Diſorders, he does not make ſo frequent Mention of them as of the others. In ſeveral Paſſages he alſo quotes *Serapion*, and probably would have done ſo more frequently, if he had not thought, that the Works of *Heraclides* alone contained what was beſt in the Syſtem or Practice of the Empirics.

Cælius Aurelianus, in thoſe Works of his which are ſtill extant, conſiders Diſeaſes either as acute or chronical; and, as this Diviſion made one of the Relations of the Methodics, the Phyſicians of that Sect followed the ſame Diſtinction in the Titles of their practical Works. As the Methodic Sect took all Diſeaſes, whether acute or chronical, to be produced by Stricture and Relaxation, from which aroſe a third Sort, of a mixed Nature, or partaking of both the former, we ſhall briefly enumerate the particular Diſorders, which, according to *Cælius Aurelianus*, drew their Origins from each of theſe Sources.

As for the Diſeaſes, then, produced by Stricture, and which, at the ſame time, are of the acute Kind, he gives the firſt Place to a *Phrenitis*; tho' he owns another Species of it produced by Relaxation, or Solution, and which may be diſtinguiſhed from the former by the frequent Diſcharges by Stool and continual Sweats. The next he mentions is a Lethargy, which, according to him, proceeds from a ſtill ſtronger Stricture than that which produces a *Phrenitis*. The next he mentions is a Catalepſis, which bears ſome Analogy to a Lethargy. From theſe Diſorders he paſſes to a Pleuriſy and Peripneumony, which, he ſays, are of the mixed Kind, and partake both of Stricture, and Solution or Relaxation; of the latter, becauſe the Patients ſpit and expectorate Phlegm, and ſometimes Blood; and of the former, becauſe there is a Tumor in the Part affected, ſince every Tumor neceſſarily implies Stricture. All theſe Diſorders are accompany'd with a Fever; but he makes others of the acute Kind exempt from that Misfortune, ſuch as the various Sorts of Quinſeys, the Apoplexy, Convulſions, the Ileus, and the Hydrophobia.

Chronical Diſeaſes, ariſing from Stricture, are Head-achs, Vertigoes, Aſthmas, which he made to ariſe, in ſome meaſure, from Solution, becauſe of the Diſcharge from the Lungs in this Diſorder; Epilepſies, Madneſs, the Jaundice, Suppreſſions of the Hemorrhoids, and of the Menſes; *Polyſarcia*, or Redundance of Fleſh; Melancholy, which alſo depends, in ſome meaſure, upon Solution or Relaxation, by reaſon of the frequent

Vomitings and Diarrheas of thoſe afflicted with it. The Palſy, Catarrhs, the Phthiſis, the Colic, and the Dyſentery, alſo partake of both Stricture and Relaxation. The Dropſy is alſo of the ſame Kind. It is generally aſcribed, ſays *Cælius Aurelianus*, to Stricture; but the Symptoms attending it ſhew, that it partakes of Relaxation or Solution.

The acute Diſeaſes, ariſing from Solution or Relaxation, are the *Cardiac Paſſion*, which is often a Symptom attending burning Fevers, a Diſorder accompanied with Faintings, cold Sweats, and a very ſmall Pulſe; a *Cholera*, which *Cælius Aurelianus* defined, *Solutio Stomachi, Ventris, & Inteſtinorum, cum celerrimo periculo*, “ a Relaxation or Solution of the Stomach, Belly, and Inteſtines, accompanied with moſt ſudden Danger.”

The chronical Diſeaſes, produced by Solution or Relaxation, are, Spitting of Blood, Diarrheas, immoderate Diſcharges of the Menſes, Leanneſs, and the Hæmorrhoids.

The Signs by which the Methodics diſtinguiſh'd Diſeaſes proceeding from Stricture, were, a Retention of the uſual Evacuations, and a Tumor or Hardneſs of the Parts: On the contrary, Diſeaſes cauſed by Relaxation or Solution were known by an Increaſe of the uſual Evacuations, a Diſcharge of ſome Things which ought to be retain'd in the Body, and a Softneſs and Extenuation of the Parts. As to ſome Diſtempers, the principal Symptoms of which cannot properly be deduced either from Relaxation or Stricture; theſe they rank'd in that Claſs, to which ſome leſs conſiderable Circumſtances, attending it, directed them to refer it.

In order to form a Judgment of the Methodic Sect, it will be neceſſary to take a fuller View of their Practice, the Maxims on which it was founded, and the principal Remedies which they either recommended or diſapproved.

We have already obſerved, that they maintained, that the Relations they eſtabliſhed between Diſeaſes ought to be evident; and that they had as great a Regard to what was evident in Diſeaſes, as to what they had in common among themſelves. *Cælius Aurelianus* was ſo ſtrong an Advocate for this Evidence, that he avoided Definitions as much as poſſible, for fear of involving himſelf in ſome obſcure and intricate Diſputes, by attempting to penetrate into the Eſſences of Things, which ſeems neceſſary, in order to define them exactly, according to the Rules of Logic. The ſame Conſideration carried him farther, and made him aſſert, that we ought not to be at any Pains to diſcover the Part particularly affected, or the Part which ſuffers moſt, in every Diſeaſe. “ The Phyſicians of other Sects, ſays he, *Acutor. Lib.* 1. *Cap.* 8. have endeavoured to diſcover what the Part affected in “ a Phrenſy is. Some have aſſerted it to be the Brain, others the Heart, or the Diaphragm; but, as for the “ Methodics, we do not give ourſelves a great deal of Trouble about Circumſtances of that Nature.”

It is however certain, that, in ſome Caſes, the Methodics thought themſelves obliged to know the preciſe Part affected, tho' not with a View to vary the Cure. “ Which are the Parts, ſays *Cælius Aurelianus*, from which “ the Blood, diſcharged by the Mouth, flows? There are ſeveral of them; the ſuperior Part of the Throat, “ the Aſpera Arteria, the Lungs, the Breaſt, the Pleura, the Diaphragm, the Stomach, the Belly, and, according to ſome, the Liver; the Spleen, and the great Vein adhering to the *Spina Dorſi*.” After having given this Anſwer to the Queſtion propoſed, he ſtarts another: “ Why, ſays he, do we endeavour to diſcover the Parts “ whence the Blood flows in certain Diſeaſes? Our Intention in this is, that we may apply our Remedies immediately to the Parts affected, or thoſe adjacent to them; and not, as ſome imagine, with a View to vary the “ Cure according to the Diverſity of Parts, ſince the ſame Cure is adapted to them all.”

Another Maxim of the Methodics was, “ That Phyſicians ought to attempt the Cure of Diſorders by Things “ as ſimple as poſſible, and ſuch as we uſe in a State of Health, ſuch as the Air we breathe, and the Aliments “ we take.” It is univerſally agreed, that this Method would be, of all others, the beſt, provided it anſwer'd the Intention; and the antient Phyſicians endeavoured to draw all the Advantages from theſe Things they poſſibly could. But the Methodics were, above all others, accurate and careful in this Particular; for they endeavoured, as much as they poſſibly could, to render the Air the Patient breathed ſuch as they thought might contribute moſt effectually to the Cure of his Diſorder; and as they acknowledged only two Kinds of Diſeaſes, thoſe proceeding from Relaxation and Stricture, their great Care was to procure to their Patients either a relaxing or a conſtricting Air, according as their Caſe call'd either for the one or the other. In order to procure the former, they lodged their Patients in light, large, and moderately warm Chambers; on the contrary, in order to obtain a conſtricting Air, they lodged them in Rooms ſomewhat dark and cool. With this View the Methodics not only choſe Apartments lying to the North, and on which the Sun rarely ſhined, but alſo ſometimes Grottoes, and ſubterraneous Places. With the ſame View they alſo covered the Floor of the Apartment with the Leaves of the Maſtich-tree, the Vine, the Pomgranate-tree, the Myrtle, the Willow, and the Pine; they ſprinkled the Floor alſo with cold Water, uſed Bellows and Fans, and forgot no Circumſtance that could render the Air cool. “ It is neceſſary, ſaid they, to have a greater Regard to the Air we breathe, than to the Aliments we uſe; “ becauſe we only eat at ſtated Intervals; whereas we reſpire continually, and the Air, entering without Interruption into the Body, and penetrating into its moſt minute Interſtices, more powerfully contracts or relaxes “ than our Aliments.”

The Methodics were alſo very ſolicitous and careful about the Manner in which their Patients lay, and ordered their Beds to be prepared in a manner ſuited to their particular Diſtempers. They carefully ſpecified what Sort of Bed-cloaths they ought to be cover'd with; and determined whether they ought to lie on a Matraſs, or a Down-bed, in what Poſture they ought to lie, whether the Bed ought to be large or little, and how the Bed ought to ſtand with reſpect to the Windows: In a Word, they were extremely ſcrupulous with regard to all theſe Circumſtances, which were almoſt overlook'd and diſregarded by other Phyſicians.

As for Nouriſhment, the Methodics made it their principal Buſineſs to diſtinguiſh Aliments or Liquors which contracted or relax'd.

We muſt obſerve, that the Phyſicians of this Sect, or at leaſt *Cælius Aurelianus* and *Soranus*, did not admit of Specifics; ſince, for the moſt part, they conſiſt of Subſtances to which People in Health are not accuſtom'd. *Cælius Aurelianus*, *Tardar. Lib.* 1. *Cap.* 4. tells us, “ That, in the Epilepſy, the dried Fleſh of Wheaſles is preſcribed, or human Fleſh, or a certain Excreſcence which appears on the Legs of Horſes, Aſſes, or Mules; “ and that Phyſicians exhibit to Patients, labouring under this Diſorder, the Penis or Teſticles of a Water-dog; “ Wood-lice, which are Inſects produced in moiſt and watery Places, and by the *Greeks* call'd ὀνίσκοι· then “ Filings of Steel, and Water in which hot Iron has been extinguiſh'd. They alſo give them the Brain of a “ Camel, dried in the Smoak, and cut ſmall: But this Medicine is only to be ſmell'd to by Children and Infants; “ but, by Adults, it is to be taken in three Cups of *Mulſum* and Vinegar. The Heart of a Hare alſo, and the “ Brain of a Sea-fowl call'd *Gavea*, is preſcribed. It cannot be ſaid, that theſe Medicines were invented by Reaſoning, or Attempts to penetrate into obſcure and latent Cauſes. Neither can we ſay, that the Effects of theſe “ various Subſtances have been diſcover'd in the Epilepſy by Experiments accidentally made, as the Empirics believed the greateſt Part of Medicines to be. 'Tis not conceivable, how Chance ſhould introduce theſe Subſtances into Medicine, ſince they are all ſo abominable, and oppoſite to thoſe generally uſed, that we cannot ſuppoſe they were brought into Uſe without Peoples thinking on their Qualities. If we ſhould ſay, that theſe Medicines being brought into Uſe is the Reſult of Experiments made by the firſt Phyſicians, either deſignedly; or from a Principle of Curioſity, we muſt be juſtly ſurpris'd, that theſe Phyſicians ſhould chooſe to make their Experiments upon ſuch diſagreeable and nauſeous Subſtances, and neglect to diſcover the great Advantages to be drawn from the Air, Watching, Sleeping, Aliments, and other things neceſſary to human Life, by regulating each of theſe, according to the particular Nature of each Diſeaſe." *Cælius Aurelianus* adds, "That the Remedies of the former Claſs are dangerous, and quotes the Example of *Themiſtocles*, who died by drinking Bulls Blood, a Medicine alſo highly commended againſt the Epilepſy." This Author paſſes the ſame Judgment upon all the Specifics uſed in other Diſeaſes; and, in his Chapter on the *Hydrophobia*, concludes, "That thoſe Remedies which People believe to be experienced, and, after repeated Trials, found effectual, are nevertheleſs good for nothing; becauſe they are very often contrary to thoſe preſcribed by Art;" that is, ſome of theſe Remedies contract, when Relaxation ought to be the Intention; and relax, where Conſtriction is neceſſary.

This laſt Conſideration determined the Methodics againſt ſpecific Medicines, ſince they admitted none but ſuch as had a Relation to Relaxation and Stricture; yet, on ſome Occaſions, the Phyſicians of this Sect were obliged to have recourſe to Specifics; and *Cælius Aurelianus* himſelf is forced to own their Effects in killing Worms. But as we have obſerved, that the Methodics had invented particular Relations with regard to the Diſeaſes in which Surgery is concern'd, and as the principal of theſe Relations conſiſted in taking away or removing what was foreign to the Body, *Cælius Aurelianus* ſaved himſelf in this Particular, by ranging Worms and their Cure under this Relation; that is, he pretended that Worms being Things foreign to the Body, there was a Neceſſity for uſing Remedies which might kill and expel them from the Body.

The Methodics were very great Enemies to Cathartics, and admitted of their Uſe on very few Occaſions; becauſe, ſays *Cælius*, they are prejudicial to the Stomach, and offenſive to the Nerves; and, beſides, induce a Solution, which is itſelf, according to their Syſtem, a Diſeaſe. Clyſters, however, they allow'd, but only thoſe of the gentle emollient Kind. This Sect does not appear to have been more favourable to Diuretics, which *Cælius Aurelianus* only allows the Uſe of in a Dropſy. Narcotics and Cauteries were in no greater Eſteem. But what particularly diſtinguiſhed the Phyſicians of this Sect from all others, was their DIATRITOS, or three Days Abſtinence, with which they began the Cure of almoſt all Diſtempers. See DIATRITOS.

As the Methodics allow'd of only two Sorts of Diſtempers, one from Stricture, and one from Solution or Relaxation, more than two Sorts of Medicines would have been ſuperfluous in their Syſtem. Accordingly we find them attached to Remedies which relax, and thoſe which contract or brace up, without conſidering any farther. Amongſt the relaxing Remedies, Bleeding was one of the moſt conſiderable: In conſequence of this Principle, the Methodics blooded in all Diſorders proceeding from Stricture; and even in thoſe of the mix'd Kind, when Stricture prevailed. They blooded, for Inſtance, in a Pleuriſy, tho' accompanied with a Diarrhœa; becauſe they apprehended the Removal of the Stricture to be of the moſt Importance towards the Cure; but they generally waited till the third Day of the Diſtemper, before they adminiſter'd this Remedy. They, however, blamed the other Phyſicians for bleeding exceſſively, that is, till the Patient fainted. They farther diſapproved of opening the Veins under the Tongue, becauſe they reaſon'd themſelves into an Opinion, that it did more Injury than Good; nor were they to be convinced of their Error by Experience, perſiſting in their Opinion with all the uſual Obſtinacy of Diſputants. They found Fault with thoſe Phyſicians who confined Bleeding to young People; whereas we, ſays *Cælius Aurelianus*, bleed Patients of all Ages, when the Diſtemper demands this Remedy, and the Strength will permit it.

Cupping-glaſſes, both with and without Scarification, were employ'd by the Methodics, with a View of relaxing; as likewiſe Leeches. The reſt of their Practice, with a View to Relaxation, conſiſted in Fomentations made with Sponges ſoak'd in warm Water, the external Application of warm Oils, and emollient Cataplaſms, and the Regulation of the Non-naturals.

For conſtricting or bracing the Habit, they principally employ'd cold and reſtringent Topics, always taking care to make the Air, Exerciſe, and Aliment, as much as was poſſible, ſubſervient to their Intention.

Thoſe who are deſirous of farther Information concerning the Methodic Sect, may read *Cælius Aurelianus*, or *Proſper Alpinus de Medicina Methodica*.

The Phyſicians of the Dogmatic Sect, in diſputing againſt the Methodics, aſſerted, That it was not poſſible for the antient Phyſicians to be ignorant of what Diſeaſes have in common with each other; but that, on the contrary, they carefully attended to them. Thus *Hippocrates* ſays expreſly, "That, in order to cure Diſeaſes, a Phyſician muſt have a Regard to what belongs to them in common, as well as to what is peculiar to each Diſeaſe." The Methodics, whatever they pretend, cannot help obſerving very eſſential Differences between Particulars of the ſeveral Genera of Diſeaſes which they have eſtabliſhed, and theſe Differences muſt make new Genera. Thus, for Inſtance, it is one thing to vomit Blood, and another to vomit Bile; and there is a vaſt Difference between a Diarrhœa and a Dyſentery; between an Evacuation or Diminution of what is ſuperfluous by way of Sweating in a State of Health, and an Emaciation which is the Effect of a ſlow Fever, which conſumes the Body.

Theſe Phyſicians aſſert alſo, that the different Parts which are affected by the ſame Diſtemper, occaſion a Difference no leſs conſiderable than the former. The Eye and the Ear require different Treatment under the ſame Diſtemper; and there is ſcarce a Part of the Body which does not require a particular Management. Oil, for Example, (*Galen de Sectis, Cap.* 8.) which mitigates and mollifies inflammatory Tumors in all other Parts, cauſes an intolerable Pain in thoſe of the Eyes, and increaſes the Diſorder inſtead of diminiſhing it. *Galen*, in particular, urges very ſtrongly againſt the Methodics, that they were ſo far from ſearching into the ſecret Cauſes of Diſeaſes, that they even neglected the outward and evident Cauſes, upon a Perſuaſion, that it is not the Cauſe of the Diſeaſe which indicates the Remedy, but the Diſeaſe itſelf. To convince them of the contrary, he brings an Example of two Men, who, being bit at the ſame time by a mad Dog, addreſs'd themſelves to two different Phyſicians. It happened, that one of theſe Phyſicians, being informed of the outward Cauſe of the Diſeaſe, left the Wound a long time open, and applied Specifics. The other, without troubling himſelf about the Cauſe, regarded only the Diſeaſe, which was a Wound, and, following the common Indication of Wounds, endeavour'd to cicatrize it as ſoon as poſſible; the Conſequence of which was, that his Patient died mad; whereas the other recover'd. *Galen* is no leſs ſevere upon them for their having no regard to the Seaſon, nor Country, nor Age, nor other Circumſtances of the Diſeaſed.

The Methodics anſwer'd, That theſe Circumſtances made no Alteration in their Method; that whenever there is a Relaxation, there is need of a Reſtriction, let the Country, Seaſon, Age, or even Part affected, be what it will.

By all that has been ſaid of the Methodics, it evidently appears, that theſe Phyſicians, like thoſe of all other Sects, were more ſolicitous about eſtabliſhing the Credit of their Theory, than relieving the Sick; and that they diſputed for Victory, and not for Information. The Moderns have, however, found ſome Things, both in the Theory and Practice of theſe Phyſicians, highly worthy of being imitated in their own. Thus the Doctrine of Diſtempers which proceed from the Rigidity or Relaxation of the Fibres, and the Practice depending thereon, exactly agrees with thoſe of the Methodics. Theſe, as I remember, were firſt revived by *Proſper Alpinus*: *Baglivi* afterwards wrote upon this Subject; and the celebrated *Boerhaave* gives a ſuccinct and rational Account of every thing relating to this Doctrine, with ſome Improvements, in nine Pages only of his *Aphoriſms*; tho', ſince the Publication of this Work in 1709. a Multitude of Authors have borrow'd his Plan, and ſpun out his Sentiments to a great Number of Volumes.

The Names of many other Phyſicians of the Methodic Sect are recorded by Authors, but few of them are of Importance enough in the Hiſtory of Phyſic, to deſerve farther Notice, as being principally ſervile Imitators of thoſe already mentioned. Amongſt theſe, however, Mr. *Le Clerc* takes Notice of *Moſchion*, whoſe Treatiſe of the Diſorders of Women we now have; and of *Vindicianus*, who lived in the Time of the Emperor *Valentinianus*, and whom St. *Auguſtine* repreſents as the greateſt Phyſician of his Age.

Theodorus Priſcianus is alſo rank'd amongſt the Methodics by the ſame Author, who ſays, he was Scholar to *Vindicianus*. He firſt wrote ſome Medicinal Books in the *Greek* Language, by the Perſuaſion of one of his Collegues, whom he calls *Olympius*; after which he wrote thoſe four ſtill extant in *Latin*, as he himſelf informs us. The firſt of theſe is intituled *Logicus*, tho' there is not the leaſt Appearance of Philoſophical Reaſoning in any Part of the Work. On the contrary, the Author in his Preface declaims againſt philoſophical or reaſoning Phyſicians. "If, ſays he, Medicine was practiſed by illiterate Men, who had no other Maſter than Nature, and who knew nothing of Philoſophy, Diſeaſes would be more ſlight and gentle, and Phyſicians would uſe milder and cheaper Remedies than thoſe commonly preſcrib'd. But, continues he, the moſt natural Method of treating Medicine has been neglected, and that Art lies expoſed to the Mercy of certain People, whoſe chief Talent conſiſts in writing politely, and diſputing ſubtilely againſt thoſe of Sentiments different from their own." All the reſt of this Preface is full of Exclamations againſt this Abuſe, and the Author declares himſelf ſo ſtrongly for the Empirics, that one would very readily take him for one of their Sect. 'Tis no eaſy Task to conjecture, why this Book in the Edition of *Aldus* ſhould be intituled *Logicus*, ſince in the *Baſil* Edition the ſame Book is called *Euporiſton*, that is, *Remedies eaſily prepar'd or found*. He dedicated this Book to his Brother *Timotheus*. He alſo dedicates the ſecond to him, in which he treats of acute and chronical Diſeaſes. This ſecond Book is intituled *Logicus* in the laſt-mention'd Edition; and that Title appears well enough ſuited to it, becauſe it contains Reaſonings. The third relates to the Diſorders of Women, for which Reaſon it is intituled *Gynæcia*. It is dedicated to a Woman, who in different Editions goes by different Names. That of *Aldus*, and that of *Strasburg*, call her *Victoria*, but that of *Baſil* ſtyles her *Salvina*. The fourth Book, intituled *De Phyſica Scientia*, is by the Author addreſſed to his own Son of the Name of *Euſebius*. The Beginning of this Book does not correſpond to its Title, ſince it does not in the leaſt treat of Phyſic; for we only find in it Deſcriptions of Medicines for various Diſeaſes, or ſpecific and empirical Medicines, ſome of which are ſufficiently ſuperſtitious. Towards the Cloſe of the Work, indeed, there are ſome Queſtions relating to Phyſiology. The Author there examines the Nature of the ſeminal Matter, that of ſome Parts of the Body, and ſome of the animal Functions, but all in a very barbarous manner.

Beſides, it appears by the ſecond of theſe Books, that the Author was of the Methodic Sect, in Imitation of whom he always begins his Cures by the Choice of a Chamber ſuited to the Nature of the Diſeaſe of which he treats; and that with reſpect to Relaxation and Stricture. In a Peripneumony, for Inſtance, which is a Diſeaſe proceeding from Stricture, he orders that the Chamber ſhould be light and warm, becauſe, he ſays, theſe Circumſtances contribute to Relaxation. He alſo makes frequent Mention of the *Cyclus* of the Methodics, and orders Veneſection almoſt in the ſame manner they do, during the firſt three Days of the Diſeaſe; tho' he is ſometimes afraid of Veneſection, either becauſe he thinks it may be omitted, or that ſome other Remedy may be ſubſtituted in its Room, in Caſes where 'tis generally believ'd to be indiſpenſably neceſſary. But tho' our Author is of the Methodic Sect, he nevertheleſs recedes in ſeveral Inſtances from the Practice of the moſt antient Phyſicians of that Sect. He often orders Purgatives, which the Methodics did not admit of; he alſo ſpeaks of Specifics, and with reſpect to the Adminiſtration of other Remedies does not follow the preciſe Order adher'd to by *Soranus*. But this will not appear extraordinary, if we conſider, that *Theodorus Priſcianus* liv'd about three hundred Years after him, and that, even in the Days of *Soranus* himſelf, the Methodics were not all of the ſame way of Thinking; ſo that if, at the firſt Eſtabliſhment of this Sect, the Phyſicians who embrac'd it could not agree with reſpect to ſeveral Articles, it was no Wonder, if thoſe who came three or four Centuries after them, ſhould in like manner be divided with reſpect to ſome Particulars. Tho' theſe later Methodics differ'd from the former, this does not hinder them from being look'd upon as Methodics, ſince they did not abandon the fundamental Principle of the Sect, which conſiſted in acknowledging only two Kinds of Diſeaſes, thoſe proceeding from Stricture, and thoſe from Relaxation.

Our aſſerting that *Theodorus Priſcianus* liv'd about three hundred Years after *Soranus*, who flouriſh'd under *Trajan*, is founded on what the former ſays of himſelf; That he was the Diſciple of *Vindicianus*, who was Phyſician to the Emperor *Valentinian* the firſt. According to this Computation, *Theodorus Priſcianus* muſt have liv'd under *Gratian* and *Valentinian* the ſecond, and even ſomewhat later. His Style in ſome meaſure reſembles that of *Cælius Aurelianus*, which lays a Foundation for ſuſpecting, that he was an *African*, as well as that Author. The Works of *Theodorus Priſcianus* were firſt printed at *Strasburg* in 1532. but in that Edition he receives the Name of *Q. Octavius Horatianus*, and the Title of *Archiater*. This Edition is full of Faults, as *Reineſius* has obſerv'd, who in his Prelections has explain'd ſeveral Paſſages of our Author. The ſame Year there was another Edition publiſh'd at *Baſil* under the Name of *Theodorus Priſcianus*, but in this Edition the fourth Book is wanting. *Aldus*, or his Sons, at laſt gave a third in the Year 1547. where the Works of our Author, who there alſo appears under the Name of *Theodorus Priſcianus*, are join'd to thoſe of all the antient Phyſicians who wrote in *Latin*. *Theodorus Priſcianus* does not in this Edition, as in the other, aſſume the Title of *Archiater*. The third Book of this Author, which treats of the Diſeaſes of Women, is contain'd in a Collection of Works relating to the ſame Subject, publiſh'd by *Iſrael Spachius*. There is alſo a Book intituled

Diæta, wrote by an antient Phyſician of the Name of *Theodorus*, whom *Reineſius* thinks to be the ſame with *Theodorus Priſcianus*.

Theſe are all the antient Methodics, whoſe Works or Names are ſtill preſerv'd. From the Days of *Theodorus Priſcianus*, or thoſe of *Olympius*, *Timotheus*, and *Euſebius*, to whom he dedicates his Books, and who were probably of his Sect, we hear no more of the Methodic Sect till the Time of *Gariopontus*, who did not write till about ſeven or eight hundred Years after the Perſons now mention'd. Some call him *Warimpotus*, others *Raimpotus*, *Warmipotus*, *Guaripotus*, or *Garimpotus*, *Gariponus*, and *Garnipulus*. The particular Time, in which this Author lived, is much controverted; but it appears from the Teſtimony of *Petrus Damiani*, who died in the Year one thouſand and ſeventy-two, that this Phyſician lived in the ſame Age; for he ſpeaks of him, as of a Man whom he had ſeen. Beſides, it appears that our Author was among the Number of Phyſicians belonging to the School of *Salernum*, from a Paſſage in *Moreau*'s *Prolegom. in Scholam Salernitanam*, where he is called *Warmipotus*. He wrote ſeven Books, which contain his Practice. The five firſt treat of almoſt all Diſorders except Fevers, which are the Subject of the two laſt. This Work was printed at *Lyons* in 1516. and 1526. under the Title of *Paſſionarius Galeni*.

After *Gariopontus* we know of no other Authors of the Methodic Sect, which from that time ſeems to have been entirely extinct, till towards the End of the ſixteenth Century, or rather the Beginning of the ſeventeenth. *Proſper Alpinus*, Profeſſor of Medicine at *Padua*, endeavour'd to revive it by his Book intituled, *De Medicina Methodica*.

Though *Themiſon* had at firſt a great Number of Diſciples, and the Methodic Sect had been a long time eſtabliſhed, yet there were ſeveral of *Themiſon*'s Cotemporaries, and ſome who lived ſoon after him, who did not declare themſelves of his Sect. Some would not forſake the Dogmatics, but adher'd to *Hippocrates*, *Herophilus*, *Eraſiſtratus*, or *Aſclepiades*; others always profeſs'd themſelves Empirics. The Methodics themſelves, who were not all agreed, gave Occaſion for introducing ſeveral new Syſtems; for out of their Sect aroſe two others, under the Titles of *Epiſynthetics* and *Eclectics*. Thus much at leaſt, it ſeems, we may collect from the Author of the Book intituled, *The Introduction*, aſcribed to *Galen*. That Author, *Cap.* 4. having obſerved, that ſeveral Methodics, as *Olympicus*, *Menemachus*, and *Soranus*, did not wholly agree in Opinions with the reſt, goes on to inform us, that ſome were called *Epiſynthetics*, as *Leonidas* of *Alexandria*; others Eclectics, as *Archigenes* of *Apamea* in *Syria*. Here the Author ſeems to comprehend theſe Epiſynthetics and Eclectics under the Methodics.

Cælius Aurelianus, *Acut. Lib.* 2. *Cap.* 1. quotes *Leonidas* the Epiſynthetic, where he gives us his Definition of a Lethargy; but that Definition does not in the leaſt diſcover the Sentiments of that Phyſician, with regard to his Sect. *Aetius* alſo, *Tetrab.* 4. *Serm.* 3. *Cap.* 5, 6, 7, 8. mentions ſome practical Treatiſes of one *Leonidas*, who perhaps might be the ſame; but we are never the wiſer for them, as to the knowing any thing concerning his general Syſtem. The Name *Epiſynthetic* being taken from a *Greek* Word, which ſignifies *to collect* or *aſſemble*, it is poſſible, that *Leonidas*, and thoſe of his Party, might profeſs to join the Maxims of the Methodics with thoſe of the Empirics and Dogmatics, and to unite or reconcile the different Sects one with another. This is all we have to ſay concerning this Matter; for we know not even the Time when *Leonidas* lived, tho' probably it was ſome time before *Soranus* before-mentioned.

As for thoſe whom *Galen*, or the Author of the Book before quoted, calls ἐκλεκτοὶ. *elect* or *choſen*, of whom *Archigenes* was one, I believe there may poſſibly be a Fault in the original Text, where ἐκλεκτοὶ is read inſtead of ἐκλεκτικοί. What confirms this is, that, fifty or ſixty Years before *Archigenes* appeared, there was a Philoſopher of *Alexandria*, called *Potamon* by *Diogenes Laertius*, and who lived under the Emperors *Auguſtus* and *Tiberius*, and was the Founder of a Sect of Philoſophers called *Eclectic*, ἐκλεκτικὴ, who made Profeſſion of chuſing or ſelecting out of all others whatever was beſt; whence thoſe of that Sect ought rather to be called ἐκλεκτικοὶ, or ἐκλέγοντες, "chuſing," than ἐκλεκτοὶ, "choſen." Now what *Potamon* had done with reſpect to Philoſophy, *Archigenes* might very well be ſuppoſed to do afterwards with regard to Medicine. What farther relates to *Archigenes*, is ſpecified under the Article of his Name.

I have given an Account of the Pneumatic Sect, which probably aroſe about this Time, under the Articles of ARETÆUS and ATHENÆUS.

Tho' *Celſus* was the Founder of no particular Sect, yet as he wrote judiciouſly on Medicinal Subjects, and with great Purity of Style, he deſerves our Attention on the preſent Occaſion.

Some Authors affirm, that *Celſus* lived under *Auguſtus*; others make him live under *Tiberius*, others under *Caligula*; ſome will have him cotemporary with *Nero*, and others place him in the Reign of *Trajan*; but moſt agree, that he lived under *Tiberius*; and it is probable, that he was born under *Auguſtus*, but did not write till the Beginning of the Reign of *Tiberius*, which it ſeems reaſonable to conclude from this. *Columella*, who lived in the Time of *Claudius*, ſpeaks of *Celſus* as an Author who wrote before him, but as one whom he might have ſeen. "*Cornelius Celſus*," ſays he, "in our Times, has, in five Books, comprehended the whole Body of Arts and "Sciences." *De Re Ruſtica*, *Lib.* 1. *Cap.* 1. And again, *Lib.* 3. *Cap.* 17. "*Julius Atticus*, and *Cornelius* "*Celſus*, two very celebrated Writers of our Age." We may draw another Proof of the Time when *Celſus* lived, from the Manner in which he ſpeaks of *Themiſon*: "*Themiſon*, ſays *Celſus*, *Præfat. Lib.* 1. one of the Suc- "ceſſors of *Aſclepiades*, lately, when he grew old, deviated in ſome Things from the Opinions and Practice of his "Maſter." The Word *lately* imports, that *Themiſon* did not live long before *Celſus*.

Now *Themiſon*, having been a Diſciple and Succeſſor of *Aſclepiades*, muſt have lived forty Years before the Birth of *Chriſt*, and, dying old, as we learn from *Celſus*, might be alive ſome Years after it. This being ſuppoſed, we ſhall find, that he was ſtill living twelve or thirteen Years before the End of the Reign of *Auguſtus*, which extended to the fifteenth Year after *Chriſt*; and conſequently that *Celſus* having wrote but a ſhort time after the Death of that Phyſician, it muſt be about the End of the Reign of *Auguſtus*, or, at lateſt, at the Beginning of the Reign of *Tiberius*.

We meet with ſome Difficulties too concerning the Name, Country, and Profeſſion of *Celſus*. Moſt Editions of his Works give him the Prænomen of *Aurelius*, becauſe all the manuſcript Copies have the following Title: *A. Cornelii Celſi Artium Liber* VI. There is but one Edition, which is that of *Aldus Minutius*, that changes *Aurelius* for *Aulus*, and perhaps with ſome Reaſon, becauſe the Prænomen *Aurelius* being taken from the *Aurelian* Family, and *Cornelius* from the *Cornelian* Family, do not ſeem capable of being joined together, becauſe we have no Example of ſuch a Conjunction of Names of different Families.

As to the Country of *Celſus*, it is believed, upon the Credit of ſome Editions, the Titles of which make him a *Roman*, that he was born at *Rome*. Others, as *Cæl. Rhodigin. Lib.* 14. *Cap.* 5. will have him to be of *Verona*, for which they alſo have no other Foundation than ſome Titles of his Books, which are not more to be depended upon than the others.

The Profeſſion of this Author is no leſs hard to be determined. Several of the Learned have believed, that he was no Phyſician, and that the Works which paſs under his Name are nothing but a Tranſlation of ſome *Greek* Author. This they infer from a Letter aſcribed to *Celſus*, addreſſed to *Publius Natalis*, and in which the Author does not lay Claim to the Character of a Phyſician, but only ſpeaks of his Tranſlation. But, beſides that this Letter does not mention the Books of *Celſus* now extant, it is not wrote in his Style.

Others are of Opinion, that *Celſus* did not ſtudy Medicine, except as a Branch of Philoſophy, not with a View to practiſe it, but to imitate *Democritus*, *Plato*, and other eminent Men, who endeavoured to make themſelves acquainted with every thing relating to Phyſic. What ſeems to favour this Sentiment is, that *Celſus* wrote not only concerning Medicine, but almoſt all the other liberal Arts, as the Title of one of his Books evidences, and as *Quintilian* expreſly obſerves. “ *Celſus*, ſays he, who was a Man of a moderate Genius, wrote not only concerning “ all the Arts, ſuch as Rhetoric and the Art of Poetry, but has alſo left us Precepts relating to the Military Art, “ Agriculture, and Medicine.” But the ſtrongeſt Proof, that *Celſus* was no profeſſed Phyſician, is, that *Pliny*, who gives a Liſt of all the Authors from whom he takes his Hiſtory, and carefully ſeparates the *Greeks* from the *Latins*, the Phyſicians from thoſe that were not ſo, places him always among the latter.

Scaliger, however, with ſeveral other learned Men, thinks that *Celſus* was a real Phyſician, and oppoſe the Authority of *Galen* to that of *Pliny*; the firſt of whom quotes a *Cornelius*, whom he calls *Cornelius the Phyſician*, and who is ſuppoſed to be the ſame with our *Cornelius*. It may be added, that *Pliny* himſelf, in one Paſſage, *Lib.* 20. *Cap.* 4. quotes *Celſus* as the Author of a certain Medicine. “ *Celſus*, ſays he, adviſes the Application of the Root “ of Marſhmallows to the Gout unattended with a Tumor.” The very ſame Preſcription is found in *Celſus*; ſo that we cannot doubt but that he is the ſame as that *Celſus* quoted by *Pliny*. Beſides, it is obſervable, that *Celſus* never heſitates to paſs his Judgment upon every thing which regards the Theory, as well as the Practice of Medicine, and that he decides boldly, and as a Maſter, in the moſt difficult Queſtions relating to the Art; which it is very likely he would not have preſumed to do, had he not been a Phyſician: He even, in ſome Places, ſpeaks from his own proper Experience in Medicinal Caſes; as in the Chapter where he treats of a Diſeaſe of the Eye-lids, called *Ancyloblepharon*. Here, after he has related, from ſeveral Authors, the manner of curing it, he adds, that he did not remember to have ſeen any one cured by this Method.

Among all the Works of *Celſus*, we have none but thoſe relating to Medicine remaining, except ſome few Fragments of his Rhetoric.

All the Medicine of *Celſus* is contained in eight Books, the four firſt of which treat of internal Diſeaſes, or ſuch as are principally cured by Diet; the fifth and ſixth relate to external Diſorders, and contain ſeveral Formulas of Medicines, both for external and internal Uſe; the ſeventh and eighth comprehend thoſe Diſorders in which Surgery is neceſſary.

Hippocrates and *Aſclepiades* are the two principal Authors to whom *Celſus* has been indebted; tho' he alſo takes ſome things from his Contemporaries. The former of theſe Authors he has followed with reſpect to Prognoſtics, and the various Operations of Surgery; for, upon theſe Subjects, he has literally tranſlated a great many Paſſages of *Hippocrates*, for which Reaſon he is ſtyl'd the *Latin Hippocrates*. But, for the other Parts of Medicine, he ſeems to have been much more attach'd to *Aſclepiades*, whom he calls a good Author, and from whom, he owns, he has taken ſeveral things. This Circumſtance has laid a Foundation for *Celſus* being placed, by ſome, among the Phyſicians of the Methodic Sect. But tho' we did not perceive, from the Manner in which he ſpeaks of the three principal Sects then eſtabliſh'd, that he is not attached to any of them in particular, yet we need only compare his Practice with that of the Methodics, in order to be convinced, that he does not agree with them, at leaſt in every reſpect. If there is any kind of Analogy between his Manner of treating Diſeaſes, and that of the Methodics, 'tis becauſe their Principles are drawn from thoſe of *Aſclepiades*, who, as we have obſerv'd, was a favourite Author of *Celſus*, tho' he ſometimes rectifies his Miſtakes. If *Celſus* was not of the Eclectic Sect, yet 'tis certain he acted according to the Principles inſinuated by that Name, ſince he choſe, from every Sect, and every Author, what to him appeared beſt and moſt rational. But, as his Practice very much reſembles that of *Aſclepiades*, from which the Practice of the Methodics was borrow'd, this obliges us to put him, as it were, in the Rear of theſe Sectaries, that, with him, we may finiſh what concerns their Sentiments, or ſeems to have any Relation to them.

By what follows we ſhall ſee the Particulars in which *Celſus* receded from *Hippocrates*, in order to conform himſelf to the Sentiments of *Aſclepiades*, and in what Inſtances he receded from them both. With *Aſclepiades*, then, he laugh'd at the critical Days of *Hippocrates*, and imputed the Invention of them to a fooliſh and ſuperſtitious Attachment to the *Pythagorean* Numbers. He alſo rejected the Practice of *Hippocrates* with regard to Veneſection, of which, in every reſpect, he made a more univerſal Uſe. “ It is not,” ſaid *Celſus*, “ a new thing to take Blood from “ the Veins; but 'tis a new Piece of Practice, that Phyſicians ſhould, almoſt in every Diſorder, preſcribe Vene- “ ſection. Formerly young Men only, and Women who were not with Child, were blooded; but, till our own “ Days, we have not heard of Veneſection preſcribed for Children, Women with Child, and old Men. The “ Antients,” continues he, “ believed that Infancy and old Age could not ſupport this Remedy, and that a pregnant “ Woman could not fail to ſuſtain an Injury by it. But Uſe and Experience have ſince convinced us, that, with “ reſpect to Veneſection, we ought not always to follow the Practice of the Antients, but to be guided by other “ Obſervations than theirs. It is of Importance to know, not how old the Patient is, or whether a Woman is “ pregnant, but the Degrees of Strength left either with the one or the other. If a young Man is too weak, or a “ pregnant Woman brought too low, Veneſection is then improper, becauſe it would render them ſtill weaker; “ but a vigorous Child, a robuſt old Man, or a ſtrong pregnant Woman, ſupport this Operation without any “ Danger.”

Theſe following are the particular Caſes in which *Celſus* eſteemed Veneſection neceſſary: When Patients labour'd under violent Fevers, when the Body was red, or when the Veins were full, he blooded. He alſo followed the ſame Practice in Pleuriſies, eſpecially when the Diſorder was in its Infancy, and the Pain conſiderable. With reſpect to the Peripneumony, he ordered Veneſection, if the Patient had ſufficient Strength left; but if not, he ſaid we were to have recourſe to Cupping without Scarification. By this we ſee, that, in this reſpect, he was pretty much of the ſame Sentiment with *Aſclepiades*; and that if, in Caſes of this Nature, he did not abſolutely condemn Veneſection, yet, at leaſt, he did not very much approve of it. *Celſus* alſo blooded in other Diſeaſes of the Viſcera, and practiſed the ſame Remedy in Palſies, Convulſions, Difficulties of Breathing which threaten Suffocation, Privation of Voice, and Apoplexies, with reſpect to which he remarks, that Veneſection ſometimes relieves, and ſometimes kills the Patient. In Caſes of intolerable Pains, our Author alſo had recourſe to this

Remedy, which he practiſed in Ruptures, internal Contuſions, and in Caſes where the Patients ſpit or vomited Blood, on which Occaſions he recommended repeated Veneſections. In a Word, he blooded in all acute Diſorders, where he thought there was a Redundance of Blood. He alſo ordered this Remedy in Cachexies, no doubt becauſe he thought, that in this Diſorder the Veins were full of Blood. By theſe Inſtances we ſee, that he recommended Veneſection more frequently than *Aſclepiades*.

As for the Time moſt proper for Veneſection, *Celſus* ſaid it was not to be performed ſo long as Crudity and Indigeſtion prevail; and, with this View, he generally waited till the ſecond or third Day, except when the Caſe was highly urgent; but he diſcarded Veneſection after the fourth Day, becauſe, by that time, he ſuppoſed the bad Blood either to be diſſipated ſpontaneouſly, or to have made an Impreſſion upon the Parts, and that in this Caſe Veneſection could only weaken the Patient. He thought it was murdering a Patient to bleed him during a Paroxyſm of a Fever. When the Blood flowing from the Vein was beautiful and red, he was for cloſing the Orifice directly; ſince, according to him, Veneſection was, in that Caſe, more prejudicial than ſalutary. He alſo ordered Veneſection to be performed at two different Times, rather than to take away as much at once as ſhould be judged neceſſary, ſo far was he from bleeding till the Patient fainted away.

Tho' Cupping-glaſſes, for the Extraction of Blood, were uſed in the Days of *Hippocrates*, yet they were much more frequently uſed in the Time of *Celſus*. This Author, *Lib*. 2. *Cap*. 14. informs us, that there were two Kinds of Machines for Cupping, one of Leather, cloſe at the Top, in which they burned Lint, in order to make it adhere to the Part. The other was of Horn, and open at both Ends. The Method of making this Kind adhere was, by extracting the Air with the Mouth from the ſuperior Orifice, which was afterwards to be cloſed with Wax.

'Tis pretty ſurpriſing, that *Celſus*, who appears to be highly exact, ſhould ſay nothing about the other Method of Bleeding uſed by the Phyſicians, which is the Application of Leeches. This Practice was, however, in Uſe before his Days; for 'tis obvious, that *Themiſon* was no Stranger to this Method.

If *Celſus* receded from *Hippocrates* with reſpect to Veneſection, he no leſs diſſented from him with regard to Purging. Concerning this laſt Remedy he ſpeaks thus, *Lib*. 2. *Cap*. 12. "The Antients," ſays he, "continually purged, and gave Clyſters, almoſt in all Diſorders. When they intended to purge, they took black Hellebore, or Polypody, or the Squamæ Æris, or the Sea-lettice, a Drop of which, mixed up with Bread, purges copiouſly, or the Milk of an Aſs, a Cow, or a Goat, in which they put Salt, and, after having boiled it, and ſeparated what was curdled, they made their Patients drink the Remainder. Purgative Medicines," continues he, "prove offenſive to the Stomach, for which Reaſon 'tis neceſſary to join Aloes to all Purgatives. The Belly being put into too ſtrong Commotions by Purgatives, or too much relaxed by Clyſters, the Patient is, of courſe, rendered weaker; for which Reaſon neither of theſe Remedies is proper in Diſorders accompanied with a Fever. Black Hellebore may be exhibited to the Atrabilarious, to ſuch as are melancholy mad, or to ſuch as are in any Parts paralytic. But, in Fevers, 'tis better, and more adviſeable, to give ſuch Liquors and Aliments, as may at once nouriſh and keep the Belly open."

What we have hitherto advanced concerning the Sentiments and Practice of *Celſus*, is taken principally from his four firſt Books, in which alſo we find the Manner of uſing Geſtation and Friction, which he employed almoſt for the ſame Purpoſes as *Aſclepiades* did.

As for his Rules relating to Eating and Drinking, they may be reduced to the following: In the Beginning of Diſorders the Patients muſt endure Hunger and Thirſt, but they are afterwards to be nouriſhed with good Aliments; but they are not to take too much, nor to fill themſelves all of a ſudden, after having faſted. He does not, however, ſpecify how long the Patient ought to practiſe Abſtinence, but affirms, that, in this Particular, 'tis neceſſary to have a Regard to the Diſeaſe, the Patient, the Seaſon, the Climate, and other Circumſtances of a like Nature, ſince it is impoſſible to lay down any fixed and ſtated Rule. *Celſus* alſo, in his four firſt Books, treats of Baths, Fomentations, the Means of exciting a Diaphoreſis, and the various Subſtances uſed as Aliments, which he diſtinguiſhes by their reſpective Qualities.

The fifth and ſixth Books of *Celſus* relate to Pharmacy; tho' we find very few Medicines for internal Uſe in them. All we meet with, of this kind, may be reduced to two or three Medicines to procure Sleep, to mitigate Pain, to remove the Cough and the Colic, to provoke Urine, and facilitate Labour. There are alſo, in theſe Books, three univerſal Antidotes. The firſt of theſe has no particular Name; the ſecond is call'd *Ambroſia*, which, according to *Celſus*, was the Invention of *Zopyrus*, Phyſician to one of the *Ptolemies*; and the third is the Antidote of *Mithridates*. We there alſo find ſome particular Antidotes againſt the Wounds of venomous Animals, and certain ſorts of Poiſons. But, in theſe Books, we have a ſufficient Number of Medicines for external Uſe; ſome to ſtop Hemorrhages, others to conſolidate, others to diſſipate or diſcuſs an Humour, others to bring Abſceſſes to a Suppuration, others to deterge Ulcers, others to conſume fungous or ſuperfluous Fleſh, others to cauterize, others to incarn, and others to cicatrize; and all theſe Intentions are anſwered by means of various Plaiſters, Ointments, Cataplaſms, Malagmas, Powders, and Troches.

The ſeventh and eighth Book relate entirely to Surgery, the laſt of which treats of the Bones, Fractures, and Luxations. In his Preface to the firſt of theſe he makes the following Remarks.

There is a third Part of Medicine, as I before took Notice, which is known by every one to cure by manual Operation; not that it neglects a due Care of Diet and proper Medicines, but becauſe its Performances principally depend upon the Hand; and its Effects are more evident than thoſe of any other Part of Medicine. For, ſince Fortune has a great Share in the Event of Diſeaſes, and the ſame Remedies prove ſometimes beneficial, ſometimes ineffectual, it may reaſonably be doubted whether the Recovery of the Patient be owing to the Medicines adminiſtered by the Phyſician, or to the Strength of the Conſtitution. And even in thoſe Diſtempers where we make the greateſt Uſe of Remedies, and with the moſt ſenſible Effect, it is well known, that we often ſeek Relief in vain from Medicine, and that Health is frequently reſtored without it. The Eyes, for Example, after they have been for a long time tortured, and tampered with by the Phyſician, being left to themſelves, have ſometimes recovered ſpontaneouſly. But in that Part of Medicine which cures by the Hand, it is evident, that, tho' it receives ſome Aſſiſtance from the other Parts, we are obliged for every good Event principally to itſelf.

Surgery is the moſt antient Branch of Medicine, and is, beſides, more cultivated by that Father of all Phyſicians, *Hippocrates*, than it was by his Predeceſſors. Afterwards, when it came to be ſeparated from the other Branches, and made a diſtinct Profeſſion, it flouriſhed alſo in *Egypt*, principally thro' the Skill and Induſtry of *Philoxenus*, who wrote an elaborate Treatiſe of Surgery, which contains ſeveral Volumes. *Gorgias* alſo, and *Soſtratus*, the two *Heros*, with the two *Apollonii*, *Ammonius* the *Alexandrian*, and many other famous Men, made each of them ſome Diſcoveries tending to the Improvement of the Art. There were not wanting ſome eminent Profeſſors at *Rome* too; and particularly, of late, *Tryphon* the Father, *Euelpiſtus* the Son of *Phleges*, and the moſt learned of all theſe, as appears by his Writings, *Meges*, who, making ſome Alterations for the better, contributed each of them ſomething towards the Promotion of this Branch of Medicine.

A Surgeon ought to be a young Man, or, at leaſt, but juſt paſt his Youth, of a ſtrong and ſteady Hand, which never ſhakes, and one who can uſe his Left Hand as well as his Right: He muſt have a ſharp and clear Sight, be of an undaunted Courage, and not too compaſſionate, that he may perform his Duty without Concern, and without being moved by the Complaints of his Patients ſo much as to hurry an Operation, or to cut leſs than the Caſe requires; always behaving as if he was unaffected with the Suffering of the Perſon under his Hands.

We muſt not forget to obſerve, that *Celſus* looked upon the ſeveral Signs drawn from the Pulſe, as very precarious and uncertain. “ For,” ſays he, “ ſome lay great Streſs on the Beating of the Veins or Arteries, which “ is a deceitful Circumſtance, ſince that Beating is ſlow or quick, and varies very much, according to the Age, “ the Sex, and the Conſtitution of the Patient. It even ſometimes happens,” continues he, “ that the Pulſe is “ weak and languid when the Stomach is diſordered, or in the Beginning of a Fever, tho', in other reſpects, the “ Body be in a good State; ſo that we might, in this latter Caſe, be induced to believe, that a Man is very weak, “ when he is juſt entering into a violent Paroxyſm, has Strength enough left, and may be eaſily recovered from it. “ On the contrary, the Pulſe is often high, and in a violent Commotion, when one has been expoſed to the Sun, “ or comes out of a Bath, or from uſing Exerciſe; when one is under the Influence of Anger, Fear, or any “ other Paſſion. Beſides, the Pulſe is eaſily changed by the Arrival of the Phyſician, in conſequence of the “ Patient's Anxiety to know the Judgment the Phyſician will paſs upon his State. To prevent a Change of this “ kind, the Phyſician muſt not feel the Patient's Pulſe on his firſt Arrival: He muſt firſt ſit down by him, aſſume “ a chearful Air, inform himſelf of his Condition, and, if he is under any Dread, endeavour to remove it by “ encouraging Diſcourſe, after which he may examine the Beating of the Artery. This, nevertheleſs, does not “ hinder us from concluding, that, if the Sight of the Phyſician alone can produce ſo remarkable a Change in the “ Pulſe, there may alſo be a thouſand other Cauſes capable of producing the ſame Effect.”

This Author was not only highly eſteemed in his own, but in all ſucceeding Ages. *Columella*, who was almoſt his Contemporary, or appeared very ſoon after him, places him among the moſt famous Authors of his Time, and *Pliny* claſſes him among thoſe from whom he has extracted his Natural Hiſtory. *Celſus* is alſo quoted in ſeveral Paſſages of *Quintilian*, eſpecially with reſpect to Rhetoric; and tho' theſe Quotations ſeem to be little to the Honour of *Celſus*, ſince they are only made with a View to be confuted, yet they, at leaſt, prove, that *Celſus* was looked upon as a great Maſter of that Art, ſince ſo celebrated a Rhetorician as *Quintilian* thought it worth while to animadvert upon him.

It will poſſibly be ſaid, that if *Quintilian* had bore any Eſteem for *Celſus*, he would not in plain Terms have call'd him an indifferent or middle-ſiz'd Genius. But we muſt obſerve, that he only calls him ſo, when the Compariſon is made between him and *Homer*, *Plato*, *Ariſtotle*, *Cato*, *Varro*, and *Cicero*, the greateſt Men that have ever appeared either among the *Greeks* or *Romans*; ſo that the running the Parallel between them is a Circumſtance which reflects Honour on *Celſus*, however indifferent his Genius is ſaid to be in compariſon of theirs. If he has not come altogether up to the greateſt Authors who wrote on the liberal Arts before him, yet 'tis ſtill ſomething glorious to have come near them; and we may juſtly apply to him what *Quintilian* ſays a little afterwards: *Verum etiam ſiquis ſumma deſperet, tamen eſt, ut Cicero ait, pulcrum in ſecundis tertiiſq; conſiſtere.* “ Tho' a Perſon “ may, perhaps, deſpair of a Place in the firſt Rank, it is, however, glorious, as *Cicero* ſays, to equal thoſe “ of the ſecond or third Claſs.” What ought to augment our Eſteem of *Celſus* is, that he treated of all the Arts before-mentioned, and had Courage enough ſingly to undertake a Taſk, which, divided among ſeveral Perſons, would have lain very heavy upon every one of them. This Undertaking of his appeared ſo brave to *Quintilian*, that he could not forbear ſaying, that our Author deſerves, that we ſhould believe he knew all that ought to be known of the various Subjects he treats of, if it were for no other Reaſon, but becauſe he had the Boldneſs to form a Deſign of writing upon ſo many different Matters. *Dignus, vel ipſo propoſito, ut illum ſciſſe omnia illa credamus.*

There is an old *Latin* Epigram ſtill extant, in which *Celſus* is introduced ſpeaking after the following Manner:

Dictantes medici quandoque & Apollinis artes,
Muſas Romano juſſimus ore loqui:
Nec minus eſt nobis per pauca volumina fama,
Quam quos nulla ſatis bibliotheca capit.

That is, “ In dictating the Art of *Apollo* the Phyſician, I obliged the Muſes to ſpeak *Latin*; and I have acquired “ as much Fame by my few Volumes, as thoſe who have filled whole Libraries with their Compoſitions.” This Epigram does not ſeem to be entire. The Words *quandoque &*, with which it begins, ſhew it to be a Continuation of ſome preceding Diſcourſe, which, perhaps, was an Elogy on thoſe other Works of *Celſus* which do not concern Medicine.

Among modern Authors, who have ſpoke in Commendation of *Celſus*, is that celebrated Profeſſor in Phyſic and Surgery, *Fabricius ab Aquapendente*, who, in his *Chirurg. Dentium*, thus adviſes his Scholars: “ *Celſus*,” ſays he, “ is admirable upon all Accounts, and ought to be your Study Night and Day.” Others ſeem to eſteem him only for his Latinity, and ſet a greater Value on his fine Language, than his Medicine. Thoſe who form that Judgment of him, give no other Reaſon for it, but that, in their Opinion, our Author was too much attached to *Aſclepiades*.

But it is unaccountable, that *Salmaſius*, who was no Phyſician, tho' otherwiſe a very learned Man, ſhould take ſuch exceſſive Liberty as to ſpeak of *Celſus* as a Perſon wholly ignorant of Medicine. The Foundation on which he grounded this Cenſure was, that our Author, in his Opinion, did not rightly tranſlate ſome Paſſages of *Hippocrates*, which he ſeems to have copy'd. This is to ſuppoſe, that *Celſus* could have no other Originals of *Hippocrates* than what are now extant; and that he was not at Liberty to add or diminiſh, in any thing which he took from *Hippocrates*; tho' he tranſlates him without naming him, and generally delivers what he ſays as his own Sentiments. But ſuppoſing that *Celſus* had been miſtaken in ſome Paſſages, for want of well underſtanding the *Greek*, which might happen, muſt it thence follow, that he underſtood nothing at all of Medicine? It is true, he was a Follower of *Aſclepiades* in particular, as has been obſerved; but was not *Aſclepiades* an excellent Author for the Time in which he lived? And will it follow, that, becauſe *Aſclepiades* and *Celſus* had different Sentiments from thoſe of *Galen*, for Example, or our modern Phyſicians, that therefore he muſt be denied to have underſtood Phyſic?

We ſhall put an End to what relates to the Medicine of *Celſus*, by giving a Tranſlation of his juſtly celebrated Advice with reſpect to the Preſervation of Health. "A Man," ſays he, "who is bleſſed with good Health, and has the Fortune to be at his own Diſpoſal, ſhould confine himſelf to no particular Rules, either with reſpect to Regimen or Phyſic. He muſt diverſify and change his Method of Life; ſometimes reſide in the Country, and ſometimes in Town; but moſt frequently in the Country: He muſt ſail, go a hunting, ſometimes indulge himſelf in Reſt, but more frequently employ himſelf in ſuitable Exerciſe; for too much Indolence weakens and enervates the Body, whereas by Labour it is ſtrengthen'd and invigorated. The former haſtens on old Age, but the latter preſerves Youth and Vigour for a long time. 'Tis alſo proper ſometimes to uſe the hot, and ſometimes the cold Bath; ſometimes to anoint, and ſometimes to let it alone; to abſtain from no Kinds of Aliment commonly uſed; ſometimes to make one at an Entertainment, and ſometimes to forbear it; ſometimes to eat more, and ſometimes leſs; to make rather two Meals a Day than one, and always to eat heartily, provided the Stomach be found capable of digeſting the Quantity taken. But as Exerciſes and Aliments taken in this way are neceſſary, ſo thoſe of the Athletics are ſuperfluous and hurtful; for if Affairs of any Nature ſhould oblige a Man to interrupt and break off the Order and Courſe of the Exerciſes to which he has been accuſtom'd, his Conſtitution is by that means diſorder'd. Beſides, Perſons who live in this manner ſoon become old, and ſubject to Infirmities. We ought neither too eagerly to purſue, nor too ſolicitouſly to avoid, Intercourſes with the tender Sex: Pleaſures of this Kind, rarely indulg'd, render the Body alert and active; but if too frequently repeated, weak, languid, and inactive. And as the proper Degree of theſe Pleaſures is not to be eſtimated by the Number of Repetitions, but by the Conſtitution, the Age, and the Strength of the Perſon, ſo we may take it for granted, with reſpect to this Particular, that the Enjoyment which is neither followed by Weakneſs, nor ſucceeded by Pain, is not prejudicial. The Day-time is the worſt Seaſon for Pleaſures of this Kind, eſpecially if they are ſucceeded by a full Meal; the Night is leſs hazardous, but even then ſubſequent Fatigue, with long Waking, renders it improper. Theſe Rules ought to be obſerv'd by Men in perfect Health; and ſo long as we are to enjoy this State, we ought not profuſely to waſte and diſſipate what may be our Support, when we come to be ſick."

As my Deſign in this Preface is not to ſpecify the Condition of Phyſicians, but the State of Phyſic, I ſhall not enter into a Detail of Opinions relating to the former, either during the Commonwealth, or under the Emperors of *Rome*. It ſeems upon the Whole, that Phyſic was practiſed in *Rome* by People of much the ſame Condition as thoſe who exerciſe this Art at preſent in all Parts of *Europe*; as Men of Learning and Diſtinction, no matter whether *Romans* or Foreigners; People who had not met with Encouragement in other Profeſſions, as it happened in the Caſe of *Aſclepiades*, who, on his firſt Arrival at *Rome*, taught Rhetoric; Surgeons, Mountebanks, Venders of Drugs, Preparers of Medicines, Midwives, and others of the loweſt Rank. Theſe Circumſtances, however, by no means derogate from the Reputation of the Art of Phyſic, or Phyſicians, whoſe Honour muſt be deriv'd from Succeſs in curing Diſtempers, and from nothing elſe; inſomuch that I believe every one labouring under a Diſtemper would hold a Slave, who could cure him, in greater Eſteem, than a Prince, who could not.

I muſt not, however, omit taking ſome Notice of *Antonius Muſa*, who is celebrated for curing *Auguſtus Cæſar* of a Diſtemper he labour'd under, by directing him to uſe cold Baths, and thereby brought this Remedy into great Vogue. He had a Brother called *Euphorbus*, who was Phyſician (ſee Musa) to *Juba* the Second, King of *Numidia*, who married *Selene*, Daughter to *Antony* and *Cleopatra*. This Prince was a great Naturaliſt, and deſcribed the Tree which produces Frankincenſe, and the Plant which yields Euphorbium; and the latter he nam'd in Honour of this Phyſician, in a Book he dedicated to *Caius Cæſar*, Grandſon to *Auguſtus*.

Mr. *Le Clerc* is of Opinion, that the *Artorius*, quoted by *Cælius Aurelianus*, as a Follower of *Aſclepiades*, is the ſame Perſon who is, by *Suetonius* and *Plutarch*, call'd the *Friend of Auguſtus*, and who ſav'd the Life of that Emperor on the Day the Battle of *Philippi* was fought, by adviſing him to be carry'd to the Field, ſick as he was. This Advice was occaſioned by a Dream which *Artorius* had, and *Auguſtus* had fallen into the Hands of *Brutus*, who, during the Battle, made himſelf Maſter of the Camp that Emperor had quitted, if he had not taken the Counſel of *Artorius*. This Circumſtance makes him taken Notice of by all the Writers of the Hiſtory of Phyſic, though in his Profeſſion he makes no great Figure.

The Phyſicians who liv'd after thoſe already taken Notice of, till the Time of *Galen*, ſeem generally to have embrac'd implicitly the Sentiments of one or other of the Sects above-mentioned, or to have drudg'd on in the beaten Track of Practice, without giving themſelves any great Pain about any thing but making their Fortunes. The principal of thoſe, however, who are mention'd with Honour, are *Andromachus*, Phyſician to *Nero*, and *Rufus Epheſius*, who liv'd under *Trajan*, of whom I have given an Account under the Articles of their Names.

But *Galen*, who was born at *Pergamus*, in the Reign of *Adrian*, about the hundred and thirty-firſt Year of the Chriſtian Æra, affords us abundant Materials for the Hiſtory of Phyſic.

At the Time when *Galen* made his Appearance in the World, the Dogmatic, the Empiric, the Methodic, the Epiſynthetic, the Pneumatic, and the Eclectic Sects, were ſtill in Being. The Methodics were at this time held in great Eſteem, and look'd upon as ſuperior to the Dogmatics, who were ſtrangely divided among themſelves, ſome of them favouring *Hippocrates*, others *Eraſiſtratus*, and others *Aſclepiades*. The Empirics made the leaſt conſiderable Figure of any. And the Eclectic Sect had not, in all Probability, the largeſt Number of Votaries, though it appears of all others to have been the moſt conducted by Reaſon, ſince its Abettors profeſs'd only to chooſe from each what was beſt; and to ſtrip themſelves of every partial Attachment, for the ſake of Truth. As for the Epiſynthetic and Pneumatic Sects, we have already conſider'd them as Dependents, in ſome meaſure, of the Methodic.

We might ſuſpect, that *Galen* was a Favourer of the Eclectic Sect, ſince he declares that he will not blindly follow any of the Phyſicians who went before him; and treats as low and ſervile Geniuſes, thoſe Men who, in his own Time, call'd themſelves the Followers of *Hippocrates* or *Praxagoras*, and did not chooſe indifferently what was good and excellent from the Works of every Phyſician. But, notwithſtanding this Declaration, *Galen* ſeems to be more attach'd to *Hippocrates* than to all the reſt, or rather to have follow'd none but him. *Hippocrates* was his favourite Author; and though in ſome Paſſages he accuſes him of Obſcurity, want of Order, and ſome other Imperfections, yet he never fails to teſtify an uncommon Veneration for him, and own that he has ſurpaſſed all others in laying down the genuine Principles of Phyſic. *Galen* was ſo fully perſuaded of this, that inſtead of taking any thing from the Phyſicians of other Sects, or keeping any Medium, he compoſed ſeveral Books, in order to refute their Principles, and eſtabliſh thoſe of *Hippocrates*. Though before the Days of *Galen* ſeveral Phyſicians had commented upon *Hippocrates*, yet he pretended, that moſt of them had failed in the Attempt;

and thought himſelf the only Author who had penetrated into the real Meaning of that antient Phyſician, though, as ſome learned Men have juſtly obſerv'd, he often ſtrains his genuine Senſe.

His firſt Attempt, then, was to explain *Hippocrates*, with which View he wrote a great deal. Beſides, as he obſerved, that his Author was not only obſcure in ſeveral Paſſages, but alſo that he was defective with reſpect to Order and Method, and that he had not a Knowledge of certain Things which were diſcover'd after his Time, he attempted from his own Stock to ſupply what was wanting in the general Principles of *Hippocrates*. Though *Galen* had done no more than repreſent in a clear Light the Medicine of *Hippocrates*, his Labours had merited well of Mankind, provided *Hippocrates* laid down the genuine Principles of the Art. It was, no doubt, a Taſk of the laſt Importance to repreſent theſe Truths in their genuine Light, and rectify the Miſtakes of thoſe Innovators, who, according to him, had ſhamefully wander'd from the antient Road. *Galen*, however, does not pretend to have merited any Honour from this Part of the Deſign, but boaſts of having been the firſt who ſhewed a juſt and rational Method of treating the Art of Phyſic, a thing omitted by *Hippocrates*. In order to ſpecify fully how *Galen* acquitted himſelf with reſpect to this important and extenſive Taſk, it would be neceſſary to inſert whole Inſtitutes, and a complete Practice of Medicine, according to his Principles. But as our Deſign in this Place neither calls for it, nor our propoſed Brevity allows it, we ſhall only give ſuch general Hints as are ſufficient to point out how this Phyſician behav'd in this Particular, and repreſent the Analogy, and the Difference, between his Medicine and that of *Hippocrates*. In proſecuting this Deſign we ſhall firſt conſider the Idea our Author formed of Medicine in general, and then take a brief View of ſome of the Particularities of his Syſtem.

Galen, then, maintained, that in order to know an Art, it was neceſſary, previouſly, to be acquainted with the End propoſed by it; and that the ſame Method purſued in diſtinguiſhing other Arts, ſufficiently enabled any one to know what the Art of Medicine was. Some Arts, ſaid he, propoſe no other End than bare Contemplation, ſuch as Arithmetic, Natural Philoſophy, and Aſtronomy. Others produce alſo ſome Action; but as ſoon as they ceaſe to produce this Action, they can ſhew none of their Effects, ſuch as the Art of Dancing-maſters. There are other Arts, the Effects of which may be ſeen afterwards, ſuch as the Art of Building. There are alſo ſome Arts which produce nothing, but whoſe End is to take or acquire ſomething, ſuch as the Arts of Hunting and Fiſhing. Now Medicine is among the Number of thoſe Arts which produce ſomething, and ſtill leave their Effects viſible after the Action ceaſes. There is ſtill another Diſtinction to be made among the effective Arts, or thoſe whoſe Effects ſubſiſt after the Action ceaſes. Some of theſe produce a Thing which was not before. Others re-produce or re-eſtabliſh what had exiſted before. Now Medicine is of this laſt Kind; it preſerves or re-eſtabliſhes the Body, by continuing Health, or reſtoring it when loſt.

Theſe Things being premiſed, we muſt, according to *Galen*, conſider, that as an Architect muſt neceſſarily know all the Parts of a Houſe, whether he intends to build a new one, or only repair one that is old: Juſt ſo the Man who intends to eſtabliſh that Art whoſe Subject is the human Body, or the Art of Medicine, ought to know the various Parts of which this Body is compoſed, and be acquainted with their Subſtance, their Bulk, their Figure, their Situation, their Number, and the particular Relations they bear to each other. Again, as the Architect who attempts to build a Houſe can never know the Parts which ought to compoſe it, if he has not examin'd one by one the Parts of another Houſe like that he intends to erect; or if he has not ſeen all theſe Parts detach'd and ſeparated from each other: Juſt in the ſame manner the Phyſician can never acquire a Knowledge of the human Body, but by an anatomical Examination of its component Parts. But there is this Difference between the Phyſician and the Architect, that the former ought not only to know the ſeveral Parts of the human Body, but alſo the Action peculiar to each of them.

I cannot forbear remarking on this Occaſion, that without any of *Galen*'s copious Reaſoning, it would readily occur to any one who was not an Idiot, that the End of Medicine muſt be either the Preſervation or Reſtoration of Health. The Compariſon betwixt an Architect and a Phyſician can by no means be juſt, unleſs a Phyſician could build a Man, as an Architect does an Houſe. Beſides, a Houſe neither performs Actions nor Functions; nor does it move, unleſs it tumbles down, and gives the Architect an Occaſion of reaſoning, like *Galen*, on the Cauſes of this Cataſtrophe, whilſt he ſhould rather be employ'd in rebuilding it. It muſt be confeſs'd, that in Houſes, as in Men, there are Doors to admit Proviſions; Sinks to carry off the Recrements of thoſe Proviſions, when the Ends are anſwer'd for which they were introduc'd; and Windows to let in Light: But theſe Doors, Sinks, and Windows, in a Houſe, all perform their reſpective Functions, and are actuated by evident Cauſes, which cannot be juſtly ſaid with reſpect to thoſe in a Man. Here, therefore, the Compariſon fails.

The Duty of a Phyſician inſtructed in all theſe Particulars is, firſt, to preſerve the Parts in their natural State, ſo that they may anſwer the Ends for which they were deſtin'd, and freely perform their reſpective Functions: And, ſecondly, to re-eſtabliſh or reduce to their firſt State thoſe which have ceaſed to perform their Functions. He ought not even to ſtop here, but to attempt a new Production of ſuch Parts as are wanting, when the thing is practicable. This Caution is added, becauſe certain Parts, when wanting, cannot be again produc'd, as the Nerves and Tendons, ſince they are form'd of the *ſeminal Matter*. But there are other Parts form'd of the Blood, ſuch as the Fleſh, for Inſtance, which may be re-eſtabliſhed, and reſtored by Nature, with the Help of the Phyſician. The Bones are among the Number of the Parts firſt mentioned. They cannot be entirely re-produced; but when they are fractur'd, or a Part of their Subſtance loſt, they are again join'd by a Callus, which ſupplies the Room of the Part loſt or remov'd. It muſt alſo be obſerv'd, that there are ſimple or ſimilar, and compound or organical Parts, in the human Body; the former are the Bones, the Ligaments, the Nerves, the Membranes, the Veins, the Arteries, the Fat, the Glands, and the Fleſh: They are called ſimilar, becauſe, upon being divided into ſmall Pieces, each Piece reſembles another. They are alſo called ſimple, with reſpect to thoſe of a more compounded Nature, ſuch as an Arm, or a Leg, one of which Parts is compoſed of almoſt all the ſimilar Parts above-mentioned. Theſe compound Parts are alſo called organical or inſtrumental, becauſe they are the Inſtruments or Organs which perform the moſt ſenſible and perfect Actions. The Legs and Feet, for Inſtance, ſerve us to walk with; the Hands to feel, or hold any thing; the Eyes to ſee; and the Ears to hear.

The original or conſtituent Principles of all theſe Parts, as well as of other Bodies in general, are Fire, Water, Earth, and Air. The Qualities belonging to theſe Elements or Principles are Heat, Cold, Moiſture, and Dryneſs. So long as one of theſe Elements, or one of theſe Qualities, does not predominate over the reſt, but is proportioned to the natural Diſpoſition of the ſimilar Parts, theſe Parts are in a juſt Temperature, and perform their Functions as they ought to do. But when theſe Qualities become faulty, either with reſpect to Exceſs or Defect, an Intemperature ſucceeds, which, when arriv'd at a certain Degree, hinders the Functions from being perform'd as they ought. This Temperature and Intemperature alſo extend to the organical Parts, as they are compoſed of thoſe which are ſimilar. It muſt alſo be farther obſerved, with reſpect to the organical Parts, that they either are, or are not, in the State they ought to be, according as they have, or have not, their ordinary Bulk or Figure; or according as they are, or are not, in the Number or Situation they ought to be. If to theſe Conſiderations we alſo add Union, or the want of Union, a Thing common both to the ſimilar and the organical Parts, we ſhall have a Knowledge of the good and bad Diſpoſition of the human Body, in which Health and Diſeaſes conſiſt.

Galen, I muſt obſerve, ſtill reaſons about a Man as if he was talking of a Houſe; ſince all that he ſays about the former, is more applicable to the latter. Thus the Architect might ſay, that the Elements of his Fabric were Fire, Water, Air, and Earth; and that the Convenience or Inconvenience of his Houſe depended upon a Proportion or Diſproportion of theſe: If, for Example, there was too much Fire, it would be in danger of being burnt; if too little, his Morter would not cement the Stones together; too much or too little Water would have the ſame Effect as too little Fire; too much Air would expoſe the Inhabitants to the Cold, and too little would render the Houſe uninhabitable; too much Earth would make it clumſy, too little would produce Weakneſs in the Walls. The Qualities alſo of theſe Elements, as hot, cold, moiſt, and dry, if exceſſive or defective, would very much interfere with the propoſed Convenience of the Habitation. Thus an Exceſs of Heat would be troubleſome, eſpecially in the Cellar; too much Cold would be detrimental, particularly in the Kitchen; Moiſture, in a Bed-chamber or Parlour; and Dryneſs in the Ciſtern. What he goes on to ſay of the Bulk, Figure, Number, Situation, and Union of the Parts, may evidently be as properly ſaid with reſpect to a Houſe, as to a Man.

From what has been ſaid, it is eaſy to be infer'd, that the Duty of a Phyſician is, on the one hand, to maintain the Temperature, and correct the Intemperature; and, on the other, to preſerve the Bulk, the Figure, the Number, the Situation, and the Union of all the Parts; and to remove thoſe Diſorders which deſtroy this Bulk, Figure, and Number. In all theſe reſpects this Maxim prevails, *That it is neceſſary to keep the Parts in their natural State, by Means which have a Relation to that State*; that is, Heat is proper for preſerving the Warmth of a hot Part, and Cold for maintaining that Quality in a cold Part; and ſo of the reſt. The ſame is to be ſaid of the Means employ'd for preſerving the Bulk, the Figure, the Number, the Situation, and the Union of the Parts: Theſe Means muſt have a Relation to theſe Diſpoſitions. Thus, for Inſtance, in order to preſerve the Situation of a Part, it is neceſſary to keep it in that Situation, and avoid every Accident which can produce a Change. In order to preſerve the Number and the Union of the Parts, we muſt avoid Violence, and guard againſt every Accident which can cauſe the Loſs of a Part, or break that Union which it ought to have with the others. This Maxim relates to the Preſervation of Health; and the following relates to the Cure of Diſeaſes. *The general End which we ought to propoſe in the Cure of Diſeaſes, is to correct the Intemperature, and rectify the Diſorders which happen, with reſpect to the Situation and Bulk of the Parts, by means which are contrary to that Intemperature, and thoſe Diſorders.* If, for Inſtance, a hot Part is become cold, it muſt be again render'd hot: If, in conſequence of any Motion or Violence, it is removed from its natural Situation, it muſt, by a contrary Motion or Violence, be reduced to its former State: If it is fallen below its natural Situation, it muſt be raiſed to it again; and if it is forced above it, the Buſineſs is to thruſt it downwards till it is again reſtored. In a Word, Diſorders of this Kind are cured by their Contraries.

I muſt once more remark, that the ſame Rules will exactly ſerve for the repairing a Houſe.

The Species, or rather the Cauſe of a Diſorder, always indicates a Remedy proper for it; but as it cannot indicate whether that Remedy is practicable or not, the Phyſician muſt, in this Caſe, know what is poſſible, and what is the Reverſe. This Knowledge is ſuggeſted to him by his Acquaintance with the Parts: If one of thoſe, for Inſtance, which is form'd of the ſeminal Matter at the Time the Body is produced, ſhould prove wanting, it cannot be re-eſtabliſhed or reſtored, as has been already obſerved; but if thoſe produced by the Blood ſhould happen to be wanting, Attempts may be made for their Reſtoration: With reſpect to which we muſt obſerve, that what is ſaid of the Poſſibility or Impoſſibility of a Cure, equally relates to Nature, and to the Phyſician. Some Effects *Nature* can produce, and others are beyond her Power: She can, for Inſtance, reproduce Fleſh in the Place of that which is wanting in a Wound, or conſumed by an Abſceſs; becauſe, as has been already ſaid, Fleſh is a Part produced by the Blood. But Nature cannot reſtore a Nerve, or render a Bone entire; becauſe theſe Parts are produced by the ſeminal Matter at the Time of the Formation of the Man. What Nature cannot do, neither can the Phyſician, who is only her Servant; but he helps Nature by ſeconding her Efforts, or following her Intentions, in all thoſe Caſes where, of her own Accord, ſhe ſometimes proves ſucceſsful. If Nature can fill a deep Ulcer with Fleſh, the Phyſician, on his Part, endeavours to make that Fleſh grow, by removing every thing which can prevent or retard its Growth. If Nature labours to concoct the Aliments in the Stomach, the Phyſician endeavours to aſſiſt her, by making Choice of ſuch as are moſt eaſily concocted, and with-holding thoſe, the Concoction of which is either impoſſible or difficult.

The Phyſician, being inſtructed in theſe general Circumſtances, ought afterwards to enter into thoſe which are more particular, with reſpect to the Knowledge of Cauſes and Signs, both of the good and bad State of the Body; and, laſt, of all the various Means that ought to be uſed in order to preſerve Health, and cure Diſeaſes, by applying to particular Caſes the general Maxims laid down. This is a kind of Abſtract of a Part of one of *Galen*'s Books, intituled, *Concerning the Eſtabliſhment of Medicine*. In this Work he does not give an expreſs and formal Definition of the Art; but it is eaſy, from it, to infer, that he took Medicine to be *an Art, which teaches to preſerve Health, and cure Diſeaſes*; and this Definition is drawn from the End and Deſign of Medicine.

Our Author however, in a Book intituled *The Art of Medicine*, propoſes another Definition, taken from the Object of the Art. *Medicine*, ſays he, *is a Science, which teaches what is ſound, what is not ſo, and what is of an indifferent Nature, or holds a Medium between what is ſound and what is the Reverſe.* This Definition is alſo aſcribed to *Herophilus*; but *Galen* explained it in a Manner different from that Author: He affirm'd, for Inſtance, that there were three Things which conſtituted the Object of Medicine, and which the Phyſician ought to conſider as ſound, not ſound, or of a neutral and indifferent Nature. Theſe three Things are the *Body itſelf*, *the Signs*, and *the Cauſes*. He eſteems the human Body ſound when it is in a good State or Habit, with reſpect to the ſimple Parts of which it is compoſed; and when, beſides, there is a juſt Proportion between the Organs, form'd of theſe ſimple Parts. The Body, on the contrary, is unſound when it recedes from that State or Habit, and that Proportion juſt mentioned. And the Body is in a State of Neutrality, or Indifference, when it is in a Medium between Soundneſs and its oppoſite State. The ſalutary Signs, or ſuch as import Soundneſs, are ſuch as indicate preſent Health, and prognoſticate that the Man may remain in that State for the Time to come. The inſalubrious Signs, on the contrary, indicate a preſent Diſorder, or lay a Foundation for ſuſpecting the Approach of one. The neutral Signs, or ſuch as are of an indifferent Nature, denote neither Health nor Indiſpoſition, either for the preſent or for the Time to come. The ſalutary Cauſes are thoſe which either preſerve Health, or reſtore it when loſt. The unſalutary Cauſes are thoſe which either produce a Diſorder, or nouriſh and maintain it after it is produced. The Cauſes of a neutral or indifferent Nature are ſuch as produce no ſenſible Effects, either with reſpect to the Preſervation or Recovery of Health, or with reſpect to the Production, or the Nouriſhment and Support of Diſeaſes.

Theſe three Diſpoſitions of the human Body, that is, Soundneſs, its Reverſe, and a neutral State, include and comprehend the Differences between Health and Diſorder or Indiſpoſition; and each of theſe three States or Diſpoſitions has a certain Extent peculiar to itſelf. A ſound Body, as we have already obſerved, is one, the Whole of whoſe Parts enjoy a due Temperament and Proportion; or whoſe ſimilar Parts poſſeſs that Degree of Heat, Cold, Moiſture, and Dryneſs, which they naturally ought to have, without any of theſe Qualities predominating over the reſt; and whoſe organical Parts have preciſely the Bulk, the Diſpoſition, the Figure, the Connection, and other Circumſtances neceſſary to them. A human Body thus diſpoſed is ſaid to be of a ſound Conſtitution, or of a Habit in which nothing is wanting: Such a Conſtitution or Habit is very rare, and even perhaps never to be met with; but this does not hinder us to ſuppoſe or imagine ſuch a Model for regulating our Judgments, with reſpect to other leſs perfect Conſtitutions. *Galen*, upon this Principle, eſtabliſhed eight other principal Conſtitutions, all of which decline or recede in ſome meaſure from the perfect Model now mentioned: The four firſt are thoſe in which ſome one of the four Qualities above-mentioned is ſuperior to the reſt; ſo that each of theſe Conſtitutions receives the Denomination of hot, cold, moiſt, or dry, according as any one of theſe Qualities becomes more ſenſible than the reſt. The four other Species of Conſtitutions reſult from a Combination of theſe Qualities; ſo that, according to *Galen*'s Doctrine, there may be a hot and dry Conſtitution, a hot and moiſt Conſtitution, a cold and moiſt Conſtitution, and a Conſtitution that is cold and dry. Theſe are the principal Differences of Conſtitutions, which may be infinitely ſubdivided, according to the various Degrees of Heat, Cold, Humidity, Dryneſs, and certain other inexplicable Properties and Peculiarities in ſome Conſtitutions, which have no manner of Relation to the above-mentioned Qualities, but depend upon occult and latent Cauſes: Such a Peculiarity of Conſtitution is called *Idioſyncraſy*. 'Tis in conſequence of this *Idioſyncraſy*, that ſome have Averſions to one Kind of Aliment, and others to another; that ſome cannot endure the Smell of a Roſe, and others are offended with that of certain other Flowers.

But tho' the eight laſt deſcribed Conſtitutions fall ſhort of the Perfection of the firſt, it does not thence follow, that People of any of theſe Conſtitutions are to be claſs'd among the Valetudinary and Diſeaſed. They are ſtill included in the Number of the Sound and Healthy, ſo long as the Intemperature, which removes them from the Perfection above-mentioned, does not hinder the Action of the Parts: But as ſoon as the Intemperature riſes to ſuch a Degree as to hinder theſe Actions, the Body is no longer ſound, but diſordered, and in a bad State. Properly ſpeaking, then, it is hindering the Action of the Parts which conſtitutes a Diſeaſe; or, in other Words, with ſuch a Hindrance Health ends, and Diſorder or Infirmity begins. The intermediate State is called neutral, or that in which a Man is neither ſound nor ſick: He is not as yet ſick, becauſe the Actions are not as yet ſenſibly hinder'd; neither can he be ſaid to be entirely ſound, becauſe theſe Actions have a Tendency to be no longer performed in the Manner they ought.

Galen, at great Length, deſcribes the Signs of a good and bad Conſtitution, as well as thoſe of what he calls a neutral Habit. All theſe Signs are drawn from the original Qualities of hot, cold, moiſt, and dry, in the ſimilar Parts; and from the juſt Proportion or Diſproportion, with reſpect to the Bulk, Figure, Situation, and other Circumſtances of the organical Parts. Our Author, after this, comes to conſider the Cauſes of theſe three Conſtitutions, which he derives from the ſame Sources he does the Signs.

But that we may a little more particularly explain the general Idea we have given of the Medicine of *Galen*, we ſhall firſt obſerve, that, with *Hippocrates*, he eſtabliſhed three Principles of an animal Body, *the Parts*, *the Humours*, and *the Spirits*: By the Parts he properly meant no more than the ſolid Parts, and theſe, as we have already ſaid, he divided into ſimilar and organical. He alſo, with *Hippocrates*, acknowledged four Humours; the Blood, the Phlegm, the yellow Bile, and black Bile. He entertained the ſame Notions with that antient Phyſician, with reſpect to the Heat, the Coldneſs, the Moiſture, and the Dryneſs of theſe Humours; that is, he took the Blood to be a red, hot, and moiſt Humour; the Phlegm a cold, white, and moiſt Humour; the Bile a yellow, hot, and dry Humour; and the Black a black and cold Humour. *Galen* eſtabliſhed three different Kinds of Spirits, the natural, the vital, and the animal: The firſt of theſe are, according to him, nothing elſe but a ſubtile Vapour ariſing from the Blood, which draws its Origin from the Liver, the Organ or Inſtrument of Sanguification. After theſe Spirits are convey'd to the Heart, they, in Conjunction with the Air we draw into the Lungs, become the Matter of the ſecond Species, that is, of the vital Spirits, which are again changed into thoſe of the animal Kind in the Brain.

Galen ſuppoſed, that theſe three Species of Spirits ſerved as Inſtruments to three Kinds of Faculties, which reſide in the reſpective Parts, where, as we have ſaid, theſe Spirits are form'd. The natural Faculty is the firſt of theſe, which he placed in the Liver, and imagined to preſide over the Nutrition, Growth, and Generation of the Animal. The vital Faculty he lodged in the Heart, and ſuppoſed, that, by means of the Arteries, it communicated Warmth and Life to all the Body. The animal Faculty, the nobleſt of the three, and with which the reaſoning or governing Faculty was joined, according to him, has its Seat in the Brain; and, by means of the Nerves, diſtributes a Power of Senſation and Motion to all the Parts, and preſides over all the other Faculties. *Galen* alſo ſuppoſes three Sorts of Actions, produced by theſe three Faculties, the natural, the vital, and the animal Actions. Theſe Actions he again divided into internal and external: The internal Actions of the animal Faculty are Imagination, Reaſoning, and Memory: The external Actions are the five natural Senſes, and, in general, Senſation and Motion. The internal Actions of the vital Faculty are violent Paſſions, ſuch as Anger; and its external Actions are, the Motion or Pulſation of the Arteries, and the Diſtribution of the arterial Blood thro' the Body, in order to communicate Heat and Life to it. The internal Actions of the natural Faculty are Sanguification, the Concoction of the Aliments, with what depends upon it, and even Concupiſcence: The external Actions are the Diſtribution of the venous Blood into all the Parts, which ſerves for the Nutrition, Augmentation, and Preſervation of the Body, and for the Propagation of the Species. Beſides theſe general Faculties, *Galen* admitted of other particular ones, which, as he imagined, reſided in each Part of the Body, and provided againſt the Neceſſities of theſe Parts, or aſſiſted in performing the reſpective Offices to which they were deſtin'd. The Stomach, for Inſtance, concocts the Aliments by means of its concoctive Faculty; attracts them by means of its attractive Faculty; retains them for ſome time by its retentive Faculty; and, at laſt, diſcharges them by its expulſive Faculty. If it ſhould be aſked, What is the original Source or Principle of Motion in all theſe Faculties? *Galen* anſwers, with *Hippocrates*, That it is Nature.

It was neceſſary to mention all theſe Diſtinctions and Terms, ſince upon them depend all *Galen*'s Reaſonings upon the Cauſes and Nature of Health and Diſeaſes. This Phyſician thought, that a Man enjoy'd Health when theſe Faculties were in ſuch a State as to produce their ordinary Actions, or ſo long as theſe Actions were entire and perfect; and, on the contrary, that theſe Faculties being hinder'd in their Actions, or the Actions not being performed as they ought, conſtituted a Diſeaſe. Now as the Actions cannot be free or entire, unleſs the Parts, as well as the Humours, are well diſpoſed, it may be ſaid, that Health depends principally on the Symmetry of the organical Parts, and on the Union or Connection of the one with the other. So long as the Parts and the Humours remain in this State, the Spirits, which partake of the Nature of the Humours, muſt neceſſarily be well diſpoſed; and conſequently the Actions performed by the Organ or Inſtrument of the Spirits, which are themſelves directed by the Faculties, muſt be entire: On the contrary, when the Humours and Parts are changed, put out of Order, and diſunited, the Spirits muſt of courſe run into diſorderly Motions, and the Actions be interrupted.

Upon theſe Principles *Galen* defin'd a Diſeaſe, *Such a preternatural Diſpoſition, or* (πάθος) *Affection of the Parts of the Body, as primarily and of itſelf, hinder'd their natural and proper Action.* He eſtabliſhed, as we have already ſeen, three principal Kinds of Diſeaſes: The firſt relates to the ſimilar Parts; the ſecond to the organical; and the third is common to both theſe Parts. The firſt Kind of Diſeaſes conſiſts in the Intemperature of the ſimilar Parts; and this Intemperature is divided into an *Intemperature without Matter*, and an *Intemperature with Matter*. The firſt diſcovers itſelf, when a Part has more or leſs Heat or Cold than it ought to have, without that Change of Quality in the Part being ſupported and maintain'd by any Matter. Thus, for Inſtance, a Perſon's Head may be overheated and indiſpoſed, by being expoſed to the Heat of the Sun, without that Heat being maintained by the Congeſtion or Continuance of any hot or warm Humour in the Part. The ſecond Sort of Intemperature is, when any Part is not only render'd hot or cold, but alſo fill'd with a hot or cold Humour, which are the Cauſes of the Heat or Cold felt in the Part. *Galen* alſo acknowledged a ſimple Intemperature; that is, when one of the original Qualities, ſuch as Heat or Cold, exceeds alone and ſeparately; and a compound Intemperature, when two Qualities are joined together, ſuch as Heat and Dryneſs, or Coldneſs and Humidity. He alſo eſtabliſhed an equal and an unequal Intemperature; the former is that which is equally in all the Body, or in any particular Part, and which creates no Pain, becauſe it is become habitual, ſuch as Dryneſs in a hectic Conſtitution: The latter is diſtinguiſhed from the former by this, that it does not equally ſubſiſt in the Whole of a Part, or in the whole Body, becauſe it only begins to be form'd; or by this, that the Body is put out of Order by contrary Cauſes, ſuch as Heat and Cold perceived at one and the ſame time. Of this Kind of Intemperature we have Examples in certain Fevers, where Heat and Cold equally, and almoſt at one and the ſame time, attack the ſame Part; or in other Fevers which render the Surface of the Body cold as Ice, whilſt the internal Parts burn with Heat; or, laſtly, in Caſes where the Stomach is cold, and the Liver hot.

The ſecond Kind of Diſorders relating to the organical Parts reſults from Irregularities of thoſe Parts, with reſpect to their Number, their Bulk, their Figure, their Cavities, their Situation, and their Connection; as when one has ſix Fingers, or only four; when one has any Part larger or ſmaller than it ought to be; or when that Part is not well form'd; or when the Perforations it ought to have, are either ſtopp'd up, or too open; or when it is ill ſituated, and out of its natural Poſition; or when it is ſeparated from thoſe to which it ought to be joined, or joined to thoſe from which it ought to be ſeparated.

The third Kind, which is common both to the ſimilar and the organical Parts, is a Solution of Continuity, which happens when any ſimilar or compound Part is cut, corroded, bruiſed, broken, violently ſtrained, or burnt.

Galen, treading in the Foot-ſteps of *Hippocrates*, alſo diſtinguiſhed Diſeaſes, with reſpect to their Motion, into thoſe of the acute and thoſe of the chronical Kind; and, with reſpect to their Nature and Genius, into benign and malignant; and, laſtly, into epidemical, endemial, and ſporadic.

After having eſtabliſhed the Kinds of Diſeaſes, *Galen* comes to examine their Cauſes, which he diſtinguiſhes firſt into external and internal. The external Cauſes of Diſeaſes are, according to him, ſix Things, which contribute to the Preſervation of Health when they are well diſpoſed, and properly uſed; but produce a contrary Effect when they are imprudently uſed, or ill diſpoſed: Theſe ſix Things are the Air, Aliments and Drink, Motion and Reſt, Sleeping and Watching, Retention and Excretion, and, laſtly, the Paſſions.

All theſe external Cauſes of Diſeaſes are called the procatarctic or beginning Cauſes; becauſe they put in Motion the internal Cauſes, which are of two Kinds, the antecedent and the conjunct Cauſe: The former of theſe is only diſcovered by Reaſoning, and conſiſts, for the moſt part, in a Peccancy of the Humours, either when there is a Plethora or Plenitude, or a Cacochymy or bad State of the Juices. When the Humours are in too large a Quantity, the Caſe is called a Plethora; but we muſt obſerve, that this Word equally denotes too large a Quantity of all the Humours together, or a Redundance of one particular Humour, which predominates over the others. According to theſe Principles there may be four Kinds of Plenitudes, a ſanguine, a bilious, a pituitous, and a melancholic Plenitude: But there is this Difference between the ſanguine and the three other Plenitudes, that the Blood, which is the Matter of the former, may far ſurpaſs the other Humours; whereas if any of the three laſt-mentioned Humours exceed the reſt, the Caſe is no longer called Plenitude, but Cacochymy; becauſe theſe Humours, abounding more than they ought, corrupt the Blood. *Galen* farther divides Plenitude into Plenitude with reſpect to the Veſſels, and Plenitude with reſpect to the Strength: The former of theſe prevails when the Humours abound ſo much, that the Veſſels, that is, the Veins and Arteries, contain them with Difficulty. The ſecond Sort of Plenitude is to be eſtimated from the Strength of the Patient, which cannot ſupport a certain Quantity of Humours, tho' that Quantity ſhould be but very moderate. The ſecond Imperfection in the Humours, which we have called Cacochymy, proceeds from their degenerating, and becoming either more hot or more cold, more dry or more moiſt, more acrid or more acid, more ſweet or more ſalt, than they ought to be, or from their acquiring adventitious and hurtful Qualities, which they formerly had not. But we muſt not here forget to obſerve, that tho' *Galen* acknowledged, that the Humours might acquire all theſe Qualities already mentioned, ſome of which are different from hot or cold, moiſt or dry, which are the four Qualities he aſcribes to the Humours; yet our affirming above, that he conſider'd all the Cauſes of Diſeaſes, with reſpect to theſe four Qualities, does not ceaſe to be true, ſince he believed, that acid, ſaline, acrid, ſweet, and bitter, derived their Origins from hot, cold, dry, and moiſt. When any of the three Humours, different from the Blood, predominates conſiderably over the reſt, this alſo produces a Species of Cacochymy; becauſe theſe Humours are not ſo familiar to Nature as the Blood, or becauſe they forthwith corrupt the Blood. But when the Exceſs of one of theſe Humours is only moderate, the Caſe is rather eſteem'd a Plenitude than a Cacochymy, as we have already obſerved. The ſecond of the internal Cauſes, which we have called the conjunct Cauſe, is that which is more cloſely connected with the Diſeaſe, and more immediately ſupports and maintains it; ſo that this Cauſe being preſent, the Diſeaſe ſtill ſubſiſts, and being removed, the Diſorder forthwith ceaſes. The following Example will ſufficiently ſhew the Difference between this and the antecedent Cauſe: In a Pleuriſy the conjunct Cauſe is that Quantity of Humour adhering to the Pleura, and producing the Inflammation of that Part. The antecedent Cauſe is the Maſs of which this Humour is compoſed, conſider'd as diffuſed thro' all the Body, and contain'd in the Veſſels, whence it is pour'd upon the Part affected.

As for the particular Cauſes of thoſe Diſeaſes incident to the Parts, conſider'd as ſimilar or organical, it is eaſy to diſcover them, by what has been ſaid concerning the Nature of theſe Diſorders. It is eaſy, for Inſtance, to conceive, that Diſeaſes which conſiſt in a hot or in a cold Intemperature, muſt be cauſed by every thing which can heat or cool; and that, in like manner, thoſe which depend upon the bad Conformation of the Parts, are cauſed by every thing that can produce that bad Conformation. The Kidneys, for Inſtance, or the Ureters, which ought to be open for the Conveyance of the Urine, may be obſtructed by Gravel, coagulated Blood, or any other thick Humour, or by a Tumor which compreſſes or ſtreightens the Paſſage; and in this Caſe the Tumor, the Blood, or the Gravel, are the Cauſes of the Diſorder.

Galen, in the laſt Place, divides the Cauſes of Diſeaſes into ſuch as are manifeſt or evident, ſuch as are not ſo, and ſuch as are entirely latent or obſcure. The firſt are ſuch as ſpontaneouſly come under the Cognizance of our Senſes, when they act, or produce their Effects. The ſecond are not of themſelves perceptible, but may be diſcovered by Reaſoning: All the Cauſes before-mentioned are of the ſame Nature with theſe two. The third Sort of Cauſes, which are called occult or conceal'd, can be diſcovered by no means whatever. *Galen* probably places among this Number the Cauſe of the Hydrophobia, when he aſſerts, that the Remedies which cure this Diſorder, act by a Property belonging to the Whole of their Subſtance; whence it follows, that the Cauſe of this Diſeaſe acts by a Property no leſs obſcure and conceal'd than that of the Remedy. When we aſſert, that this Property is conceal'd, we expreſs ourſelves in Terms probably different from thoſe of *Galen*, but which amount to the ſame Thing; ſince to ſay, that a Remedy acts by a Property belonging to its whole Subſtance, is no more than to ſay, that we know not how it acts. This *Galen* himſelf acknowledges, when he cenſures *Pelops* for attempting to account for the Effects of this very Remedy, which conſiſts of the Powder of Craw-fiſh: His own Words are as follows. “ My Maſter *Pelops*, ſays he, attempting to account for the Effects of Craw-fiſh in “ this Diſorder, pretended, that it was uſeful, becauſe it was an aquatic Animal, and becauſe the Diſorder depends “ upon an exceſſive Dryneſs, which produces a Dread of Water in thoſe affected with it. He added, That “ the River Craw-fiſh was more proper, in this Diſtemper, than that of the Sea; becauſe theſe latter partake of “ the Salt with which the Sea-water is impregnated, and which is of a very dry Nature. But ſome one having “ ſtarted this Objection to him; If what you advance be true, whence comes it, that all aquatic Animals are not “ equally proper for this Diſorder? he anſwer'd, That it was becauſe they did not all admit of the ſame Pre- “ paration with the Craw-fiſh, the Shell of which may be reduced to Aſhes; which, being of a drying Nature, “ conſumes and abſorbs the Poiſon which creates the Diſorder. *Pelops*, continues *Galen*, fell into theſe Contra- “ dictions from a Principle of Vanity, which prompted him to account for every thing; but as for me, if I am “ not thoroughly convinced of the Truth of a Thing, I never undertake to make Proſelytes of others.” It were to be wiſh'd, that all Phyſicians follow'd this Maxim of *Galen*; but a culpable Dread of being thought ignorant prompts Men to ſpeak at all Hazards, tho' they often know not what they ſay themſelves.

After having treated of the Differences and Cauſes of Diſeaſes, *Galen* comes to examine their Symptoms or Accidents. Our Author defin'd a Symptom *a preternatural Affection which depends upon a Diſeaſe, or follows it as a Shadow does a Body:* By this Definition of a Symptom, we ſee that it agrees with a Diſeaſe in this, that both are preternatural Affections; but they differ in this, that the Diſeaſe precedes, and the Symptom follows or enſues, the Diſeaſe being, as it were, the Cauſe of the Symptom. *Galen* acknowledged three Kinds of Symptoms; the firſt and moſt conſiderable of which conſiſted in the Action of the Parts being injur'd or hinder'd; the ſecond conſiſts in a Change of the Quality of the Parts, their Actions in the mean time remaining entire; the third relate to the Defects, in point of Excretion and Retention. The Symptoms of the firſt Kind differ, in particular, from the Diſeaſe in this, that the Diſeaſe conſiſts in a certain Diſpoſition of the Parts which hinders their Action; whereas the Symptom of this Species is only a Conſequence of ſuch a Diſpoſition. The following Example will render this Difference more ſenſible, and alſo point out the Diſtinction between the Diſorder itſelf and its Cauſe. In a Pleuriſy the Diſorder conſiſts in an Inflammation of the Pleura: This Inflammation ſo changes the natural Diſpoſition of this Membrane, that its Action, which is to aſſiſt Reſpiration in Conjunction with other Parts, is hinder'd: The Symptom is the Difficulty of Breathing, which is a Conſequence of the Inflammation, and of the ſubſequent Hindrance of the Action of the Pleura. The Cauſe, whether antecedent or conjunct, is the Humours, which are ill-diſpoſed; a Part of which is pour'd upon the Pleura, and occaſions the Inflammation. This firſt Species of Symptoms varies according as the Actions or Faculties, on which they depend, themſelves vary. Thus there are Symptoms of the natural, the vital, and the animal Faculties. Bad Digeſtion is a Symptom of the natural Faculty, and conſiſts in the Defect of the natural Action of the Stomach and Inteſtines, whoſe Office it is to digeſt and concoct the Aliments. A Syncope is a Symptom of the vital Faculty, and conſiſts in a Defect of the vital Action of the Heart, which is to communicate Life to all the Parts. An Apoplexy is a Symptom of the animal Faculty, and conſiſts in a Defect of the animal Action of the Brain, by which Motion and Senſation are communicated to the Parts. Madneſs and Phrenſy are Symptoms of the governing Faculty, which is joined to the animal Faculty, and they conſiſt in a Defect of the Action of this governing or reaſoning Faculty. Here we muſt obſerve, that under theſe three general Faculties are comprehended the ſeveral particular Faculties already mentioned, and which have each their peculiar Symptoms. We muſt, beſides, obſerve, that the Actions may be defective in three different Manners; firſt, when they are aboliſh'd, or ceaſe entirely; ſecondly, when they are diminiſh'd, or only partially perform'd; and, thirdly, when they are depraved, or not performed as they ought to be. Blindneſs, for Inſtance, or the Loſs of Sight, is a Symptom of the Action of the Eye being aboliſhed: The Defect of thoſe who are ſhort-ſighted, or who do not ſee, except in open Day, is a Symptom of this Action diminiſh'd: And the Diſorder of thoſe to whom Objects are repreſented as of another Colour, or in another Situation, than they really are, is a Symptom of the Depravation of this Action.

The ſecond Species of Symptoms, which conſiſt in a Change of the Quality of the Parts of the Body, derive their Differences from the Number of thoſe Senſes commonly called external. The changed Qualities which relate to the firſt of the Senſes, which is that of Sight, are the extraordinary Colours which the Body aſſumes in certain Diſeaſes; ſuch as a yellow Colour, for Inſtance, in thoſe who labour under the Jaundice. This Change of Colour is not an Action hinder'd; but, however, is an Accident or Symptom of a Diſeaſe. Like Changes happen with reſpect to Hearing, Smelling, Taſting, and Feeling.

The third Kind of Symptoms relate to the Faults of Excretion and Retention, or of thoſe things which are either diſcharged from the Body, or retained in it. Theſe things are injurious, either with reſpect to the Whole of their Subſtance, ſuch as Worms and Stones, which ought never to be in ſound Bodies; or with reſpect to their Evacuation, ſuch as the Excrements, which, tho' of the natural kind, are yet diſcharged by extraordinary Paſſages, as is obſerved in the Ileus, when the Fœces are diſcharged by the Mouth. It alſo happens, that Subſtances diſtinct from the Excrements are ſometimes diſcharged, whereas they ought to be retained in the Body. This is daily ſeen in Hemorrhages, when the Blood is diſcharged by the Noſe, by the Mouth, by Stool, or in any other manner; but the menſtrual Diſcharges of Women are Exceptions to this Caſe. Another Fault of things diſcharged or retained relates to their Quantity; as when the Excrements are wholly or partly retained, or when they are evacuated in too large a Quantity; when the Diſcharge of the Urine is too profuſe, too ſcanty, or none at all; when the hemorrhoidal or menſtrual Fluxes either do not return at their ſtated Times, or are too copious. The laſt Fault relates to the Quality of theſe Subſtances, as when the Excrements are either too much indurated, or too liquid, or of a preternatural Colour and Smell; when Women labour under the Fluor Albus; or when the Saliva is either bitter or ſaline. Some of the Symptoms deſcribed under this third Claſs have a Relation to thoſe of the firſt, which relate to the Hindrance of the Actions.

We muſt alſo obſerve, with reſpect to thoſe Subſtances evacuated from the Body in ſome Diſeaſes, that their Excretion is not always a Symptom, tho' they are ſometimes diſcharged in great Abundance. Hemorrhages, for Inſtance, Sweats, and Diarrhœas, which happily terminate Diſeaſes, are not Symptoms. Evacuations of this kind are, by *Galen*, conſidered as the Work of Nature, which has ſurmounted the Diſeaſe, and put an End to it by a Criſis.

Having thus ſpoke of Diſeaſes, their Cauſes, and their Symptoms, we now come to treat of their Signs. The Author of the Definitions aſcribed to *Galen* defines a Sign to be *That which diſcovers, or makes known, what was formerly unknown.* *Galen*, as we have above obſerved, diſtinguiſhed Signs into thoſe which are ſalutary, thoſe that are not ſo, and thoſe which are of a neutral or indifferent Nature; but, for the ſake of Brevity, we ſhall only here conſider the Signs of Diſeaſes. Of theſe *Galen* eſtabliſhed two principal Kinds; the former he called *Diagnoſtic*, and the latter *Prognoſtic* Signs. The *Diagnoſtic* Signs are ſo called, becauſe they enable us to know Diſeaſes, and to diſtinguiſh them from each other. There are two ſorts of Diagnoſtic Signs, the one called *Pathognomic*, which are peculiar to a Diſeaſe, make known its preciſe Species, and always accompany it, ſo that they begin and end with it. The other Species of *Diagnoſtic* Signs are called *Adjunct*; theſe are common to ſeveral Diſeaſes, and only ſerve to point out or diſcover the Differences between Diſeaſes of the ſame Species. In a Pleuriſy, for Inſtance, the pathognomic Signs are a Cough, a Difficulty of Breathing, a Pain of the Side, and a continued Fever. The adjunct Signs are the various ſorts of Matter expectorated, which are ſometimes bloody, ſometimes bilious, ſometimes white, frothy, thick, or clear. Our Author drew the Diagnoſtic Signs, firſt, from the Eſſence or Nature of the Thing itſelf, that is, from the defective or diſordered Diſpoſition of the Parts, or from the Diſeaſes themſelves; ſecondly, from the Cauſes of Diſeaſes; and, thirdly, from their Symptoms, among the Number of which are the various Pulſes, and the Excrements: And, laſtly, from the particular Diſpoſitions of each Body, which are ſometimes hereditary, or derived from Parents, from things which prove prejudicial, and thoſe that do Service, and from epidemical Diſeaſes.

In order to draw Signs from the injured Diſpoſition of the Parts, we muſt previouſly know what are the Parts affected, or which are not in a good Diſpoſition; whether, for Inſtance, it is the Foot or the Hand, the Liver or the Lungs. This, with reſpect to the external Parts, may be diſcovered by the Sight and the Touch; and by the ſame Means we may alſo judge of the Species of Diſorder under which they labour. But this does not hold with reſpect to the internal Parts, to diſcover which a great deal of Labour and Skill are required. *Galen*, however, in order to anſwer this End, adverted carefully to five Things: Firſt, the particular Action injured; ſecondly, the Nature or Species of the Pain felt; thirdly, the Situation of the Part in which the Pain, or any other preternatural Circumſtance, is perceived; fourthly, the Accidents peculiar to each Part; and, laſtly, the Excrements peculiar to theſe Parts, or which certain Parts uſually diſcharge, and the Manner in which certain Subſtances are evacuated. A Knowledge of the Action or natural Uſe of the Parts contributes very much to the diſcovering which of them are affected; for as all the Actions, whether natural, vital, or animal, are performed by certain Organs or Parts of the Body, it follows, of courſe, that when an Action is hindered, the Part which ſhould perform it is affected. Thus a difficult Concoction of the Aliments denotes, that the Stomach is affected, becauſe 'tis the Office of the Stomach to concoct the Aliments. A Difficulty of diſcharging the Urine imports, that the Bladder, Kidneys, or Parts connected with them, are affected, becauſe 'tis the proper Action or Office of theſe Parts not only to contain, but alſo to give a free Paſſage to the Urine. An Alteration of the Pulſe ſignifies an Affection of the Heart and Arteries, becauſe the Pulſe is an Action of the Heart and Arteries. Blindneſs is a certain Sign, that the Eye is affected, becauſe the Eye is the Organ of Sight. Immobility of a particular Part, or of the whole Body, witneſſes that the Nerves are affected, becauſe the Nerves are the immediate Inſtruments of Motion. But, as a Part may be affected in two Manners, either primarily, and by itſelf, or only by Conſent, that is, by the Connection or Communication it has with ſome other Part; ſo the Affections thus produced are accordingly diſtinguiſhed. We know the proper or primary Affection of the Part, when that Affection is unaccompany'd with any other, when it continues for a conſiderable Time, when it does not augment in proportion as ſome other Affection increaſes, when it continues after another Affection has ceaſed, and when the Remedies uſually apply'd for its Relief produce their ordinary Effects; on the contrary, that Affection which is only produced by Conſent, augments or diminiſhes in proportion as ſome other Affection does, and the Patient is not relieved by the Remedies proper for that Affection, when of the primary Kind. Thus Vomiting, which is an Affection of the Stomach, ſometimes happens in conſequence of the Conſent or Connection between that Part and the Kidneys; ſo that the Kidneys being primarily affected, the Stomach ſuffers by Conſent, tho' no Diſorder acts directly and immediately upon itſelf. In this Caſe the ordinary Remedies for the Stomach are of no Uſe, and the Phyſician muſt direct his Views to the Cure of the Kidneys; whereas, if the Stomach was properly and primarily affected, his Care ought to be employed for the Relief of that in particular. The Nature or Species of the Pain felt indicates the Nature of the Part which ſuffers, or is affected. If the Pain is accompanied with Pulſation or Beating, 'tis a Sign, that there is an Artery, either in or near the Part in Pain. If the Pain is pungent, 'tis a Sign, that the Part affected is membranous; and, if it is convulſive, the Nerves ſuffer. The Situation of the Place pained alſo indicates the Part affected. Thus a deep-ſeated internal Pain, with Tenſion and Swelling of the right Hypochondrium, denote that the Seat of the Diſorder may poſſibly be in the Liver, which is ſituated in by the red Serpent which the Patient imagin'd he ſaw. *Galen* adds, that this Hæmorrhage was ſo great, that they were obliged to uſe means to ſtop it, which was effected not without Difficulty. As for thoſe Signs which diſcover whether the Patient will die by Exhauſtion or Oppreſſion, they are particularly drawn from the State of the Patient, and the Nature of the Diſeaſe. If a Patient has languiſh'd for a long time, if he has had a Hæmorrhage or Diarrhœa, if he has neglected to ſupport himſelf by Aliments, or if he has other Signs of Death about him, he may poſſibly die by Exhauſtion. But if a Patient, threaten'd with immediate Death, has not been weaken'd by Evacuations of this Kind, or if the Diſorder is recent, 'tis obvious to perceive, that he dies by Oppreſſion.

This is ſufficient for explaining the three Kinds of prognoſtic Signs already mentioned. But our Author, farther, eſtabliſhed three other Species of them, with reſpect to other three Things, which alſo furniſh Prognoſtics. "There are," ſays he, "three Kinds of prognoſtic Signs. Some relate to the Concoction or Crudity of the "Humours, others to the Death or Recovery of the Patient, and the third relate to Criſes in particular." All Prognoſtics in general are drawn from three different Sources. The firſt Source relates to the three Kinds of Faculties or Actions, that is, the natural, the vital, and the animal. The ſecond Source, to the Excrements, or Things diſcharg'd from the Body. And the third Source, to a Change of Qualities. We ſhall not, on this Occaſion, enter into a Detail of all that *Galen* has ſaid with reſpect to theſe different Signs, and their various Sources; ſince that would be both tedious and inconſiſtent with our Deſign: However, for farther Satisfaction with reſpect to ſome other Particularities of this Author's Syſtem, we muſt refer our Readers to the Article PULSUS.

Having ſhewn the Nature of Diſeaſes, with their Cauſes, Symptoms, and Signs, according to the Syſtem of *Galen*, we come now to point out the Method in which they ought to be treated. This Method is built upon two fundamental Maxims before-mentioned, which are, That a Diſeaſe, which is ſomething contrary ro Nature, ought to be ſubdued by its contrary: And that Nature is to be preſerved by what has a proper Conformity with it. From theſe two Maxims ariſe the Indications, which are the Baſis of practical Medicine. What *Galen* calls an *Indication* is an Inſinuation, or Hint, of what ought to be done with reſpect to ſomething, taken from the proper Nature or Condition of that Thing. Theſe two Maxims, thus laid down, afford us, according to our Author, two general Indications; one of which is taken from the Affection contrary to Nature, which Affection indicates, or requires, that it ſhould be removed, or ſubdued; the other is taken from the natural Conſtitution, and Strength, which inſinuate, or put us in Mind, that they ought to be preſerved. There are, as we have already obſerved, three Sorts of Affections contrary to Nature, which are the Diſeaſe, the Cauſe, and the Symptom. Of theſe three, the Diſeaſe being the principal, or being primarily and in itſelf contrary to Health, it is what we propoſe to cure, and conſequently what properly affords the principal curative Indication, which is taken, as we ſaid, from what is contrary to the Diſeaſe. But if we ſometimes make uſe of like and not contrary Things, as, for Inſtance, a hot Remedy for a hot Diſtemper, that happens only accidentally through the Intervention of ſome other thing which is directly contrary to the Diſeaſe. In other reſpects we are to take care that Agents be proportion'd to Patients, and that the Contraries we employ have their Degrees ſuited to thoſe of the Diſeaſe, leſt, if they are too weak, they ſhould be wholly ineffectual; and if they are too ſtrong, ſhould run Matters to the oppoſite Exceſs, which is no leſs contrary to Nature than what we intended to correct. It is farther to be obſerved, that the Contraries we ſpeak of ought to be uſed by Degrees, becauſe Nature cannot bear ſudden Alterations. We muſt begin then with the weakeſt, and not proceed all on a ſudden to the ſtrongeſt. Beſides, as there are ſeveral Kinds of Diſeaſes, ſo there are alſo of Remedies: A ſimple Diſeaſe indicates a ſimple Remedy, a complicated Diſeaſe a compounded Remedy, or one that ſerves for ſeveral Purpoſes. But it is to be obſerved, that in complicated Caſes we ought primarily to regard the principal Diſeaſe, or that which is the Cauſe of the reſt, and, as long as it ſubſiſts, hinders their Cure. This Rule then is always to be follow'd, except in ſome Caſes where the Phyſician is obliged to provide againſt the moſt preſſing or dangerous Circumſtance, as when there is a Malignity attending it, when it attacks ſome conſiderable Parts, or hinders ſome principal Action.

But tho' the firſt curative Indication be taken from the Diſeaſe, yet as it cannot be cured ſo long as its Cauſe ſubſiſts, it is neceſſary to begin the Cure, by removing or ſubduing that Cauſe. If there be ſeveral Cauſes, they muſt be remov'd, one after the other, each in its Order, in which Caſe *Galen* adviſes to begin with that Cauſe, which was, as we may ſay, firſt in Birth, but laſt in Diſcovery, by proceeding after an analytic Method. This Maxim appears to be neceſſary, principally by way of Precaution, when we endeavour to extirpate the Cauſes of Diſeaſes, and by that means prevent their Riſe or Increaſe, or to cure them the more eaſily, as ſoon as they are formed.

The Symptoms, conſider'd as ſuch, require nothing particular in their Cure, becauſe the Diſtemper, on which they depend, being ſubdued, they diſappear at the ſame time. However, it ſometimes happens, that the Phyſician is obliged to neglect the Diſeaſe, in order to obviate the Symptoms, when poſſibly the Symptom may produce a worſe Diſeaſe than what it accompanies, or when it cauſes a conſiderable Abatement of the Strength. But it is to be obſerved, that, in the firſt Caſe, the Symptom is conſider'd as a Cauſe; and in the other, that the Indication is not taken from the Symptom, but from the Strength of the Patient.

The Strength and natural Conſtitution of the Body are, indeed, the ſecond Source from whence we take, as we ſaid, our Indications. As to the Strength, it does not, indeed, teach what is to be done to cure a Diſeaſe, and is as little concerned in indicating the Quality of the Remedies; but it regulates their Quantity. When, for Example, the Strength is too much depreſſed, it forbids the Uſe of ſo powerful a Remedy as the Greatneſs of the Diſeaſe would otherwiſe neceſſarily require. It is for this Reaſon that *Galen* ſays, that the vital Indication, or the Indication taken from the Strength, (for Life depends on the Strength) ought to be the firſt of all Indications, and to precede the curative Indication. According to this Maxim, we are, before all things, to examine what the Strength of the Patient is able to bear; and we often find ourſelves obliged to preſcribe ſuch Remedies as are contrary to the Scope which we propoſe to ourſelves in the Cure of a Diſeaſe, when the Condition of the Strength indicates them. This is by ſo much the more neceſſary, becauſe the Remedies cannot produce their Effect but as they are aſſiſted by the Strength of the Patient, which is to be ſo managed as that it may be able to reſiſt the Diſeaſe, and to hold out during its whole Courſe. This ſort of Conflict between two Indications, and Contra-indications, ſometimes give a good deal of Trouble to the Phyſician; however, he muſt, as we ſaid, attend to what is the moſt urgent. Under the natural Conſtitution of the Body are comprehended Temperament, Habit or Cuſtom, Age, Sex, and Condition of each Part, and all theſe, as well as the Strength, ſupply us with particular Indications for their Preſervation. The Temperament, whether natural or acquired, demands our Attention in the Cure of a Diſeaſe; and Cuſtom is to be no leſs regarded, becauſe a weak and diſeaſed Body cannot, without Difficulty, ſupport the Inconveniencies to which it is ſubjected by a Change of Management. Perſons who are tender are not to be treated like thoſe of robuſt Bodies; Children, adult Perſons, the Aged, and Women, require alſo regard to thoſe particular Indications which may be taken from their reſpective Conditions. With regard to the Condition of the Parts, there are ſeven Things to be conſidered: Firſt, the Temperament of a hot Part, for Inſtance, ſeized with a hot Diſeaſe, does not require ſo potent a Remedy as a cold one under the ſame Diſorder, becauſe the firſt of theſe Parts is leſs altered from its natural Temperament by the Diſeaſe, and the other more. Secondly, we are to conſider the Importance of the Part affected. The noble Parts require milder Remedies, and ſuch as are neceſſarily ſtrengthening, becauſe thoſe Parts are of common Benefit to all the Body, and their Preſervation is of great Importance. The Liver and Stomach, which are of that Number, are always to be ſtrengthened; and, ſuppoſing theſe Parts require to be refrigerated or mollify'd, we are to compound aſtringent and moderately heating Remedies with Refrigerants and Emollients, in order to avoid too great a Refrigeration and Relaxation. The better to ſhew the Neceſſity of ſuch a Practice, our Author gives us a pretty long Account of what happened in his Time to one *Attalus*, a Phyſician, who killed, he ſays, a *Cynic* Philoſopher, call'd *Theagenes*, by a continual Application of laxative Cataplaſms to the Region of the Liver, where there was an Inflammation, againſt the Opinion of *Galen*, who adviſed the Mixture of Aſtringents with thoſe relaxing Remedies. In the third Place, we are to regard the Senſation of the Part; for the more tender and ſenſible any Part is, the leſs it is able to bear acrimonious or violent Remedies; and it may happen, that the ſame Diſeaſe may require different Medicines, on account of its being ſeated in different Parts. The Eye, affected with an Inflammation, will not ſuffer the ſame Remedies as another inflamed Part. Oil, for Example, which mitigates Phlegmons, or inflammatory Tumors, in the Arms or Legs, augments Inflammations of the Eyes. Fourthly, the Contexture of the Part is to be conſidered: If the Part be denſe, thick, and hard, the Medicines ought to be more penetrating, and ſtronger than ſuch as are applied to Parts of a lax and ſoft Contexture. A fifth Indication is taken from the Figure of the Part, which teaches us to know by what Quarter that which incommodes it may moſt conveniently be diſcharged. The Situation of the Part affords a ſixth Indication; for the more abſconded, or deeply ſeated, any Part is, or the more remote from the Place where a Medicine may be applied, the greater is to be the penetrating Force of that Medicine. And, laſtly, the Vicinity of a Part ſometimes furniſhes us with Indications, which make ſome Alterations in the Method of Cure. For we ought to regard not only the diſeaſed Part, but thoſe which are adjacent to it; for theſe laſt are oftentimes more tender and ſenſible than the firſt, ſo as to be incommoded by the Application of Medicines to the neighbouring affected Part, when they are too ſtrong or penetrating.

Beſides theſe two general Sources of Indications already mentioned, which are the Affection contrary to Nature, and the natural Conſtitution, *Galen* reckons a third, and that is, the Air which ſurrounds us, or what we breathe; and this alſo, in particular, deſerves very much to be regarded in the Cure of Diſtempers.

All Indications, of what Nature ſoever, are anſwered by Diet, Pharmacy, or Surgery, which are the three general Methods by which Phyſicians treat the Diſeaſed. With reſpect to theſe, *Galen* followed the principal Maxims eſtabliſhed by *Hippocrates*. We ſhall only obſerve briefly, and that principally with regard to Pharmacy, that, as this Part of Medicine had been very much cultivated from the Time of *Hippocrates* down to *Galen*, the Number of Remedies, both ſimple and compound, was very much augmented; as may be concluded from what *Galen* himſelf has written on the Subject in many Books, ſome of which treat of ſimple Medicines, and others, of which there is a greater Number, of the Compoſition of Medicines. But it muſt not be forgotten, with regard to Medicines in general, that the Properties which *Galen* aſcribes to them are derived from what he calls the primary Qualities, as hot, cold, dry, and moiſt; and that each of theſe Qualities has, according to him, four Degrees; for Example, a thing which is hot, is ſo in the firſt, ſecond, third, or fourth Degree; Succory is cold in the firſt Degree, Pepper is hot in the fourth Degree. By virtue of theſe Qualities, and their various Combinations, the greateſt Part of Medicines, according to our Author, perform their Operations; and tho' he acknowledges, that there are acid, ſaline, acrimonious, and other kinds of Medicines, yet he endeavours to prove, that theſe laſt Qualities depend on the firſt; as the ſaline, for Inſtance, depends on Heat, as the Principle of its Saltneſs; that bitter depends on dry, that acrimonious is very hot, that acid is cold, and ſo of the reſt. He obſerves, in the ſecond Place, that whatever is hot, cold, or of any other Quality, is ſo either actually or potentially; Ice is cold actually, Mandrake and Hemlock are cold potentially; Fire is hot actually, Pepper potentially. Things which act not by virtue of thoſe Qualities which diſtinguiſh them, act by their whole Subſtances; ſuch are thoſe Remedies which we call Specifics, and ſome Poiſons and Counter-poiſons: Of this Nature alſo are Cathartics; for they act by a particular Property of their whole Subſtance, in attracting each its particular Humour.

Surgery had alſo been a little improved ſince the Time of *Hippocrates*, as may be judged from what has been ſaid concerning *Celſus*, who lived an hundred and fifty Years before *Galen*. As for *Galen*, he practiſed Surgery as well as all other Parts of Medicine: We have ſeveral Books of his, concerning Surgery, in particular, beſides what he ſays on the ſame Subject in other Places; and he ſpeaks of Cures in Surgery, which he himſelf had performed.

Having made theſe few Remarks on the Pharmacy and Surgery of *Galen*, we ſhall only add a Word or two of the Uſe which he made of the moſt common and general Remedies, ſuch as Bleeding, Cupping, Purging, Somniferous and other Medicines already mentioned in the Practice of *Hippocrates*, whom *Galen* followed in the Manner of uſing theſe Remedies, or at leaſt he obſerved his principal Maxims. All the Difference between them, with reſpect to Bleeding, in the firſt Place, was, that *Galen* uſed it ſomewhat more frequently than *Hippocrates*. In this, perhaps, he imitated the latter Phyſicians, who had made this Remedy ſo common, that *Celſus* ſays there was hardly any Diſtemper, in his Time, in which they did not uſe Bleeding. *Galen* took away more or leſs Blood, according to the Strength of the Patient: He ſuppoſes, that, on certain Occaſions, one might bleed till the Patient fainted; and ſays, that he took away, in one Day, ſix Cotylæ (about three Pounds three Quarters). He drew off that Quantity principally in the Beginning of acute Fevers, under a Redundance and Æſtuation of the Blood; ſuppoſing that, in ſuch Caſes, the beſt way to put a Stop to the Fever was, as ſoon as poſſible, to make a large Evacuation of Blood in this Condition. This Caſe excepted, he does not adviſe ſuch plentiful Bleeding; but, in order to deter ſuch as would make uſe of that Remedy without urgent Neceſſity, or conſidering the Strength of the Patient, he obſerves, that he had ſeen two Perſons die under it. It will anſwer our End better, he ſays, to repeat the Bleeding the ſame Day, or the following Days, than to take away too much Blood at one time. Beſides, with reſpect to Phlebotomy, *Galen* uſed all the Precautions *Hippocrates* had done, and which he took from the Seaſon, the Climate, the Age, the Strength, the Conſtitution of the Patient, and ſome other Circumſtances. He alſo depended very much upon the Indications furniſhed by the Pulſe. When the Pulſe was vigorous, he blooded pretty boldly, and allowed the Quantity he judged neceſſary to flow, ſo long as the Pulſe retained the ſame Force. With reſpect to ordinary Veneſection, 'tis probable the largeſt Quantity of Blood he took from the Patient did not exceed a Pound or eighteen Ounces, and that the ſmalleſt did not come ſhort of ſeven or eight. He himſelf gives us the Hiſtory of a Woman whoſe Menſes had been ſtop'd for eight Months, and from whom he took, the firſt Day, a Pound and an half of Blood, the ſecond Day a Pound, and the third Day eight Ounces. Our Author then was, probably, the firſt who ſpecify'd the preciſe Quantity of Blood to be taken by the red Serpent which the Patient imagin'd he ſaw. *Galen* adds, that this Hæmorrhage was ſo great, that they were obliged to uſe means to ſtop it, which was effected not without Difficulty. As for thoſe Signs which diſcover whether the Patient will die by Exhauſtion or Oppreſſion, they are particularly drawn from the State of the Patient, and the Nature of the Diſeaſe. If a Patient has languiſh'd for a long time, if he has had a Hæmorrhage or Diarrhœa, if he has neglected to ſupport himſelf by Aliments, or if he has other Signs of Death about him, he may poſſibly die by Exhauſtion. But if a Patient, threaten'd with immediate Death, has not been weaken'd by Evacuations of this Kind, or if the Diſorder is recent, 'tis obvious to perceive, that he dies by Oppreſſion.

This is ſufficient for explaining the three Kinds of prognoſtic Signs already mentioned. But our Author, farther, eſtabliſhed three other Species of them, with reſpect to other three Things, which alſo furniſh Prognoſtics. "There are," ſays he, "three Kinds of prognoſtic Signs. Some relate to the Concoction or Crudity of the "Humours, others to the Death or Recovery of the Patient, and the third relate to Criſes in particular." All Prognoſtics in general are drawn from three different Sources. The firſt Source relates to the three Kinds of Faculties or Actions, that is, the natural, the vital, and the animal. The ſecond Source, to the Excrements, or Things diſcharg'd from the Body. And the third Source, to a Change of Qualities. We ſhall not, on this Occaſion, enter into a Detail of all that *Galen* has ſaid with reſpect to theſe different Signs, and their various Sources; ſince that would be both tedious and inconſiſtent with our Deſign: However, for farther Satisfaction with reſpect to ſome other Particularities of this Author's Syſtem, we muſt refer our Readers to the Article Pulsus.

Having ſhewn the Nature of Diſeaſes, with their Cauſes, Symptoms, and Signs, according to the Syſtem of *Galen*, we come now to point out the Method in which they ought to be treated. This Method is built upon two fundamental Maxims before-mentioned, which are, That a Diſeaſe, which is ſomething contrary ro Nature, ought to be ſubdued by its contrary: And that Nature is to be preſerved by what has a proper Conformity with it. From theſe two Maxims ariſe the Indications, which are the Baſis of practical Medicine. What *Galen* calls an *Indication* is an Inſinuation, or Hint, of what ought to be done with reſpect to ſomething, taken from the proper Nature or Condition of that Thing. Theſe two Maxims, thus laid down, afford us, according to our Author, two general Indications; one of which is taken from the Affection contrary to Nature, which Affection indicates, or requires, that it ſhould be removed, or ſubdued; the other is taken from the natural Conſtitution, and Strength, which inſinuate, or put us in Mind, that they ought to be preſerved. There are, as we have already obſerved, three Sorts of Affections contrary to Nature, which are the Diſeaſe, the Cauſe, and the Symptom. Of theſe three, the Diſeaſe being the principal, or being primarily and in itſelf contrary to Health, it is what we propoſe to cure, and conſequently what properly affords the principal curative Indication, which is taken, as we ſaid, from what is contrary to the Diſeaſe. But if we ſometimes make uſe of like and not contrary Things, as, for Inſtance, a hot Remedy for a hot Diſtemper, that happens only accidentally through the Intervention of ſome other thing which is directly contrary to the Diſeaſe. In other reſpects we are to take care that Agents be proportion'd to Patients, and that the Contraries we employ have their Degrees ſuited to thoſe of the Diſeaſe, leſt, if they are too weak, they ſhould be wholly ineffectual; and if they are too ſtrong, ſhould run Matters to the oppoſite Exceſs, which is no leſs contrary to Nature than what we intended to correct. It is farther to be obſerved, that the Contraries we ſpeak of ought to be uſed by Degrees, becauſe Nature cannot bear ſudden Alterations. We muſt begin then with the weakeſt, and not proceed all on a ſudden to the ſtrongeſt. Beſides, as there are ſeveral Kinds of Diſeaſes, ſo there are alſo of Remedies: A ſimple Diſeaſe indicates a ſimple Remedy, a complicated Diſeaſe a compounded Remedy, or one that ſerves for ſeveral Purpoſes. But it is to be obſerved, that in complicated Caſes we ought primarily to regard the principal Diſeaſe, or that which is the Cauſe of the reſt, and, as long as it ſubſiſts, hinders their Cure. This Rule then is always to be follow'd, except in ſome Caſes where the Phyſician is obliged to provide againſt the moſt preſſing or dangerous Circumſtance, as when there is a Malignity attending it, when it attacks ſome conſiderable Parts, or hinders ſome principal Action.

But tho' the firſt curative Indication be taken from the Diſeaſe, yet as it cannot be cured ſo long as its Cauſe ſubſiſts, it is neceſſary to begin the Cure, by removing or ſubduing that Cauſe. If there be ſeveral Cauſes, they muſt be remov'd, one after the other, each in its Order, in which Caſe *Galen* adviſes to begin with that Cauſe, which was, as we may ſay, firſt in Birth, but laſt in Diſcovery, by proceeding after an analytic Method. This Maxim appears to be neceſſary, principally by way of Precaution, when we endeavour to extirpate the Cauſes of Diſeaſes, and by that means prevent their Riſe or Increaſe, or to cure them the more eaſily, as ſoon as they are formed.

The Symptoms, conſider'd as ſuch, require nothing particular in their Cure, becauſe the Diſtemper, on which they depend, being ſubdued, they diſappear at the ſame time. However, it ſometimes happens, that the Phyſician is obliged to neglect the Diſeaſe, in order to obviate the Symptoms, when poſſibly the Symptom may produce a worſe Diſeaſe than what it accompanies, or when it cauſes a conſiderable Abatement of the Strength. But it is to be obſerved, that, in the firſt Caſe, the Symptom is conſider'd as a Cauſe; and in the other, that the Indication is not taken from the Symptom, but from the Strength of the Patient.

The Strength and natural Conſtitution of the Body are, indeed, the ſecond Source from whence we take, as we ſaid, our Indications. As to the Strength, it does not, indeed, teach what is to be done to cure a Diſeaſe, and is as little concerned in indicating the Quality of the Remedies; but it regulates their Quantity. When, for Example, the Strength is too much depreſſed, it forbids the Uſe of ſo powerful a Remedy as the Greatneſs of the Diſeaſe would otherwiſe neceſſarily require. It is for this Reaſon that *Galen* ſays, that the vital Indication, or the Indication taken from the Strength, (for Life depends on the Strength) ought to be the firſt of all Indications, and to precede the curative Indication. According to this Maxim, we are, before all things, to examine what the Strength of the Patient is able to bear; and we often find ourſelves obliged to preſcribe ſuch Remedies as are contrary to the Scope which we propoſe to ourſelves in the Cure of a Diſeaſe, when the Condition of the Strength indicates them. This is by ſo much the more neceſſary, becauſe the Remedies cannot produce their Effect but as they are aſſiſted by the Strength of the Patient, which is to be ſo managed as that it may be able to reſiſt the Diſeaſe, and to hold out during its whole Courſe. This ſort of Conflict between two Indications, and Contra-indications, ſometimes give a good deal of Trouble to the Phyſician; however, he muſt, as we ſaid, attend to what is the moſt urgent. Under the natural Conſtitution of the Body are comprehended Temperament, Habit or Cuſtom, Age, Sex, and Condition of each Part, and all theſe, as well as the Strength, ſupply us with particular Indications for their Preſervation. The Temperament, whether natural or acquired, demands our Attention in the Cure of a Diſeaſe; and Cuſtom is to be no leſs regarded, becauſe a weak and diſeaſed Body cannot, without Difficulty, ſupport the Inconveniencies to which it is ſubjected by a Change of Management. Perſons who are tender are not to be treated like thoſe of robuſt Bodies; Children, adult Perſons, the Aged, and Women, require alſo regard to thoſe particular Indications which may be taken from their reſpective Conditions. With regard to the Condition of the Parts, there are ſeven Things to be conſidered: Firſt, the Temperament of a hot Part, for Inſtance, ſeized with a hot Diſeaſe, does not require ſo potent a Remedy as a cold one under the ſame Diſorder, becauſe the firſt of theſe Parts is leſs altered from its natural Temperament by the Diſeaſe, and the other more. Secondly, we are to conſider the Importance of the Part affected. The noble Parts require milder Remedies, and ſuch as are neceſſarily ſtrengthening, becauſe thoſe Parts are of common Benefit to all the Body, and their Preſervation is of great Importance. The Liver and Stomach, which are of that Number, are always to be ſtrengthened; and, ſuppoſing theſe Parts require to be refrigerated or mollify'd, we are to compound aſtringent and moderately heating Remedies with Refrigerants and Emollients, in order to avoid too great a Refrigeration and Relaxation. The better to ſhew the Neceſſity of ſuch a Practice, our Author gives us a pretty long Account of what happened in his Time to one *Attalus*, a Phyſician, who killed, he ſays, a *Cynic* Philoſopher, call'd *Theagenes*, by a continual Application of laxative Cataplaſms to the Region of the Liver, where there was an Inflammation, againſt the Opinion of *Galen*, who adviſed the Mixture of Aſtringents with thoſe relaxing Remedies. 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Having made theſe few Remarks on the Pharmacy and Surgery of *Galen*, we ſhall only add a Word or two of the Uſe which he made of the moſt common and general Remedies, ſuch as Bleeding, Cupping, Purging, Somniferous and other Medicines already mentioned in the Practice of *Hippocrates*, whom *Galen* followed in the Manner of uſing theſe Remedies, or at leaſt he obſerved his principal Maxims. All the Difference between them, with reſpect to Bleeding, in the firſt Place, was, that *Galen* uſed it ſomewhat more frequently than *Hippocrates*. In this, perhaps, he imitated the latter Phyſicians, who had made this Remedy ſo common, that *Celſus* ſays there was hardly any Diſtemper, in his Time, in which they did not uſe Bleeding. *Galen* took away more or leſs Blood, according to the Strength of the Patient: He ſuppoſes, that, on certain Occaſions, one might bleed till the Patient fainted; and ſays, that he took away, in one Day, ſix Cotylæ (about three Pounds three Quarters). 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When the Pulſe was vigorous, he blooded pretty boldly, and allowed the Quantity he judged neceſſary to flow, ſo long as the Pulſe retained the ſame Force. With reſpect to ordinary Veneſection, 'tis probable the largeſt Quantity of Blood he took from the Patient did not exceed a Pound or eighteen Ounces, and that the ſmalleſt did not come ſhort of ſeven or eight. He himſelf gives us the Hiſtory of a Woman whoſe Menſes had been ſtop'd for eight Months, and from whom he took, the firſt Day, a Pound and an half of Blood, the ſecond Day a Pound, and the third Day eight Ounces. Our Author then was, probably, the firſt who ſpecify'd the preciſe Quantity of Blood to be taken away at a time. Neither *Hippocrates* nor *Celſus* have given Directions with reſpect to this Particular; and *Cælius Aurelianus*, who ſo exactly deſcribes all the Remedies uſed among the antient Methodics, neither ſpecifies the Meaſures nor the Weight of the Blood they took from their Patients. *Aretæus* is alſo ſilent on this Subject; and we find not the leaſt Fragment of any Phyſician's who lived before *Galen*, which informs us how much Blood they allowed to flow when they blooded any one. This our Author ſeems to inſinuate, when, in the ſame Paſſage, he tells us, *That none of the* Greeks *had ſpoken of Pounds and Ounces*; which Words muſt either be complete Nonſenſe, or relate to the Weight of the Blood to be taken by Veneſection. 'Tis probable, that *Galen* did not uſually repeat Veneſection more than three or four times. This we may infer from a Paſſage of his Work *De Curat. per Sang. Miſſ. Cap.* 12. where it is ſaid, that if no Circumſtance obliges to draw a large Quantity all of a ſudden, we muſt, by a firſt Veneſection, take a ſmaller Quantity, than would be neceſſary, if we intended by one Veneſection to take away the Quantity the Diſeaſe required: We muſt afterwards, continues he, perform the Operation a ſecond, and even, if we think it proper, a third time. Sometimes he performed the two firſt Veneſections in one and the ſame Day; ſometimes he performed the ſecond on the following Day; and even on the third Day he blooded twice, if Neceſſity required it. He blooded at all Hours, whether of the Day or the Night, but choſe the Time when the Fever was moſt moderate; and obſerved, as much as was poſſible, only to do it when the Digeſtion was finiſh'd. He laid it down as a Maxim, that the Blood ſhould be taken from a Vein on that Side where the Diſorder was lodged, or from that Vein which ſeemed to have the moſt immediate Communication with it. He opened all the Veins *Hippocrates* had done before him, and ſome others beſides. He open'd three Veins in the Flexure of the Cubit; the external, the internal, and that in the middle. When, in that Part, theſe Veins were not apparent, he blooded in the Middle of the Arm. He alſo blooded on the Back of the Hand, between the three large Fingers, the two ſmall ones, and betwixt the Thumb and fore Finger. He alſo blooded in the large Angles of the Eyes, and behind the Ears. He alſo opened the jugular Veins, and even the Arteries in ſeveral Parts of the Body; and he cauterized both Veins and Arteries, when there was a Neceſſity for it. He did not bleed Children under fourteen Years of Age; but, when they were a little more advanced in Years, he began by taking at moſt nine Ounces from them; and, if there was a Neceſſity for performing the Operation a ſecond time, he augmented that Quantity by four or five Ounces. But, if he dreaded to bleed Children, he had no manner of Scruple to perform that Operation on old Men, provided they were robuſt. His Intentions in Bleeding were the ſame with thoſe propoſed by *Hippocrates*; that is, he blooded in order to diminiſh Plenitude, or to procure a Derivation or Revulſion of Blood. When a Cacochymy was joined to Plenitude, a Circumſtance which equally indicated Purgation and Veneſection, he always began with the latter, as *Sydenham* has ſince, with great Judgment, adviſed, and preſs'd with much Earneſtneſs.

We have nothing particular to obſerve with reſpect to the Uſe our Author made of Cupping-glaſſes, ſince he applied them to the ſame Purpoſes *Hippocrates* did; and as for Leeches, it does not appear, that he uſed them at all.

Neither have we a great deal to ſay concerning his Sentiments with reſpect to Purgation, ſince, in this Particular, he rigidly adhered to the moſt important Precepts of *Hippocrates*: We ſhall only obſerve, that as he blooded principally with a View to diminiſh Plenitude, ſo he purged with an Intention to evacuate Cacochymy. Beſides, he knew a great many Purgatives to which *Hippocrates* was a Stranger, and, in all Probability, purged more frequently than that antient Phyſician.

Somniferous and anodyne Medicines were alſo greatly in Uſe in the Time of our Author: He himſelf teaches the Manner of preparing Diacodium, which is a Medicine compounded of the Decoction of the white Poppy, and Honey. He alſo deſcribes various Compoſitions in which Opium is an Ingredient; but it appears, that he uſed theſe Compoſitions rather to ſtop Fluxions, and mitigate Pains, than to procure Sleep.

Galen did not often exhibit Sudorifics, at leaſt internally. We find in his Works ſome Compoſitions in the Form of Antidotes, which, according to their Titles, ſerve to excite a Diaphoreſis; but we do not obſerve, that our Author uſed them in order to procure critical Sweats; and, indeed, he propoſes no Remedy of this Nature in his Method of treating Diſeaſes. The Means which, on theſe Occaſions, he moſt generally uſed to excite a Diaphoreſis, were, the Bath and Frictions, Remedies much uſed by *Galen*, and by which he often cured Fevers cauſed by Cold, and thoſe of the ſimple continued Kind.

He ſometimes alſo exhibited Specifics, ſuch as the Powder of the Craw-fiſh, which, as we have ſaid, he uſed againſt that Madneſs which proceeds from the Bite of a mad Dog: But he only preſcribed Specifics in Diſeaſes which proceed from occult Cauſes, ſuch as that juſt mentioned; for, in all other Diſeaſes, he uſed thoſe Remedies which the ordinary Indications ſuggeſted to him.

From what has been ſaid 'tis obvious, that the Medicine of *Galen* had a very near Affinity with that of *Hippocrates*. There is, however, this eſſential Difference between their Syſtems, that the one is almoſt entirely ſupported by Experience, and conſiſts of Obſervations, whereas the other depends almoſt wholly upon Reaſoning. The Medicine of *Hippocrates* is a Collection of Facts which he himſelf or others had obſerved, and on which he reaſons but little, at leaſt for the moſt part. The Medicine of *Galen*, on the other hand, is ſcarce any thing but a Congeries of Reaſonings and Diſputes. Now, as it is more eaſy to be deceived in Reaſoning than in making Experiments, ſince Reaſonings are ſubject to be conteſted, whereas Experiments, duly made, are admitted by all the World, it has happened, that the Syſtem of *Hippocrates* has afforded very little Matter of Exception to the Phyſicians who came after him, whereas that of *Galen* has been the Subject of a great deal of juſt and well-founded Cenſure. But, that this may be the better underſtood, we muſt remember, that thoſe Books of *Hippocrates*, in which there appears the greateſt Strain of Reaſoning, were antiently looked upon as ſpurious. Some modern Authors, who maintain that *Galen* never receded from the Principles of *Hippocrates*, aſſert that the Book intituled *Concerning antient Medicine*, is among the Number of thoſe of which we now ſpeak. Unleſs they aſſerted this, they could not make their Point good, becauſe the Author of that Book eſtabliſhes an Opinion which conſtitutes a ſecond Difference between the Syſtems of theſe two great Men, which is as conſiderable as that we have already mention'd.

“ The Antients, ſays the Author of that Work, did not believe, that cold, hot, or moiſt, or any other Quality, produced Diſeaſes in the human Body; but they were of Opinion, that ſuch an Exceſs of each of theſe “ Qualities, as Nature could not ſurmount, produced Diſorders; and this Exceſs they attempted to remove or “ correct. Now among ſweet Subſtances, that which is very ſweet is the ſtrongeſt; as, among bitter and ſour “ Subſtances, thoſe that are very bitter, or very ſour, are alſo the ſtrongeſt; in a Word, what holds the higheſt “ Degree in every Subſtance is the ſtrongeſt. Theſe laſt Things, or Exceſſes, continues that Author, the Antients believed to be in the Body, and to prove prejudicial to it: In a Word, there are in the Body Subſtances, “ bitter, ſaline, ſweet, ſour, ſharp, inſipid, and a thouſand other things which have different Qualities, accord-

"ing as they abound, or are exceſſive. Theſe different Qualities are neither perceived, nor prove prejudicial to "any one, ſo long as the Humours are mix'd, and, in conſequence of this Mixture, prove Correctors to each "other; but if the Humours are ſeparated, and remain apart, then their Qualities become at once perceptible "and prejudicial." From this Paſſage we may gather, that the Author did not mean, that the Humours he mentions acted by their primary Qualities, mentioned in the Beginning of the Paſſage, rather than by the others he afterwards enumerates: So far is he from aſſerting this, that, a little after, he ſays, "That it is not Heat, "but Sourneſs, and Inſipidneſs, which have great Strength, either within or without the Body, either with reſpect "to what we eat or drink, or what is applied externally in whatever manner." And he concludes, That among all the Faculties none are endow'd with leſs Power than hot and cold. This is entirely inconſiſtent with the Syſtem of *Galen*, which is almoſt entirely founded upon the Action of the four primary Qualities, hot, cold, dry, and moiſt; and in which the ſecondary Qualities, ſuch as ſour and bitter, are only look'd upon as the Effects or Conſequences of the other. There is, however, no great Probability, that the Book of which we now ſpeak is a ſpurious Piece, ſince the Style, the Air, and the Manner of Reaſoning, uſed by *Hippocrates*, are evidently conſpicuous in it. We have no Commentary of *Galen*'s upon this Book; and perhaps he declined commenting upon it, becauſe he knew not how to reconcile theſe Sentiments of *Hippocrates* with his own, tho' he was ſufficiently artful in making this antient Phyſician ſpeak his own Language when he thought proper; for we muſt obſerve, that tho' our Author calls himſelf the only one who had either well underſtood or juſtly explain'd *Hippocrates*, yet he often puts another Senſe upon his Words than that which is genuine. But tho' theſe two illuſtrious Phyſicians do not agree in every reſpect, yet they embrace the ſame Principles in many, admit of the common Principle of *Nature*, and her attractive and expulſive Faculties, agree with reſpect to the Signs of Diſeaſes, Criſes, and critical Days; and, which is ſtill more material, the Practice of the one has a very near Affinity to that of the other.

It muſt be confeſs'd, that the Syſtem of *Galen* is extremely ingenious, and very conſiſtent; and that its Author was a Perſon of a lively Imagination, and ready Invention. As to the Uſes of his Theory in Medicine, what *Celſus* ſays on another Occaſion, may perhaps, with great Juſtice, be applied to this; that is; "As in other Arts "there are many things, properly not belonging to the Arts themſelves, which have nevertheleſs a Tendency to "excite the Curioſity, and form the Genius, of the Artiſt; juſt ſo it is with reſpect to Medicine, for tho' a Con-"templation of theſe Things does not make a Phyſician, yet they render him better qualified for the Practice of "Phyſic than he would have otherwiſe been." When *Galen* illuſtrates or explains any important Doctrine of *Hippocrates*, relative to the diſtinguiſhing or curing Diſeaſes, we are much indebted to his Sagacity and Induſtry: But when he harangues upon his four Elements, four Qualities, Faculties, Spirits, and occult Cauſes, after entertaining the Imagination with a Multitude of deluſory Viſions, he leaves us where he found us, that is, in the Dark. He reaſons well, but to no manner of Purpoſe, ſince he reaſons from Principles which are generally falſe or precarious; and, I believe, every one muſt allow, that a Theory, attended with theſe Circumſtances, is not ſo likely to improve Medicine, as a conciſe and clear Account of inconteſtable Facts; I mean of the Symptoms which diſtinguiſh Diſeaſes, and prognoſticate their Events, and of the Methods of Cure moſt generally attended with Succeſs, and theſe without any Theory at all, unleſs ſuch a one as has Demonſtration to recommend it; for, as I have more than once obſerved, whatever can be doubted, ought always to be ſuſpected, and can never be depended upon in Practice, whatever ſpeculative Men may think or ſay to the contrary.

All the Theories, however, or any of them, which I have already given an Account of, may be very uſefully applied to one very good Purpoſe, which is, to ſatisfy the Impertinence of ſome certain Queriſts, and old Women, whether in Petticoats or Breeches; for there are many People ſo delighted with the Extraordinary and Marvellous, that they are never ſatisfied with what they comprehend; but require ſomething ſublime and unintelligible, which, tho' it may not ſatisfy their Doubts, confounds their Ideas, and exerciſes their Imaginations, in which they find ſomething, as it ſhould ſeem, ſuperlatively agreeable. So true is the Obſervation of *Lucretius*:

Omnia enim ſtolidi magis admirantur, amantque
Inverſis quæ ſub verbis latitantia cernunt.

I ſhall not deſcend to particular Inſtances of Practice introduced or preſerved by the *Greek* Authors ſubſequent to *Galen*, becauſe theſe are ſpecified under the Articles to which they belong, as the Circumſtances relating to them, as Authors, are related under the Articles of their Names; of which, that the Reader may turn to them for farther Information, I ſhall give the following Catalogue, in the Order of the Time in which they lived:

Oribaſius.
Aetius.
Alexander Trallianus.
Ægineta (Paulus).
Actuarius.
Myrepſus.

There are ſome few more, who have either already been ſpoke of as Followers of particular Sects, or who are of too little Importance to require Notice in this Place.

None of theſe Authors have attempted any general Innovation, either in the Theory or Practice of Phyſic; but have contented themſelves, for the moſt part, with the Syſtems and Methods of their Predeceſſors, eſpecially *Galen*, only deviating from them on particular Occaſions. Their Works conſiſt principally of Collections; and whoever reads them carefully, will find them extremely faulty, in neglecting to aſcertain the Efficacies of known Simples, and ſeldom attempting to diſcover any Virtues in them, which had not been obſerved by former Authors, from whom they tranſcribed. Inſtead of being thus uſefully induſtrious, they have ſhamefully miſ-ſpent their Time in deſcribing and recommending an infinite Number of compound Medicines, which has contributed to overload Phyſic, render the Practice of it precarious, and to retard its farther Advancement. They muſt not, however, be defrauded of the Praiſe which Dr. *Freind* gives them, who ſays, "They did not compile ſo as to have nothing "at all new, and what we may call their own, in their very voluminous Works; for tho' I muſt confeſs, that "there are not a great many things in them, in proportion to the Bulk of their Books, but ſuch as may be found "in *Galen* and others, yet ſome there are too, in regard to the real Improvement of the Art itſelf."

What I have ſaid of theſe lower *Greeks*, is ſtrictly true of the *Arabian* Phyſicians. Theſe, however, have the Reputation of having introduced ſome Simples into Medicine, which were not known either to the *Greeks* or *Romans*, eſpecially ſome of the milder Cathartics, as Manna, Sena, Tamarinds, Caſſia, Myrobolans, and Rhubarb; tho' Dr. *Freind* ſays, that the laſt is firſt mentioned by *Alexander Trallianus*. The *Arabians* alſo brought Sugar into medicinal Compoſitions; and hence aroſe many Forms of Medicines unknown to the Antients, and indeed of no great Uſe to their Succeſſors: Amongſt theſe are Syrups, Julaps, Conſerves, and Confections, particularly the *Confectio Alkermes*, perhaps the beſt of them all. We owe, farther, to them the Introduction of Muſk, Nutmegs, Mace, Cloves, and ſome other Aromatics; but we are much leſs obliged to them for applying to medicinal Uſes precious Stones, and Leaves of Gold and Silver. The *Arabians* likewiſe were acquainted with ſome few chymical Remedies; but their Knowledge, in this way, ſeems to have reach'd no farther than diſtil'd Waters, and Oils.

But what principally recommends them to our Peruſal is their having deſcribed, more diſtinctly at leaſt, ſome Diſtempers to which the Antients are ſaid to have been Strangers, amongſt which are the Small-pox, Meaſles, and Spina Ventoſa; tho' there is ſome Reaſon to ſuſpect, that *Hippocrates* had ſeen the firſt.

That I may convey a general Idea of the State of Phyſic among the *Arabians*, I ſhall give the Tranſlation of a Letter, wrote by the Abbé *Renaudaut* to Mr. *Dacier*, which is prefix'd to his Tranſlation of a Part of *Hippocrates*, and which *Fabricius* in his *Bibliotheca Græca* has given us in *Latin*.

A Knowledge of the Oriental Languages would formerly have been very uſeful to a Phyſician, when there were no Books to inſtruct him in his Art, but ſuch as were made or tranſlated by the *Arabians*, which was the Caſe till the End of the fifteenth Century: But ſince we have begun to read the principal Authors in their own Language, we have entirely left off the Reading of the *Arabians*; and there is ſcarce a Man of Learning who will read *Hippocrates*, *Dioſcorides*, or *Galen*, in bad Tranſlations from the *Arabic*. An Opinion, however, prevails among the Learned, that tho' the Peruſal of *Arabian* Authors be not neceſſary, it is ſtill uſeful for correcting the original Texts. This Opinion is owing to a too eaſy Faith in what they, who have made it their Buſineſs to ſtudy the Oriental Tongues, have ſpoken in Praiſe of the *Arabians*. It is true, that, in the Decay of Literature in *Europe*, the *Arabians* cultivated all the Sciences; that they tranſlated the principal Authors, ſome of whom, who wrote in *Greek*, are only to be found in *Arabic* Tranſlations; and this is what made ſo many Philoſophers, Phyſicians, and Mathematicians, among the *Arabians*. We ought, therefore, to allow them their due Praiſes for cultivating the Sciences, without conſidering them as excellent Tranſlators, which we can never do, if we are acquainted with them. *Salmaſius* very much contributed to the eſtabliſhing ſuch an Opinion, by citing Books which he hardly knew, and promiſing to reſtore *Dioſcorides* by an *Arabic* Verſion, which he had read in *Ebenbeitar*. But M. *Dodart*, who had ſeen ſome Eſſays of that Author, ſeems to think otherwiſe of that Affair; and, indeed, there wants no more than the reading the Hiſtory of thoſe Tranſlations, to enable us to form a Judgment of them. The moſt antient Tranſlations, which were made by *Syrians* into their own Language, are entirely loſt, and there remains nothing of them but the bare Titles; but if they were like the Verſions of the *Greek* Eccleſiaſtic Authors, which ſtill remain, we cannot but think, that thoſe who are ſo often miſtaken in common Matters, were guilty of more conſiderable Errors with reſpect to medicinal Subjects, which were ſo difficult, that the *Greeks* themſelves were oblig'd to make Dictionaries to explain them. We may judge of this Affair by many *Greek* Words which ſtill remain in the *Syriac* Dictionaries, becauſe there were no Words in *Syriac* to explain them; and when the *Arabians* undertook to tranſlate them into their own Tongue, they often miſunderſtood them. And yet we cannot deny, but that theſe firſt *Syriac* Verſions were made when *Greek* was better known, and was even ſtill commonly ſpoke; whereas the moſt Part of the *Arabic* Tranſlations were made under the ſecond Race of the Caliphs, Succeſſors of *Mahomet*, when the literal *Greek* was no more than a learned Language in the Countries belonging to them. The Time when theſe Tranſlations commenced is commonly fix'd in the Reign of *Almamon*, the Fifth of thoſe Princes. He favour'd learned Men more than any Prince, and brought his Nation in Love with the Sciences of the *Greeks*. *Abn Jufar Almanſor*, his Grandfather, had begun to give great Rewards to learned Men, particularly thoſe who tranſlated *Greek* Books into *Arabic*, and thereby gave an Opportunity to the *Arabians* to cultivate Philoſophy, Aſtronomy, Mathematics, and Medicine. Some of the principal Books were already tranſlated into *Syriac* by *Sergius* the *Syrian*, who lived under the Emperor *Juſtinian*, and paſſed for the moſt antient Interpreter. *Almamon* made a particular Search for *Greek* Books, ſent to Chriſtian Princes for them, and, when he had collected a great Number, made an Inquiry for Men of Letters to tranſlate them into *Arabic*. It is commonly believed, that the greateſt Part of theſe Tranſlations were from the original *Greek*, and ſome of them perhaps were ſo. But the beſt Hiſtorians obſerve, that the greateſt Part were made from *Syriac* Verſions, which were in the Poſſeſſion of *Syrians*. This Caliph, and his Grandfather *Almanſor*, who built *Bagdad*, generally reſided there, and the *Syriac* was ſtill commonly ſpoken, and even *Greek* was the vulgar Language in ſeveral Cities; yet the Knowledge of the *Syriac* was almoſt confin'd to Chriſtians, for which Reaſon theſe had the principal Share in this Work. One of the firſt of theſe Verſions was that of *Hippocrates*, which was made by ſome Chriſtian Phyſicians, who were in great Eſteem at the Court of the Caliph *Almanſor*: 'Till that Time the *Arabians* ſet but little Value upon foreign Phyſic; and we find, in the Hiſtory of *Mahomet*, that a Prince ſent him a Phyſician, who was a long Time among them without having any thing to do; and that one Day he went to wait upon *Mahomet*, and complain'd, that, ſince he had been among the *Arabians*, not one Perſon had aſk'd his Advice. *Mahomet* anſwer'd, That the *Arabians* never eat but when they were hungry, and always roſe from Table with an Appetite. The Phyſician, bowing low, retired, ſaying, That it was the true Rule of Health; and that where it was practiſed, the Phyſician had no Buſineſs. Hiſtorians take Notice, that among the *Arabians* was a Phyſician called *Hareth Ebn Chalda*, to whom *Mahomet* ſent ſick Perſons, and that he treated them with very ſimple Remedies.

Almanſor being very much indiſpoſed, and having tried all Sorts of Medicines, ſent into *Perſia* for *George*, the Son of *Boct-Jechua*, who was a long time his chief Phyſician. This Man was a *Syrian*, and a *Neſtorian* Chriſtian, and his great Skill was attributed to his having ſtudied the Antients, the principal of whom he tranſlated into his own Language. This Perſon gave the Mahometans a Reliſh for theſe Studies, in which the *Syrians* were their Maſters, for we ſcarce meet with a Mahometan who had ſtudied *Greek*; and as the greateſt Part of them had no better Knowledge of the *Syriac*, when they applied themſelves to the Study of *Greek* Books, particularly in Medicine, they were obliged to make uſe of *Arabic* Tranſlations made by Chriſtian *Syrians*, under *Almanſor* and *Almamon*. The *Egyptians* alſo applied themſelves very diligently to that Study. The *Greek* Tongue was preſerved in *Egypt* longer than in *Syria*, eſpecially among the orthodox Chriſtians commonly called *Melchites*, who made uſe of that Tongue in their Offices of Devotion; whereas the *Semi-Eutychians* or *Jacobites* perform'd theirs in the *Coptic* or *Egyptian* Tongue. But the *Egyptians* made very few Tranſlations in Compariſon with the *Syrians*; becauſe the Caliphs, who were Protectors of the Sciences, never went into that Country, which was govern'd by Emirs or Viceroys, under the Caliphs.

It is very probable, from the concurring Teſtimony of many oriental Authors, that there were Tranſlations of *Hippocrates* from the firſt Times of *Almanſor* and *Almamon*. But that which eclipſed them all was the Verſion of *Honain*[*], the Son of *Iſaac*, who was in high Eſteem with the Caliph *Elmotewakel*. This Prince began his Reign in the Year of the Hegira 232. *Anno Chriſti* 846. and dy'd in Hegira 247. *A. C.* 861. This *Honain* was the Diſciple of *John*, ſurnamed the Son of *Maſowia*, who is the ſame whom we commonly call *Meſue*. Hiſtorians obſerve, that this *Honain* undertook to make a new Tranſlation of the *Greek* Books, becauſe that of *Sergius* was very defective. *Gabriel*, the Son of *Boct-Jechua*, another famous Phyſician, perſuaded him to this Undertaking, which he perform'd with ſo good Succeſs, that his Work ſurpaſſed all others. *Sergius*'s Verſion was in *Syriac*; and *Honain*, who had lived two Years in the Provinces where *Greek* was the vulgar Speech, in order to learn the Language, went afterwards to *Balſora*, where the pureſt *Arabic* was ſpoken; and, having perfected himſelf in that Tongue, ſet about the Tranſlation. Moſt of the *Arabic* Tranſlations of *Hippocrates* and *Galen* bear his Name; and the *Hebrew* Verſions, made above ſeven hundred Years ago, were from that of *Honain*. The firſt Tranſlators, who were *Syrians*, made their Verſions in *Syriac*, moſt of them not having Skill enough in the *Arabic*, in the firſt Times of Mahometaniſm, to write in that Language, with that Beauty and Elegance of which it is capable, and which might render ſuch a Work acceptable to the *Arabians*. Thoſe who ſucceeded made their Tranſlations more from the *Syriac*, than the original *Greek*; and as *Honain*, to his Knowledge in the *Greek*, added an Elegance of Style in the *Arabic*, his Tranſlation ſurpaſſed all others both in Exactneſs, and Beauty of Expreſſion. The firſt *Latin* Tranſlations of *Hippocrates*, which were uſed by all the Phyſicians in *Europe*, in paſt Ages, were not made from the *Greek*. Some of them which were diſperſed about after the Wars of the Holy Land, were made from the *Arabic*; and thoſe which came through *Africa* and *Spain*, where the *Jews* were extremely diligent in cultivating the Art of Medicine, were, for the moſt part, done from *Hebrew* Verſions made from the *Arabic*. It is very difficult to diſtinguiſh one from the other, becauſe the Tranſcribers, and the Phyſicians themſelves of thoſe Times, often corrected their *Latin* Editions by any others they happened to meet with; and their Manner of tranſlating them was ſo bad, that theſe Tranſlations being corrected either by Phyſicians who neither underſtood *Arabic* nor *Hebrew*, or by *Jews* who knew nothing of Medicine, became unintelligible, as ſoon as that Author began to be read in the Original. The ſame might be ſaid of all the Verſions of *Greek* Authors, particularly of *Ariſtotle*. This Author had, in like manner, been tranſlated into *Syriac*, thence into *Arabic*, thence into *Hebrew*, and it is from this third Tranſlation that all thoſe which have been read in the Schools, till the Revival of Learning, and the Study of the *Greek* Tongue, have been made and corrected. The Ignorance or Careleſſneſs of Tranſlators went ſo far, that if you compare an antient Tranſlation of *Avicenna* with the Text, you will hardly know it, much leſs that of more difficult Authors.

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[*] He was a Chriſtian, but died excommunicated by the Patriarch, for ſome grand Piece of Irreverence committed againſt Images. *Herbelot. Biblioth. Orient.*

But as to *Honain*, the Son of *Iſaac*, he is the moſt conſiderable, and almoſt the only, Tranſlator of *Hippocrates*; and it is from him that the *Arabians* have taken all their Knowledge of the Hiſtory of Medicine. Beſides this, there were in thoſe Times two Tranſlations, one *Syriac*, and the other *Arabic*. The firſt paſſed for a ſecond Original; and we often find in the antient Copies of *Arabic* Tranſlations, particularly of *Dioſcorides*, that they had been compared with the *Syriac* Editions. The firſt are become very ſcarce for ſome Ages paſt, becauſe the *Syriac* is become a learned Language, which is only uſed among Chriſtians, who have ſo far forgotten it, that though they celebrate divine Service in that Tongue, they know no more of it than by rote. This has render'd the firſt Tranſlation ſo ſcarce, that it is no longer to be met with. From what has been ſaid it appears, that there is but little Advantage to be expected from theſe Verſions in reviſing the *Greek* Text.

We may alſo conclude from hence, that it is very difficult to find, among the Orientals, any thing that may ſerve to illuſtrate the Hiſtory of *Hippocrates*, which has not been mention'd by the *Greeks* and *Latins*. However, it cannot be deny'd, but that the Orientals have the Life of *Hippocrates*, of whom they ſpeak with much Honour in their general Hiſtories, regarding him as a Perſon of a bright Genius, and one of the greateſt in Antiquity. There are but two of theſe Hiſtories printed, the firſt of which is that of *Eutychius*, or *Sabid* the Son of *Patric*, Patriarch of *Alexandria*; the other was written by *Gregory*, ſurnamed *Abulfaragius*, who was Metropolitan of *Takrit*, a City of *Armenia*, and lived down to the thirteenth Century; but there is nothing particular in either of them which may be depended on.

Johannes Leo Africanus gives us the enſuing Hiſtories of ſome *Arabian* and *Jewiſh* Phyſicians.

Joanna, the Son of *Meſuach*, was a *Chaldean* by Nation, and a Chriſtian of the Sect of *Neſtorians*: He ſtudied Medicine, Philoſophy, and Aſtrology, at *Bagdad*, when *Aaron Raſid*, the twenty-third Caliph of *Bagdad*, determining to ſend his Son *Ebdullach*, ſurnamed *Mamon*, Viceroy into the Province of *Chorazan*, this *Joanna* was recommended as the moſt accompliſhed Perſon that could be found for all Kinds of Learning, and Skill in ſeveral Languages, and was for this Reaſon thought a proper Perſon to attend the Prince to his new Government, and to be near his Perſon. This Prince *Mamon*, coming afterwards to be Caliph, and having an ardent Deſire to be acquainted with the Learning of the Antients, of which there was nothing at that time tranſlated into *Arabic*, ſummon'd an Aſſembly of Doctors ſkill'd in ſeveral Languages, and inquir'd of them the Names of the Authors, and of the Books which were written in the *Greek*, *Perſian*, *Chaldean*, and *Egyptian* Tongue, in all Arts and Sciences. He then got together as many as he could procure from all Parts; and ſelecting the beſt and moſt uſeful in Medicine, Phyſic, Aſtronomy, Muſic, Coſmography, and Chronology, order'd them to be tranſlated, appointing this *Joanna* Overſeer of the Tranſlations from the *Greek*; and this was the Time when *Galen*'s Books of Medicine, and all *Ariſtotle*'s Works, were firſt tranſlated into *Arabic*. He dy'd in the eightieth Year of his Age, and the Year of the Hegira 204. *Anno Domini* 819.

Abulhuſen Ibnu Telmid was a Chriſtian, of the Sect of the *Jacobites*, and born in *Bagdad*, his Father being the Head of the Eccleſiaſtics in that City. This *Abulhuſen* apply'd his Mind to Study with ſo good Succeſs, that in a ſhort time he became a knowing Phyſician, and compoſed a Book, in which he gives an Account of all the Diſeaſes and Infirmities incident to the human Body, beginning with the Head, and proceeding downwards through all the Members, to the Feet. This Book he intituled *Elmalibi*, that is, "the very Reality," and preſented it to the Soldan then reigning. The Reputation of this Work procur'd him Admittance at Court, and the Place of Phyſician in Ordinary to the Houſhold, in which Capacity he acquir'd not only Riches, but much Honour and Glory: For he never took Money of a poor or labouring Man, ſaying he could not ſell his noble Art for trifling Sums; but he freely accepted Preſents from Princes, Nobles, and rich Men. He was wonderfully covetous of Honour, and ſo proud, that if any of his Patients tranſgreſſed the Rules which he had preſcribed, he would never viſit or adviſe them any more, even though it were the Soldan himſelf. He dy'd *Anno Hegiræ* 384. *Chriſti* 994.

Raſis, called alſo *Albubecar Muhamed*, or, as others write it corruptly, *Abubeter*, *Albubeter*, and *Abubater*, was the Son of *Zacharias*, the Son of *Arabi*, or *Erraſis*. *Leo Afer*, in his Account of him, calls him *Abubachar* and *Raſi*, and ſays he was a *Perſian*, of the City *Rai*, the Son of a Merchant, and that he ſtudy'd Philoſophy and Medicine at *Bagdad*, thence he went to *Cairo*, whence he was invited by *Elmanſor*, a Man of great Wealth and Reputation for Learning, to *Corduba*. He there lived in great Honour, and practiſed the Art of Medicine with great Profit and

Applauſe. He dy'd at *Corduba*, in the Year of the Hegira 401. of Chriſt 1010. being about ninety Years old. His Works which are extant are twelve Books, intituled *Elhavi*, or, as it is otherwiſe written, *Helchavi*, *Elchavi*, and *Elkovi*, which ſignifies *containing the Whole*, whence they are alſo called *Libri Continentes*; beſides theſe, there are ten Books of his *ad Almanſorem*, ſix Books of Aphoriſms, and other Treatiſes. One *Ibn Chalicam*, in *Hottinger's Analecta*, relates, that he dedicated alſo to *Almanſor* a Book of Chymiſtry, and received of him a thouſand Denarii as a Reward; but not being able to put his Schemes in Execution, or bring Matters into actual Operation, he was puniſhed with Whipping and Baniſhment.

Arnaldus of *Villanova*, a Perſon of very good Judgment, ſays of *Raſis*, that he was a Man of clear Speculation, ready in Practice, cautious in giving Judgment, and of approved Experience.

Leo Afer relates the following Story of him: Paſſing one Day through a Street of *Corduba*, he ſaw a Croud of People, and inquiring the Reaſon, was told, that a Citizen, as he was taking the Air, ſuddenly dropt down dead. *Raſis* went to look upon the Man, and as ſoon as he view'd him, cry'd out haſtily for a Parcel of Cudgels to be brought; which done, he immediately diſtributed them to the By-ſtanders, reſerving one to himſelf, and order'd them to ſtrike and beat the dead Perſon in all Parts of his Body, but eſpecially upon the Soles of his Feet, himſelf ſetting them an Example. The People thought he was mad; but, however, within a quarter of an Hour the Man began to move, and ſoon recover'd, amidſt the Acclamations of the People, who cry'd out, A Miracle! a Miracle! *Raſis* then mounted his Mule, and made the beſt of his Way home. *Elmanſor* ſoon hearing of this ſtrange Event, ſent for *Raſis*, and complimenting him, ſaid, "I knew you were an excellent Phyſician, but not that your Skill extended ſo far as to raiſe the Dead." *Raſis* anſwer'd, "I confeſs myſelf a Phyſician, but utterly unable to raiſe the Dead, becauſe none but God can work ſuch an Effect. But as to what I did this Day, I neither found it in any Book of Medicine, nor learn'd it of a Maſter; but once I happen'd to travel in Company from *Bagdad* to *Egypt*, and, as we went over the Deſerts, ſome *Arabians*, Perſons of Quality, joined us, one of whom, as we rode along, dropt off dead from his Horſe. An old Man of their Company immediately alighted, and taking a Parcel of Sticks, diſtributed them to us, who exerciſed them in the ſame manner upon this reputed dead Perſon, as I and others did this Day on the dead Man in the Street, and with the ſame good Succeſs. I did not know but this Man's Caſe might be the ſame as that of the *Arabian*; and my Care, under the Influence of your good Fortune, has been ſucceſsful." *Elmanſor* was very well pleaſed, and could not forbear paſſing a Compliment upon him in theſe Words: "The Country which has you for an Inhabitant, may well and truly ſay, that ſhe has *Galen* in the Midſt of her." *Raſis* modeſtly anſwer'd, "Experience is of more Effect than the Phyſician."

Ezarbaragui was Phyſician to *Manſor*, a Counſellor of *Corduba*. He compoſed a very uſeful Work, like the Canon of *Avicenna*, on the Subject of Medicine, which is a Book in great Requeſt among the Mahometan Phyſicians at this Day. He dy'd in the Year of the War of *Corduba*, aged an hundred and one, in the Year of the Hegira 404. *Anno Domini* 1013.

Ettabarani was a Native of *Tabarani*, a Province of *Choraſan*, and Phyſician to Sultan *Thechm*, King of *Ghazna*, a City of *Aſia*, on the Borders of *India*. He compoſed a very celebrated Work in Medicine, intituled *Firdius Ulhecime*, that is, *the Paradiſe of Wiſdom*, containing Medicinal Matters, with Deſcriptions of the Properties of Herbs, Animals, and Stones. He dy'd at *Ghazna*, *Anno Hegiræ* 474. *Anno Domini* 1081.

See the Article Avicenna.

Meſuach, or *Meſue*, was a Chriſtian, of the Sect of the *Jacobites*, born in the City of *Maridin*, on the River *Euphrates*. He learned Medicine and Philoſophy in *Bagdad*, and was a conſtant Attendant on *Avicenna*'s Lectures. He compoſed very uſeful Treatiſes on Potables, and another Work of the Compoſition of Medicines. He lived at *Cairo*, where he was in great Favour with the Caliph, and acquired very great Riches, as well as Reputation. He dy'd about the ninetieth Year of his Age, *Anno Hegiræ* 406. *Chriſti* 1015.

Thograi was not only a Phyſician, but a Philoſopher, Rhetorician, Alchymiſt, Poet, and Hiſtorian. He was born in the City of *Iſpahan* in *Perſia*, and being a very accompliſh'd Perſon, was promoted to the Dignity of prime Miniſter to Prince *Maſchud*, Brother to the Soldan of *Aſia*, in which Poſt he acquir'd immenſe Riches. But his Maſter raiſing a Rebellion againſt his Brother, was taken and impriſon'd; and *Thograi*, being depriv'd of whatever he had acquir'd, was ty'd to a Tree, and ſhot to Death with Arrows, *Anno Hegiræ* 515. *Chriſti* 1121. Beſides his hiſtorical and poetical Works, he left behind him a Book intituled *The Rape of Nature*, which treats of Alchemy.

Eſſeriph Eſſachali was deſcended from Mahomet, and born in the City of *Mazara* in *Sicily*. He was an excellent Philoſopher, as well as Phyſician, and had not his Equal for Geography. He dy'd at *Ciudad* in *Andaluſia*, *Anno Hegiræ* 516. *Chriſti* 1122. We have none of his Medicinal Works.

Ibnu Saigh was born at *Santa Maria* in *Andaluſia*, his Anceſtors were *Jews*. He was very well accompliſh'd in Philoſophy, as well as Medicinal Learning, and dy'd in the Year of the Hegira 550. of Chriſt 1155. at the Place of his Nativity, leaving nothing written in Medicine.

Ibnu Zohar, born in *Sicily*, was Phyſician to *Ibnu Habad*, the Rebel, and afterwards to his Son. Being involv'd in their Ruin, he had the good Fortune to be introduced into the Service of the King of *Morocco*. He never accepted a Fee from poor Men, or ſuch as got their Living by their Hands, but never refuſed Preſents from Kings or Princes. He beſtowed many Gifts upon his Enemies, ſaying, that they hated him without a Cauſe, but only for Envy, and that he hoped to bring them to Repentance by his Beneficence. He dy'd in the ninety-ſecond Year of his Age, *Anno Hegiræ* 564. *Chriſti* 1168. *Averroes* was one of his Auditors, and learned Medicine of him.

Ibnu Thofail, of a noble Family, was born in the City of *Seville* in *Andaluſia*. His Family was ruined in a Rebellion, which induced him to apply himſelf to Study, whereby he became an extraordinary Proficient in Philoſophy and Medicine, and had *Averroes*, *Rabbi Moſes* the *Egyptian*, and many others, for his Hearers. His Death happen'd *Anno Hegiræ* 571. *Chriſti* 1175. He is the ſame with *Abu Becr Ebn Thophail*, the Author of an ingenious and well-written Piece, publiſh'd by Doctor *Pocock*, in *Arabic* and *Latin*, under the Title of *Philoſophus* [illegible], and printed at *Oxford* 1671. and ſince ſeveral times reprinted, and tranſlated into other Languages.

Ibnu Zohar, or *Zor*, the Son of the foremention'd *Ibnu Zohar*, learned the Art of Medicine of his Father, and came to be Phyſician to *Manſor* the Caliph, and King of *Morocco*. He dy'd aged ſeventy-four at *Morocco*, *Anno Hegiræ* 594. *Chriſti* 1197. He compoſed many Pieces of Medicine, particularly one about the Medicine of the Eyes.

Ibnu el Baitar was born at *Malaga* in *Andaluſia*, and, beſides his Accompliſhments in Philoſophy and Medicine, was an extraordinary Herboriſt; and, to perfect his Knowledge of Plants, travell'd over *Africa*, and almoſt all *Aſia*; and returning from *India*, by the Way of *Cairo*, was received into the Service of *Saladin*, the firſt of the Soldans of *Egypt*, after whoſe Deceaſe he returned to his own Country, and there compoſed an excellent Work on the Virtues of Herbs, on Poiſons, and Metals, and on Animals, in three Books, digeſted in alphabetical Order. He died at *Malaga*, *Anno Hegiræ* 594. *Chriſti* 1197.

See the Article AVERROES.

Abulhaſan Ibnu Haidor was a Native of *Fez*, a Philoſopher, Phyſician, and Aſtrologer, was Phyſician for many Years to the Kings of *Fez*, and died of the Peſtilence, *Anno Hegiræ* 818. *Chriſti* 1415. He left a Piece intituled *The Cure of the Plague*.

Abu Bakar Ibnu Chalſon, a Native of *Granada*, was a Philoſopher, Phyſician, Aſtrologer, and an elegant Poet. He died in the Year of the *Hegira* 828. and of *Chriſt* 1424.

See ALBUCASIS.

See AVENZOAR.

An ACCOUNT *of famous Phyſicians among the* Jews, *from* J. Leo Afer.

Iſaac, the Son of *Erram*, a Phyſician and Philoſopher, was born in *Damaſcus*, ſtudied at *Bagdad*, and was Phyſician to *Zaide*, Viceroy of *Africa*, who had another Phyſician, a Chriſtian. The Viceroy happening to fall ſick, whatever Medicine *Iſaac* preſcribed was condemn'd and rejected by the Chriſtian; for which Reaſon *Iſaac* forbore to attend his Maſter, and, being aſked the Reaſon, ſaid, "That the Diſagreement of two Phyſicians over "one Patient, was worſe than a tertian Fever." He died *Anno Hegiræ* 183. *Chriſt* 799. He compoſed a Book *on the Cure of Poiſons*.

Emram, the Son of *Iſaac*, a Native of *Toledo* in *Spain*, was a Phyſician, Philoſopher, and Aſtrologer. In his Time the King of *Spain* took the City of *Toledo*, where wanting a Secretary for the *Arabic*, *Emram* offer'd his Service, and was accepted. He was afterwards ſent by the King to the *Mooriſh* Governor of *Seville*, to demand ſome Tribute; but ſpeaking ſome Words, by which the Governor thought himſelf highly injured, he was order'd to be kill'd, *Anno Hegiræ* 387. *Chriſti* 997.

Haron, the Son of *Senton*, was of a very noble *Jewiſh* Family in *Fez*, and a Phyſician, Philoſopher, and Aſtrologer. When he was a Youth, he enter'd himſelf into the Service of King *Habdalla*, who had a prime Miniſter of ſuch Preſumption as to take upon him to govern both King and Kingdom. *Haron* adviſed the Killing of him, and, after his Death, was taken into his Place: But the People of *Fez* having, on many Occaſions, ſhewn a malecontent Spirit, the King appointed *Haron* for their Governor, which Poſt he enjoy'd ſeven Years. The King afterwards removing his Camp at an hundred Miles Diſtance, the Inhabitants of *Fez* made an Inſurrection, and kill'd all the *Jews*; News of which being brought to the Camp, the Army roſe againſt the King, and kill'd *Haron*, *Anno Hegiræ* 872. *Chriſti* 1467.

The greateſt Revolution which ever happen'd in Phyſic, either with reſpect to Theory or Practice, was occaſion'd by the Introduction of Chymiſtry into the Art. I ſhall not, in this Place, enter into Diſputes concerning its Antiquity, as it is foreign to my preſent Purpoſe. I ſhall only obſerve, that the firſt Man who made any Metal, was the firſt Chymiſt; and this, Hiſtory informs us, was *Tubal-Cain*, who is generally allow'd to be the ſame as the *Vulcan* of the Antients, who taught Mankind the Uſes of Fire. The firſt Inhabitants of *Egypt*, in all Probability, brought the Art of making Metals with them from the Eaſt; and from this great Source of Learning it was convey'd to other Nations.

Whatever Experiments the Curioſity of the Antients may have led them into, with reſpect to the Tranſmutation of the baſer Metals into Gold, we meet with no mention of Alchemy, either in this Senſe or any other, till about the Middle of the Fourth Century, when *Julius Maternus Firmicus*, an Author of that Age, ſpeaks of it as a thing well known. After him, *Æneas Gazæus*, who wrote at the Cloſe of the Fifth Century, talks of it as no new Diſcovery. And in the Seventh Century *Georgius Syncellus* wrote profeſſedly on the Subject, and was follow'd by a Multitude of *Greek*, *Arabic*, and *Latin* Authors.

Boerhaave thinks, very judiciouſly, that after the *Arabs* had begun to cultivate the Art of Chymiſtry, (including Metallurgy and Alchemy) the Metaphorical and Hieroglyphical Manner of Writing, which obtained among them, gave Riſe to a Practice of calling the Means or Helps, made uſe of for bringing Metals to Perfection, by the Names of Medicines; the imperfect Metals, by the Name of ſick Men; and Gold, by that of a ſound, lively, healthy, durable Man: From whence the Ignorant at length fell into the Error of ſuppoſing, that theſe were to be underſtood in a literal Senſe; eſpecially upon finding the Impurities of the baſer Metals call'd by the Name of a Leproſy, the moſt incurable of all Diſeaſes. Hence firſt roſe an Opinion, which has ſince been propagated far and wide, that the imperfect Metals might be tranſmuted into Gold, and the Bodies of ſick Perſons into ſound ones, by one and the ſame chymical Preparation, to which they gave the Name of the *Philoſophers Stone*, or the *Gift Azoth*, and call'd its Poſſeſſors *Adepts*. The Opinion ſeem'd confirmed, from a few ſimple Experiments of extracting medicinal Virtues from Drugs by Chymiſtry, which *Rhaſes* gave the firſt Inſtances of; but which, in the Eleventh Century, *Avicenna* further illuſtrated, in a Deſcription of the *Arabian* Julab, or diſtil'd Roſe-water, and *Meſue* afterwards confirm'd more at large.

Hitherto we find Chymiſtry cultivated only amongſt the *Arabians*; but in the Beginning of the Thirteenth Century, ſome ſucceſsful Attempts were made by *Albertus Magnus*, a *German*, of *Swabia*, and *Roger Bacon*, an *Engliſhman*, born near *Ilcheſter* in *Somerſetſhire*, and commonly known by the Name of Frier *Bacon*, to introduce it into *Europe*. But, in the latter End of the Thirteenth Century, *Arnaldus de Villa Nova*, a *Frenchman*, contributed much more to the Introduction of Chymiſtry into Phyſic. He mentions Spirit of Wine, and Oil of Turpentine, with ſeveral other chymical Medicines, and ſpecifies their Uſes. He knew that his Spirit of Wine was capable of being impregnated with the Taſte and Smell of any vegetable Subſtance; and this Knowledge was the Foundation of all compound Waters, which at preſent make ſo large a Part of the Shop Compoſitions, and which perhaps are generally of more Service to the Retailers of Medicines than to the Sick.

Raymond Lully, born at *Barcelona*, or, according to others, at *Majorca* or *Minorca*, in 1315. muſt conſequently have been contemporary with *Arnaldus de Villa Nova*. This Author is one of the firſt who mentions an univerſal Remedy, that is, one calculated for the Cure of all Diſtempers.

The other Chymiſts who lived before *Paracelſus*, and were inſtrumental in making Chymiſtry ſubſervient to medicinal Purpoſes, were *Johannes de Rupeſciſſa*, *Iſaac Hollandus*, *John Iſaac Hollandus*, and *Baſil Valentine*. It is not eaſy to fix the Time in which the laſt lived: I have, by Miſtake, under the Article ANTIMONIUM, ſaid, that he publiſhed his Treatiſe of Antimony about the Twelfth Century. *Helmont* endeavours to prove him elder than *Paracelſus* by a hundred Years: Some will have it, that he was born in 1394. and others ſay, that he flouriſh'd about 1415. He was a *Benedictine* Monk, and remarkable for firſt ſtarting the Notion of the chymical Principles, Salt, Sulphur, and Mercury. The Sal Volatile Oleoſum, which *Sylvius de la Boe* had in ſo great

Eſteem, and which he had the Credit of inventing, as well as many other Secrets boaſted of as more modern Diſcoveries, was originally deſcribed by *Baſil Valentine*. It was this Author who firſt uſed Antimony internally, and enrich'd Medicine with many Preparations of this Mineral. It is ſaid, that having thrown away ſome Antimony, which he had uſed in the Fuſion of Metals, he obſerved ſome Swine, who had accidentally eaten it, to purge conſiderably; and that, very ſoon after this, they became ſleek and fat. This gave him the Hint of trying what it would do in human Bodies; with this View he made a Multitude of Experiments with it, as appears by his Treatiſe, intituled *Currus Triumphalis Antimonii*, and determin'd its Efficacy. After him *Paracelſus*, *Matthiolus*, *Angelus Sala*, *Jacobus Launæus*, and many other learned Men, pleaded the Cauſe of Antimony, and held it in great Eſteem. There were, however, others who look'd upon the internal Uſe of Antimony as moſt pernicious, amongſt whom was *Jacobus Grevinus*, who in 1566. publiſh'd a Treatiſe, in which he repreſents Antimony as a moſt dangerous Poiſon, and adviſes the Magiſtrates to prohibit the Sale of it, as they had done that of Quickſilver and Orpiment. His Council was taken, and the medicinal Uſe of Antimony was forbid the ſame Year, by a Decree of the Faculty of Phyſic at *Paris*, which was confirmed by one of the Parliament; and in 1609. *Paulmier*, a Phyſician of *Paris*, was expel'd the Faculty for uſing it in his Practice. In the Year 1637. the ſame Faculty allow'd its Uſe as a Cathartic; and in 1666. the free Uſe of it was permitted by the Parliament of *Paris*, in conſequence of an Opinion of the Faculty of Phyſic given in its Favour.

Before I proceed to the Hiſtory of *Paracelſus*, and the Innovations he made in Phyſic, it will be neceſſary to give ſome Account of a Diſtemper which appear'd in *Europe*, for the firſt time, a little before his Birth; and of another which was introduced, or at leaſt began to be common, a Year or two after he was born. I mean the Sweating Sickneſs, and the Venereal Diſeaſe. Dr. *Freind* ſays, "That the Sweating Sickneſs was originally a
" Native of our Iſland; and, upon this Account, it is the leſs ſtrange, that it ſhould be the moſt accurately
" deſcribed by one of our own Countrymen, the great and learned *Caius*. It began at firſt in 1483. in *Henry* the
" Seventh's Army, upon his landing at *Milfordhaven*, and ſpread itſelf in *London*, from the 21ſt of *September* to
" the End of *October*. It return'd here five times, and always in Summer, firſt in 1485. then in 1506. after-
" wards in 1517. when it was ſo violent, that it kill'd in the Space of three Hours; ſo that many of the Nobi-
" lity died; and of the vulgar Sort, in ſeveral Towns, half often periſh'd. It appeared the fourth time in
" 1528. and proved mortal then in the Space of ſix Hours: Many of the Courtiers died of it, and *Henry* the
" Eighth himſelf was in Danger. In 1529. and only then, it infeſted the *Netherlands*, and *Germany*, in which
" laſt Country it did much Miſchief, and deſtroy'd many; and particularly was the Occaſion of interrupting a Con-
" ference at *Marpurgh*, between *Luther* and *Zuinglius*, about the Euchariſt. The laſt Return of it with us was
" in 1551. In *Weſtminſter* it carried off 120 in a Day; and the two Sons of *Charles Brandon*, both Dukes of
" *Suffolk*, died of it. At *Shrewſbury* particularly, where our Author *Caius* reſided, it broke out in a very furious
" Manner. The Deſcription he gives of it is terrible, like the Plague of *Athens*." See SUDOR ANGLICUS.

With reſpect to the Venereal Diſeaſe, I ſhall not enter into a long Detail of the Arguments for and againſt its Antiquity. Upon the Whole, it ſeems to be certain, that, long before this Æra, Phyſicians had obſerved moſt or all of the Symptoms peculiar to the Venereal Diſeaſe; but theſe were rare Caſes, and do not appear to have occur'd often. Upon its Importation however from *Hiſpaniola*, where it was endemial, into *Europe*, it made ſo rapid a Progreſs, and ſpread ſo univerſally, that, in a very few Years, it became the moſt profitable Diſtemper the Practitioners of Phyſic were ever acquainted with.

The firſt Inſtances we have upon Record of Poxes imported from *America*, were in one *Boyl*, a *Spaniſh Benedictine* Monk, who certainly had ſatisfied his Curioſity, of which his Order is reported to have a great deal in this way, with a Female of the new World; and in *Peter Margarit*, a noble *Catalonian*. This happened in 1494; but as *Columbus* had, the Year before, returned with ſeveral Mariners and Soldiers from *Hiſpaniola*, it is highly probable, that ſome of theſe might be infected, and that they ſerved in the *Spaniſh* Troops which ſoon after defended *Naples* againſt the *French*. Theſe *Spaniſh* Soldiers are ſaid to have communicated the Infection to the *Neapolitan* Women, and theſe to the *French* Soldiers; who, at their Return, brought it into their own Country, whence it was ſpread over all the known World; which is the leſs extraordinary, as this Accident happened to an Army, and that of a Nation always remarkable for Gallantry, two Circumſtances very favourable to its ſpeedy Propagation.

This Diſeaſe is not more remarkable itſelf in the Hiſtory of Phyſic, than for giving Occaſion to the Introduction of many Remedies into Medicine, either unknown before, or differently applied. Amongſt theſe are Guaiacum, which began to be uſed about 1517; *China* Root, which was firſt known in *Europe* about 1535; and Sarſaparilla; but the moſt celebrated of all was Mercury, an *Herculean* Remedy, and one which has laid the Foundation of great Improvements in the Art of Healing. This was applied externally for the Cure of the Venereal Diſeaſe, ſoon after it appear'd in *Europe*, that is, before 1498. The Hint was probably taken from the *Arabians*, and ſome of their Tranſcribers, who directed its Uſe in Unguents to kill Lice, and in cutaneous Foulneſſes, long before the Appearance of the Venereal Diſeaſe; and as this Diſtemper was attended with Defedations of the Skin, the Probability of its being ſerviceable in this Diſtemper was very obvious. I have ſaid, under the Article *Anatomy*, that *Jacobus Berengarius Carpenſis* was the firſt who made uſe of mercurial Ointments in the Cure of the Venereal Diſeaſe: *Aſtruc*, however, will not allow this, but ſays, that he and *Johannes de Vigo*, his Contemporary, were great Promoters of its Uſe, and contributed much to eſtabliſh its Reputation, by uſing it rationally, and with great Succeſs. Theſe two Authors flouriſhed in the very Beginning of the Sixteenth Century; and the latter was the firſt who is known to have adminiſter'd any mercurial Preparation internally. What he recommends is the *Mercurius Præcipitatus ruber*, and that in a conſiderable Doſe, in the Plague and Colic. 'Tis highly probable, that this, and all other chymical Preparations of Mercury, were originally made by the Alchemiſts, with a View of fixing this Subſtance, and converting it into Gold; and that, upon failing of the End propoſed, they were encouraged to try what it would do internally, by the Succeſs they had obſerved of its external Application.

I ſhall now proceed to give an Account of *Paracelſus*, and the great Innovations he made in Phyſic, after having obſerved, that he found Phyſic in a very deplorable State.

If ſubtile Diſputations would have cured Diſtempers, if Phraſes without Meaning, and Argumentation without Inſtruction, could have reliev'd the Sick, the *Galenical* Doctrine, and *Arabian* Practice, then only in vogue, would have rendered all farther Improvements impoſſible. But it happened, very fortunately for *Paracelſus*, that Phyſic was, at the Time he appeared, reduced by the Schools to Chicanery, reaſoned almoſt out of the World, or, at leaſt, diſputed into an infinitely worſe State than that in which *Hippocrates* left it. 'Tis not, therefore, ſurpriſing that *Paracelſus* ſhould be able to make the Figure he did in the World, furniſhed as he was with many ſingular Advantages over the Generality of his Contemporaries.

Aureolus Philippus Paracelſus Theophraſtus Bombaſt de Hohenheim was the Son of *Wilhelmus Hohenheim*, a learned Man, and Licentiate in Phyſic, tho' a ſlender Practitioner, but poſſeſſed of a noble Library, being himſelf the natural Son of a Maſter of the *Teutonic* Order. He was born in the Year 1493. at a Village in *Switzerland* called *Einſidlen*, which ſignifies a Village or Deſart, about two *German* Miles from *Zurich*, where he got the Appellation of *Eremita* or *Hermit*, which *Eraſmus* gives him in a Letter.

At three Years of Age he is ſaid to have been mutilated, and made an Eunuch, by a Sow. Accordingly we always find him a bitter Enemy to the Women; and he is, perhaps, the only great Man upon Record without a Paſſion for their Sex; tho' his Picture, as taken from the Life, repreſents him with a Beard. He was inſtructed by his Father in Phyſic and Surgery, wherein he made great Proficiency; but, as he grew up, he was captivated with the Study of Alchemy, which occaſioned his Father to commit him to the Care of *Trithemius*, Abbot of *Spanheim*, a Man of great Renown in thoſe Days, from whom having learned many Secrets, he removed to *Sigiſmund Fuggerus* of *Schwatz*, a famous *German* Chymiſt, who, at that Time, partly by his own Induſtry, and partly by a Multitude of Servants and Operators, retained for the Purpoſe, made daily Improvements in the Art. And here, he aſſures us, he learned ſpagiric Operations effectually; after which he applied himſelf to all the moſt eminent Maſters in the Alchemical Philoſophy, who concealed nothing from him, and from whom, as he himſelf relates, he learned his Secrets.

But not reſting here, he took a Journey to all the Univerſities of *Germany*, *Italy*, *France*, and *Spain*, in order to learn Phyſic: after which he viſited *Pruſſia*, *Lithuania*, *Poland*, *Walachia*, *Tranſylvania*, *Croatia*, *Portugal*, *Illyria*, and the other Countries of *Europe*, where he applied himſelf indifferently to Phyſicians, Barbers, old Women, Conjurers, and Chymiſts, both good and bad; from all which he gladly picked up any thing that might be uſeful; and thus enlarged his Stock of ſure and approved Remedies. He alſo learned from *Baſil Valentine*'s Writings the Doctrine of the three Elements, which, concealing its Author's Name, he adopted as his own, and publiſhed under the Appellation of Salt, Sulphur, and Mercury.

In the twentieth Year of his Age, making a Viſit to the Mines in *Germany*, he travelled into *Ruſſia*, where being taken Priſoner, on the Frontiers, by the *Tartars*, he was carried before the Cham, and afterwards ſent, with that Prince's Son, on an Embaſſy to *Conſtantinople*; where, in his twenty-eighth Year, he tells us, he was let into the Secret of the Philoſophers Stone. He was alſo frequently retained as Surgeon and Phyſician in Armies, Battles, and Sieges.

He ſet a high Value on *Hippocrates*, and the antient Phyſicians; but deſpiſed the Scholaſtic Doctors, and, above all, the *Arabs*. He made great Uſe of Remedies prepared of Mercury and Opium, wherewith he cured the Leproſy, Venereal Diſeaſe, Itch, ſlight Dropſies, and other Infirmities, which, to the Phyſicians of thoſe Times, (who were ignorant of Mercury, and afraid of Opium, as cold in the fourth Degree) were utterly incurable.

By theſe Cures he grew daily more celebrated and daring; eſpecially after recovering the famous Printer *Frobenius* of *Baſil*, whoſe Caſe appears to have been a violent Pain in his Heel, which, upon *Paracelſus*'s Treatment, removed into his Toes, ſo that the Patient could never ſtir them afterwards, tho' he felt no Pain, and in other reſpects grew well; but ſoon after died of an Apoplexy. By this means he became acquainted with the great *Eraſmus*, and was well eſteemed by the Magiſtracy of *Baſil*, who, giving him a plentiful Salary, made him Profeſſor in the Year 1527. where he continued to teach philoſophical Phyſic two Hours every Day; ſometimes in *Latin*, but more frequently in *High Dutch*. Here he read Lectures to explain his own Books *De Compoſitionibus*, *De Gradibus*, and *De Tartaro*; which, according to *Helmont*, abounded in idle Drollery, and contained little ſolid Senſe. Here, in a ſolemn manner, ſeated in the Chair, he burned the Writings of *Galen* and *Avicenna*; declaring to his Audience, that he would even conſult the Devil, if God would not aſſiſt him, which is conformable to his expreſs Declaration, in ſeveral Places of his Works, that no one need ſcruple conſulting the Devil, to get Secrets of Phyſic from him.

Here he procured many Diſciples, with whom he lived in great Intimacy: Three of theſe he maintained in Diet and Cloaths, and inſtructed in ſeveral Secrets; tho' they afterwards ungratefully deſerted their Maſter, and even wrote ſcandalous Things of him, adminiſtering, with great Indiſcretion, the Medicines he had taught them, to the great Diſadvantage of thoſe who employed them. He alſo retained Surgeons and Barbers in his Family, to whom he communicated uſeful Secrets; but all of them ſoon after left him, and turned his Enemies. His only faithful Diſciples were Dr. *Peter*, Dr. *Cornelius*, Dr. *Andrew*, Dr. *Urſinus*, the Licentiate *Pangratius*, and Maſter *Raphael*, whom he ſpeaks of with Commendation.

During his two Years Reſidence here, he cured a noble Canon of *Liechtemfels*, who had been given over by the Phyſicians, of a violent Pain at the Stomach, with only three Pills of his Laudanum. The ſick Canon had promiſed him 100 *French* Crowns for the Cure; but finding it ſo eaſily effected, he refuſed to pay, alledging, with a Jeſt, that *Paracelſus* had given him but three Mice-turds. Upon this *Paracelſus* cited him before a Court of Juſtice, where the Judge, not conſidering ſo much the Excellency of the Art, as the Quantity of Labour and Coſt, decreed him a trifling Gratification; with which *Paracelſus* was ſo exaſperated, that, loading them with Reproaches of Ignorance and Injuſtice, he rendered himſelf in ſome meaſure guilty of Treaſon; and thus thought beſt to quit the Court, and make haſte home: From whence, by the Advice of his Friends, he privately withdrew out of the City, leaving his whole Chymical Apparatus to *Joannes Oporinus*. After this he continued rambling two Years thro' the neighbouring Parts of *Alſatia*, accompanied by *Oporinus*, and, in the Courſe of a diſſolute Life, wrought many extraordinary Cures, as we find related by *Zwinger*, who lived at the ſame time at *Baſil*, and often heard the Account from *Oporinus* himſelf.

This *Oporinus*, who had been for ſome time his Servant and Amanuenſis, was a Perſon of much Learning, well ſkill'd in the *Greek* and *Latin* Tongues, who, poſſeſſed with the vain Expectation of attaining *Paracelſus*'s Secrets, left his own Family, and travelled about with him for two whole Years, without learning any one Thing, till, wearied out, he grew wiſe, and, quitting *Paracelſus*, he returned to *Baſil*.

It happened, one Evening, that *Paracelſus* was called upon to viſit a Countryman dangerouſly ill, near *Colmar* in *Alſatia*; but, being ſet in for a Drinking-bout with ordinary Company, he deferred viſiting the Patient till next Morning; when, entering the Houſe with a furious Look, he aſk'd, If the ſick Perſon had taken any Phyſic? as intending to adminiſter ſome of his Laudanum. The By-ſtanders anſwer'd, He had taken nothing but the Sacrament, as being at the Point of Death: At which *Paracelſus*, in a Rage, replied, If he has had recourſe to another Phyſician, he has no Occaſion for me; and ran immediately out of Doors. *Oporinus*, ſtruck with this Piece of Impiety, bid *Paracelſus* the laſt Adieu; fearing the Barbarity of his otherwiſe loved Maſter ſhould ſome time fall on his own Head.

From this Time *Paracelſus*, having forgot his *Latin*, continued wandering from Place to Place, always intoxicated, never changing his Cloaths, nor ſo much as going into a Bed, till the Month of *September* 1541. when, Being taken ill at a public Inn at *Saltſburg*, he died, after a few Days Sickneſs, in the 47th Year of his Age; tho' he had promiſed himſelf, by the Uſe of his Elixir, that he ſhould live to an Age equal to that of *Methuſalem*.

Thus far *Boerhaave*, in his Chymiſtry. Dr. *Shaw*, in his Notes to this Paſſage, proceeds to make the following Remarks.

No Wonder *Paracelſus*, in his Time, was eſteem'd an excellent Phyſician and Surgeon; for Medicine was then in a low Condition: The Practice, and the very Language, was all *Galenical* and *Arabian*. Nothing was inculcated but *Ariſtotle*, *Galen*, and the *Arabs*: *Hippocrates* was not read; there was even no Edition of his Writeings, and ſcarce was he ever mention'd: Their Theory conſiſted in the Knowledge of the four Degrees, and the Temperaments, and their whole Practice was confined to Bleeding, Purging, Vomiting, and Clyſters.

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What contributed ſtill more to his Reputation, was his becoming acquainted with the Excellency of Mercury in the Venereal Diſeaſe, which had then newly broke out, and ſpread itſelf over *Europe*: And probably he had the Hint of this from *Jacobus Carpus*, a celebrated Anatomiſt and Surgeon at *Boulogne*, who alone had been Maſter of the Cure, which was effected by means of Mercury, applied ſo as to raiſe a Salivation.

'Tis probable, that the Bulk of the Pieces publiſhed under this Author's Name are not his; but that his Followers choſe to uſher in their Performances under that Cover. In Effect, they are ſo many, and ſo different from each other, that it is next to impoſſible they ſhould all come from the ſame Hand: And yet, beſides the three Books which he lectured upon in Public, there are ſome others which ſhould ſeem to be genuine; ſuch is that *de Peſte*, of the Plague; that *de Mineralibus*, of Minerals; that *de Vita longa*, of long Life; and the *Archidoxa Medicinæ*, which was publiſhed by *Bodenſtyn*, while *Paracelſus* was living, or at leaſt ſoon after his Death.

This Work is call'd *Archidoxa Medicinæ*, as containing the principal Rules and Maxims of the Art. Nine Books thereof were publiſhed at firſt; and the Author, in the Prolegomena to them, ſpeaks thus:

"I intended to have publiſh'd my ten Books of *Archidoxa*; but finding Mankind unworthy of ſuch a Treaſure as the Tenth, I keep it cloſe in my Occiput; and reſolve never to bring it thence, till you have all abjured *Ariſtotle*, *Avicenna*, and *Galen*, and have ſwore Allegiance to *Paracelſus* alone."

However, the Book did at length get abroad, tho' by what means is not known: It is confeſſedly an extraordinary Piece, and may be ranked amongſt the principal Productions that have ever appear'd in Chymiſtry. Whether or no it be *Paracelſus*'s, we will not affirm; but there is one Thing ſpeaks in its Behalf, which is, its containing many Things which have been ſince cried up for great Noſtrums; and *Van Helmont*'s Lithontriptic and Alcaheſt are apparently taken hence. The following Paſſage of *Helmont* has occaſion'd much Speculation: "To diſtil the volatile Spirit of Sea-ſalt, in order to diſſolve the Stone in the Bladder, digeſt Sea-ſalt for a Month with Juice of Horſe-radiſh, and then diſtil the Whole: What riſes is the Spirit of the Salt, of ſingular Efficacy in diſſolving the Stone, either in the Bladder or Kidneys." How *Helmont* came to know, that Sea-ſalt would ferment with Radiſh-juice, is ſurpriſing; there being no Hint of the Thing in any of his other Writings: But our Wonder will ceaſe upon reading the Proceſs in expreſs Terms, in the tenth Book of the *Archidoxa*. And the whole Book of the *Alcaheſt* is apparently taken from the ſame.

Amongſt the genuine Writings of *Paracelſus* are likewiſe reckon'd that *de Ortu Rerum naturalium*, *de Tranſformatione Rerum naturalium*, and *de Vita Rerum naturalium*. The reſt are ſpurious, or very dubious at beſt, particularly his Theological Works.

With reſpect to his Merits, as to Medicine and Alchemy, it muſt be own'd, that an arrogant aſſuming Air infected all his Writings, as well as his Actions: It was common with him to promiſe mighty Things, with complete Aſſurance, upon ſlender and unequal Grounds. A ſtrong Inſtance of his Weakneſs in this Kind is his undertaking, by the mere Uſe of his Elixir, to prolong a Man's Life to the Age of *Methuſalem*; and deliberating with himſelf to what Period he ſhould protract his own. This argues his truſting to Imagination more than Experience; for, as he died a young Man himſelf, it is certain, he could not have Experiments ſufficient to warrant any ſuch thing; nor did he ſpeak of his own Knowledge, as a Phyſician ought to do, but purely out of Caprice.

We know not how it is, but the Body of Chymiſts, both of his own and our Times, have complimented *Paracelſus* with the Knowledge of the univerſal Remedy, and he himſelf is at the Head of the Opinion: He ſwears by his own Soul, and calls every God in Heaven to witneſs, that with one ſingle Remedy, prepared from Metals, he was able to cure all Diſeaſes, be they what they would. But *Helmont*, who knew as much of *Paracelſus* as any Man, does not believe a Word of it; and, tho' he is always commending him, warns us not to truſt him; adding, that his Writings are full of Babble. His own Hiſtory affords no great Proofs of the Thing, nor have we any competent Teſtimonies of other Writers. But what effectually overthrows his Pretenſions to ſuch a Remedy, is his own dying at an immature Age.

His real Merit conſiſted, (1.) In being well ſkill'd in Surgery, and practiſing it with great Succeſs. (2.) In underſtanding the common Practice of Phyſic, as well as his Contemporaries. (3.) In being alone Maſter of the Powers, Preparations, and Uſes of Metals. (4.) In having the Uſe of Opium to himſelf, and working wonderful Cures thereby. And (5.) in being well acquainted with the Virtues of Mercury, in an Age when perhaps only he and *Carpus* knew any thing of the Matter.

As to his being poſſeſs'd of the Philoſophers Stone, there are no ſufficient Proofs of it, and many ſtrong ones to the contrary.

Leſt I ſhould be thought to have contradicted myſelf with reſpect to Opium, which I before ſaid was introduced into Practice by the Empirics, I muſt remark, that the *Galenical* Phyſicians had utterly rejected its Uſe before the Time of *Paracelſus*, on a Suppoſition of its being too cold to be uſed with Safety.

As to the Syſtem of *Paracelſus*, the firſt of his Principles relates to the Attention the Phyſician ought to pay to the Analogy he ſuppoſes between the great World, and the little World, or the Body of Man. He did not confine himſelf to the Compariſons which had been, and ſtill are, made between theſe two, but attempted to diſcover in this Analogy things infinitely more myſterious. In Man, for Inſtance, he diſcovers the Motions of the Stars, the Nature of the Earth, the Water, and the Air, all Vegetables and Minerals, all the Conſtellations, and the four Winds. He aſſerts in another Paſſage, that the Phyſician ought readily to know what in Man is called the Dragon's-tail, the Ram, the Polar Axis, the Meridian, the Riſing and Setting of the Sun; and if he is ignorant of theſe things, continues our Author, he is good for nothing. From the ſame Author alſo, and his Followers, ſprings the Opinion of a pretended and imaginary Agreement between the principal Parts of Man's Body with the Planets, as of the Heart with the Sun, of the Brain with the Moon, of the Spleen with *Saturn*, of the Lungs with *Mercury*, of the Kidneys and Teſticles with *Venus*, of the Liver with *Jupiter*, and the Gall with *Mars*; as there are alſo ſeven Metals or Minerals, which agree with theſe ſeven Planets. In another Paſſage *Paracelſus* aſſures us, that in our Limbus, that is, the human Body, are the Heavens, the Earth, and the Properties of all Animals; and he elſewhere aſſerts, that a true Phyſician muſt be able to ſay, *This is a Sapphire in the Body of Man, this Mercury, this a Cypreſs, and this a Wall-flower.* He alſo eſtabliſh'd an Analogy or Relation between Diſeaſes and Plants: Hence he ſpeaks of a Diſeaſe which he calls *Morbus Acorinus*, the Diſeaſe of *Acorus.* To this he adds ſome others which derive their Names from other Plants, or Parts of Plants; from the Anthera, for Inſtance, from the Pulegium, from the Meliſſa, from the Sabina, from the Terebinthina, from the Siler Montanum, and from the Helleborus.

With reſpect to the firſt Matter, he thought that all created Things ſprung from one ſingle Principle, or one ſingle Matter. This Matter he calls the Grand Myſtery. This, ſays he, is not any thing perceptible, any thing ſenſible, any thing that appears under a particular Form, or which has any Property or Colour, or which partakes of an elementary Nature. The Sphere of this Grand Myſtery is extended as wide as the Region of the Heavens. This ſame Myſtery is the Mother of all the Elements, and the Grandmother of all the Stars, and all Creatures; for all created Objects are born of the Grand Myſtery, juſt as a Child is of its Mother. In a Word, from this Grand Myſtery, Subſtance, Matter, Form, and Eſſence, have deriv'd their Origins, not ſucceſſively, but by a ſingle Creation.

From this firſt Matter, according to *Paracelſus*, and his Followers, ſprung, among other things, the Seeds of Animals, Vegetables, and Minerals; and all theſe Seeds have from the Beginning lay concealed in the Boſom of this ſame Matter, as it were in Darkneſs, or in what he calls the Abyſs, from which they were drawn by Generation.

According to this Idea, the Followers of *Paracelſus* believe, that what is commonly called Generation, conſiſts only in the Exit or Paſſage of each Seed, or of each of the Individuals they contain, from Darkneſs to Light: So that, inviſible as they were, tho' they always exiſted, they at laſt become viſible. Upon this Footing, what is born To-day is not properly new, tho' it appear to be ſo; ſince it had a previous Exiſtence in the Abyſs from which it ſprings. In like manner a Thing which apparently corrupts, does not for that Reaſon periſh, or ceaſe to be, but only returns to the original Source from which it was drawn, after having perform'd the Functions for which it was deſtin'd. The Followers of *Paracelſus* found this Sentiment upon a Paſſage of *Hippocrates*, where that antient Phyſician ſays, *That nothing in Nature periſhes, as alſo that nothing new is produc'd*, that is, nothing is brought into Being which did not exiſt before; but theſe Seeds cannot ſpontaneouſly leave the Places where they originally exiſted, and would not unfold themſelves as they ought, if they were not aſſiſted by a celeſtial Power or Virtue included in them, and which *Paracelſus* calls *Archeus*, that is, as his Commentators explain the Word, an Architect Spirit. This *Archeus* ſeparates the various Elements, and all the Things they contain, placing each Object in its proper Place; and as for the Bodies of Animals, it in them ſeparates what is pure from what is impure, juſt as Fire or Antimony purifies Gold. It happens indeed, that it operates imperfectly; and it is for this Reaſon, that Men are now-and-then afflicted with ſome Diſeaſes; but, for our Comfort, theſe Diſeaſes are not mortal like others. *Paracelſus* does not own for true Elements the four generally agreed upon and received as ſuch in the Schools, that is, Fire, Air, Water, and Earth. He ſays, That theſe are lifeleſs Bodies, which only poſſeſs inefficacious and impotent Qualities, which can produce nothing, and are merely paſſive. He aſcribes a much greater Energy to three Principles, which, he ſays, are found in all natural Bodies, and even in the Elements, and in each of them in particular. Theſe Principles are Salt, Sulphur, and Mercury.

In order to explain, in ſome meaſure, what theſe three Principles are, he ſays we need only look on Wood when burning. That which burns is Sulphur, that which riſes in Smoak is Mercury, and thatwhich is reduc'd to Aſhes is Salt. We find ſomething of theſe three Principles in the Works of *Iſaacus Hollandus*, and *Baſil Valentine*, ſo that *Paracelſus* does not ſeem to have been the Inventor of this Notion. We ſhall not here attempt to explain the Difference which he and his Followers make between the viſible and inviſible Elements, ſince they themſelves do not ſeem to underſtand each other with reſpect to that Point. Beſides the ordinary Elements and Principles, *Paracelſus* thought there was in all natural Bodies ſomething of a celeſtial Nature, which he calls *Quinteſſence*, and which he deſcribes thus. "The Quinteſſence, ſays he, is a Subſtance which is corporeally drawn from all Bodies which increaſe, and from every thing that has Life, and this Subſtance is diſengag'd from all Impurity and Mortality; it is of the higheſt Subtilty, and ſeparated from all the Elements." He adds a little afterwards, that "this Quinteſſence is not of a different Nature from the Elements, becauſe it is itſelf an Element." Upon the ſame Subject he afterwards ſays ſomething in which he appears to contradict himſelf, or which is at leaſt very hard to be underſtood. He alſo calls this Quinteſſence by the ſeveral Names of the Philoſophical Tincture, or Philoſophers Stone, the Flower, the Sun, Heaven, and ethereal Spirit. "This Medicine, ſays he, in *Lib. de Tinctura Phyſicorum*, is an inviſible Fire, which devours all Diſeaſes. "I myſelf have, with this Remedy, cur'd the Small-pox, the Leproſy, the Dropſy, the Colic, the Apoplexy, "malignant Ulcers, the Cancer, Fiſtulas, Scirrhuſes, and all internal Diſorders." He brings a very ſingular Example, to ſhew the marvellous Virtues of this Medicine. "Some, ſays he, having made this Tincture, and "not knowing how to uſe it, neglected it; upon which it happen'd, that ſome Poultry, finding it in their Way, "eat it, or drank it; and their Feathers being before caſt, they were forthwith renew'd, a Circumſtance which "convinc'd the People, that this Phenomenon was the Effect of the Medicine."

One would think, that if *Paracelſus* had been Maſter of this univerſal Remedy, he had no Occaſion to ſeek for others. *Severinus*, one of his principal Followers, ſays, it were to be wiſh'd, that ſuch a Thing could be found; but confeſſes, that very few have had that Advantage. Perhaps his Maſter would not be much wrong'd, if we affirm'd of him, that he knew little more of this Matter than others. However, his Diſciples have not adher'd to this univerſal Remedy, but acknowledge the Uſe of particular Medicines, of which they have propoſed a large Number. They affirm, that as each Species of Diſorder derives its Origin from a particular Seed, ſo there is a ſecret Remedy appropriated to each of them; and they talk of this Remedy, as if it had Intelligence, knew what it did, or was even more ſkilful than the Phyſician who preſcrib'd it. When *Paracelſus* was ask'd, Why his univerſal and particular Remedies, which were both infallible, did not produce their deſign'd Effect, and prevent Death? He anſwer'd, That there was a Neceſſity for ſubmitting to Deſtiny, which was irreſiſtible. It was undoubtedly for this Reaſon that this Chymiſt was not able with all his fine Secrets, which he calls *Magnalia Dei*, to find the means of curing himſelf of the Gout, and ſome other terrible Diſorders, which cut him off in the forty-ſeventh or forty-eighth Year of his Age.

When in ſome other Paſſages *Paracelſus* ſpeaks of the Seeds of Diſeaſes, he eſtabliſhes two principal Kinds of them: The one he calls *Iliaſtrum*, and the other *Cagaſtrum*. The former draws its Origin from a Subſtance which exiſts from the Beginning, as Apples, Pears, Nuts, and other Fruits, which all ſpring from the particular

lar Seeds deſtin'd to produce them. The Diſeaſes depending on the firſt Kind are the Dropſy, the Gout, and the Jaundice. The ſecond Kind proceeds from a Corruption of ſomething, and the Plague, the Pleuriſy and Fevers, are the Conſequences of this Corruption. *Paracelſus*, and his Followers alſo, talk of the *Iliaſtrum* and *Cagaſtrum*, with reſpect to the equivocal Generation of Rats, which they believe to be ſometimes generated by Corruption, and ſometimes by the Seed of their Parents. The former of theſe is called a Generation *ex Cagaſtro*, and the latter a Generation *ex Iliaſtro*.

In other Paſſages he conſiders the Cauſes of Diſeaſes under other Relations. Theſe Cauſes he calls *Entia*, or Beings, and eſtabliſhes five Kinds of them. The firſt of theſe Beings is *Ens Dei*, or God himſelf, who inflicts Diſeaſes upon Mankind, as he himſelf pleaſes. The ſecond he calls *Ens Aſtrale*; becauſe he believ'd, that ſeveral Diſeaſes proceeded as well from the Stars in Heaven, as from thoſe in Man. The third, which he calls *Ens naturale*, relates to thoſe Diſeaſes which proceed from ſome Defect of Nature. The fourth of theſe Beings is *Ens ſpirituale*, or *Pagoycum*, to which *Paracelſus* refers thoſe Diſeaſes which are the Effects of our own Imaginations, or thoſe of others acting upon us; and under this Kind are comprehended the Diſeaſes, which proceed from Witchcraft or Inchantment. The fifth and laſt Being is called *Ens veneni*, and comprehends all Poiſons, whether natural or artificial.

Paracelſus will, farther, have all Diſeaſes to proceed from what he calls *Iliadus*, which is, when any Separation or Corruption happens in the Body. *Petrus Severinus*, one of the moſt celebrated of the Followers of *Paracelſus*, affirms, that what *Hippocrates* call'd *Orcus*, and what others mean by *Nox Orphei*, and *Abyſſus*, are the ſame with the *Iliadus* of *Paracelſus*.

Our Author, at laſt, paſſing from the general to the particular Cauſes of Diſeaſes, affirms, “ That the human “ Body is nothing but Sulphur, Mercury, and Salt; and that in theſe three Things, which he calls the three “ firſt Subſtances, Health and Diſeaſes conſiſt. 'Tis, continues he, in theſe three Things alone that we muſt “ look for the Cauſes of Diſeaſes, and not in the Humours, or their Qualities, about which the Phyſicians make “ ſo great a Noiſe.” A little after he adds, “ That all Diſeaſes depend upon theſe three Things, and not upon “ the four Elements.” He alſo affirms, that we muſt not have a Regard to Conſtitutions, and to the four Humours, as thoſe have done, who have ſpread ſo much Obſcurity over Medicine. A Diſorder, adds he, is either hot or cold; but this Heat or Cold are not the Cauſes, but only the Signs, of the Diſeaſe. When a Man has his Forehead hot, his Head and his whole Body inflamed, his Urine red, and his Pulſe frequent, theſe are only the Signs of his Diſeaſe; but its Cauſes muſt be ſought for elſewhere. In a Colic, for Inſtance, proceeding from Conſtipation, the Patient is afflicted with violent Belly-achs, a great Burning, accompanied with Thirſt, Vomitings, and ſometimes a Palſy; but when the Conſtipation is removed, all the Accidents or Symptoms forthwith ceaſe. Thus again, in a Caſe of the Stone in the Bladder, the Symptoms accompanying that Diſorder cannot be remov'd, without removing the Stone. We muſt not, in this Caſe, uſe either hot or cold Medicines; neither muſt we talk of Humours and Conſtitutions; the Knife alone can remove the Cauſe, the Knife is the only Arcanum or Secret for the Stone.

Paracelſus enlarges upon the Nature of thoſe Diſeaſes which are produc'd by the three Subſtances already mention'd, and conſiders the Manner in which they happen. On this Occaſion he obſerves, firſt, with reſpect to Mercury, that the Kind which is in the Bodies of Animals, and which has a great Affinity with common Mercury, or Quick-ſilver, by its Volatility produces Madneſs, Mortifications of the Ligaments, and Tremblings; and that if to this Volatility a certain Degree of Acrimony is join'd, or if the Mercury is too much ſpiritualiz'd, then Madneſs, Phrenſy, and Delirium, are produc'd.

He adds, That theſe Diſorders are produc'd by the Spirit of the Mercury, which, when riſing, and ſeeking for an Exit, wounds the Brain, and particularly thoſe Parts of it which are the Seats of Memory and Judgment. If this Spirit in deſcending penetrates to the Nerves, and ſtrongly adheres to the Brain, it then produces the Apoplexy; and, if it falls on the hinder Part of the Neck, it gives Riſe to a Palſy. But if it becomes cold in its Courſe, it produces Tremblings of the Hands and Feet, or of the Head alone. It alſo occaſions Lethargies, and Diſtortions of the Mouth and Eyes.

The Diſorders produc'd by Sulphur are the various Kinds of Fevers, Impoſtumations, or Phlegmons, and the Jaundice. But if the Salt ſhould be ſeparated from the Sulphur, the later of theſe, becoming putrid, falls upon the Breaſt, and produces a Pleuriſy. In the Stomach and Liver it produces Fevers; in the Head, the Megrim and other Diſorders, as alſo Pains of the Eyes, the Teeth, and Ears.

Several Diſorders alſo derive their Origins from Salt, and, among others, the Colic. From the ſame Principle proceed the Stone and Gravel, and other Concretions form'd in the Veins and Cavities of the Body, as alſo the Gout of the Hands and Feet, and the Sciatica. The Cauſe of theſe Diſorders is the Spirit of the Salt, which mixes with the Body of the Salt, and coagulates in the Bladder, the Kidneys, and the Joints. Salt alſo, whenever it is diſſolv'd, produces Fluxes of the Belly; but when it is indurated and coagulated, it produces Indurations and Obſtructions, which are remov'd by diſſolving and fuſing the Salts which occaſion them. But if the Salt ſhould be too much ſubtiliz'd, it produces Eruptions, the Itch, and other cutaneous Diſorders. The Eryſipelas, malignant Ulcers, and the Cancer, proceed from the ſame Origin. And laſtly, if the Salt is too ſtrong, it produces the *Ignis Perſicus*, and terrible Inflammations. Theſe three Principles, both within and without the Body of Man, have each their different Species, which alſo produce different Kinds of Diſeaſes. Vitriol, for Inſtance, which is claſſed among the Salts, produces a Kind of Eryſipelas. In another Place he tells us, that the peccant Matter of Fevers, in general, is no more than Sulphur and Nitre; for which Reaſon *Paracelſus* would have a Fever defin'd a Diſeaſe ariſing from *Sulphur and Nitre* ſet on Flame. He elſewhere affirms of intermittent Fevers in particular, that they proceed from a Motion of Nitre, which firſt produces Cold, and then Heat.

Beſides the Cauſes of Diſeaſes drawn from the three Principles of Salt, Sulphur, and Mercury, *Paracelſus* ſought for others deriv'd from *Tartar*, and to which he aſcribes almoſt all the ſame Effects he had done to the former, and ſeveral others beſides. But we muſt here obſerve, that he was probably the Inventor of the Name in *Latin*, *Tartarum*, and which is nothing but that acid and hard Subſtance, as, he elſewhere tells us, concreted on the Sides of Wine-caſks, whereas the Lees ſubſide to the Bottom. He maintains, that the Stone of the Bladder, and the Gravel of the Kidneys, are generated or produc'd by what he calls Tartar, the Reaſon of which Name he gives us in the following manner.

I call, ſays he, the Stone, a Diſeaſe ariſing from Tartar, (*morbus Tartareus*) becauſe of its Affinity to the true *Tartarus*, or Place of Puniſhment feign'd by the antient Poets. Now this Tartar is ſo called, becauſe it contains an Oil, a Water, a Tincture, and a Salt, which inflame and burn the Patient, juſt as the Fire of Hell would do. Our Author, in his uſual chymical Cant, gives ſtill another Name to the Stone, which is, *Duelech*.

With reſpect to the Signs of Diſeaſes, we find very little in the Works of *Paracelſus*. In ſome Paſſages he briefly mentions them; and in others teſtifies but a ſmall regard for them. He eſtabliſhes various Kinds of Pulſes, which have all a Relation to the ſeveral Planets. There are, according to him, two Pulſes in the Feet, which are aſcrib'd to *Saturn* and *Jupiter*; two in the Neck, which depend upon *Venus* and *Mars*; two in the Temples, which are regulated by *Luna* and *Mercurius*; and the Pulſe which is under the Influence of the Sun, is in the Left Side under the Heart. Hence it follows, ſays he, that if the Pulſe beats quicker than uſual, the ſeven principal Members ſuffer, that is, the Heart, the Brain, the Liver, the Gall, the Kidneys, the Spleen, and the Lungs. If any of theſe Members in particular is oppreſſed by the Diſorder, the Pulſe beats more faintly, becauſe the Air or Spirit of Life does not find a free Paſſage to it.

Paracelſus is more full and copious upon Urine, as may be ſeen in what he has wrote concerning the Judgments drawn from Urines. Urine, ſays he, is a diſſolv'd Salt, with a Mixture of Sulphur and Mercury. We ſhall not here enter upon a Detail of the ſeveral Signs he draws from the Urine, in order to judge of the Natures and Conſequences of Diſeaſes. A Knowledge of this Kind muſt undoubtedly be of the laſt Conſequence, if what *Jo. Rhenani*, in his *Urocritorium Chymiatricum*, aſſerts, is true; which is, that every good or bad Circumſtance, with reſpect to the Termination of a Diſeaſe, is clearly, and, as it were, in a Glaſs, diſcover'd in the Urine.

We have already obſerv'd, that the moſt celebrated of the Followers of *Paracelſus* frankly confeſſed, that the Quinteſſence, or univerſal Remedy, mentioned by their Maſter, and of which he boaſted ſo much, was ſomething very rare. This Circumſtance oblig'd both *Paracelſus*, and his Followers, to ſeek after ſeveral particular Remedies which they have propoſed. One of the Means which they ſay ought to be uſed in diſcovering theſe Medicines, is to obſerve what they call'd the Signatures of Things. They believed that certain Differences, with reſpect to the Colour, the Figure, and other external Marks in Animals, Vegetables, and Minerals, were ſo many Indexes of their reſpective Qualities, for the Cure of particular Diſeaſes.

They maintained, for Inſtance, that *Euphraſia* bore a Mark which indicated its Virtues againſt Diſorders of the Eyes; and this Mark is a ſmall black Figure within the Flower, and which they ſaid repreſented the Eye-ball. One of the Species of the *Dentaria*, Toothwort, whoſe Root reſembles a Chain of Teeth link'd together, proves by that very Circumſtance, that it is a proper Remedy for Diſorders of the Teeth, and for the Scurvy. The Seeds of Pomgranates, and the Kernels of Pine-apples, having alſo the Form of Teeth, we ought, from that Circumſtance, to infer, that they are Remedies proper for thoſe Parts. *Pulmonaria*, or Lungwort, is good againſt Indiſpoſitions of the Lungs, becauſe it is light and ſpongy like that Organ, and in ſome meaſure reſembles its Figure. Lemons are good againſt Diſorders of the Heart, becauſe they, in ſome meaſure, reſemble its Figure. And as that Organ has a relation to the Sun, as we have already obſerv'd, the yellow Colour of the Citron repreſents, in ſome meaſure, the Colour of the Sun; and, in like manner, denotes that Fruit to be of a cordial Quality. Gold having the ſame Colour, as alſo the Splendor of that Luminary, they ſaid it was not, for that Reaſon, to be doubted, but it was the moſt excellent of all Cordials. The Root of the Plant *Satyrion* indicates ſtill more ſtrongly by its Figure, that it is deſtin'd for ſtrengthening the Parts ſubſervient to Generation. *Aſarum*, which ſo exactly reſembles an Ear, is, for that very Reaſon, a Remedy proper againſt Diſorders of that Part. More Inſtances of this Kind may be ſeen in *Crollius*, who has wrote at great Length upon this Subject. But *Libavius*, tho' a great Chymiſt, frankly confeſſes, that a Conformity between the Figures of certain Simples, and their Medicinal Virtues, is purely an accidental and fortuitous Circumſtance.

We muſt here obſerve, that, notwithſtanding all theſe Signatures, *Paracelſus* and his Followers depended much more upon Metallic Medicines, than on thoſe ſupplied by the Animal and Vegetable Kingdoms; in which reſpect they differ'd from the antient Phyſicians, who knew little more of Metallic Medicines than their Uſes in external Applications. The Followers of *Paracelſus* alſo required, that Medicines, from whatever Subſtances tney were extracted, ſhould be prepared chymically; becauſe, without that Circumſtance, they are ſo far from being ſalutary, that they are prejudicial, ſince the poiſonous Quality, naturally in all Simples, is not ſeparated from them.

Paracelſus alſo believed, that certain Words and Characters could cure ſome particular Diſeaſes, which would not yield to other Remedies; potable Gold, or the Quinteſſence of Gold, and that of Antimony, not excepted. He affirm'd, that Nature had communicated her Virtues, or imparted her Power, to Words, or engraved Stones, as well as to Herbs and Roots. He alſo maintained, that the Phyſician might have recourſe to Magic for the Cure of Diſeaſes.

Notwithſtanding his embracing theſe Opinions, he did not neglect the two moſt common and univerſal Remedies of Veneſection and Purgation; but he thought Clyſters unneceſſary, and tells us, that he wrote nothing on htat Subject, becauſe he look'd upon them as very prejudicial to the Conſtitution. He wrote five Treatiſes on Veneſection, which ſhews us, that he did not diſapprove of that Practice, though he thought it was not uſed as it ought, and ſubjected it to ſeveral Rules drawn from the Diſpoſition of the Stars. We make this Remark, in order to ſhew, that the Chymiſts who came after *Paracelſus*, and who, for the moſt part, rejected this Remedy, have not, in this particular, followed the Sentiment of their Maſter. He uſed Purgatives; but preferred thoſe chymically prepared, to ſuch as were in Uſe among the *Greeks* and *Arabians*. *Oporinus, in Epiſtola ad Solenandrum & Wierum*, informs us, that when *Paracelſus* purg'd his Patients in any Diſorder whatever, he, for that Intention, preſcrib'd Mercurius Præcipitatus, reduc'd to Pills, and made up with a little Theriaca, or Mithridate, or the Juice of Cherries, or of Grapes.

Oporinus does not explain what kind of Precipitate his Maſter uſed. The Quacks frequently gave red Precipitate in Venereal Diſorders, which is a very violent Purgative, and an Emetic, the Compoſition of which *Paracelſus* gives us. He orders this Medicine to be prepared by diſſolving Mercury in Aqua fortis, and drawing it off five times by Diſtillation, more or leſs, till the Mercury has acquired a beautiful red Colour. Upon this Powder Spirit of Wine is afterwards to be pour'd, and drawn off by Diſtillation ſeven, eight, or nine times, till the Precipitate becomes white in the Fire, and is no longer ſubjectto evaporate. He adds, that by this Proceſs we ſhall obtain a diaphoretic Precipitate. The modern Preparers of red Precipitate follow all the Directions of *Paracelſus*'s for they firſt uſe Aqua fortis, and then Spirit of Wine: But in vain do they pour this Spirit upon the Powder, and draw it off, ſince it does not by that means become white, much leſs does it undergo ſuch a Change as to become fix'd, incapable of evaporating, and of ever being reduc'd again to a liquid Mercury. By this we ſee, that the Words of *Paracelſus* are not greatly to be depended on; and here, as on every other Occaſion, he pretends to inſtruct us in the Method of compoſing an excellent Remedy, which far ſurpaſſes the common Precipitate; but when his Directions are rigidly obſerv'd, the Experiment always fails of Succeſs. We have juſt Reaſon to doubt, whether he knew the Secret of this diaphoretic Precipitate, the Preparation of which he pretends to deſcribe. But whether he did or not, the Preparation, mentioned by *Oporinus*, was exhibited with a View to purge, and not to excite

excite a Diaphoreſis; and it is highly probable, that it came very near to the ordinary red Precipitate, if it was not entirely the ſame. *Paracelſus* certainly knew other purgative Medicines drawn from Minerals; and we ought not to imagine that *Oporinus* affirms, that his Maſter never purg'd with any thing except Precipitate Mercury. It is impoſſible, that, having made ſo many Experiments upon Antimony, he ſhould not diſcover, that, among other things, various purgative Subſtances might be obtained from it; for he aſſerts, in the firſt Place, that as Antimony is more proper than Fire, or any other thing, to purify Gold or Silver, ſo it, in like manner, purges the human Body, and carries off its Impurities. It is certain, that by the Name *Magiſtery* he does not mean a common Cathartic Medicine, ſince he tells us afterwards, that the Magiſtery of Antimony cures the Leproſy. This *Eſſence*, this *Arcanum*, this *Virtue* of Antimony, as he calls it, is, according to him, prepared in the following manner. "This," ſays he, "is what we call the Virtue of Antimony, of which no mention is " made in any Medicinal Work whatever. Take care, in the firſt Place, that no Part of the Antimony be cor-" rupted, but that it remain entire, without loſing any thing of its Form, ſince under this Form the *Arcanum* " of Antimony is conceal'd. It ought to be forc'd by the Retort, till no Caput Mortuum remains; and by three " Cohobations reduc'd to a third Nature: Then this Arcanum is obtain'd. The Doſe of which is four Grains " mix'd up with Quinteſſence of Baum." Theſe Directions have no great Tendency to render us more knowing than we were before. We do not obſerve, that *Paracelſus* often mentions any Purgative, properly ſo call'd, obtain'd from Antimony. In his Treatiſe *De Caducis*, he indeed mentions Flowers of Antimony, without deſcribing the Manner in which they are prepar'd, ſince he only talks of a Preparation of which they are the Baſis, and which he affirms to be an excellent Remedy againſt the Falling-ſickneſs, though he gives us no farther Deſcription of it. He however ſpecifies its Doſe, which is nine Grains before the Paroxyſm, and eighteen under it. In another Paſſage he ſays ſomething concerning the *Mercurius Vitæ*. He made almoſt as many Experiments upon Vitriol as upon Antimony; and mentions an Arcanum which he extracted from it, and which he preferred to that obtained from Gold.

We ſhall not, on this Occaſion, run out into a Deſcription of the Eſſences, the Magiſteries, the Elixirs, and other important Secrets, which our Author calls *Magnalia Dei*, ſuch as the Quinteſſence already mentioned, the celebrated Remedy call'd *Azoth*, which *Paracelſus* always carried about him, and his *Laudanum*. With reſpect to this laſt Medicine, we cannot forbear ſuſpecting that it was a Compoſition conſiſting principally, if not entirely, of Opium. This is, in reality, an excellent Medicine, when judiciouſly uſed; and a great many Phyſicians are of Opinion, that it is not very neceſſary to prepare it, ſince the moſt laborious and expenſive Preparations of it are not much more valuable than the moſt ſimple, or the Drug itſelf, ſuch as it is brought to us from the *Levant*, or ſuch as the *Turks* daily uſe. *Paracelſus*, indeed, affirms, that thoſe Medicines in which Opium is an Ingredient, are of a poiſonous Quality, that we ought not to repoſe any Confidence either in the Poppy, Henbane, or the Mandrake; and that we have no anodyne or narcotic Medicine which operates ſafely and eaſily, except Sulphur extracted from Vitriol, which, beſides its other Uſes, is an excellent Remedy againſt the Falling-ſickneſs. However, in another Paſſage, he frankly confeſſes, that Anodynes, ſuch as Opium, are of ſingular Efficacy in the Cure of the ſame Diſorder; and immediately after propoſes a Formula of a Medicine compounded of *Theban* Opium, Cinnamon, Muſk, and Amber. It is true, indeed, he at the latter End adds the Arcanum of Vitriol, which is the ſame thing with the Sulphur. But if this Sulphur is alone ſo excellent an Anodyne, and ſo proper for the Cure of the Epilepſy, why did our Author join Opium to it? He was well enough appriſed that this Objection might be made to him; and endeavours to anſwer it, by ſaying, that there might accidentally be ſome Fault in the Vitriol, and that the Artiſts were ſometimes guilty of Overſights in preparing it, which was the Reaſon why it ſometimes fail'd of producing its Effect. This Anſwer ſhews us, that *Paracelſus* did not repoſe ſo great a Confidence in his Sulphur of Vitriol, as not to endeavour to aſſiſt its Effects by Opium, the Virtues of which are not ſo precarious. And this Circumſtance ſeems to confirm our Conjecture with reſpect to his Laudanum. We ſhall not take upon us to determine, whether any one is at preſent Maſter of the Secret of this wonderful Sulphur, or this Arcanum of Vitriol, which our Author prefers to all the Remedies prepared of Gold, and whoſe Virtues he ſo highly extols in ſeveral Paſſages. The Secret muſt unqueſtionably be among the Number of thoſe which are known by few, and concerning which our Author ſays, that if God communicates them to any one, they are not, for that Reaſon, made public, becauſe God has given Prudence enough to thoſe to whom he imparts them, to keep them conceal'd, as they ſhall always be till the Coming of *Elias the Artiſt*, when every thing that is now conceal'd ſhall be ſet in a clear Light.

The Surgery of *Paracelſus* has by ſome been more eſteem'd than it may poſſibly deſerve. Though he has compoſed two pretty large Works on this Subject, one intituled *The Great Surgery*, and the other *The Small Surgery*, yet in theſe voluminous Productions he ſcarce treats of any thing beſides Wounds and Ulcers. For the Cure of theſe he does not depend upon common Remedies, and ſuch as are obtain'd from Plants, but uſed Chymical Medicines, ſome of which are very good for anſwering theſe Intentions. But if theſe did not produce the deſign'd Effect, he did not heſitate to have recourſe to *Characters*, *Words*, and the other deluſory Arts of Superſtition. With reſpect to Wounds, he ſays there are two Methods of extracting the Iron of an Arrow or Dart when it is lodg'd in a Wound; that this is ordinarily done by pulling it out, and attracting it by Medicines, if it is only ſharp and long; or by puſhing it farther in, and attempting to bring it out from the oppoſite Part, if it is bearded. He alſo obſerves, that the ſame Practice is to be followed when a Muſket-ball is lodg'd between the Bones. He adds, that when the Intention cannot be anſwered by Herbs and Roots, which he owns are very often ineffectual, we muſt, in diſlodging bearded Arrows or Balls from between the Bones, have recourſe to certain *Verba Conſtellata*, or Words influenc'd by the Stars; and boldly affirms, that by the virtue of theſe Words alone, without the Aſſiſtance of any thing beſides our Fingers, we may eaſily extract all kinds of Darts from Wounds. But, ſays he, the Malice of the Sophiſts has attempted to render this Art infamous, by prohibiting its Uſe, under the Penalty of being anathematiz'd, and committed to the Flames. I do not, for this Reaſon, neglect to practiſe it, ſince I know there is nothing in it but what is natural. *Paracelſus* ſays very little upon Tumors, Fractures, and Diſlocations; and through the Whole of his Chirurgical Works, we find nothing relateing to the Amputation of Members, and thoſe Operations which are performed by the Knife, and the Fire. It even appears, that he did not approve of theſe laſt-mentioned Methods, though he commends the Uſe of the Knife as the only Remedy to be depended upon in the Stone.

Our Author enlarges pretty much on the Pox, examines its Cauſes, inquires into its Signs, and propoſes a large Number of Remedies for its Cure, the principal of which are various Preparations of Mercury, but deſcribed in his own Manner, that is, ſo as to be underſtood by very few, or rather none at all.

In reading the Works of *Paracelſus*, it is eaſy to obſerve, that he had a heated and diſorder'd Imagination, full of the crudeſt Notions; whence it is no Wonder he gave into Aſtrology, Geomancy, Chiromancy, and the

Cabbala; which were extremely common and popular Things in thoſe ignorant Ages. He ſays expreſly, That Medicine muſt be join'd to Magic, or it cannot be ſucceſsful; by which he does not mean Natural Magic only, but declares, that no one need ſcruple getting certain Secrets of Phyſic from the Devil, and boaſts of holding Converſation with *Galen* and *Avicenna*, at the Gates of Hell. In ſhort, he has uſed all poſſible Means to perſuade the World, that he was a real Magician; ſo that if he has failed in the Attempt, it is his Misfortune. Indeed it has been the common Opinion, that he was one; but, for my Part, I judge he was rather in ſome Inſtances an Impoſtor than a Conjurer.

But among the bad Things that his Works are ſtuffed with, there are ſome which are good, and contribute to the Improvement of Phyſic. What he ſays againſt the common Notions that had prevailed from the Time of *Galen*, as to the Effects of the primary Qualities of Bodies, hot, dry, cold, and moiſt, has ſomewhat open'd the Eyes of Phyſicians. He calls the Philoſophy of *Ariſtotle*, a wooden Foundation; and, if himſelf has not laid a better, he has given Occaſion for it, and promoted a Diſcovery of the Weakneſs of that old Baſis. His Opinion of Seeds, all which he ſuppoſes exiſted from the Beginning, prevails to this Day among the moſt knowing, who have only explain'd it better. His Doctrine of Salt, Sulphur, and Mercury, has great Uſes in Philoſophy and Phyſic; if taken not as real Elements, but as active Principles in Bodies. It is alſo manifeſt, that he had a great Knowledge of the *Materia Medica*, and beſtow'd much Time and Pains in working upon Animal, Vegetable, and Mineral Subſtances, ſo as to have made a very large Number of Experiments; but then he has this great Defect, that he ſtudiouſly conceals what a long Courſe of Experience has taught him upon this Subject; ſo that the ſhort Critic of *Guntherus d'Andernac* is extremely judicious: "I allow, ſays he, That *Paracelſus* was an excellent Chymiſt, and that he has deliver'd many good Things in his Writings; but, on the other hand, it is Pity he ſhould have mixed them with a Number of others, which are falſe and frivolous; and at the ſame time ſhould have involv'd the beſt in ſo much Obſcurity, that ſcarce any one can underſtand what he ſays, or make the leaſt Advantage of it. I wiſh *Galen* had been leſs diffuſive, and more exact, in his Works, and *Paracelſus* more clear and candid; but, as every one has his Failings, we ſhould retain what appears to be good, and leave the reſt."

The Lord *Bacon* has given a juſt, tho' ſevere Cenſure of *Paracelſus*, in his Philoſophical Capacity, to this Effect: *Paracelſus*, ſtanding at the Head of the Chymiſts, deſerves to be ſeparately chaſtiſed as a Monſter. What Bacchanalian Oracles are thoſe he utters in Meteorology; whilſt he is ridiculouſly aping *Epicurus?* All that *Epicurus* aſſerts upon the Subject, is but Opinion, which he unconcernedly left to its Fate; but *Paracelſus*, blinder than Fate, and more raſh than Chance, is ready to avouch the abſurdeſt Falſhoods. What Dreams of Reſemblances, Correſpondences, and Parallels, are given us by this fanatical Linker together of Idols? His three Principles indeed, might be received with ſome Utility, as having a Foundation in Nature; but he is continually wreſting them to every thing, according to his great Dexterity in Deluſion. But this is not the worſt of him; for, like a ſacrilegious Impoſtor, he has mixed and polluted divine Things with natural, ſacred with profane, Fables with Hereſies, and human Truths with religious; ſo as not, like the antient Sophiſts, to have hid, but extinguiſh'd, the Light of Nature. The Sophiſts were only Deſerters of Experience, but *Paracelſus* has betray'd it. At the ſame time, he is ſo far from underſtanding, or juſtly repreſenting Experience, that he has added to the Trouble and Tedíouſneſs of Experimenting. In ſhort, he has every-where, to the utmoſt, magnified the abſurd Pretences of Magicians, countenanced ſuch Extravagancies, and encourag'd others to believe them from his own Aſſurance; being thus at once the Work and Servant of Impoſture. His Diſciples greedily ſwallow thoſe Doctrines, which he has rather promulged and promiſed, than actually laid down and made good, and defended with Arrogance inſtead of Caution; being thus recommended with pompous Shew, Affinity with Religion, the Subterfuge of Obſcurity, and other Impoſtures. And hence his Followers appear link'd to one another by the lying Spirit, that ſhews itſelf in their ſwoln Hopes and Promiſes. However, by wandring thro' the Wilds of Experience, they ſometimes ſtumble upon uſeful Diſcoveries; not by Reaſon, but by Accident; whence proceeding to form Theories, they plainly carry the Smoak and Tarniſh of their Art along with them, and, like childiſh Operators at the Furnace, attempt to raiſe a Structure of Philoſophy with a few Experiments of Diſtillation, and their own Idols of Separation and Mixture, where no Traces of them are really found. Yet we do not accuſe them all in the Lump, but make a Difference betwixt that little ſerviceable Set, who, being not very ſolicitous about raiſing of Theories, principally practiſe a certain mechanical Subtilty in making new Diſcoveries, with their Uſes, more after the manner of Frier *Bacon* than *Paracelſus*; and diſtinguiſh theſe from that impious Tribe, who endeavour only at procuring Applauſe to their Theories, and court and beg it under a pretended Zeal for Religion, large Promiſes, and the Arts of Impoſture, which is the Way of *Baſil Valentine*, and moſt of the Alchemical Authors.

Notwithſtanding what Lord *Bacon* ſays of *Paracelſus* and the Chymiſts, they certainly deſerve very great Praiſe, as they have contributed a vaſt deal to the Improvement of the Art of Healing. Firſt, As they demonſtrated the Syſtem of the *Galeniſts* to be falſe, and baniſh'd it from Phyſic; tho' it muſt be confeſſed, they did not ſubſtitute one which was more rational in its room. Their Theory, however, was leſs pernicious than any of thoſe which preceded it, as it was leſs capable of leading into Error; for it was too romantic, and too manifeſtly falſe, to miſlead ſo many as others had done, tho' ſome few Enthuſiaſts gave into it.

Secondly, They were Benefactors to Phyſic, as they introduc'd, or reviv'd the Uſe of many Remedies, of the greateſt Importance in curing Diſtempers. Amongſt theſe are Mercury, Antimony, Sulphur, Nitre, in the Senſe we underſtand it, Opium, and Iron, from which they directed us to make various Preparations, and taught us their Uſes. To theſe may be added, the volatile, urinous Spirits, as thoſe of Hartſhorn, Blood, or any other Animal Subſtance.

About ninety Years after *Paracelſus*, the famous *Van Helmont* appear'd, a Man of ſuch infinite Induſtry, that he ſpent fifty Years in examining foſſile, animal, and vegetable Bodies by Chymiſtry. He would undoubtedly have made a very conſiderable Figure, if he had made a right Uſe of his Diſcoveries, communicated them candidly to the World, and forbore running into the Notions of *Paracelſus*, whom he mimic'd in pretending, like him, to an univerſal Remedy. He was a Man of Learning, Abilities, and Eloquence.

All *Europe* ſoon came into his Opinions, and then none but purely Chymical Preparations were in requeſt, and nothing but what was produc'd by Chymiſtry was to be confided in for the Preſervation of Life and Health. And when afterwards *F. Sylvius de la Boe*, Profeſſor of Phyſic in *Leyden*, made it his Buſineſs to promote Chymiſtry, and was continually extolling its Uſefulneſs to a numerous Audience, his Authority, Eloquence, and Example, were ſufficient to eſtabliſh its Reputation every-where. Some indeed doubted, but almoſt all aſſented, as ſoon as *Otho Tachenius*, with great Reſolution and Succeſs, undertook the Cauſe of Chymiſtry, in three learned and elaborate Treatiſes. They now began to be convinc'd, that Nature acts, and that the Life of

Man is actuated, by chymical Inſtruments: By theſe, all that Variety of Motions by which all Effects in the Univerſe, and in the Body of Man, may be produc'd, but without them nothing, are excited, directed, increaſed, diminiſhed, and deſtroy'd. Theſe were the only Maxims current in the Univerſities, and in the Writings of Phyſicians. Did Acids by their Acidity corrode Metals? An Acid was provided for the Diſſolution of Aliments in the Stomach. Did Acids generated by the Fire, and mixed with the highly acrid Oils of Aromatics, produce a violent Efferveſcence? We muſt believe, that the acid Chyle, mixed with the Balſam of the Blood, rouſes the natural Heat of the Body; or, if both theſe ſhould happen to be acrimonious beyond meaſure, they muſt be ſuppoſed the Cauſe of burning Fevers. Nitre, Sea-ſalt, but eſpecially Sal Ammoniac, refrigerate Water: Immediately the cold Fit of a Fever was aſcribed to them. The Exhalations of the Particles of Wine during boiling, receiv'd in a Veſſel placed over them, ſhew us how our Spirits are generated. Acids mix'd with Alcalis cauſe a violent Efferveſcence, and are ready to break the Veſſel which incloſes them: Juſt ſo the Chyle, mix'd with the Blood, raiſes the like Tumults in the Ventricles of the Heart, the Veins, and the imaginary Rhomboidal Receptacles in the Muſcles.

The human Stomach is made an Hermetic Pot, in which the tepid Acor of a Ferment excites a Fermentation of the Aliments: Hence the Chyle contracts an Acidity, and, paſſing out with an Efferveſcence, meets with that alcaline Incentive, the Bile; here begins a Combat between the two Champions, the pancreatic Humour being a Spectator and Encourager of the Fray; the Work goes on briſkly, the Duumviri are hotly engag'd, being ſupported by their reſpective Guards; part of them by a natural Impetus ruſh into the Canals of the lacteal Veins, and by their own proper Efforts penetrating through the Meanders of the lacteal Rivulet, fall into the Torrent of the Blood, where, inſtead of finding Peace, they are attack'd by more Enemies which lay in Ambuſcade, and a new Fight commences. In the mean while others reſolutely paſs the Streights in Purſuit of the Runaways, and, coming up with their Enemies in the Chanel of the Blood, renew the Battle, which becoming general, part of them ruſh into the firſt Ventricle of the Heart, and thence in the firſt Heat of their Fury through the Iſthmi of the Lungs, breaking thro' the Myriads of little Tubes. Nor is here an End; for the Concourſe of the pulmonary Veſſels reaſſembles the ſcatter'd Bodies, and throws them into the other Ventricle of the fervid Heart, where, animated with freſh Spirits, they break through all Obſtacles, and diffuſe themſelves throughout all the moſt intricate and ſecret Receſſes of the Body, whence they return full of Spirit and Alacrity to the Cells of the Heart. All this has much the Air of a Romance; but ſome modern Phyſicians, it is certain, have ſeriouſly maintained, that the natural Actions of Life were perform'd after this manner. He that has a thorough Notion of all the Parts of this Farce, may in an Hour's time become a great Artiſt. Firſt, be careful to get right Ideas of *Acid* and *Alcali*; you may ſoon after be taught the Signs of each, and you will eaſily ſee which is the moſt prevalent. You have nothing more to do, then, but to come in with ſome Auxiliaries to the Relief of the weaker, and ſo reſtore the Balance of Power between them. And thus is the Sum and Subſtance of all that *Sylvius* and *Tachenius* taught, and which the World ſo much admir'd and follow'd, comprehended in very few Words.

Such Chymiſts might have been forgiven all theſe trifling Vanities, and been look'd upon only as ridiculous, if they had not founded upon their Fooleries ſome Pieces of Practice, highly deſtructive to the Lives and Health of Mankind. Of this I ſhall give one memorable Inſtance. *Galen*, as we have ſeen before, ſtarted the Notion of Animal Spirits. Some of the Chymiſts improv'd upon this Chimera, and pretended to determine the Manner in which they were produc'd, comparing it to the Generation of vinous Spirits by Diſtillation. Others went a Step farther, and affirm'd they were ſubject to Diſeaſes, as Inflammation, and capable of being infected with ſomething deleterious; and obſerving farther, that many Diſeaſes of the acute Kind terminated by copious Sweats, they concluded, that the moſt expeditious way of curing acute Diſorders was, to reſolve this imaginary Inflammation, or to drive out from theſe imaginary Spirits, the pretended deleterious *Something*, but they knew not what; and this by means of profuſe Sweats extorted by violently hot Remedies, if thoſe may be honour'd with this Appellation, which do much more Injury than Good. Herein they ſeem to agree with *Aſclepiades*, who was of Opinion, that one Fever ought to be cur'd by raiſing another, or rather by making the preſent Fever worſe: They, however, ran counter to the Doctrine of *Hippocrates*, and his Guide Nature, who both, if attended to, would have inform'd them, that this ſort of Evacuation is highly prejudicial, unleſs the Humours are previouſly concocted, or, in other Words, till the obſtructing Matter, which cauſes the Diſeaſe, is ſufficiently attenuated by the vital Powers, to be capable of paſſing thro' the Pores of the Skin.

Thus were heating Medicines firſt introduc'd into Practice, to the great Diſhonour of Phyſic, and the Deſtruction, in all Probability of Millions. And not leſs than the Experience of an Age was requir'd to convince the Generality of Phyſicians, that ſuch Medicines, thus applied, were more pernicious than the dreaded Inflammation, and more deleterious than the *Something* they dream'd of.

In the Beginning of the ſeventeenth Century, the ever memorable Dr. *William Harvey* diſcover'd the Circulation of the Blood. And this gave Occaſion to the Introduction of Mechanics into Medicine, upon the Ruins of the chymical Theory. Theſe are more likely to improve it, than any thing relative to Speculation, which has yet occurr'd to us; provided nothing be taken for granted which can admit of a Diſpute, and the Facts we reaſon upon are ſufficiently aſcertain'd. In order to ſet the Uſes of theſe in a true Light, I ſhall give the Subſtance of an Oration wrote by the celebrated *Boerhaave* expreſly on this Subject.

Thoſe who make Geometrical Calculations of the Powers of Bodies from their Bulk, Figure, and Velocity, either aſſumed, or taken by Obſervation, are called *Mechanics*. Their Art depends on a very few, certain, and well-known Principles, which are the Foundations of all the ſubtile and difficult Inventions that have been made in it. And tho' it has been highly eſteem'd in all Ages, and thought neceſſary to other Arts, it meets with Contempt among Phyſicians, being commonly overlook'd, or not regarded, as being of little or no Service.

So ſlight an Opinion of Mechanics I take to be ſo unbecoming a Phyſician, and the Source of ſo many Errors, to which he may be liable in his Practice, that I ſhall make it my preſent Buſineſs to prove, *That the Knowledge of Mechanics is highly uſeful, and even neceſſary, in Medicine.*

That the general Nature of Body is by none better defin'd than by Mathematicians, I ſuppoſe every one will allow; but the peculiar Properties of every ſingle Body, as exiſting in the Nature of Things, were never rightly deduced *a priori*, from this univerſal Idea of the Geometricians, which being form'd only of a Collection of common Qualities, excluſive of whatſoever diſtinguiſhes one from another, will never furniſh us with an Argument from whence we may draw a Concluſion explicatory of the peculiar Nature of a Body, tho' on this very Thing primarily depends the Power of Acting, with which one Body is endu'd above another; and conſequently this being unknown, the other muſt remain a Secret. Whoever, therefore, has a Mind to diſcover the Nature of an unknown Body, muſt ſearch out ſuch Qualities in ſingle Bodies, as may limit his Ideas, and reſtrain his Ratiocinations to the peculiar Nature of one individual Subject, which cannot be certainly known but by ſenſible Experiments, and Obſervations of the Effects of each Body. For theſe Effects are to be reckoned among ſuch Things as flow from the peculiar Nature of the Subject we examine: One Effect, therefore, denotes a ſingle Property, and a Collection of all the Effects together conſtitutes the whole Nature of the Thing, as far as it is diſcoverable by the Senſes. Having obtained a Knowledge of theſe Properties, if we proceed to demonſtrate, in a geometrical Way, ſuch other Properties as, by clear and neceſſary Conſequence, follow from the former, we diſcover a far greater Number of Things, than we could have known by the Help of our Senſes, and yet no leſs certain or uſeful than thoſe others. Beſides theſe two, there is no third Method of attaining to the Knowledge of the peculiar Conſtruction of any corporeal Machine; and both theſe Methods convince us of one Truth, which is, that the human Body is of the ſame Nature with the whole Univerſe of Things which we contemplate; and by the Teſtimony of Senſe, and in the Judgment of Reaſon, contains nothing extraordinary above the reſt, if its Principles be ſeriouſly examined, except that it conſiſts of more and different Machines, agitated by the Influx of Humours, and is qualify'd, by its Conſtruction, to produce more Effects, and that great Variety of Motions, which, by the Laws of Mechanics, flow from the Bulk, Figure, Solidity, and Connexion of the Parts; and this is evident, if we conſider, that if the mechanic Motion of one of theſe Parts be deſtroyed, or the Band of its Connexion looſed, the ſame Effects are no more to be expected. Hence the human Body is of a true mechanical Structure, and, therefore, poſſeſſed of all the Properties which belong to a Subject the beſt qualify'd for mechanical Speculation. Therefore a mathematical or mechanical Frame, and the human Machine, are, from the ſame Laws, explicable by Geometry, provided we aſſume for *Data* not ſuch Things as a fruitful Imagination may form to itſelf out of an infinite Variety of Poſſibles, but ſuch Properties as are well known, from the Teſtimony of the Senſes, to be peculiar to them. Very many of theſe Properties have been diſcovered by Anatomy, in obſerving the Size and Structure of the larger Parts of which we are compoſed, and more have been diſcloſed in the leſſer Parts by the Help of Microſcopes, which demonſtrate, that the larger and leſſer Parts of the human Structure are of the ſame Nature. Hydroſtatics alſo, or the Knowledge of Liquids, has informed us of many Things which determine the Qualities, Forces, and Directions of the Humours which circulate in our Veſſels.

All theſe Things being conſidered, either no Concluſion at all, according to the Laws of Science, can ever be drawn from them, or we muſt own ourſelves principally obliged to Mechanics for the Knowledge, and, conſequently, the Management of the human Body. But who can aſſert or believe, that nothing of Truth, Certainty, or Uſe, can be collected from ſo many manifeſt Obſervations, whether the Nature of each be duly conſider'd apart, or all of them compared together with the juſteſt Ratiocination? He who ſhould ſpeak at this rate would betray a dull Indiſpoſition and Weakneſs of Mind, and an ungrateful Neglect of the fineſt Inventions we can boaſt of. But if he ſhould grant, that, according to the Laws of Ratiocination, Things before unknown may be diſcovered and illuſtrated, but deny that this is done by the Benefit of Mechanics, let him aſſign ſome other Art which gives us a greater Inſight into the Nature of Bodies. In attempting ſo to do, it is neceſſary for him to ſuppoſe, that the Nature of Things can beſt be explained by ſuch Principles as are quite foreign to the Nature of the Thing into which we inquire, and by ſuch Perſons as keep at the wideſt Diſtance from the only Method of ſearching after Truth which is approved by Men of Senſe; and, therefore, he muſt involve himſelf in ſo many and great Abſurdities, that I ſhall take my Leave of him, and look upon the Propoſition as demonſtrated.

But this, you will ſay, is too dry a Way of Convincing, and too remote from common Apprehenſion, to gain much Aſſent; and this is certainly true, if the Weight of a Demonſtration is to be judged from the Multitude of thoſe who are capable of underſtanding it. For their ſakes, therefore, who are the major Part, I ſhall endeavour to diſplay the thing in the cleareſt Light.

That the greateſt Part of our Body is made up of Arteries, by whoſe Aſſiſtance it is maintained in Strength and Vigour, is too evident to need a Demonſtration. That thoſe Arteries are Canals which confine the Blood, and direct its Courſe; that the greateſt of them are about the Heart, and that their Cavities gradually leſſen, ſo as at laſt to become imperceptible, is what every Butcher knows. It is as well known alſo, that one Trunk of theſe Arteries, which proceeds from the Heart, ſpreads itſelf into lateral Branches, ſhaped like the Trunk, and divided again, and decreaſing after the ſame Manner; but ſo contrived, that the Trunk, which goes directly forwards, is commonly of a larger Capacity, at the Place of Separation, than the Branches, which run out at the Sides of this Diviſion. That all theſe Veſſels are incurvated in ſuch a manner, that the Sides of their Cavities are every-where bent into an infinite Number of very large Angles, and that the Effects of this ſpiral Courſe of the Veſſels upon the Blood, which paſſes thro' them, are very conſiderable, is an Obſervation made a few Years ago by ſome who applied Geometry to Medicine. The wiſe Author of our Machine has, by an admirable and effectual Contrivance, made theſe Canals flexible, that they might be capable of Diſtention from the Preſſure of the contained Liquid, and yet be in no Danger of Laceration; and alſo qualify'd them in ſuch a Manner, that, after reciprocal Dilatation, they might recur with a ſtrong Impetus upon the Humour, as it ceaſes to dilate the Veſſels, and be able to reſtore themſelves to a narrower Capacity.

Malpighius was the firſt who obſerved, that the laſt Branches of an Artery, running into minute Diviſions, diſpoſe themſelves on a Membrane as on a firm Baſe, and there open into one another by the mutual Intercourſe of ſmall Canals. The ſame Author firſt traced out theſe Canals through a thouſand Mazes and Windings, through which they hurry the contained Fluid. But here, with the greateſt Admiration of the divine Mechaniſm, obſerve that the ſmall Branches, diſpoſed with the greateſt Accuracy, extending over equal Spaces, and deſtitute of lateral Shoots, as being no longer ſubdivided, changing their Figure, conſtitute the Origins of the Veins and Lympheducts, with their Sinuſes. Theſe are Things which either the naked Sight, or Microſcope, the Ligatures of Veſſels in living Bodies, or Injections of Mercury into dead ones, the Contemplation of a diſeaſed Subject, or Compariſons of Brutes, Fiſhes, Inſects, and Plants, have diſcovered; and this is all that we know of the Arteries, tho' there are a Multitude of Fictions on the Subject.

The greateſt Part of the Body, then, and what is of great Efficacy towards Life, is, according to mechanical Deſcription, a conic, elaſtic, inflected Canal, divided into ſimilar leſſer ones, proceeding from the ſame Trunk, which being at laſt collected into a retiform Contexture, about cylindrical Vertices, mutually open into one another. If this be true, as nothing can be truer, then all the Effects which the Arteries work upon the Blood, depend only upon their Make as deſcribed, and, conſequently, are to be accounted for and demonſtrated from the ſame. Now I appeal to every capable Judge, Who is the Perſon qualified to demonſtrate in Order the Things which ſhall ariſe only on this Head? None, I ſay, but he who, being accuſtomed to the Contemplation of mathematical Schemes, and the Calculation of oſcillatory Forces, well knows what important Truths he can demonſtrate by virtue alone of ſuch Aſſiſtances; and ſuch a Perſon is the Mechanic Philoſopher, and none elſe. But let us take the Artery into farther Conſideration, the Knowledge of which comprehends almoſt that of the whole Body.

The Artery, having conſtituted the retiform Figure before-mentioned, emits cylindrical Tubes of ſo ſmall a Diameter, as not to admit the red Globules of the Blood, but only the thinner and colourleſs Part thereof; and hence you are furniſhed with the true Idea of a lymphatic Veſſel. The ſame Artery, again, at the ſame Place, extends itſelf in a Trunk, which runs directly forwards, and, being larger than the lymphatic Veſſels, conveys the red and thicker Part of the Blood, deprived of its thinner and ſerous Part; and here is the genuine Original of the Veins. Theſe, beginning firſt with a narrow Cavity, have it ſoon after enlarged by the Concourſe of new veiny and lymphatic Tubes; whence it comes to take the Figure of a Cone, ſimilar and vertically oppoſite to the arterial Cone.

If you imagine Arteries, Veins, Lympheducts, with their Apparatus, as before deſcribed, affixed to a membranaceous Plane, interwoven with Nerves, and, adding thereto ſome elaſtic Filaments, ſuppoſe them all rolled up together, you will have the Structure of a Gland, which as often as I contemplate, I conſider it as the fruitful Source of many wonderful Effects, as well as the Occaſion of many ridiculous Fictions, which, by the incredible Labour and Induſtry of the acute *Malpighius*, who has fully demonſtrated the Simplicity of its Conſtruction as aforeſaid, are now exploded. Such a Demonſtration will appear to be of very great Importance, if we conſider, that the whole Body is but little more than an Aggregate of Glands. The Brain, which, by the divine *Hippocrates*, was accounted a Gland, is deſcribed by *Malpighius* as made up of Veins, Arteries, Sinuſes, and Branches of Nerves. The Liver, Spleen, and Kidneys, are conglobate Glands. The very Laboratory where the genital Humour is prepared, is an artificial glandulous Conglomeration of cylindrical Canals. The Receptacle of the Embryo, the Placenta, and the Breaſts themſelves, are compoſed of Glands. The Bones and Membranes are much of the ſame Contexture, as none doubts who has read the ingenious Works of *Malpighius*, *Kercicringius*, and *Havers*.

Let us now examine carefully the muſcular Parts, and we ſhall find them to be Working-inſtruments, contrived by the moſt ſubtile mechanical Art. For every Muſcle is compoſed of leſſer ſimilar ones; but where muſt they end? Or what is the laſt of theſe? A Filament? It is no other than a dilated and attenuated Pellicle, of a nervous and very narrow Canal, forming a Cavity larger than the Canal whence it ariſes, which Cavity is inflated only with Spirit. The immenſe Force of ſuch a Machine as this is well known to thoſe who have compared the Hydraulic Experiments of *Mariotte* with *Des Cartes*'s Mechanics.

If we take a View of the Lungs, which are of a different Structure from the reſt of the Parts, we ſhall find them to be a Compoſition of elaſtic ſpheroidal Bags, hung at the Vertex of the vocal Cone. The Superficies of theſe Bags is adorned with Veins in Net-work, but is almoſt deſtitute of Lympheducts, for Reaſons which remain a Myſtery.

Could you believe, that ſo admirable and artificial a Machine as the human Body was perfected by ſuch a ſimple Apparatus? But ſo it is, and the more to be admired for that Simplicity. A Man verſed in Mechanics highly magnifies the Wiſdom of the Author of that Inſtrument, which is beſt accommodated for producing any deſired Effect, and is, at the ſame time, the moſt ſimple of all that are capable of producing the ſame.

What can we conclude from the Premiſes, but that the Body of Man is a Machine, whoſe ſolid Parts are ſome of them appointed as Veſſels for confining, directing, changing, ſeparating, collecting, and diſcharging Fluids; others mechanic Inſtruments, which by their Figure, Hardneſs, and Connexion, are qualify'd to ſupport other Parts, or to exerciſe ſome determinate Motions? This twofold Diſtinction of the Solids comprehends all that was acknowledged or diſcovered by *Hippocrates*, with all the *Babylonian*, *Egyptian*, and *Grecian* Naturaliſts, whom he copied, and all the *Greeks* his Followers. Nor have the *Arabians*, with all their Induſtry, nor the many excellent modern Reſtorers and Improvers of Anatomy, with all their Art, aſſiſted by Inſtruments, or the Force of Reaſoning, been able to diſcover more than theſe two which we have aſſigned. We have no need then of having recourſe to Elements, Qualities, Forms, with chymical, animated, or metaphyſical Cauſes: The human Body is a proper Subject for Mechanics, nor is there any thing in all its Solids but what will fall under their Conſideration. They are the only Perſons then who are to be regarded, and their Principles, their Method, are to be uſed and followed in our Inquiries concerning the Effect of an organical Part, and no Demonſtration of that Nature can be valid, but what comes from an expert Maſter in Mechanic Learning.

What Account is to be given, or what Uſes can be aſſigned, of the ſimple Figure of the Cornea, of the aqueous Humour, the cryſtalline Lens, with the determinate Superficies and Spiſſitude of the vitreous Humour in the Eye? Shew me how the Spiral of the external Ear, or the Way of the Meatus Auditorius, being ſtreighter and more inflected in the Middle, but wider and more direct at each End, conduce to the Reception and Direction of a Ray of Sound. Contemplate the Thinneſs of the Membrane of the Tympanum, its elliptical Figure, its Convexity towards the interior Parts of the Os Petroſum, the Mutability of its Form into a Variety of curve Figures, by means of the affixed Malleolus, agitated by its proper Muſcle, and then tell me the Effects of ſo operoſe a Structure, which is never wanting even in the vileſt Animal. Give me a Reaſon for the Intricacies of the Labyrinth, the Uſes of the Concha, Veſtibulum, the double Spiral in the turbinated Cochlea, and the Feneſtra Ovalis, and Rotunda. I will be bold to ſay, that, without a profound Knowledge of Mechanic Powers, you will never be able to underſtand, or give a Reaſon for any of theſe Particulars.

Thus briefly have we ſpoken with reſpect to the Solids: We come now to ſay ſomething of the Fluids, in whoſe Motion Life conſiſts, and on whoſe free and undiſturbed Motion through their Veſſels Health depends. Now, in order to have a right Notion of the Nature of Fluids, we are to know the minute and agitated Corpuſcles, whoſe Collection conſtitutes a Fluid. Every one of theſe, taken ſingly, muſt be conſider'd as a Solid, and conſequently performs all its Effects, by virtue of its Bulk, Motion, and Figure; and theſe Effects are known only to the Mechanic by Experiments. Each of theſe Particles of a Liquid is in a ſpontaneous State of Fluidity; but this Part of the Doctrine of Liquids is not improv'd to ſuch a Degree as to be of ſo much Service to us as might be wiſh'd. But if we conſider the whole Maſs of our Fluids together, we ſhall find, that Gravity and Fluidity are the common Properties of all ſublunary Liquids. But the elaſtic Force, the various Degrees of Weight, Spiſſitude, Fluidity, and Reſiſtance, with the Momentum of the Force with which it is carry'd, and the Direction of its Courſe, are the principal things which diſtinguiſh one Fluid from another; and all theſe Properties are of ſuch great Efficacy, that an Infinity of Accidents which happen to ſound Perſons have no other Original. Wherefore the Man who knows how to ſearch out theſe Properties according to the Rules of Art, performs a Work highly neceſſary for perfecting the Art of Medicine. But how can a Perſon propound, explain, and demonſtrate the Force of theſe Qualities, if he be ignorant of Hydroſtatics, which is a ſubtile Part of Mechanics, in which, aſſuming for Data ſome of the forementiond Affections, we proceed in a Geometrical Way to find out ſome very uſeful and practical Theorems? Neglecting therefore the Phyſical Cauſe, or the Nature of every ſingle fluid Particle, we learn from what affects our Senſes in a Maſs of Fluids, how ſolid, how uſeful in Life, this Part of Science becomes, when treated in a Mathematical Way. To be farther convinced, read but the Writings of *Archimedes*, *Des Cartes*, *Stevinus*, *Borelli*, *Mariotte*, *Newton*, and *Bellini*. How much is it to be wiſh'd, that ſome happy Genius would ariſe and make ſuch Diſcoveries as are neceſſary to complete ſo excellent a Branch of Science, from which more Improvements might be made in the Art of Medicine, than from all other Parts of Learning! They who have attempted to explain the Force of the Liquids in the human Body, being themſelves ignorant of the Mechanic Powers, have, by ſo doing, render'd themſelves, and Medicine, which, more than other Arts, deſerves to be ſeriouſly treated, ridiculous; and I dare aſſert, that none who are ignorant of Mechanics can know the Actions of the vital Humours.

They who aſſume to themſelves, I know not by what Right, a Name from *Hermes*, and have erected themſelves into a Sect, under the Title of *Hermetical Philoſophers*, will object here, and aſk me, Whether I can, from this univerſal Doctrine of Liquids, deduce the Properties which belong to each of them? Or whether I can explain the ſtated Motions of Ferment, the fervent Conflicts of different Liquids, and the ſurpriſing Effects of ſpontaneous Putrefaction, by the Laws of Mechanics? In Anſwer to theſe Gentlemen, beſides referring to what has been already ſaid, I ſhall farther obſerve, That the Experiments of the Chymiſts will indeed afford us a narrow View of ſingle Events, as far as they produce ſome ſenſible Effect under ſome determined Circumſtances. Therefore Chymiſtry is very neceſſary to Medicine in furniſhing it with Obſervations, and ſhewing us the moſt compendious Way of making them. For the Chymical Art can afford Data, and determine their Conditions, but will never ſupply us with Rules of arguing from them. Therefore the Profeſſors of this Art have but little Reaſon to boaſt, as their manner is, that all the Treaſures of Medicinal Knowledge are contained in Chymiſtry. For we are well aſſured by common Experience, that with relation to our Health and Sickneſs, more is effected by thoſe common Properties of Liquids which fall under Geometrical Conſiderations, than by thoſe artificial and dubious Properties which are produc'd generally by the Chymiſts. One Man drinks Water, another Wine; one lives abſtemiouſly upon Bread and Fruits, another fares voluptuouſly, and loads his Table with all the Variety that Sea and Land can afford, render'd palatable by the moſt exquiſite Seaſonings and Sawces. Some again are perpetually ſtimulating their Inteſtines with ſalted, acid, and acrimonious Foods. And yet ſo great a Multiplicity of Diet ſhall prolong Life and Health for many Years in thoſe who ſaturate their Humours with ſuch different Corpuſcles; a plain Argument that the Actions of Life are more owing to the common Nature of Fluids, explain'd by Mechanics, and produced by the Power of the Viſcera in the Body itſelf, than to the peculiar Influence of any kind of Particles. If my Lord *Bacon*'s excellent Treatiſe on Life and Death, with the Rules of *Hippocrates* and *Celſus* concerning the Diet of Perſons in Health, or common Obſervation, be not ſufficient to confirm our Belief in what has been ſaid, I could add the Teſtimony of *Lower*, a Man of excellent Sagacity, as well as perfect Sincerity, who relates that a young Man, quite exhauſted by the Loſs of a vaſt Quantity of Blood, was revived only by pouring down his Throat Fleſh Broths, which enter'd his Veins, circulated in them, and even flow'd out of his Wounds, the Colour of them unchanged. What Phyſician, when he is to attend the Sick, does not find himſelf a thouſand times oftener obliged to inſpiſſate, in Caſes of too great Fluidity, to reſolve Coagulations, move Stagnations, check Diſſolutions, dilute the Humours when too thick, or conſolidate them when too thin, than to employ his Thoughts about the Conflicts of Salts, the Flames of Sulphur, or the hidden Nature of Mercury? Thoſe very Gentlemen who are never ſo much attach'd to Chymical Notions, when call'd to Practice, dare not truſt to them, but direct their Thoughts to the accompliſhing of one or other of the Intentions above-mentioned. Therefore if ſuch a Multitude and Variety of Effects proceed from the Properties of Fluids, and if theſe Properties, by univerſal Conſent, are beſt explain'd by Mechanics, it appears that a Phyſician, in order to underſtand the State of the vital Fluids, wants the Aſſiſtance of Mechanic Philoſophy.

Conſider the Effects of Liquors flowing through Veſſels, and you will be the more clearly convinced of the Power of Mechanic Truth. For if the Liquids in this human Machine continue at Reſt, you ſee a Carcaſe; but when there is a free Paſſage for the Humours through their Canals, we behold a living Body. Who doubts of this, may be convinced by his Eyes; for let us conſider a Perſon of a puſillanimous Temper, who at the Sight of the Blood ſpringing out of his Vein falls into a Swoon: You ſee him dead; but after what manner? Why, here are all the Solids which are neceſſary for Health, and all the Fluids too; there only wants a Circumgyration of the Liquors; and let there be, by what means ſoever, a Concuſſion of the Nerves, which may impel the Fluid to move the Heart, Life returns with the uſual Circulation of the Humours, Heat, Colour, Agility, Cogitation, and every vital, natural, and human Action. What Ferment in this Caſe, what Effervelcence, what inimical Salts, what Oil or Spirit, is generated or deſtroy'd? Except Motion, there is nothing added or diminiſhed, and yet the loſt Life is reſtored. Thus Birds and Inſects, when frozen to Death, are immediately reviv'd by a gentle Warmth. Some, though convinced by the Force of Truth, often entertain ſome Diſtruſt on account of the Clearneſs of the Evidence to vulgar Apprehenſions. I ſhall therefore remove their Doubts, by inviting them to a more uncommon Spectacle, that of a dead Animal, whoſe Thorax is deſtroy'd, but is immediately revived by blowing into its Lungs with Bellows apply'd to the Larynx, as related by *Hook*. If you cannot help being ſurpriſed at a Life ſo mechanical, what think you of *Gliſſon*, who, by means of a Bladder, infuſing a Liquid into the Veins of the Carcaſe of a Man long ſince dead, imitates the vital Actions after a ſurpriſing Manner? All theſe Specimens, with infinitely more which might be brought, are enough to prove that almoſt all thoſe Things which either conſtitute or flow from Life and Health, depend on that Motion by which the Humours move, and act upon one another by a perfectly mutual Agitation, in their reſpective Veſſels, the Effects and Laws of which being rightly underſtood, explain'd and demonſtrated, only by Mechanics, under the Heads of Hydraulics and Pneumatics, I conclude again, that they are all the Subject of Mechanics.

On this Part of our Subject the Patrons of Ferments boaſt mightily of their Advantages, and ſet a great Value upon themſelves: "For if, ſay they, the free Flowing of the Liquors through the Veſſels be the Cauſe of Life, "the firſt Principle of Motion muſt be in and from the Fluid, and conſequently from an internal Agitation of extra-"ordinary Force, and ſufficient Conſtancy, or ſuch as is excited in Liquids only by Ferments." But they ought to know, that the firſt Cauſe of the Motion of the Fluid in an Embryo is always to be derived from the Parents; that it is maintained and cheriſhed by the Mother, while the Foetus depends upon her; and is perpetuated afterwards by the very Frame of the Solids. Whoever inſpects the admirable Structure of the Auricles of the Heart with their Connexion to its Baſis, and, what neceſſarily follows from them, the alternate Influx and Expulſion of the Blood tranſmitted from the Heart to the Arteries, from them to the medullary Subſtance of the Brain, the Proceſſes, Nerves, Muſcles, and Veins, will ſatisfy himſelf with accounting for the Continuation of Life from the

Mechanic Power of the Viſcera; for it will be eaſy for him to demonſtrate, Mathematically, that one Pulſe of the Heart in a ſound Body is the Cauſe of the Continuation of that Motion. The Means of preſerving Life are much fewer in Number, and of a much more ſimple Nature, than we are ſubject to fanſy; the Alterations made in Things which we receive into our Bodies, are much ſlighter than is commonly imagined; and the Cauſes of human Life are leſs complicated than we ſuppoſe them to be. If we had an exact Knowledge of the human Structure, or a right Notion of the Nature of the Humours, as cogniſable by the Senſes, the Science of Mechanics would ſoon teach us that thoſe Things which being unknown, now raiſe in us the greateſt Admiration, flow from very ſimple Principles. We ſhall illuſtrate the Truth of this Paradox by one Example, which will ſhew by what ſimple and perfectly mechanic Means a Change in what is accounted the greateſt Operation in our Bodies is effected. The pellucid Part of a living Animal view'd by a Microſcope plainly ſhews, that the Blood is propel'd merely by the Pulſe of the Heart to the Extremities of the Arteries, where, by the elaſtic Contraction of the Artery, it is a little repel'd, at which Moment the Stroke of the Heart ceaſing, and its Valves falling, there is room made for its Regreſs. By this reciprocal Impulſe and Repercuſſion the Parts of the Blood of various Sizes are every-where apply'd to Orifices of various Dimenſions, and receiv'd by ſome, and repell'd by others. By this ſimple Artifice is the Blood ſecreted into Fluids of different Colours and Conſiſtence, which are ſoon after to be throughly mixed together again in the Veins. Here one who is verſed in Chymiſtry, and the Conflicts of Bodies, will be convinc'd by his Eyeſight in the cleareſt manner, that all theſe things deſcribed are performed merely by external Impulſe, and the Elaſticity of the Veſſel, without any Sign of Ferment. Oftentimes when I have been fix'd in contemplating theſe things, I have doubted whether what I ſaw was Part of a breathing Animal, or Ducts deviſed by the Contrivance of the moſt complete Mathematician, cut out by the Hand of the moſt ſkilful Mechanic, for the drawing, ſeparating, and mixing of Liquors, under the Direction of the moſt conſummate Maſter of Water-works.

Some Things, the Knowledge of which a few Years ago was deſpaired of, are now from ſimple and indubitable Experiments of the Senſes demonſtrated in a Geometrical Way by Mechanics. Conſult to this Purpoſe *Borelli*, who applies the Doctrine of the Mechanical Powers to Medicine. Read over what *Bellini* has diſcover'd from the ſame Principles, aſſiſted by the Invention of *Malpighius*. Peruſe alſo thoſe Problems which *Pitcairn* propoſed to the learned World, and demonſtrated. Examine what *Scheiner*, *Des Cartes*, *Huygens*, have written of the Eye; and what *Kircher*, *Schelhammer*, and *Morland*, have taught us concerning the Ear and Hearing. All theſe prove, beyond Contradiction, the Uſefulneſs of Mechanic Knowledge in Medicine; and ſhew what might be expected, were the Uſe of it introduced into the ſalutary Art by ſome ſkilful Phyſicians, and perſiſted in for ſo long a time as human Patience has been able to endure the idle Syſtems of ſome Sects in Medicine.

All theſe things will be allow'd to be true, and the Uſefulneſs of Mechanic Learning in Medicine is acknowledged with reſpect to the Theory; but it is very commonly ſaid, that Mechanic Knowledge is of no Service at all to a practical Phyſician. This plauſible Diſtinction, made with ſo much Confidence, does not appear to me to be conſiſtent; for I do not ſuppoſe that by Theory they mean any other than what clearly ſhews, from proximate Cauſes, what is the Life of a Man in Health. If this be admitted, as it ought to be, it will follow, that this Science affords us the beſt Aſſiſtances for the Knowledge and Cure of Diſeaſes. For he who knows the Cauſes of perfect Health, muſt, whenever they are deficient, be very well qualified to comprehend the Original and Nature of ſuch Defect, that is, the Diſeaſe; and certainly he who has the cleareſt Notion of the immediate Cauſe of Sickneſs, is the fitteſt Perſon to encounter with it; juſt as it is in a Clock, where every one obſerves when the Hand deviates, but none knows how to correct it according to Art, but he who, knowing the exquiſite Structure of the Machine, can both find out the Defects of the Parts, and Remedies for the ſame. So there is not a Truth in the Theory of Medicine, which a ſkilful Artiſt does not know how to apply to his own Advantage in Practice; and, conſequently, to confeſs the Excellency of the Mechanic Science in Theory, is to grant its Uſefulneſs in Practice.

That moſt antient and uſeful Branch of Medicine, Surgery, owns itſelf much oblig'd to the Arts of Mechanics; for who is ſo well qualify'd to invent Inſtruments for the remedying of Defects as a Mechanic? Thoſe minute Images which ſeem to dance before the Eye, were treated by thoſe who were ignorant of Mathematics, as the Beginning of a Cataract in the aqueous Humour, with acrimonious Medicines, which often corroded that tender Part the Eye. But ſince *Willis*, from Geometrical Reaſonings, has fixed their Seat in the Retina, and aſſign'd their Cauſe to the Arteries, and *Pitcairn* has given a Demonſtration of the ſame, how is the Method of Cure alter'd! The external corroding Topics are rejected, and the Defect is ſoon remedy'd by Phlebotomy and a Purge, if ſevere enough to require any ſort of Treatment. A depraved Viſion, from a wrong Collection of the Rays, would be very injudiciouſly treated with a Collyrium, or a Medicinal Potion, but is very ſucceſsfully remedy'd by Spectacles, for the Conſtruction of which *Huygens* has given Rules adapted to each particular Defect: And I wiſh, that they who diſcard the Mechanic Science from Medicine, would firſt take the Pains only to underſtand *Huygens*'s Treatiſe of correcting the Defects of Sight, where, aſſuming for Data the Structure of the Eye, as deſcrib'd by Anatomiſts, and one Property of the Diſeaſe he deſigns to cure, he ſoon finds a Remedy for it in the Mathematics, which is adapted only to this peculiar Diſorder, to whoſe Property his Problem was confined. Thus, without touching the Eye, he removes this Effect of the Diſeaſe, and compenſates a Defect in itſelf irremediable with the ſupplemental Glaſs. Here we behold a fair Specimen of the Method, Uſe, and Succeſs, of Mechanic Ratiocination on Medicinal Subjects; and if all other Points were handled after the ſame manner, as by degrees they might, Medicine would have more of Certainty, and not be ſubject to Hypotheſes, nor mutable at every Turn, but a fix'd and eternal Science.

It ſignifies nothing to ſay, that it is not yet confirm'd, that the Diſorders of the Fluids, and conſequently the internal Cauſe of Sickneſs, with its Cure, are ſubjected to mechanic Remedies. For the Queſtion is, either, Whether this Benefit from mechanic Studies be impoſſible to be obtained? or, Whether it be already acquir'd? If the latter be meant, the Objection is unfair and vexatious; for how can it reaſonably be expected, that a few Mechanics, who have ſtudied Medicine but a ſhort time, ſhould bring things to Perfection, in which the joint Labour of all others for three thouſand Years has ſcarce made a Beginning? It is even an utter Impoſſibility; for ſince the Laws of applying Mechanics to Medicine require, that the Structure of the Solids, with the Nature of the Fluids, and their ſenſible Effects in Sickneſs and Health, ſhould ſerve as Data, it would be very abſurd to expect, that ſo laborious an Art ſhould be perfected without Rudiments. But, if any one ſhould be of Opinion, that nothing is to be done or brought to Perfection by the Mechanic Way, I deſire him to conſider well with himſelf, that the Cauſe of a Diſeaſe proceeding from a Fluid, depends, *for the moſt part*, on the diſorderly flowing of that Fluid thro' the Veſſels, as appears from the Experiments of *Hippocrates*, compar'd with thoſe of *Sanctorius*, and what are commonly made. Now a Perſon who has been diligent in comparing the Phænomena of Life, Health, Diſeaſes, Death, and dead Carcaſes, will, for the moſt part, aſcribe the internal

Impediment of Circulation, either to the Weakneſs of the impulſive Force, or a convulſive Contraction of the Veſſels, or to ſome Fault in the Fluids, with reſpect to Quantity, Motion, Thickneſs, or Thinneſs. And, upon ſerious Reflection, we ſhall find, that thoſe Remedies which we adminiſter to ſick Perſons, are beneficial principally on account of their removing the before-mention'd Diſorders. Compare the invaluable Obſervations of *Sydenham*, with the Demonſtrations of *Bellini*, concerning Veneſection, Stimuli, and contractile *Villi*; and when you are convinc'd, that common Remedies relieve by an Operation plainly mechanic, you will entertain ſome Hopes, that their Virtues and Applications may, by Degrees, be reduc'd within the Rules of Demonſtration. And I can hardly forbear, tho' perhaps too prematurely, pronouncing that the Cauſes of even the moſt complicated Diſeaſes are more ſimple and mechanical, than any Phyſician imagines; for the leaſt and moſt ſimple Diſorder of one Part, by Communication neceſſarily reſulting from Union, ſuddenly perverts the Powers of the moſt healthful Machine. Prick but the ſmalleſt Fibre of a Tendon or Nerve, with the fineſt Needle of the pureſt Steel, and you will ſoon ſee what a Train of frightful Symptoms are the Conſequences of ſo ſlight a Wound; for then follow Pain, Redneſs, a Tumor, a burning Heat, Pulſation, a Fever, Thirſt, Delirium, Convulſions, and at laſt Death. A Thorn, or a ſlight Splinter, fixed in a membranous Part, produce the ſame Effect; and the like alſo proceed from the Spicula of Poiſons, the Lancets of Peſtilences, and the Points of Salts. What wonderful Alterations are produced in a ſound Body by external Motion only! Let a Perſon turn round for ſome time, or be toſſed upon the Waves in a Boat, when unaccuſtomed to it, and he will find himſelf moleſted with a Vertigo, Paleneſs, Nauſea, Vomiting, and Anxiety, with a Multitude of other Diſorders, and ſurpriſing Alterations, produced in the vital Fluid only by Motion. He, then, who conſiders, that the Humours remain incorrupt as long as they are agitated and propelled in their Veſſels; that if they ſtagnate in a hot and moiſt Place, they preſently grow morbid, and communicate the Infection; and that one ſimple Diſorder is immediately followed by an Infinity of others; will very eaſily perceive, that the moſt expeditious Remedies, in theſe Caſes, are to be expected from the mechanic Phyſician; for what is there that may not at length be found out by comparing the Cauſes of the Impediments of Circulation, the Rules of overcoming Reſiſtance, reſtoring the elaſtic Motion, and augmenting the Force of the Heart, with the Phænomena of the Diſeaſe?

But, ſay ſome, the Power which the Mind exerciſes over the Body ſhews, that Life, Health, and Diſeaſes, have no Dependence upon mechanic Principles: Vain therefore are all Attempts of that Kind, and mechanic Speculations can be of no manner of Service to a Phyſician.

It were to be wiſh'd, that thoſe who make this Objection were not involv'd in one common Ignorance with the reſt of Mortals; for, who among all Mankind could ever find out the Force of this wonderful Commerce in any thing that conſtitutes either the Body or Mind? We ought however, to know that the Virtue of Cogitation, as ſoon as it comes into the Body, renders every thing which it produces therein corporeal, and conſequently obedient to mechanic Laws. What Matter is it, if the firſt Cauſe of an Alteration be not mechanic, ſince it is the Buſineſs of the mechanic Phyſician, not to concern himſelf about that firſt Cauſe, but to know, examine, and direct the Effect, which is corporeal?

There is one thing on which they who differ with me in Sentiments lay their principal Streſs, which, that I may not be thought artfully to decline anſwering, I think myſelf bound to refute. Thoſe Philoſophers, they cry, and mechanic Reaſoners, whenever they apply themſelves to the Practice of the Medicinal Art, meet with nothing but Diſgrace and ill Succeſs: There is no need therefore of diſputing, ſince it is certain from Fact and Experience, that the Knowledge of Mechanics is prejudicial to a Phyſician.

If their Objection be directed againſt thoſe who aſſume the glorious Title of Philoſophers in the Schools, what they ſay is very true, as appears from Hiſtory, and the Books which theſe Philoſophers have wrote on medicinal Subjects. For, while they undertake to create the firſt Principles of all things out of their own Imaginations, and afterwards, from thoſe Qualities with which their Fancy had before endu'd them, endeavour'd to explain the peculiar Nature of every Body, that very Doctrine of Mechanics, here recommended, demonſtrates that they erred in every Point. The Concluſions which they drew from Ratiocination, could never be applied to things in general, unleſs it could firſt be prov'd, that what they aſſumed as the Foundation of their Reaſoning, really exiſted in every Individual. But, ſince the Nature of Things admits of infinite Variety, it is not likely, that Truth ſhould be diſcover'd by random Gueſſing. But if theſe Scholaſtics before-mention'd, as well as many others verſed in Mechanics, and Followers of *Des Cartes*, had not made it their Buſineſs to regulate the human Body by the Laws of their imaginary Principles, but by thoſe things, of which, according to Obſervation, Man was really conſtituted, they would then have laid the Foundations of our Art by the Application of Mechanics.

But, if this reproachful Objection be intended againſt a mechanic Phyſician, ſuch as I have deſcribed, I expect ſome Inſtances in Juſtification of the Calumny. None, who rightly underſtands our Meaning, will deny, but that an excellent Mathematician may make a very bad Phyſician. We do not require, that a Man ſkill'd in Mechanics ſhould be a Phyſician; but that a Phyſician ſhould be ſkilful in mechanic Learning. He who prefers one verſed in Mechanics, but unpractiſed in the Cure of Diſeaſes, to an experienced Phyſician, is a Madman; but, what I affirm, and have endeavour'd to demonſtrate, is, that of two equally experienc'd Perſons, the Man who is furniſh'd with the greater Stock of mechanic Knowledge, is the beſt qualify'd for improving the Art of Medicine.

For the avoiding of all Miſrepreſentations, which are but too frequent, I ſhall give you a Deſcription of a Phyſician, according to the Idea which I have form'd of him in my own Mind. I imagine him, firſt, laying the Foundations of his Art in the Contemplation of Geometrical Figures, Bodies, Weights, Velocity, the Fabric of Machines, and the Power of acting upon other Bodies thence ariſing. While he employs his Thoughts about theſe Matters, he is taught by plain Precepts, as well as Examples, to diſtinguiſh Truth from Falſhood, Evidence from Obſcurity, and acquires Prudence of Mind, from a Slowneſs to paſs a Judgment upon things. When he knows how to eſtimate the bare Actions of ſimple Bodies, and to deduce them from true and manifeſt Cauſes, I think him qualify'd for learning the Properties of Fluidity, Elaſticity, Tenuity, Weight, and Tenacity of Liquids, from Hydroſtatics. His Reaſon being by this time much improv'd, he proceeds to ſtudy the Forces of Fluids upon Machines, and of theſe upon Fluids, and to demonſtrate them by Mathematics, confirm them by Hydraulics and Mechanics, and illuſtrate them by chymical Experiments; and entertains himſelf with Speculations on the Nature and Actions of Fire, Water, Air, Salts, and other homogeneous Bodies. I now look upon him as ſufficiently furniſhed and qualified for entering upon the Study of Medicine; and here he employs his Eyes, illuminated with Geometry, in viewing Diſſections of human Carcaſes, or the open'd Bodies of living Brutes; and contemplates the Structure, Figure, Firmneſs, Original, Bounds, Connection, Curvature, Flexility, and Elaſticity of the Veſſels. Being excited by ſo wonderful a Spectacle, he applies what he ſees to the Rules of Mechanics, in which he was before inſtructed, and diſcovers the hidden Uſes of thoſe Parts. What a Variety of fine and uſeful Diſcoveries, with which later Ages have enrich'd Anatomy, employs his Attention! While he accommodates the Inventions of others, acquir'd with the utmoſt Labour and Induſtry, to his own Uſe, he forms to himſelf a clear Idea of the human Fabric. To this he joins the Knowledge of the vital Fluids, and examines them with the Aſſiſtance of Anatomy, Chymiſtry, Hydroſtatics, and even of the Microſcope; and ſoon after he runs over a moſt accurate Hiſtory, artfully collected from all Parts, of all the ſenſible Effects produced in a healthful Body; and ſo now you ſee him furniſhed with *Data* for writing a Theory of Health. From theſe *Data* being each of them well underſtood, examin'd, and compar'd with one another, by the Aſſiſtance of Mechanics, and with the Strictneſs, Method, and Prudence of a Geometrician, he deliberately draws ſuch Concluſions as the Subject naturally furniſhes, and which, tho' hidden from the Senſes, are evident to Reaſon. By this Method the proximate Cauſes of every Effect are inveſtigated, the Nature of them being evidently known, as it is an Aggregate of the Properties of the Phænomena they collected, underſtood, and compared together. Now what may we not expect from one who directs his Studies by this Method? A Knowledge thus acquired would be immutable, and coæval with human Nature, from which it is deriv'd, and on which it is founded. It muſt have Certainty, as it proceeds with the utmoſt Caution in giving Aſſent, and depends on what is alike evident to all. It muſt be ſufficiently determinate and uſeful, as it inveſtigates the proximate Cauſe, by conſidering the certain and ſenſible Properties of the Body, and that in a way not capable of leading into Error. It increaſes ſlowly, I confeſs, and inſenſibly; but then the leaſt Progreſs is always a ſure Step to higher Attainments, and an infallible Cauſe of new Improvements. Thus you ſee him aſpiring to Perfection, and now qualified for reading *Hippocrates* and the *Greeks*. Now behold him buſied in furniſhing himſelf with medicinal Collections from all Quarters; here again he is taken up with the curious Inſpection of dead Carcaſes, whoſe Diſeaſes he had obſerv'd; there he marks the Symptoms of Sickneſs procur'd by Art in Brutes, and now at length collecting together all the Effects of Diſeaſes, with their Remedies, which he had either learnt from his own Experience, or found in the beſt Authors, he digeſts, conſiders, and compares them with thoſe which are demonſtrated by Theory, from whence he may at laſt compoſe a ſolid Hiſtory of Diſeaſes, and their Cures. This is the Idea which I have of a conſummate Phyſician; to this I have always endeavour'd to conform myſelf, and to render thoſe who commit themſelves to my Care conformable.

Thus far *Boerhaave*; and it muſt be confeſſed, that Mathematical Reaſoning is the moſt certain Guide to Truth, provided always that nothing is taken for granted as the Foundation of our Reaſoning, which admits of any Diſputes. But it has happen'd very unfortunately for Phyſic, that the warm Imaginations of Theoriſts and Anatomiſts have repreſented to them many things in themſelves extremely precarious, as certain Truths; and theſe have been warmly embrac'd as contributing to the Confirmation of ſome favourite Syſtems, which their Authors were determin'd to eſtabliſh right or wrong. Now all Reaſonings whatever, from ſuch uncertain Principles, are more likely to be prejudicial to Phyſic than to improve it; and I am inclin'd to believe, that the Miſapplication of Mechanics to Medicine has done the Art of Healing more Prejudice, than a proper Uſe of them has done it Service. The Abuſe, therefore, of mechanical Learning in Phyſic is highly to be condemn'd, as the Tinſel of the Art, which makes a Noiſe and a Shew, without communicating any real Value.

It is a very difficult thing for People even of the greateſt Abilities, and ſoundeſt Judgment, when they are once determin'd to explain all the Phænomena relative to the Animal Œconomy mechanically, to forbear repreſenting things which pleaſe their Imaginations, as Realities, upon very ſlender Evidence. Even *Boerhaave*, in the Oration made on Purpoſe to recommend Mechanics in Phyſic, deviates from his own Rules, and boldly ſuppoſes ſome things as certain, which would give him a great deal of Trouble to prove, if they ſhould be denied. Thus, ſpeaking of the ultimate Fibres of the Muſcles, he repreſents them as minute Tubes inflated with Spirits. Now, the Exiſtence of theſe Spirits has never been demonſtrated, and I believe never will. Whatever therefore is deduc'd from a Suppoſition of their Exiſtence, is extremely precarious, and ſubject to infinite Controverſy.

It may be farther aſked, Whether, ſince the Introduction of Mechanics into Medicine, any Cure has been diſcover'd for Diſtempers before eſteem'd incurable; and, Whether they have ſuggeſted any better Methods of Relief for Diſeaſes which before admitted of a Cure. I muſt acknowledge, I can bring no Inſtances of the firſt Kind in their Favour, and very few of the laſt; but I have known frequent Attempts made to reaſon Remedies of Reputation, eſtabliſh'd by Experience, out of Practice, becauſe inconſiſtent with particular Theories pretended to be founded on the Laws of Mechanics, and to introduce others in their room, which Experience has prov'd to be of much leſs Efficacy.

Tho' the Abuſe of mechanical Learning has yet had no ſalutary Influence on the Art of Healing, I am, however, convinc'd, that under proper Reſtrictions, this Kind of Learning may be of infinite Uſe, and contribute gteatly to the Advancement of Medicinal Knowledge.

To what has been already ſaid concerning the State of Phyſic, I ſhall add the Sentiments of the illuſtrious *Hoffman*, upon the Methods of improving it; the beſt and moſt ſucceſsful of which, in his Judgment, conſiſt,

Firſt, With the greateſt Attention and Diligence to write out full and accurate Accounts and Hiſtories of the ſeveral Diſeaſes which occur in Practice.

Secondly, By an attentive and minute Diſſection to inveſtigate, as far as poſſible, the curious and ſurpriſing Structure of the human Body; and

Thirdly, By the Aſſiſtance of experimental Philoſophy, which includes Mechanics and Chymiſtry, to ſearch for the hidden Cauſes which produce particular Effects.

Give me Leave to add a fourth Way of improving Medicine, which is carefully to attend to the Effects of Simples, whoſe Virtues are unknown, upon Brutes.

In former Ages, the Practice of Medicine ſuſtain'd an incredible Injury by an intolerable Farrago of abſurd and uſeleſs pharmaceutical Compoſitions, and a ſupine Neglect of what we call the Simples. Nor in theſe Ages did Medicine ſuffer leſs thro' a Penury of ſuch Obſervations as lay down the full and accurate Hiſtories of Diſeaſes. But, to come nearer to our own Times, Medicine has been greatly injur'd by the Chymiſts, who raſhly and imprudently extolled the moſt draſtic Medicines of the Mineral Kingdom, as Specifics, and infallible Secrets for the Cure of Diſeaſes, whilſt they neglected and deſpiſed the ſafer Method of Diet, and the Uſe of ſuch Simples as are eaſily obtain'd. If, then, we intend to advance the Medicinal Art, and make it ſhine with genuine Luſtre and Glory, we muſt collect a ſacred Treaſure of ſelect practical Obſervations, reſt ſatisfied with a few, but ſafe and well-choſen Medicines, be thoroughly acquainted with their Virtues and Efficacies in different Conſtitutions and Diſeaſes, deſpiſe the cumberſome Load of Recipes with which practical Authors of an inferior Claſs abound, reject the ſo much extoll'd Medicines of the Chymiſts, and attempt the Relief of the Patients rather by Diet and Regimen, than the Preparations of the Shops. Whatever has hitherto contributed either to render the Theory of Phyſic rational, or its Practice happy and ſucceſsful, has been drawn from practical Obſervations, a Knowledge of Anatomy, and Natural Philoſophy.

Since the Diſcovery of the Circulation of the Blood by the incomparable *Harvey*, it is much more eaſy to account for Life, for Health, and for Diſeaſes; as alſo in a Pathological Manner to explain the Doctrine of Fevers, Hæmorrhages, Inflammations, and ſeveral other Diſeaſes.

Since the Conveyances of the Chyle from the Inteſtines to the Blood have been diſcovered; ſince various ſmall Glands and glandular Coats have been detected in the inteſtinal Duct; and ſince we have adverted to the winding Situation of the Duodenum, which is juſtly call'd a ſecond or a kind of auxiliary Stomach, in which two Humours meet the Bile and pancreatic Juice; we are able to give a better and more rational Account of Digeſtion, Chylification, Sanguification, and the Generation of Diſeaſes, which have their Seat in the firſt Paſſages.

Since the Lymphatic Veſſels have been diſcovered by *Bartholine* and *Rudbeckius*, and afterwards farther inveſtigated by *Nuck* and *Ruyſch*; ſince the Structure and Uſe of the Glands have been more fully diſplay'd by the Reſearches of *Wharton*, *Nicolaus Steno*, *Nuck*, *Cowper*, *Malpighi*, and *Morgagni*; and ſince the Conveyances of the Chyle through the Lacteal Veſſels, and Thoracic Duct, have been detected by *Pecquet*, *Bartholine*, *Van Horne*, and others; we are much more able to explain thoſe Diſeaſes which ariſe from a Fault of the Glands and Lymph, or from a depraved Nutrition.

Since the Structures of the Viſcera, Lungs, Brain, and Liver, have been inveſtigated by the accurate *Malpighi*, and that of the Kidneys by *Bellini*, we far better underſtand the Origins and Cauſes of Diſorders incident to theſe Viſcera, ſuch as a Phthiſis, a Dropſy, and nephritic Diſorders. We are alſo much indebted to the Pains which *Steno*, *Vieuſſens*, *Willis*, *Ridley*, *Lewenhoeck*, *Ruyſch*, and others, have taken, in inſpecting the Brain and Nerves more narrowly than any had done before them. We are alſo highly obliged to the Labours of *Gliſſon*, *Bianchi*, and *Morgagni*, for their accurate Accounts of the Structure of the Liver; and to thoſe of *De Graaf* and *Brunnerus*, for our Acquaintance with the Pancreas.

Since *Caſſerius* and *Ruyſch* have evidently ſhewn the Compages of the Spleen to be vaſcular and cellular, we have fairer Opportunities of diſcovering the Diſeaſes incident to this Organ, and finding out a proper and adequate Method of curing them.

Since we know the peculiar and ſurpriſing Structure and Diſtribution of the Vena Portæ, which performs the Office at once of an Artery and of a Vein; and ſince we now know the Number, the Origin, the Situation and Courſe of the Hæmorrhoidal Veſſels; we are the better able to explain and account for all thoſe Diſeaſes which flow from the Faults of theſe Veſſels, and an Interception of the progreſſive Motion of the Blood through the abdominal Viſcera, of which Claſs the hypochondriac Diſorder is none of the leaſt conſiderable.

Since we know the ſurpriſing Fabric of the Uterus, and are aſſured of the manner in which the Blood circulates thro' its contorted Veſſels, we can eaſily diſcover the Diſeaſes incident to that Organ, as alſo the Diſorders ariſing from Irregularities of the Menſes, and account for their Origins, and ſeveral Symptoms, upon clear and intelligible Principles.

Since the Origin of the Nerves from the Brain and Spinal Marrow, and their admirable Diſtribution into curious Ramifications, have been inveſtigated by *Vieuſſens*, and ſome others, we can readily account for ſpaſmodic and convulſive Diſorders, particularly for hypochondriac and hyſteric Affections, and explain their moſt formidable Symptoms. In Conſequence of this Diſcovery, we are alſo better enabled to underſtand the Conſent of the Parts, eſpecially thoſe of the nervous Kind, and the Method in which diſorderly and preternatural Motions are communicated.

Since *Swammerdam* and *De Graaf*, and after them *Cowper*, *Morgagni*, *Santorini*, and other celebrated Men, have inveſtigated the Parts of Generation in both Sexes, we have the Diſeaſes incident to theſe Parts ſubjected to our Senſes, and their Cauſes, as it were, expoſed to open View.

Since the admirable Organ of Hearing has been accurately and anatomically deſcrib'd by *Du Verney*, *Valſalva*, and *Caſſebhomius*, the Impediments and Defects of Hearing are far better underſtood than they were before.

Since the ſmall Glands of the Joints have been diſcover'd in the Bones by *Havers*, the Origins and Cauſes of arthritic Diſorders are far more plain and conſpicuous than they formerly were.

Since the incomparable and accurate *Ruyſch*, by injecting ting'd Liquors into the Veſſels, has diſcover'd the innumerable and ſtrangely varying Windings of the Capillary Veſſels, we have a far clearer and more diſtinct Knowledge of the Uſe of the Glands, and ſecretory Organs, and conſequently of the ſeveral Diſorders to which they are ſubject.

'Tis obvious that the Geometrico-mechanical Structure of the Muſcles, as deſcribed by *Borelli*, *Steno*, *Winſlow*, *Santorini*, and *Albinus*, and the muſcular Compages of the Heart, detected by *Lower* and *Lanciſi*, are Diſcoveries of ſingular Service in determining the Motions of the Joints, underſtanding the Force and Preſſure of the Heart, and the Impulſe of the Fluids.

In a Word, all the anatomical Diſcoveries of the Moderns have contributed to illuſtrate, to beautify, and adorn the Healing Art: For Proof of this ſee the Article Anatome.

Nor have Phyſico-chymical Diſcoveries contributed leſs to the Advancement of Medicine; for ſince by various Experiments we have diſcovered the Gravity and Elaſticity of the Air; ſince we know the Cauſes of Fire, Heat, Cold, Gravity, and Levity; ſince we have inveſtigated the Natures of Solids and Fluids; ſince we have diſcover'd the Cauſes and Nature of Fermentation and Putrefaction, as alſo the Effects, whether natural or artificial, produc'd by various Salts and Sulphurs; ſince all theſe important Diſcoveries have been made, we can clearly account for the Power of the Air in changing the Motions of our Fluids, either for the better or the worſe, and for the Generation of material or immediate morbific Cauſes. In Conſequence of theſe Diſcoveries the Virtues and Efficacies of Medicines are alſo far better known than they formerly were.

Chymiſtry alſo, and Pharmacy, ſo much and ſo happily cultivated in our own Days, have contributed to the Perfection of the Art, by teaching us to prepare and make up the moſt ſalutary and efficacious Medicines.

Since the ſtated Laws of Motion have been aſcertained and demonſtrated by Statical, Mechanical, and Hydraulic Experiments, we better know whence proceed the moving Forces of the Muſcles, the elaſtic Power of the Heart and Fibres, their Strength, their want of Tone, their ſpaſmodic Conſtrictions, their Preſſure or Impetus upon the Fluids; as alſo the wonderful and ſurpriſing Effects produc'd by the Inequalities of the Circulation of the Blood.

By what I have endeavour'd to inculcate in many preceding Paſſages, my Readers will readily underſtand, that the grand Labour incumbent on a Phyſician is to extirpate all Superfluities out of Phyſic, clean the *Augean* Stable, an *Herculean* Undertaking! and reduce the Art of Healing to that noble, uſeful, and intelligible Simplicity, from which 'tis probable the Supreme Being, in Compaſſion to human Infirmities, intended it ſhould always be inſeparable. This, at leaſt, was the Opinion of the incomparable ***Boerbaave***, whoſe Diſſertation on this Subject highly deſerves Peruſal.

Truth, ſays he, has ſuch Charms, that, as wiſe Men ſay, " Mortals cannot ſuſtain the Sight of her naked;" but whoever ſhall be bleſs'd with ſuch a Contemplation, will find nothing ſo admirable, ſo taking in her, as Simplicity. For Truth, being founded only on the clear Contemplation of Ideas, requires nothing of its Votaries, but to compare theſe Images, when placed in a fair Light, and ſeriouſly to judge of their Agreement or Diſagreement, which is beſt effected by a cloſe Attention of the Underſtanding to thoſe Ideas, whenceſoever they ariſe, which it beholds imprinted on itſelf. And as theſe Ideas, when pure and diveſted of whatever may darken or ſully them, are inconceivably ſimple, ſo that very Attention, which is fixed on them alone, is, of all Acts of the Mind, the moſt ſimple. Conſequently Truth, the Reſult of ſuch an Act, though reputed the Parent of all Admiration, is the moſt ſimple of all Attainments. I appeal to thoſe ſtrict Votaries of Truth, the Mathematicians, whether the moſt intricate Problem does not loſe all that it has of the Marvellous, when the Knot comes to be unty'd, and Truth appears in its native Simplicity. It is out of regard to this Simplicity, that from a Multiplicity of Solutions to the ſame Queſtion, the moſt ſimple is always choſen and preferr'd. Or were I to aſk the moſt uſeful of Geometricians, I mean thoſe verſed in the Mechanics, they will tell you, That out of a Multiplicity of Inſtruments for performing the ſame Work, they approve only of one, and that the moſt ſimple. He who makes the greateſt Progreſs in his Reſearches after Truth is preferr'd before others, in Honour, as well as Succeſs, on account of his knowing how to reduce, by the moſt proper and ſkilful Methods, Things naked and diveſted of all that is foreign, to their genuine Simplicity. The ſame is moſt true, with reſpect to all Kinds of human Wiſdom, as appears from the Hiſtory of all Ages. *Æſop*, *Socrates*, *Democritus*, *Hippocrates*, Lord ***Verulam***, and ***Des Cartes***, all the World will acknowledge to have been very great and ſucceſsful Inquirers after Truth. But if we take a View of their Lives and Writings, we ſhall find, that the principal Means of their Excellency was that Simplicity which is always the Characteriſtic of Truth, and the ſureſt Mark by which it may be diſcover'd.

Whoever rightly conſiders theſe Things, will be inclin'd to think, that the ſame holds good with reſpect to the Healing Art, which, when ſtudy'd and cultivated with an Integrity and Purity worthy of the Subject, I ſhall prove to carry in it a Facility, as well as Simplicity; and this I am the more willing to do, becauſe there are many who purpoſely run out and exſpatiate on the Difficulty of the Art, and the infinite Labour neceſſary to attain it; by which Induſtry is diſcouraged, and taught to deſpair of ever ſurmounting thoſe Obſtacles, which theſe Men would throw in its Way.

That nothing belongs to Medicine, but what tends to preſerve the Life and Health of Man from the Injuries of Diſeaſes, is a Point, which, I think, cannot be deny'd. But an Opinion has prevailed, which is taken upon Truſt, that there is an Infinity of Things of this Kind, and that their Numbers and Qualities are unlimited; ſo that Medicine being the moſt diffuſed of all the liberal Arts, with reſpect to its Subject, for that Reaſon commonly paſſes for the moſt difficult. But the Man who is wiſe enough to diſtinguiſh Things dubious from certain, true from falſe, will find himſelf oblig'd to reſt contented with a few Concluſions of undoubted Verity, which are deriv'd from the genuine Principles of this Art; for in Matters which concern our Lives nothing is to be taken for granted, the Truth whereof is ſuſpected by ſkilful Men of the Profeſſion; and common Prudence teaches us, by all means, to guard againſt Errors, which are moſt effectually avoided by exploding whatever is peculiar to particular Sects, and embracing nothing but what all well-qualified Judges, with one common Aſſent, embrace and approve. Let Medicine be reformed and regulated according to this Rule, and it will ſoon be reduced from its enormous Dimenſions to a very ſmall Compaſs.

To confirm my Aſſertion, it will be proper to take a View of the principal Men of Reputation and Parts, in Compariſon of whom the reſt are but Compilers. The Books of the divine *Hippocrates*, to whom we are obliged for moſt Things in Medicine, if ſifted and examined, will afford us but few things of Certainty, and thoſe of the moſt ſimple Kind. For, expunge but his Fire and Water; his Elements, with their Powers; Nature, with its Inclinations, Averſions, Attractions, Repulſes, and Ratiocinations; natural Heat, celeſtial Cauſes, and the anatomical Errors, with all that depends upon the before-mentioned Heads; and there will remain only a ſmall Body of Obſervations, not very remote either from the Senſes or Underſtanding. If we conſider the harmonious and eloquent *Plato*, the Author of a numerous Sect, who have fill'd whole Libraries with their Writings, and diveſt him of his Triangles, Numbers, Ideas, Elements, Humours, Genii, Appetites, Harmonies, and Parables, with all their ſacred Myſteries, and falſe Corollaries, what will there be left of him, but a very few Things, which *Hippocrates* had ſaid before him? And if we divert our Thoughts to his proud Diſciple, the famous *Ariſtotle*, the Oracle of Medicinal, as well as all other Learning, from *Plato* down to *Paracelſus*, we ſhall find nothing in him, or his Followers the Schoolmen, conducive to Medicine, but what is wholly borrow'd from *Hippocrates*; all the reſt is either obſcure, or ſo falſe, or general, as to contribute little or nothing to the Improvement of Medicinal Knowledge. What is there to be found in the voluminous Writings of *Galen*, except thoſe of Anatomy, that is of Uſe, for which he is not oblig'd to the great Phyſician of *Coos?* All the reſt is low and mean, and deſtitute of Force. I ſhould now make my Concluſion from the Premiſes, but that I think myſelf oblig'd to pay ſome Reſpect to the venerable Company of *Arabians*, who, with their numerous and ſpecious Appearance, would tempt me to change my Opinion, did I not know by Experience, that their Writeings contain nothing but *Ariſtotle* and *Galen* ſpeaking in *Arabic*. Theſe Things, then, being taken for granted, of the Truth of which the Learned are ſatisfy'd, it will follow, that from the Beginning of the World, to the Æra of Chymiſtry, all that has been written neceſſary to Medicine, may be comprehended in a very few Leaves, and are of a very ſimple Nature.

Much the greateſt Difficulty, then, which a young Student has to encounter in acquiring the Knowledge of the antient Medicine, is to know how to avoid thoſe which are only Compilers and Tranſcribers of thoſe which went before them, and to apply himſelf to the few original Authors. He is not, therefore, to buſy himſelf in turning over all the Antients, but to read theſe only, which being well underſtood, the reſt may be neglected, unleſs he can be thought to make the greateſt Progreſs, who leaves the ſtrait Way, and goes round about. Ignorance, Folly, precarious Hypotheſes of falſe Principles, and a lazy Aſſent without Examination, are the Faults of Men, not of the Age, and were of pernicious Conſequence to the Antients, as they are to the Moderns. They who deſpiſe every fine and uſeful Invention of the Moderns, and reverence the Antients as ſo many Deities, are led by a Zeal for Parties, and do not weigh things in the Balance of Reaſon; and there ſeems to be a Spirit of Envy in favouring the Antients, to the Prejudice of Perſons of Merit among the Moderns. But there are far greater Numbers who run to the other Extreme, and think very meanly of the Labours of the Antients, but launch out, on all Occaſions, in Praiſe of their own Times, boaſt of the mighty Improvements and Enlargements of the Bounds of Medicine, and are very witty and ſatirical upon the Ignorance of the Antients. They who labour'd in the Improvement of Medicine, upon the Principles of a very great Mathematician of the laſt Age (*Des Cartes*), introduced ſtrange Errors and Corruptions into the Art, by aſcribing Events in Medicine to imaginary Cauſes of their own Invention. But ſuch is the Condition of human Knowledge, that from the Obſervation of the Phænomena of Bodies, the Intellect arrives ultimately at an Inſight into the Nature of the hidden Cauſes of Effects, which may lead to farther Knowledge thence deducible; whereas the Followers of *Des Cartes*, deducing moſt things from fictitious Principles, and relying only on Generals, made a monſtrous Tranſition from thence to Singulars. Hence the *Carteſian* Philoſophy has been ſo far from being uſeful in Medicine, that it has been diſcarded as a heavy Burden laid upon it.

The Chymiſts, by a diligent Obſervation of the Effects reſulting from the Application of Bodies to Bodies, made very good Diſcoveries of the Virtues peculiar to ſome of them, and of the Actions of theſe Virtues, as far as lay within the Bounds of this Art. The Uſefulneſs of ſuch Labours, and their Neceſſity in Phyſic and Medicine, it would be unfair to deny; but when upon ſuch a Footing they preſumed to preſcribe Laws, to which all Bodies muſt of Neceſſity be ſubjected, they ſoon fell into moſt ſhameful Errors. For, as, while they devoted themſelves to the making of Experiments, they deſerved much Commendation; ſo, when from the narrow Bounds of *Singulars* they made Excurſions into the immenſe Spaces and vaſt Extent of *Generals*, they ſoon loſt their Way, and fell into dangerous Miſtakes. Manifeſt Inſtances of this their unmeaning Elements, pretended Ferments, and imaginary Actions of effervelcent Bodies, furniſh us with. Oppoſite Salts were, according to them, the only Inſtruments of the Operations of Nature; nothing leſs than Immortality would ſerve the Turn; Chymiſtry produced nothing but what was ſalutiferous, and the Practice of a Phyſician was to be made conformable to theſe idle Chimeras. See here the fruitful Sources of infinite Error! and take away all that is to be found of this Character in the Writings of *Paracelſus*, *Helmont*, *Tachenius*, and the old Chymiſts, and then tell me how much there remains of real Uſe in Medicine.

Not a great deal, and that only of a ſimple Nature, which that honeſt and ſkilful Chymiſt Mr. *Boyle* has with the greateſt Openneſs, as well as Prudence, explained to all Capacities. Does Medicine now appear of ſo formidable a Bulk? Are the Matters, about which it is properly employ'd, of ſo vaſt an Extent? No, but a very few things, and ſuch as have a Simplicity conſpicuous in their Fewneſs, are the proper Subject of our Art; whatever is more than this, and ſeems to enlarge its Capacity, is merely adventitious, and no more regards the Medicinal, than any other Science.

But, granting that this Simplicity belongs to Medicine in its low and imperfect State, have we not Reaſon to be apprehenſive, that the Art is more and more difficult and complicated, as it tends to Perfection? I anſwer directly in the Negative, and, if I miſtake not, with very good Reaſon. For every Thing has its own peculiar Nature, and the Perſon who is ſo happy as to diſtinguiſh this Peculiarity, will never imagine otherwiſe of that Thing: But, he who inconſiderately diſputes about things unknown, the farther he goes from the Truth, the more will he multiply Error, and embroil himſelf. Thus he who goes the direct and ſtrait Way, arrives at his Journey's End with Eaſe and Speed; but thoſe who deviate from this Way, which is always one, run off into innumerable By-paths, and wander about in uncertain Purſuits. Thus alſo it is with the Man who attains to Perfection in Medicinal Knowledge; the more happy he finds himſelf in the Poſſeſſion of Truth, the more amiable will it appear to him for its Simplicity. In former Times, when a lazy Negligence, and an unbridled Licentiouſneſs of Fiction, without taking the Pains to inſpect the Structure of our Bodies, dreſſed it up in Imagination, how myſterious, and how formidable to young Beginners, was the imaginary Variety, and unaccountable Oeconomy, of the human Frame! But when, by the Induſtry of later Ages, the Contexture of our Bodies came to be ſubjected to the Cognizance of the Senſes, how ſudden and ſurpriſing was the Alteration made in the Affairs of Medicine! What is now become of the hidden Forms of Solids, the cloſe Receſſes of the Archeus, the vaſt Numbers of ſingle Ferments, the infinite Variety of Strainers, with their different Meatuſes, together with the numerous Troops of moſt efficacious, but unintelligible and unaccountable Faculties? Medicine would be a difficult Acquiſition indeed, if it were only to be attain'd by the Knowledge of ſuch precarious things as theſe. Scarce had the famous *Harvey* led the Way in which he was ſo well ſeconded by the induſtrious *Malpighi*, to the Diſcovery of the human Machine, when thoſe imaginary Beings, and Creatures of the Brain, vaniſhed like Miſts before the Sun; and ſo clear was the Evidence, ſo great the Simplicity, that the Diſcoverers themſelves could hardly believe their own Eyes. Encourag'd with this, their Succeſſors purſued their Reſearches, and in their Progreſs found the Ways of Nature ſtill plainer, as they went farther; ſo that after they had ſet in the plaineſt View the moſt hidden Parts of the human Fabric, they could not forbear confeſſing, that their Art was reduc'd to a narrower Compaſs by their Diſcoveries. Who could have expected a farther Inſight into the Structure of the human Viſcera, than what is afforded by means of the Microſcope, which diſcovers the ſame Things in the leaſt, as the naked Eye had before obſerv'd in the greateſt Veſſels? The Nature, the Figure, the Simplicity, and even the Action, are every-where the ſame; ſo that the niceſt Inſpection beſt convinces us of the Miſtakes of former Times, in imagining any Difference in them. How well is the ſame illuſtrated by that fine, delightful, and of late wonderfully improv'd Artifice, by which minute things are magnify'd, obſcure render'd conſpicuous, Things hidden ſhewn in open Light, and from Confuſion reduc'd to Order, I mean the Injection of a Liquor into the minute and intricate Canals of the human Body, which, when empty, diſappear! The Effects of this Art are a ſufficient Confutation of thoſe who dream'd of ſuch a wonderful Variety in the hidden Parts of our Bodies, as was almoſt above human Comprehenſion; ſince it appears, by all the Artifices uſed to inquire into them, that the leaſt Parts bear an exact Reſemblance to the greateſt, the hidden Parts to thoſe which are moſt expoſed. As none, therefore, complains of any Difficulty or Myſtery in the larger and more expoſed Parts, there is as little Reaſon to imagine any thing more wonderful or myſterious in thoſe Parts which are the moſt minute, and moſt remote from Sight; on the contrary, the more we know of the human Machine, the more ſimple it appears.

The Subject requires, that I ſhould remove ſome Difficulties concerning the Humours, which being obſerv'd by knowing Perſons to be productive of innumerable Effects, they concluded there was as great a Multiplicity in their Nature. But tho' it be true, that every ſingle Event depends on its proper Cauſe, yet it is falſely aſſum'd, that theſe Cauſes are wholly dependent on the Variety of Humours; for the ſame Action of the ſame Liquid, applied to different Canals, produces wonderfully different Effects. Or, if you examine the Liquids themſelves, you will not find ſo great a Multiplicity in them as is commonly imagin'd, as will appear by the following new Way of Argumentation. The Parts ſeparable by Art from our Fluids are Water, volatile Salt, Oil, and Earth, which, tho' few, and eaſily reducible to the moſt ſimple Bodies, do not thus exiſt in a living Man, whoſe Body contains only the Matter, which is ſo alter'd by the Labour of the Chymiſt, as to afford ſuch Productions. Therefore the natural Humour is even more ſimple than what Art produces, which, you ſee, is far from including a Multiplicity.

Dioptrics will repreſent the Thing I contend for to the Sight. How wonderful is the Simplicity of the vital Liquids, when view'd through a Microſcope! There a ſalt Water is a Vehicle for red Globules, which change their Colour according to the various Bodies with which they mix in their Courſe, till at length, crouding into the narrow Canals they circulate by themſelves, and changing their Colour, by degrees, from red to pellucid, at laſt diſappear.

The Simplicity of the Aliment which ſupplies our Humours, furniſhes us with another Argument: Hay or Graſs, and Water generate, in a Cow, Humours very like our own. The Milk of that Cow by Tranſmutation generates the human Fluids, which are recruited in an abſtemious Man, by the ſober Aliment of Bread and Water. The deeper Inſight, then, we have into the Nature of our Fluids, the more ſimple will they appear. And what is now become of all thoſe vain and empty Hypotheſes, concerning the wonderful Cauſe of the vital Heat, the different Functions of Ferments, ſo many inteſtine Motions of the Fluids, of chymical Products actually exiſting in the Blood, of extremely oppoſite and jarring Salts, which by their Conflict in the Blood ſtrike out the Sparks which maintain the Flame of Life, of the Balſam which enlivens the vital Faculties, of Sulphur as the Cauſe of the purpliſh Colour of the Blood, of Salt ſeaſoning the Fluids, and preſerving them from Putrefaction? All theſe Fictions, with their infinite Corollaries, which were formerly ſo much regarded, as if Medicine muſt ſtand or fall with them, being thus diſcarded, how great is the Simplicity of the human Fluids, as far as we have any Knowledge of them!

But is not Medicine oppreſſed and overloaded with the Copiouſneſs of its Subject on another Account? The Number of Diſeaſes is not yet ſettled: Of theſe there is ſuch a Multitude and Variety, and they impoſe upon us in ſo many Shapes, that a whole Age would not ſuffice only to enumerate them; conſequently theſe alone muſt create an infinite deal of Trouble and Perplexity.

I know this is a common Objection, but moſt frequent in the Mouth of thoſe who are leaſt exerciſed in the Practice of the Art; and of this I am very well ſatisfied. But I would aſk theſe Gentlemen, Whether the moſt ſimple Diſorder of the moſt ſimple Part does not, by prejudicing the Action of that Part, occaſion a peculiar Diſeaſe? Nobody can doubt, but that the adjacent Parts, by Connection, are ſubject to be affected by the Sufferings of the Part originally diſorder'd; and this alſo interferes with the Actions of the Parts ſecondarily affected, and an Impediment to theſe Actions is frequently conſider'd as a new Diſeaſe. Hence many Effects, ariſing from one primary Diſorder, and appearing diſtinctly under various Shapes, impoſe upon the unwary Phyſician, who, in his turn, impoſes upon others, as if they were of a really different Nature, and oblige him to enter them in his Catalogue of Diſeaſes. But, upon ſtrict Examination, theſe Diſorders proceeding from one and the ſame Cauſe, may be extirpated together with it.

It has been pretended, that the Knowledge of Remedies alone completes the Phyſician; but theſe are infinite in Number, and yet each is ſuited only to its particular Diſeaſe. Were this true, and if nothing could be done, or ought to be attempted, but by ſuch as knew how to adapt each Remedy to its particular Caſe, which is the Drift of the Objection, the Study of Medicine ought to be exploded; for none but a Madman would be ambitious of learning an Art, of which he knew it was impoſſible to make any good Uſe. But is this Pretence warranted by the Practice of *Hippocrates* and *Sydenham?* No: In treating acute Diſeaſes, they moderated the Violence of the Diſtemper, excited in caſe of a Torpor, and ſupported the Strength by a proper Regimen of Diet. But by what means did they anſwer theſe Intentions? To moderate the Impetus in acute Diſorders, they made Evacuations, blunted Acrimony, dilated too thick Fluids, and condenſed too thin, brac'd up Parts too lax, and relax'd where there was too great a Stricture, deriv'd the Humours to Parts where they would be leaſt prejudicial, upon Occaſion mitigated Pain, and in Languors they uſed ſtimulating Attenuants. Water, Wine, Vinegar, Barley, Nitre, Honey, Rhubarb, Opium, Fire, and the Lancet, anſwer'd theſe Purpoſes. *I muſt remark, that* Boethaave *does not here mean, that* Hippocrates *uſed Nitre and Rhubarb; but, in what he ſays of* Hippocrates *and* Sydenham, *he confounds their Practice together. Sydenham* ingenuouſly declares, that an experienc'd Phyſician is ſeldom without a Remedy. But he complains, that he found ſo troubleſome a Variety in Diſeaſes, when he made it his Buſineſs to examine their Nature, that no Time nor Strength of Man were ſufficient for the Labour neceſſary in acquiring a Method of Cure proper to each Diſeaſe. He does ſo indeed in his younger Years, and writes too, that every Diſeaſe requires a peculiar Treatment; but when he grew old, he gave us better Hopes, and acknowledges with Pleaſure, that all of them might be cured by one general Method, which conſiſts in Bleeding, Purging with a ſubſequent Opiate, and Regimen. You ſee on what Simplicity in the Knowledge of Diſeaſes and Remedies the Princes of the Art rely'd; and have others ſucceeded better with a vaſt Increaſe of the *Materia Medica?* By no means; for the Goodneſs of a Remedy is to be rated by its Simplicity, ſince multiplying of Medicines is not without Danger. What need then is there of ſuch a pompous Apparatus, collected in ſo many Ages, and digeſted by ſo many Hands? What mighty Matters have this operoſe Pharmacy and Chymiſtry effected? Are the Remedies now ſucceſsfully uſed in chronical Caſes to be accounted numerous? Mineral Waters, Salts, gentle Diaphoretics, Soap, Mercury, Steel, with a few Vegetables, and proper Exerciſe of the Body, anſwer all Intentions. To what End then are ſo many natural and artificial Remedies from Foſſils, Plants, and Animals? Any Perſon of common Senſe may ſee, that they ſerve principally to hide the Ignorance of the heſitating Phyſician, and, by amuſing the Patient, to prevent his Deſpondence. As to Drugs recommended by *Hippocrates, Theophraſtus, Pliny*, and *Dioſcorides*, we are, and always ſhall be, ignorant of them, except perhaps a very few; for the Antients contented themſelves with giving the Virtues, but omitted the Delineations of Herbs ſo commonly known amongſt them. And the Moderns have indeed been accurate in their Deſcriptions and Delineations, and very ingenious in ranging of Plants under their proper Genera and Species; but have given us very little concerning their Virtues, except what they tranſcrib'd from the Antients, and this upon an uncertain Suppoſition, that the latter meant the ſame Vegetables which the former deſcribe.

To conclude, what is there in the moſt elaborate Preparation, that is worth half the Pains taken about it? Mercury, Opium, the Peruvian Bark, Fire and Water, are acknowledg'd as the ſureſt Remedies, by the beſt Maſters of the Art; and theſe are found to be more efficacious in that crude State, in which bountiful Nature has imparted them to us, than after the moſt operoſe and artificial Preparation. We can deſpair of nothing, while we follow Simplicity; but the Event of intricate Labour is fallacious.

I muſt not finiſh this Preface, without taking Notice of ſome Complaints which the Bookſellers concern'd in this Work have ſufficiently teiz'd me with, relative to its Length. As it is not poſſible to alter the Plan of the Work at firſt laid down, and ſince purſu'd, without utterly embroiling the Whole, and rendering it much leſs valuable and uſeful, I ſhould have very little Regard to their Remonſtrances. But for the Satisfaction of the Purchaſers, whoſe Intereſts, in the preſent Caſe, I apprehend to be inſeparable from my own, I ſhall ſubmit the following Reaſons for my Conduct to their Conſideration:

Firſt, As it was abſolutely neceſſary for every one who reads this Work for Information, to have a perfect Idea of what Authors mean by ACIDS and ALCALIS, in order to his underſtanding almoſt every Article relating either to Medicines, Aliments, or Diſtempers, I judg'd it proper to give full Information upon theſe Subjects in the Beginning of the Work; and this Conſideration oblig'd me to anticipate ſeveral things, which would otherwiſe have come under other Articles in every Letter, and from which the Reader will find References, without Repetitions; another Convenience attending this Method. Thus what has been ſaid under the Articles juſt mentioned, concerning Diſeaſes generated by, or accompanied with, a redundant Acid or Alcali in the Humours, ought to be conſider'd in every Diſtemper to which the Body is ſubject; and the Regimen proper in acute Diſeaſes, ſpecify'd under the Article ALCALI, muſt have been repeated in treating of every acute Diſtemper, if I had not diſpatch'd it in one Article, to which I might refer.

Secondly, As all the Parts of the *Materia Medica* are call'd by different Names, for the ſake of Method I have made it a Rule, from which I have very ſeldom deviated, to treat of every Animal, Vegetable, and Mineral, under the firſt of their Names which occurs in the Alphabet. As Inſtances of this are innumerable, I ſhall only ſpecify one, which is Amber, in *Latin Succinum*; but as it is alſo call'd *Ambra*, I have finiſh'd the Account of it under the latter Name.

Thirdly, Under every ſeparate Article of any conſiderable Importance, I have endeavour'd to include every thing relating to it, tho' properly belonging to ſome future Article, in order to ſave the Trouble of turning to a Multitude of Articles, and to give the Reader a full Idea of the Subject at one View. Thus, under ALCOHOL, which is the moſt perfect Production of the firſt Fermentation of Vegetable Juices, I have ſpecify'd every thing relating to this firſt Fermentation; and under the Article ACETUM, the moſt perfect Production of the ſecond Fermentation, every thing relating to the ſecond. This therefore anticipates the Article FERMENTATIO.

Fourthly, The Lives of the antient Phyſicians have ſwell'd the Letter A conſiderably; and this was not to be avoided, unleſs I could have chang'd their Names, or omitted them, contrary to the Promiſe I made in my Propoſals; for it happen'd, that moſt of their Names whom I judg'd it neceſſary to give ſome Account of, occurr'd in the Letter A. Inſtances of this are *Actuarius*, *Ægineta*, *Æſculapius*, *Aetius*, *Aretæus*, *Albucaſis*, *Avicenna*, *Averroes*, *Avenzoar*, *Archagathus*, *Aſclepiades*, and ſome others. As I have given the Life of *Ruyſch* under ANATOME, together with an Account of the other Anatomiſts; under BOTANY, a Detail of the Phyſicians celebrated for their Knowledge in this Science; and under CHYMIA, taken Notice of the Chymiſts omitted in the Preface; the Lives of very few Phyſicians will occur in the Remainder of the Work.

It is obvious, that the Anticipations and Circumſtances above-mentioned muſt neceſſarily render the remaining Letters of the Alphabet ſhorter, in Proportion as thoſe already publiſh'd are longer.

That the Work is a ſingle Sheet longer than at firſt propoſed, is owing to an unforeſeen Accident, which, though it has given me an infinite deal of Trouble, will, I apprehend, be advantageous to the Purchaſers of this Work. After a few Numbers of the Medicinal Dictionary were publiſh'd, I obſerved in the foreign Papers the following Title of a Book, which was advertis'd to be publiſh'd ſome time after.

Introductio in Notitiam Rerum Naturalium & Arte factarum, quarum in communi Vita, ſed præcipue in Medicina Uſus eſt. Per Alphabeti Ordinem digeſſit Joannes Chriſtophorus Rieger. Hagæ Comitum 1742.

I found Means to get this Book, as ſoon as it was publiſh'd; and as it is a moſt excellent Performance, I thought myſelf oblig'd to inſert in the Medicinal Dictionary whatever I had omitted in my Collections; and to cancel what I had wrote upon ſeveral Articles, in order to make Room for better Materials, which I frequently found in this Work. Dr. *Rieger*, if I am well inform'd, was employ'd by the late *Czar*, *Peter* the Great; and after his Death retiring from *Ruſſia* into *Holland*, he liv'd in a Bookſeller's Houſe, where he had the Uſe of the beſt Collection of Medicinal Authors that was ever expoſed to Sale in *Europe*; an Advantage which I never had the Satisfaction of enjoying.

If, therefore, this Work is a little more prolix than was at firſt propoſed, the Purchaſer will find his Account in it; and will, it is preſum'd, be more inclinable to pardon it, when he reflects upon the Mortification an Author muſt ſuffer, whilſt he ſacrifices to the Intereſt of his Readers entire Pages of his own Productions; provided he can believe me to have a Tenderneſs for my own Literary Offspring, equal to that of moſt other Writers for their Works; a Suppoſition by no means unreaſonable, eſpecially when I aſſure him I have taken infinitely more Pains to diveſt myſelf of Prejudices in favour of any Theory, Syſtem, or Mode of Practice whatever, than I have to conquer my Affections.

With reſpect to the Preface, I muſt remark, that it was abſolutely neceſſary for the Perſon who peruſes the following Volumes, to be made acquainted with the Characters and Sentiments of the Phyſicians, whoſe Opinions concerning the Treatment due to Diſeaſes are quoted; otherwiſe, when the Practice, for Example, of *Diocles*, *Eraſiſtratus*, *Aſclepiades*, or *Themiſon*, is ſpecified, it would be in ſome Degree unintelligible and uſeleſs, unleſs he previouſly was inform'd of the Theory peculiar to theſe Phyſicians, upon which ſuch Practice was founded. In order, therefore, to avoid repeating their particular Syſtems every time their Names are mention'd, I have given a Detail of them once for all in this Preface.

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MEDICINAL DICTIONARY:
BEING A
BODY of PHYSIC and SURGERY.

A, or ALPHA, is uſed by Gerard Dorneus to ſignify the beginning of the reſtitution of a long life, inſtead of the immortality which was forfeited by the ſin of our firſt parent Adam; as he uſes the letter OMEGA to expreſs the end of life. It is not very clear whether he means, by the *beginning of this reſtitution*, that which was accompliſhed by our Saviour Jeſus Chriſt, or that which he propoſes to begin by the help of chymical medicines. The curious reader may conſult his treatiſe *De Tenebris contra Naturam, & Vita brevis*, in the *Theatrum Chymicum*, vol. i. from p. 457 to p. 472.

As many amongſt the dreams of the chymiſts are of too little importance to deſerve a critical explication, I ſhall from time to time refer to the authors themſelves, that thoſe who have leiſure and curioſity enough may conſult them for farther information.

A is uſed by Raymond Lully to ſignify God. See ALPHABETUM CHYMICUM.

But this letter is of much more general uſe in phyſic, mark'd with a line above it thus, ā, when it ſtands for ana, which is alſo ſometimes abbreviated thus, āā, and ſignifies equal parts of the ingredients which immediately precede it in preſcriptions, as ℞ *thuris*, *myrrhæ*, *aluminis ā* ℈j take of frankincenſe, myrrh and alum, each a ſcruple. Or ℞ *thuris*, *myrrhæ*, *aluminis āā p. æ.* Take of frankincenſe, myrrh and alum, each equal parts.

ANA is not a coined word impoſed upon us by the authority of phyſical writers that have from time to time made uſe of it; but the Greek prepoſition ἀνὰ; and it is not peculiar, even in this ſenſe, to phyſical authors.

Hippocrates, in his treatiſe of the diſeaſes of women, ſpeaking of a Peſſary, which he recommends for promoting conception, after ſpecifying the ingredients, adds, ἀνὰ ὀβολὸν ἑκάστου, that is, *of each a dram.* In the ſame ſenſe Dioſcorides more than once uſes this prepoſition, as ἀνὰ οὐγκίαν μίαν, *of each an ounce*; ἀνὰ δράχμας ιβʹ, of each twelve drams.

Xiphilinus, ſpeaking of Auguſtus Cæſar, ſays,

Ῥωμαίοις ἀνὰ πέντε καὶ εἴκοσι δραχμὰς τελευτῶν καταλιπεῖν.
When he died, he left the Romans each twenty-five drachms.

ἔλαβον ἀνὰ δηνάριον, St. Matthew, chap. xx. ver. 9. *They received each a penny.*

Many more inſtances might be brought; but theſe are ſufficient to ſhew the force of this prepoſition to denote equality; and ſignify *each*.

In a celebrated French Dictionary publiſh'd by a learned body of men, *ana* is very unhappily interpreted *a phyſical plant*.

A, in compoſition, implies a negative, as will be explained under each particular article.

A. A. A. is uſed by chymiſts by way of abbreviation for Amalgama, or Amalgamation. See AMALGAMA.

AABAM, in ſome chymical authors, ſignifies lead. *Rulandus.* See the articles ----- PLUMBUM, SATURNUS.

ABACTUS, as Chambers informs us, was uſed amongſt the ancient phyſicians for a miſcarriage procured by art or force of medicines, and diſtinguiſh'd from ABORSUS, which is natural. But I have never, in any medicinal author, found the word in this ſenſe, or any other. *Abactus Venter* is indeed quoted from an author of the lower ages as a phraſe to ſignify a miſcarriage, which I ſuppoſe led him or his author into the miſtake.

ABACUS. A caſe of ſhelves. *Rulandus.*

ABACUS MAJOR. A trough uſed in the mines, wherein the ore is waſh'd. *Rulandus.*

ABAISIR. The ſame as SPODIUM, which ſee.

ABALIENATUS, CORRUPTED (Celſus); and is uſed by other authors to expreſs a part ſo utterly deſtroyed as to require immediate extirpation. Sometimes it is applied to the ſenſes, both internal and external, when vitiated or totally deſtroy'd by diſeaſes. *Scribonius Largus.*

ABANGA. Thus the inhabitants of the Iſland of St. Thomas call the fruit of the Palm-tree. C. Bauhinus calls this tree *Palma Ady Inſulæ S. Thomæ.* The fruit is about the ſize of a lemon, and not unlike it. The inhabitants look upon the kernels of this fruit as an admirable reſtorative, and with this view they give, two or three times a day, three or four of theſe kernels to their ſick.

ABAPTISTON, or ABAPTISTA, is uſed by ſome authors, particularly Galen, Fabricius ab Aquapendente, and Scultetus, to expreſs the ſaw, Terebella, or perforating part of the inſtrument call'd Trepan, becauſe 'tis generally contrived in ſuch a manner as to prevent it from ſinking ſuddenly into the ſkull, and wounding the brain, when the bone is cut through. Some have ſecured it by an edge round it, or wings on the ſides; but the moſt common way is to make it conical, becauſe then the part of the inſtrument above the perforation in the ſkull being thicker than the part which has cut through the bone, this artifice effectually prevents it from going too deep, and hurting the brain, or its membranes. But Mr. Sharp thinks all theſe precautions ſuperfluous, and informs us, that the inſtrument made cylindrical anſwers all purpoſes beſt with a little care. It is derived from the negative A (*vide* A) and βάπτω, properly *to ſink under water*, or *to ſink under*.

As the bones of the Cranium are for the moſt part hard, they muſt be ſawed by the Trepan. Here ſome, to avoid a ſlip in the operation, have invented a ſort of Trepans which would not ſink in too far, and for that reaſon gave them the name of *Abaptiſta*. The improvement conſiſts in a ſort of ring or collar that ſurrounds the Trepan a little above the point. *Galen de Meth. Med. lib.* vi. *cap.* 6.

ABAPTISTA are ſuch as a little above the point have knobs on prominences ſticking out, which hinder the Trepan from ſuddenly ſinking into the head, and wounding the Meninx. *Æginet. l.* vi. *c.* 90.

ABARIS. A Scythian, ſaid to have underſtood phyſic. He was a prieſt of the Hyperborean Apollo, and eſteemed the author of many Taliſmans, which had the virtue of preſerving cities from the plague for ever. He is repreſented as being very ſkilful at incantations, by Plato. Others ſay, that the Trojans bought the Palladium of him, which he made of human bones. His age is undetermined; ſome place him before the Trojan war, whilſt others make him contemporary with Pythagoras. All the accounts of him are fabulous; but from theſe we may infer, he was a man very conſiderable in his time. *Schulzius.*

ABARNAHAS. This is a term uſed by ſome of the alchymiſts, particularly Senior Zadith, in the *Theatrum Chym.* vol. v. p. 205. He tells us it is the ſame as the full moon, or Magneſia. I believe he means the Philoſopher's Stone, or ſome menſtruum neceſſary for the tranſmutation of metals, becauſe he calls it the ſea, and the perfect and round ſtone. 'Tis uſed alſo much in the ſame ſenſe by an anonymous author in the ſame collection and volume, ſaid to be tranſlated from the Arabic, p. 449. where he calls it the Divine Water, and Philoſophers Stone.

ABARTAMEN. LEAD. Rulandus. See PLUMBUM. SATURNUS.

ABARTICULATIO, Ἀπάρθρωσις, Gr. A ſpecies of Articulation of the bones admitting of a manifeſt motion, call'd alſo by anatomiſts *Diarthroſis*, and *Dearticulatio*, to diſtinguiſh it from another ſort of Articulation, which admits of a very obſcure motion, or none at all, which is call'd *Synarthroſis*. See ARTICULATION.

ABAS. See TINEA. It ſometimes ſignifies the Epilepſy. *Conſtantine.*

ABAVI, ABAVO, or ABAVUM. A large tree growing in Æthiopia, which bears a fruit like a gourd. *Ray's Hiſt. Cluſius.*

ABBREVIATIO. The principal uſes of medicinal abbreviations are in preſcriptions. *Abbreviatio* is uſed by ſome of the alchymiſts to expreſs a proceſs in epitome, or a ſhort way of performing it. See *Theatrum Chymicum*, vol. vi. p. 556, 557, 558.

ABDELAVI. An Ægyptian plant very like a melon, except that the fruit is more oblong, and acute at the extremities. *Ray's Hiſt.*

ABDITUS, included. Thus *abditus veſica* ſignifies included in a bladder, in *Scribonius Largus*.

ABDITÆ CAUSÆ, are the ſecret or remote cauſes of diſtempers, which the phyſicians of the dogmatic or rational ſect affirmed were neceſſary to be known, in order to eſtabliſh a right method of cure (*eum vero recte curaturum, quem prima origo cauſæ non fefellerit.* Celſus in his *Preface*). Theſe cauſes cannot be underſtood without a knowledge of the principles of which our bodies are formed, and of the ſpecific nature of ſickneſs and health; for according to theſe phyſicians, 'tis not eaſy to accommodate remedies to diſtempers, without firſt knowing what health is, and the exact manner in which any diſtemper deviates from it.

Thus the gout is a deviation from health, which it would be leſs difficult to cure, if we knew preciſely what conſtitutes health, and how the gout deviates from it in order to form a diſtemper. See SECTÆ.

ABDOMEN. Anatomiſts have generally divided the body into three great cavities, which they call *bellies*. The *head*, or the *upper belly*; the *thorax*, or the *middle belly*; and the *abdomen*, or *lower belly*. The Arabians, and ſome writers in the barbarous ages, call'd the *Abdomen*, or at leaſt the external part of it, Mirach; and the Peritonæum, Siphac. *Zacutus Luſitanus.*

The *Abdomen* is accurately deſcrib'd by Winſlow thus.

The *Abdomen* begins immediately under the Thorax, and terminates at the bottom of the Pelvis of the Oſſa innominata. Its circumference, or outer ſurface, is divided into regions, of which there are three anterior, *viz.* the Epigaſtric, or ſuperior region, the Umbilical, or middle region, and the Hypogaſtric, or lower region. There is but one poſterior region, named Regio lumbaris.

The Epigaſtric region begins immediately under the Appendix enſiformis, at a ſmall ſuperficial depreſſion, call'd the Pit of the ſtomach, and in adult ſubjects ends above the navel, at a tranſverſe line, ſuppoſed to be drawn between the laſt falſe ribs on each ſide.

This region is ſubdivided into three parts, one middle, named Epigaſtrium, and two lateral, termed Hypochondria. The Epigaſtrium takes in all that ſpace which lies between the falſe ribs of both ſides, and the Hypochondria are the places cover'd by the falſe ribs.

The Umbilical region begins in adults, above the navel, at the tranſverſe line already mentioned, and ends below the navel at another tranſverſe line, ſuppoſed to be drawn parallel to the former, between the two Criſtæ of the Oſſa ilium.

This region is likewiſe divided into three parts, one middle, which is properly the Regio umbilicalis, and two lateral, call'd Ilia, or the flanks, and they comprehend the ſpace between the falſe ribs and upper part of the Os ilium on each ſide.

The Hypogaſtric region is extended downward from the inferior limit of the Umbilical region, and is divided into three parts, one middle, call'd Pubes, and two lateral, call'd Inguina, or the groins.

The Lumbar region is the poſterior part of the *Abdomen*, and comprehends all that ſpace which reaches from the loweſt ribs on each ſide, and the laſt Vertebra of the back, to the Os ſacrum, and neighbouring parts of the Oſſa ilium. The lateral parts of this region are termed the Loins; but the middle part has no proper name in men.

Laſtly, the bottom of the *Abdomen*, which anſwers to the Pelvis of the ſkeleton, is terminated anteriorly by the Pudenda, or parts of generation, and poſteriorly by the *Clunes*, or buttocks, and Anus. The buttocks are ſeparated by a Foſſa, which leads to the Anus, and each buttock is terminated downward by a large fold, which diſtinguiſhes it from the reſt of the thigh.

This Lumbar region takes in likewiſe the Muſculus quadratus lumborum on each ſide, the lower portions of the Sacrolumbares of the Longiſſimi and Latiſſimi dorſi, the Muſculus ſacer, *&c.*

The ſpace between the Anus and the parts of generation is called Perinæum, and is divided into two equal lateral parts by a diſtinct line, which is longer in males than in females, as we ſhall ſee in another place.

The cavity of the *Abdomen*, formed by the parts already mentioned, (all which are covered by the ſkin and Membrana adipoſa) is lined on the inſide by a particular membrane, called Peritonæum. It is ſeparated from the cavity of the Thorax by the Diaphragm, and terminated below by the Muſculi levatores ani.

This cavity contains the ſtomach, and the inteſtines, which are commonly divided into three ſmall, named Duodenum, Jejunum, and Ilium, and three large, called Cæcum, Colon, and Rectum. It contains likewiſe the Meſentery, Meſocolon, Omentum, Liver, Gall-bladder, Spleen, Pancreas, Glands of the Meſentery, Vaſa lactea, Receptaculum chyli, Kidneys, Renal glands, Ureters, Bladder, and the internal parts of generation in both ſexes. *Winſlow*, p. 111. tom. ii.

The principal *Arteries* of the *Abdomen* are theſe:

Arteria Epigaſtrica ſuperior, which is the loweſt portion of the *Mammaria Interna*.
Aorta Inferior.
Arteria Cœliaca.
Arteria Meſenterica ſuperior.
Arteriæ Renales, called *Emulgentes.*
Arteriæ Spermaticæ.
Arteria Meſenterica Inferior.
Arteriæ Lumbares.
Arteriæ Iliacæ.
Arteriæ Hypogaſtricæ.
Arteriæ Epigaſtricæ Inferiores.
Arteriæ Hæmorrhoidales.
Arteriæ Pudicæ.

The principal *Veins* of the *Abdomen* are theſe:

The inferior portions of the *Venæ Mammariæ Internæ.*
Venæ Renales.
Venæ Lumbares.
Venæ Spermaticæ.
Venæ Iliacæ.
Venæ Hypogaſtricæ.
Vena Portæ Ventralis.
Vena Portæ Hepatica.
Vena Meſaraica Major.
Vena Splenica.
Vena Meſaraica Minor ſive Hæmorrhoidalis Interna.

The principal *Nerves* of the *Abdomen* are theſe:

Nervi Stomachici, form'd by the extremity of the *Sympathetici medii*, or eighth pair.
Nervi Sympathetici Maximi, the inferior portion.
The two *Semilunar*, or *Plexiform Ganglions.*
Plexus Stomachicus.
Plexus Hepaticus.
Plexus Splenicus.
Plexus Renales.
Plexus Meſentericus Superior.
Plexus Meſentericus Inferior.
Nervi Lumbares.
Nervi Sacri.
Nervi Crurales, their origin.
Nervi Sciatici, their origin.

The whole fore part of the *Abdomen* forms an oblong convexity, like an oval vault, more or leſs prominent in the natural ſtate, in proportion to the quantity of fat upon it, and of food contained in it, or to the different degrees of pregnancy in women. The Hypogaſtric and Umbilical regions are more ſubject to theſe varieties, than the Epigaſtric region.

On the ſides, between the Hypochondria and Oſſa ilium, or haunch, the *Abdomen* is commonly a little contracted; and backward, about the middle of the Regio lumbaris, it is gently depreſs'd, forming a kind of tranſverſe cavity, anſwering to the natural incurvation of the Lumbar portion of the Spina dorſi.

This anterior convexity, and poſterior cavity change as we ſit, ſtand, kneel, lie at our full length, or with the thighs bent; and theſe variations depend on the particular ſituation of the Oſſa innominata, in theſe different poſtures.

In ſtanding, the convexity of the belly, and cavity of the loins, are more conſiderable, than in moſt other ſituations; for then the lower extremity of the Os ſacrum is turned very far back, and conſequently the Os pubis very much down. In this ſituation of the Pelvis, the Inteſtines fall naturally forward, and thus increaſe the convexity of the *Abdomen*; and as the Vertebræ of the loins are very much bent at the ſame time, the cavity in that place muſt likewiſe be very conſiderable.

In kneeling, the Oſſa pubis are ſtill lower than when we ſtand; and this not only increaſes the hollow of the loins, and throws the *Abdomen* and its Viſcera more outward, or forward, but alſo, in ſome meaſure, ſtrains the *abdominal* muſcles; which is ſo uneaſy to ſome perſons, as to cauſe them to faint away.

This depreſſion of the Os pubis in kneeling, depends partly on the tenſion of the two Muſculi recti anteriores, the lower tendons of which are, in this ſituation, drawn with violence under the Condyloid pulley of the Os femoris.

When we ſit in the common manner, that is, with the thighs ſtretch'd out in a plane parallel to that of the ſeat, the convexity of the belly, and hollow of the loins diminiſh.

For the Pelvis being in this ſituation, ſupported on the Tubercula iſchii, and theſe tubercles being very near the fore part of the Pelvis; the trunk of the body preſſing on the Os ſacrum, muſt lower the Pelvis behind, and raiſe it before.

When we lie upon the back at full length, and with the thighs extended, the belly is leſs convex, but more ſtretch'd and hard; whereas, when the thighs are bent, it is ſoft and lax. In this ſituation, the Regio lumbaris is almoſt flat, and very little depreſs'd.

When we lie on the back, and raiſe the head, or endeavour to raiſe it, we feel a tenſion in the fore part of the *Abdomen*, which increaſes in proportion to the force we uſe in raiſing the head.

Theſe varieties of the external conformation of the *Abdomen* have a near relation to ſo great a number of other phænomena, in the animal œconomy of the human body, that it would require a whole volume to explain all the particulars thereof; neither are details of this kind very proper in a work deſigned to be purely anatomical, in which, conſequently, the main buſineſs is to give a full and accurate deſcription of the true ſtructure of the parts, and only to point out in general their principal uſes.

Fewer Papillæ appear in the ſkin of the belly than any-where elſe. The anterior portion of it is not only thinner and more compact than the poſterior, but it has this likewiſe peculiar to it, that it may be naturally increaſed very much in breadth, and ſometimes in a very extraordinary manner, without loſing any thing of its thickneſs, in proportion to what it gains in breadth.

This peculiarity likewiſe belongs to the Epidermis. I here ſpeak only of what is obſervable in the natural ſtate of corpulency or pregnancy; but I have not as yet been able to diſcover what it is in the texture, or ſtructure of this ſkin and the Epidermis, on which this peculiarity depends. All that I have been able to remark about it, was in the dead body of a woman, whoſe belly was contracted and fallen; namely, that on the ſurface of the ſkin there was a great number of lozenges diſpoſed in a rectangular manner.

The marks of theſe ſuperficial lozenges were in the Epidermis. They were compoſed of ſeveral fine lines, which all together extended to a ſenſible breadth. The areas or meſhes of theſe lozenges, which ſeem'd to be about the ſixth part of an inch in breadth, were very flat and thin.

In the manner which Steno uſed to open bodies, by making two longitudinal inciſions in the integuments, and ſo leaving a middle band made up of the ſkin and fat, in their true places, it is eaſy to demonſtrate the union of the Aponeurotic or tendinous productions with the arteries, veins and nerves, in order to form the ſkin of the *Abdomen*; and the ſame uſe might be made of this method, in other parts of the ſkin.

The cells of the Membrana adipoſa, which covers the convex part of the *Abdomen*, are diſpoſed in a very regular manner, as I have diſcover'd by my method of opening bodies. This method is to make two oblique inciſions in the integuments, from the navel to the groins, and to ſeparate this angular portion of the integuments, and throw it down over the parts of generation, that they may be cover'd, during the demonſtration.

This triangular portion being thus inverted, there appears on the inner ſurface of the Membrana adipoſa, a longitudinal line, like a kind of Raphe, produced by the meeting of theſe cellular rows, which form angles ſucceſſively, one above another, oppoſite to the Linea alba of the *Abdomen*. The cells in theſe rows are more oblong than the reſt, and in a manner oval, or like a grain of wheat.

The Appendix enſiformis of the Sternum, the cartilaginous portions of the laſt pair of true ribs; thoſe of the firſt four pairs of falſe ribs, all the fifth pair, the five Lumbar vertebræ, the Oſſa innominata, the Os ſacrum, and Os coccygis, form the bony ſides of the cavity of the *Abdomen*.

The diaphragm, the muſcles called particularly Muſculi abdominis, the Quadrati lumborum, Pſoai, Iliaci, the muſcles of the Coccyx, and of the Inteſtinum rectum, form the chief part of the circumference of this cavity; and its whole inner ſurface is lined by a membranous expanſion, term'd Peritonæum, all theſe parts being covered by the integuments already ſpoken to. As additional, or auxiliary parts, we might likewiſe add ſome portions of the Sacro-lumbares, Longiſſimi dorſi, Vertebrales, Glutæi, *&c.*

The cavity of the *Abdomen* is of an irregular oval figure, but ſtill ſymmetrical. On the foreſide it is uniformly arched or oval, and its greateſt capacity is even with the navel, and neareſt part of the Hypogaſtrium. On the upper ſide it is bounded by a portion of a vault, very much inclined. On the backſide, it is in a manner divided into two cavities by the jutting out of the Vertebræ of the loins. On the lower ſide, it contracts gradually all the way to what I call the little edge of the Pelvis, and from thence expands again a little, as far as the Os coccygis, and tubercles of the Iſchium, terminating in the void ſpace between theſe three parts. *Winſlow*, 128 *ad* 130. part ii.

As wounds of the *Abdomen* differ in ſome reſpects from other wounds, I ſhall inſert in this place the chirurgical treatment that is peculiar to them.

Wounds of the *Abdomen* may be divided into four ſorts.

1. Such as affect the integuments alone.
2. Such as affect the muſcles, together with the integuments, without penetrating the peritonæum.
3. Such as with the integuments penetrate into the cavity without wounding any of its contents.
4. Such as penetrate into the cavity, and wound ſome or other of its contents.

The firſt ſort, or ſuperficial wounds of the *Abdomen* are not eſteemed dangerous, and require no treatment different from other wounds. However Arcæus (l. ii. c. 4.) and Vigo (l. iii. c. 11.) agree in pronouncing thoſe more liable to bad accidents which are received within two or three fingers of the navel. And our countryman Wiſeman, from Galen, tells us, "That wounds in the middle of the belly are worſt, by reaſon of the nervous body that lies there, and conſequently more painful to be ſtitch'd, and more difficult of cure, becauſe of the inteſtines and cawl preſſing upon that part." I ſuppoſe he means by *their nervous body*, the membranous tendons of the oblique aſcending, deſcending and tranſverſe muſcles, which are inſerted into the *Linea alba*.

Theſe wounds are eaſily diſtinguiſhable from the other three ſorts by inſpection; but the probe readily puts it beyond all doubt.

The ſecond ſort are diſtinguiſhed from the two laſt by the probe; for if the patient is carefully placed in the ſituation he was in when the wound was given, and the probe introduced, it will generally paſs into the cavity of the *Abdomen*, if the Peritonæum is perforated. Another way of diſtinguiſhing theſe wounds is by injecting warm water into them, and then if it returns immediately, there is reaſon to believe the wound only muſcular; but if any conſiderable part remains in the wound, it has certainly penetrated the cavity.

It will alſo give us ſome light into the nature of theſe wounds, to compare the wounding inſtrument with the direction of the wound.

Some farther direction we may have by viewing alſo the inſtrument immediately, where it can be found; when if it was not deſignedly wiped or cleaned before, we may ſometimes diſcover how far it has been ſtained by the blood or Halitus of the body, which will give us more light as to the depth, than the outward dimenſions of the wound. *Turner*.

This was practiſed in the caſe of Henry III. of France, where the knife which the villain made uſe of was found to be a foot long, and bloody for the breadth of four fingers. *Dionis*.

The cure of theſe wounds is rendered more difficult by their perpetual motion in reſpiration, and the neceſſity of ſtraining more or leſs for a ſtool.

If ſuch a muſcular wound reaches pretty near to the Peritonæum, the integuments in that part being weakened, and the Peritonæum capable of great diſtenſion, there is danger of a Hernia ſucceeding. As ſoon therefore as the ſurgeon is ſatisfied in regard to the nature of the wound, his next conſideration muſt be, whether a ſuture is neceſſary, or whether bandage alone is ſufficient to guard againſt a Hernia.

When the wound is ſmall, or in a longitudinal direction, a Suture is frequently ſuperfluous, and even miſchievous, by bringing on great inflammation and pain; and then bandage is ſufficient to guard againſt a Hernia.

The dreſſings muſt be the ſame as in a common wound, (ſee VULNUS) and the lips muſt be united by the double-headed roller, or Faſcia uniens, and then the whole ſecured by the Scapular with the napkin, or Mantile cum ſcapulari. See BANDAGE.

But when a wound is very large, tranſverſe, or oblique, a Suture is neceſſary to guard againſt a Hernia, which is thus performed.

Take two crooked needles, threaded with a ſtrong thread as many times doubled as will ſecure it from breaking, that is, two, three, or four times, and let it be waxed; then paſs one of theſe needles through the muſcles, fat and ſkin, from the inſide of the wound outwards, the breadth of an inch from the edge of the wound, leſt the ſtitch ſhould break out, always beginning at the ſuperior lip of the wound; and then paſs the other needle in like manner through the inferior lip, always leaving a ſufficient length of thread at each extremity. If the wound is not above two inches long, one ſtitch is ſufficient; but if longer, more ſtitches are to be made at about the diſtance of an inch from each other. When all the ſtitches are paſs'd, an aſſiſtant muſt preſs both edges of the wound together, whilſt the ſurgeon ties the threads, firſt with a ſimple, and then with a bow-knot, that it may be relax'd upon occaſion. The knots are to be made upon the wound; but muſt be ſecured from hurting it by placing a ſmall bolſter of linen, or ſilk wax'd, betwixt the wound and the knot.

When the Suture is finiſh'd, proceed as in the cure of a common wound, with reſpect to dreſſings, and ſecure the whole with the double-headed roller, or Faſcia uniens, and Scapular with the napkin, or Mantile cum ſcapulari.

Tents in this caſe are ſuperfluous, and even dangerous. Some farther precautions ought to be taken in order to guard effectually againſt a Hernia. Thus bleeding is ſeldom omitted; and the patient muſt not be ſuffered to ſneeze, cough, or ſtrain hard for a ſtool; firſt, becauſe theſe would endanger a Hernia; and ſecondly, becauſe during theſe efforts, the ſtitches of the Suture would be ſubject to break.

The beſt way of preventing a cough is to bleed, and take occaſionally a ſmall quantity of *ſyrupus e meconio*. Sneezing, if there is any tendency towards it, may be prevented by ſnuffing up the noſe a little warm milk.

The patient may be ſecured againſt coſtiveneſs, by emollient clyſters, and a ſpare laxative diet, conſiſting altogether of liquids.

We may know, that a wound has penetrated into the cavity of the *Abdomen*,

1. If the finger, or probe, paſſes very deep into it, when the patient is plac'd in the poſture he was in when he received the wound.

2. If part of any liquor injected into the wound does not immediately return.

3. By comparing the wounding inſtrument with the direction of the wound. That is, if the inſtrument is ſharp, and its direction ſtrait forward, there is reaſon to ſuſpect it has penetrated the cavity; but the contrary, if the inſtrument is ſomewhat blunt, and its direction either upwards, downwards, tranſverſe, or oblique, and by examining how far the inſtrument is ſtained.

4. If any of the contents of the *Abdomen* appear out of the wound, the caſe is out of diſpute. Sometimes a piece of fat will be protruded out of the wound, and in ſome degree reſemble the Omentum, from which it is diſtinguiſh'd by the ſmoothneſs of its ſurface, that of the Omentum being unequal.

The contents of the *Abdomen*, which uſually appear at the wound, are,

1. The Ros abdominis, or fluid ſeparated from ſome glands in the *Abdomen*, for the lubrication of the Viſcera or bowels contained in it.

2. Grumous blood, or large quantities of florid blood, if a large artery is penetrated; or blackiſh blood, if a vein is wounded.

3. Some one or more of the Viſcera, which generally are the Epiploon, inteſtines, or both.

But becauſe 'tis poſſible that a very thin-pointed inſtrument may penetrate the cavity of the *Abdomen*, and wound ſome of its contents, and leave the orifice ſo ſmall, that a ſurgeon may not be certain that it has paſſed through the Peritonæum, by the ſigns deſcribed above, it may be proper in this place to inſert the ſymptoms that generally attend a wound of the particular contents of the *Abdomen*.

In caſe the liver is wounded ſuperficially, the external parts about the region of the liver and ſtomach are drawn inwards to the back, in order to fix the liver and adjacent parts as much as poſſible, that the pain may not be increaſed by their motion, which notwithſtanding is very pungent on the right ſide, and in ſome caſes extended as far as the neck. Mean time blood is diſcharged by vomit and by ſtool. The caſe is alſo attended with frequent faintings, a fever and looſeneſs.

But if the wound penetrates deep into the liver, all theſe ſymptoms are increaſed, till at laſt the patient vomits bile, and falls into frequent and violent faintings, and cold ſweats, the forerunners of death. From the beginning the patient receives a ſort of pleaſure by lying on his belly.

The ſame ſymptoms attend a wound of the ſpleen, except that the pain is on the left ſide.

A wound of the ſtomach is attended with frequent bilious vomiting and hiccoughs; whatever aliment is taken into the ſtomach, is immediately diſcharged again by vomit; and ſometimes convulſions and cold ſweats on the extremities come on, the preſages of death. Mean time the aliment paſſes through the wound into the cavity of the *Abdomen*, and makes the belly ſwell, eſpecially that part of it near the ſtomach. If the wound is near the orifice, 'tis reckoned mortal.

A wound of the ſmall inteſtines is attended with an acute pain, continual bilious vomiting, and chyle is diſcharged from the wound into the cavity of the *Abdomen*, which makes it ſwell, as in wounds of the ſtomach.

In wounds of the large inteſtines, the ſymptoms are leſs violent, and generally excrement is diſcharged, or the ſmell of it is perceived, at the external orifice of the wound.

When a kidney is wounded, a pain is felt in the groin, as well as in the part affected, which is propagated to the teſticles. A difficulty in making water enſues, and ſometimes the urine is bloody, ſometimes blood alone is diſcharged inſtead of it.

Wounds of the ureters are attended with much the ſame ſymptoms, except that the urine is diſcharged into the cavity of the *Abdomen*, and ſtagnating there, putrifies, and makes the belly ſwell conſiderably.

A wound of the bladder is diſtinguiſhed by a pain about the region of the Pubes, and at the ſame time, either a ſuppreſſion of urine, or a diſcharge of it mix'd with blood, bilious vomiting, and hiccough.

When the Uterus is wounded, a great pain is felt in the part, which is propagated to the Os pubis, and loins, the patient vomits inceſſantly, and blood is diſcharged from the Pudenda.

A very acute pain under the pit of the ſtomach, or at the ſpine almoſt oppoſite to it, ſlow reſpiration interrupted with ſobbing, and hiccough, convulſions, delirium, want of ſleep, and great anxiety, are ſymptoms which accompany a wound of the diaphragm, by which it may be diſtinguiſh'd from others.

If none of theſe ſymptoms appear, and yet the patient feels violent pain, we are to conclude ſome large nerve or nervous part is wounded, particularly the meſentery.

Continued heat and thirſt, great anxiety, a quick, or intermitting pulſe, uneaſy and laborious reſpiration, and frequent fainting, with an elevation or tumor of the *Abdomen*, are ſigns of a conſiderable internal hæmorrhage, from a wound of ſome large veſſel.

If any of the above-mentioned ſymptoms appear, there is reaſon to fear the wound penetrates into the *Abdomen*; tho' it cannot be diſcover'd by the probe, injections, or egreſs of any of the contents thereof.

But if all the ſymptoms are favourable; if there is little or no pain; no fever, or a very ſlight one; little or no inflammation; if no blood is diſcharged when the patient lies upon the wound, and liquors injected return unalter'd, we may reaſonably hope, that none of the Viſcera contain'd in the *Abdomen* are injured.

When the ſurgeon is ſatisfy'd, that the Peritonæum is perforated, and neither the Epiploon nor inteſtines come out of the wounds, he is to conſider whether a Suture is neceſſary or not.

A Suture is ſuperfluous, when the wound is ſmall, or longitudinal; for in theſe caſes the inteſtines and Epiploon may be ſecured from falling out in the following manner: Firſt introduce a ſoft tent into the inferior part of the wound, and lay over it an adheſive plaiſter. Then keep the lips of the wound together by bolſters, a little larger and longer than ordinary, laid on each ſide, and ſecure the whole with the double-headed roller or Faſcia uniens, and upon that the Scapular with the napkin; then bleed the patient, direct an exact regimen, and let him reſt upon the wound.

In this caſe, the firſt dreſſing is not to be removed for three days, unleſs ſome bad ſymptom makes it neceſſary; and afterwards it will be ſufficient to dreſs once a day, or every other day, doing it more frequently being likely to retard the healing of the wound.

This is the opinion of Heiſter, and the reaſons he gives for it are, the difficulty of making a Suture in theſe parts, eſpecially in fat ſubjects, and the pain and inflammation it cauſes. He therefore concludes, that a ſurgeon would be guilty of a piece of cruelty, in giving his patient the unneceſſary pain and trouble of a Suture, when he may be cured without it.

The ſame author thinks the Suture abſolutely neceſſary, when the inteſtines cannot poſſibly be retained in their proper ſituation without it; and when the wound is large, tranſverſe, or oblique, even though the Peritonæum remains intire.

Boerhaave is of a different opinion from the author abovementioned; his general directions are to make a Suture. He tells us the part muſt be immediately defended from the air; and if any air is got into the *Abdomen*, it muſt be got out again by ſuction, and making ſtrong efforts in expiration; probably for fear it ſhould rarefy in the cavity, and cauſe a ſort of Tympanitis; mean time it ſhould ſeem neceſſary to ſecure the contents of the *Abdomen* in their proper places, by applying a linen cloth to the wound, ſtrong enough to ſuſtain the preſſure of the inteſtines and Epiploon againſt it during theſe efforts, and thin enough to permit the egreſs of the air.

Fallopius, Guido de Cauliaco, Chalmet, Fabricius ab Aquapendente, Theodoric and Roland recommend the Suture univerſally, in penetrating wounds.

When a Suture is neceſſary, it muſt be perform'd in the manner directed above for muſcular wounds of the *Abdomen*, with this farther caution, that the needles muſt be firſt paſs'd through the wounded edges of the Peritonæum, which muſt be ſtitched together with the muſcles, fat, and ſkin. The lips of the wound muſt alſo carefully be laid hold of and drawn aſunder, and the point of the needle muſt be induſtriouſly covered with the fore-finger, in order to ſecure the inteſtines from being wounded.

The French ſurgeons have contrived an inſtrument for making theſe Sutures more commodiouſly, which they call Portaiguille. This is intended as a kind of handle or Manubrium for the needle, to prevent it from hurting a ſurgeon's hand when a conſiderable force is required to thruſt it through the Peritonæum, muſcles, and ſkin; and in this caſe the convenience of the ſurgeon promotes the intereſt of the patient, the operation by this means being ſooner perform'd, and conſequently with leſs pain.

Heiſter adviſes to begin tying the threads of the Sutures at the upper part of the wound, when there are more than one, and to proceed regularly downwards, introducing a ſoft tent, arm'd with ſome digeſtive balſam, about the thickneſs of the little finger, into the wound at the lower extremity, before the laſt thread is tied, that any impurities contained in the wound may come away before the wound is cloſed. A thread muſt be faſtened to the tent, which muſt be left hanging out of the wound, that it may be pulled eaſily out of the *Abdomen*, if it ſhould happen to ſink into it. Boerhaave, Garengeot, Belloſte, and many others forbid the uſe of tents, and ſome of them produce caſes in confirmation of their opinion, of which I ſhall produce two, one on each ſide the queſtion.

From HEISTER.

Some modern ſurgeons, and particularly Garengeot in his chapter of *Gaſtroraphia*, diſcard the uſe of tents in wounds of the *Abdomen*. In imitation of their example, in the year 1734, a young ſurgeon in a neighbouring city tried the experiment on a young man, who received a wound, by a ſword, between the navel and the Pudendum, the cut penetrating into the *Abdomen*. The firſt two days the patient ſeemed to be in a fair way; but died on the fourth day after he had received the hurt. His body being opened, a vaſt quantity of putrid matter was found in the *Abdomen*, and the cawl was quite rotten. All beſides was whole and ſound, and nothing of a hurt or ſcratch appeared. Had this been kept open with a tent, the bloody and purulent matter might have been drawn out, which being retained, for want of the aforeſaid help, without doubt killed the patient. *Heiſter*.

In the year 1688, a ſoldier of the regiment of Montferrat, called Sans Soucy, was wounded by a bullet, which entering before at the region of the navel, came out behind at that of the reins, piercing the Ureter as it paſſed along. He was at firſt dreſſed by one of the maſter-ſurgeons of Turin, who uſed to aſſiſt us; which he performed after his own way.

The orifice which was in the belly, notwithſtanding the tents which he uſed, was cloſed up, after the falling off of the Eſchar of the teguments; but it fared otherwiſe with that in the back; for that ſurgeon was careful to keep it open with a thick and long tent, hindering alſo the reuniting of the Ureter, which occaſioned the urine to come forth at the wound. I having ſeen him one day, adviſed the ſurgeon ſpeedily to take away the tent, if he would avoid an incurable Fiſtula, but my words were to no purpoſe; for had he complied with them, he would have thought he had offended againſt the rules of art, and antient received maxims, with which my advice was inconſiſtent.

Some days after, ſeeing this wound in a very bad condition, being covered with a whitiſh fleſh, almoſt without ſenſe, and ready to become a Callus, I was willing to prevent the fatal conſequences of that indiſcreet dreſſing; wherefore with a diſſolved cauſtic I conſumed all that appeared callous about the lips of the wound, cauſing alſo ſome of it to paſs into the cavity thereof; and leaving out the tent, I expected the diſcharge of what the cauſtic had mortified. When the fleſh had regained its uſual colour, without loſs of time I ſyringed into the wound ſome balſamic water. I alſo uſed the balſam of Peru alone for ſome days, and after that, the ſtyptic plaiſter of Crollius, with little longiſh compreſſes that were placed on the two ſides of the wound, to preſs together the brims. Thus the wound began to be filled up, and the urine did by little and little reſume its former courſe; and in about eighteen or twenty days, the wounded perſon was perfectly cured.

In the progreſs of this cure, may evidently be perceived the difference between the method uſed by many ſurgeons fondly conceited of their own opinions, and that I practiſe; for, in this caſe, had the firſt been continued but for eight days time, the wound had become either extremely difficult, or impoſſible to be cured. This is confirmed by the wound in the belly; the ſpeedy cure whereof is to be attributed to the motion of the Inteſtines, which, contrary to the deſign and deſire of the ſurgeon, expelled the tent ſo ſoon as applied, in ſuch ſort, that it was completely cured a little after the falling off of the Eſchar.

Wherefore we can never too much blame thoſe who are ſo obſtinately wedded to the uſe of tents in wounds of the lower belly; they ought altogether to be laid aſide, in ſpite of all the objections may be made in their behalf, for which, undoubtedly, there is no real ground. Experience gained by practice has ſo undeceived me, touching the uſe of tents, that I have left off the uſe of them, not only in the lower belly, but even in all other places of the body, unleſs upon a very preſſing neceſſity. But in the wounds of the emulgent veſſels of the reins, ureters, and bladder, as alſo in thoſe of the joints, they occaſion accidents which oftentimes prove mortal; or otherwiſe, leave behind them infirmities that ever after render life miſerable. *Belloſte*.

Fallopius is of opinion, that though ſome extravaſated blood ſhould putrify in the *Abdomen*, it can do the Inteſtines and other Viſcera no hurt, but will ſubſide to the Inguina, and there form an abſceſs. But that it is more likely to be abſorbed by the veſſels, and diſcharged by ſtool, before it putrifies at all. Chalmet and J. deVigo ſeem to be of the ſame opinion, as is Albucaſis, to which F. abAquapendente ſeems to aſſent, though he ſeems before to be apprehenſive leſt the blood extravaſated into the *Abdomen* ſhould cauſe a dropſy.

From theſe caſes we may infer, that tents are ſometimes neceſſary, ſometimes ſuperfluous, and even dangerous. It muſt therefore be left to the judgment of the ſurgeon to determine when to make uſe of them, and when to diſcard them. When he has reaſon to think any thing is contained in the *Abdomen*, which ought to come away, or that the putrefaction will be conſiderable, he will do well to keep open the lower part of the wound with a tent, for ſome little time. Mean while it is certain, a tent muſt in every other reſpect be prejudicial; and therefore muſt be omitted, when there is nothing conſiderable to be diſcharged by the orifice it is intended to keep open.

Upon the whole, we may venture to ſay, that the uſe of tents in general has done a great deal of hurt; but that ſome caſes occur in practice, that make it imprudent to prohibit the uſe of them intirely. See TENT.

Gabriel Ferrara in his *Sylva Chirurgica*, Botallus in his *Treatiſe de Sclopetorum Vulneribus*, Arcæus, and Paré, agree in adviſing the uſe of tents, till the *Abdomen* is cleared of all manner of Sordes.

When the Suture is finiſhed, the wound ſhould be anointed with ſome vulnerary balſam, as in other wounds, and pledgets of lint laid upon it, which muſt be kept on by ſome adheſive plaiſter; and upon theſe proper bolſters muſt be placed to keep the lips together, and the whole muſt be ſecured with the bandage mentioned above; and the belly ſhould at every dreſſing be ſwathed round, not only for the ſecurity of the dreſſings, but alſo for the ſupport of the parts in caſe of coughing, ſneezing, and going to ſtool; but not ſo tight as to cauſe pain or uneaſineſs.

Heiſter adviſes to take off the dreſſings every day, and let the patient lie for ſome time upon the wound, after the tent is taken out, that the impurities may diſcharge themſelves; and if theſe appear in any conſiderable quantity, he adviſes to inject into the orifice twice or three times before the dreſſings are again put on, a decoction of ſome vulnerary plant, as Agrimony, Sanicle, or St. John's wort, with a little Mel roſarum, ſomewhat warm; and then the patient muſt be laid upon the wound in ſuch a ſituation, as to ſuffer it to be diſcharged again after every injection, together with the blood, pus, or whatever ought to come away.

After this, a freſh tent, armed as before with a digeſtive, is again to be introduced, and the dreſſings are to be renewed; and this is to be repeated every day, till it appears, that little or no impurities remain in the *Abdomen* to be diſcharged; and then the tent is to be uſed no more, but the orifice is to be carefully healed up, as in other wounds.

Other chirurgical writers utterly diſapprove the uſe of injections, becauſe, in their opinion, they only irritate the wounded parts, and retard their union; and beſides this inconvenience, are attended with that of being very difficult ſometimes to get out of the *Abdomen* again. They are alſo ſaid to relax the parts too much, and to deſtroy the natural balſam which ſhould promote the union of the part.

Turner adviſes, at each dreſſing, to apply three or four warm ſtuphs expreſſed from the hot decoction of mallows, mullein, St. John's wort, centaury, with the flowers of chamomile, elder, and melilot, made in ſpring water, with the addition of a little brandy at the time of uſing.

Boerhaave adviſes to dreſs but ſeldom, and is certainly right, where, according to his ſyſtem, no tents are made uſe of.

But all chirurgical writers agree, that repeated clyſters do a great deal of ſervice; that a mild, relaxing, and very parſimonious diet, is of great importance in the treatment of theſe wounds; that very little, or no ſolid food ſhould be allowed; that broths are the beſt ſort of aliment during the whole courſe of the cure, as generating leſs Fœces than any thing elſe, provided no accidental circumſtance make them improper; and that reſt, and lying upon the wound, with a ſoft pillow laid under it, accelerates the cure very much, as it ſerves as a kind of compreſs to keep the lips of the wound together, and as the poſture favours the egreſs of any thing that ought to be diſcharged by the wound.

Palſyn prefers the Quilled Suture, or Sutura clavata, to that deſcribed above, as better ſecuring the ſtitches from tearing out, during the motion of the *abdominal* muſcles in reſpiration, riſing up, coughing, ſneezing, or ſtraining for a ſtool. *Vide* SUTURE.

But moſt other ſurgeons reject this Suture, as cauſing by the extraordinary preſſure, pain, inflammation, and other bad accidents. *Dionis*.

In caſe a wound of the *Abdomen* is attended with an acute pungent pain, a conſiderable fever, an elevation and hardneſs of the belly, great internal heat, thirſt, want of ſleep, weakneſs, uneaſineſs, and anxiety, a very quick or intermitting pulſe; if a large quantity of blood, ichor, the aliment as received into the ſtomach, chyle, bile, pus, urine, the excrement, or the ſmell of it, are diſcharged from the wound; but eſpecially if paleneſs, cold ſweats, and frequent faintings, come on ſoon after the wound is received, we may be ſure ſome conſiderable veſſel, or ſome of the Viſcera of the *Abdomen* are wounded.

A careful attendance to the external part wounded, compared with the ſituation the patient was in when he received the wound, and with the wounding inſtrument, will aſſiſt us in forming a judgment of the part that is hurt. And theſe circumſtances again compared with the ſymptoms uſually attending wounds of the particular Viſcera, as given above, and with the diſcharge from the external orifice, reduces it near to a certainty.

Theſe wounds create great trouble, and are attended with ſome circumſtances that render them very dangerous.

It is known to anatomiſts, that the circulation of the blood from the Viſcera of the *Abdomen*, by the Vena porta, to the liver, and afterwards in the liver, is carried on, or at leaſt greatly promoted, by the alternate compreſſion which the contents of the *Abdomen* receive from the diaphragm, and *abdominal* muſcles. And they who have been much concerned in diſſections of living animals, have obſerved, that when the cavity of the *Abdomen* is expoſed to the air, this circulation of the blood towards the liver by the Porta, is greatly impeded, or totally obſtructed.

Hence it follows, that in proportion as the action of the muſcles of the *Abdomen* is impaired, and the cavity laid open, this circulation, ſo neceſſary to the animal œconomy, muſt be obſtructed.

Theſe wounds are alſo dangerous, in proportion as the function of the wounded bowel is neceſſary to health and life.

Another inconvenience attending theſe wounds is, that the extravaſated blood, now expoſed to the air, corrupts, and corrodes the inteſtines, and other adjacent parts to which the fineneſs of their texture renders them ſubject.

Nor is this the only injury which the patient receives from the air; for when it is included in the *Abdomen*, the heat it meets with there rarefies it more or leſs, and then it interferes with the action of the particular bowel or bowels it preſſes upon.

Hence it happens, that theſe wounds frequently become mortal.

If any of the *abdominal* Viſcera receives a wound ſo conſiderable as to be ſeen, or come at with the fingers, at the firſt dreſſing the wound muſt be ſtuffed gently with lint, dipped in highly rectified ſpirit of wine, or ſpirit of turpentine, which is to be ſecured with compreſs and bandage; for this is generally ſufficient to ſtop the flux of blood, unleſs ſome very large vein or artery is laid open. In the ſubſequent dreſſings the ſame method is to be purſued as is directed above.

But in caſe the injury lies ſo deep as not to be come at, the ſurgeon's care muſt be directed to the management of the external wound, which muſt be kept open with tents ſo long as any impurities are diſcharged from the wound, and vulnerary injections muſt every day be thrown into the *Abdomen*, ſo long as the perforated bowel diſcharges any thing into the *Abdomen* which ought to be brought away.

Mean time, an exact and ſparing regimen muſt be obſerved, the patient muſt be let blood occaſionally as the degree of inflammation requires, emollient and carminative clyſters muſt be from time to time adminiſtred, and he muſt be confined to his bed, and injoined ſtrictly to abſtain as much as is poſſible from motion even there.

The medicines in general muſt be vulnerary and balſamic. But I muſt refer the reader to the article of WOUNDS for particular ingredients and forms.

The Inteſtines, and Epiploon, or Omentum, are the parts which uſually protuberate out of a wound in the *Abdomen*, and require a particular management. But as the ſentiments of authors with reſpect to the treatment of theſe caſes, are very different, I ſhall give the ſum of what Celſus, Boerhaave, and Heiſter, have ſaid on this ſubject, as they are writers of good authority, and ſeem to have collected from, or examined carefully the beſt of their predeceſſors.

Sometimes the belly receives a wound, and the inteſtines fall out through the orifice: The ſurgeon is then immediately to ſider, firſt, whether they are injured; and then, whether they preſerve their colour. If one of the ſmall Inteſtines is pricked, there is nothing to be done; a great inteſtine may be ſewed up, not that we can warrant a cure, but becauſe doubtful hope is better than abſolute deſpair; for ſometimes the gut unites and heals. If any of the Inteſtines are livid, pale, or black, and, what neceſſarily follows in ſuch caſes, void of feeling, all remedies are uſeleſs. If their colour be not altered, be very ſpeedy with your aſſiſtance; for the outward air, to which they are utter ſtrangers, changes them in a moment.

The patient then muſt lie upon his back, with his hips ſomewhat raiſed; and if the wound is too ſmall for the inteſtines to be put back in their proper place, it muſt be inlarged with the knife. If the inteſtines are dry, you muſt moiſten them with water, mixed with a very little oil. Then muſt the aſſiſtant with his hands, or two hooks, that take hold of the inner membrane, gently open the lips of the wound, and the ſurgeon muſt take care to put in thoſe Inteſtines firſt which fell out laſt, that each fold may lie where it was before. When they are replaced, the patient muſt be gently ſhook, by which means the Inteſtines will retire back to their proper places.

The Omentum, or Cawl, is next to be conſidered, of which if any part be black and mortified, it muſt be cut off with the ſciſſars; and whatever part of it is ſound, put gently back upon the Inteſtines.

As to the Suture, it is not ſufficient to ſew either the outward ſkin or the inner membrane alone, but both muſt be united. Two threads muſt be uſed, and the ſtitches ſewn thicker than for other parts, becauſe they are ſubject to be broken by the motion of the belly; and beſides, this part is leſs liable to inflammations than others. Two needles then are to be threaded, and held in both hands, and the inner membrane muſt be firſt ſewn after the following manner: Begin at the extremity of the wound, and paſs the needle in your right hand through the left lip of the wound, and the needle in your left hand through the right lip, from the inner to the outer part of the lips, by which means the point will always be fartheſt from the Inteſtines, and the blunt end neareſt. After you have paſſed once, you are to change hands with your needles, that is, the needle that was in your right-hand muſt come into your left, and your left-hand take that which was in your right; and ſo for every paſs till the wound is ſewn up. After this, the ſame needles and threads muſt be uſed to the ſkin, which muſt be alſo ſewn in the ſame manner; the needles always paſſing from the inner to the outward part, and ſhifting hands every paſs as before. Then agglutinants are to be applied, and upon theſe a ſponge or greaſy wool (Lana ſuccida) firſt dipped in vinegar, and then ſqueezed; after which an eaſy bandage is to be applied. *Celſus, lib. vij. cap.* 16.

If the wounded Inteſtines preſent themſelves at the external orifice, they muſt be ſewed up if the wound is large; but if ſmall, they may be replaced without Suture; and the reſt of the cure is then to be performed in the manner the reader has before been taught.

If any of the Inteſtines are protruded out of a large wound, they muſt be fomented with living animals, juſt ſlit and applied to them; or with proper fomentations, amongſt which the following is recommended.

Take the clean inteſtines of any young animal juſt killed, boil theſe three or four minutes in a proportional quantity of water;

Then add to it half a handful of the flowers of chamomile, lavender, and centaury, and one handful of mint-leaves. Let theſe ſtand in infuſion about three or four minutes longer.

The liquor of this decoction is to be applied by means of ſtuphs.

If theſe ingredients are not at hand, warm new milk will anſwer the end.

But if the wound is ſmall, and the Inteſtines ſo much ſwelled by wind, inflammation, or excrement, that they cannot be reduced, the ſurgeon muſt endeavour to diſcuſs the wind, or ſoften the part by carminative or emollient fomentations; or if that is ineffectual, ſmall perforations may be made in the Inteſtine with a needle, to let out the included wind. The laſt refuge is to dilate the wound.

This muſt be done with a great deal of care, and is a hazardous operation, becauſe the Inteſtine is in the way, and in danger of being wounded. The ſurgeon for this reaſon muſt introduce a Director, and cut upon it.

If any part of the inteſtinal tube is cut away by the wounding inſtrument, or is loſt by ſuppuration, or gangrene, the ſuperior part of it, that is, the part neareſt the ſtomach in the courſe of the Inteſtines, though it may happen to be the inferior part with reſpect to their preſent ſituation, is to be found, and ſewed to the orifice of the wound.

In this caſe the patient muſt frequently ſubmit to the neceſſity of parting with the excrement by the wound as long as he lives. *Boerhaave.*

This was the caſe of an inn-keeper at Rotherham, which may be worth relating as it is ſomewhat uncommon. And to the beſt of my remembrance was thus, as related to me by the ſurgeon that attended him; for I was not acquainted with the man himſelf till ſome years after he was recovered.

He was firſt ſeized with a violent pain about the mid-way betwixt the Umbilical region and Os pubis, three inches on the right ſide the Linea alba. A conſiderable tumour at laſt appeared upon the part, which broke of itſelf; and by a large diſcharge of excrement, mixed with pus, convinced the ſurgeon the Inteſtine was perforated. The dreſſings, as far as I could learn, were nothing different from thoſe generally applied upon the breaking of a common abſceſs; and no care was taken to unite the orifice of the Inteſtine with that of the ulcer. However, I knew him many years after this, with all the appearances of being hearty and in full health, and with no other inconveniences remaining from this accident, than thoſe of parting with ſome excrement every day at the ulcer, and of being ſometimes put out of countenance by a ſudden eruption of wind, which, for want of a ſphincter, it was not in his power to prevent.

Of the ſame nature is the caſe of Margaret White related by Mr. Cheſelden.

In the fiftieth year of her age ſhe had a rupture at her navel, which continued till her ſeventy-third year, when, after a fit of the colic, it mortified; and ſhe being preſently after taken with a vomiting, it burſt. Mr. Cheſelden went to her, and found her in this condition, with about ſix and twenty inches of the gut hanging out mortified. He took away what was mortified, and left the end of the ſound gut hanging out at the navel, to which it afterwards adhered. She recovered, and lived many years after, voiding the excrements through the Inteſtine at the navel; and though the ulcer was ſo large after the mortification ſeparated, that the breadth of two guts was ſeen, yet they never at any time protruded out at the wound, though ſhe was taken up out of her bed, and ſat up every day.

If the Omentum is thruſt out of the *Abdomen*, and continues warm and moiſt, and the arteries appear vivid and red upon it, it muſt be immediately replaced, either with or without dilating the wound.

But if the ſurgeon finds it dry, cold, and livid, he muſt make a ligature upon the ſound part, and cut off all that is mortified, and then replace it, after having fomented it in the manner directed above for the Inteſtines.

When the ſurgeon has performed his duty, the phyſician will find his account in plentiful bleeding, which is the moſt effectual preſervative againſt inflammation, gangrene, and fever. Clyſters are alſo in the beginning excellent, provided the large Inteſtines remain intire; but are not ſo proper when thoſe are perforated, becauſe a clyſter, or part of it, may paſs through the wound of the Inteſtine, into the cavity of the *Abdomen*, and there cauſe a great deal of miſchief.

The following form of a clyſter is recommended by *Boerhaave*.

Take of barley water ſeven ounces, honey three ounces, common ſalt a dram.

Let ſuch a clyſter be given every morning and evening for the firſt three days.

The diet during the whole cure ſhould be of broths only, with a little ſalt.

The following obſervations from HEISTER will illuſtrate the ſurgery of the *Abdomen*.

In wounds which penetrate into the cavity of the *Abdomen*, the firſt thing to be conſidered is, whether the Inteſtines or Omentum come out of the wound or not. If they do not, the wound muſt be compreſſed on each ſide by the hands to keep them in, whilſt the patient is laid on his back with his hips ſomewhat higher than his head, till the wound is taken care of, in ſuch a manner, that the Inteſtines and Omentum are no longer in danger of falling out.

But when they are already protruded out of the wound, immediate aſſiſtance is neceſſary, becauſe the air inclines them to mortify in a very little time. The ſurgeon then muſt firſt examine whether they remain intire, and whether they preſerve their natural heat and colour. For if they are wounded, or appear cold, livid, and dry, they muſt not be returned into the *Abdomen*, till they are treated in the manner to be deſcribed hereafter.

An unuſual flaccidity of the inteſtine protruded out of the wound, is a ſign, that either the part expoſed, or elſe ſome other part of the inteſtinal tube, is wounded. If therefore the part in view is collapſed, but appears intire, the reſt of the Inteſtines muſt be gently drawn out of the external wound, that the perforated part may be found, and treated properly.

If it appears, that the inteſtines are neither wounded, cold, livid, nor dry, they muſt be immediately returned into the *Abdomen* in this manner:

Place the patient in ſuch a ſituation as is deſcribed above, for preventing the Inteſtines from falling out; but let him be turned a little to the right ſide, if the wound is on the left; and on the left ſide, if the wound is on the right. Then let an aſſiſtant ſeparate the lips of the wound with his fingers, or proper hooks, whilſt the ſurgeon thruſts the protruded Inteſtine into the *Abdomen*, with the fore-finger of each hand, which muſt act alternately, one being never removed from the orifice of the wound, till the other ſupplies its place, otherwiſe the Inteſtine would be likely to come out again. Mean time it muſt be recommended to the patient to forbear reſpiration as much as is poſſible.

If the Inteſtines are cold and dry before they are replaced, they muſt be fomented with warm water, or milk, applied by means of linen ſtuphs, or a ſponge, or in a bladder; or elſe they muſt be wrapped in the warm Omentum of a calf, lamb, ſwine, or ſome other animal juſt killed, till their natural heat and colour are reſtored; for without it there are no hopes of a cure.

However, if the dryneſs and coldneſs are moderate, and the Inteſtines not yet mortified, they ought to be immediately replaced, the natural heat and moiſture of the *Abdomen* being more effectual for their recovery, than all fomentations whatever.

If the Inteſtine protruded out of a ſmall wound, is ſo diſtended with wind, that it cannot commodiouſly be returned, it will not be amiſs to pull a little more of the Inteſtine out of the wound, that the Flatus being diſtributed into a larger ſpace, may render the reduction thereof more eaſy. Then the aſſiſtant muſt keep the lips of the wound, and divided parts of the Peritonæum aſunder, either with his hands or hooks, whilſt the ſurgeon returns that part of the inteſtine firſt which came out laſt, that their natural order may be preſerved when replaced. This done, the Inteſtine muſt be ſecured from falling out again by the hand, till the wound is filled with twiſted lint, or a ſoft tent, if any conſiderable quantity of blood remains extravaſated in the *Abdomen*; theſe muſt be ſecured by plaiſters, bolſters, and bandage. The patient mean time muſt be kept very quiet, and muſt lie as much as is poſſible upon the wound.

After the firſt dreſſing, the wound is to be dreſſed once or twice a day, if there is a great diſcharge of matter, with ſome vulnerary balſam. By this method theſe ſmall wounds may be cured without Suture, an operation not leſs troubleſome to the patient than the ſurgeon.

When theſe methods cannot be purſued, or are ineffectual for the reduction of the Inteſtine, the wound muſt be dilated ſufficiently to admit of its reſtitution. But great care and caution is to be taken in performing this operation; for the Linea alba, the Arteries that run under the Muſculi recti, the Vena umbilicalis, and the Inteſtines themſelves muſt induſtriouſly be avoided. For the greater ſecurity, a Conductor, or ſulcated Probe is generally introduced at one extremity of the wound, by which the common knife may be directed, or a knife alone, with a button at the point, of which Heiſter gives a figure, *Tab*. v. *F*. 3. and is of his own invention, and which he recommends as preferable to the Syringotomus, an inſtrument made uſe of in cutting for a Fiſtula in Ano, and mentioned by ſome ſurgeons as uſeful for this operation, of which ſee the deſcription under the name.

But whilſt the orifice is inlarging by any of theſe inſtruments, an aſſiſtant ſhould keep the inteſtines out of the way of danger, firſt covering them with a ſtuph wrung out of a proper fomentation, or with the warm Omentum of ſome animal.

But if it happens, that the knife or Director cannot commodiouſly be introduced, by reaſon of the great inflation of the protruded Inteſtine, the ſurgeon muſt, with his left-hand, remove the Inteſtine out of the way, whilſt, with his right, he cuts through the ſkin, fat, and muſcles. Then wiping off the blood carefully with a ſponge, he muſt endeavour to reduce the Inteſtine, without cutting the Peritonæum, which may ſometimes be done, when the ſtrangulation is in this manner leſſened; but if it cannot, the Conductor, or knife, may now more readily be introduced, in order to inlarge the wound of the Peritonæum.

When the bulk and hardneſs of the excrement prevent the reduction of the Inteſtine, emollient fomentations or Cataplaſms may be applied to it, and the Inteſtine may be drawn a little farther out; for by this artifice the excrement may be ſoftened, and the thickneſs of it diminiſhed by gentle preſſure with the hand, ſo as to make the return of the gut feaſible without dilating the wound.

Paré, Severinus, and ſome other ſurgeons, adviſe letting out the included wind, by making ſmall punctures in the inflated gut with a needle, that it may be replaced without dilatation; but Heiſter prefers inlarging the wound, becauſe many ſurgeons are of opinion, that theſe punctures are neither ſo innocent as they are repreſented, nor effectual for the purpoſe for which they are recommended.

When through a wound of the *Abdomen* the Inteſtines fall out, and are found to be perforated, the ſurgeons think themſelves obliged to ſew up the perforation before they are replaced; for by this means they expect that the wound will the more eaſily be agglutinated, and that it will prevent the chyle or excrement from getting into the belly, and affecting the ſound parts. Now though wounds of the Inteſtines, and eſpecially of the ſmall ones, are extremely dangerous, and a cure ſeldom or never to be warranted; yet becauſe the great Inteſtine may not only be ſewed up, but ſometimes alſo healed, as Celſus obſerved, *Surely doubtful hope*, according to this author, *is better than abſolute deſpair*. A ſurgeon muſt therefore neglect nothing which is likely to contribute to the cure of a perforated Inteſtine.

Small perforations, ſcarce bigger than a quill, are by no means to be ſewed up, but intruſted to the goodneſs of nature; for ſuch commonly heal better of themſelves, than when they are irritated with ſewing, which, for the moſt part, is attended with pain, inflammation, and other ill conſequences. It is by far the beſt way, therefore, with all due care, to replace the Inteſtines, and, after bleeding, to prevent an inflammation, ſeriouſly to recommend reſt and abſtinence to the patient.

Larger wounds of the Inteſtines, though hardly ever cured, were, till of late, and ſtill are by ſome, ſewn up with a Continued Suture, or Glover's ſtitch; for it ſeems better and more humane to cheriſh and ſupport the precarious hopes of the patient, by an induſtrious care of him, than by neglect to abandon him to certain deſpair. In order then for the operation, get a pretty ſlender needle, and thread it with linen or ſilken thread, finer than ordinary. Then let the aſſiſtant, with a piece of fine linen, take hold of one part of the wound, and let the ſurgeon hold the other part in his left hand, and with his right ſew up the gut with a Continued Suture, or ſuch a ſtitch as glovers uſe, with the diſtance of a mathematical line, or a little more, between the ſtitches. Paſs each extremity of the thread, both at the beginning and end of the Suture, under the ſtitch immediately next it, in order to faſten it, yet ſo as that the laſt ſhall be made into a knot, the firſt hanging out of the belly about a foot, that the thread may the more conveniently be pulled out after the inteſtine is conglutinated. Some prefer the Interrupted Suture much before this, becauſe it requires fewer punctures, and is, for that reaſon, leſs ſubject to inflammation; the threads alſo left within, as being ſmaller, are leſs troubleſome. Garengeot ſhews another way of making the Glover's Suture; but whatever Suture is uſed, very few in ſuch caſes are ſaved, as experience ſhews.

The orifices of the perforated Inteſtines being thus ſewn up, the ſurgeon muſt next think of cloſing, or, if need be, of ſewing up the belly. Here I would repeat this monition, which can never be too often inculcated, *viz.* That in all wounds of the *Abdomen* the tent is to be kept in till the collection of preternatural humours, or at leaſt the greateſt part of them, is diſcharged; or till the thread that hangs out of the Suture, the Inteſtines being conglutinated, is pulled away.

The ſurgeon is alſo to take care, when two threads hang out of the belly, that is, one from the tent, the other from the Suture of the Inteſtines, that they be of different colours, leſt perhaps when he deſigns to draw out the tent which is ſlipt in too far, he ſhould take hold of the wrong thread, and ſo twitch and irritate the Inteſtine.

But ſince our modern ſurgeons have obſerved, that none, at leaſt very few, recover of wounds in the Inteſtines; and that thoſe very wounds, if the patient ſurvive, becauſe of the extraordinary thinneſs of the coats of the Inteſtines, do not ſo often conglutinate as grow to the wounded part of the belly, the inner membrane of the Peritonæum, the cawl, or ſome other Inteſtine; 'tis no wonder, that they have lately abſtained from Sutures of the Inteſtines, eſpecially the Continued, or Glover's Suture. And this the rather, becauſe, for the moſt part, the frequent punctures bring on a grievous inflammation, moſt acute pains, convulſions, cancers, gangrenes, and death itſelf. In order, therefore, to treat their patients with a little more gentleneſs, they have eſtabliſhed the following method of cure:

They paſs a fine needle with a waxed thread through the middle of the wounded part of the Inteſtine, and after faſtening it with a knot, bring the Inteſtine to the internal part of the wound, and there fix it with all imaginable accuracy, the wound being firſt cloſed by ſome of the methods above directed. The thread which hangs out they ſecure by glutinous plaiſters laid upon the wound, ſo that the Inteſtine can neither ſlip back, nor any thing be diſcharged from it into the cavity. This being rightly managed, not only the perforated parts of the Inteſtines will grow to the inſide of the belly, but the patients are cured in a milder and ſafer manner, than by a Continued or Interrupted Suture; provided alſo they take due care of their diet, and the bandage of the wound. I would preſcribe the ſame method for conglutinating wounds of the ſtomach, provided we can come to handle them, becauſe it has been practiſed with ſucceſs.

If a part of the Inteſtines happens to be cut quite off, the wound will not admit of conglutination, and therefore nothing but deſpair attends the patient. No wonder then that ſuch as have been wounded in this manner, whether they have had no aſſiſtance from the ſurgeon, or have had the wound ſewed up, have, in former times, almoſt to a man miſerably periſhed. But ſince Hildanus, Blegny, Dionis, Palfyn, Hoffman, Scacher, Vaterus, Cheſelden, myſelf and ſeveral others, have obſerved that the orifice of the mutilated Inteſtine has, as it were, ſpontaneouſly united with and grown to the exterior wound of the belly, a benefit unexpected by the patient, what ſhould hinder a ſurgeon from doing the beſt he can to imitate a method of cure pointed out by nature, his beſt guide, for the relief of the wounded? Whenever therefore a caſe of this nature offers, the ſurgeon ought to know, that he is not to leave the patient to his deſtiny; but that his buſineſs is firſt narrowly to inſpect the ſuperior part of the mutilated Inteſtines, and then by help of the Continued or Nodoſe Suture, or any other way, to join it with the orifice of the external wound; for by this means not only the wounded are oftentimes delivered from impending danger of death, but the wound of the Inteſtine itſelf is conglutinated in ſuch a manner, that what before uſed to paſs off by the Anus, is now intercepted, and comes out of this opening of the belly, as it were through another channel. And however irkſom ſuch a condition may ſeem, as requiring a tin pot, or ſome linnen rags, always at the hole to receive the Fœces; yet it is far better to loſe ſome of the comforts and conveniencies of life, than to have no uſe of life at all. Beſides, what paſſes off this way is not ſo offenſive as what goes off by the Anus.

The afore-mentioned method will be of ſervice when a part of the protruded Inteſtines is corrupted and mortified; for in ſuch a caſe, the meſenteric arteries being firſt tied very tight, all the corrupt part of the Inteſtine is cut off, and the outermoſt ſound part is conglutinated with the external wound of the belly; *for it is better*, as Celſus ſays, *to try a doubtful remedy than none*, and to ſave ſome, though never ſo few, than to abandon all to deſpair and death.

When the Inteſtines are wounded, yet do not fall out, and, conſequently, the wound is quite hidden, the method in uſe amongſt almoſt all ſurgeons, is to put a tent into the external wound of the belly, then to bleed, if the ſtrength will bear it; after this they injoin faſting, reſt, and lying on the belly; and for the reſt, rely on divine providence, and the goodneſs of nature. But here a queſtion ariſes, whether it be not adviſeable, in ſuch caſes, to inlarge the wound of the belly, ſo as that the hurt Inteſtine might be found out, and then, by the help of Sutures, joined to the external wound? Indeed if we conſider every thing attentively, it ſeems the beſt way to ſearch out the wounded part of the Inteſtine, having before ſufficiently dilated the wound in the belly for that purpoſe, and then, by the moſt proper method, to join the part to the wound, as before; otherwiſe the patient is left in the jaws of death, which few or none in this condition eſcape. Scacher, in his *Programma*, publiſhed at Leipſic, 1720, informs us, that the experiment has been tried with ſucceſs. And Cheſelden, in an Hernia, attended with a ſtrangulation of the Inteſtine, opened the belly, drew up the Inteſtines out of the Scrotum, and afterwards perfectly cured the patient.

But what opinion are we to have of the uſe of clyſters in wounds of the Inteſtines? For phyſicians have differed widely in their ſentiments as to theſe remedies, ſome magnifying, and others as much vilifying them. For my part, (for I ſhall freely declare my thoughts) I am of opinion, that they are not wholly to be condemned, nor always to be commended. But if they muſt be allowed to take the beſt care of their patients, who take a method of cure moſt accommodated to the nature of the wound, I think the uſe of clyſters in wounds of the great Inteſtines pernicious; but for thoſe of the ſmall ones, they may be very ſeaſonable, and prove very beneficial. For as in the firſt caſe they cannot be diſcharged into the belly without damage to the wounded parts; ſo in the latter, that is, the caſe of the ſmall Inteſtines wounded, they are uſually adminiſtred with ſucceſs; for they are not only reſtrained by the valve of the Colon from running into the *Abdomen*, but are of ſingular benefit and ſervice, by cleanſing the large Inteſtines of excrement, reſtoring an equable courſe of blood, aſſuaging, if not taking away, fevers and inflammations, and wonderfully mitigating pain itſelf.

If the Omentum falls out.

In wounds of the *Abdomen*, if the Omentum happens to fall out, either by itſelf, or with the Inteſtines, the ſurgeon is inſtantly to examine whether it is ſtill warm and moiſt, and of its natural colour. If ſo, it ought to be put in gently with the fingers, if it can conveniently be done; but if, through the ſtraitneſs of the wound, as it ſometimes happens, this cannot be effected, all that is fallen out muſt be cut off cloſe to the wound, and the wound muſt be healed like other wounds. So will the Omentum, without any damage or inconvenience to the patient, grow to the wound. But when the Inteſtines are fallen out together with it, the aſſiſtant is to hold it in a linen cloth, moiſtened with warm water or milk, till the Inteſtines are replaced in their proper ſituation, and then to put it carefully in.

But if, what may very eaſily happen, any part of the Omentum is cold, dry, black and mortified, or rotten, all that is any way corrupted muſt be carefully cut before it is replaced, leſt the ſound part ſhould be infected within, and the patient killed thereby.

The corrupt part of the Omentum may be cut off with all the eaſe and conveniency imaginable, in manner following: Take a pretty ſtrong needle and waxed thread, and run it through the ſound part of the Omentum near the corrupt; then, winding the thread three or four times about, faſten it with a knot, that no blood may be diſcharged from the cut veins and arteries of the Omentum. This done, cut off the corrupt part with ſciſſars or a penknife, and gently return the reſt to its proper place upon the Inteſtines, leaving the thread to hang out of the belly about a foot, till the Omentum healing up, it comes away.

As to the reſt of the management, that is, deterging, bandage, and conglutinating, the ſame rules are to be obſerved as before preſcribed: but a larger tent is to be introduced into the lower part of the wound, in order to preſerve an opening for the diſcharge of any Sordes that may be contained in the *Abdomen*. But that the thread which hangs to this tent may not be confounded with thoſe that hang from the Omentum, they are to be each of a different colour.

After ſix or ſeven days, thoſe threads which hang out of the wound of the Belly are to be drawn gently every dreſſing, till at length the Omentum healing up, we find they may be taken out, but without violence. This being effected in the moſt gentle manner, and the place ceaſing to run, the tent muſt be removed, and the external wound duly dreſſed and healed; but at the very firſt ſome blood is to be taken from the patient, except he hath loſt enough before by the wound, to prevent inflammation; and reſt and abſtinence muſt be enjoined him.

But what can we think of that ſtrange advice of Dionis, in which he would fain perſuade us never to cut off any part of the prolapſed Omentum, but rather follow the example of Mareſchal, chief ſurgeon to the king, who, as Dionis ſays, oftentimes replaced the Omentum, without cutting or tying, or any bad conſequences from omitting them. Now to ſpeak my mind freely, this tale of Dionis ſeems to me to be dreſſed up in ſo careleſs a manner, that I dare pronounce it deficient in point of juſtneſs and accuracy. For it does not appear by his relation, whether the Omenta were great or ſmall, ſound or rotten, which he ſays Mareſchal replaced without amputation. If they were ſound, he needed not to have been ſo ſollicitous to have us imitate Mareſchal's example; for no ſurgeon ever denied or doubted that it was proper to replace a ſound Omentum. But if the Omenta which Mareſchal thus reſtored without amputation were corrupt and mortified, which Dionis does not tell us, it muſt be a wonder indeed that no miſchief happened to the patient, eſpecially if a conſiderable part were rotten; and wonderful it is what became of the corrupt Omenta in the belly, and by what ways they were purged out. Therefore I think that this adviſe of Dionis is by no means to be regarded, before we receive ſome plain and certain information concerning this matter; and this the rather, becauſe Palfynus in his *Chirurgery* inſerts a caſe, in which Mareſchal himſelf tied and cut off a corrupt part of the Omentum, before he replaced the ſound part upon the Inteſtines, which, he alſo ſays was the practice of other noted ſurgeons at Paris.

Garengeot embraces this opinion of Dionis, though he does not name him; but he does not clearly inform us how great a part of the corrupt Omentum it was, which Mareſchal, or any other thus returned without damage. Indeed I am perſuaded, that it is not impoſſible for a very ſmall corrupt part of the Omentum to be digeſted in the belly, but a large one by no means, unleſs it can be proved by various and undeniable inſtances. For one obſervation, even ſuppoſing it true, will not put the matter out of doubt, much leſs afford an example to be imitated; becauſe miracles are now and then obſerved in the moſt dangerous wounds; and becauſe any other corrupt matter or impurities of this kind cannot be kept, even in external wounds, without often creating very bad ſymptoms. But what may we not dread from them, when ſhut up among the internal parts, nay willfully thruſt into them? Nor is it the ſame thing, as this author ſuppoſeth, whether the ſuppuration be ſmall or great, as long as there is a ſuppuration. But becauſe a great corrupt peice muſt cauſe a great ſuppuration in the Belly, whereas in the tied Omentum, where all the corrupt part is cut away before the ſound is returned, there muſt be a very ſmall, at leaſt a far leſs ſuppuration; therefore leſs miſchief is to be feared from this than from the former; eſpecially ſince we endeavour to diſcharge even that ſmall matter produced by that ſuppuration through the external wound, kept open by the uſe of tents. But Garengeot ſoon after adviſes to cloſe up every opening, by throwing aſide all tents whatever, contrary to Mareſchal himſelf, who uſed them with ſucceſs. Hence, ſo much the leſs can a great part of the Omentum reſolved into Pus be diſcharged out of the Belly. I think therefore we ought carefully to diſtinguiſh between a great and ſmall ſuppuration, for there is more difference between them than Garengeot imagines; and ſince this matter, in my opinion, is not ſufficiently cleared up, but ſtill ſubject to great doubts, and even hazzard, Palfynus an eye-witneſs, affirming the contrary; and Garengeot does not ſeem to have learned by his own experience, the happy ſucceſs of replacing a great corrupt part of the Omentum, I think it a better and ſafer way, to tie and cut it off, eſpecially if the unſound part be large, as the beſt ſurgeons have hitherto done, than to lodge it in the Belly to the imminent danger of the patient's life. *Heiſter*.

Roland, Laufranc, Gulielmus de Saliceto, and Rogerius, adviſe, in caſe an Inteſtine is wounded, to defer the Suture of the external wound, till the Inteſtine is healed.

Paré is of opinion, that all wounds of the Inteſtines are not mortal, of which we find many inſtances related by Hildanus, Cæſar Magatus, Plazzonius *de Sclopetorum vulneribus*, Petrus de Marchettis, Fallopius, Arcæus, Cabroleus, Tulpius, and Schenkius.

As Mr. Sharp is the laſt and beſt of our own country writers in ſurgery ſince Wiſeman, I ſhall give his opinion of Gaſtroraphy, and wounds of the Inteſtines.

The account of this operation has employed the ingenuity of many chirurgical writers, and occaſioned much debate about the proper rules for performing it; and yet what makes the greateſt part of the deſcription can hardly ever happen in practice, and the reſt but very ſeldom. Mr. Sharp has been told, that Du Verney, who was the moſt eminent ſurgeon in the French army, a great many years during the wars, and faſhion of duelling, declared, he never had once an opportunity of practiſing the Gaſtroraphy, as that operation is generally deſcribed; for though the word in ſtrictneſs of etymology ſignifies no more than ſewing up any wound of the Belly, yet in the common acceptation it implies, that the wound of the Belly is complicated with another of the Inteſtine. Now the ſymptoms laid down for diſtinguiſhing when the Inteſtine is wounded, do not with any certainty determine it to be wounded only in one place, which want of information makes it abſurd to open the *Abdomen* in order to come at it; if ſo, the operation of ſtitching the bowels can only take place, where they fall out of the *Abdomen*, and we can ſee where the wound is, or how many wounds there are: if it happens that the Inteſtines fall out unwounded, the buſineſs of the ſurgeon is to return them immediately without waiting for ſpirituous or emollient fomentations; and in caſe they puff up ſo as to prevent their reduction by the ſame orifice, it may with a knife, or probe-ſciſſars, be dilated ſufficiently for that purpoſe, or the Inteſtines may be pricked to let out the wind, laying it down for a rule in this, and all operations where the Omentum protrudes, to cut off ſo much as ſhall be mortified before it is replaced.

Upon the ſuppoſition of the Inteſtine being wounded in ſuch a manner as to require the operation, for in ſmall punctures it is not neceſſary, the method of doing it may be this: taking a ſtrait needle with a ſmall thread, lay hold of the Bowel with the left hand, and ſew up the wound by the Glover's ſtitch, that is, by paſſing the needle through the lips of the wound, from within outwards all the way, ſo as to leave a length of thread at both ends, to hang out of the inciſion of the *Abdomen*; then carefully making the Interrupted Suture of the external wound, pull the Bowel by the ſmall threads into contact with the Peritonæum, for the more readily uniting afterwards by adheſion with it; though it would be more ſecure to paſs the threads with the ſtrait needle through the lower edges of the wound of the *Abdomen*, which would more certainly hold the Inteſtine in that ſituation. In about ſix days it is ſaid the ligature of the Inteſtine will be looſe enough to draw away, which muſt be done without great force. Mean time the wound is to be treated with ſuperficial dreſſings, and the patient to be kept very ſtill and low. *Sharp*.

The following caſe preſerved in a letter to Hildanus from Claudius Deodatus, phyſician to the biſhop of Baſil, is very remarkable, and worth peruſing, which I have therefore inſerted.

> About a year ago, a young man upwards of twenty, by trade a woollen weaver, having drank plentifully of wine, took a walk out in the dead of the night with his companions, to cool themſelves. Rambling about the town, which is called Bruntrute, they met with ſome young ſtudents as drunk as themſelves, and a quarrel ariſing, they drew on both ſides; in the ſcuffle, one of the ſcholars, with a ſword (which they call a ſtilletto) ſtabbed the weaver a little above the Navel, towards the left, ſo that the weapon came out at his Back, downwards toward his Loins. The weaver fell, and was carried off half dead to the ſurgeon, while the ſcholar doubting he had killed the man, ſecretly conveyed himſelf out of the town. The wounded perſon was put into the hands of two able ſurgeons, who were John Glanz belonging to the court, and Werner Cramory of Bruntrute, whom the poor man earneſtly intreated to ſave his life, every one expecting he would ſoon give up the ghoſt. They were prevailed upon jointly to undertake him, though they gave but very little hopes of a cure. They examine with all poſſible care, the ſize, the depth, the place, and other circumſtances of the wound, and conjecture, that if the Stomach itſelf ſhould happen to be untouched, at leaſt its orifice, or the extremity of the ſmall Inteſtines, muſt have been penetrated and opened, though both orifices of the wound were ſo ſtrait, that its innermoſt parts were with difficulty ſearched by one of the ſmalleſt probes. After they had well conſidered the difficulty and hazard of the undertaking, they betook themſelves to the application of all ſuch remedies, both inward and outward, as long uſe and daily practice had taught them, ſuch as oils, balſams, ointments, plaiſters, not omitting vulnerary potions and apozems. In a little time, as it uſually happens, came on various and perplexing ſymptoms, as a fever attended with ſhiverings, thirſt, watchings, reſtleſneſs, faintings, and coſtiveneſs: I adviſed the uſe of emollient clyſters now and then, in order to diſcharge any clotted blood that might chance to ſtick in the Stomach or Inteſtines, and by its putrefaction, inflame the fever, or heighten the ſymptoms. This was thrice put in practice,

and every time there came off abundance of caked, black, and putrid blood; a certain ſign that the Inteſtines were wounded. At length, after ſome weeks, both orifices of the wound were cicatriſed; the patient thought himſelf cured, and went home. But he ſtill felt a pricking pain about the part affected, which was accompanied with a hard ſwelling, ſo that he was forced to go with his body very much bent. Quite tired out with this pain and ſwelling, he conſulted another ſurgeon, who ſuſpecting ſomething, I know not what, of Pus to be in the fault, applied things to ſoften the tumour, and promote the ripening of the Pus, and afterwards opened it twice with a lancet; but his pains were to no purpoſe, for there came out nothing but a little ſerous matter, and the pain ſtill continued.

Now becauſe he was of a cachectical habit of body, and had been for a long time troubled with obſtructions of the Liver, Spleen, and the Meſeraic veins themſelves, I adviſed ſuch remedies as were proper for removing obſtructions of the Viſcera. Theſe were alſo tried upon him in vain, and the whole buſineſs reſigned over to nature, the rather becauſe the man could make a ſhift to walk, and do his buſineſs in ſome meaſure.

Towards the end of the year, returning home one day, after he had diſpatched his buſineſs, he was taken in the midſt of his walk with a violent motion to eaſe himſelf, and with vaſt pain and torment voided the tip, or very point of the weapon that wounded him. The ſurgeons ſtruck with the novelty of the thing (though the patient would not confeſs it, till awed by the command and authority of the magiſtrate) left no ſtone unturned to get it into their poſſeſſion, in order to ſhew it publickly, and compare it with the weapon to which it belonged. They were ſatisfied that it was the tip of a ſword's point, but wanted the ſword to which it belonged.

That there was a piece of the truncated ſword left in the patient's body, is evident from the laſting and continual pricking pain, which ſtill remains fixed, though the cauſe is removed. And it is abundantly evident from the premiſes, that the wound was mortal, becauſe either the Stomach or Inteſtines were hurt, and the tip of the ſword deeply ruſted lay a whole year hid in the winding labyrinths of the Inteſtines in defiance of all ſtimulating expellers; for whatever makes its way downwards, muſt paſs through all the orbs of the Inteſtines. Now whether the ſword were broken by the man's falling to the ground, and afterwards in drawing it out, the point that is come away, or even the part wanting, might not ſtick in the Stomach or Inteſtines? And by what means the patient yet ſurvives after his Stomach or Inteſtines were penetrated? And how, or where the iron could lie without doing more prejudice? And whether the other part of the weapon, as we ſuſpect, be left in the body? Theſe, and many other ſuch doubts, which might be raiſed, are left to your well-known judgment, and long experience for a ſolution.

Hildanus's Anſwer.

That the wound you write of was mortal, no man of ſound judgment can doubt; both Hippocrates and experience itſelf atteſting that wounds of the Inteſtines are ſo. Beſides, it was very near the Medulla ſpinalis, and the Nerves proceeding from it, and therefore more liable to pains, inflammations, and other grievous ſymptoms.

But that the Stomach was not pierced, much leſs the Pylorus, as your ſurgeons thought, appears from the ſituation of the wound. For the Pylorus, or right orifice of the Stomach, is ſeated on the right ſide, over-againſt the Liver, and the Stomach lies too high for the wound to reach it, and I doubt whether the ſmall Inteſtines were hurt; for being bloodleſs, they ſeldom or never cloſe. Wherefore Hippocrates, Book vi. Aph. 18. with good reaſon pronounces them mortal. However, we meet with inſtances in Marcellus Donatus, and others, of wounds of the ſmall Inteſtines, which have been cured. Therefore it ſeems moſt probable to me, with ſubmiſſion to your better judgment, that the ſtilletto went through the Inteſtine called the Colon, and through that part of it where it is very firmly connected to the left Kidney, and hit with its point againſt the Proceſſus of the ſecond or third Vertebræ of the Loins, which are of a firm ſubſtance, when the wounded perſon falling to the ground, and rowling, the weapon being of the beſt ſteel ſnapped and broke off, the point remaining in the Inteſtine, or part there, and part in the Muſcles.

That the Colon was wounded the want of ſtools is a good argument. For that Inteſtine, as you know, being pretty ſtrait, where it runs by the left Kidney, the paſſage of the excrements in that place might eaſily be intercepted by the affluence of the humours, and inflammation and tumefaction of the part cauſed thereby. That plenty alſo of clotted blood, which the patient voided, indicates a wound in the Colon. You acted therefore with good ſenſe, in preſcribing clyſters, to which, I doubt not, the man, in a great meaſure, owes his preſervation.

From what has been ſaid, you will ſee, venerable and worthy Sir, in anſwer to your queries, that the weapon was broken by the patient's falling to the ground, and that the point remained in his body. But if any one ſhould maintain that it ſtuck in the Proceſs of the Vertebræ above-mentioned, in my opinion he is not far wide of the truth.

You aſk beſides, by what means the patient could ſurvive a wound in the Stomach or Inteſtines? I anſwer with Averrhoes, that very often wonders are wrought in diſeaſes, that is, ſuch things as ſurpaſs human underſtanding; and that wounds of the Stomach have been ſometimes cured, not to mention Nicholas Nichols, and Matthias a Cornace, we have the teſtimony of Marcellus Donatus, in his 5th book, chap. iv. See a remarkable example in Crollius, in his preface.

Some years ſince, Galenus Wierus, a phyſician of great repute, in a letter he wrote me, has theſe words: "I remember, ſays he, that at Montpellier my maſter Laurentius Goubertus, a very famous phyſician, and Regius profeſſor, ſhewed us a blunt knife, which a ſhepherd wrapped in a cloth, and forcibly thruſt into his fellow's mouth, and crammed it down his throat. The ſame lay a long while, as I remember, two years, in the body, till at length it came out at an Abſceſs in the Groin, which was cured by the ſurgeon, and the man lived ſeven years afterwards." So far *Wierus*.

Moreover, that wounds in that part of the Inteſtine, where your patient was hurt, are not quite deſperate, I myſelf am an eye-witneſs. You have an example in my *Obſerv*. xiv. *cent*. 1. and indeed the Inteſtine in that part is thick, fleſhy, and next to the fleſhy parts, and even connected to them; ſo that when the reſt of the Inteſtines are almoſt perpetually thruſt this way and that way by the excrements and flatuſſes, this part only of the Colon remains in a manner immoveable, and therefore eaſily cloſes.

You aſk, in the third place, how iron could lie ſo long in the body without doing prejudice? It was not altogether without prejudice; for you write that the patient was afflicted with conſtant pains. Beſides, provident nature, which is always at work to relieve us, takes care to ſheath thoſe foreign and unwelcome gueſts which harbour within us with a callous ſort of matter, in order to defend the adjacent parts from the injury which they might do them. You have an example in my *Obſerv*. lxii. *cent*. 1. of a knife fixed in the Loins; and another, *Obſerv*. ii. *cent*. 2. of a leaden bullet that lay ſix months in the Brain, without any ſupervening ſymptom.

Your fourth query is, whether the other part of the ſword, which is wanting, do ſomewhere or other lie hid in the body? That, indeed, is a difficult matter to determine; but the conſtant and fixed pain is enough to convince us, that ſomething preternatural, whether it is that part of the ſword, or a fragment of the Appendix of the Vertebræ, lies hid in the part affected. For it ſeems to me very likely that the point of the ſword ſtruck againſt the Appendix, or Ala vertebræ, ſince I do not ſee how it could be broken in the fleſh.

In this hiſtory, and the obſervations upon it, both Deodatus and Hildanus call the wound mortal, though the man recovered. This expreſſion muſt not be taken literally. I ſuppoſe they mean that ſuch a wound would generally be mortal.

The Muſcles of the *Abdomen* are ſubject to inflammations, which are attended with ſome ſingularities, and require a peculiar treatment.

Phyſicians have ſometimes miſtaken an inflammation of the Muſcles of the *Abdomen* for an inflammation of the Liver; but Galen tells us that inflammatory tumours of theſe Muſcles preſerve the figure of the Muſcle, which that of the Liver does not. Beſides that an inflammation of the Liver is attended with worſe ſymptoms.

Heurnius gives a hiſtory of a woman, whoſe Muſcles of the *Abdomen* were almoſt as hard as a ſtone, but preſerved the form of Muſcles. He applied Emplaſt. e Mucilag. and when the parts grew red, and yielded to preſſure, he ordered them to be laid open, upon which there was a great diſcharge of Pus, and the woman recovered.

He ſays theſe Muſcles have a very thick Membrane, which will not permit the Pus to break out, without laying open. He adds, that he has ſeen theſe tumours, when not laid open, turn to a ſtony hardneſs; and alſo the whole Meſentery.

He ſays alſo that he has ſeen an Abſceſs of theſe Muſcles turn into ſuch a hardneſs, which has in like manner affected the parts underneath.

In order to prevent theſe conſequences, and alſo hinder the Abſceſs from burſting internally, and diſcharging a quantity of matter into the cavity of the *Abdomen*, Hildanus adviſes to lay open by inciſion a Phlegmon of the *abdominal* Muſcles when tending to ſuppuration, or ſuppurated, ſooner than other Abſceſſes.

Becauſe an inflammation of the Muſcles of the *Abdomen* much reſembles an inflammation of the Liver, they are to be diſtinguiſhed by proper ſigns, ſuch as follow:

In an inflammation of the Muſcles of the *Abdomen*, the ſkin about them is ſo tenſe and ſtretched, that you cannot pinch it up with your fingers. Tumours of the Muſculi recti are of an oblong figure, and extending themſelves over all the Belly, incloſe the Navel. And ſo inflammations of other Muſcles, in ſome meaſure, alſo repreſent their figure.

On the contrary, an inflammation of the Liver conforms itſelf, both in figure and meaſure, to the part affected; the Muſcles alſo, when handled, ſeem to give way to the touch, and the tumour appears deeper ſeated. Beſides, the colour of the whole Body is very much to be regarded in diſtinguiſhing theſe affections. For in an inflammation of the Muſcles the colour continues lively, and much as in a ſtate of health; but in an inflammation of the Liver it appears pale and yellowiſh, inclining to a Jaundice. You have a remarkable example to this purpoſe in *Gal.* v. *de Locis affect. c.* 7. of one Steſianus, who was judged by the phyſicians to have an Abſceſs in his Liver; but Galen being ſent for, and only viewing his countenance, immediately pronounced that there was no Abſceſs in the Liver, and afterwards ſearching the Belly, found that it lay in the Muſcles of the *Abdomen*.

What determined his judgment was, that the colour of the patient's face was not altered in the manner uſual in an inflammation, or Abſceſs of the Liver.

A like example you have in *Valeriola, Obſerv. lib.* iv. *cap.* 5. of a woman, who was judged by another phyſician to have an inflammatory tumour in her Liver. "But I, ſays he, as ſoon as the ſick employed me, was of opinion that the tumour did not lie in the liver, but in the muſcles placed over it." And a little after he ſays, "As ſoon as I came I felt the place, and diſcovered in the right Hypochondrium an oblong tumour, which reached to the navel, and ſoon after grew hard enough to be ſenſibly felt. The colour of the face was ruddy, freſh and roſy, with a mixture of white, and ſo continued during the whole courſe of the diſtemper. The urine, as to colour, conſiſtence, and contents, of the moſt healthy ſort; from all which ſigns I found that it was not the Liver, but the Muſcles of the *Abdomen*, that lie over it, that were affected. For where the Liver is diſeaſed, the colour of the face muſt neceſſarily be altered." Galen himſelf, *lib.* v. *cap.* 7. *de Locis affectis*, writes, that he diſcovered many diſorders of the Liver by the colour of the face, which uſually inclines to a pale yellow, mixed with a duſky green. *Riverius.*

In the year 1588, a gentlewoman of Lauſanne complained of a very great and pungent pain in the Stomach. I was ſent for, and examining the place, felt a hardneſs between the Muſcles of the *Abdomen*, juſt oppoſite to the Stomach, by the ſide of the Linea alba, towards the Liver, which however could not be perceived without handling; for no outward ſign appeared. The patient had a continual fever, with a great, pungent, and throbbing pain; whence I eaſily inferred, though no diſorder appeared in the ſkin, that there muſt be an Abſceſs between the Peritonæum and the Muſcles of the *Abdomen*. Being thoroughly ſenſible that the caſe was dangerous, and that nothing but an untimely death could be expected, if the Muſcles of the *Abdomen* were not lanced, I adviſed to conſult the moſt famous and learned Dr. John Aubert of Vindon, the moſt celebrated phyſician at that time in Lauſanne. He was ſent for, and clearly agreed with me in opinion that there was an inflammation, which, if not ſeaſonably opened, would bring on death, or ſome tedious and ſtubborn diſtemper. But when we had declared our opinion to the attendants, they were amazed, becauſe no tumour or diſorder appeared on the ſkin, and they could not believe any thing of an internal Abſceſs; wherefore they utterly and unanimouſly rejected our advice of opening and cutting the Muſcles, but begged of us to try if by any means, as Anodynes externally applied, the pain might be mitigated, and by proper medicines taken inwardly, the fever, nauſea, and eructations might be removed. We, having firſt forewarned them of the danger, did what in us lay, and carefully provided all things according to their deſire. After ſome days, about midnight, the pain remitted on a ſudden, and the patient fancied herſelf quite well. Soon after, when we went to viſit her, at ſeven o'clock in the morning, and had ſcarce entered the doors, the huſband met us with joyful looks, to aſſure us that his wife was quite eaſy, which we preſently found to be true in fact. The pain was ſcarce ſenſible, and the tenſion, eructation and nauſea were quite gone, the hardneſs in the *Abdomen* could ſcarce be felt, the fever, in ſome degree, remitted, with the Pulſe much mended. From theſe ſigns it was eaſy for us to conclude that the Abſceſs had broke inwardly, and diſcharged its contents into the vacuities of the *Abdomen*, and alſo to foretel the huſband the event of the diſeaſe. After a few days, the pain aroſe anew in the Lower belly, followed by a burning and continual fever, that ended in cold ſweats and faintings, under which the patient piouſly and placidly departed out of this life. I have been the longer in this inſtance, that young ſtudents may know how to judge and prognoſticate in like caſes. *Hildanus.*

A man 33 years old was much bruiſed by a very heavy coach-wheel, that paſſed over his right Hypochondrium, but without breaking his Ribs. The hurt produced a looſeneſs and great pain, which hindered him from ſleeping, and by neglecting the proper methods of cure he fell into a fever, loſt his ſtrength, and died. I ſuſpected, upon conſidering the ſituation of the parts, that the Liver was impaired; but upon laying open the Hypochondrium, found it remarkably ſoft and yielding; from whence it was obvious, that the Liver was not originally injured, indurated, or inflamed.

Having made an inciſion in the form of a croſs through the Muſcles of the *Abdomen*, I obſerved a pint and a half of Pus to run out of the right ſide, without any apparent Abſceſs in the Liver, the Apoſteme being between the Peritonæum and the Muſcles of the *Abdomen*.

Part of the Omentum adhered ſo ſtrongly to the Abſceſs, that I was obliged to ſeparate them with a knife.

The Liver was found out of its natural place, under the middle of the Diaphragm, inclining to the left Hypochondrium, and adhering every where to the Baſtard ribs of the Sternum by Membranes, which I broke with my fingers.

The Abſceſs was large enough to contain the head of a bulky man, the Liver being diſplaced by the force of its compreſſion.

The Stomach which was large, was forced by the ſame impoſthumation towards the right ſide. *Bonet. Sepulch. Anat.*

A woman of quality about twenty years old, having been troubled for ſome months with a general wearineſs, heavineſs and fatigues, for which ſhe had taken mild purges, and ſtrengthening phyſick, ſuch as chalybeates joined with gentle purgatives, preparations of tartar, volatile ſalts, *&c.* finding her illneſs not abated according to her hopes, committed herſelf to the care of an ignorant empirick, who gave her pills made of the dried ſeeds of the Indian ſpurge, and other medicines of the ſame kind, which purged her ſtrongly, and produced a ſudden flow of ſpirits, and appearance of health. But the humours agitated by the violent operation of thoſe medicines, produced a tumour in the Lower region of the Belly, which, notwithſtanding the means that were made uſe of to diſperſe it, not only increaſed in one year to an enormous ſize, but cauſed very excruciating pains, and brought an acute fever upon her. To remove theſe ſymptoms many remedies were tried, with ſo good effect, that the fever was taken off, the tenſion of the parts was relaxed, and the inflammation ceaſed, only the tumour ſtill continued, but without pain. This we endeavoured to diſſipate by proper medicines, ſuch as mineral waters, and artificial preparations, both of vegetables and minerals; but to ſo little purpoſe, that the ſwelling increaſed, and all the Belly was bloated to a prodigious bulk, and the fever nine months after it had been removed, returned with ſo much violence, that ſhe was confined to her bed. Then the ſwelling extended itſelf from her Belly to her Thighs and Legs, and excoriated the parts in many places. Being now no longer able to move herſelf, and feeling a kind of laceration in the veſſels of the Lower belly, ſhe intreated me to open the tumour; and in compliance with her deſire, I thruſt a pointed Cannula into the cavity, and in ten days let out thirty pints of Pus corrupted to the higheſt degree. By this evacuation ſhe was greatly relieved, but nevertheleſs died on the thirteenth day after the puncture, with great piety and calmneſs. When the *Abdomen* was laid open, we found at leaſt forty pints of fætid and viſcid Pus ſtill remaining, in which the Inteſtines had floated ſo long, that their outward membrane began to mortify. The right Teſticle, or Ovary, was by the preſſure of the tumour, which I ſhall next deſcribe, become ſo flaccid, that it was not without difficulty diſcoverable. What moſt deſerved our regard was a tumour in the Meſocolon, which beginning on one ſide of the Colon where it enters the Rectum from a baſis of about three inches diameter, paſſed under the Inteſtines to the right ſide, where it produced a body of no leſs than a foot diameter; then turning upward, it united itſelf to the Peritonæum, and continuing, extended itſelf to the left ſide, towards the part where it took its riſe, and reſted upon the larger Inteſtines, which were almoſt encircled by it, while the ſmaller were, together with the Stomach, forced upwards, and more at liberty. This tumour was glandulous and membranaceous, and contained, through its whole courſe, wells or cavities of various forms and ſizes; many of them had a communication with each other, and were filled with ſubſtances of different kinds, as watry, mucilaginous, greaſy, or almoſt of the conſiſtence of tallow, all intolerably fætid. The tumour, with its contents, weighed about thirty pounds. All the other parts were ſound. *Bonet. Sepulch. Anat.*

A maiden of unblemiſhed character was, in the year 1691, afflicted with an offenſive and ſcabby eruption, which diſcharged a great deal of Sanies, and ſpread over her whole body, and in oppoſition to all the methods that were uſed, continued to the year 1696, and was believed by many to be the true Elephantiaſis, becauſe when the ſcabs fell off, the ſkin appeared livid and callous. At the beginning of the year 1696, the eruption, either by the help of medicine, or of its own accord, intirely diſappeared; but was ſoon ſucceeded by pains over the whole body, and thoſe were accompanied by a contraction of the Muſcles which bend the Leg. At the ſame time her appetite, which had always continued good, increaſed to a prodigious degree of voracity. Her whole Body, and particularly her *Abdomen*, were ſo ſwelled, that ſhe ſeemed to have at once an Aſcites and Anaſarca. In May, 1696, ſhe died in her thirty-fifth year.

On the next day we opened her body, and obſerved there appeared no remains of the Scabies in any part of her body, that her countenance was livid and moiſt, and that a large quantity of purulent matter iſſued from her Noſtrils and Eyes. That the tumour of the *Abdomen* was produced by a kind of anomalous or unnatural fat, which had extended the cells of the Panniculus adipoſus to ſuch a degree, that it was in ſome places three inches thick; but was crouded in vaſt quantities between the Membranes of the Meſentery, and in the Omentum itſelf. The Meſentery was transformed by it into a confuſed maſs, in which neither Veſſels nor Glands could any longer be diſtinguiſhed. But our attention was more ſtrongly attracted by the Omentum, of which the Veſſels called Vaſa adipoſa by Malpighius, ſeemed to be extended by a general Hernia, or Rupture, and being filled in all its diviſions to its utmoſt capacity, formed a multitude of cavities, or bags, of about an inch in compaſs, which hung down from the parent veſſels of the length of three or four inches. The ſubſtance with which the cells of the Omentum and the cavities ariſing from them were filled, was like oil of olives congealed in the winter, and diſſolved ſo readily by the warmth of the hand, that it gave us ſome reaſon to conclude with Malpighius, that it had ſome degree of circulation, and communication with the neighbouring veſſels of the Meſentery and Panniculus adipoſus. The other parts were without diſorder. *Bonet. Sepulchret.*

I ſhall add to this account of the diſeaſes peculiar to the *Abdomen* a remarkable caſe, which happened to fall under my own inſpection.

In the year 1728, I attended a boy of about fifteen, who had been ill a great while, but, for ſix weeks before I ſaw him, he complained of a pain on the right ſide of his Belly, like that which attends an inflammation of the Inteſtines, except that it was not ſo acute, and had continued much longer than any common inflammation could do. In my firſt viſit I was deſired to obſerve one very extraordinary ſymptom, which was, that he was perfectly eaſy when he put himſelf in that ſituation which people uſually call ſtanding on their heads; and this he frequently was tempted to do for relief. The boy was waſted very much at this time, and died about fourteen days after.

Being permitted to open the Body, as ſoon as it was laid on the table, I perceived the whole *Abdomen* was conſiderably ſwelled, though not ſo much as is uſual in a Dropſy.

As ſoon as the integuments and *abdominal* muſcles were removed, I perceived the Peritonæum diſcoloured, and upon making a ſmall perforation in it, a Flatus was diſcharged with ſome violence, which was attended with a ſtench almoſt inſupportable. When the Peritonæum was removed, I found ſome Fæces in the *Abdomen*, and ſoon diſcovered a large perforation in the Cæcum, not far from the Appendicula vermiformia; but was ſurpriſed at the extraordinary figure of this part, which ſeemed to be very much inlarged, and formed into a kind of bag not unlike the Stomach. The hole in the Inteſtine was about as large as a ſix-pence, and a hard ſubſtance lay juſt upon it, of the ſize of a tennis-ball. I opened the Inteſtine, and took out the hard body, which much reſembled an oak-ball. Upon cutting through it, I found it had been formed of the groſſer part of the excrement, which had concreted round a plumb-ſtone, which lay in the middle. I took eight more of the ſame ſort, but not quite ſo big, out of the Colon, and a great number of leſſer, both out of the Colon, and ſmall Inteſtines, each of which had for its baſis a plumb or cherry-ſtone. And I was then told, he had diſcharged above fourſcore ſmall ones before his death, at different times, by ſtool.

Theſe appearances account for the eaſe he found by ſtanding on his head, for in that poſture the ball would fall from the bottom of the inlarged Cæcum, and no longer preſs on the painful part, as it muſt do when he was erect.

Such caſes as theſe ſometimes occur, though they have not been much taken notice of. Bonetus mentions one ſomewhat like it. *Sepulchret. Anatom. l. 3. ſect. 17. obſ. 27.*

The *Abdomen* is ſubject to many other diſorders, which will be ſpecified under their particular names, or under the anatomical account of the particular parts affected by them.

But I muſt not omit taking notice, that the Muſcles of the *Abdomen* are ſubject to a Rheumatiſm, which is ſometimes miſtaken for the Colic, and ſometimes for an inflammation of ſome of the Viſcera, which are ſituated underneath, eſpecially of the Meſentery, from which it is not very eaſy to be diſtinguiſhed. However, it may be diſcovered by the abſence of thoſe ſymptoms which always attend inflammations of the particular Viſcera, by the inefficacy of thoſe medicines which uſually relieve the Colic; by an accurate enquiry into the particular ſpecies of pain which the patient feels, and by an increaſe of it during any conſiderable action of the Muſcles, whether in expiration, inſpiration, or ſtraining.

If there is reaſon from theſe conſiderations to ſuſpect a Rheumatiſm, it will be a farther confirmation of it, if the patient has been ſubject to rheumatic pains in the other parts.

As young anatomiſts meet with ſome difficulty in beginning the diſſection of a body, the following directions may afford them the inſtructions they ſtand in need of, and facilitate their way to a knowledge of the parts of the *Abdomen* in particular.

In the regular adminiſtration of a human body we muſt begin our ſection with the Lower belly, leſt the ſpeedy putrefaction of its Viſcera ſhould become troubleſome and offenſive. For this purpoſe, inciſion muſt be made through the common integuments of the body, in a crucial form; the firſt and direct line of diviſion beginning at the Cartilago enſiformis, muſt be continued to the Os pubis; the other tranſverſe from the Navel on each ſide, to the region of the Loins; after which, the Skin, Fat, and Membranes, of each portion being raiſed from their reſpective angles, the Muſcles which cover the *Abdomen* will appear in their proper ſituation. Theſe may be comprehended under the general title of Epigaſtrick, whereof ſome are anterior, ſeated in the fore part only; ſome lateral, others poſterior, beſt referred to the back and loins.

Obliquus Descendens seu Declivis.

This Muſcle derives its name from the progreſs of its Fibres. It ariſes with ſeveral acute productions, partly fleſhy, and partly tendinous, from the lower margin of the fifth, ſixth, ſeventh, and eighth, Ribs, where its ſeveral ſeparate originations lie between the indentations of the Serratus major anticus. Theſe for better diſtinction we chooſe to call its former origin; beſides which it continues to derive more heads in like manner from the ninth, tenth, and eleventh, and ſometimes from the extremity of the laſt Baſtard rib, where it is alſo indented with the Serratus inferior poſticus, as Veſalius has well obſerved. From its former origin, its oblique deſcending fleſhy part expands itſelf into a broad membranous Tendon, before it marches over the Rectus to its inſertion in the Linea alba and Os pubis. From its latter in the ſame manner deſcending, its ends partly tendinous in the Ligamentum pubis, but chiefly fleſhy on the ſuperior and fore-part of the circular edge of the Os ilium. It adheres not to the tranſverſe Proceſſes of the Vertebræ lumbares, as Spigelius, Veſlingius, and with them moſt anatomiſts have imagined. But its largeſt, laſt and moſt fleſhy digitation, leaving the loweſt Baſtard rib at its extream point, and in its oblique deſcent declining forwards, ſtill recedes gradually more and more from the Vertebræ, forming a triangular Interſtice, comprehended by the Sacrolumbus, Os ilium, and its lower ſide; in which Area the Fibres of the ſubjacent Muſcle plainly appear.

Beſides the actions vulgarly aſcribed to this Muſcle, and its partner, together with the reſt of their fellows, *viz.* compreſſing the Inteſtines and Bladder, either in excluding the Fæces and urine in both ſexes, or Fœtus in women; they have ſtill a farther and more noble uſe.

That part of either of them that is interjacent between their latter origin and ſpine of the Os ilium, bearing an analogy in its poſition to the Maſtoideus of the head, ſerves for the circumrotation of the trunk upon the axis of the Vertebræ, when we convert the body to the contrary ſide, the feet remaining unmoved, for which neceſſary motion authors have aſſigned no inſtrument, though this, I think, did not eſcape Dr. Gliſſon's judicious reflection.

For the better diſſection of theſe *abdominal* muſcles, obſerve the following method. The body being ſupported on its ſide, the Dorſi latiſſimus of the contrary muſt be freed from its divers fleſhy originations at the curvated parts of the Ribs, as alſo the tendinous part of it, which ariſes from the edge of the Os ilium. This done, the blood being dried, and the fat cleared, which caution, to prevent confuſion, muſt perpetually be obſerved, the originations of the deſcribed Obliquus deſcendens will appear.

Begin its ſeparation by introducing your fore-finger between it and the following Muſcle in the above-noted Interſtice, then raiſe that part of it which ſprings from the loweſt Rib, and terminates in the ſpine of the Os ilium, proceeding to free the reſt of its digitations from between the four above-named Serrati, being cautious not to wound its Tendon, in dividing it from its ſubjacent Muſcle, eſpecially as it marches over the Rectus; nor may their ſeparation be attempted in every ſubject by reaſon of their ſtrict adheſion; wherefore, in preparing theſe Muſcles, when they are to be demonſtrated after diſſection, you may proceed in the following order.

The Obliquus deſcendens being raiſed on either ſide (as before) to the Rectus, cut through and raiſe both Tendons together,

ther, leaving them at their inſertions in the Linea alba, taking ſufficient care in their ſeparation from the interſections of the Rectus. This done, on the contrary ſide raiſe its fleſhy part only, beginning in the Linea ſemilunaris, by making an aperture in its Tendon towards its lower part, where it is ſeparable from that of the following Muſcle, and thruſting a probe between the two Tendons, divide this ſuperior one through the length of the *Abdomen*. Then the fleſhy part on this ſide being alſo raiſed, and cleared to the extremities of its digitations, and left there, raiſe the Oblique Aſcendent; and on the ſame ſide you raiſed the former towards its origination, raiſe this *e contrario*, ſo purſuing it to the Linea alba, where it is to be left: On the contrary ſide, its fleſhy portion muſt be raiſed to its origination. The reſt of theſe Muſcles appearing *in ſitu* require no diſſection.

OBLIQUUS ASCENDENS SEU ACCLIVIS;

So called from the oblique aſcent of its Fibres. The ſame error noted in the preceding deſcription is here committed by vulgar anatomiſts, neither of theſe Muſcles having any communication with the Lumbal Vertebræ. It ariſes fleſhy from the whole circular edge of the Os ilium and Ligamentum pubis, without any thin Membrane ſpringing either from the Loins, or Os ſacrum, as Veſalius would perſuade us, or from the Apices of their tranſverſe Proceſſes, as others pretend; thence mounting with an order of Fibres inclining forwards, forms a broad membranous thin Tendon, implanted into the whole length of the Linea alba, and the Cartilages of the eighth, ninth, tenth, eleventh, and twelfth Ribs.

Beſides its known uſe in compreſſing the *Abdomen* and its contents, that part of it which ariſes fleſhy towards the back-part of the edge of the Os ilium, by the oblique aſcent of its Fibres to the Cartilaginous endings of the Ribs, not only depreſſes them, and ſtreightens the cavity of the Thorax in expiration, but, in regard the order of Fibres of this interſect thoſe of the former Muſcle on the ſame ſide, may antagoniſe it in the circumrotation of the Trunk of the Body on the Axis of the Vertebræ; as on its contrary ſide, its ſeries of fleſhy Fibres being parallel to thoſe of the ſaid Deſcendens, on the oppoſite ſide, may act in concurrence with it in diſcharge of its office. In the ſtructure and reciprocal co-operation of theſe Muſcles, the Aſcending on the right, and the Deſcending of the left, turning the Body to the right; and *vice verſa*, the Aſcending in the left, and Deſcending in the right, in like manner turning it to the left, the art of nature indeed is very admirable.

PYRAMIDALIS VEL SUCCENTURIATUS.

This Muſcle lying on the Rectus, preſents itſelf next in order of Diſſection. It has its name from its figure, aptly repreſenting a pyramid, from a broad baſis ending in a point. It ariſes from the ſuperior part of the Os pubis, and in its aſcent leſſens itſelf gradually till it becomes a long Tendon inſerted in the Navel. Riolan has obſerved the left to be moſt commonly the leſſer; and if either be abſent, it moſt uſually is that. Fallopius (who firſt diſcovered theſe Muſcles) conjectures they compreſs the Bladder of urine; Fabritius ab Aquapendente imagines they ſupport the *Abdomen*, and hinder the ſuperior parts from preſſing too violently on the inferior; but this opinion ſeems to take its riſe from obſerving the anatomical ſubject in a ſupine poſition. The uſe which we think moſt genuine and natural is this: When the Diaphragm has preſſed the Viſcera, whereby the *Abdomen* is become tumid, theſe pull the navel downwards, by which means they make a more adequate compreſſion of the Bladder in the expulſion of urine, than any other Muſcle of this part; though it muſt be confeſſed they all contribute their aſſiſtance in that action. They are called Succenturiati by their author, or Auxiliary muſcles, from a ſuppoſition, that they are only ſupplemental to the following in their action, the order of Fibres in both agreeing, and theſe being always abſent, when thoſe are continued fleſhy to the juncture of the Oſſa pubis.

RECTUS.

So called from the rectitude of its poſition. Anatomiſts differ in aſſigning the origination of this Muſcle, ſome deriving it from the Sternum, others from the Os pubis; but it ſeems a matter more of controverſy than uſe, ſince either part is indifferently moved by it, the oppoſite remaining ſtable. Little can be added to the common and well-known deſcription of theſe Muſcles, they being continued according to the length of the Lower belly, from the Cartilago enſiformis, and two of the Cartilages of the true, and two of the Baſtard ribs, down to the Os pubis, and divided into four or five portions by three or four intermediate Perigraphæ, or tranſverſe tendinous Interſections. The veſſels which paſs underneath its upper part are the Mammary Artery Deſcending, and its Vein Aſcending. Thoſe of its lower part are the Epigaſtric Artery Aſcending, and its Vein Deſcending. The incloſure of this Muſcle in the double Tendon of the Aſcendens we could never yet diſcern, rather ſuſpecting that the adheſion of the Aſcending Tendon to that of the following Muſcle in the Linea ſemilunaris might occaſion the miſtake.

TRANSVERSALIS.

So called becauſe its Fibres run tranſverſly over the *Abdomen*. This Muſcle does not ariſe, according to the vulgar tradition, from any Ligament, whether ſpringing from the Os ſacrum, or covering the Sacrolumbus; but, as Realdus Columbus truly writes, from the tranſverſe Proceſſes of the Lumbal Vertebræ, Spine of the Os ilium, Ligamentum pubis, and Cartilaginous endings of the Ribs below the Sternum, from whence its fleſhy part paſſes over the convex ſurface of the Peritonæum, and becomes a broad expanded Tendon before it runs under the Rectus to its implantation in the whole longitude of the Linea alba. When this Muſcle with its partner act, they preſs the *Abdomen* directly inwards, as in expiration. Caſpar Bartholin obſerves in bulls and animals of the larger ſize, that part of this Muſcle is continuous with the Diaphragm at the Cartilaginous endings of the Ribs below the Sternum; whence he ſuppoſes the Diaphragm to be a Trigaſtrick Muſcle. But whether this obſervation will quadrate to a human body, whoſe poſture is erect, and manner of reſpiration different from that of Quadrupeds, we leave undecided till farther enquiries afford us better information. The Spermatic Veſſels paſs through this and the Aſcendant Muſcle near the Inguina, in the mid-way between the fore-part of the Spine of the Os ilium and Os pubis, whence deſcending for ſome ſpace between the fleſhy part of the laſt named, and Tendon of the Obliquus deſcendens, they run through a Fiſſure of the ſaid Tendon, near the laſt-named Bone. Theſe perforations not exactly correſponding to each other, is an artifice in nature to prevent a Prolapſus of the Inteſtines through them, not much unlike that oblique inſertion of the Ureters and Ductus bilarius paſſing between the Membranes of the Inteſtines and Bladder, whereby the retroceſſion of the Bile in one, and the Urine in the other, is prevented.

In the diſſection of theſe Muſcles care muſt be taken not to wound the Cremaſter on either ſide.

Galen in his *Treatiſe on the Diſſection of the Muſcles*, and that on the *Preſervation of Health*, remarks, that the action of the *Abdominal* Muſcles is neceſſary to the action of expiration, as they pull down the Thorax; and is very uſeful in efforts to ſpeak loud.

In ſeveral places the ſame author takes notice, that without the contraction of theſe Muſcles, we could have no ſtools, neither could we make water; for the actions of the Sphincter Muſcles of the Anus, and Bladder, are overcome by the actions of the *Abdominal* Muſcles, and Diaphragm (*De adminiſtrationibus anatomicis. De ſanitate tuenda*).

He farther obſerves (*De Locis affectis*) that ſome people who find a difficulty in going to ſtool, or have a ſuppreſſion of urine, relieve themſelves, by preſſing the *Abdomen* with their hand.

He alſo tells us, that the expulſion of the Fœtus is the work of the *Abdominal* Muſcles. *De Naturalibus Facultatibus*.

ABDUCERE, is uſed, by Scribonius Largus, for *Bibere*, to drink.

ABDUCTIO. A ſpecies of fracture, when a Bone near the joint is ſo divided tranſverſely, that the extremities of the fractured Bone recede from each other.

Theſe fractures are ſaid by Galen to be made καυληδὸν, that is, in the manner the ſtalk of a plant is broken.

Abductio, in *Cælius Aurelianus*, ſignifies a Strain. It is mentioned as one of the cauſes of Iſchiadic and Pſoadic pains. *Morbor. Chronicorum, l.* v. *c.* 1. *Item vehemens Abductio vel raptus in Exercitio factus.*

ABDUCTOR, is a name given by anatomiſts to the following Muſcles.

ABDUCTOR AURIS.

See *Retrahens Auriculam*, or *Triceps Auris*.

ABDUCTOR MINIMI DIGITI MANUS,

Hypothenar Riolani, or *Abductor Auricularis*, ariſes fleſhy from the thin protuberating part of the Eighth bone of the Wriſt;

Is inſerted by a pretty long and round Tendon, on the inſide of the ſhort Tendon of the above deſcribed Muſcle, near the upper part of the Firſt bone of this Finger.

It ſerves not only to abduce the Little-finger from the reſt, but alſo to bend it a little.

ABDUCTOR INDICIS

Ariſes broad and fleſhy from the ſuperior part and outſide of the Firſt bone of the Thumb;

Is inſerted by a ſhort Tendon into the upper part of the Firſt bone of the Fore-finger, laterally, next the Thumb.

Its uſe is to bring the Index towards the Thumb, by drawing it from the Middle-finger.

ABDUCTOR MINIMI DIGITI PEDIS.

Ariſes fleſhy and tendinous from the ſemicircular edge of a cavity on the outſide of the inferior Protuberance of the Os calcis; it has another tendinous beginning from the Os cuboides, and a third from the upper part of the Os metatarſi minimi digiti;

Is inſerted into the upper part of the Firſt bone of the Little-toe externally laterally.

Its uſe is to draw the Little-toe u twards from that next to it.

Abductor Oculi

Ariſes tendinous and fleſhy from the Foramen lacerum, without the Orbit;

Is inſerted by a thin Tendon into the Sclerotis, where it reſpects the great Canthus.

Its uſe is to move the Eye outwards, from the great to the little Angle.

Abductor Pollicis Manus, or Thenar,

Ariſes by a broad tendinous and fleſhy beginning from the tranverſe Ligament of the Carpus, and from one of its Bones that articulates with the Thumb;

Is inſerted tendinous into the ſecond Joint of the Pollex digitorum manus.

Its uſe is to draw the Thumb from the Fingers.

Abductor Pollicis Pedis

Ariſes fleſhy from the inſide of the lower Protuberance of the Os calcis laterally, and tendinous from a little Tubercle in the ſome Bone, near the Os cymbiforme. It only adheres to the other Bones on the inſide of the Foot, filling up the hollowneſs in the Os metatarſi pollicis;

Is inſerted into the internal Os ſeſamoideum of the Firſt bone of the Great-toe, its Tendons being farther continued upon the ſame Bone laterally.

Its uſe is to pull the Great-toe from the reſt.

Abductor Femoris Primus

Ariſes by a ſtrong roundiſh Tendon from the upper part of the Os pubis next the Pectinæus above the Gracilis; which turning into a compact fleſhy belly, it begins to be

Inſerted tendinous about the middle of the Linea aſpera, being continued down upon the ſame five or ſix inches, ſending out a Tendon which joins in with that of the fourth Head.

Abductor Femoris Secundus

Ariſes from the Os pubis, immediately under the Gracilis, by a broad tendinous, but chiefly fleſhy beginning; and

Is inſerted into the Linea aſpera, from a little below the leſſer Trochanter, to the firſt inſertion of the laſt deſcribed Muſcle.

Abductor Femoris Tertius

Ariſes lower down than the former, from the outer edge of the Os pubis and Iſchium; and, running obliquely towards the Trochanter minor,

Is inſerted near the Glutæus maximus.

Abductor Femoris Quartus

Ariſes from the Protuberance of the Iſchium, and the adjoining interior part of that Bone, by a tendinous and fleſhy origination;

Is inſerted by a round and long Tendon, into the upper and rough part of the inner and lower Appendix of the Os femoris, being affixed to that Bone a little above the Condyle; as alſo to ſome part of the Linea aſpera.

The uſe of all theſe four Muſcles is to adduce or move the Thigh-bone inwards, according to their different directions. *Douglaſs.*

ABEBÆOS. 'Αβέβαιος. Infirm, weak, inconſtant. *Caſtell.*

ABELE. A ſpecies of Poplar. See Populus.

ABELICEA. The name of a very tall tree, growing principally in Crete, called alſo Santalus adulterina, and Pſeudoſantalum.

Honorius Bellus thinks this was not taken notice of by the antients, unleſs perhaps it may be the Ulmus montana of Theophraſtus. *Ray's Hiſt.*

ABELMOLUCH. A ſort of Ricinus, or Palma Chriſti. *Ray's Hiſt.*

ABELMOSCH. Blancard informs us, that this is the ſeed of an Ægyptian plant, which has the ſmell of muſk; which, for its agreeable flavour, the Arabians mix with their coffee.

The plant of which this is the ſeed, is the Alcea Ægyptia Villoſa of Caſp. B. Ægyptia moſchata of Parkinſon, Belmuſchus Ægyptia of J. Bau. and *Ab-el-moſch* ſive Moſch Arabum of Veſlingius. *Ray.*

ABESAMUM. This is by Rulandus, and from him by Johnſon explained *Lutum Rotæ.* But the High Dutch word, by which Rulandus tranſlates it, ſignifies no more than Dirt, or Clay.

ABESSI. The ſame as Rebis. They ſignify the matter that remains of the aliment after the Chyle is ſeparated from it, that is, Excrement.

ABESUM. Unſlacked, or Quick Lime. See Lime.

ABEVACUATIO ſignifies a partial or incomplete evacuation of the peccant humours, either by the force of nature, or aſſiſtance of art.

ABICUM, the ſame as Coopertorium. A covering. *Caſtell.* See Coopertio.

ABIES. The *Firr.*

There are three ſorts of *Firrs* mentioned by Dale, as uſed in medicine.

The firſt is the ſilver *Firr,* of which the tops and leaves are recommended in diet-drinks for the Scurvy; and Miller tells us, a good quantity of them are ſaid to be uſed in making Brunſwic mum. I am informed a decoction of the wood, or ſaw-duſt, is much uſed by the people of the countries where it grows in plenty, in diſorders of the urinary paſſages, and for the Fluor albus.

The Straſburg turpentine is the product of this *Firr,* and is called its Liquid reſin, to diſtinguiſh it from the Dry reſin, which has ſomewhat the appearance of Frankincenſe. See Turpentine, Rosin.

This *Firr* is diſtinguiſhed.

Abies, *Offic. Ger.* 1181. *Emac.* 1363. *Park. Theat.* 1539. *Raii Hiſt.* 1394. *Synop.* iii. 441. *Merc. Bot.* ii. 15. *Phyſ. Brit.* 1. *Mer. Pin.* 1. *Ind. Med.* 1. *Mont. Ind.* 35. *Abies conis ſurſum ſpectantibus ſive mas, C. B. Pin.* 505. *Jonſ. Dendr.* 329. *Buxb.* 1. *Abies fæmina ſive* 'Ελάτη θήλεια. *J. B.* i. 235. *Abies fœmina, Chab.* 68. *Abies Taxi foliis, Raii Hiſt.* ii. 1394. *Abies Taxi folio, fructu ſurſum ſpectante, Tourn. Inſt.* 585. *Elem. Bot.* 457. *Boerh. Ind. A.* ii. 179. *Rupp. Flor. Jen.* 270.

The ſecond mentioned by Dale is, the Virginia, or Canada *Firr-tree,* which produces the Balſamum Canadenſe, or Balſam of Canada.

This is called *Abies Canadenſis. Ind. Med.* 1.

Abies *minor pectinatis foliis Virginiana Conis parvis ſubrotundis. Pluck. Phytog. Tab.* 121. *Almag.* 2.

The third is the Pitch-tree, or common *Firr.*

This produces a ſort of Turpentine, of which is made,

1. White Roſin. See Rosin.
2. Tarr. See Tarr.
3. Common Pitch. See Pitch.
4. Burgundy Pitch. See Pitch.

This *Firr* is called

Picea, Offic. Ger. 1173. *Picea vulgaris, Park. Theat.* 1538. *Picea major, Jonſ. Dendr.* 325. *Picea major, Ger. Emac.* 1454. *Picea major prima, ſive Abies rubra, C. B. Pin.* 493. *Picea Latinorum, Chab.* 68. *Picea Latinorum, ſive Abies mas Theophraſti, J. B.* i. 238. *Abies, Picea, Volck. Flor. Nor.* 1. *Ind. Med.* 1. *Abies rubra, Picea, Mont. Ind.* 35. *Abies mas Theophraſti, Raii Hiſt.* ii. 1396. *Synop.* iii. 441. *Abies tenuiore folio, fructu deorſum ſpectante, Tourn. Inſt.* 585. *Elem. Bot.* 457. *Boerh. Ind. A.* ii. 179. *Dill. Cat. Giſſ.* 49. *Rupp. Flor. Jen.* 270. *Abies Conis deorſum ſpectantibus, Buxb.* 1.

There are a great number of *Firrs* beſides theſe, which it will be ſufficient juſt to mention, as being little concerned in medicine.

Abies *Taxi folio; fructu longiſſimo, deorſum inflexo.* The Yew-leaved *Firr-tree,* with long hanging Cones, commonly called, the *Long Coned Corniſh Firr.*

Abies *Piceæ foliis brevibus; Conis minimis. Rand.* The pitch-leaved *Firr-tree* with ſmall Cones.

Abies *Piceæ foliis brevioribus; conis parvis biuncialibus laxis. Rand.* The ſhorteſt pitch-leaved *Firr-tree,* with looſe Cones.

Abies *Taxi foliis; Odora Balſami Gileadenſis. Raii Hiſt. App.* The Balm of Gilead Firr, *vulgo.*

Abies *Taxi folio; fructu rotundiori obtuſo.* The Yew-leaved *Firr-tree,* with round Cones. By ſome called, the *Balm of Gilead Firr.*

Abies *foliis prælongis, pinum ſimulans. Raii Hiſt. Firr-tree* with long leaves, reſembling thoſe of the Pine-tree.

Abies orientalis, *folio brevi et tetragono, fructu minimo, deorſum inflexo. Tourn. Cor.* Eaſtern *Firr-tree,* with ſhort ſquare leaves, and ſmall fruit hanging downward.

Abies major Sinensis, *pectinatis taxi foliis, ſubtus cæſiis, Conis grandioribus ſurſum rigentibus, foliorum et ſquamarum apiculis ſpinoſis. Pluck. Amalth.* Great *Firr-tree* of China, with Yew-leaves, large Cones growing upright, and the points of the leaves prickly.

Abies maxima Sinensis, *pectinatis taxi foliis, apiculis non ſpinoſis. Pluck. Almath.* Greateſt China *Firr-tree* with Yew-leaves, not prickly at their points.

ABIGA Herba. An herb called alſo *Chamæpitys,* or *Ground Pine.* It is probably called *Abiga,* from *abigo* to expel, becauſe it is ſaid to promote Delivery. Or, perhaps from the ſimilitude of its leaves to the *Abies* or *Firr. Blancard.*

ABIT, or Aboit. Ceruſs. *Caſtell.*

ABLACTATIO. Ablactation, or weaning a child.

An infant ought to be nouriſhed by milk till it has acquired a firmneſs; after which you may feed it with crums of bread in Mulſum, (wine mixed with hony) ſweet wine, or milk; and, after a little while, with a poached egg; for food which requires chewing, is filled too much with Saliva in their

Mouths. His drink muſt be diluted wine. When you can ſafely venture to give him food made of corn, (which is commonly about the twentieth month) by degrees, and in an artful way, diſuſe him to the Breaſt. If he falls into a diſtemper after he is weaned, put him to the Breaſt again; when the diſeaſe is gone, uſe your beſt care to nouriſh and put him in good heart, and then ſet about weaning him as before. *Ætius, Tetrabib.* 1. *Serm.* 4. *c.* 28.

Weaned infants muſt be diverted and recreated all manner of ways, and their aliment muſt be light, and of good juice. But the child, who has a good temperament of body, muſt not be ſuffered to drink much wine; for, in hot and moiſt Bodies, wine fills the Head with vapours. Nor is it my opinion that they ſhould be utterly debarred from cold water; for, in hot weather eſpecially, and the intervals of eating, I allow them the drinking of it, provided it be very good. *Ætius, Tetrab.* 1. *Serm.* 4. *c.* 29.

As nature has taken care to provide an aliment ſuitable to the tender ſtomachs of new-born infants, ſo has it given us plain directions when to change it for a diet that is more ſolid and difficult of digeſtion.

It is well known to obſervers of nature, that exerciſe and motion are the grand promoters of digeſtion, inſomuch that a labourer of a moderate ſtrength and conſtitution, ſhall digeſt aliment of any kind without difficulty; whereas ſedentary people, though much more robuſt originally, ſhall in time ſcarcely be able to ſuſtain a diet of the moſt innocent food without the ſymptoms of indigeſtion. Digeſtion then ſeems to be, *cæteris paribus*, in proportion to motion.

Whilſt therefore a child is incapable of ſufficient exerciſe and motion to digeſt ſolid food, a thin fluid is provided for his ſuſtenance, which is almoſt converted into nouriſhment, before it is taken into the Stomach of the infant. And for fear the mother ſhould be ſo imprudent as to offer it improper aliment, Providence ſeems to have ſecured the tender Stomach in ſome degree from the miſchiefs of indigeſtion, by a ſingular artifice, that is, by denying the child the uſe of teeth for the firſt months.

From theſe obſervations it will appear, that a child ought not to be weaned, till nature points out the proper time, by giving it teeth, and making it capable of motion ſufficient to comminute, and afterwards to digeſt an aliment more ſolid, and more difficult to diſſolve, than the milk of its mother.

But becauſe an infant is furniſhed by degrees with the inſtruments of maſtication, and the power of uſing exerciſe, the tranſition from milk to ſolid food ſhould not be ſudden.

Agreeable to this are the directions given by authors for the nouriſhment of young children. They tell us the milk of the parent ſhould be the only food of children for the firſt two or three months, provided a ſufficient quantity can be ſupplied without inconvenience; that afterwards pap, panada, and bread boiled with milk, muſt prudently and gradually be introduced into their diet, till their abilities for maſtication and motion render them capable of digeſting more ſolid aliment, and at laſt fleſh.

Hence it appears how little thoſe mothers conſult the health of their children, who wantonly, and without any neceſſity, take them from the breaſt ſoon after they are born, and ſubſtitute a diet not to be digeſted in their tender ſtomachs, in the room of that which nature has provided for them, and accommodated to their conſtitutions.

A very few obſervations on the uſual food of infants will ſet this in a clearer light.

The milk of a healthy woman in the flower of her age, is the moſt eaſily digeſtable of any aliment whatever, provided ſhe uſes moderate exerciſe, and a proper diet; and for that reaſon is the greateſt reſtorative in nature. Many inſtances occur in authors, of grown people, reduced by diſtempers to the utmoſt degree of weakneſs, who have been reſtored by ſucking the milk of women provided for that purpoſe.

Theſe ſalutary effects of milk are very eaſy to be accounted for, if we conſider the Stomach as the laboratory of health, and milk as a fluid, either ſecreted from the maſs of blood in the Glands of the Breaſt, or elſe communicated immediately to the Breaſt from the receptacle of the Chyle, by ſome Ducts not yet diſcovered. When this is taken warm as it comes from the Breaſt, it gives the Stomach very little trouble to digeſt it, having lately paſſed the digeſtive Organs of the woman. It is therefore eaſily convertible again into Chyle, from which it differs but very little.

But I muſt not omit obſerving, that milk, like all animal fluids, loſes moſt of its virtues when it has been ſuffered to grow cold, and this irretrievably; for warming it again will not reſtore them. But if milk is boiled, the qualities that rendered it an eligible food, are utterly deſtroyed, and from that moment it becomes an improper aliment for weak and tender Stomachs.

Bread boiled in water is a food for children frequently ſubſtituted for milk; but is not by far ſo proper; for bread thus boiled will grow glutinous, and viſcid, if not well fermented, but if well fermented, it ſoon turns ſour. In both theſe caſes a conſiderable action of the Stomach is required to convert it into Chyle; for otherwiſe, violent gripings, difficulty of breathing, inflammations of the Belly, convulſions, and death, muſt be the conſequence.

It is not poſſible to lay down rules for the weaning children, adapted to every caſe that may occur. Regard is to be had to the ſtrength and health of the mother, as well as of the child. Upon the whole we are to purſue the method which nature ſeems to point out, unleſs ſome circumſtances interfere, which make it impracticable. Rules may be drawn from what has been repreſented above, which may, with a little variation, be accommodated to particular caſes.

ABLATIO. This ſignifies the taking away any thing from the Body that is uſeleſs or prejudicial to it; and comprehends all manner of evacuations.

It ſometimes is uſed to expreſs the ſubtraction of part of the uſual diet, with a medicinal view.

It alſo ſignifies the interval betwixt two fits of a fever, or the time of remiſſion.

Chymical *Ablation* is the removal of any thing that is either finiſhed, or elſe no longer neceſſary in a proceſs. *Rulandus, Johnſon*, and *Caſtellus*.

ABLUENTIA MEDICAMENTA. Diluting medicines, or medicines made uſe of to diſſolve and carry off the acrimonious and ſtimulating ſalts in any part of the Body, eſpecially the Stomach and Inteſtines.

ABLUIREN. Waſhing, or purifying. *Rulandus*.

ABLUTIO. Ablution, or waſhing either the external parts of the Body by baths, or the internal, by thin diluting fluids, as whey, *&c.*

Chymical *Ablution* is the purification of a body by repeated affuſions of a proper liquor. The uſual way of doing this is by Cohobation, or pouring the liquor diſtilled from the body upon it again, and repeating this, if neceſſary, ſeveral times. See COHOBATION.

Or elſe by making the containing veſſel a Circulatory; that is, either cloſing it at the top, or luting another veſſel inverted upon it; then when the veſſel is committed to a proper furnace, the liquor which diſtils to the top, returns again upon the ingredients to be purified, till the operation is finiſhed. See CIRCULATORY.

Iſaacus Hollandus in his *Treatiſe of Minerals*, or *The Philoſopher's Stone*, mentions an alchymiſtical *Ablution* of a fætid earth, in order to the production of a ſtone endued with extraordinary qualities. But I do not know what he means, nor did I ever meet with any body that could underſtand him. The reader may conſult his work in the *Theatrum Chymicum*, p. 435. vol. iii.

The Chymiſts alſo uſe *Ablution* in the common ſenſe of the word, which wants no explanation.

ABOIT. Ceruſs, or white lead. *Rulandus*.

ABOMASUM. The name of the Fourth ſtomach of a beaſt that ruminates, or chews the cud. The firſt is called Venter, the ſecond Reticulum, and the third Omaſus.

ABOMINATIO. By ſome barbarous writers this is uſed to ſignify the ſame as Faſtidium ciborum, or a loathing of food.

ABORTUS, or ABORSUS. A Miſcarriage.

Some authors tell us, that *Aborſus* ſignifies a Miſcarriage during the firſt months of pregnancy; and *Abortus* one that happens near the full time of geſtation. But there is no foundation for ſuch a diſtinction, both ſignifying exactly the ſame thing.

Miſcarriages happen at any time, and from various cauſes; but moſt frequently about the end of the third month, as was obſerved by Hippocrates. The firſt hiſtory of a Miſcarriage upon record is one of ſix days, as related by Hippocrates. The Grecian courteſans made no ſcruple of procuring *Abortion*, becauſe being with child interfered with their intereſt, as it ſunk their value, and ſpoiled their market; and it appears, that it was not eſteemed diſhoneſt for a phyſician to direct the means; otherwiſe Hippocrates would not have told us in plain terms, that he adviſed the method that made the young woman, of whom the above-mentioned hiſtory is given, miſcarry.

This author informs us, that what was diſcharged from the Uterus ſix days after conception, had the appearance of an egg without a ſhell, except that it was round and red. He diſcovered ſome white thick Fibres on the inſide the Membrane, incloſed in a thick red Ichor; and on the outſide of the Membrane, ſomething that had the appearance of thick, black blood. (αἱμαλῶπες).

La Motte alſo obſerves, that a very young Fœtus involved in its Membranes, has the appearance of an egg without a ſhell.

Galen in his *Commentary on the third Book of Epidemics*, ſays, a Miſcarriage is often cauſed by too violent dancing, by a fright, by poiſon, a purge, or forcing medicines; by exceſſive bleeding, whether from a wound or the Hæmorrhoides. But there are many other cauſes of *Abortion*, of which I ſhall give particular examples.

A continued and obſtinate looſeneſs in a woman with child, endangers her fruit. If milk flows out of her Breaſts, it is a ſign of the weak condition of her child; but plump and hard Breaſts, are evidences of a ſound and healthy Fœtus.

In a woman with child, if her breaſts grow ſoft and flabby on a ſudden, there is danger of a Miſcarriage. A woman who has neither lain in, nor is with child, but yet has milk in her Breaſts, has a deficiency in her Menſes. *Celſus*, *lib.* ii. *cap.* 8.

The ſigns of a future Miſcarriage are an evacuation firſt of an aqueous, and then a ſanious and bloody matter. But when the inſtant approaches, firſt comes away pure blood, then clots of blood, and after them the Fœtus either ſhaped or unſhaped. Many complain of an heavineſs in their Loins and Hips, of pains about the Navel, in their Head and Eyes, a gnawing at their Stomach, coldneſs of the Extreme parts, fainting, ſhivering as under an Ague. Some fall into Convulſions, as in an Epileptic fit. But theſe ſymptoms, for the moſt part, happen only to ſuch as have taken medicines to procure *Abortion*. As for thoſe who uſe no violent means, the preceding ſigns of a Miſcarriage, according to Hippocrates, are an unaccountable falling away of the Breaſts, with a coldneſs and weight in the Thighs, which reaches to the Loins. Healthy women, and ſuch as have naturally a looſe Belly, and moiſt Uterus, and have brought forth large infants with eaſy labour, are of ripe years, lean, and not abounding with Blood, bear Miſcarriages better than others. *Aetius Tetr.* iv. *Serm.* iv. *cap.* 19.

If the infant is ſeparated from the Uterus, and fallen down into the paſſage, and is there detained, anoint the Body, and eſpecially the parts about the Uterus, all over with Oil of Cypreſs mixed with Turpentine; and let the parts be daily embrocated with the ſame after delivery. If this does not ſucceed, let the woman ſit over a decoction of aromatics, and let her uſe Sternutatories, or a fumigation of dry Reſin, Bitumen, or Bee-glue, Cray-fiſh and Galbanum. Theſe and ſuch-like methods are to be tried, if an inflammation does not forbid it; but in that caſe we muſt be contented with Inſeſſion, or cauſing the woman to ſit over ſuch things as have a relaxing and mitigating virtue. If the infant be detained, from the cloſing of the womb, without an inflammation, let a peſſary of paper and dry ſponge, firſt a ſlender, afterwards a thicker one, be uſed; and anoint the extreme parts with Opopanax, or root of Panax, with Honey, and bruiſed Turpentine. If the Secundine does not follow the infant, we are not to extract it by violence; nor is the Navel-ſtring to be cut, and the Secundine left behind; for ſtrangulation, and other miſchiefs, would certainly be the conſequence. But if the extracting of the Secundine is long about, let the Navel-ſtring be cut, and tied to the woman's Thigh, and let all endeavours be uſed to extract them. *Aetius Tetr.* iv. *Serm.* iv. *chap.* 19.

Women of a tolerable conſtitution of Body, who miſcarry at the term of two or three months, without manifeſt cauſe, have their Acetabula, or Cotyledons, ſays Hippocrates, loaded with Mucus, which therefore are incapable of ſuſtaining the Fœtus, and for that reaſon break off from the Womb.

They are to be cured by Phlegmagogues, which evacuate from every part. For he that begins with evacuating the part affected, before he purges the whole Body, and by that means prevents the influx of the humours, is like a man who labours at exhauſting a well that is conſtantly ſupplied by never-failing ſprings. When we have finiſhed the evacuation of the body, we may proceed to purge the Uterus of Phlegm. A very good purging lotion for Phlegm in the Womb is thus prepared: Cut a large Colocynthis, or bitter Apple at the top, and throwing out the ſeeds, extract the pulp, and fill up the cavity with *Oleum Irinum*, (Oil of Orris) ſtopping it with the piece before cut off as with a cork, and let it ſoak a day and a night. Then ſet it in hot embers to boil, and afterwards ſtrain out the oil; inject this oil warm into the Uterus. This medicine has made many a barren woman fruitful, by powerfully evacuating the pituitous redundances which hindred conception. The diet muſt be warming and drying, moderate exerciſe and frictions are to be uſed, and every thing that refrigerates is to be avoided.

As for thoſe women who miſcarry through weakneſs of the retentive faculty, the ſkin of a hedge-hog burnt, and drank in wine or water, by ſome natural property, proves beneficial in their caſe; the like effect follows if the Labia pudendi be anointed with the ſame. The hedge-hog and ſhell-fiſh calcined have the ſame virtue, which belongs alſo to myrtle-berries in wine, and Oleum lentiſcinum, or Suſinum, if the parts are anointed therewith. A lotion alſo with the decoction of bramble, and myrtle, and ſuch-like is adviſed. *Aetius. Tetr.* 4. *Serm.* 4. *c.* 21.

Thus far the ancient medicinal writers. The moderns have made very conſiderable improvements in regard to Midwifry in general, and have excelled their predeceſſors in the methods of treating women under the hazardous circumſtances of a Miſcarriage, as well as in the directions they have given to prevent one, as will appear by what follows.

Miſcarriages in general are produced by cauſes immediately affecting either the child, the Placenta, with the Membranes, and *Funis umbilicalis* (Navel-ſtring) or the Mother.

With reſpect to the child, whatever is the occaſion of its death, certainly cauſes *Abortion* either ſooner or later.

A tenderneſs of the Membranes involving the Fœtus, as it makes them liable to rupture upon very trivial occaſions, often cauſes a Miſcarriage.

There are frequent inſtances of a ſcirrhoſity of the Placenta, and ſhortneſs of the Umbilical cord, both which have had the ſame effect.

In regard to the mother, all diſtempers, either acute or chronical, all paſſions of the mind, too violent exerciſe, lifting a weight, a fulneſs of blood, weakneſs from any cauſe whatever, ſtimulating medicines, ſtraining in order to ſpeak loud, and ſometimes even a diſagreeable ſmell, as of muſk, ambergreaſe, civet, the match of a lamp, or ſnuff of a candle, are capable of cauſing abortion.

But the moſt frequent cauſes of Miſcarriages are either too great ſtricture, or too great laxity of the Uterus. In the firſt caſe, the Uterus is not capable of a dilatation ſufficient to make room for the Fœtus, as it increaſes in bulk. This is known by a great tenſion and hardneſs of the Belly, and violent pain therein. In the ſecond, the Uterus is too weak to ſupport the inoſculations of the Veſſels of the Placenta into itſelf, after the Fœtus with the Membranes and Placenta are grown to a certain ſize and weight, and this of all other happens moſt frequently.

In both theſe caſes the woman always miſcarries at a ſtated time of her pregnancy, and ſeldom brings the Fœtus to maturity, till the general habit of the Body, or the particular ſtate of the Uterus, is altered.

Theſe two cauſes of *Abortion* are particularly pointed out by Hippocrates, who was alſo acquainted with moſt of the other cauſes ſpecified above, from whom they have been tranſcribed by later authors.

I muſt not omit taking notice of the effects of coffee, which are ſaid to promote the Menſes, and all Hæmorrhages, and therefore muſt be improper in pregnancy. *Geoffroy.*

Aloes ought never to be given to women with child, becauſe it inclines to Hæmorrhages by rarefying the blood. *Geoffroy.*

No medicine prepared with ſulphur is proper during pregnancy, becauſe it inclines to *Abortion*.

The ſigns of an approaching Miſcarriage, as repreſented by authors, are,

A ſudden flaccidity of the Breaſts.

A ſpontaneous diſcharge of a ſerous liquor from them.

An extenuation of the Belly, the upper part of it, and the ſides ſinking on a ſudden.

A ſenſation of weight and heavineſs in the Hips and Loins, ſucceeded by pains.

An incapacity, or great reluctance, for motion.

A pain in the Head and Eyes.

Grinding pains of the Stomach.

Coldneſs of the Extremities.

Faintings, a fever, ſhiverings, and convulſions ſomewhat like Epileptic fits.

A languid and leſs-frequent motion of the Fœtus than uſual, when pregnancy is ſo far advanced as to admit of feeling it.

The immediate forerunners of a miſcarriage are; increaſed pains in the Loins and Hips, extending towards the Womb; a dilatation of the orifice of the Womb; formation of the Waters; a diſcharge of the ſame, at firſt a little ſanious, afterwards more bloody, then of pure Blood, and laſtly of grumous Blood.

A frequent inclination to make water is reckoned amongſt the ſymptoms of an approaching Miſcarriage. *La Motte.*

Daily experience confirms the opinions of all authors, that a Miſcarriage is more dangerous than a birth at the full period. There ſeems to be in the fruit of animals ſomething analogous to that of plants. A walnut may ſerve for an example, which drops ſpontaneouſly from its *involucrum* or hull, when arrived at maturity; but whilſt immature, is not ſeparated without violence.

In like manner the Veſſels of the Placenta inſerted into the body of the Womb are eaſily detached from it at the full period, but before that time they adhere more firmly, and their coheſion is not diſſolved without difficulty.

The danger of a Miſcarriage is from the Hæmorrhage attending it; for the mouth of the Womb is more ſolid and more difficult to dilate than when the woman is at her full time, inſomuch that the Fœtus cannot ſo readily come away. Mean time, if any part of the Placenta is ſeparated, the Veſſels of the Uterus will not ceaſe to bleed ſo long as the Fœtus or Placenta remain in it, becauſe theſe contents prevent the part from contracting itſelf, and thereby diminiſhing the orifices of the bleeding Veſſels.

Theſe Hæmorrhages are often ſo violent, as to bring on faintings, to deprive the patient of the uſe of reaſon for the time, and to cauſe convulſions, which laſt are uſually fatal, whether they happen during a Miſcarriage, or ſoon after it. *Hippocrates.*

Sometimes the internal ſurface of the Uterus is ſo lacerated by the ſeparation of the Placenta, as to render impregnation for the future impoſſible.

The Uterus is very ſubject to inflammations on theſe occaſions, by reaſon of the force neceſſary to dilate its Orifice, and to ſeparate the Placenta from it, and the great afflux of humours to the part. Theſe inflammations are generally fatal, if conſiderable. See **Uterus**, where the ſymptoms are deſcribed, and the method of cure related.

Miſcarriages are often attended with great pain in the back-part of the Head. *Galen.*

A Miſcarriage is more troubleſome and dangerous in the firſt, than in any ſubſequent pregnancy, becauſe the parts are not ſo eaſily dilated the firſt time, as after they have been accuſtomed to it.

Women either extremely thin, or very fat, are eſteemed to be in more danger from a Miſcarriage, than others.

A Miſcarriage in the ſixth, ſeventh, or eighth month, is more dangerous and difficult, than thoſe which happen more early in pregnancy.

Women of a lax habit in general, or whoſe Womb is much relaxed by particular accidents, often miſcarry eaſily, and without any ill conſequences, eſpecially during the firſt months.

Sometimes, according to the doctrine of Hippocrates, a Miſcarriage which happens within the firſt ſixty days after conception, does ſervice, by regulating the Menſtrual flux, which was before deficient; and this is confirmed by obſervation. Hence women who have been barren for many years from a deficiency of the Menſes, continue to breed after a Miſcarriage, or the expulſion of a Falſe conception.

A Miſcarriage from the Small-pox, Fever, or any acute diſtemper, is eſteemed fatal; yet many caſes occur, which are exceptions to this rule.

When a woman is with child that has been accuſtomed to miſcarry, and eſpecially when any of the ſymptoms uſually preceding a Miſcarriage appear, ſome precautions muſt be taken, in order, if poſſible, to prevent it; but if theſe prove ineffectual, and the woman miſcarries, methods may be directed, which, if purſued regularly till ſhe is again with child, will be more likely to be attended with ſucceſs, and enable the woman to bring her infant to a mature birth.

The precautions to be taken during pregnancy, muſt be adapted to the cauſes that threaten a Miſcarriage. And it will be prudent to diſtinguiſh theſe cauſes with all imaginable accuracy, and conſider all the preceding and preſent circumſtances that can give us any information, leſt, by miſtaking the cauſe, we ſhould purſue a method that is ſuperfluous, or, what is worſe, dangerous.

A Miſcarriage impending through the imbecillity of the Fœtus, is to be diſtinguiſhed by a deficiency in the ſigns of advancing pregnancy, a languid motion of the Fœtus at the age it ſhould move with vigour, but particularly by the health of the mother compared with theſe.

The only precaution which can be taken in this caſe, is to cure the mother of the particular diſtemper ſhe labours under, which it will be more prudent to attempt by regulating her diet, exerciſe, and the other Non-naturals, than by quantities of medicines, at that time never agreeable, and not always ſafe.

I once lived in a country where a medicine was vended which had ſo much reputation for theſe imbecillities of the mother and Fœtus, that few women went through their time without it; and I had reaſon to believe it had been in ſome inſtances attended with ſucceſs; inſomuch that I thought it of importance enough to be worth taking ſome pains to find out. It proved to be the Miſtura aurea of Fuller, without the leaſt alteration.

Dr. Fuller ſays this medicine deſerves the name of *Golden* more with reſpect to its virtues than the ingredients. He affirms that it very much invigorates both the mother and Fœtus, and that it is capable of procuring the mother an eaſy labour, and of making the child healthy and ſtrong, if a ſpoonful is taken twice a day for the laſt month of pregnancy.

If the Fœtus is already dead, nothing is to be attempted to prevent a Miſcarriage; nor on the contrary is any thing to be done to forward it, becauſe nature will generally find out a proper time for its excluſion. For this reaſon the dangerous operation recommended by Celſus ought ſeldom or never to be put in practice; I mean that of delivering a woman by force of a dead child. Nor can forcing medicines be proper, becauſe there are many inſtances of women who have gone to their full time, and then been delivered of a living child, after their pregnancy has been attended with moſt of the ſigns mentioned by authors of a dead Fœtus.

There is no reaſon in general to fear the ill conſequences to the mother that may attend the putrefaction of the Fœtus in the Womb, becauſe ſo long as the Membranes remain intire, the Fœtus will not eaſily putrefy: and as ſoon as they break the Waters are excluded, and the Fœtus is commonly expelled very ſoon after. *Mauriceau. La Motte.*

The ſigns of a dead Fœtus in the Uterus are,

1. A ceſſation, or want of motion of the child, if pregnancy is far enough advanced to admit of its being perceived.

2. A ſenſation of a weight in the lower part of the Belly, which falls to which ever ſide the woman lies on.

3. Pains in the Belly, eſpecially about the Navel and Loins, and an uneaſy ſenſation in the Stomach.

4. An unuſual coldneſs of the Belly, and of the internal Orifice of the Womb, perceivable by the touch; as alſo of the Noſe and Ears of the woman.

5. An offenſive Breath.

6. The Eyes ſeem hollow, ſunk into the Orbit, and are deprived of their uſual luſtre; the Eye-lids are ſwelled, and the ſight is leſs acute than uſual.

7. The Face ſwells, and becomes of a duſky pale colour.

8. Frequent ſhiverings, fainting fits and convulſions, like Epileptic fits.

9. Want of ſleep, uneaſy dreams, and grinding of the Teeth.

10. A Teneſmus, or Strangury.

11. But the moſt certain ſign is a diſcharge of fœtid Sanies from the Uterus.

Thoſe Miſcarriages which are cauſed by the tenderneſs of the Membranes involving the Fœtus cannot be foreſeen, and conſequently are not to be prevented by any precaution that can be taken. However a woman that has once miſcarried from this cauſe, will do well to avoid all violent and ſudden motion, which may give occaſion to their rupture, in future pregnancies.

A Miſcarriage from a ſcirrhoſity of the Placenta, or ſhortneſs of the Umbilical cord, can neither be foreſeen nor prevented.

A Miſcarriage threatned by any diſtemper either acute or chronical, is to be prevented either by curing the diſtemper, if that is poſſible, or by moderating the ſymptoms. This admits of ſo much variety, that 'tis impoſſible to lay down rules accommodated to every particular caſe.

If a woman has been ſubject to Miſcarriages, ſhe muſt be careful to avoid the uſual cauſes of it; but eſpecially the particular accident that has formerly made her miſcarry.

For this purpoſe ſhe muſt regulate the paſſions of the mind, and her friends und domeſticks muſt take care that ſhe is not ſurprized by any thing that may give her either ſudden pleaſure or pain. She muſt avoid all exerciſe, unleſs that which is very moderate, ſpeaking loud, lifting of weights, all ſtrong perfumes, and diſagreeable ſmells, and above all things the embraces of her huſband, which, by the univerſal conſent of authors, are numbered amongſt the moſt frequent cauſes of *Abortion.*

As an Hæmorrhage from the Uterus always precedes a Miſcarriage, authors have in general regarded it as the immediate cauſe thereof, and accordingly have calculated their remedies to prevent or ſtop it. Therefore bleeding is on all hands recommended upon the very firſt ſymptoms of a Miſcarriage, provided no conſiderable evacuation of any ſort, or weakneſs on the part of the mother render it improper; but this is abſolutely neceſſary, whenever there is any reaſon to apprehend a Plethora, or fulneſs of Blood.

Reſt is not of leſs importance; the woman muſt therefore be confined to her bed, upon the very firſt approach of the ſymptoms of Miſcarriage, and enjoined to reſt there till they intirely diſappear, or till a Miſcarriage is unavoidable; mean time ſhe muſt be kept very cool.

As pain is always a forerunner of a Miſcarriage, gentle Opiates are greatly recommended, mixed with Reſtringents, and ſeem admirably adapted to prevent an increaſe of the ſymptoms, and the conſequences thereof, as they take off the ſtimulation, and conſequently remove one great promoter of the Hæmorrhage ſo much to be dreaded.

The following form, and method of adminiſtring it, is recommended by Boerhaave.

Take Blood-ſtone powdered,
  Armenian bole,
  Dragon's blood, of each a dram.
  Syrup of Myrtles, an ounce;
  Solid Laudanum, three grains;
  Plantain water, ſix ounces.
Let the patient take half an ounce of this mixture every quarter of an hour. See **Hæmorrhage.**

Aſtringent medicines and applications, and an aſtringent Regimen, as they prevent Hæmorrhages in general from the Uterus, are particularly recommended for that reaſon, as preſervatives againſt *Abortion.*

For this reaſon all thoſe medicines that are found effectual in moderating a profuſe Flux of the Menſes, are alſo ſerviceable in this caſe. See **Menses.**

For this purpoſe Tincture of Roſes is frequently preſcribed, and Sydenham directs the following Electuary:

Take Conſerve of Dried Roſes two ounces.
  Troches of Lemnian Earth, a dram and half.
  Pomegranate Peel and Red Coral, of each two ſcruples.
  Blood-ſtone, Dragon's blood, and Armenian Bole, each a ſcruple.
  Syrup of Coral a ſufficient quantity to make an Electuary.

Let the patient take the quantity of a large Nutmeg in the morning, and at five in the afternoon, drinking after it ſix ſpoonfuls of the following Julap.

Take of the ſimple water of Oak-buds, and Plantain, each three ounces.

Of Barley Cinamon-water, and Syrup of Red Roſes, each an ounce.

Spirit of Vitriol enough to make it agreeably acid.

Reſtringent Plaiſters are ordered to be applied to the Region of the Loins by Sydenham, made of equal parts of Diapalma, and the Rupture-plaiſter. Others direct the ſame, with an addition of the Red-lead plaiſter, or Plaiſters of other reſtringent ingredients, as Dragon's blood, Armenian bole, Maſtich, Galls, Biſtort-root and Red Coral, made up with Cypreſs Turpentine into the conſiſtence of a Plaiſter.

It would be endleſs to give forms of medicines, and frequently prejudicial, becauſe they are capable of being miſapplied, unleſs particular regard is had to the cauſes of the diſorder they are intended to remove, to which they muſt be adapted as circumſtances ſhall direct. The reader will be more inſtructed by the following cautions.

1. Let nothing reſtringent be either given internally, or applied, when an approaching Miſcarriage is ſo far advanced as to make the preventing it improbable, or impoſſible; for whatever then retards it is pernicious. Reſtringents then are particularly prejudicial, as they oppoſe the Relaxation of the internal Orifice of the Uterus, at this time ſo neceſſary to the expulſion of the Fœtus and Secundines.

2. When there is reaſon to believe the Fœtus is dead, let no aſtringents of any kind be made uſe of, becauſe whatever then prevents a Miſcarriage does harm.

3. When a Tenſion and Stricture of the Uterus make it incapable of a ſufficient dilatation, and thereby endanger a Miſcarriage, aſtringents are improper, as they increaſe the Tenſion, and conſequently the danger.

I am ſenſible ſome authors are of opinion, that aſtringents are ſometimes neceſſary, even in the caſes laſt mentioned, to moderate a violent Flux of Blood. But they cannot anſwer the end propoſed, ſo long as the Fœtus, Placenta, or any part of it, or the Clotted blood keep the Uterus diſtended, and the Blood-veſſels thereof open; and when theſe are brought away, they are generally ſuperfluous, becauſe the Hæmorrhage uſually ceaſes without any farther aſſiſtance, unleſs a Laceration of the Uterus, or ſome extraordinary accident render the regimen and medicines neceſſary, which are ſpecified under the article HÆMORRHAGIA.

The precautions that are taken againſt a Miſcarriage during the time of pregnancy, are ſeldom ſo effectual as thoſe which are taken in the interval betwixt a Miſcarriage and the next impregnation. Theſe conſiſt in reſtoring to the woman a perfect ſtate of health in general, particular regard being had to the diſorders of the Uterus.

If from the ſymptoms of great Pain, Tenſion and Hardneſs about the Region of the Uterus, antecedent to a Miſcarriage, there is reaſon to ſuſpect the Uterus is too tenſe to admit of ſufficient dilatation, the general Habit of Body muſt be relaxed by the methods directed under the article STRICTURA. Or the Fibres of the Uterus may be ſoftened by emollient Fomentations, Cataplaſms, Injections, or Peſſaries.

But at leaſt nineteen out of twenty habitual Miſcarriages are cauſed by a general Laxity of the Habit, or particular Relaxation of the Uterus; this caſe ſeems of importance enough to deſerve ſome farther conſideration.

By habitual Miſcarriages, I mean ſuch as have happened more than once at a ſtated period of pregnancy, without any evident cauſe.

'Tis remarkable that women of the loweſt claſs are very little ſubject to this ſort of Miſcarriage; theirs generally proceeding from frights, falls, or acute diſtempers.

But with women in a higher ſphere it is otherwiſe, many of them being ſcarce able to bring their Fœtus to maturity without the utmoſt care and caution, though no accident intervenes ſufficient to account for their Miſcarriages.

If we conſider the uſual cauſes of Relaxation, the reaſon of this difference will appear very plain.

I muſt anticipate here a little of what I have to ſay on the ſubject of Relaxation as a diſtemper, and obſerve, that the great cauſes of Laxity are, want of exerciſe, ſitting up late at night, and ſleeping long in a morning, and heat.

Women then in the lower claſſes of life, prevent or remedy this Relaxation, by a great deal of exerciſe, by going ſoon to reſt at night, and riſing early in a morning, and by expoſing themſelves to cold, all which are neceſſary to their ſubſiſtence.

But women in a higher ſphere, who are not under theſe neceſſities, induce a Laxity, by uſing inſufficient exerciſe, or none at all; by ſitting up late, and ſleeping long in a morning, and by keeping themſelves always warm.

Women of diſtinction have for the laſt half century accuſtomed themſelves to a very pernicious habit, which much contributes to the Relaxation of their Fibres; I mean that of drinking their liquors warm. This, in ſome morbid caſes, may be neceſſary as a medicine; but it is the utmoſt imprudence to make it habitual in a ſtate of health. For as heat always relaxes, the part which firſt receives the warm liquor muſt in time be relaxed by it, and this Relaxation muſt be communicated to the reſt of the body. Hence Indigeſtion, Lowneſs of ſpirits, Hyſterics and Obſtructions of all kinds, the parents of Chronical diſtempers.

I am ſenſible that all theſe effects have been charged upon Tea, by a very obvious miſtake. But warm water is capable of all theſe miſchiefs, if drank in the ſame quantities, without any Tea infuſed in it.

The cauſes of this univerſal Laxity direct us to the cure, which muſt be attempted as ſoon as the woman is recovered of one Miſcarriage, in order to prevent another the next time ſhe ſhall be with child.

The medicines and regimen moſt likely to anſwer this end, will be particularly ſpecified under the article LAXITY.

But if it happens that the diſorder is local, the reſt of the habit being in a tolerable ſtate of health, and the Uterus only relaxed;

In this caſe the remedies muſt alſo in ſome meaſure be local. Thus Reſtringent plaiſters applied to the Region of the Loins are not to be neglected. As to Fomentations and Injections, they muſt be uſed with caution, leſt if they are a little too reſtringent, they ſhould interfere with the natural evacuation, ſo neceſſary to the health of the ſex.

A Fluor albus frequently attends a Laxity of the Womb and parts adjacent, which muſt be cured by the methods directed under that article, whether it be the cauſe, or the effect of Relaxation.

But the light Chalybeate waters are of all remedies the moſt effectual preſervatives againſt moſt ſorts of habitual Miſcarriages. Theſe muſt be drank at the fountain-head by ſix o'clock in the morning, or ſooner; and in the quantity of three, or at moſt four half-pints. Mean time the patient muſt uſe as much exerciſe as her health and ſtrength will admit of, and in all reſpects conform to a ſtrict regularity of life during their uſe, which muſt be for two or three months during the ſummer.

I have often known the Pyrmont or Spaw-water ſubſtituted for our own country Chalybeates, but muſt own I never ſaw any very extraordinary effects from them in this caſe; but whether their inefficacy has been owing to their adulteration, or to the loſs of their virtues at this diſtance from the fountain-head, I cannot determine.

Chalybeate waters, drank under the above-mentioned regulations, are admirably well adapted to prevent Miſcarriages, both as they contribute to reſtore the Uterus to its natural elaſticity, and as they mend the whole Habit of Body, and have great virtues in removing Obſtructions, the grand ſources of Indiſpoſition.

I could produce many inſtances of conſiderable cures performed by theſe Waters, which have fell under my own obſervation; and can affirm of them, what few phyſicians can ſay of any other remedy, that I do not recollect any one patient that ever made uſe of them with regularity, without a manifeſt alteration for the better.

Zacutus Luſitanus reccommends in the ſtrongeſt terms an Iſſue for preventing Miſcarriages, a thing not unlikely to ſucceed, as it may contribute to keep both the mother and child in health; and conſequently be a preſervative againſt Miſcarriages from diſorders to which either are ſubject.

As the internal Orifice of the Womb is more ſolid, and difficult to dilate in a Miſcarriage, than a legitimate birth, the excluſion of the Fœtus in this immature ſtate muſt conſequently be leſs eaſy, and attended with more danger. In both caſes a violent Flooding is the circumſtance the moſt to be dreaded, and can neither be prevented, or cured by any method whatever, ſo long as the Fœtus, or any conſiderable portion of the Secundines remain in the Womb.

In a mature birth the Placenta is commonly detached from the Uterus without much difficulty, and excluded by natural pains ſoon after the child, even though the midwife does not take care to bring it away the minute after the birth; but if it adheres, as it does ſometimes, and is retained till the Flooding begins to grow exceſſive, a hand may be introduced, and the Secundines ſeparated from the Womb, and brought away without much violence to the woman, the Orifice of he Uterus at this time uſually admitting of a dilatation ſufficient for this operation.

But in a Miſcarriage it is otherwiſe, where a moderate Flux is often continued for many days, before the internal Orifice will admit the excluſion of the ſmall Fœtus; much leſs will it ſuffer the introduction of a hand in order to ſeparate the Placenta from the Womb, which in ſuch caſes is very ſubject to adhere to it.

When there is no longer any hopes of preventing a Miſcarriage, and the Fœtus is retained, in caſe it does not lie acroſs the Orifice, Hippocrates adviſes to make the woman ſneeze; and during the effort to ſtop her Noſe, and Mouth, that the whole force of the Convulſion may as much as is poſſible be directed towards the Uterus. This I mention, becauſe I find the women in the country make uſe of the ſame artifice with ſucceſs.

But the general directions of the beſt authors, amongſt which is La Motte, are to commit the whole affair to nature, even though we are ſatisfied the Fœtus is dead, and attempt nothing either by medicine or manual operations, unleſs the Flooding ſhould increaſe to ſuch a degree, as to become formidable, or Convulſions ſhould render a forceable delivery, with all its inconveniencies and dangers, preferable to inevitable death.

This advice ſeems the more reaſonable, as it is difficult to contrive any medicine to promote the expulſion of the Fœtus and Secundines, which do not at the ſame time rarefy the blood, and increaſe the Hæmorrhage, from whence the principal danger is to be apprehended; and as the manual operation is not leſs hazardous than painful.

When the dangerous ſymptoms mentioned above render immediate Delivery abſolutely neceſſary, it muſt be performed without waiting for ſtrong pains; becauſe they ſeldom or never return after the Flooding is grown ſo exceſſive, as to bring on Faintings and Convulſions. Nor muſt we ſtay for a large dilatation of the Orifice of the Womb, which without pains is not to be expected; and it is leſs neceſſary in this caſe, becauſe amongſt the great inconveniences of weakneſs and Flooding, they are attended with the advantage of mollifying and relaxing in ſome meaſure the Orifice, thereby rendering the operation ſomewhat leſs dangerous and painful.

The ſituation convenient for the operation is thus, according to Celſus.

Place the woman upon her Back acroſs a bed, and let her Thighs be bent forwards to her Belly, ſo that they may touch the Ilia, or Flanks.

Mauriceau adviſes to place the woman in the ſame manner acroſs a bed, with the Head and Breaſts ſomewhat higher than the lower parts, for her eaſe, and more convenient reſpiration. Then to bend the Knees ſo that the Heels may approach the Seat, whilſt the Thighs are kept far aſunder by two ſtrong women, and a third lays hold of her under the arms to prevent her from ſliding forwards.

Mauriceau alſo directs the operator, for his own convenience, to place himſelf on a ſeat directly before the woman, in ſuch a manner that his Elbows, as he ſits, may be juſt as high as the Pudenda.

Then the operator muſt anoint well his Hand with oil, freſh butter, or unſalted lard, and introduce it into the Vagina as far as the internal Orifice, into which he muſt firſt get one Finger, Celſus ſays the Index or Fore-finger, and then another; with theſe he muſt dilate the Orifice ſufficiently to admit a third, and a fourth, till there is room for the whole Hand.

All this muſt be done by degrees, and with the utmoſt delicacy, avoiding, as much as the operation will permit, all manner of violence.

The Pudenda muſt alſo be well anointed with the ointments recommended for the operator's Hand, in order to facilitate the operation.

When the Hand is in the Womb, if the Membranes are yet intire, they muſt be broken; and then the Feet of the Fœtus muſt be laid hold of, by which it muſt immediately be brought away.

The next thing to be taken care of is the Placenta, which, if it ſticks, muſt be ſeparated from the Womb by the Fingers, and extracted, ſo that the leaſt portion of it may not remain.

The Womb muſt farther be cleared of all grumous and coagulated Blood, which will cauſe the Flooding to continue, if ſuffered to remain in it.

In caſe the Fœtus is excluded, and the Placenta, or a portion of it, is retained, it is not always neceſſary to introduce the whole Hand into the Womb. La Motte gives ſome inſtances where a ſingle Finger has been ſufficient to ſeparate the ſmall Placenta, and afterwards to bring it away, by bending a Finger, and making it a ſort of blunt hook. But theſe happened in the firſt weeks of pregnancy, when the Placenta was very ſmall, and the Womb very little diſtended by it.

It has been obſerved before, that the operation ought not to be undertaken, unleſs abſolutely neceſſary on account of violent Floodings; and the danger of forcing medicines has been remarked. I muſt add, that Cordials are attended with hazard, as they increaſe the Flooding in proportion as they raiſe the ſpirits.

When therefore the Placenta is retained, and the Flooding is not ſo violent as to render the operation immediately neceſſary, Opiates are the moſt likely medicines to promote the ſeparation and excluſion of it, by relaxing the parts concerned, and removing that ſtricture which always accompanies pain.

To this end a ſingle grain of Opium, an ounce of Diacodium, or twenty drops of Liquid laudanum, are often given in a convenient vehicle, with great ſucceſs.

I think Boerhaave was the firſt that introduced this method into practice.

The ſame phyſician obſerving the inconvenience and danger of Forcing medicines, and Cordials in caſes of large Uterine Hæmorrhages, occaſioned by the retention of the Placenta, ſubſtituted in their room broths, which he directed to be taken in the quantity of a very few ſpoonfuls at a time, and to be repeated every four or five minutes, juſt as warm as new milk.

By this means the Stomach eaſily digeſts and converts into Chyle this ſmall quantity of aliment, in its own nature eaſily digeſtible, and the patient is gradually ſupplied with Blood, in the room of that which ſhe loſes. Mean time ſhe muſt be kept cool.

I have anticipated thus much of what will be explained more at large under the article Hæmorrhage, becauſe no inſtructions ſhould be wanting that might be of uſe to a woman under the hazardous circumſtance of a Miſcarriage.

For this reaſon, and for the ſake of thoſe who ſhall make the diſorders of women their peculiar ſtudy, I ſhall end this article with a conſiderable number of caſes, which will inſtruct much more than any general rules that can be laid down, and will in ſome degree ſupply the place of practice.

Theſe caſes are principally extracted from ſome few authors of our own country, Mauriceau, and La Motte.

I muſt not omit remarking a ſingular excellence of the laſt mentioned author. He ſeems to have obſerved nature with great diligence, and to have given the hiſtory of her operations with great accuracy; inſomuch that many of his caſes ſeem almoſt made with a view to confirm ſome important maxims of Hippocrates, whom, I dare ſay, La Motte never read; otherwiſe he would not have failed to mention him, with a degree of oſtentation peculiar to his countrymen.

OBSERVATION I.

A Miſcarriage from a Stone in the Kidneys.

A woman of quality was many years afflicted with tormenting pains in the Kidneys, eſpecially on the Left-ſide, where ſhe was firſt ſeized; and though ſhe was no leſs than fourteen times with child, ſhe conſtantly came before her time in the eighth, or beginning of the ninth, month.

When I diſſected her, I found the Left Kidney quite waſted, but the Right ſwelled to a prodigious bigneſs, in which, after I had cut through it, appeared a large Stone. *Bonetus.*

OBSERVATION II.

A Miſcarriage from Water at the Origin of the Nerves.

A certain lady had been many years ſubject to Convulſive diſorders, like Hyſterics, but whenever ſhe was with child, uſed to be taken with ſtrong Convulſions like Hyſteric fits. At the end of the third month, at which time ſhe conſtantly miſcarried, her Menſes appeared, which continuing for two or three days to come away, accompanied with bits of torn Membranes, put her in expectation of miſcarrying, which ſhe always did ſoon after. At laſt ſhe died of an Apoplexy.

Becauſe I ſuſpected the Womb to be principally affected, my curioſity led me to inquire firſt of all there; but I found that part perfectly ſound, and in its right ſituation. There was nothing about the Womb, or its Appendage, that could be looked upon as the cauſe of this diſorder; therefore we reſolved to ſearch for the principal and original cauſe of the diſtemper in the Head. Nor was our labour in vain; for the Brain had as it were ſuffered an inundation; all its Cells and Meanders were full of water, which had moreover inſinuated itſelf near the Origin of Nerves that go to the Viſcera, in ſuch plenty, as to ſeparate the Pia Mater from the Trunk of the Medulla oblongata the breadth of two Fingers. By means of theſe Nerves, the matter of the diſeaſe deſcending from the Head upon the Meſenteric plexus was doubtleſs the cauſe of all theſe Spaſmodic pains and diſorders, and the *Abortion* that followed. *Bonetus.*

REMARK.

Hippocrates ſeems to have directed the author of this caſe to ſearch for the cauſe of the Miſcarriage in the Head, though he does not name him. If he had not Hippocrates in view, the caſe is an inſtance of the great knowledge, and prodigious ſagacity of the laſt mentioned author, who tells us, in his firſt book of *The Diſeaſes of Women*, "That if the Head of a woman with child abounds with water (φλεγματώδης ᾖ), the acrid water deſcends with violence from the Head to the Belly, and cauſes a ſlight Fever, and Convulſive motions, (παλμοὶ) which ſometimes increaſing become exceſſive. If ſuch a caſe is attended with inappetency and weakneſs, there is great danger of an immediate Miſcarriage.

OBSERVATION III.

Inſtances of Miſcarriages from too much exerciſe.

Feb. 25. 1685, I attended a woman about three months gone with child, who miſcarried while I was with her of a ſmall Fœtus no bigger than a bee. The cauſe of this accident

dent, as it appeared, was a journey in a ſtage-coach, of a hundred leagues in five days, when ſhe was about a month gone. The great agitation and ſhaking of the Body in that journey, it ſeems, deſtroyed intirely, or in part, the principle of life in that little Fœtus, who then ceaſed to grow. A month afterwards the woman voided ſome ſmall quantity of Blood from the Womb, though only for a day or two. But the ſame ſymptom appeared again at the end of another month, and ended in her miſcarrying of that little Fœtus, which ought to have been as long as one's Middle-finger towards the end of the third month, at which time Nature expelled it wrapped up in its Membranes with its Waters, in compaſs about the bigneſs of a ſmall pullet's egg.

Now had this woman been blooded in the Arm before ſhe undertook her journey, as I would have adviſed her; had ſhe conſulted me, ſhe might have been preſerved from this misfortune. For women with child are ſo much the more liable to receive hurt, as their Veſſels are full of Blood; becauſe the great ſtirring of the Body heating the Blood, and giving it a briſker motion than ordinary, the Veſſels of the Womb, which are too full of it, expand to an extraordinary degree, and even ſometimes break; wherefore Big-bellied women who are forced to take long journies, can uſe no better remedy to preſerve themſelves than Bleeding, which takes off the too great fulneſs of the Veſſels. *Mauriceau.*

OBSERVATION IV.

April 1. 1685, I attended a woman who had miſcarried an hour before of a ſmall child of four months, which I judged, from its corruption, to have lain eight or nine days dead in the Womb, before Nature of itſelf expelled it. The Body of this Fœtus being very ſmall and quite ſhrivelled, had, for that reaſon, very little dilated the internal Orifice, ſo that I had no room, for the preſent, to bring away the After-birth, and therefore left it to Nature, which did the buſineſs twelve hours after. For I judged it better ſo do ſo, than to offer violence to the Womb by dilating it ſo much as was neceſſary for extracting this foreign maſs. This misfortune was owing to the woman's being too much ſhaken and agitated, by always uſing a very uneaſy coach. *Mauriceau.*

OBSERVATION V.

April 22. 1687, I delivered a woman of a ſmall male infant alive, being four months grown, about eight inches long, and proportionably big.

This woman had hurt herſelf, as I fore-told, and fore-warned her againſt it, by going to Verſailles in a very uneaſy ſtage-coach. The great agitation and ſhocks ſhe received in that journey, brought upon her, ten or twelve days before the Miſcarriage, a ſmall Flux of Blood, which continued till the day ſhe miſcarried, without any thing beſides remarkable. This child unfortunately periſhed by the imprudence of its mother, who, by neglecting the good advice I gave her, not to undertake that journey, in which ſhe was thus injured, was herſelf, if I may ſo ſay, the murderer of her own child. *Mauriceau.*

OBSERVATION VI.

April 19. 1689, I delivered a woman of a male infant, five months and a half grown, who was ſtill alive, though the mother had laboured under a moderate Flux of Blood, which was almoſt continual, the ſpace of two whole months, increaſing at laſt to ſuch a degree as to hazard an *Abortion*. In this ſituation I adviſed the woman to keep her bed, or at leaſt her chamber, that ſo ſhe might, if poſſible, preſerve her Great-belly to the end of her term. But inſtead of hearkening to my good advice, ſhe undertook a journey in a coach, which was the direct way to deſtroy her infant, who lived but half an hour, though the mother was as well, after I had delivered her, as if ſhe had lain in at the end of the natural term. *Mauriceau.*

OBSERVATION VII.

Auguſt 11. 1689, I attended a woman who had juſt miſcarried of a ſmall Fœtus, wrapped up in its Membranes and Waters, and ſuppoſed to be nine weeks grown, but no bigger than a French-bean, by which it appeared, that it did not continue to grow during all that time, being no larger than the Fœtus of a month. But as this little Fœtus was not at all corrupted, and the mother told me, that ſhe had been very ſeverely ſhaken in a coach five weeks before, I was of opinion, that it had only preſerved a languiſhing life, ſince this violent agitation, and had not grown at all; or rather, that it ceaſed to live from that time, but was preſerved from corruption in its Waters, till Nature expelled it. *Mauriceau.*

OBSERVATION VIII.

Auguſt 17. 1690, I delivered a woman of a Falſe conception, which had excited a conſiderable Flooding, in which I found a little Fœtus no bigger than a grain of wheat.

This affords an undeniable proof that all theſe ſorts of ſuppoſed False conceptions, are in reality nothing but After-births of *abortive* Fœtuſes of this nature.

The woman then reckoned herſelf about two months and a half gone with child, and told me, that three weeks before ſhe had been very much ſhaken and jumbled in a ſtage-coach, which probably deſtroyed the principle of life in the Fœtus from that time, and ſo was the cauſe of the *Abortion* that enſued. To whieh we may add, as another reaſon, the natural weakneſs of this Fœtus, which ought to have been much larger, had it been vigorous from the time of its conception. *Mauriceau.*

OBSERVATION IX.

November 7. 1681, I attended a woman who had miſcarried of a dead child in the ſixth month.

Twelve or fifteen days before this accident, ſhe had been too much ſhaken and jumbled on the road in travelling. This brought upon her pains in the Belly, which laſted all that time, till at the end her Waters flowed off in great abundance, without any real pain. As the infant preſented an Arm, the midwife believing at firſt ſight it was the Foot, took no care but drew it out as far as the Shoulder, which put the child in a more unnatural poſture than it was in before. In this ſituation of affairs, being ordered to attend the woman, I puſhed back the Arm into the Womb. But as all the Waters were intirely run off a day before, and the Orifice of the Womb was too ſtrait and too dry for me to introduce my Hand without violence, in order to turn the child, I judged it more prudent to truſt Nature with the expulſion of the child, than attempt it by a too forcible extraction, plainly foreſeeing that, ſince it was very ſmall, it might eaſily come away in the ſame poſture it was in, when the Womb ſhould be ſufficiently dilated; becauſe the woman had already been mother to a child that was full grown, and gone out her term. It happened as I foretold, twelve hours afterwards, Nature of its own accord expelling the child, by means of ſome pains, which were excited by a clyſter I had preſcribed, and which had ſufficiently dilated the Orifice. But the midwife who ſtayed to attend her, miſſing the opportunity, let the Womb cloſe itſelf, and could not bring away the After-birth, which remained ſix hours longer, after which Nature of itſelf expelled it, as it had done the child; and the woman being thus happily delivered, did very well afterwards. Now I do not know, but if I had tried to take away the child by force, as I was deſired when I firſt came, the violence I muſt have uſed in dilating the Orifice, ſo as to be able to introduce my Hand, might have been very prejudicial to the mother; whom I preſerved by prudently committing the buſineſs to Nature, for reaſons declared before. *Mauriceau.*

OBSERVATION X.

October 12. 1689, I delivered a woman of a child of four months, which ſhe carried a whole month dead in her Womb, that is, ſince ſhe took a journey into the country, which had very much fatigued her. The little Fœtus was all ſhrivelled, yet without any cadaverous corruption, being preſerved all that while in its own Waters, which ran off the day before the mother miſcarried.

Nothing extraordinary attended this *Abortion*, but the mother was as well afterwards as if ſhe had gone out her time with a living child; for which ſhe was not a little obliged to my good counſel, in adviſing her by no means to attempt bringing away the dead child by purgatives, as ſome phyſicians had propoſed to her, before Nature itſelf endeavoured to expel it. For theſe ſorts of remedies do nothing but irritate to no purpoſe, if they are given before ſhe has begun her operation; which is very obſervable in thoſe pangs which women feel, when Nature ſtrives to diſengage itſelf from a dead child, which differ in nothing from thoſe that happen when ſhe ſets herſelf at work to bring a living child into the world. *Mauriceau.*

OBSERVATION XI.

July 19. 1687, I delivered a woman of a ſmall child of five months, who was then alive. The mother had hurt herſelf by the fatigue and ſhaking of a journey of 150 leagues performed in haſte, when ſhe was two months and a half gone. This brought upon her, at that time, a diſtillation of reddiſh ſeroſities from the Womb, with now and then ſome Blood, for the ſpace of fifteen days, after which ſhe was a little better, and even felt her child to move but a month before this accident. But this did not hinder her from miſcarrying, as I plainly foretold four days before, ſince ſhe neglected to keep herſelf in that ſtate of reſt and compoſure, which was neceſſary to preſerve the fruit of her Womb.

We ſee by this example, that nine days reſt, which Big-bellyed women, who fear they are hurt by ſome conſiderable agitation of body, uſed to keep, is not always ſufficient, ſince this woman could not ſecure herſelf from miſcarrying by a reſt of two whole months. *Mauriceau.*

OBSERVATION XII.

Madam the counteſs of ——— came into this country in May, 1703, having gone at this time three months with child. She ſent for me, and when I came, I found her in bed, and perfectly well, except that ſhe was fatigued with her long journey. She told me that Mr. des Forges at Paris had ordered her to lie in bed nine days, after her journey, and deſired I would come to bleed her at the end of three weeks, after which ſhe was to keep her bed nine days longer by the advice of the ſame gentleman.

I returned to bleed her at the time ſhe appointed, and after this ſhe punctually purſued the directions of Mr. des Forges.

I viſited her every week for two months, during which time ſhe took all imaginable care of herſelf. But on Tueſday night I left her after ſupper perfectly well, and the Thurſday following a ſervant came in great haſte to let me know his lady had felt ſome Colic pains ever ſince midnight. Before I could ſet out, another ſervant came to let me know his lady was very ill, and deſired I would make all imaginable haſte. When I came to her, I found her with all the ſigns of an approaching Miſcarriage. The Waters were formed, and the Membranes ready to break, which they did a few moments after, and the child, being in a good poſition, came away, together with the After-birth.

It was a boy, which lived an hour. The mother recovered in eight days, and ſix weeks after returned to Paris. *La Motte.*

REMARK.

By this caſe we may learn, that the utmoſt precautions ſometimes are inſufficient to prevent a Miſcarriage.

OBSERVATION XIII.

November 17. 1703, the wife of an officer of juſtice ſent for me about three o'clock in the morning. She told me ſhe had been at a wedding, that was celebrated with great demonſtrations of joy, where ſhe had been over-perſuaded to dance; that ſince that time ſhe had been heavy, and oppreſſed, and felt ſuch a wearineſs that ſhe could ſcarcely move; that ſhe had perpetual inclinations for a ſtool, without being able to do any thing; and that ſhe apprehended ſome ill conſequence from theſe accidents, becauſe ſhe was at this time three months gone with child, and had ſince midnight perceived pains not unlike thoſe ſhe had formerly felt when in labour.

She then ſubmitted to a proper examination, and I found matters ſo well diſpoſed, that when I withdrew my Hand, I at the ſame time brought away a very ſmall Fœtus, together with its Membranes, and the After-birth.

She ſoon recovered without the leaſt accident. *La Motte.*

Inſtances of Miſcarriages from Strains, Bruiſes, and Hurts.

OBSERVATION XIV.

January 12. 1693, I attended a young woman, who, after having gone with her firſt Big-belly near five months, had juſt then miſcarried of a ſmall infant all corrupted, which in all probability ſhe had carried above ſix weeks dead; for it had only the proportions of a child of three months; and as the woman told me that about that very time of her pregnancy ſhe had been extremely afflicted with a moſt violent vomiting for ſome days, I am of opinion that the Strainings in that vomiting did much more contribute towards injuring the mother, and cauſing her child to periſh, than a pretty long journey which ſhe took before, whence ſhe returned in good health, and ſo continued for fifteen days, till ſhe was ſeized with that violent vomiting; which alſo ought the more to be eſteemed the true cauſe of this *Abortion*, becauſe the woman had been ſickly ever ſince that time, till the day that Nature of herſelf expelled the corrupt Fœtus, after which ſhe recovered her perfect health. *Mauriceau.*

OBSERVATION XV.

The 10th of November, 1670, I attended a woman ſix months gone, who, for eight days paſt, had a moderate Flux of Blood, in which were ſome clots, occaſioned by the ſhocks of a violent cough, which had enlarged the Orifice of the Uterus to a Finger's breadth; for this reaſon I told her ſhe would certainly miſcarry in a little time, although ſhe felt no pain at preſent, becauſe I was aſſured, from the opening of the Orifice, and diſcharge of Blood, that it was impoſſible for the agitation of ſo violent a Cough not to accompliſh the miſchief it had begun. The event anſwered, for the next day the woman miſcarried of a child, which lived but a day and a half. *Mauriceau.*

OBSERVATION XVI.

February 12. 1690, I attended a woman who had juſt before miſcarried of a ſmall Fœtus, no bigger than a little bee; though ſhe reckoned herſelf near three weeks gone with child. For the laſt four or five days ſhe had been afflicted with a ſmall Flux of Blood, which might be owing to a ſtumble ſhe told me ſhe had made ſome days before, in conjunction with a fit of anger. But ſince the Fœtus was no bigger than one of fifteen days, it is probable, that having thrived ſo little ſince Conception, the mother would have miſcarried if the ſtumble had not happened, becauſe of the weakneſs of the Fœtus, whoſe principle of life might poſſibly be deſtroyed by ſome other cauſe, unknown to the mother. *Mauriceau.*

OBSERVATION XVII.

March 13. 1687, I delivered a young woman of eighteen, at the term of eight months, of her firſt child, which was a girl, and alive. The mother's travel being accompanied with a conſiderable Flux of Blood, made us dread the conſequence, and the more becauſe it proceeded from a violent ſtumble ſhe had made ſome days before, which had ſomewhat looſened the After-birth. This obliged me to cut the Membranes, as ſoon as I could conveniently get at them, leſt coming to be ſtrained by the mother's Pangs, they ſhould yet further looſen the After-birth, in which, when I had extracted it, after the child came away, I found hardened clots of Blood bigger than my Fiſt, and ſticking very tenaciouſly on that ſide where the After-birth had begun to be ſeparated from the Womb, when it was looſened by the ſhock received from the ſtumble.

The child was proportioned in bigneſs to thoſe of its age, that is, a third leſs than a child of nine months, and a third bigger than one of ſeven. But though it was born exactly at the end of eight months, and its birth too early by a full month, it lived and did well. This example confirms me in the opinion that children of eight months are always much ſtronger, and incomparably more lively, than children of ſeven months, who, by reaſon of their ſmallneſs and feebleneſs, die almoſt every one in a few hours, or at moſt a few days after their untimely birth. *Mauriceau.*

REMARK.

Mauriceau makes this laſt obſervation, to confute an opinion which had prevailed from the moſt early ages, that a child at the term of ſeven months is more likely to live, than one born in the eighth.

This, though contrary to all manner of reaſon and experience, was probably founded on the Pythagorean doctrine of *Numbers*, according to which the number *ſeven* was endued with great virtues.

OBSERVATION XVIII.

January 4. 1712, the wife of a farmer, about a quarter of a league from this city, gone about three or four months with child, feeling conſiderable pains in her Belly and Loins, which bore downward upon the Uterus, ſent for me. As theſe pains much reſembled thoſe of Labour, and as I found ſhe had imprudently lifted a large quantity of corn, and carried it on her Back, I did not doubt but ſhe was on the point of miſcarrying; but upon touching her, I found nothing that could confirm me in this ſentiment.

I therefore directed a clyſter to be given, which was attended with ſo good ſucceſs, that her pains ceaſed for ſeveral days.

Now as a vulgar prejudice has prevailed amongſt the women, that the danger of a Miſcarriage is over, when nine days are paſt from the time of the accident that threatened it, and as this period was over without any worſe ſymptom ſupervening than what had appeared every one of the preceding days, thoſe about her, who knew I apprehended a Miſcarriage, began to exult, as believing there was no longer any reaſon to fear it. But as the pains continued, my ſuſpicions did not ceaſe; I therefore enjoined her ſtrictly an uninterrupted reſt, ſo long as ſhe ſhould be in this condition, and engaged to ſee her every day.

On the twentieth day in the morning, I was not much ſurpriſed to ſee a meſſenger who was diſpatched to tell me his miſtreſs's diſorder was increaſed, and that ſhe deſired me not to be out of the way. Inſtead of waiting for another meſſage, I made what haſte I could to her, and found ſhe had miſcarried of a Fœtus about five inches long, and thick in proportion, which the midwife received, who had conſtantly attended her by my orders. I aſked this midwife what was become of the little After-birth; ſhe told me there was none, and that ſuch ſmall children never had any. Without diſputing the point with her, I put the woman in a proper poſture, introduced two Fingers into the Uterus, ſeparated the little After-birth, brought it away betwixt the two Fingers, and ſhewed it the midwife, at which ſhe was very much ſurpriſed. The woman was quite recovered in five or ſix days. *La Motte.*

Observation XIX.

February 14. 1679, I attended a woman who had juſt miſcarried of a child ſix months grown, fifteen days after ſhe had injured herſelf by lifting up her arms too high, in order to pull a nail out of ſome hangings.

As ſoon as ſhe had ſtrained herſelf, though in this ſlight manner, ſhe was taken with a ſmall Flux of Blood, which held her the two firſt days, after which, during the reſt of the time, ſhe only voided a bloody Seroſity, like the waſhings of Fleſh, with which ſhe fouled two napkins every day. But notwithſtanding this accident, ſhe had a favourable lying-in with this child, who was yet alive. The reaſon why Big-bellyed women are hurt by ſtraining to lift up their arms, is, becauſe the great Muſcles which enable them to ſtoop, being very much ſtretched by that action of the arms, violently compreſs the ſides of the Belly and Womb, whereby the After-birth is in ſome meaſure looſened, and a Flux of Blood enſues, which is the cauſe of *Abortion*. Some women are ſo tender, that they cannot ſtrain the leaſt, when they are with child, without hurting themſelves, and afterwards miſcarrying, as the woman did of whom I ſpeak. Others, on the contrary, are of ſo robuſt a conſtitution, that I delivered one, who, when ſhe was ſeven months gone, fell three ſtories. For the houſe where ſhe lodged being on fire, ſhe faſtened the ſheets to the window, and ſwung off by them; but being frightened to find herſelf ſuſpended in the air, ſhe let go her hold, and though ſhe was very big with child, and fell upon great ſtones, where ſhe broke one of the Bones of her Arm, diſlocated her Wriſt, and bruiſed all her Body, ſhe was cured, went out her time, and was well delivered of a luſty child.

This ſtory, for its ſingularity, might paſs for fabulous, were it not confirmed by a great number of eye-witneſſes. *Mauriceau.*

Observation XX.

July 25. 1696, a young woman, the wife of a ſadler, in the twenty-ſecond week of her pregnancy, diverting herſelf in the ſhop with the apprentice, endeavoured to give him a kick with her Foot; but the boy being out of her reach, her Leg ſuffered a violent extenſion by the force with which ſhe directed the blow. Hence ſhe immediately felt ſuch a violent pain in her Loins, her Groin, and all over the Belly on that ſide, that if there had not accidentally been a chair to receive her, ſhe muſt have fell down in the middle of the ſhop. From the extreme weakneſs ſhe immediately perceived, there was reaſon to apprehend the utmoſt danger, both in regard to the mother and child. The violent and continual motions of the latter, which were perceivable to us that were about her, witneſſed the great agitation it was in, and made me apprehend an approaching Hæmorrhage, or Convulſions, which could be remedied no other way than by an immediate Delivery. All the directions I gave her were, to lie in bed, which it was the more eaſy to comply with, as it was the only poſture ſhe could bear.

For ſix weeks the only inconvenience ſhe laboured under from this accident was, exceſſive weakneſs; mean time I endeavoured to ſupport her with broths of various kinds, and jellies of fleſh, and twice I took away ſome Blood, for which ſhe was neither ſtronger nor weaker. I alſo gave her ſome gentle cordials, which in appearance neither did her good nor harm, for which reaſon I diſcontinued them, and perſiſted in the uſe of good aliment, giving her occaſionally a toaſt in wine.

In this ſituation matters continued till the ſeventh month, when ſhe was ſeized with Labour-pains, and ſent for me. I found the Waters formed, and felt the child through them preſenting the Buttocks. I then placed her in a proper poſture acroſs a bed, broke the Membranes, puſhed back the child till I could lay hold of the Feet, and brought it away in an inſtant. I then delivered her of the After-birth, and took all the care of her during her lying-in that I could. Every thing relating to Childbed proceeded very regularly, but in a manner ſomewhat different from what ſhe had been uſed to in former lyings-in.

In three weeks ſhe got up, ſomething ſtronger, but yet very weak, in compariſon of what ſhe uſed to be before this accident. But a Cough and Fever immediately ſucceeding, precipitated her into a Conſumption, of which ſhe ſoon after died. *La Motte.*

Observation XXI.

November 15. 1692, I delivered a woman who had miſcarried of a child of three months and a half, with ſo great a Flooding, that ſhe fainted ſeveral times; and as this Fœtus had been dead ten or twelve days, which appeared by its withered ſtate, and had made an opening of the Internal orifice only in proportion to the ſmallneſs and tenderneſs of its Body, I had no opportunity of bringing away the After-birth till five hours afterwards.

This woman had felt ſeveral fits of an Ague ſome time before her Miſcarriage, and had alſo ſtrained herſelf the day before in pulling down a curtain-rod; which ſhe imagined was the true cauſe of this misfortune; but as the infant was quite withered, and appeared to have been dead a much longer time, we may conclude, that this laſt cauſe had only concurred to the more ſpeedy expulſion of the Fœtus, which the firſt, that is, the Ague, had already deprived of life, ten or twelve days before.

As ſoon as I had taken away the After-birth the Flooding ſtopped, and the woman recovered her health, which I could not have warranted, had I gone rudely to work immediately after Nature had expelled the Fœtus, whoſe bigneſs did not equal a third of the After-birth, of which I delivered her when the Womb had been ſufficiently dilated to admit of it without violence; the Flooding itſelf alſo, by moiſtening and relaxing the part, contributing by accident to make the work more eaſy, in bringing off that foreign maſs, which, by remaining there, was the cauſe of it. *Mauriceau.*

Observation XXII.

July 4. 1692, I attended a woman who had juſt then parted with the remainder of a fleſhy Membrane, which was left behind in the Womb, being ſeparated from another and larger part, which had been expelled two days before with a moderate Flooding, ſuppoſing herſelf to be then about ten weeks gone with child.

In this firſt part of the Membrane, which reſembled what is uſually called a Falſe conception, there was a ſmall corrupted Fœtus, of the bigneſs of a common bee, which had received no nouriſhment for above a month, at which time the mother injured herſelf by overſtraining.

This is a further confirmation that all theſe pretended Falſe conceptions are no other than After-births of ſmall *abortive* Fœtuſes, in which the Womb, by contracting itſelf after the Waters contained in their Membranes are diſcharged, changes the natural figure which they had before, and gives them that of its own cavity, which is round and oblong. *Mauriceau.*

Observation XXIII.

June 16. 1691, I attended a woman, who, the day before, had been delivered, by herſelf, of a Fœtus five months grown, which came dead, though the mother had felt it move but the day before. The cauſe of this misfortune was, that the woman, when ſhe was but two months gone, was hurt by a friend of hers, a man, who not knowing her to be with child, had taken her in his arms, and ſqueezed her pretty cloſely, in order to get her out to dance for diverſion. At that moment, it ſeems, ſhe felt a great pain in her Belly, and the next day, all on a ſudden, voided a good deal of water by the Womb, but nothing elſe at that time. But a month after, ſhe had a Flooding, which laſted almoſt ſix weeks, with ſome ceſſation at intervals; and one day in particular, ſhe voided ſeveral hard clots of Blood, which a phyſician, who was a near relation of hers, and a brother-ſurgeon, unadviſedly took to be real pieces of membranous Fleſh; whence they entertained a notion that ſhe was not with child, though I had aſſured them of the contrary, by letting them plainly ſee, that theſe ſuppoſed bits of Fleſh, which they had taken for parts of ſome foreign maſs, of the nature of a Mole, or Falſe conception, were nothing but pure clots of Blood. But they would not believe me, ſo ſtrongly were they prepoſſeſſed with their error, till the woman was brought to bed of this *abortive* Fœtus, ſome days after our conference, according to my predictions.

We learn, by this example, that we have no reaſon to wonder that nurſes and midwives are often deceived in taking theſe clots for Falſe conceptions, ſince phyſicians and ſurgeons are ſometimes miſtaken about them. But I was really much ſurpriſed to ſee a ſurgeon, who hath for a long time made a particular profeſſion of the art of midwifry, ſo groſly miſtaken as not to know when a woman is with child, and to take pure clots of Blood, which ſhe voided ſome days before ſhe miſcarried, for foreign maſſes, of which he thought the Womb was now entirely delivered, not dreaming that a child and its intire After-birth remained. *Mauriceau.*

Observation XXIV.

On the 21ſt of April, 1676, I attended a woman who had miſcarried three hours before of a dead child of four months. Three weeks before this ſhe had received ſome hurt in a crowd at church, from which time ſhe always felt great pains in her Belly, and about the ninth day after this accident, began to void a little Blood. From that time ſhe never felt her infant move, but had the misfortune to loſe it without the After-birth, which remained behind, the midwife not being able to bring it away, becauſe the Womb cloſed immediately upon the expulſion of the child. Having myſelf examined whether there could be any means found out to eaſe this woman, and having diſcovered that the Orifice of the Womb was only open enough to receive one Finger, I judged it the ſafeſt way at preſent to truſt Nature, and poſtpone the doing her any violence by endeavouring to extract this After-birth by ſo narrow an Orifice, the remedy in this caſe appearing to me worſe than the diſeaſe. So I deferred it to the next day, when finding the Womb much more dilated, I happily delivered her of her Burden, and though ſhe had at that time a Fever upon her, ſhe did very well afterwards. *Mauriceau.*

Observation XXV.

July 19. 1693, a labourer's wife of the pariſh of Gourbeville had ſuch a violent fall from her horſe, that ſhe remained a conſiderable time inſenſible. At this time ſhe had been with child ſix months. I was immediately called, and found her come a little to herſelf; but upon examination could not find her Head had received any injury, nor could I diſcover any ſigns of approaching Labour, except that the child moved in an extraordinary manner, which was no wonder, conſidering the concuſſion ſhe had received from the fall.

I ordered her to be laid on a ſort of litter, and carried home; and then directed that ſhe ſhould take ſome good nouriſhment, and keep her bed for ſeven or eight days. From this time ſhe never felt the child move, but it ſeemed like a weight which fell ſpontaneouſly to the ſide ſhe lay on, which incommoded her much, but eſpecially when ſhe ſtood up, when preſſing on the Bladder, it cauſed frequent inclinations to make water. In this ſituation ſhe remained till her full reckoning was compleated, her fall having neither advanced nor retarded the Birth. At this time I was called to deliver her, but the child was born long before I arrived, but was ſo weak that it died a few hours after, and the mother did very well. *La Motte.*

Remark.

From this caſe we may learn that the excluſion of the Fœtus ſhould never be precipitated, unleſs ſome dangerous accident renders it neceſſary for the preſervation of the mother. Becauſe all the ſymptoms uſually attending the geſtation of a dead Fœtus may occur, and yet the child may be born alive at the full period.

Observation XXVI.

On the 7th of December, 1688, a carrier's wife at the end of the fifth month of her pregnancy, as ſhe was loading one of her horſes with panniers, let one of them reſt on her Belly.

For the two next days and nights ſhe perceived her child to move much more than uſual, and after that never felt it ſtir; but it ſeemed as a dead weight, which fell to which ever ſide ſhe lay on, and by its preſſure downwards, gave her frequent inclinations to make water. Upon this ſhe loſt her appetite, her Skin became of a lead-colour, and ſhe complained of Laſſitude all over, which circumſtances obliged her to conſult me. I immediately perceived that all theſe accidents were cauſed by the death of the child, which had been killed by the wound received from the preſſure of the pannier.

I adviſed reſt, which indeed was ſuperfluous, becauſe her extreme weakneſs would not permit her to ſtir.

Seventeen days after, upon perceiving Labour-pains, ſhe ſent again for me. I found her in exceſſive pain, and almoſt ſpent, ſo that I was obliged to ſupport her with ſome wine and cordials; after this I delivered her of the child, which came with the Feet firſt. The After-birth readily followed, which was very black, but not fœtid. This patient at laſt recovered, but with more pain and trouble than ſhe had in all her former lyings-in. *La Motte.*

Remark.

Two things occur in this caſe worthy of notice. The firſt is, that the child, after receiving the injury, moved in an extraordinary manner before it died; and this, La Motte in many other places tells us, generally happens before the death of a child.

The ſecond is, that though the author was ſatiſfied of the child's death, he did not endeavour to promote its expulſion by Forcing medicines, or to extract it by Force. An example worthy of imitation in almoſt all caſes that can occur.

Observation XXVII.

A. D. 1678, February 4, I delivered a woman of a dead child, fourteen weeks after Conception, which preſented an Arm with the Navel-ſtring. This woman had then five children living, and had been eaſily delivered of them all. But ſhe told me that four years before ſhe was laid by a ſurgeon, whom ſhe named, who uſed her very roughly, and that ſhe could never go her full term with any child ſince that time, but had miſcarried juſt as ſhe did of this laſt, and that ſhe had like to have died in one of thoſe Miſcarriages in which the ſame ſurgeon left the After-birth in the Womb, of which ſhe was not delivered till four days after, and then not without dangerous accidents. As the cauſe of theſe frequent *Abortions* ſeemed to me to proceed from the woman's conceiving before her Womb, which had been weakened by the former rough treatment, was perfectly re-eſtabliſhed, I adviſed her to part beds with her huſband, at leaſt for five or ſix months, that by this long reſt, which was neceſſary for a part ſo much enfeebled by frequent Miſcarriages, ſhe might the better go out her full time, whenever for the future ſhe ſhould breed. She took my advice, which was the means of preſerving ſeveral children ſhe has had ſince, with whom ſhe lay in as happily as ſhe did with thoſe ſhe had before theſe Miſcarriages. *Mauriceau.*

Remark.

Mauriceau ſeems to have judged very well in this caſe. The Chalybeate waters would have greatly aſſiſted this woman in fortifying the parts, and re-eſtabliſhing her health.

Observation XXVIII.

November 24. 1687, I attended a woman, who had juſt before miſcarried, at the end of two months and a half, of a ſmall Fœtus no bigger than a bee, which Nature had expelled with a conſiderable quantity of Blood, which had been preceded by a diſtillation of reddiſh Seroſity for ſeveral days. When I was called to deliver her of the After-birth, I found the Womb was intirely ſhut, and that there was no way to bring it off but by violent means, which might be more prejudicial to the mother, than the relief I could promiſe her from the extraction would have been beneficial. For this reaſon I thought proper to truſt Nature with the buſineſs, which was not accompliſhed till the twelfth day after, and the foreign maſs lay all that while in the Womb, and then was expelled half ſuppurated, after which the woman did well.

The principal cauſe of this *Abortion*, as I ſuppoſed, was a great coſtiveneſs in the time of pregnancy, which in this woman was ſo extraordinary, that ſhe was ſometimes fifteen whole days without going to ſtool; ſo that the great efforts ſhe made to eaſe herſelf of excrements exceſſively baked and hardened by ſo long a ſtay, did at the ſame time very forcibly compreſs the Womb, which might very well be ſuppoſed to ſhake and looſen, and at laſt expel the newly-conceived Fœtus, as was the caſe with this woman, who had miſcarried ſeveral times before. *Mauriceau.*

Observation XXIX.

July 22. 1691, I delivered a young woman of an After-birth, who had juſt before miſcarried of a child of four months and a half; this the midwife received, but could not bring away the After-birth, which had its String broken.

Twelve days before this accident the woman happened to fall upon her Knees, and inſtead of retiring and compoſing herſelf to reſt, took coach the ſame day. The next ſhe was taken with a great pain in her Belly, for which I adviſed her to bleed in the Arm, and to keep her bed. This done, the pain went off intirely; but ſome days after, a Looſeneſs came upon her, which laſted three days. This new diſorder brought on the pain afreſh, which at laſt ended in a Miſcarriage as above. The child preſented the Foot, with the Navel-ſtring, by the beating of which I knew it was alive, as ſoon as the Membranes of its Waters were broken; but as it was this woman's Firſt child, and the Womb very little dilated, I adviſed the midwife to wait till the Womb became more open, in order to avoid violent means, which might be hurtful to the mother, and could do no ſervice to the child, whoſe tender body might have been diſmembered, if any attempt was made to extract it before the Orifice of the Womb was ſufficiently dilated. She was delivered the next day, with the ſucceſs above related. *Mauriceau.*

Observation XXX.

July 12. 1681, I delivered a young woman of twenty of a ſmall dead infant, four months and a half grown, the mother having hurt herſelf the day before by falling on her Knees; but the child appearing to me very corrupt, as well as the After-birth, and the woman telling me that ſhe had not felt it move for ſome time paſt, and that her Urine had been extraordinary thick, I believed that the External cauſe, her fall, had only accelerated what the Internal cauſe would certainly have excited in a little time.

This woman, who was of a ſanguine conſtitution, being with child a ſecond time, was very apprehenſive of falling into the ſame misfortune as before. But taking my advice, which was to bleed at the ſecond month of her time, ſhe was preſerved from it, as ſhe has been whenever ſhe has ſince been with child, having ſix living children, of whom I happily delivered her at the uſual time. *Mauriceau.*

Observation XXXI.

October 3. 1681, I delivered a woman of a child ſix months grown, which ſhe had carried dead almoſt a month after a hard fall upon her Knees, not having felt the child all that time. She was in pretty good health for all this, only ſhe felt now and then ſome riſings of her Belly, as is common with women, whoſe children are dead. Theſe riſings proceed from an ebullition of the Waters of the child, and the other humours contained in the Womb, when heated and putrefied by the reſidence of the dead infant. Notwithſtanding this accident the woman had a favourable time with this dead child, and enjoyed her health afterwards. *Mauriceau.*

Observation XXXII.

The 12th of Auguſt, 1678, I delivered a woman of a child five months grown, which came with its Feet foremoſt. This woman was ſo ſubject to fall and hurt herſelf, that this was the fifth child ſhe had miſcarried of ſucceſſively from a like cauſe. When I was ordered to attend her, I found the Waters formed, which appeared of the bigneſs of a hen's egg, and the internal Orifice of the Womb open in proportion to the bigneſs of thoſe Waters. But as that Orifice was only wide enough to receive a Finger, and made a ſtrong ſtrangulation in that place, I thought it the ſureſt way to defer laying the woman for a little while, which I did for four hours, in order to avoid the violence I muſt have done to the Womb in its preſent condition.

During this delay, the Orifice being ſufficiently dilated by ſome moderate pains, which were excited by a clyſter I had ordered for that purpoſe, gave me an opportunity of taking away the child with eaſe, which could not have been done before, without very great difficulty, and perhaps hurt to the mother, who did well afterwards. It will be uſeful here to obſerve, that Big-bellyed women being more ſubject to fall than others, not only from the weight they carry in them, and the weakneſs of their Legs, but becauſe the prominence of their Belly hinders them from ſeeing where they put their Feet when they walk, they who are apt to hurt themſelves by ſuch falls, ought to lie in bed, or at leaſt keep their chambers, as I adviſed this woman to do, in order to guard, as much as poſſible, againſt ſo melancholy an accident, which had happened to her five times one after another, for want of this precaution. *Mauriceau.*

Observation XXXIII.

March 30. 1693, I attended a Woman, who, after a Flooding, which held her two days, had juſt miſcarried of a ſmall Fœtus no bigger than a barley-corn, and ſtill incloſed in its Membranes and Waters.

The mother thought herſelf two months gone with child when this miſchance happened, and fancied, as her huſband told me, that the cauſe of it was the too great attention ſhe had given ſome days before to a frightful ſtory of a lady who had her thigh cut off. But the minuteneſs of this Fœtus was a plain evidence that the true cauſe of *Abortion* was rather a violent fall ſhe had ſix weeks before, which deſtroying at that inſtant the principle of life in the little Fœtus, it remained of the ſame bigneſs which it had then attained, and was preſerved intire and incorrupt in its Membranes and Waters, the whole being of the ſhape and ſize of a pullet's egg without the ſhell, till diſcharged as above. As this Miſcarriage was attended with no other accident than a moderate Flooding, the woman ſoon recovered her health. *Mauriceau.*

Observation XXXIV.

March 15. 1688, I delivered a young woman, at the end of ſix months and a half, it being her firſt pregnancy, of a female infant, porportioned in ſize to the time of its growth. This misfortune was chiefly owing to a fall which the mother received three days before, and was not a little furthered by the ſhortneſs of the infant's Navel-ſtring, which was no longer than a quarter of an ell, Paris meaſure, and no more than a third of the ordinary and due length. For this reaſon the After-birth had been greatly ſhocked by the fall, where it muſt unavoidably be pulled by the child, on account of the ſhortneſs of the Navel-ſtring.

This infant lived but a few hours, but the mother did very well, and I have ſince delivered her of two other children, which came at the full term, thrived very well, and had their Navel-ſtrings of a due length. *Mauriceau.*

Observation XXXV.

A young lady of this city, when ſhe had been with child about three months, made a party of pleaſure with ſome of her acquaintance. The horſes they rode on happened to be very uneaſy, and ſhe, by ſome accident, leaped from hers, and lighted on her Feet, but without perceiving any inconvenience from it for the preſent. But at night ſome reddiſh Seroſities began to be diſcharged from the Uterus; Labour pains immediately followed, and the Fœtus came away. The lady was unwilling to acquaint any body with this accident, except her chamber-maid; but as the After-birth remained, there was a neceſſity of conſulting ſomebody. This obliged her to commit the ſecret to her ſurgeon, who came to me, and took me with him, without telling me for what, being willing I ſhould have the recital of what had happened from the lady herſelf.

The Fœtus was extremely ſmall, with a ſmall piece of the Umbilical cord hanging to it.

I plac'd her in a proper ſituation, and finding the remainder of the Cord, I follow'd it to the internal Orifice of the Womb, which I found ſo much contracted, that it was not without difficulty that I introduced one Finger, with which I ſeparated the Placenta from the Womb. After this I pulled gently the Umbilical cord, which was of more ſervice to me than I could reaſonably expect from the ſize of it. By means of this, and with the aſſiſtance of my Finger, which I employed as occaſion required, to dilate the Orifice a little, I extracted the Placenta. But the purgation ſtopped, and a Fever enſued.

Notwithſtanding this, ſhe would not ſuffer the ſecret to be divulged to any body, ſo I was obliged to treat the caſe under the name of a Fever from a ſuppreſſion of the Menſes. She loſt ſome Blood both from the Arm and Foot; and I gave her a Ptiſan, made with the Roots of Quich Graſs *(Chien dent)* the roots of wild Succory, Scorzonera, and a little Cinnamon. She had repeated clyſters, made of a decoction of Mallows, Marſhmallows, Mugwort, Chamomile, and Melilot, with an addition of Honey, of Fumitory, and Violets. At night ſhe took Emulſions made of Sweet Almonds, ſweeten'd with Syrup of Maiden-hair, and with this a few drops of ſtrong Cinnamon-water.

All theſe medicines, though adminiſtred with great regularity, were of no ſervice, for ſhe died the fourteenth day after the Miſcarriage. Some days before her death ſhe became blind. *La Motte.*

Inſtances of Miſcarriages from Frights.

Observation XXXVI.

March 10. 1687, I delivered a woman of a Fœtus of four months and a half, whoſe Waters were all run off two days before, without pain to the mother; and though it came away dead, it appeared to have been alive the day before by the beating of its Navel-ſtring. But as the Womb was not at that time ſufficiently dilated to attempt the Delivery, without offering too much violence to the mother; and the infant, who was otherwiſe very weak, would have certainly periſhed in the operation, I was obliged to defer it, till the proper Pangs coming on upon the mother might dilate the Orifice to a degree ſufficient for the extraction.

The Miſcarriage of this woman had no other manifeſt cauſe than a great fright which ſhe had fifteen days before, when being in a coach, the horſes ſtarted and ran away with it.

This example clearly ſhews, that great agitations of mind, and eſpecially ſudden Fear, make as effectual impreſſions on Big-bellied women, when ſurpriſed with it, as violent commotions of the body, and are equally cauſes of ſuch ſort of *Abortions*. Notwithſtanding this accident the woman did very well after I had delivered her. *Mauriceau.*

Observation XXXVII.

From a Fright and Falls.

Sept. 30. 1684, I delivered a woman, who had a Miſcarriage, at the term of two months and one week; and after I had examined the Afterbirth, I found in the middle of its Membranes a ſmall Fœtus no bigger than a bee, not having thrived for five or ſix weeks paſt, becauſe its principle of life had been deſtroyed by a violent agitation of mind and body, which the mother had undergone at the time when ſhe could be no more than eighteen or twenty days, at moſt, gone. For not believing ſhe was then with child, becauſe the time of her purgation was not paſt, ſhe took no care, but diverted herſelf with mounting and running after an aſs for two days together, in which ſhe received two unlucky falls; beſides this, ſhe had been under a great fright, having loſt herſelf in a wood, where ſhe was in great dread of robbers; ſo that the principle of life in this Fœtus being deſtroyed at that time, it never exceeded the dimenſions it had then attained, but remained in that ſtate a month or five weeks, and then the mother began to void Blood during ten days, at the rate of ſix or ſeven drops a day only.

But at the end of this term, ſhe was ſeized all on a ſudden with ſo exceſſive a Flux of Blood, as to run a risk of her life, if I had not at the ſame time delivered her of the After-birth of this little Fœtus, which ſeemed to be of the figure and magnitude of thoſe foreign maſſes, which are commonly called Falſe conceptions, but are in reality hothing but the After-births of thoſe ſorts of little *Abortives*, to which the Womb by contracting and cloſing, after the Waters contained in their Membranes are diſcharged, gives the figure of its cavity.

The woman afterwards recover'd her health by little and little, but continued from time to time, for near two months, to part with ſome ſmall quantity of Blood, or tinctured Seroſity, except that one time this ceaſed for ten days, and ſeveral other times ſtopt for two or three days, complaining at intervals of pains like thoſe of the Colic: But, what is very extraordinary, fifty two days after I had delivered her of this Miſcarriage, ſhe voided a ſmall Membranous and Fleſhy ſubſtance, of a globous figure, and no larger than a middling French-bean, and not at all corrupted, ſeeming to be newly ſeparated from the Womb. The expulſion of this little foreign maſs was preceded by a moderate evacuation of Blood, for three or four days, with Pains of the Belly and Loins. The diſpoſition of this little ſtrange maſs might tempt one to believe, that it was rather a little new Falſe conception, engendered ſince the firſt Miſcarriage, during the ten days in which the woman had no evacuation from the Womb, than a remnant of a root of that After-birth, of which I had delivered her two and fifty days before, and which ſticking about one of the Cornua of the Womb, was there, having always ſome communication with it, preſerved incorrupt: this latter, however, we muſt believe, if it be true, as ſhe aſſur'd me, that ſhe had no communication with her huſband, which might beget a ſuſpicion, that this ſmall fragment of a Membrane might proceed from a new Conception. *Mauriceau.*

A great Fright from Thunder.

OBSERVATION XXXVIII.

Auguſt 9. 1691, I attended a woman, who had miſcarried but two days before of a Fœtus of three months, which had been dead ſeven or eight days, after a ſudden fright of the mother, occaſioned by a great clap of thunder, which made her ſwoon away. The next day a Flooding came upon her, which at laſt brought on an *Abortion.*

The violent agitation and diſorder of the Mind alone had the ſame effect on this woman, as a too great agitation of Body often has on others. *Mauriceau.*

Frighted at Thunder.

OBSERVATION XXXIX.

Auguſt 11. 1693, I attended a woman, who had juſt then miſcarried of a ſmall Fœtus, quite withered, and of the length of the Middle-finger. She was then near three months gone with child, but had received, nine days before, a ſudden and terrible fright from a great clap of thunder, which the ſooner diſpoſed her to miſcarry, for that ſhe had, ſome days before, felt Pains in her Belly, towards the Region of the Womb; beſides, ſhe was a little woman, and of a very tender conſtitution, though ſanguine enough, and had miſcarried twice before of Falſe conceptions, at ſome interval of time from each other. This obliged me to order Bleeding in the Arm at the beginning of the ſecond month of her pregnancy, that I might preſerve, if poſſible, this third Conception from turning to a Falſe one, as it happened in the two preceding.

For it is to be obſerved that oftentimes the too great abundance of Blood drowns and ſuffocates the principle of life in the Conception, at the very beginning, and converts it into what is vulgarly called a Falſe conception.

This Bleeding had produced the good effect I hoped from it, and would have contributed very much to the preſervation of the child, with which the woman was really big, if the accident of the great clap of thunder had not cauſed its death, by the fright. It might however be doubted, whether the great fright alone cauſed the Miſcarriage, or whether this misfortune was owing to the Pains ſhe had felt before, near the Region of the Womb, which proceeding from the redundancy of Blood in the Veſſels of that part, might be ſigns and forerunners of that misfortune. But it is certain that both theſe cauſes might have acted in conjunction towards producing the event. The woman, after ſhe had thus got rid of the dead Fœtus, and its After-birth, by the ſole benefit of Nature, enjoyed her health. *Mauriceau.*

Inſtances of Miſcarriages from Grief.

OBSERVATION XL.

November 14. 1685, I attended a woman of twenty-ſix, who three hours before had miſcarried, at the end of ſix months of her firſt pregnancy, of a child, which ſhe had carried dead in her Womb five or ſix weeks; for ſo long ſhe had not felt it ſtir.

This woman had been very unhealthy for ſeven or eight years, after which being married, and proving with child, ſhe had been very much diſordered till the end of four months and a half, having all that time her Legs very much ſwelled. And as the child of which ſhe miſcarried at the end of ſix months had been dead ſix weeks, as I ſaid before, it had only the proportions of a child of four months and a half, which was the reaſon that Nature of herſelf expelled it with eaſe.

As ſhe had a great deal of vexation and trouble of mind, I ſuppoſe that, beſides her ſickly conſtitution of Body, theſe might alſo contribute not a little to the death of the child, which however was preſerved ſo long a time without any great decay, becauſe its Waters, which preſerved it from putrefaction, ran off but two days before the mother miſcaried of it.

The woman, notwithſtanding this accident, did very well afterwards, and from a ſickly creature, as ſhe was for ſeven or eight years before marriage, grew ſound and luſty, and in a little time grew big with another male infant, of whom I happily delivered the mother at her full term, as I did of ſeveral more afterwards.

Hence we may ſuppoſe that marriage was of more efficacy in reſtoring and eſtabliſhing this woman's health, than all the remedies ſhe had ever uſed. The natural cauſe of this ſalutary event may be aſſigned to her lying-in; for by that the paſſages that ſerve to carry off the Menſtrual ſuperfluities, which were ſtraitened and obſtructed when ſhe was a maid, were enlarged and opened; whence that evacuation was much better performed after childbed than before. The ſame thing happens to many other women, who enjoy a much better ſtate of health after marriage than before. *Mauriceau.*

OBSERVATION XLI.

March 21. 1687, I delivered a young woman of twenty of a dead Fœtus, at the term of four months, it being the firſt time of her going with child, which I drew away intirely incloſed in its After-birth and Membranes.

This misfortune was owing to the great trouble ſhe received eight days before about a theft committed by one of her domeſtics. Beſides the hurry and diſorder of ſpirits on that account, ſhe had greatly fatigued herſelf by haſtily running up and down ſtairs, in order to diſcover the thief.

The corruption of the Body of this Fœtus proved it to have been dead ever ſince that time; but the mother, notwithſtanding this unhappy accident, was as well after Delivery, as if ſhe had lain in naturally of a living child at the end of the term. *Mauriceau.*

OBSERVATION XLII.

The 26th of February. 1678, I delivered a woman of a Fœtus of ſix months old. She had laboured under a Flux of Blood for the laſt fifteen days, which was moderate in the beginning, but at laſt became ſo exceſſive, that if I had not taken the child from her, which was yet alive, it would undoubtedly have periſhed with the mother, who had fainted ſeveral times, from the exceſſive Flux, occaſioned by the ſeparation of part of the After-birth, as appeared after her Delivery, by ſeveral portions of clotted Blood, which were found firmly attached to that piece of the After-birth that was ſeparated from the Womb, the other part which adhered to it having ſerved to nouriſh the child, which, though very weak, was yet living when I brought it away from the mother, who, by this ſeaſonable aſſiſtance, was preſerved from the great peril of dying in a few hours, had I not immediately broke the Membranes, turned the child, and extracted it by the Feet.

The huſband of this woman told me, that her Flooding was owing to the great affliction ſhe had been under for the death of a gentlewoman her friend. This is not at all unlikely, becauſe it is very certain, that great ſorrow, as well as fear, is capable of producing this effect, by ſuddenly drawing the Blood in too great abundance towards the Interior parts, and ſo overcharging their Veſſels till they burſt. *Mauriceau.*

OBSERVATION XLIII.

On Monday, October the 4th, 1725, I was, about four o'clock, called upon to ſee one Mrs. Jackſon, a waterman's widow at Rotherhith; her huſband died the Friday before, and was buried the night before I came. She attended his corpſe to the grave, by which attendance, and through ſorrow, ſhe fell into the illneſs ſhe then laboured under, which was a Flooding. Upon examination I found the Inner orifice of the Womb ſpread, and both the Feet of the Fœtus paſſed through it; ſhe was about ſix months gone with child. I judged it adviſeable to deliver her immediately; and well greaſing my Hand, I introduced my two Fore-fingers into the Outer orifice, with which I took hold of one Ancle, and pulled with all tenderneſs, and the other Foot following, I was able to take hold of both Legs; the Parts were ſo tender, that the Foot of the Leg I firſt took hold of, was almoſt ſeparated at the Ancle; however, I drew the Legs on gently till the child advanced to the Shoulders; then paſſing up my Hand, I brought down the Arms on each ſide. I now endeavoured, by laying one Hand on the Breaſt, and with the other taking hold above the Shoulders, to extricate the Head; finding it ſtick there, I paſſed up my Fore-finger into the Mouth, but the child being very tender, the Jaw ſplit and gave way; ſo I endeavoured to bring it out by pulling at the Shoulders, but this would not do, the Body ſeparated from the Neck, and left the Head behind; wherefore I immediately paſſed up my Hand, and got my two Fore-fingers above the Head, and preſſing with them bent upon it, I brought it away.

I ſhould have obſerved, that after the ſeparation of the Body, the After-burden preſented itſelf before the Head, and came away; but as I brought the Head immediately afterwards, there was no great Loſs of Blood. *Giffard.*

Inſtances of Miſcarriages from a Diarrhæa, or Dyſentery.

Observation XLIV.

May 3. 1683, I attended a woman who had been a month afflicted with a Diarrhæa and Teneſmus, which had reduced her very low. She was ſuſpected to be about five months gone with child, but two phyſicians who had conſulted on her caſe being ſomewhat dubious, had recommended me to the patient, that they might know my opinion. I examined her in their preſence, and aſſured them that ſhe was really with child, though the Internal orifice of the Womb appeared to me conſiderably open in its Exterior part; but it was quite cloſed up in the Interior, which, in conjunction with other ſigns, made me judge that ſhe was moſt certainly with child. But contrary to my opinion, which was the real truth, her midwife had aſſured theſe phyſicians that ſhe was not; and another ſurgeon, who examined the patient after me, with as much obſtinacy as ignorance eſpouſing the ſentiments of the midwife, adviſed her to take a Clyſter with four ounces of Honey, inſtead of Clyſters of milk, or of a ſimple decoction of Bran, which I had ordered for her. This Clyſter immediately increaſed the diſtemper to ſuch a degree, that ſhe miſcarried of a child ſix months grown, who was yet alive. But the mother, who had been extremely weakened by that diſmal diſtemper, died the ſecond day after miſcarrying, thanks to the ignorance of that ſurgeon, who knew no better than the midwife. *Mauriceau.*

Observation XLV.

June 9. 1683, I attended a young woman of twenty, who had juſt before miſcarried, at the end of five months and a half, of her firſt Big-belly. The child lived half an hour; but the midwife could not bring away the intire After-birth, but left a third part of it in the Womb, which having quite cloſed itſelf when I came to aſſiſt, and not being to be opened without violence, obliged me to commit the expulſion to Nature, which threw off its burden by pieces half ſuppurated for five or ſix days together.

All this time I ordered Emollients to be injected into the Womb three or four times a day, as well to waſh away the fœtid excretions, as to promote the expulſion of the remainder of that foreign maſs. This woman had for ſeveral days before been troubled with a Looſeneſs, which was a principal cauſe of her miſcarrying; and after ſhe got up, was ſeized with a double Tertian, which held her a month, after which ſhe recovered her health. *Mauriceau.*

From a Dyſentery.

Observation XLVI.

In the year 1692, there came abundance of ſoldiers into this country, and brought with them a Dyſentery, which ſpread itſelf in Valogne, and raged with great violence, carrying off almoſt all, both old and young, whom it once ſeized. But thoſe of ſound conſtitutions and the rich eſcaped beſt. It ſpared no ſort of men from the magiſtrate to the peaſant, except phyſicians, ſurgeons, and apothecaries, or, to ſpeak more properly, ſurgeons, for we of that fraternity carry on three fourths of the medical buſineſs in this place. In October the wife of a glover, ſix months and a half gone with child, who had been my patient ſix days under this melancholy diſtemper, which I thought from the firſt day ſhe would never get over, ſent in the afternoon to tell me that ſhe felt violent Pains, and begged that I would come to her. I went immediately, and found her in the pangs of travel, the child in its right place, the Waters formed and ready to pierce, which happened after ſome throes. The child ſoon followed, and I delivered her of her After-birth, which was very ſmall, without any difficulty. The child after this lived two days, and the mother eight. *La Motte.*

Cauſe, a Dyſenteric Flux.

Observation XLVII.

February 8. 1686, I attended a woman ſix months gone with child, who was almoſt reduced to extremity by a very bad Dyſenteric Flux, which had tormented her for three months. As ſhe felt extreme pains in her Belly at this inſtant, and voided matter like the lees of red wine diluted, which were certain marks of an inflammation and eroſion of the Inteſtines, I told her huſband ſhe was in the utmoſt danger of her life; and as to what he ſaid, that he hoped, agreeable to the ſentiments of a phyſician who had ſeen his wife, that if ſhe were delivered there would be more room to expect a recovery, I told him I was of a contrary opinion, and ſince her diſtemper was come to ſuch a height as it now ſtood, I believed ſhe would certainly die in a few days. The event juſtified my prediction, for the poor woman died two days after I had ſeen her in that condition, and on the ſame day that the violence of that mortal diſtemper brought on a Miſcarriage.

For it is to be obſerved, that if there be any grounds to hope that lying in will relieve the diſtempers under which women with child labour, it is true only with reſpect to thoſe diſorders which are cauſed by their pregnancy, and not of other diſtempers which have no dependance thereon; for theſe, inſtead of being leſſened, or relieved by lying in, as is too often hoped, become more dangerous than they were before; becauſe Nature, which was already embarraſſed with a diſeaſe of a dangerous nature, cannot at that time well manage the evacuation of the Lochia, the ſuppreſſion of which immediately cauſes a reflux of the humours upon the principal parts which were indiſpoſed before. *Mauriceau.*

Inſtances of Miſcarriages from unſeaſonable bleeding and purging.

Observation XLVIII.

March 15. 1689, I attended a woman four months gone with child, who, by advice of two phyſicians, had been blooded in the Foot in the beginning of her pregnancy, which they knew nothing of, and had afterwards taken a vaſt quantity of moſt unſeaſonable medicines, which having ſufficiently racked her, at laſt forced a Miſcarriage, the infant expiring as ſoon as born.

A few days before this unfortunate event, I viſited the patient, and found her in a bad ſtate, and labouring under a Flux of bloody Seroſities, by which I knew ſhe was in danger of miſcarrying in a ſhort time; for I aſſured her ſhe was with child, notwithſtanding the contrary ſentiments of the two phyſicians, who had always aſcribed the diſorders cauſed by her pregnancy to the ſuppreſſion of the Menſes, which they endeavoured to provoke by remedies not at all ſuited to the nature of a Big-bellied woman. But their error lay in not well conſidering the difference of treatment due to the different ſtates of maid and wife under ſuch a circumſtance, which though it proved unlucky to the infant, yet I hope this example has made them wiſer and more cautious. *Mauriceau.*

Observation XLIX.

A. D. 1672, June 18, I had under my care a young woman of twenty, of a very fine complexion, ſix or ſeven months gone with her firſt child. She had kept her bed fifteen days, labouring under Pains of the Kidneys and Belly, which at laſt brought on a Fever, preceded by Shiverings. For this reaſon the phyſicians who ordinarily attended her directed her bleeding no leſs than ſix times in eight days, contrary to my ſentiments, who was for uſing that remedy with moderation, and bleeding no more than twice, which I thought ſufficient to preſerve her as much as poſſible from miſcarrying, which at laſt was the conſequence of theſe frequent bleedings, as I had foretold, the child dying in her two days after the Fever came upon her, preceded by Shiverings. So that the ſame remedy which, if uſed with moderation, had been beneficial, by exceſs brought on that miſchief which it was intended to prevent. It would ſignify nothing here for people to affirm in confutation of my opinion, that they have known women with child blooded twelve and fifteen times, and even more, for diſtempers that have ſeized them, and yet went out their time very happily; for I ſhall only anſwer, that I have much oftener obſerved, that two or three unſeaſonable bleedings have brought on a Miſcarriage. *Mauriceau.*

Observation L.

March 31. 1688, I delivered a woman, aged thirty-three, of a girl, after ſixteen years barrenneſs, for which there was no manifeſt cauſe, except that in the ſecond year of her marriage ſhe proved with child, but by the preſcriptions of a phyſician, who did not ſuſpect ſhe had conceived, was purged, and blooded in the Foot, though with much repugnance, after which ſhe miſcarried of a Fœtus of two or three months growth. Since that time ſhe had taken a ſtrong averſion to that phyſician, as being perſuaded that her Sterility was owing to that Miſcarriage, which might have altered the diſpoſition of the Womb.

I have often known the like faults committed by other phyſicians, who have not been acquainted with the caſes of women, and imputing thoſe ſlight indiſpoſitions which accompany pregnancy to other diſtempers, have by their unſeaſonable remedies procured *Abortions* in married women as well as others, without conſidering that they might be with child. *Mauriceau.*

Observation LI.

April 1. 1693, I delivered a woman at the term of five months and a half, of an infant who had been dead a whole month; for ſo long ſhe had not felt it move, that is, after the third purge ſhe had taken by order of her phyſician, which had worked too violently with her.

This woman, when ſhe was but three months gone, had the Small-pox, of which, however, ſhe was well cured, and felt her child move very ſtrongly for fifteen days afterwards, till the violent working of the laſt purge much diſordered her, and killed the infant within her, which was plain, becauſe it had not made the leaſt motion ſince that time, and becauſe fifteen days before this Miſcarriage ſhe was ſeized with a great Flooding, which continuing upon her all that time, made way for the expulſion of the infant, which ſeemed to be no bigger than a Fœtus of four months. Its Body was ſo corrupt, that it was quite ſtripped of the Epidermis, but it had no marks of the Small-pox, as I have ſeen in other children, whoſe mothers have had the Small-pox in the time of their pregnancy. The After-birth of this child was as big as that of one which comes at the full term, ſo that I had much ado to bring it away, becauſe the Womb had only opened wide enough for the child; but this After-birth was not at all corrupted as the child was. The mother being thus happily delivered, was ſo briſk afterwards, that I believe if her phyſician had not unfortunately given her that third purge, on pretence of intirely evacuating the ill humours, which he ſuppoſed might remain in the Viſcera after the Small-pox, though ſhe was well cured, ſhe would have gone out her full term, and have been the joyful mother of a living child. *Mauriceau.*

OBSERVATION LII.

The 25th of Auguſt, 1669, I attended a woman about five months gone with child, who had a continued Flux of Blood for three weeks paſt, but very moderate. Her Menſes before this had been regular every month, though not quite ſo plentiful as uſual; but ſhe had not as yet felt the child move. Theſe were arguments to make the phyſician who ſaw her believe ſhe was only big with a Mole, though I aſſured him ſhe was really with child, telling him ſeveral examples of women I had ſeen, who had been delivered of living children at the uſual term, notwithſtanding the like accident. But this phyſician obſtinately perſiſting in his opinion, ordered the woman, ſome days after I ſaw her, a purging medicine, which inſtead of promoting the expulſion of the Mole, as he pretended it would, made her miſcarry of a child, which expired ſoon after. Now ſhe might have ſaved her infant, had ſhe conſented to bleed in the Arm, and indulge herſelf in reſt, as I adviſed. *Mauriceau.*

OBSERVATION LIII.

Auguſt 28. 1690, I attended a woman who, but an hour before, had miſcarried of a little Fœtus three months and a half grown, whoſe Heart ſtill continued to beat.

This unlucky accident was occaſioned by a purgative medicine, which ſhe had taken the ſame day, by advice of her phyſician, who pretended to purge her Stomach of Bile, which was the cauſe of a Nauſea, of which ſhe complained, not conſidering that thoſe diſorders are the uſual attendants on pregnancy. Beſides, all purgatives were quite improper for a woman in her preſent condition, for ſhe had then a ſmall Flooding, which had continued on her for five or ſix days. So that her Big-belly, though endangered by this ſmall Flooding, might however have been ſecured, and all things ſet to rights, had not the vigor and vitality of this little Fœtus been utterly deſtroyed by that unlucky purge, ſo unſeaſonably preſcribed by this phyſician, who could not believe the woman was with child, though I aſſured him of it, but fancied ſhe went with a Falſe conception, which Nature tried to expel by means of the Flooding before-mentioned.

The woman having thus miſcarried of a living Fœtus, the After-birth remained in the Womb, which cloſing immediately after expulſion, that foreign maſs could not be brought away without offering too much violence to that part, and therefore the buſineſs was intruſted to Nature. But the After-birth, thus ſuffered to remain, three days afterwards excited a great Flooding, which threw the woman into very frequent faintings. This obliged me to bring away the foreign maſs, finding the Matrix now enough dilated to do it without violence. After this the woman recovered her health by degrees, but had always a very ſenſible regret for not following the wholſome advice I gave her before ſhe miſcarried, which was, to uſe no remedy but reſt, and once bleeding in the Arm, which I had ordered on account of the ſmall Flooding ſhe had upon her. *Mauriceau.*

OBSERVATION LIV.

July 21. 1691, I attended a woman aged 25, newly returned from Bourbon, where ſhe had been to drink the mineral waters for a Palſy of the Right leg and thigh. This diſorder was the relicks of an Apoplectic fit, which terminated in a Palſy of the Right-ſide, though this too went off, except from the parts before-mentioned, where it ſettled itſelf till the woman's laſt lying-in, which was a year and a half before. Having tried abundance of remedies, ſhe was at laſt adviſed to drink the waters, and ſetting out with her huſband, who was to conduct her to Bourbon, ſhe became with child on the road. After this, ſhe was extremely afflicted with convulſive Hyſterics, and imagining that all her diſorders were owing to the fatigues ſhe underwent in her journey, ſhe drank the waters very duly, had them pumped on her lame Thigh, uſed the Baths, bleeding in the Foot, and a multitude of other remedies, ignorantly preſcribed, which at laſt made her miſcarry of a child four months old from its Conception, though it had been dead a long time in the Womb, as appeared by its corruption.

But ſhe had not the good fortune to be delivered, at the ſame time, of the After-birth, whoſe retention excited Convulſive motions, and Hyſterics, which obliged a ſurgeon to attempt the bringing it away. This he indeed effected ſix hours after the birth, but with much difficulty, as not being very expert in ſuch operations. The violence then uſed probably contributed to raiſe a very painful Tumour near the Left ilium, which communicated itſelf to the adjacent part of the Womb on the ſame ſide, which was oppoſite to that of the Paralytic thigh. This Tumour, which lay deep, was occaſioned by a Flux of humours, which from time to time took their courſe towards the Left-ſide, the other ſide of the Womb, which was that of the Paralytic thigh, being no ways affected, but rather depreſſed than ſwelled.

But the principal cauſe of theſe diſorders was the woman's not having her Menſtrual purgations in ſuch abundance as before ſhe had miſcarried, Since that time, which was ten months, ſhe had been ſubject to a continual Fluor albus, whoſe Acrimony was very troubleſome to her, and gave reaſon to fear that it proceeded from ſome Ulcerous diſpoſition of the Womb. But I found no Ulcer at this time actually formed in the Womb, that was perceptible by the touch; though ſhe had ſo painful a ſenſation above the Left-ſide, which was that where the Tumour was, that I imagined there was a free communication between them, and that this continual Fluor albus was nothing but a kind of purulent excretion from ſome Ulcer, which lodging in the Interior part of the Womb could not be ſenſible to the touch. As this woman took a journey to Paris on purpoſe that ſhe might conſult me on her indiſpoſitions, ſhe returned to her place of reſidence in the country, after ſhe had taken my advice, ſo that I do not know what has happened to her ſince; but I then thought ſhe could not live above a year. *Mauriceau.*

Inſtances of the Effects of *Abortive* Medicines.

OBSERVATION LV.

September 20. 1682, I attended a woman, whom I found five or ſix weeks gone with child, though ſhe had done all that lay in her power, for twenty days paſt, to make herſelf miſcarry, with the aſſiſtance of a wicked midwife, who deſerved the gallows. This wretch had given her ſeveral pernicious medicines for that purpoſe, and had handled her very roughly, in order to open the Womb, without being able to accompliſh her wicked intention. All ſhe could do had no other effect than to cauſe racking Pains all over the Belly, eſpecially near the Region of the Womb, which was inclined to an inflammation, and even diſcharged a ſmall quantity of Blood. I repreſented to her, that beſides the horror of her crime, which I diſplayed before her in as ſtrong colours as her confeſſor could have done, ſhe had run the riſk of murdering herſelf in endeavouring to deſtroy the fruit of her Womb. She told me that ſhe would not have done it, if ſhe had not thought, that the child, being neither ſhaped nor quickened, there could be no great harm in procuring a Miſcarriage. But I convinced her that ſuch a ſentiment was very ill founded, and that it was as pernicious, as the action ſhe had endeavoured to commit was wicked. This falſe perſuaſion, though of long ſtanding, that the Fœtus is not animated till a conſiderable time after Conception, has encouraged abundance of profligate women to procure themſelves a diſcharge of the Embryo after Conception, and an *Abortion* in the firſt months of their pregnancy. Wherefore I think it would be very convenient, for avoiding ſo pernicious an abuſe, to oblige every one to believe, what to me ſeems very true, that from the firſt day, and immediately after Conception, the Soul is actually introduced into the little ſpeck of matter, which being no bigger than a grain of millet at its firſt beginning, and the matter thereof exceeding fine, muſt be imperceptible to the ſight of any one who ſhould diſſect a woman that died, by ſome accident, the very day, or the day after Conception. But we ſee with the eyes of the Mind what we cannot diſcern with thoſe of the Body, and clearly underſtand that the extreme minuteneſs, the ſoftneſs, and the delicacy of that point of matter, is no obſtacle to the infuſion and permanence of the Soul which reſides there. It is ſufficient for the purpoſe, that this ſame point of matter be organiſed by the perfect arrangement of all the little atoms of which it is formed immediately after Conception. As to the reſt, when I had convinced the woman by my reaſons, and given her what advice I thought proper to ſecure her pregnancy, which had been very much ſtaggered by the medicines ſhe had taken to deſtroy it, I left her in a reſolution, as ſhe teſtified to me, of following the good counſel I had given her. But as ſhe was unknown to me, I could not learn the event, except that eight days after I underſtood ſhe was much better, and there were great hopes ſhe would proceed with her Big-belly. *Mauriceau.*

Observation LVI.

In the month of June, 1685, I was ſent for by a woman, who wanted my advice about a very great Flux of Blood ſhe had been afflicted with for a day paſt, complaining alſo of her being at the ſame time extremely fatigued with a Dyſenteric Flux. I was ſhewed a vaſt quantity of linen all over bloody, and abundance of clots of Blood which came from the Womb, not without racking pains of the Loins, and I was told that ſhe voided nothing elſe. But when I had touched her, and found no tokens of one gone three or four months with child, as I had diſcovered in her upon examination at two different times before, I told her that I really believed ſhe had voided ſomething elſe beſides all thoſe clots of Blood ſhe took care to ſhew me; and that I had obſerved her before to ſhew a great deal of trouble and concern when I aſſured her that I believed ſhe was with child; and that ſhe had, contrary to my advice, taken medicines to provoke a Miſcarriage, which by their ſharp and irritating property had drawn upon her that continual Flux of Blood, and bloody Seroſities, which had held her above two months; that continuing in her evil intentions, as I ſuppoſed, ſhe had this laſt time taken ſuch violent medicines, that ſhe had at laſt effectually provoked a Miſcarriage; that ſhe had not ſent for me before ſhe had accompliſhed her ill deſigns, and for fear I ſhould be a witneſs of her damnable practices, had concealed the child of which ſhe had miſcarried from my ſight, imagining ſhe could perſuade me, after a while, to think myſelf miſtaken when I believed her with child, which ſhe durſt not confeſs, for fear her huſband, who had not lain with her, as he ſaid himſelf, ſhould find out her infidelity.

This example ſhews us, that as there are ſome women who are miſtaken in thinking themſelves with child, ſo there are others who would fain deceive the phyſicians and ſurgeons, and conceal their Great-bellies to preſerve their reputation. *Mauriceau.*

Observation LVII.

September 2. 1685, I attended a woman about two months gone with child, who two days before had received from a wicked midwife, who deſerves to be hanged, a potion to make herſelf miſcarry, which worked ſo violently with her, that ſhe had been, as ſhe told me, upon the ſeat above a hundred times, with extraordinary efforts, ſo as to void Blood by the Fundament. Yet, for all this, ſhe could not bring to paſs her wicked deſign, though ſhe had alſo cauſed her to be blooded in the Foot, three days before ſhe gave her the potion, beſides offering ſeveral violences with the Hand to the Womb, which I found very much irritated, and extremely fallen, but quite cloſe, and in a condition which gave hopes of preſerving her pregnancy, provided the patient followed the wholſome advice which I gave her, in order to mitigate thoſe intolerable Pains which that execrable drench had brought upon her, by reſting continually in bed, and by the uſe of milk, both by the Mouth, and by way of Clyſter.

She expreſſed her intention to follow this good counſel, and a great regret for conſenting to the wicked action of the midwife, but would not tell me her name, for fear I ſhould bring her to puniſhment for her crime. Two days afterwards I attended the ſame woman, whom I found in a pretty good condition; all thoſe diſmal ſymptoms, which I had before obſerved in her, having ceaſed, and given way to the ſalutary directions I had given her, when I convinced her at the ſame time of the enormity of their crime, who, without much ſcruple, voluntarily make themſelves miſcarry in the firſt months of their pregnancy, erroneouſly imagining that the infant is not as yet animated. A miſtake as pernicious as it is great; for it is certain that the Body of a Fœtus, though never ſo ſmall, is intirely formed and animated from the firſt day of Conception, all the reſt of the term ſerving only to ſtrengthen it, and to give it the neceſſary growth. *Mauriceau.*

Observation LVIII.

July 19. 1677, I delivered a woman of twenty five, of a dead child at the term of ſix months, which preſented the Arm. This *Abortion* ſhe had deſignedly procured by taking forcing medicines ſome days before, with an intent by this unnatural means to hide her ſhame. The Flooding was ſo exceſſive, that I verily believe ſhe would have died without my aſſiſtance, which however ſhe did not deſerve, becauſe of the heinouſneſs of her crime; and though ſuch procured *Abortions* are uſually much more dangerous than thoſe which are accidental, ſhe at laſt recovered and did well, it pleaſing God to ſpare her for this time.

Inſtances of Miſcarriages from a Rigidity or Stricture of the Uterus.

Observation LIX.

April 23. 1691, I attended a woman who had juſt miſcarried of a ſmall Fœtus no bigger than a bee, which Nature had expelled of itſelf without any conſiderable accident.

This woman was ſuppoſed to be two months and a half gone with child, and this was the fifth Miſcarriage ſhe had in the ſpace of two years, and all of them nearly at the ſame term.

This example ſhews us, that ſome women are as prone to miſcarry as to conceive. The beſt advice I can give theſe women in order to preſerve them from ſuch frequent Miſcarriages is, to abſtain intirely from the marriage-bed for five or ſix months, that ſo their Womb being ſtrengthened by ſo long a reſt, may be the better enabled to retain the Conception, when after this they breed. It is good alſo to avoid going in a coach, and much more in other carriages which ſhake the Body more, during the time of pregnancy. It is ſometimes even neceſſary, for the greater precaution, that they keep themſelves in bed; and that they abſtain from their huſbands, that they might not, by too much motion, or efforts, endanger their weak and precarious pregnancy. But there are few women who can prevail upon themſelves to follow this wholſome advice, ſo neceſſary oftentimes to preſerve the Fruit of their Womb, and make them joyful mothers. *Mauriceau.*

Observation LX.

A lady at fifteen leagues diſtance from this city, whom I had always ſeen delivered ſafely, and without accident, during her pregnancy, came into this country about ſome family affairs with her huſband. Being at this time with child, and ſtaying in theſe parts longer than ſhe expected, upon finding herſelf not well, ſhe conſulted me once or twice by letter, and then deſired I would come to ſee her.

I found her as big as ſhe uſually had been before at her full term, and much more incommoded, though ſhe was then only in the latter part of the ſixth month. She had for more than fifteen days ſuffered continual Pains, not like thoſe which precede Delivery, but which made her Belly ſeem as if it was going to open.

When ſhe lay on her Back with her Knees elevated, her Belly appeared much ſwelled and very tenſe, and ſo little room was left for the Stomach, that a great part of whatever ſhe eat was brought up again, before it could have time to digeſt. Beſides theſe, ſhe felt the child move but very little.

All theſe circumſtances made me conclude ſhe was big of more than one child; and that the bulk of what was contained in the Uterus, diſtending it to a greater degree than it could well bear, cauſed all her Pain and Uneaſineſs, which increaſed daily as her pregnancy advanced, and her burden augmented.

I took away ſome Blood, with an intent to relieve her by emptying the Veſſels, and adviſed reſt in whatever ſituation ſhe ſhould find moſt commodious, without confining her to any.

Eight days after this viſit ſhe ſent for me again, but I could not make haſte enough to come before ſhe was delivered of two children, which lived but a few hours. The lady ſoon recovered, and has ſince lain in of ſeveral children without any accident, having only one at a time. *La Motte.*

Observation LXI.

A young woman at two leagues diſtance from this town, in the fifth month of her pregnancy, was ſeized with violent Pains, which ſhe took for the Colic. Her mother ſent for me in all haſte, ſuſpecting the diſorder to be Labour, as in effect it was, for I found the child born, and alive when I arrived. As the After-birth was come away, I had nothing to do but leave he to the care of her mother, and return home.

Some little time after ſhe was again with child, and at th term of five months miſcarried a ſecond time, but ſo ſuddenly, that they could not ſend to me. However ſhe go over this Miſcarriage, as eaſily as the firſt.

Being with child a third time, ſhe was more upon her guard and though always very regular, ſhe now took care to avoi every thing ſhe thought might give occaſion to the forme Miſcarriages. I took away ſome Blood three times, the la of which was in the ſixth month, and made her purſue an exa and relaxing regimen, which enabled her to carry her infa till the ſeventh month, and then ſhe miſcarried. The chil lived a few days, and then died.

As ſhe attributed her going a little longer this time than ſhe had done before, to her regular conduct, ſhe reſolved to be yet more cautious the next time ſhe ſhould breed. And that ſhe might ſucceed the better, as ſoon as ſhe was recovered of the laſt Miſcarriage, I took away ſome Blood twice, and purged her as often. I repeated Bleeding as ſoon as I knew ſhe was with child, and continued to do ſo every month. Mean time I made her take whatever I thought capable of cooling and relaxing, not ſuffering her to eat ſo much as a toaſt, and forbidding her to drink almoſt every thing that was ſpirituous.

Either by this conduct, or for ſome other reaſon, to me unknown, ſhe was enabled to ſupport her pregnancy to the full term, when I delivered her happily of a living child. She afterwards went through a ſecond, and a third pregnancy, with the like ſucceſs.

But being again with child, and much more incommoded at the end of three months, than in the three preceding pregnancies at nine, ſhe was at the term of ſix months ſurpriſed with Pains equal to thoſe ſhe uſed to feel in former Labours; and the Waters piercing the Membranes, left no room to doubt of her condition. Upon this ſhe ſent for me, and I delivered her of two children, which died ſoon after they were born; and then of a large Placenta common to them both. In a few days ſhe recovered.

Since then I have delivered her many times of one ſingle child, which ſhe brought always to maturity without any great difficulty. *La Motte.*

REMARK.

Here we have a remarkable inſtance of a too great Rigidity of the Uterus, which rendered it incapable of a Dilatation above a certain degree. Hence when the bulk of the Fœtus, together with the Membranes, Placenta, and Waters, became ſo large as to diſtend the Uterus farther than it could bear without Pain, a Miſcarriage immediately enſued.

But when the general habit of the Body was ſufficiently relaxed by Bleeding, and a relaxing Regimen, the woman went her full time, till at laſt the Uterus was too ſuddenly diſtended by twins, and then ſhe miſcarried again.

This woman's caſe confirms the doctrine laid down by Hippocrates, who, in his *Treatiſes on the Diſeaſes of Women*, repreſents this Rigidity of the Uterus as a frequent cauſe of Miſcarriage. And, in his *Diſſertation on the Seed*, he gives it as a reaſon, why the children of robuſt parents are often born very weak.

OBSERVATION LXII.

Inſtances of Miſcarriages from a Scirrhus of the Placenta.

May 31. 1681, I viſited a woman, aged thirty-five, of a very Atrabilious conſtitution, who had juſt miſcarried at the period of ſix months and a half, the child dying ten or twelve days before, without receiving any hurt. She had already undergone three or four ſuch Miſcarriages, near about the ſame time, with the like accident, that is, about the fore-mentioned time ſhe could no longer feel her infant move, but only ſome riſings of the Womb, and voided a ſmall quantity of Blood for ten or twelve days before *Abortion.*

The Placenta of this woman was all over Scirrhous, to which her Atrabilious temperament did not a little contribute. *Mauriceau.*

OBSERVATION LXIII.

February 1. 1679, I delivered a woman of a child ſix months and a half grown, which preſented its Breech. It had been dead ten or twelve days, not having been felt by the mother all that time; and was the fifth Stilborn ſhe had brought forth ſucceſſively after that manner, without any fright or hurt, or other manifeſt cauſe, that could occaſion the death of all her children in the Womb, juſt at the end of ſix months and a half, and twelve or fifteen days before ſhe was delivered. And though during her laſt pregnancy ſhe had taken all the precautions I adviſed her; the two principal of which were, keeping her bed, or at leaſt her chamber, and ſeparating from her huſband, the ſame misfortune ſtill attended her. But as the After-births of this woman's children were commonly all over Scirrhous, I concluded that this ill diſpoſition, which hindered the infant from receiving ſufficient nouriſhment, of which it had the more need when it began to grow large, was the true cauſe of its death, and of the Miſcarriage that enſued. *Mauriceau.*

OBSERVATION LXIV.

June 20. 1686, I attended a woman, who had miſcarried the day before of a child ſix months and a half grown, which died in the Womb, without any manifeſt cauſe, five or ſix days before, during which the mother had not felt it move.

As the After-birth was all over Scirrhous, and the woman, who was of a very Atrabilious complexion, had miſcarried five times before this laſt, from the term of four or five months, to that of ſix or ſeven, I imagined, that this Scirrhous diſpoſition of her After-birth, which appeared alike in all her other *Abortions*, and proceeded from a too Atrabilious temperament, had been the true cauſe of the death of all her infants, and of all the conſequent Miſcarriages at times when ſhe was pretty far advanced in her pregnancy. For this Scirrhous diſpoſition of the After-birth cauſing a great obſtruction in all its ſubſtance, was the cauſe why the infant, not receiving ſufficient nouriſhment from it in order to its ſupport, muſt come by that defect to be deprived of life.

To remedy this misfortune, which had ſo often happened to this woman, I adviſed her to moiſten and temper the extreme dryneſs, and exceſſive heat of her Atrabilious conſtitution, to uſe the Bath for ſome time before Conception, and aſſes-milk all the time after, with a temperate and moiſtening regimen, wholly to abſtain from wine, and even from her huſband when ſhe knew ſhe was with child; that ſo, by this regimen, ſhe might do all that in her lay, to rectify her too Atrabilious conſtitution; and by that means be enabled, for the future, to carry her children from the time of Conception, to the end of the natural term, without ever miſcarrying, as ſhe has unfortunately done by all ſhe has yet had. *Mauriceau.*

Inſtances of the After-birth retained, and diſcharged by Suppuration, &c.

OBSERVATION LXV.

The 8th of February, 1674, I and two of my fraternity were ordered to attend a woman who had miſcarried four hours before of a child of three months. The After-birth, which remained behind, had occaſioned a great Flooding. It was my opinion, that ſhe ought to be delivered of it inſtantly, finding it poſſible from the opening of the Womb, which, though moderate, was ſufficient for the purpoſe; conſidering alſo, that the Flux of Blood, by moiſtening the paſſage, facilitated the extraction. But my two colleagues, who were never the wiſer for being older than myſelf, over-ruled my ſentiments, alledging the danger of doing Violence to the Womb by that operation, which would increaſe the Flux, not conſidering that the ſole cauſe of that Flux was the Retention of the After-birth. The term *Violence*, which they made uſe of, in contradicting my opinion, determined the patient for the preſent to commit the expulſion to Nature, as they adviſed her, rather than ſuffer me to deliver her, which I could have eaſily done, had ſhe pleaſed, without deferring it till the next day, when ſhe ſent to me in order to do it; but the opportunity was then loſt: for the Womb cloſing, there was no poſſibility of extracting the After-birth, which being thus retained, put her in danger of her life for three weeks together, by accidents which happened, as I had fore-told her, from the Suppuration of the Placenta, whoſe infection produced, as it uſually happens on like occaſions, very ſharp pains about the Region of the Womb and Kidneys, a continual Fever, Hyſterics, ſanious and very fœtid Excretions from that part, and frequent fits of Fainting during all that time. *Mauriceau.*

OBSERVATION LXVI.

April 4. 1687, I attended a woman, who was near the brink of the grave, it being the third day ſince ſhe miſcarried of a child of four months, whoſe After-birth was left intire in the Womb, for the midwife was not able to deliver her of it, becauſe of the great difficulty ſhe found, as ſhe told me. Whence that foreign maſs there remaining for three days, had cauſed a prodigious Flooding; and as Nature had not yet expelled it, and there was no hopes of bringing it away but by violence, becauſe the Womb was quite cloſed, when I ſaw the woman, it turned at length to a moſt virulent putrefaction, which cauſed a continual high Fever, with two or three Exacerbations every day, accompanied with Faintings, and other ſymptoms uſual on theſe occaſions. But, for all theſe diſorders, and a bad Diarrhæa beſides, ſhe recovered her health, after a moſt grievous and troubleſome fit of ſickneſs for five whole weeks. I had ſome years before attended the ſame woman, when ſhe was extremely ill in the ſame manner, after another Miſcarriage, where the After-birth had been likewiſe left behind, the midwife not being able to bring it away, and was expelled by Suppuration like this laſt.

But it is to be obſerved, that tho' thoſe ſymptoms, which are cauſed by the Retention of the After-birth, are formidable, yet they are not ſo dangerous as thoſe which might happen from an Inflammation of the Womb, by the great violence done to that part in order to bring away the After-birth by force: and as of two evils the leaſt is to be choſen, we are obliged ſometimes to truſt Nature with the expulſion of thoſe foreign maſſes, when they cannot be taken away without offering great violence to that part, in dilating it, when too much cloſed. *Mauriceau.*

OBSERVATION LXVII.

July 12. 1684, I attended a woman who was but juſt beginning to recover, after ſhe had been very dangerouſly ill, three whole weeks, of a continual Fever, with Exacerbations, and other threatening ſymptoms, proceeding from the Suppuration of the After-birth left in the Womb, after ſhe had miſcarried of a child of three months; for her midwife was not able to bring it away, by reaſon of the difficulty ſhe found, the Womb, as ſhe told me, having quite cloſed immediately after the child came away. This obliged her to truſt the expulſion of it to Nature, which ſhe performed her uſual way, by an intire Suppuration of the foreign maſs, which held three weeks. For, though women, commonly, in theſe ſorts of *Abortions*, get intirely rid of the After-birth the ſame day, or a few days afterwards, yet we meet with ſome who are obliged to Suppuration, which proceeds in a ſlow and tedious manner, and is always accompanied with a Fever, a great Pain of the Head, and Hyſteric ſymptoms, with frequent Faintings, occaſioned by the corruption, which is alſo attended with a ſtrong Cadaverous ſmell. None of theſe ſymptoms ceaſe till the Suppuration is intirely finiſhed, which it is known to be, when the Excretions of the Womb are pure, and have wholly loſt their offenſive odour; as they began to appear in the woman I ſpeak of, when I ſaw her, who, after ſhe had ſo long laboured under all theſe melancholy accidents, recovered at laſt. *Mauriceau.*

OBSERVATION LXVIII.

April 2. 1679, I attended a woman thirty-five years old, of a very melancholy complexion, who had juſt miſcarried of a ſmall Fœtus of three months, quite waſted. As the Womb had only opened in proportion to the ſmallneſs of the *Abortion*, the After-birth remained behind, and could not be expelled, nor taken away, becauſe the Womb was almoſt quite cloſed after the expulſion of that ſmall Fœtus, and it could not be ſufficiently dilated without ſuffering too much violence. This diſpoſition obliged us to commit the operation to Nature, in hopes that it would bring matters to a good iſſue without aſſiſtance, as it frequently does in like caſes, where the After-births of ſuch ſmall Fœtuſſes are expelled without any extraordinary ſymptom, two or three days, and ſometimes nine or ten, after the Miſcarriage. But this came all away by Suppuration, which laſted three weeks, during which time the woman was forced to make uſe of Emollient injections into the Womb, which were of ſervice in daily cleaning and waſhing away all the purulent and fœtid Excretions of that part, which came from the Suppuration of the retained After-birth. And to the time that the Womb was intirely delivered from that foreign and adventitious maſs, which reſolved itſelf by Suppuration, the woman was incommoded with a Fever at intervals, a great Pain in the Head, and Hyſterics, which are the ordinary ſymptoms on ſuch occaſions, after which ſhe enjoyed her health. *Mauriceau.*

OBSERVATION LXIX.

The ſame day I attended a woman, who had miſcarried 27 days before of an infant of four months, a ſurgeon attending her, who not being able to bring away the After-birth, had truſted Nature to expel it. During its Suppuration the woman laboured under all the diſorders uſual on the like occaſion; ſuch as a great Weight and Pain in the Belly, a continual Fever, with ſeveral Exacerbations every day, a great Pain in the Head, with continual purulent and very fœtid Excretions. In this bad ſtate I found her, when ſhe told me that, but two days ago, ſhe had parted with a piece of the ſuppurated After-birth as big as her Little-finger. But as I found her Belly was pretty ſoft, and ſhe had no Pain near the Region of the Womb, that her Fever was inconſiderable, and Reſpiration free enough, I thought her intirely out of danger, though her huſband and all her relations were under great apprehenſions of loſing her, as knowing how ill ſhe had been for a long time.

However, I gave ſtrict orders that Injections ſhould be made uſe of to waſh away the purulent matter, and forbad all purgative Medicines, though her phyſician had very improperly preſcribed a Purge a few days after the Miſcarriage, in hopes to procure the expulſion of the After-birth by that means, which, on the contrary, exciting an inflammatory diſpoſition in the Womb, much irritated before by the reſidence of the foreign maſs, inſtead of relaxing, cauſed it to ſwell, by which means it ſhut itſelf more cloſely than before, and was the leſs capable of expelling the After-birth.

Hence the Suppuration became ſo extraordinary long, that the patient told me ſome time afterwards, that ſhe had voided bits of the After-birth for near forty days together; and after that was over, ſhe ſtill continued to diſcharge ſome Seroſities every day till the Catamenia reſumed their ordinary courſe, which was ſix weeks after my firſt viſit.

But though this woman's Womb had been much weakened by ſo long a Suppuration, it did not hinder her from conceiving and going out her full time with one of the luſtieſt girls I had ever ſeen, of which I happily delivered her in November the year following. The mother went ten days above nine months with this girl, who appeared ſo extraordinary large, that I had the curioſity to put her in a pair of ſcales, and found her to weigh above thirteen pounds, Averdupoize, without the After-birth, which was proportioned to the ſize of the infant. *Mauriceau.*

OBSERVATION LXX.

January 23. 1687, I attended a Woman, who, after ſhe was thought ſeven months gone with child, had miſcarried eight days before I ſaw her of a ſmall Fœtus, all corrupted, which ſhe ſhewed me, and it was no bigger than one of three months. But as the After-birth of that corrupted Fœtus was not brought away, from that time ſhe continued to void purulent matter from the Womb, which came from the detained After-birth, that waſted by Suppuration.

The woman told me that ſhe had reaſon to think herſelf ſeven months gone with child, becauſe ſhe had ſo long miſſed her monthly purgations; but that her Belly ceaſing to riſe theſe three or four laſt months, ſhe thought no more of it; the infant probably remaining dead all that time, though Nature did not expel it till at the ſeventh month.

It might ſeem pretty difficult to believe that a dead infant can remain ſo long a time in the mother's Belly without being expelled, and with ſo little inconvenience, did we not every day ſee ſuch inſtances, which convince us that ſome dead infants are preſerved in the Womb a very long time, without any conſiderable corruption, before their Waters run off; theſe Waters ſerving, if I may ſo ſay, as a ſort of Brine, to keep them from a cadaverous corruption, which immediately follows after their efflux, and obliges the Womb to expel them. Hence it was that the woman we ſpeak of ſo long retained the little dead Fœtus, and yet had her health, as ſoon as the After-birth, which remained, as I ſaid, in her Womb, turned to Suppuration, only taking care, as I adviſed her, to inject ſimple Barley-water three or four times a day into the Womb, to aſſiſt in cleanſing that part from the fœtid matter of this Suppuration, which might otherwiſe injure it. *Mauriceau.*

OBSERVATION LXXI.

May 28. 1686, I attended a woman, who had juſt then miſcarried of a child three months grown, after ſhe had been a month troubled with a Flux of reddiſh Seroſities, which is the common forerunner of *Abortions*. But as the Womb had only opened in proportion to the Body of the child, which was very ſmall, the After-birth being much larger, remained within; and as it could not be extracted by the Hand without too much violence, the Orifice of the Womb being ſhut, and there being no preſſing neceſſity for it, I judged it the ſureſt way to commit the expulſion to Nature, who, in her own time, freed herſelf by means of Suppuration, in which the After-birth came away by little and little, nothing appearing but purulent Excretions, which uſually ſucceed the retention of theſe ſorts of foreign maſſes, and ſo continue till the Suppuration being finiſhed, the Excretions of the Womb become pure, without that offenſive ſmell which thoſe that are purulent are commonly attended with. But that the part juſt mentioned may receive no ill impreſſion from the too long continuance of the corrupt matter in it, injections are every day, for ten or twelve days, to be uſed, as I directed in this Woman's caſe, in order to preſerve her from any ill effects of the Suppuration, after which ſhe did very well. *Mauriceau.*

OBSERVATION LXXII.

November 29. 1685, I attended a woman who had miſcarried ſeven days before of a child four months grown, whoſe After-birth remained in the Womb, the midwife not being able to bring it away, becauſe the Womb cloſed immediately after it had expelled the Fœtus, which it did with eaſe enough, as being a ſmall, ſoft, and withered Subſtance. So that the Womb at that time not opening itſelf but juſt in proportion to the ſize of the child, the After-birth being much larger, was retained, and had no way to come off but by Suppuration, which was accompanied with a high continual Fever, with Exacerbations, a great Pain in the Head, and other frightful ſymptoms, which made her life deſpaired of. However ſhe recovered at laſt, uſing no other means than what I adviſed, which was only to inject into the Womb, three or four times a day, a decoction of Barley, Agrimony, Mallows, and Marſhmallows, mixed with a little Oil of Sweet Almonds, in order to dilute the infectious matter proceeding from the Suppuration of the retained After-birth, that the Womb might receive no ill Impreſſion from the two long continuance thereof.

It often happens that the midwife, and the ſurgeon, to avoid being blamed for not delivering the woman of the After-birth, when ſhe has thus miſcarried, do their utmoſt to bring it away with the Hand; which I would adviſe by all means to attempt, provided the operation can be performed without violence, but not otherwiſe. For there is much leſs danger in truſting Nature with the work, than in going too rudely about it, in order to extract it from the Womb by violence, which might cauſe an Inflammation in that part, and ſo put the woman in far greater danger of her life, as I have known it ſometimes happen. *Mauriceau.*

Observation LXXIII.

March 7. 1682, I attended a woman gone with child no more than two months and a half, who miſcarried in my preſence of a living child, that plainly moved its Legs and Arms, and even opened its Mouth for the ſpace of half an hour. It came into the world without aſſiſtance, with a great Flooding. But as it was very ſmall, and the Womb had only dilated itſelf in proportion to it, the After-birth remained behind, there being no room to bring it away; becauſe the thickneſs and hardneſs of the Internal orifice, which was very cloſe ſhut, could not bear to be ſtretched without too great violence, which might have brought on a very dangerous Inflammation in that part. But the Flux of Blood was ſo increaſed by this retention of the After-birth, that the poor woman had ſeveral bad Fainting fits the firſt day; after that it ſtopped a little, but only for a day or two, and then returned in a diſmal manner, which it did, at ſeveral intervals, for the ſpace of three weeks, the Womb all the while not ſufficiently dilating ſo as to be able, of itſelf, to throw off its burden, nor to admit aſſiſtance to get rid of it without violence. And as it ſtuck all that time to the bottom of the Womb, ſo its ſticking there was the cauſe that it did not at firſt reſolve by Suppuration, as it uſually does, when, being intirely looſe from the Womb, it has no longer communication with it. So that the true Suppuration of the After-birth not beginning till at the end of three weeks, the patient was afterwards more than eight days in voiding it piecemeal, and conſequently was a full month in getting rid of the Appendage to this diminutive Fœtus, though moſt women are no longer about it than three or four days, and ſeldom above eight. But what contributed very much to lengthen out the time was, that the living roots of this foreign maſs hindered its ſeparation from the Womb, where it ſtuck cloſe, and could not be expelled without Pain, which was not a little aggravated by the ſtraitneſs of the Internal orifice. In theſe eight days of the Suppuration, the woman, as it uſually happens under ſuch circumſtances, had a Fever, with ſeveral Exacerbations, accompanied with a great Pain in the Head, and Hyſteric fits.

The part being afterwards purified from the infection of the Suppuration, the woman recovered her health, having run the leſs riſk by committing the work of Expulſion to Nature, which if I had tried by Hand, as I muſt have uſed violence, the remedy might have proved worſe than the diſeaſe. It is remarkable that this little *Abort*, which I ſaw living half an hour, had ſtrength enough to move its Arms and Legs, but had not the power to put forth a cry, though I plainly ſaw it open its Mouth ſeveral times. For *Aborts* have commonly no Voice till the end of the third month, their Lungs not having ſtrength enough till then to puſh the air with an impetuoſity ſufficient to form a cry. *Mauriceau.*

Observation LXXIV.

A. D. 1676, I attended a woman, who two hours before had miſcarried of a dead child at the term of eighteen weeks, and two thirds of the After-birth were left in the Womb. The midwife not being able to deliver her, ſent to me for my aſſiſtance. But I found the Womb of this woman, who had never been with child before, ſo cloſed inwardly, and ſo ſtraitly embracing the After-birth, that I judged it improper to attempt the taking it away forcibly, becauſe the violence, I muſt have uſed, might have been more prejudicial than the diſeaſe itſelf. Beſides, the woman was very faint, and extremely impatient. For theſe reaſons I attempted to fetch it away, but very gently; and having taken away about half the maſs, left the reſt for Nature to diſcharge, having no inclination at that time to uſe farther violence, becauſe the Internal orifice of the Womb being contracted like the neck of a bottle, ſo forcibly retained the foreign maſs, that it was impoſſible at that time to get it away without putting the woman in great danger of her life. However, to aſſiſt Nature in diſcharging it, I ordered ſeveral Clyſters, and Emollients to be three or four times injected into the Womb. Theſe remedies did not fail of promoting the expulſion which happened the fourth day; and the woman afterwards enjoyed her health. *Mauriceau.*

Inſtances of Flooding with Miſcarriages.

Observation LXXV.

April 4. 1675, I delivered a woman of a child that had been dead a conſiderable time. It ſeemed no bigger than a child of three months, though the Mother had gone with it near ſeven. She had almoſt continually diſcharged ſome ſmall quantity of Blood from the Womb for four months paſt, having all that time laboured under Pains in the Kidneys, and diſpoſitions to miſcarry. This at length happened after a great and ſudden Flux of Blood, which ſtopped immediately upon Delivery, and the woman recovered. The almoſt continual loſs of Blood for four months had made that littte *Abortion* of the human ſpecies like thoſe *abortive* or untimely fruits, which never grow from the moment they are deprived of the ſap of the tree that nouriſhes them, but grow dry, wither away, and fall off long before maturity. *Mauriceau.*

Observation LXXVI.

March 8. 1689, I delivered a woman of an infant of five months, which preſented the Breech, and was alive, though the mother had, for three weeks before, continually diſcharged a vaſt quantity of Waters tinctured with Blood, a ſure fore-runner of *Abortion*.

For it is to be obſerved, that though ſome women are known to preſerve their pregnancy, after voiding a pretty large quantity of pure Waters by the Womb, the caſe is otherwiſe when theſe Waters are tinged with Blood, for then it is a ſure ſign that the Womb begins to open conſiderably, and that it can no longer retain the infant, at what term ſoever it happens, after a great diſcharge of Water of this tincture. However the woman did very well, after miſcarrying of this little Fœtus, which lived an hour. *Mauriceau.*

Observation LXXVII.

July 25. 1683, I attended a woman who had juſt then miſcarried of a ſmall Fœtus, no bigger than a bee; but the Secundines being left in the Womb, a pretty large Flux of Blood enſued, which however was not ſucceeded by any conſiderable weakneſs. The Womb had only opened in proportion to the ſize of that Fœtus, ſo there was no room at preſent for the operation; but two days afterwards, finding it in a better diſpoſition, I took from it the foreign maſs, which exactly reſembled what we commonly call a Falſe conception, and was of the bigneſs of a middling pullets-egg. This experiment convinced me, and confirmed me in the belief, which I always had, that all thoſe pretended Falſe conceptions, which come from women about the third month, were True conceptions in the beginning; and that they are, in effect, no more than little Placenta's, whoſe Membranes are ſtuffed with clots of Blood, which ſwell them up; that after the Waters which they contained are run off, they are all compacted into a globular form by the contraction of the Womb, and being, as it were, moulded in its cavity, and blended with thoſe clots of Blood, and the ſubſtance of thoſe little After-births, take the figure of a fowl's gizzard. And as we many times perceive no Fœtus in theſe ſorts of Falſe conceptions, becauſe of the extreme minuteneſs and ſoftneſs of theſe little *Aborts*, which loſe their figure, and confound their ſubſtance with the clots of Blood, which are voided by women on thoſe occaſions; and as we ſee nothing come from them afterwards, but thoſe kinds of foreign maſſes, we commonly take them for ſimple Falſe conceptions, though they are in effect true After-births, as was that which I took from this woman, who then reckoned herſelf gone about two months and a half. But as ſhe had been very much diſordered all the firſt months of her reckoning, and eſpecially the laſt fifteen days, when ſhe voided every day bloody Seroſities, and even pure Blood in ſmall quantities, at intervals, from the Womb, here we ſee the cauſe why this diminutive Fœtus, which had for ſome time paſt withered away for want of nouriſhment, did not arrive at the bigneſs it ought to have had by the mother's reckoning. *Mauriceau.*

Miſcarriages leſs difficult where a Flooding has preceded.

Observation LXXVIII.

March 28. 1677, I attended a woman who had juſt miſcarried of a dead child, at the term of fourteen weeks. For three whole weeks before this accident, ſhe had been troubled with a ſmall Flux of Blood, which at the end was conſiderably increaſed for the ſpace of two hours, till it brought away with it the little Fœtus as aforeſaid, with the After-birth at the ſame time. It is to be remarked, that in theſe ſorts of *Abortions*, the After-birth is eaſily expelled with the Fœtus, when the woman has, for a long time before her miſcarrying, felt conſiderable Pains, with ſome loſs of Blood. For theſe Pains help, in a great meaſure, to looſen the After-birth from the Womb. But it is uſually otherwiſe when the Miſcarriage comes ſuddenly, and almoſt without Pain. For the infant, which is ſmall and tender, is eaſily enough expelled; but the Womb not being ſufficiently open, in proportion to the bigneſs of the After-birth, for that reaſon retains it, where it continues to ſtick, and cannot be excluded without much Pain. *Mauriceau.*

Observation LXXIX.

October 18. 1730, A carpenter near Ruſſel Court, in Drury lane, came to me, and deſired I would go to his wife, who judged herſelf to be nine or ten weeks gone with child. She had for ſome days laboured under a Flooding, and had loſt a very large quantity of Blood, ſo that ſhe was very much ſunk and diſpirited, and had fainted ſeveral times. Upon my coming, I firſt felt her Pulſe, which I found very low and weak; ſhe complained of a grinding Pain in her Back, and a forcing down and weight upon the Os tincæ; I therefore thought it neceſſary to touch her, believing whatever was to come away was lodged upon, and ſtopped up, the Os tincæ, which might occaſion thoſe complaints. I found the Vagina and Os internum choaked up with coagulated Blood, the latter very little open, and not wide enough to admit the paſſing up of one Finger; however, with the end of my Finger I felt a ſoft ſubſtance within, lying at the Mouth of the Womb: at that time I thought it adviſeable not to attempt the fetching it away, in hopes that the Os internum would ſink lower, and ſpread wider; and therefore I only ordered her the following draught and mixture, promiſing to ſee her again in a few hours.

Take of Plantain water two ounces,
Strong Cinnamon water half an ounce,
Liquid laudanum twelve drops,
Diacodium three drams,
Japan earth a ſcruple;
Make a draught to be taken immediately.
Take of Plantain water, and the water of Oak buds, of each three ounces;
Small Cinnamon water, and ſtrong, of each an ounce;
Syrup of Lemons an ounce,
Japan earth a dram;
Take two or three ſpoonfuls occaſionally.

About three hours after I called again, when I was informed, that the draining continued, but in a leſſer quantity; ſhe had a Pain in the Back, and a greater weight and preſſure upon the Os internum. I touched her again, and found the Os internum ſunk lower, and opened wide enough to admit one Finger to paſs into it, with which I felt a ſoft ſubſtance. This I judged to be the Placenta ſunk low down, and lying at the Os tincæ; I therefore paſſed one Finger up into the Uterus, where I found the aforeſaid ſubſtance lying looſe in the Uterus; whereupon I thruſt my Finger further up, and bending the end in the manner of a hook, over the ſaid ſubſtance, I drew it out, upon which the Flooding, and the grinding and forcing Pains went off. I then ordered her a Cordial bolus to be taken immediately, at night, and the next morning, with three or four ſpoonfuls of Julap after each Bolus; or at any other time, in caſe ſhe was faint or ſick. I called the next day, and found her very briſk, and free from all her former complaints; and, that ſhe had had no return of her Flooding from the time I brought the ſubſtance away. *Giffard.*

The author forgot to inform us what became of the Fœtus.

Observation LXXX.

Auguſt 20. 1730, I was called upon to go to a woman in Durham-yard, the wife of a porter, who, the preceding day, found (as ſhe thought) the child to give a ſudden ſlip, and fall lower. A few days after ſhe was ſeized with a violent Flooding, and grinding Pains in her Back. I found her upon my coming very much diſpirited, her Pulſe low, and clear Blood continually dribbling. Upon touching, I found the Os tincæ wide enough to admit the ends of three Fingers, and therefore gave it as my opinion, that ſhe ought to be immediately delivered, and that delays might be dangerous, ſince ſhe had loſt ſo much Blood already. There was no proſpect of its ſtopping before both the child and Placenta were brought away, for as long as the Uterus was kept diſtended by them, the Mouths of the Veſſels (before inoſculated into the Placenta, which then wholly adhered to the Uterus, but was now in part, or wholly ſeparated from it) would continually pour the Blood into the Womb, ſo that the whole maſs would be exhauſted, unleſs ſhe was delivered. Then indeed the Womb would contract and be collapſed, by which the Mouths of the Veſſels are ſtopped, and the Flooding generally ceaſes. All that were preſent ſubmitted the matter intirely to my conduct; immediately I paſſed up my Hand well greaſed into the Vagina to the Os internum, which I endeavoured to dilate with the ends of three Fingers paſſed into it, and ſoon made way for the Fourth and my Thumb; then, by gently ſpreading them, I dilated it wide enough to admit my whole Hand, which I paſſed into the Uterus, where I firſt met with the Membranes; thoſe I broke with the ends of my Fingers, and laid hold of a Hand, which I put aſide, and went on in ſearch of the Feet. I ſoon met with a Foot, and brought it out. The child was ſmall, and the parts having been dilated by former Labours, I was not ſollicitous about the other foot; and therefore taking hold of that already brought out with a ſoft cloth, I drew it gently towards me, at the ſame time adviſing the woman to aſſiſt by bearing ſtrongly down; the Hips preſently followed, as alſo the Body and Head. The *Funis Umbilicalis* was twiſted round the Neck of the child; and upon the Head's ſinking down the preceding day, the Placenta was in part, if not wholly, ſeparated from the Uterus, which ſeparation was occaſioned by the contraction of the Navel-ſtring. The Placenta being ſeparated, a Flooding of courſe enſued. Paſſing my Hand, after the child was brought out, I found the burden ſunk down, and partly out of the Womb, lying in the Vagina, ſo that I had no difficulty in bringing it away. The child was born dead, which I judged it to have been ſeveral hours, the woman not having perceived it ſtir all the time of her Labour. This woman was in the eighth month of her reckoning. She died about eight or nine hours after her Delivery, notwithſtanding all proper applications were made uſe of. This, I imagine, wholly proceeded from her great loſs of Blood before ſhe was brought to bed. *Giffard.*

Observation LXXXI.

April 1. 1730, I was ſent for to a poor woman in Knaves-acre, the wife of a ſmith, who was about ſix months gone with child, and had been ſeized with a Flooding ſome days before, for which her midwife had, not long before, come to conſult me, when I ordered an aſtringent mixture to be taken three or four ſpoonfuls now and then, and a quieting aſtringent draught to be taken at night, which I ordered to be continued every night, in caſe her Flooding did not ſtop, with orders to give me an account of her the next day, at the ſame time telling the midwife, that in caſe it continued, the only means left to ſave her life, was to deliver her; but as the method I ordered had in ſome meaſure the deſired effect for the preſent, I heard nothing farther for two or three days; but her Flooding returning again, her huſband came to me, and deſired I would go to her, which accordingly I did, and upon examination found the Os internum not dilated enough to admit the End of one Finger, and not eaſily to be dilated; wherefore I adviſed a repetition of the medicines before preſcribed; and on the next day he called again to tell me, that the draining continued, but was not ſo violent; however, as ſhe became weaker, he deſired I would ſee her; I then found the Os internum as it was the preceding day, and as I could not dilate it with my Fingers, I adviſed a continuance of the mixture and draught; on the third day the midwife ſent me word, that the draining continued, but that the Os internum was dilated ſomewhat more than the preceding day, which gave me incouragement to hope that I might dilate it wide enough to paſs my Hand and bring the Fœtus. Upon my touching, I found an opening large enough to admit the end of three Fingers, wherefore I endeavoured to dilate it with my Fingers, and ſtretching them wide from each other, I got in my Thumb, and afterwards my whole Hand. The firſt thing I met with was part of the Placenta ſeparated from the Uterus, and paſſing my Hand by it, I felt the child incloſed in the Membranes, and floating in the Waters. I readily broke the Membranes with my Fingers, and paſſing my Hand within them, ſoon met with a Leg, which I drew out, and taking hold of it with a ſoft cloth, I gently pulled towards me, at the ſame time adviſing the woman to aſſiſt by bearing ſtrongly down; and by this method I preſently drew out the Fœtus whole and intire: I was indeed afraid, as it was very tender, that the Limbs would have ſeparated from the Body. The Placenta readily followed, being before in part, if not wholly, ſeparated from the Uterus; the Flooding ſtopped immediately upon the Delivery. *Giffard.*

Observation LXXXII.

January 23. 1729-30, A woman came to me about ſeven o'clock in the evening, deſiring me to go with her to a grocer's wife in Leather-lane, near Holbourn; the woman had miſcarried about an Hour before of a Fœtus of about five months old, which had been dead for ſome time, and the Navel-ſtring, being both very ſmall and tender, broke by the midwife's endeavours to draw out the Placenta. Immediately upon my coming I paſſed up the two Fore-fingers of my Left-hand, and found the Placenta in part protruded out of the Os internum, and ſtopping up the ſame: I therefore took hold of the part protruded between my Fingers, and drew it gently outwards, by which method, the part remaining in the Womb, and which ſtopped up the Os internum, readily followed, and the Flooding ſtopped. This woman had for ſome days laboured under a Fever and violent Cough, which I judged occaſioned the death of the Fœtus, and the Miſcarriage afterwards.

Observation LXXXIII.

Inſtances of Miſcarriages from a Plethora.

May 22. 1682, I delivered a woman who was in her third month; ſhe was of a very ſanguine conſtitution, and I had adviſed her to bleed at the end of the firſt month, in order to preſerve herſelf from ſuch an accident. But ſhe would not hearken to good counſel, but choſe to follow a bad cuſtom, which many others have, of ſtaying till they are half gone, before they think of ſuch a misfortune, which generally happens before the end of the third month. As the woman had a great Flux of Blood, I took from her the After-birth, of a good Finger's thickneſs, and the breadth of two thirds of the Palm of a Hand, though the Fœtus, which was ſtill ſhut up in its Membranes, whoſe Waters were all run off an hour before, was no bigger than a large bee. We cannot however infer from hence, that the child had been no bigger than it was at the time of the Miſcarriage; for it did not ſeem above twenty-five days grown; about which time it probably began to wither, its principle of life having been deſtroyed: and though not growing for a long time, it remained in the Womb, and preſerved itſelf in its Waters, till this Miſcarriage happened to the woman, who did mighty well afterwards. *Mauriceau.*

Observation LXXXIV.

Auguſt 22. 1685, I attended a woman who was thought to be more than three months gone with child, but had juſt then miſcarried of a little Fœtus, wrapt up in the After-birth and its Membranes, and ſcarce bigger than a common fly, the whole being about the ſize of a pigeon's egg. The woman had, for two months paſt, laboured under a continual Flux of Blood, which was ſo great when ſhe miſcarried, that her huſband thought ſhe would have died.

As the principle of life was deſtroyed in this Fœtus from the beginning of the mother's pregnancy, it muſt have reſted at the ſame dimenſions as when deprived thereof by ſome accident, which might probably be the ſame as excited that Flux of Blood, which never ceaſed till Nature had diſcharged itſelf of that uſeleſs burden, after which the woman, who had ſuffered very much ſo long a time, recovered her health.

It is worth obſerving, that Big-bellied women are often known to be thus injured without any manifeſt cauſe, meerly by their own ſanguine temperament, their redundances of Blood ſuffocating, and, if I may ſo ſay, drowning the infant as ſoon as it is conceived, if not ſeaſonably prevented by Bleeding in the Arm. *Mauriceau.*

Observation LXXXV.

July 9. 1685, I brought away an After-birth, which belonged to a ſmall Fœtus of ſix weeks growth, of which the woman miſcarried two hours before, and with it abundance of large clots of Blood were diſcharged, though ſhe had never received the leaſt hurt or injury, as ſhe told me herſelf.

This accident may ſerve to prove, that Bleeding, which it is the cuſtom to defer till after the fourth month, would be of more ſervice in the firſt months, than at the end of four months and a half. For it is moſt certain, that the meer abundance of Blood is frequently the cauſe of miſcarrying before the end of the third month, from which women might preſerve themſelves, if they took care to bleed in the firſt months of their pregnancy, during which the infant being very ſmall, wants but very little Blood to nouriſh it. For which reaſon not being able in that ſtate to diſpenſe with all that is retained by the Suppreſſion of the Catamenia, the Veſſels of the Womb which are overloaded, open, and diſcharge their contents in an extraordinary manner, and thus cauſe thoſe exuberant Fluxes of Blood, which almoſt conſtantly accompany this ſort of Miſcarriage. *Mauriceau.*

A Miſcarriage from a great Swelling of the Labia.

Observation LXXXVI.

June 2. 1672, I attended a woman who had laboured fifteen days under a very great Swelling of the two Labia Pudendi, as well as of the Legs and Thighs. This was occaſioned by a great load of humours depoſited on thoſe parts, and on the Womb itſelf, where ſhe felt a great Pain from a moderate preſſure of the Hand upon the Belly, which alſo was ſwelled big enough to give a ſuſpicion of her being with child, though ſhe had been without her Menſes for fourteen months, ſince ſhe was delivered of her ſecond child. Their ſuppreſſion might be owing to the ill ſtate of health ſhe had been in, having been troubled with Fevers during the firſt eight months of the fourteen; or to her becoming with child upon her recovery to a good ſtate of health, which ſhe had enjoyed for ſome months paſt. But as ſhe had not as yet felt any motion like that of a child, and her Breaſts were not ſwelled, and there was no touching of her below, to examine the ſtate of the Womb, becauſe of the prodigious Swelling of the Labia which hindered it, I told her, that though I could not poſitively aſſure her that ſhe was with child, which I very much ſuſpected, I would adviſe her to manage herſelf like a Big-bellied woman; and that ſhe might, for all that, ſuffer ſome ſcarifications to be made on the outſide of the Labia, in order to give vent to a vaſt quantity of ſerous humours, which had cauſed ſo extraordinary a Swelling, as to endanger a Mortification. The operation was performed two days afterwards by an ordinary ſurgeon, and a vaſt quantity of water was diſcharged for ſeveral days, whereby the Swelling of all the parts round about was conſiderably abated, and ſome days after the woman was delivered of two children, with which ſhe had gone about four months. One of the children was alive, the other was dead; and was probably the cauſe, by the ill impreſſion its corruption made on the Womb, of an Inflammation, which communicating itſelf to the Exterior parts, drew on a Mortification, of which the woman died the third day, as I had with aſſurance foretold the day before. It is what almoſt inſtantly happens, when this ſort of Outward Swelling from the Inflammatory diſpoſition of the Inward parts grows Eryſipelatous. But when they are no more than Oedematous, as it pretty often happens to women who have had many children, towards the laſt months of their pregnancy, they are not commonly ſo dangerous. *Mauriceau.*

A Miſcarriage from a Quick-ſilver girdle.

Observation LXXXVII.

February 11. 1685, I attended a woman, who, when ſhe was two months gone with child, had put a Quick-ſilver girdle round her waiſt, by advice of ſome ignorant perſon, to cure a ſimple Itch. The poiſonous remedy in a few hours raiſed a plentiful Salivation, with ſo great a Swelling of all the interior parts of the Throat, that, for fear of Suffocation, or a Delirium, they were obliged, as her ſurgeon told me, to bleed her four times, and to give her ſeveral Purges to divert the Courſe of the humours downwards, not imagining ſhe was with child. But the conſequence was a plentiful Flux of Blood, which threw her into Faintings, that came one upon another, and ended at laſt in a Miſcarriage. It is more than probable, that the Purges that were given her, as well as the repeated Bleedings before adminiſtered, were the principal and leading cauſes to this misfortune.

But though the patient ſeemed to be very weak, and almoſt harraſſed out by ſuch a train of accidents, when I ſaw her, I did not think her in danger, but could ſafely venture to foretell, that the great evacuation before Miſcarriage, and that which ought to follow, would infallibly put a ſtop to the Salivation, which accordingly happened; and the woman was well afterwards. *Mauriceau.*

A Miſcarriage of Twins.

Observation LXXXVIII.

October 6. 1730, I was ſent for about four o'clock in the morning, to the wife of a ſnuff-box maker, in Dean-ſtreet, near Red-lion-ſquare, who was, according to her calculation, about ſeven months gone with child; I had been with her about three months before, when ſhe was under ſome apprehenſion of miſcarrying, but by proper applications I cured her at that time; but now one Fœtus was brought away before I was ſent for, and the midwife not being able to bring away the Placenta, occaſioned my being ſent for. I immediately would have endeavoured to paſs my Hand in ſearch of the Placenta, but the woman could not be readily perſuaded to admit me, and made ſome ſtruggle, until ſhe was overcome by the perſuaſions of her friends, and the apprehenſions of the danger ſhe was in, ſhould it not be brought away; ſo that at length ſhe admitted me to paſs my whole Hand into the Vagina, and ſo on to the Os internum, which I found ſo much contracted, that it would ſcarcely admit the ends of four Fingers; but having by degrees dilated the Orifice, I got my Hand into the Uterus, and found ſomething harder than a Placenta. This proved to be another Fœtus incloſed in its Membranes, which were much diſtended by the Waters; I broke the Membranes immediately with the ends of my Fingers, and then putting my Hand within them, I ſearched for the Feet; the firſt part I met with was the Head, which I paſſed by, and went on in ſearch of the Feet, and ſoon met with one Foot; this I brought out, and as I had ſufficiently dilated the Os internum, the Fœtus being likewiſe very ſmall, I judged I might eaſily draw it out by the Leg already brought down, without giving her freſh Pain by paſſing up my Hand again to fetch down the other: I therefore took hold of the Leg I had ſecured, and gently drew it forwards; I ſay gently, for had I uſed any force I might have torn it from the Body, the Leg being very ſmall and tender; at the ſame time I adviſed the woman to aſſiſt by bearing ſtrongly down, which much contributed to the bringing out of the Hips, Body, and Head, all which ſoon followed; and upon paſſing up my Hand to fetch away the After-burdens, there being two entirely ſeparate, I met with the burden belonging to the Fœtus firſt born protruded, and lying in the Vagina; this I immediately brought away; and then, repaſſing my Hand, I found the other lying within the Uterus, but wholly ſeparated from it, ſo that I had no more difficulty in bringing away this than the former. *Giffard.*

Inſtances of Miſcarriages without manifeſt cauſe.

OBSERVATION LXXXIX.

July 23. 1685, I attended a woman who had juſt before miſcarried without any manifeſt cauſe, of a ſmall infant, no bigger than a bee, incloſed in the After-birth and its Membranes, which ſtill contained all the Waters, the whole being of the ſize and figure of a pullet's egg. The woman reckoned herſelf three months and a half gone, though what ſhe had brought forth was no bigger than a Fœtus of a month, being hindered in its growth by ſome Fluxes of Blood, with which the mother was from time to time viſited, almoſt regularly in the ordinary ſeaſon of her natural purgations. From this ſymptom, the woman not thinking herſelf with child, though I had aſſured her of it, had neglected to keep herſelf quiet, and take her repoſe in Bed, as was neceſſary to preſerve her Big-belly which had been indangered ſince theſe Fluxes came upon her. Nor did ſhe take care to bleed in the Arm, as I adviſed her, after I knew ſhe was with child.

Now I was certain that ſhe had conceived, notwithſtanding thoſe evacuations, which came at the ordinary ſeaſons, ſignified the contrary; for their coming at thoſe times was merely accidental and by chance, as I obſerved; becauſe after theſe evacuations had ceaſed, the ordinary ſigns of pregnancy continued as before, whereas they would have vaniſhed after a genuine Menſtrual purgation. *Mauriceau.*

OBSERVATION XC.

December 12. 1685, I attended a woman who, at the end of three months, according to her own reckoning, had juſt miſcarried of a ſmall Fœtus, which came from her without much Pain, incloſed in the After-birth and its Membranes and Waters, the whole equalling the bigneſs of a duck's egg. The Fœtus was no bigger than one of five or ſix weeks growth. The mother before ſhe was delivered of it, had a moderate Flux of Blood for three weeks, ſo that being deprived of life long before Nature expelled it, a ſtop was then put to its growth.

As this Miſcarriage had no violent cauſe to force it, the woman was as well afterwards as if ſhe had lain in naturally of a child at the full term. *Mauriceau.*

OBSERVATION XCI.

January 14. 1687, I delivered a woman, aged twenty nine, at the term of five months, of a little infant alive, which preſented the Feet, with a conſiderable Flux of Blood, and was the ſixth of whom the mother had miſcarried ſucceſſively, not having gone a longer term with any of her children than with this, which was five months compleat, with others three months, and one of them four months and a half. But, what is extraordinary, the woman miſcarried thus ſix times, without any injury or evident cauſe, and in ſpite of all poſſible precautions which ſhe had taken to ſecure herſelf againſt this melancholy accident, to which ſhe was ſo ſubject, that I delivered her of four children ſince, of whom ſhe miſcarried in like manner without manifeſt cauſe, two of four months, one of ſix months and a half, and the laſt of ſeven months, not being able to preſerve any one of theſe Big-bellies to a longer date than the laſt, where the infant, though living when I laid the mother, ſurvived but ſeven hours, as being, by reaſon of its immature birth, too early by two months, very ſmall and very feeble, as all thoſe infants are which are born at ſeven months.

This example ſhews how eaſily ſome women miſcarry, as this woman actually did of ten children, which her unhappy Fecundity conceived only to ſee them all periſh in the birth. She was above a middle ſtature, of a pretty full Habit of body, and her Complexion was ſanguine and phlegmatic, which not a little contributed to the untimely relaxing and opening of the Internal orifice of her Womb, at the leaſt agitation of Body or Mind.

I had adviſed her, as the beſt remedies againſt a relapſe into the ſame misfortune, to abſtain from her huſband all the time of her pregnancy, to bleed in the Arm, when gone ſix weeks, and to repeat it every two months, and to keep herſelf in perfect compoſure of Mind and Body. But this good counſel ſerved only to make her go a little the longer with the laſt children than with the firſt, for ſhe went with the laſt, of which I delivered her, February 11. 1692, to the end of the ſeventh month, which lived only ſeven hours, as I ſaid before. However, there is room to hope, that by continuing to follow the good counſel I have given, ſhe may hereafter go out her full time with a child, and have a more happy lying-in with it than ſhe has had with all the reſt. *Mauriceau.*

OBSERVATION XCII.

January 17. 1688, I attended a woman, who, after a day's moderate Flux of Bood, had juſt voided a ſort of Falſe conception, ſome ſlight membranous fragments of which had come away the day before. This ſuppoſed Falſe conception was of the ſize of a large pigeons-egg, and its figure much reſembling that of the cavity of the Womb. I opened it, and found a ſmall Fœtus in the middle, no bigger than a corn of wheat, though the mother believed herſelf three months gone. I knew by this that the principle of life in this Fœtus had been deſtroyed a ſhort time after its Conception, whence a ſtop was put to its growth. *Mauriceau.*

OBSERVATION XCIII.

Auguſt 22. 1689, I delivered a woman of a ſmall Fœtus, incloſed in the After-birth, its Membranes, and its Waters, which, to all appearance, had been dead a very long time. The woman thought herſelf ſix or ſeven months gone, though the little Fœtus, which was never felt to move, was no bigger than one of two months and a half, or three months at moſt.

When I delivered the woman, there enſued ſuch a copious Flux of Blood, that ſhe fell into Faintings, which might have put her in great danger of her life, had I not ſpeedily ſuccoured her by ſtopping the Flux, which ceaſed as ſoon as I had taken away this foreign maſs which cauſed it. After this, the poor woman, who had been in a very languiſhing condition a long while, did very well. *Mauriceau.*

OBSERVATION XCIV.

February 29. 1690, I attended a woman, who had miſcarried ſeven days before of a child four or five months grown, and now lay almoſt at the point of death. Her midwife, who was incapable of delivering her, had broke the String of the After-birth, and had very much fatigued the patient for an hour, without being able to bring away more than ſome pieces of the After-birth, the greateſt part remaining in the Womb.

Hence extraordinary Floodings, and plenty of very fœtid Excretions, accompanied with a continual high Fever, which had ſeveral Exacerbations every day, a great Tenſion of the Belly, Faintings, and other ſymptoms, of which the patient died, two days after I had ſeen her in this melancholy condition, as I had foretold, more from a conſideration of the injury done to the Womb, when the midwife endeavoured to bring away the After-birth, than out of regard to the meer Retention of that foreign maſs. For it is to be obſerved that there is leſs danger in committing the expulſion of the After-birth to Nature, than in offering too much violence to the Womb in order to force it away from thence, which always cauſes an Inflammation, a diſeaſe the more fatal as it is augmented by the Suppuration of the remaining part of that foreign maſs. *Mauriceau.*

OBSERVATION XCV.

March 16. 1691, I delivered a woman, who had miſcarried two hours before of a Fœtus of three months, which had been dead eight or ten days, as appeared by its corruption.

The midwife, for want of ſufficient knowledge in her buſineſs, being incapable of bringing away the After-birth, ſo exceſſive a Flooding was excited by its Retention in the Womb, that the woman muſt have run a great riſk of her life, if I had not ſpeedily delivered her of it, and ſo put a ſtop to the Flooding, after which ſhe did very well. *Mauriceau.*

OBSERVATION XCVI.

May 12. 1692, A lady ſent for me to her houſe, to ſhew me a ſmall Fœtus and its After-birth, which were all corrupted and decayed, though without any offenſive ſmell. She aſked me, of what term I ſuppoſed that ſmall Fœtus might be, which was of the length of the Middle-finger? I anſwered, that, by its bigneſs, it did not appear to have been alive in the mother's Womb above two months, but that it might have been preſerved there as long a time after its death, its Waters not being diſcharged before the time of travel, and perhaps longer. She then told me that it was a domeſtic of hers, who had miſcarried that very day of this infant; and that as her huſband had been abſent theſe four months and a half, ſhe believed, ſeeing the infant ſo ſmall, that another man was the father. As for my part, the fear of imputing a crime to the woman, of which ſhe might poſſibly be innocent, made me leave the queſtion undecided. For I could not come at an intire certainty, by examining the Body of the Fœtus, becauſe I had ſeen as ſmall ones, whoſe mothers have not been delivered of them till five months after their Conception, having carried them dead two or three months, they being preſerved without much corruption in their own Waters, as ſome ſorts of fruits in a proper pickle, ſo that they did not exceed the ſize which they had arrived at when their principle of life was deſtroyed. *Mauriceau.*

OBSERVATION XCVII.

March 8. 1693, I delivered a woman of a ſmall child of five months, of which ſhe miſcarried without any manifeſt cauſe, except that the After-birth began to be looſened, becauſe the infant, who preſented the Arm before the Head, with part of the Navel-ſtring, was ſo intangled in the String, that the After-birth had been conſiderably ſhocked by it, as I found by ſeveral clots of black Blood which cloſely adhered to that ſide of the After-birth which was looſened from the Womb.

The child was alive two hours before I brought it away, which I knew by the beating at the Navel-ſtring; but as the Womb was not opened enough for me to extract it at that time, without diſmembring it, I was obliged to wait till it was ſufficiently dilated to permit me to extract it without violence. For this purpoſe I ordered the woman a Clyſter, which quickening her languiſhing Pains, contributed to the ſufficient dilatation of the Orifice, and excluſion of the Fœtus, whoſe Waters were all run off two hours before I was called. The woman, though of a very delicate conſtitution, did very well after I delivered her. *Mauriceau.*

OBSERVATION XCVIII.

Auguſt 31. 1693, I delivered a woman of the After-birth of a ſmall Fœtus of two months, of which ſhe had miſcarried three hours before without any manifeſt cauſe.

The After-birth being retained in the Womb after the expulſion of the ſmall Fœtus, occaſioned ſuch a Flooding, that the woman had ſeveral times Fainting fits, out of which ſhe recovered as ſoon as I had delivered her of that foreign maſs; for the Flux then ceaſed, and the woman did very well. This was the eleventh child of which ſhe had miſcarried. *Mauriceau.*

OBSERVATION XCIX.

September 15. 1693, I delivered a woman of a Falſe conception as big as a man's fiſt, in which I found a ſmall Fœtus quite withered, which was no bigger than a bee, though the woman had ſuſpected herſelf with child near ſeven months, by the ſigns of Conception ſhe had upon her from the firſt month after her laſt Menſtrual evacuation.

Three full months ago ſhe had been troubled with a continual Flooding, which ſhewed that Nature had attempted, from the beginning of that Flooding, to clear the Womb of its contents; but failing to accompliſh it had been the cauſe that this Falſe conception, being ſo long harboured there, and not quite looſe from it, had received a conſiderable increaſe, and was grown to double the ordinary bigneſs of thoſe Falſe conceptions which women very ſeldom exclude but in the ſecond or third month after Conception. And as this little Fœtus, which was lodged in this great Falſe conception, was no bigger than a Fœtus of fifteen days, I ſuppoſe that the principle of life had been deſtroyed in it, from the beginning, by ſome other cauſe antecedent to the Flooding. *Mauriceau.*

OBSERVATION C.

November 3. 1697, A woman of this city gone about ten weeks, or three months, with child, felt ſome Colic pains, which were followed by Pains in the Loins, that at laſt bore down upon the Uterus. As ſhe was a woman of good underſtanding, ſhe was equally ſenſible with me, that this unhappy diſpoſition tended to a Miſcarriage; and we were confirmed in this ſentiment by a frequent inclination to make water, which obliged her to make uſe of the chamber-pot, before I had time for a proper examination. During this effort to make water, ſhe perceived ſomething fall from her, which proved to be the Waters, followed immediately by the Fœtus, which was ſo ſmall, that being laid upon a paper, it was by the next morning ſhrivelled into the form of a thick dry Membrane.

This accident was followed by another much more dangerous, which was a violent Flooding, cauſed by the Retention of the little After-birth, the Navel-ſtring of which was too ſmall and tender, to be of any ſervice for its extraction.

I did all that was poſſible to bring this After-birth away, and even proceeded to extreme violence, not regarding the advice of Peu and Mauriceau. I made uſe of one Finger in this operation, not being able to introduce a ſecond, and by moving this round the Internal ſurface of the Uterus, I ſeparated the Placenta from it, and extracted it, by bending the Finger, and making it ſerve as a blunt Hook, betwixt which and the oppoſite ſide of the Uterus I preſſed the little After-birth, and brought it away at laſt intire, after which the Flooding immediately ſtopped.

The extraction of this After-birth, however little, was abſolutely neceſſary, otherwiſe the woman muſt have periſhed by the Flux of Blood, which was ſo violent, as to make her in this little time very faint. *La Motte.*

OBSERVATION CI.

Auguſt 2. 1692, I delivered a woman ſix months gone with child, who laboured under a great Flooding, occaſioned by the intire ſeparation of the After-birth, which preſented firſt. She had ſeveral times fainted, and was in great danger of loſing her life in a few hours, had I not ſpeedily taken the child from her, which was dead before through the exceſſive Flux of Blood, which ceaſed as ſoon as I had laid her. Wherefore I was obliged, under the doubt I was in whether the child were alive or no, to return it, that I might take it by the Feet; which I did. But the operation ſignified nothing to the child, who was dead before, as I ſaid; but it was beneficial to the mother, who recovered her health afterwards.

You are to obſerve that on theſe occaſions, where the After-birth preſents firſt to the paſſage, you are never to expect that Nature, who is extremely debilitated by the exceſſive Flooding, which always attends ſuch a diſpoſition, ſhould of herſelf expel the infant. And therefore you are, with all expedition, to take it from the mother, if you deſire to ſave her from death, and her infant too, if it be ſtill alive. For if they are not ſpeedily ſuccoured, they muſt both die, becauſe of the exceſſive Flooding, which cannot be ſtopped before the Womb is intirely delivered of both the Infant and the After-birth. *Mauriceau.*

OBSERVATION CII.

December 24. 1692, I attended a woman who, four days before, had miſcarried of a Fœtus of four months, but the After-birth ſtill remained in the Womb, which had cloſed itſelf immediately after the expulſion of the child. The midwife finding herſelf at that time incapable of bringing it away, left it to Nature, who took care to diſcharge itſelf of it with a conſiderable Flooding in my preſence. But as this Flooding had been excited only by the reſidence of that foreign maſs in the Womb, it ſtopped as ſoon as Nature had expelled it, and the woman, recovering from the great weakneſs cauſed by the Flooding, enjoyed her health. *Mauriceau.*

Inſtances of Miſcarriages from Acute Diſeaſes.

OBSERVATION CIII.

The 1ſt of March, 1671, I attended a woman five months gone with child, who, after a continual Fever of three weeks, miſcarried of an infant, which immediately expired, and ſhe herſelf died two days after. The extreme danger ſhe was in, was yet farther increaſed after her *Abortion*, as I plainly foretold the phyſicians who attended her, and who had flattered themſelves that the evacuations of Child-bed would have mitigated the Fever, and diſpoſed it to give way to proper medicines. Far from this, the Fever uſually increaſes immediately after Delivery, and gains double force from the ſuppreſſion of the Lochia, which almoſt conſtantly happens at that time, whence the Humours, which were the firſt cauſe of the diſorder, immediately return back on the Internal parts. After this the patient has not long to live, becauſe Nature, which is already oppreſſed with a diſtemper in its own nature dangerous, can by no means regulate and accompliſh the neceſſary evacuation of the Lochia. For this reaſon, a phyſician who attends pregnant women during their illneſs ought, by all ways and means he can deviſe, to hinder *Abortion*, ſince moſt women, to whom that accident happens, die very ſoon after, eſpecially ſuch as have their Fever accompanied with a Defluxion on their Breaſt, of which I have ſeen many inſtances reſembling the caſe of the woman I ſpeak of, whom I opened after her death, and found the Lungs on the Left-ſide all ſuppurated, and abundance of ſerous and bloody matter on both ſides the Breaſt, and the Liver quite dry and ſhrivelled. *Mauriceau.*

OBSERVATION CIV.

On the 16th of March, 1678, I delivered a woman twenty two years old of an infant ſix months grown, who lived but three hours. The mother had for nine days paſt laboured under a great Defluxion upon her Breaſt, and a continual Fever, for which ſhe was five or ſix times blooded by advice of the phyſicians, who attended her every day. But though ſhe had been delivered with much eaſe, after no more than two ſhort hours travel, I was yet perſuaded that her illneſs, which was of a mortal kind, would grow upon her after her Delivery. For in order to entertain any hopes that the mother would receive benefit or relief by this accident, as the phyſicians vainly aſſured her, it was neceſſary that Nature ſhould have been very regular in the due evacuations of Child-bed, which it could not well perform, being already oppreſſed with another diſtemper. And beſides, towards the ſecond or third day after Delivery, there uſually happens a reflux of Humours to the Breaſt, for the generation of Milk. On theſe accounts I might well conjecture that this lady would die, as it actually came to paſs the fourth day after ſhe had been brought to bed. For her diſtemper had its principal ſeat in the Breaſt, where it had before made ſuch a progreſs, that ſhe began to have a Stertor from the time that I laid her. *Mauriceau.*

Observation CV.

June 19. 1685, I attended a woman who miſcarried of a ſmall child, three months grown, through the violence of a continual Fever, and was even growing delirious at the time of her miſcarrying, which happened in the twelfth day of her illneſs. But though ſhe was almoſt reduced to extremities, and the After-birth remained in the Womb, the midwife not being able to bring it away, yet ſhe began to mend immediately upon Delivery, ſo that five or ſix hours afterwards the Fever was much decreaſed, and went off the next day, Nature alſo having in that time of itſelf expelled the After-birth, which remained behind.

This woman recovered contrary to my expectation; for I have often obſerved that it is extremely rare to ſee women who have a Fever, accompanied with a Defluxion on their Breaſt, ſurvive theſe ſorts of diſtempers. For they die, almoſt every one, in a few days after they are delivered in that bad condition; and I ſuppoſe that what mightily aſſiſted this woman in ſuch dangerous diſorders was the ſoundneſs of her Lungs, which did not ſeem at all affected. *Mauriceau.*

Observation CVI.

February 3. 1692, I was ſent for to deliver a woman who had miſcarried the day before of a ſmall Fœtus of three months. I took from the Womb a ſmall After-birth, all hardened, which Nature could never have diſcharged, and whoſe Retention had cauſed ſo exceſſive a Flooding, as to throw the woman ſeveral times into very great Faintings.

As ſhe had a ſmall and very quick Pulſe, with very great inequalities, when I delivered her, which was not intirely owing to the Fever, of which ſhe had been ill three weeks, but alſo to potions of Savin and Mugwort, and other heating medicines, which were preſcribed for her, in order, as it was pretended, to procure the expulſion of the After-birth, I very much doubted her recovery, though I had delivered her without uſing any violence. However ſhe did well enough afterwards, the relief I gave her in ridding her Womb of that After-birth being of more ſervice to her, than all the Diuretic and Cathartic potions ſhe had taken, which were ſo far from producing the effects expected from them, that they ſerved only to increaſe the Flooding yet more and more. *Mauriceau.*

Observation CVII.

July 1. 1693, I delivered a woman of a Fœtus of five months, which had been dead above twelve days, as appeared by its corruption. But the String of the Afterbirth, being very weak and rotten, broke; by which means the whole ſubſtance of the After-birth, which was very large, and as it were ſcirrhous, remained in the Womb, which immediately cloſing upon it, gave me no room to extract it till half an hour afterwards, when its Internal orifice being ſufficiently relaxed to ſuffer an extraction without violence, I did the ſame with my Hand, only carrying it to the entrance of that Internal orifice, where I took hold of the Body of the After-birth which preſented.

This woman, for ten or twelve days before, had laboured under a continual Fever, with Exacerbations, which had killed the child in the Womb, of which diſtemper, however, ſhe had the good fortune to recover five or ſix days before this Miſcarriage, and ſo eſcaped the great danger of life ſhe muſt have been in, had the Miſcarriage happened in the time of that diſeaſe, which it would not have failed to increaſe, as it uſually happens, when Nature is weakened by ſo dangerous a diſtemper. *Mauriceau.*

Observation CVIII.

March 30. 1687, I attended a woman extremely ill, who had miſcarried ſix days before of a dead child at the term of four months, having at that time upon her a continual Fever, with Pains in her Breaſt, and a Spitting of Blood. Her midwife had much ado to deliver her, and had even left a part of the After-burden in the Womb, which had no way to come off afterwards but by Suppuration, as I made appear before her phyſician, who had ſent for me that we might conſult together. But I found the patient in ſo bad a condition, that ſhe could not hope to recover, and that her greateſt diſorder proceeded rather from the Fever, and Pain in the Breaſt, than from a ſmall part of the After-birth left behind, which Nature would eaſily have got clear of, had it not been oppreſſed with the load of that pernicious diſtemper, which in a few days after put an end to the patient's life, as I had, with good reaſon, foretold.

Experience had taught me, that almoſt all women who have a continual Fever, with Pain in the Breaſt, at the time of a Miſcarriage, die in a little time after, through the increaſe that fatal diſtemper receives from the Suppreſſion of the Lochia, which uſually happens under thoſe bad circumſtances, whence all the Humours flow to the Breaſt, which was over-heated and diſordered before, and there laying load upon load, compleat the Suffocation of the patient. *Mauriceau.*

Observation CIX.

December 8. 1681, I attended a woman, who, in the third month of her pregnancy had been ſeized with a conſiderable Flux of Blood, and had juſt then voided, amongſt clots of Blood, a Membranous bag, of the bigneſs of a pullet's egg, full of water, in the middle of which I found a little Fœtus of the bigneſs of a very ſmall bee, which, to all appearance, ceaſed to grow and live ſix weeks before, at which time the mother was taken with a Quartan ague; the Body of this little *Abort* remaining in the ſame proportion which it probably had when the violent fit of the mother's Fever deprived it of the principle of life. *Mauriceau.*

Observation CX.

June 14. 1684, I attended a woman who lay at the point of death, from a continual Fever, with a Defluxion on her Breaſt, which cauſed her to miſcarry three days before, in her third month, of a ſmall dead child, corrupted all over. When I was told that two hours after the expulſion the woman voided ſome Membranes mixed with clots of Blood, which the midwife and the phyſicians who attended her took for the After-birth, I aſſured the huſband and the midwife, who were preſent, that if the patient had voided nothing elſe ſince the child came away, ſhe was not yet delivered of the After-birth, as indeed ſhe was not. For theſe ſmall *Aborts* are always expelled before the After-birth, which frequently remains in the Womb in theſe kinds of Miſcarriages, if it is not expelled together with the child, as it happens when it comes enveloped in its Membranes. This woman's miſcarrying under a diſtemper in itſelf mortal, joined to the corruption of the After-birth remaining in the Womb, a circumſtance miſtaken by the phyſicians and the midwife, haſtened her death, which happened the next day after I ſaw her in that deſperate condition, as I foretold to her huſband. *Mauriceau.*

Observation CXI.

In the year 1704, a very uncommon diſtemper prevailed, both in town and country, which proved mortal to moſt of thoſe whom it ſeized; but the old, the feeble, and the poor, eſcaped better than the young, the vigorous, and the rich. The patients were afflicted either with violent Heat, or a continual Shivering, with an Oppreſſion, Pain in the Side, Cough, Spitting of Blood, and Vomiting.

June 22, a lady about three months gone with child was ſeized with the fore-mentioned diſtemper, and the ſymptoms ſeemed to have come all at once as it were to overwhelm the poor patient; only inſtead of the Heat ſhe had an extreme and continual Shivering. I was ſenſible of the danger as ſoon as I ſaw her taken with ſo violent a diſeaſe in the time of her pregnancy, and therefore adviſed her to ſettle her affairs. As ſhe had the Spirit of a man in the Body of a woman, ſhe did it with reſolution. And as I never knew her guilty of the leaſt weakneſs in all the times of her lying in, during which I attended her, and as ſhe had a perfect confidence in me, I began with Bleeding, as the only remedy that could relieve her, an Emetic being forbidden on account of her pregnancy, and the violent oppreſſion ſhe laboured under. But the great Chilneſs that ſeized her, had ſo concentrated her Blood, that the Extremities ſeemed to be deprived of it. I tried to recall the Heat into one of her Arms by vehement Friction; and holding under it a chafing-diſh of coals, wrapped it up afterwards in towels heated very hot, till at laſt I found a Vein which appeared tolerably full. I opened it, and after a good deal of time, and ſeveral eſſays, drew from it ſeveral porringers of Blood.

I deferred a ſecond Bleeding till the next day, in hopes that Heat would ſucceed that terrible Chilneſs, which was the more ſurpriſing as it was Midſummer: But I got nothing by it, the Chilneſs continued the ſame, as well as the Oppreſſion, and the Stomach could bear no remedy becauſe of the continual Vomiting; ſo that the abſolute neceſſity I was under of relieving the patient, or ſuffering her to periſh in this deplorable manner, determined me, notwithſtanding the Lowneſs of the Pulſe, to a Second Bleeding, whatever difficulties I might meet with, or how loth ſoever I might be to do it in a caſe ſo deſperate as hers. In ſhort, I reſolved upon it and made uſe of the ſame means as the day before, howeve inconvenient the Artificial heat might be to the ſick. I made ſhift this time to draw off three good porringers of Blood which relieved the patient conſiderably; the Chilneſs, th Cough, and the Spitting of Blood went off at the ſame tim There remained only a ſlight Pain in the Side, with ſom little Oppreſſion, for the effectual removal of which I ſhou

ha

have renewed the Bleeding, had ſhe not complained of ſome ſlight Pains in the Belly and about the Kidneys. Upon this I aſſured her that ſhe was going to fall in Labour, which actually came to paſs an hour afterwards.

I could not chooſe but foreſee the nature of thoſe Pains, which, ſlight as they were, yet increaſing every moment, made me take precautions not to be ſurpriſed; and theſe Pains growing ſtronger and quicker, I touched the patient that I might be perfectly ſatisfied. I found the Waters formed, which broke away at the firſt Pain, and the child preſenting in the right poſture, came away, and was about the ſize of a mouſe. I then delivered the mother with more trouble than I had about the child. And, though this is no proper place to mention it, I take occaſion to ſay, that the String of ſo ſmall an infant cannot be ſuppoſed thick or ſtrong, ſo that I was obliged to follow it to the root, and with two Fingers to ſeparate it from the Womb, before the Inner orifice had cloſed up; and then brought it away.

This lady was very ill for three or four days, though her Chilneſs was gone off. The reſolution with which ſhe took the Decoctions, the Jellies, the Hippocras of water with a little wine, and generally every thing which I preſcribed for her, brought on the Lochia in abundance, as though ſhe had lain in at the full term, which ſucceeded ſo happily that all ſymptoms vaniſhed, and the Miſcarriage, ſo dreaded by us both in the beginning, was in its conſequences the means of health to this lady, who in the ſpace of ſix weeks was perfectly recovered. *La Motte.*

Observation CXII.

Auguſt 7. 1704, A lady about four leagues from this city, ill of a continual Fever, with an Oppreſſion of her Lungs, Pain of her Side, and ſpitting of Blood, ſent for me.

As I had ſeveral times delivered her before, ſhe had a great confidence in me, and therefore conjured me not to leave her, telling me ſhe would rely intirely on my aſſiſtance.

I began by bleeding her in the evening, and at night I directed an Emollient clyſter, and as the Fever with the above-mentioned ſymptoms continued, I determined to repeat Bleeding in the morning. Mean time I adviſed her not to neglect what was neceſſary on the part of religion, and endeavoured to comfort her by inſinuating, that as ſhe was only about five or ſix months gone with child, a Miſcarriage would be no great misfortune, but on the contrary might be of ſervice with reſpect to her other diſorders. I then continued to do what I thought proper to mitigate her Fever, and divert the Flux of Humours from her Breaſt, which ſeemed by the perſeverance of the Cough, Pain of the Side, and Fever, to threaten the patient with a great deal of danger. Thus I proceeded till the fifth day, when Labour-pains began to be felt. I had not been in her chamber above a quarter of an hour before they became ſo conſiderable, as to leave no room to doubt of an approaching Miſcarriage, and for this reaſon I examined into the ſtate of the Uterus, and found the Waters formed and the Membranes ready to break, inſomuch that at the very next Pain the child was excluded alive.

As the Navel-ſtring of ſo ſmall a Fœtus could not be very ſtrong, I uſed all my endeavours to manage it to the beſt advantage, that it might give me ſome aſſiſtance in extracting the After-birth; but I could not ſucceed, becauſe the Orifice of the Uterus, as is uſual in ſuch caſes, contracted itſelf almoſt to its former dimenſions, immediately after the expulſion of the Fœtus, inſomuch that, notwithſtanding all the care I could take, it broke upon this motion of the Uterus, though I ſcarcely pulled it at all. But without loſing a moment, I purſued my point ſo cloſely, that I found means to introduce four Fingers into the Uterus before it had time to contract itſelf intirely, and with theſe I ſeparated the Placenta from it, and brought it towards the Orifice, till I laid hold of it with my Thumb and a Finger, and ſo brought it away.

he lady was very ill all the reſt of the day, but got better the next, and continued mending for three weeks, at which time ſhe was perfectly recovered. *La Motte.*

Remark.

La Motte, in his reflection upon this caſe, ſays, that not-ithſtanding the encouragement he gave this lady, a Miſcarriage as the accident from which he apprehended the moſt danger. nd that he attributed her recovery to the abundance of her rgations, which did not ceaſe in this caſe, as they uſually do ter Miſcarriages cauſed by an acute diſtemper.

As therefore the life of the patient depends upon the continuance the Lochia, in Miſcarriages of this ſort, the principal atten-n of a phyſician ſhould be directed to encourage their diſcharge all poſſible means.

Observation CXIII.

the 23d of September, 1678, I attended a woman, who, ter two days ſuffering great Pains in the Loins, with a Fever and Head-ach, miſcarried of a little Fœtus about three months grown, four fingers breadth in length, and quite emaciated and withered, the After-birth being retained in the Womb, which had not been able to expel it, becauſe the ſmall dilatation, which that little ſhrunk Fœtus had made, was not ſufficient for its excluſion, being of a much greater bulk. As I found the Womb juſt open enough to receive one Finger, and no more, I thought it more prudent to leave the expulſion to Nature, than to attempt its extraction in that condition, becauſe the violence neceſſary to be uſed in making a ſufficient dilatation of the Orifice might have injured the patient, whoſe Body the day after the Miſcarriage appeared covered all over with the Small-pox. But the ſecond day, a ſmall Flux of Blood coming on with ſome Pains, which a little dilated the Orifice, I made the moſt proper uſe of the opportunity, and brought away the After-birth effectually. But the Small-pox, which was very malignant, and accompanied with a continual Fever, and a violent Pain in the Head and Throat, carried off the patient the ninth day after her Miſcarriage; to which perhaps the too frequent Bleedings in the Arm, no fewer than ten, preſcribed by a phyſician, her brother-in-law, contrary to my ſentiment, might not a little contribute.

Observation CXIV.

In 1687, the Small-pox raged in Valognes with much more than common malignity, ſo as to prove mortal to the greater part of thoſe whom it ſeized, ſparing neither age, condition, nor ſex. Among others, a woman of faſhion, gone about ſix months with child, was attacked with this melancholy diſtemper, which proceeded in the moſt favourable way that could be deſired. The Fever was moderate, the Puſtules large, round, and white, ſo that nothing ſeemed wanting or wiſhed but an end of the diſtemper, which will have its time. Under this favourable ſituation, all on a ſudden the woman was ſeized with a Convulſion. I happened to be preſent, and ordered her a glaſs of wine, on which her Pains came on, and I delivered her in a moment of a living child, which was followed by a Convulſion, and death immediately after. *La Motte.*

Observation CXV.

Auguſt 10. 1688, I attended a woman, who had juſt then miſcarried of a child of ſix months, which ſhe had carried above ſix weeks dead in the Uterus. For ſhe had not gone above four months when ſhe was ſeized with the Small-pox, ſince which time, though well recovered of the diſtemper, ſhe had not felt the infant move. Before her Miſcarriage ſhe had a moderate Flux of Blood for five or ſix days, as a Forerunner of the ſame; but ſhe did very well after Nature had, unaſſiſted, expelled the dead child, which had only the proportions of one of four months and a half, about which term it died in the Womb. *Mauriceau.*

In the general account of the cauſes of Miſcarriages, I have omitted *Longing*, which frequently occurs, though taken no notice of by the ancients, that I remember, and but little by any modern author of credit; though I have ſeen a few treatiſes wrote with a view to prove or diſprove the reality of many effects attributed to it.

The accurate Hippocrates is ſilent on this head; Galen and Actuarius mention the word κίσσα, and Pliny takes notice of the diſtemper commonly called *Pica*, or *Picatio*, and other authors give an account of a diſtemper named μαλακία. But κίσσα, μαλακία, *Pica*, and *Picatio*, ſignify an inordinate deſire to eat things, which are not properly the ſubjects of Appetite, as chalk, cinders, lime, and dirt; whereas the *Longing* of women with child is not confined to ſuch traſh; and beſides, virgins who labour under Obſtructions of the Menſes, are perhaps more ſubject to ſuch unaccountable Appetites, than breeding women. Upon the whole, I am acquainted with no language, except the German, that has any word limited to the ſignification of that affection, which in Engliſh we call *Longing*; *des envies des femmes* of the French, the *voglia*, or *donna ſugliata* of the Italians, have at the ſame time other ſignifications. But we muſt not infer from hence, that the diſorder, for ſuch I muſt call it, is peculiar to our own country, for we know that the women of all other nations are ſubject to it as well as our own.

That a diſappointment of the thing *longed* for is the cauſe of frequent Miſcarriages, it would be ſuperfluous to endeavour to prove, ſince I believe there is ſcarcely a man concerned in the practice of any one branch of phyſic, who has not been a witneſs of it: and daily inſtances put the thing beyond diſpute.

I know no way of preventing a Miſcarriage from *Longing*, except by indulging the woman in her Appetite, if the circumſtances are ſuch as render it poſſible. But if from the impoſſibility or neglect of this, any ſymptoms of an impending Miſcarriage ſhould appear, it would be prudent to endeavour to avert it, by ſuch reſt, regimen, and gentle evacuations as the caſe requires, according to the rules above laid down; provided the Miſcarriage is not too ſudden to admit of ſuch precautions, which is often the caſe.

ABRABAX, or ABRAXAS. A magical word, comprehending the days of the year in numeral letters. *Caſtellus from Libavius.*

ABRACADABRA. A cabaliſtical or magical word, recommended by Serenus Samonicus as a cure for that ſpecies of Fever, which phyſicians call a Hæmitritæus.

In order to have this good effect, the word muſt be wrote on paper, and repeated, dropping every time the laſt letter, ſo as to make it, when wrote, a kind of cone, thus:

ABRACADABRA
ABRACADABR
ABRACADAB
ABRACADA
ABRACAD
ABRACA
ABRAC
ABRA
ABR
AB
A

In this manner it is to be ſuſpended about the Neck by a linen thread.

ABRACALAN. This is alſo a cabaliſtical word, to which the Jews attribute virtues equal to thoſe of *Abracadabra*, and ſo far they are probably right. *Buxtorf.*

St. Chryſoſtom and St. Auguſtin are not pleaſed with theſe Amulets, which they look upon as idolatrous. But I would not propagate their doctrine, for fear of interfering with the ſale of the famous Anodyne Necklace, the author of which has found means to make the Chriſtians equal at leaſt to the Heathens and Jews in point of ſuperſtition and folly.

But I muſt do the juſtice to *Abracadabra* and *Abracalan*, to ſay they have a meaning, which I don't find the Anodyne Necklace has; for *Selden de Diis Syris* informs us, that the two words mentioned above expreſs the name of a Syrian idol. This charm therefore muſt be intended as a ſort of invocation of that pretended deity.

ABRAHAM. This patriarch is eſteemed by ſome to have underſtood phyſic, and to have taught it the Ægyptians during his reſidence in their country. There is no foundation for this in ſcripture. What has given a hint for this tradition is, that the Perſian Magi make Abraham the ſame as Zoroaſter, the founder of the Chaldee and Perſian religion and philoſophy. *Schulzius. Herbelot.*

ABRASA. Ulcers attended with *Abraſion* of part of the ſubſtance; or Ulcers where the Skin is ſo tender and lax as to be ſubject to *Abraſion.*

ABRASAXAS. This is another magical word, ſaid to be borrowed from Baſilides, the Ægyptian, which if inſcribed in a circle, is ſaid to keep flies from coming within the circumference. *Caſtellus from Libavius.*

ABRASIO. Caſtellus explains this, Superficial exulceration of the Membranous parts, attended with a Loſs of ſubſtance in very ſmall fragments.

Thus there is ſaid to be an *Abraſion* of the Inteſtines, when the Internal Membrane is ulcerated, and very ſmall pieces of it are excluded with the Excrement.

ABRASUM. The part *abraded* from the Ulcer.

In *Abraſions* the Skin is not to be cut off, but reſtored to its place, and ſome proper medicine to be laid over it; for by this means the *abraded* ſkin, though turned black, is often conglutinated. To preſerve the parts affected from an Inflammation, anoint them with Powder of red Sumach, mixed with Honey; or the Beard of a Bull-ruſh burnt, and mingled with Honey like the former. *Oribaſ. de Morb. Curat. lib.* iii. *cap.* 18.

ABRATHAN, is ABROTANUM, Southernwood, numbered by the Jewiſh writers amongſt the ſeven ſpecies of Hyſſop. *Salmaſius.*

ABRIC. Sulphur.

ABROTANOIDES. A kind of Coral, or, as the botaniſts call it, a *Porus*, which grows in the form of *Abrotanum* on the rocks at the bottom of the ſea, as Cluſius, who deſcribes it, imagines. *Ray's Hiſt.*

ABROTANUM. SOUTHERNWOOD, called alſo *Old Man*, and *Lad's Love.* It is ſaid to derive its Latin name from ἀβρὸς, *ſoft.*

There are ſeveral ſorts of this plant, but that meant by the college is the *Abrotanum mas Officinarum* Ger. 947. Emaculat. 1105. Raii Hiſt. 1. 371. *Abrotanum vulgare* J. B. 3. 192. *Abrotanum Chab.* 376. *Abrotanum mas vulgare* Park. 92. *Abrotanum mas anguſtifolium majus* C. B. 136. Tourn. Inſt. 459. Boerh. Ind. A. 127. *Abrotanum mas vulgare Fuchſii.* Hiſt. Oxon. 3. 11.

Southernwood is very well known, being cultivated in moſt gardens. It is a ſhrubby plant, which as it grows old will increaſe into a buſh or little tree, having ſeveral brown woody twiggs, or branches cloathed with fine tender leaves a little like Fennel, but ſhorter, and of a hoary green colour underneath. The flowers grow upon the tops of the branches, and are very numerous, conſiſting of ſmall naked round heads, of a yellowiſh green colour, in which lie ſmall longiſh ſolid ſeed, or ſeeds, not incloſed in down. The leaves and flowers have a pleaſant grateful ſmell, but with a little ſourneſs. It flowers in July, the Leaves falling off from the Branches in the winter, and ſhooting out afreſh every ſpring. *Miller.*

Ælian relates ſome ſingular virtues of this plant. He repreſents it as the gift of Æſculapius to mankind, and ſays it effectually cures difficulty of Reſpiration; and that it kills thoſe monſtrous worms, that ſometimes grow to a prodigious length in the Inteſtines; but it cannot always in the laſt caſe be depended on.

Gulielmus Menens, in his treatiſe intitled *Vellus Aureum*, tells us, that if a Branch of *Southernwood* is laid under the pillow, it effectually preſerves againſt thoſe inchantments which induce Imbecillity. This I only mention as an inſtance of that extravagance to which a warm imagination, and a little enthuſiaſm, may expoſe men even of ſenſe and learning.

Galen ſays it diminiſhes the cold fit of an Intermittent, if the patient is rubbed with it firſt before its invaſion, and adds, that it kills worms.

The Leaves and Tops are in uſe, and the virtues attributed to them by modern authors are, that they are good againſt Putrefactions and Poiſons, and the Bites of venomous creatures, as Scorpions and Spiders. They kill worms; and are ſometimes uſed for the Suppreſſion of Urine, and the Terms, and in Hyſteric diſorders. They are frequently put in warming and ſtrengthning ointments. The Juice of the Leaves, as alſo a Lixivium of the Aſhes, is highly commended againſt the falling of the Hair and Baldneſs. *Miller from Ray and Galen.*

The Tops boiled in wine or water, with an addition of ſugar, are of ſervice in difficulty of Breathing, Aſthmas, Coughs, and other diſorders of the Lungs.

It is alſo ſaid to cure the Jaundice. *Ray. Dale. Miller.*

Matthiolus recommends the dried powder of the Leaves in a Fluor albus.

The ancients uſed to infuſe this in oil, in order to give the oil an aromatic agreeable ſmell.

A decoction of *Abrotanum*, in ſea or ſalted water, is much recommended by Heiſter for ſtopping a Gangrene.

The ſecond ſort referred to by the College, is the

Abrotanum fœmina (Chamæcypariſſus) Lavender Cotton, Off. and Ger. *Abrotanum fœmina vulgaris*, ordinary Lavender Cotton, *Park. Fœmina foliis teretibus, Female Abrotanum*, with roundiſh Leaves, *C. B.*

This is alſo called *Santolina.*

It is a ſhrubby plant, holding its Leaves all the winter. It has many woody, brittle, hoary Stalks, beſet with longiſh, white and hoary Leaves that appear four ſquare, and ſomewhat reſemble the Leaves of our common Heath; of a very ſtrong, though not unpleaſant ſcent, and a hot and bitter taſte. On the tops of the Branches ſtand long Stalks, each bearing a ſingle naked Flower, made up only of a thrum of ſmall yellow fiſtular five-corner'd Floſculi, without any border of Petala, ſtanding together in a ſcaly Calyx. The Seed is ſmall, longiſh and ſtriated; and the Root firm, hard, and durable, divided into ſeveral fibrous Branches.

It grows naturally in Italy, and the warmer countries, but is planted with us in gardens, where it frequently ſerves for borders and edgings. It flowers in July and Auguſt.

The Leaves, and ſometimes the Flowers are uſed, and are reputed to have great ſucceſs in deſtroying Worms, the Leaves and Flowers being boiled in milk, and taken faſting. The ancients commend it as good againſt all ſorts of poiſons, and the bites and ſtings of venomous creatures, as likewiſe againſt Obſtructions of the Liver, the Jaundice, and to promote the Menſes, being given infuſed in wine. *Miller.*

Dale mentions a third ſort uſed in medicine, thus deſcribed.

Artemiſia tenuifolia, Offic. Hiſt. Oxon. 3. 6. *Artemiſia tenuifolia ſeu Leptophyllos, aliis Abrotanum*, J. B. 3. 194. *Artemiſia tenuifolia ſeu Leptophyllos, quibuſdam Abrotanum ſylveſtre.* Chab. 375. *Abrotanum campeſtre*, Ger. 948. Emac. 110. 6. Raii Hiſt, 1. 371. Synop. 3. 190. C. B. Pin. 136. Park. Theat. 94. Tourn. Inſt. 459. Boerh. Ind. A. 1.27. *Abrotanum inodorum*, Schwenck. 5. Fine-leaved Mugwort.

This is ſometimes ſubſtituted for the *Abrotanum mas*, and is ſaid to mitigate Pains of the Stomach, and Nerves. *Dale.*

Miller reckons eighteen ſorts of *Southernwood*, the firſt and laſt above-mentioned included.

1. *Abrotanum mas anguſtifolium majus.* C. B. Pin. Common Southernwood.

2. *Abrotanum mas anguſtifolium minus.* C. B. P. The leſſer and narrower-leaved Southernwood.

3. *Abrotanum mas anguſtifolium majus.* C. B. P. Greater narrow-leaved Southernwood.

4. *Abrotanum latifolium inodorum.* C. B. P. Broad-leaved Southernwood without ſcent.

5. *Abrotanum mas anguſtifolium incanum.* C. B. P. Hoary narrow-leaved Southernwood.

6. *Abrotanum campeſtre, cauliculis albicantibus.* C. B. P. Fine-leaved wild Southernwood, with whitiſh Stalks.

7. *Abrotanum campeſtre, cauliculis rubentibus.* C. B. P. Fine-leaved wild Southernwood, with reddiſh Stalks.

8. *Abrotanum campeſtri ſimile Tingitanum.* H. L. Tangier Southernwood, reſembling the wild ſort.

9. *Abrotanum campeſtre incanum, Carlinæ odore.* C. B. P. Hoary Field Southernwood, with a ſmell like the Carline Thiſtle.

10. *Abrotanum humile, corymbis majoribus aureis.* H. R. Par. Dwarf Southernwood, with larger golden Flowers.

11. *Abrotanum Hiſpanicum, Abſinthii Pontici folio.* Tourn. Spaniſh Southernwood, with a Pontic Wormwood Leaf.

12. *Abrotanum Hiſpanicum maritimum, folio craſſo ſplendente & rigido.* Tourn. Spaniſh ſea Southernwood, with a thick ſhining, ſtiff Leaf.

13. *Abrotanum mas ex Surinam molli hirſutia caneſcens.* Pluk. Almag. Hoary Male Southernwood from Surinam.

14. *Abrotanum elatius ſubincanum, foliis creberrimis, ſecundum caulem in metæ formam faſtigiatis.* Pluk. Almag. Taller hoary Southernwood, with frequent Leaves gathered into a kind of pyramid.

15. *Abrotanum Orientale annuum, Abſinthii minoris folio.* Tourn. Cor. Annual Eaſtern Southernwood, with a Leaf of the leſſer Wormwood.

16. *Abrotanum Orientale, Chamæmeli folio.* Tourn. Cor. Eaſtern Southernwood, with a Chamomile Leaf.

17. *Abrotanum Africanum, foliis argenteis anguſtis, floribus ſpicatis capitulis copioſo tomento donatis.* D. Sherard. Raii Supp. African Southernwoood, with narrow ſilver Leaves, ſpiked Flowers, and very woolly Heads.

18. *Abrotanum Africanum, foliis argenteis anguſtis, floribus umbellatis, capitulis tomentoſis.* Raii Supp. African Southernwood, with narrow Silver Leaves, umbellated Flowers, and woolly Heads.

ABROTONITES. A Wine mentioned by Dioſcorides impregnated with *Abrotanum* or *Southernwood* in this manner:

Take of *Southernwood* bruiſed and ſifted a hundred Ounces (Ουγκία, an Ounce, is eighteen Penny-weight five Grains $\frac{1}{7}$ Troy) incloſe it in a linen bag, and put it into a veſſel containing about ſeven gallons (κεράμιον) of Muſt.

It is good in diſorders of the Stomach, Loſs of Appetite, and in a Jaundice, for it is Diuretic. *Dioſcorides. l.* 5. *c.* 62.

ABRUPTIO. The ſame as ABDUCTIO.

ABRUS. A kind of Red Phaſeolus, or Kidney-bean, growing in Ægypt and the Indies. *Ray's Hiſt.*

ABRUS, Offic. Veſlin. Obſ. 25. *Phaſeolus ruber Abrus vocatus*, Alp. Ægypt. 76. *Phaſeolus Glycyrrhizites folio alato, Piſo coccineo, atra macula notato.* Cat. Jamaic. 70. Hiſt. Jamaic. 1: 80. Tab. 112. *Phaſeolus alatus major, Fructu coccineo, macula nigra notato*, Corneil. in Not. Hort. Mal. 8. 72. Flor. Mal. 211. *Phaſeolus Indicus ruber Bontio*, Raii Hiſt. 1. 889. *Phaſeolus ſecundus ruber, qui Abrus Proſpero Alpino dicitur*, Bont. 136. *Phaſeolus ruber Abrus vocatus, minor coccineus, nigra macula notatus* Hiſt. Oxon. 2. 71. *Phaſeolus arboreſcens alatus et volubilis major Orientalis, fructu coccineo, hilo nigro notato*, Pluck. Phytog. *T.* 214. *F.* 5. *Piſum Indicum minus coccineum, aliis Abrus*, J. B. 2. 263. *Piſum Americanum coccineum vel nigrum, Abrus quibuſdam*, Chab. 403. *Glycyrrhiza Indica vulgo*, Herm. Cat. 494. *Glycyrrhiza Indica ſiliquis & ſeminibus Piſi coccineis, hilo nigro nota-* Par. Bat. Prod. 337. *Glycyrrhiza vel (ſi mavis) Glycyrrhizæ affinis arboreſcens Americana, floribus ex luteo & rubro variegatis, folio acuminato, ſiliqua latiſſima*, Breyn. Prod. 2. 53. *Arachus Indicus ſive Africanus*, Parkinſon. *Theat.* 1071. *Konni*, Hort. Mal. 8. 71. *Olinda, Olida*, Herm. Muſ. Zeyl. 16. ANGOLA SEEDS.

It is imported from both the Indies. The ſeeds are uſed; there are two ſorts in the ſhops; one of the ſize of a large pea, of an aſh colour, inclining to black; the other a little bigger than a common tare. Both are of a ſcarlet colour, with an eye of black. They are much commended for Inflammations of the Eyes, to dry up Rheums, to ſtrengthen the Optic nerves, refreſh the Spirits, diſcuſs Cloudy vapours of the Brain, and to clear the Sight. The leſſer ſort is worn as an Amulet about the Necks of children. *Dale.*

ABSCEDENTIA. Decayed parts of the Body, which in a morbid ſtate, are ſeparated from the ſound, or loſe that Union which was preſerved in a perfect ſtate of health.

ABSCESSIO. Ἀπόϛασις. This ſignifies exactly the ſame as ABSCESSUS.

ABSCESSUS. Ἀπόϛημα. The words αποϛασις and αποϛημα, uſed very frequently by Hippocrates, are tranſlated by Celſus *Abſceſſus*, and ſometimes *Vomica*. Hence the word *Abſceſs*, generally uſed by modern authors to ſignify a Suppurated Phlegmon, or Inflammatory Tumour, though ſometimes it ſignifies a Tumour of any other kind, which will not admit of diſcuſſion, as all Encyſted Tumours.

Theſe words ſeem originally, by their derivation, to import any ſort of excluſion of morbific matter, ἀφίϛαμαι and ἀφίϛημι ſignifying to recede and retire. Accordingly they are generally uſed by Hippocrates to expreſs any critical removal of offending humours from the vital parts, either to ſome of the emunctories for an immediate diſcharge, as the Glands of the Inteſtines, Kidneys, or Skin, whence they are eliminated by plentiful Stools, Urine, or Sweat; or to ſome part where they find an eaſy egreſs by the rupture of a Blood-veſſel, as the Uterus, or Noſe; or to ſome Muſcular part, or Gland, whence they cannot ſo eaſily be expelled, and therefore ſtagnate and putrefy, and at laſt are ſeparated in the form of Pus, or Matter.

Sometimes alſo Hippocrates means by theſe words the tranſmutation of one diſtemper into another, as of a Quinſey into a Peripneumony, or of a Continual fever into a Quartan. And ſometimes the mutilation, or deſtruction, of a part by the morbific matter of a diſtemper fixing upon it.

Hippocrates alſo uſes the word ἀπόϛασις to expreſs the fracture, or exfoliation of a Bone, when the parts of it, which were contiguous in a ſtate of health, recede from each other.

Paulus Ægineta ſeems to have limited the ſignification of *Abſceſs* to Suppuration, by defining (ἀπόϛημα) *Abſceſs*, a corruption of the Fleſhy parts, Muſcles, Veins, and Arteries.

Amongſt the many ſignifications of an *Abſceſs*, I ſhall confine myſelf principally to that which is the conſequence of an Inflammation, this being what ſurgeons uſually mean by it. See INFLAMMATION.

When the Tumour of an Inflammation increaſes, as well as the Pain, Heat, and Pulſation, attending thereon; when the Fever perſiſts obſtinately, and theſe ſymptoms continue for three days, notwithſtanding all endeavours for Reſolution, we may expect that Matter will be formed in the part. And we may be ſure that it is forming, if the patient feels frequent ſhivering fits, reſembling the acceſs of an Intermitting fever. *Hippocrates, Boerhaave.*

When this is the caſe, the intention of reſolving is intirely to be laid aſide; becauſe if applications proper to reſolve the Tumour are continued when reſolution is no longer poſſible, the moſt fluid and volatile parts of the obſtructing Humours will be diſſipated, and the more groſs and inactive particles will be dried and hardened, ſo as to prevent Suppuration, or render it difficult, and then a troubleſome induration of the part will remain, or, if Glandulous, a Scirrhus will be formed. For this reaſon, Camphorated Spirits, as a Topic, are particularly improper; and high Cordials, when the Inflammation is Internal.

Particular regard is to be had to this caution in Inflammatory Tumours of the Breaſts.

Inſtead therefore of perſiſting in the uſe of reſolving applications, the chirurgical indications are

1ſt. To ripen the contained Humours, as yet ſomewhat crude, into a well digeſted Pus, or Matter, and at the ſame time to ſoften the containing Tumour, and adjacent parts, and invite the matter outwards, that when ripe, it may more readily be diſcharged externally, either by breaking ſpontaneouſly, or by an artificial opening.

2d. To let out the Pus or Matter when maturated, then to mundify the Ulcer, and afterwards to nicarn and heal it.

It is to be obſerved, that when the Matter is diſcharged, the *Abſceſs* loſes it name, and becomes an Ulcer, which muſt be mundified, till it looks red at the bottom, before it can heal.

The firſt indication is anſwered by applications which ſtimulate and increaſe the heat of the part, or of the general habit, or which, at the ſame time that they increaſe the heat, mollify the Tumour, and by obſtructing the Pores, confine the volatile and fluid parts, that they may not perſpire thro' the Skin, and be diſſipated.

For this purpoſe the following Gums are recommended.

Ammoniacum,
Bdellium,
Elemi,
Galbanum,
Opopanax,
Sagapenum. *Boerhaave.*

All emollient and relaxing applications contribute to this end, of which the following forms may ſerve for examples.

Take of Rye meal four ounces,
Of Vinegar two drams,
Of Gum galbanum, diſſolved in the yolk of an egg, one ounce;
Boil them with water to a Cataplaſm, to which add
Of Oil of White lillies, one ounce. Mix.

Take of green leaves of Wood-ſorrel four handfuls,
Of Butter unſalted one ounce;
Let them be boiled gently over the fire, adding by a little at a time
Of Barm two ounces,
Of Gum ſagapenum diſſolved in the Yolk of an egg four drams;
Make a Cataplaſm according to art.

Take of Honey boiled a little thick four ounces,
Of Onions roaſted under the embers three ounces,
Of Fat figs four ounces;
Boil them with a very little Water to a Cataplaſm, to which add
Of Linſeed powdered one ounce and a half. Mix.

Take of Oat-meal one ounce,
Of Linſeed freſh powdered two ounces,
Of White lilly roots three ounces,
Of Flowers of marſh-mallows one ounce;
Boil them in New-milk, and add,
Of Unſalted butter two ounces;
Make a Cataplaſm. *Boerhaave.*

Take of the herbs Mallows,
Marſh-mallows,
Wall-wort, and } each one handful;
Chamomile,
Linſeed, or Fœnugreek powdered, two ounces;
Boil them in Milk or Water over a ſlow fire to the conſiſtence of a Cataplaſm, afterwards add
Of Barm two ounces,
Gum galbanum diſſolved in the Yolk of an egg one ounce,
Spread it upon a double cloth, and apply it warm to the Tumour, and repeat it very often.

Take of the Leaves of Mallows, and Brank-Urſine. each two handfulls,
Fat figs bruiſed, number ſix;
Theſe muſt be boiled in the manner above-mentioned, to which add
Of Onions roaſted under the embers, and Butter unſalted, each two ounces; and laſtly, as much of powdered Linſeed as is ſufficient to make a Cataplaſm.

Take of White lilly roots two ounces,
Of the herbs Wall-wort,
Mercury, and } each one handful,
Melilot,
Freſh Figs bruiſed, number ſix;
Let theſe be well boiled in Water, and mixed with
Gum Ammoniacum and Sagapenum diſſolved in the Yolks of eggs, and good Vinegar, each one ounce,
Linſeed oil an ounce and a half;
Mix and make a Cataplaſm.

Take of Wheat flower two or three handfuls,
Boil them in a ſufficient quantity of Milk, to which add
Of Gum Bdellium, and Opopanax diſſolved in the Yolks of eggs, each one ounce,
Of Saffron one ounce;
Make a Cataplaſm. *Heiſter.*

Mean time the motion of the Blood muſt be regulated in ſuch a manner, that the Fever may be great enough to produce heat ſufficient for the formation of Matter, and at the ſame time not ſo exceſſive as to cauſe a mortification.

Here a great deal of judgment is required to regulate the Regimen, Medicines, and Topical applications; for it is not poſſible to ſpecify an exact method ſuitable to every caſe that occurs. The general heat of the Body muſt be conſidered, and if it appears deficient, it muſt be increaſed by a warmer Regimen, and warmer Medicines; becauſe a certain degree of a Fever is abſolutely neceſſary to the formation of Matter.

But if the Fever appears already too great, it muſt be moderated by an oppoſite Regimen, and contrary Medicines.

The ſame regard is to be had to the actual and potential Heat of Topics.

Thus when a Tumour of this kind happens in a conſtitution, that is Hypochondriac, or worn down with a Quartan, or in the Breaſt of a woman of a lax habit, who gives ſuck, attended with little or no Fever, the heat of the Regimen, Medicines and Topics muſt be increaſed, in order to promote Suppuration. But if the Tumour happens in a young florid conſtitution, and the Fever and Heat are exceſſive, the Regimen and Medicines muſt be relaxing, and the applications emollient, without any mixture of warming ingredients.

The Small-pox will illuſtrate the doctrine I would inculcate in regard to *Abſceſſes*, where if the Fever and Heat are not ſufficient to bring the Puſtules to Suppuration, thoſe little inflammatory Tumours collapſe, and the Morbific matter finding no other way of being excluded, the patient dies.

On the contrary, if the Fever exceeds the proper bounds, and becomes exceſſive, Ichor is formed inſtead of Pus, and the parts under the Puſtules appear livid, and mortify.

But if the Heat is neither deficient, nor redundant, the Suppuration proceeds regularly, and the patient by means thereof recovers.

Particular care muſt be taken that the Tumour is not opened till all the obſtructing Matter, and injured Veſſels are converted into Pus; otherwiſe that part which remains unſuppurated will harden, and the Ulcer will diſcharge Ichor inſtead of digeſted Pus, when expoſed to the Air.

On the other hand, it is dangerous to let the Pus remain in the Tumour after it is once perfectly formed. Becauſe it will putrefy, and becoming acrid, corrode the adjacent parts, and form Sinuſſes and Fiſtulas, which in many parts are very difficult to cure, and oftentimes fatal. Or elſe when the more fluid parts are diſſipated by Perſpiration, or are abſorbed by the Veſſels opening into the *Abſceſs*, the remainder concreting cauſes an Induration of the parts, or a Scirrhus if it happens to be glandulous.

But in large Suppurations eſpecially, it is of great importance to diſcharge the Pus, or Matter, when perfectly formed, or, to uſe the common expreſſion, when ripe, for another reaſon, which is, that otherwiſe it will be abſorbed by the Veſſels, whoſe Orifices are already opened, and hourly enlarged by the Eroſion of the confined Matter.

Hence Pus is mixed with the Blood, which is thereby infected, the conſequences of which are a Hectic fever, and frequently a Metaſtaſis, or tranſlation of the Morbid matter, which ought to be diſcharged, to ſome of the Viſcera, which laſt is more or leſs fatal, in proportion as the function of the part which receives it is neceſſary to health and life.

But the part moſt ſubject to receive ill impreſſions from the abſorbed matter is the Lungs, and then the laſt ſcene of the tragedy is a Conſumption, which terminates frequently in death.

The Liver alſo is not free from danger, being often infected by the purulent matter depoſited in ſome part of it. However, in this caſe, the Pus ſometimes finds a way through the Biliary ducts into the Duodenum, and is thence excluded by a purulent Diarrhœa.

Or it ſometimes happens that the Matter, before it is depoſited on any particular part, is by a ſingular happineſs of Conſtitution determined to the Inteſtines, or Glands of the Kidneys, and thence diſcharged by Stool or Urine.

Hence appears the manner how the Matter of internal *Abſceſſes* is taken into the Circulation, and again ſeparated from the Circulating fluid by the Inteſtinal or Renal glands.

I am ſenſible there are ſome bold enough to deny, that this Reſorption of the Matter, in caſe of Internal *Abſceſſes*, is poſſible. But I may ſafely appeal to the experience of every phyſician in Europe, who has regarded ſuch caſes with an attention equal to the importance of his profeſſion, for the truth of the fact.

When the Integuments of the *Abſceſs* and the parts adjacent are ſoftened and relaxed by the Topics ſpecified above, and their reſiſtance is ſo far diminiſhed, as to yield to the preſſure of the included matter, which at this time tends outwards, Boerhaave recommends Emollient and Oily applications, mixed with ſome ingredients moderately acrid. By means of theſe he expects the Integumeuts will be rendered more thin, and leſs ſenſible, and conſequently that the *Abſceſs* may be laid open with leſs pain and trouble.

The example he gives of a form is thus:
Take of old Barm two ounces,
Venice Soap ſcraped two drams,
Honey half an ounce,
Oil of Chamomile by infuſion two drams;
Make a Cataplaſm.
Much like this is that recommended by Heiſter.
Take of Barm three ounces,
Honey an ounce,
Venice Soap ſcraped half an ounce,
Oil of white Lillies, a ſufficient quantity to make it into the form of a Cataplaſm.

When the Tumor is grown ſoft and white, and the ſurgeon feels a fluctuation of Matter within, when he preſſes it with his Fingers; when the Pain, Heat, Redneſs, Tenſion and Pulſation of the Part ceaſe, and the Fever diſappears, and at the ſame time the Tumour riſes in the form of a Cone, being attended with a ſenſation of weight, we may be ſure the Pus is ſufficiently maturated, and muſt then immediately proceed to give it vent. But as an Aneuriſm is attended with ſome of theſe appearances, care muſt be taken not to miſtake that for an *Abſceſs*. See ANEURISM.

Celſus thinks it the moſt adviſeable way to treat the Tumour with emollient Cataplaſms till it breaks ſpontaneouſly, provided the Matter does not lie deep. For he ſays thoſe *Abſceſſes*, which are thus left to the conduct of Nature, are leſs ſubject to leave unſeemly ſcars.

But becauſe the Matter when pent up may have the ill effects mentioned above, moſt chirurgical writers agree that it ſhould be let out either by Inciſion, or Cauſtic, and of theſe Inciſion is generally preferred.

The Inciſion is to be made in this manner. Let the operator with one Hand preſs the Matter into the moſt prominent part of the Tumour, and with the other thruſt the Inciſion-knife into the *Abſceſs*, till the Pus appearing at the Orifice, convinces him that he has penetrated far enough. Then let him elevate the Knife, and by that means enlarge the Wound; or elſe paſs the point through the oppoſite ſide of the riſing Cone, and then divide the intermediate Skin and Fleſh, always taking care to begin the Inciſion at the lower part of the Cone, for the more convenient diſcharge of the Matter.

Mean time the operator muſt carefully avoid the ſubjacent Nerves and Blood-veſſels, eſpecially if any that are conſiderable are in danger; and muſt take care that he does not divide any Muſcle tranſverſely.

Galen, Paulus, and Fabricius ab Aquapendente agree, that the Inciſion ſhould be made according to the rectitude of the Fibres, as they expreſs it, by which they mean, that the wound ſhould be made parallel to the courſe of the Fibres of the part which lies under the Skin.

This caution is principally intended to prevent cutting a Muſcle or its Tendon tranſverſely, or dividing a Nerve or large Blood-veſſel, each of which would be attended with accidents very troubleſome always, and generally irreparable. Thus the diviſion of a Blood-veſſel would cauſe a great Hæmorrhage with all its inconveniencies; the diviſion of a Nerve, a Palſy of the part to which it communicates ſenſation and motion; and the tranſverſe ſection of a Muſcle would infallibly be followed by an utter deprivation of motion in the part it was deſtined to move.

The courſe of the Fibres is ſo various in different parts, that it is not poſſible to lay down particular rules for the direction of the Knife. The ſurgeon therefore, before he attempts making an Inciſion, ought to be perfectly well acquainted with the Anatomy of the part intended to be cut; for this alone can inſtruct him how to take his meaſures, in order to avoid the accidents mentioned above.

I have met with three inſtances, where, for want of this neceſſary knowledge, the Muſcle which elevates the Supercilia has been divided tranſverſely, the conſequence of which was, that they immediately fell down upon the Eye. This was the more inexcuſable, becauſe Aquapendente, an author every ſurgeon is ſuppoſed to read, cautions particularly againſt it.

When the Inciſion is made, the ſides of the *Abſceſs* may be preſſed gently with the Hand, in order to expreſs out of it all the Pus that is formed. But in ſome *Abſceſſes*, where the quantity of Matter is very large, chirurgical writers adviſe to let a part of the Pus remain till the next dreſſing, for fear the patient ſhould faint when it is diſcharged all at once. But this caution is ſeldom neceſſary.

When all this is done, the Aperture muſt be conſidered as a common wound, and treated with Mundificative, Suppurative, Digeſtive, Balſamic, Detergent, and drying Applications, varied according to circumſtances, as is amply ſpecified under the article VULNUS, but without Tents, which are extremely pernicious; mean time guarding it as much as poſſible from the acceſs of the Air.

When a Cauſtic is preferred to Inciſion, it muſt be laid on that part of the Tumour, which appears to the ſurgeon moſt convenient for the diſcharge of the Matter.

Proper forms of Cauſtics, and the manner of applying them, will be ſpecified under the article CAUSTIC, which ſee.

When an *Abſceſs* is already burſt, we are to be guided by the Probe where to dilate. The uſual method of opening farther is with the Probe-ſciſſars; and indeed in all *Abſceſſes* the generality of Surgeons uſe the Sciſſars, after having firſt made a Puncture with a Lancet. But as the Knife operates much quicker, and with leſs violence to the Parts than Sciſſars, which ſqueeze at the ſame time that they wound, 'twill be ſparing the patient a great deal of pain to uſe the Knife, wherever it is practicable, which is in almoſt all caſes, except ſome Fiſtulas in Ano, where the Sciſſars are more convenient. The manner of opening with a Knife is by ſliding it on a Director, the groove of which prevents its being miſguided. If the Orifice of the *Abſceſs* be ſo ſmall as not to admit the Director, or the Blade of the Sciſſars, it muſt be enlarged by a piece of a Spunge-tent, which is made by dipping a dry bit of Spunge in melted Wax, and immediately ſqueezing as much out of it again as poſſible between two pieces of tile or marble; the effect of which is, that the looſe Spunge being compreſſed into a ſmall compaſs, when any of it is introduced into the Orifice of an *Abſceſs*, the Heat of the Part melts down the remaining Wax that holds it together, and the Spunge ſucking up the moiſture of the *Abſceſs* expands, and in expanding opens the Orifice wider, and by degrees, ſo as to give very little pain. *Sharp.*

If during the treatment of an *Abſceſs* the patient ſleeps well, and breathes eaſily; if he has a tolerable Appetite, and little or no Thirſt; if the Fever, which accompanied the formation of Pus, diſappears; if the Pus diſcharged is white, of an equal conſiſtence, and not fœtid, from theſe circumſtances we may draw a favourable preſage.

On the contrary, want of Sleep, difficulty in Breathing, Thirſt, Inappetency, or loathing of Food, a Fever, Pus that is black, of an unequal conſiſtence, and fœtid, eruptions of Blood, a generation of ſpungy Fleſh, or a Calloſity of the Lips of the wound before Incarnation is compleated, are eſteemed very bad ſymptoms. But Faintings either during the dreſſings, or afterwards, are ſtill worſe.

Some regard alſo muſt be had to the original diſtemper, of which the *Abſceſs* is as a Criſis; for if that diſappears on a ſudden, and the Tumour immediately follows, or if it continues after the diſcharge of the Pus, danger is in both theſe caſes to be apprehended. *Celſus.*

To this general account of *Abſceſſes* I ſhall add the opinions of ſome of the ancients, and the chirurgical writers of our own country, that I may omit nothing which may tend to the information of thoſe whoſe intereſt or inclination it may be to underſtand this ſubject. Some repetitions of what has been already taken notice of are unavoidable, and may poſſibly have their uſe, as contributing to the confirmation, or farther illuſtration of the doctrine already advanced.

Suppuration is an effect of many Diſtempers. If a long Fever without Pain continues without manifeſt cauſe, the Diſeaſe bends its force to ſome particular part, I mean in young perſons; for in the aged it generally turns to a Quartan. A Suppuration happens in like manner, when a Hardneſs and Pain in the Præcordia fail to carry off the patient before the twentieth day, and there is no Hæmorrhage from the Noſtrils, eſpecially in the younger ſort; but Dimneſs of Sight, and a Pain in the Head, were among the firſt ſymptoms. In this caſe the *Abſceſs* forms itſelf in ſome of the lower parts. But when there is a ſoft Tumour of the Præcordia, which does not go off within ſixty days, the Fever continuing all that while, expect an *Abſceſs* in the Upper parts, which, if there was no Hæmorrhage from the Noſtrils at the very beginning, will break out about the Ears. And ſince almoſt all inveterate Tumours tend to Suppuration, a Tumour of the Præcordia inclines that way more than one in the Belly, as does a Tumour above the Navel more than one below it. If there be alſo a ſenſe of Laſſitude in a Fever, there is an *Abſceſs* forming in ſome of the Joints, or in the Jaws. Sometimes a thin crude Urine continues ſo long, till other ſalutary ſigns ſupervene; in which caſe there will be an *Abſceſs* below the Septum tranſverſum [Midriff] which the Greeks call διάφραγμα [the Diaphragm]. Pain in the Lungs, which cannot be alleviated by Spitting, Cupping, Bleeding, or Regimen, ſometimes excites Abſceſſes, [Vomicæ] about the twentieth, thirtieth, or fortieth day; or, though but ſeldom, about the ſixtieth, counting from the day when the patient began to be feveriſh, or ſhivering, or felt a heavineſs in that part. But theſe Abſceſſes riſe ſometimes in the Lungs, ſometimes on the Ribs. The Suppuration excites a Pain and Inflammation of the part which it affects. A greater heat is felt in that place than elſewhere, and the patient in lying on it fancies he lays a weight upon it.

A Suppuration before it comes in ſight may be thus diſcovered: if the Fever does not leave the patient, but remits by day, and increaſes in the night, much Sweat ariſes, there is a deſire to cough, but little or nothing ſpit out; the Eyes are hollow, the Cheeks red, the Veins under the Tongue look white, the Nails of the Fingers are crooked; the Fingers, eſpecially the tops of them, burn, the Feet ſwell, there is a difficulty of Breathing, with a Nauſea, and Puſtles ariſe all over the Body. But if the Pain and Cough, with the difficulty of Breathing, afflicted the patient from the beginning, the *Abſceſs* will be formed on, before, or about the twentieth day; if theſe ſymptoms appeared later, they will of neceſſity increaſe, but the later they came, the ſlower will be their Solution. When the diſtemper is very violent, the Feet with the Toes and their Nails uſe to turn black; in which caſe, if the patient eſcapes from death, yet his Feet mortify. *Celſus, lib.* ii. *cap.* 7.

ABSCESSES in the URETHRA.

Small *Abſceſſes* in the Urinary paſſage, called by the Greeks, φύματα, are healed by the evacuation of Pus from that part. *Celſus, lib.* ii. *cap.* 8.

An ABSCESS of the LUNGS.

Such as labour under a Peripneumony, attended with a collection of Phlegm, which is not diſcuſſed, ſurvive; but after the diſtemper has ſpent its rage, are afflicted with an Empyema, or *Abſceſs* of the Lungs. Now when this comes to perfect Maturation, it requires not ſo much Care and Pains to break and evacuate it, as one that is ſeated in the ſolid parts of the Body; for the Pus is eaſily expelled, being more readily diffuſed through the thin Veſicles, than through the Habit of the Body. For the Lungs are a ſoft and fine ſubſtance, and full of pores like a ſpunge, and can never be hurt by moiſture, but propels it from narrower to ſtill wider paſſages, till it comes at laſt to the Trachea. The circulation of Liquids is not difficult, and the Pus is a flexible lubricous ſubſtance, and forwarded in its Expulſion by Reſpiration. The patients generally recover, except perhaps one here and there, who is ſuffocated by the ſudden Eruption and Redundancy of the Pus, which ſtops the Trachea, and intercepts the air; though ſome die lingering of a Conſumption or Empyema. The Pus in this caſe is white and frothy, mixt with Spittle, ſometimes of an aſh colour, or blackiſh. Sometimes when there is a great Exulceration, and the *Abſceſs* is very deep, a ſmall branch of the Aſpera Arteria, and with it ſome fragments of the Lungs themſelves are expelled by Coughing. The patient is hoarſe, breathes ſhort, ſpeaks in a deep tone; the Thorax is inlarged, yet ſeems too narrow for the redundant Phlegm; the Black of the Eye is ſhining, and the White of an extreme whiteneſs as if it was fat; the Cheeks are red, and the Veins of the Face prominent. What is real matter of admiration in this caſe is, that the tone of the Nerves as far exceeds the Habit of the Body, as it is itſelf ſurpaſſed by the vigor and alacrity of the Spirits. *Aretæus* περὶ αἰτιῶν ϗ σημείων χρονίων παθῶν. *Lib.* i. *cap.* 10.

An Abscess of the Liver.

If the Liver be affected with an Inflammation, and the Matter be converted into Pus, the Pain extends to the Throat, and extremity of the Shoulder. For the Liver by its weight draws the Diaphragm, by which it is ſuſpended; and the Diaphragm draws down with it the Membrane that lines the Ribs, becauſe it is connected to it, which Membrane is known to reach as far as the Throat, and Top of the Shoulder; and all theſe parts together are forced downwards. While the Suppuration goes on, a burning Heat, with Shiverings, and a dry but not very frequent Cough afflicts the patients, who become of a green herbaceous colour, or, if inclined to a higher degree of the Jaundice, ſomewhat pale, and their Sleep is not altogether free from troubleſome dreams; they preſerve their ſenſes, unleſs perhaps ſome ſudden cauſe makes them delirious for a time, from which they ſoon recover. A Tumour ariſes under the Paps, or the Ribs, which has been often miſtaken for a Tumour of the Peritonæum. If the Tumour be under the Baſtard-ribs, the Liver is painful if touched, and ſwells, being full of Humours. If theſe appearances are not limited to the Hypochondrium, it is a ſign that the Tumour is in the Peritonæum; the diſtinction is eaſy; for in touching the place, after you have carried your Hand over the Lobes of the Liver, you meet with nothing further but the Vacuities of the Abdomen. But the Hardneſs of the Peritonæum is not circumſcribed, and the Limits of its progreſs are not manifeſt. See what is ſaid about the Diſtinction of theſe Tumours under Abdomen.

If the *Abſceſs* be formed in the inward parts, Nature is by far the beſt phyſician, by diverting the Pus to the Inteſtines, or the Bladder; the latter of which is much the ſafer way. But if it tends outwardly, it is not ſafe to neglect Inciſion, for want of which the Liver is corroded by the Pus, and death ſoon follows. If you venture on Inciſion, the patient is in danger of being ſuddenly carried off by an Hæmorrhage, which from the Liver is not to be ſtopped. But if you find it neceſſary to make a Perforation, intrude a red-hot iron as far as the Pus, which will perform the operations of Inciſion and Cauteriſing at the ſame time. And if the patient has the good fortune to recover, the Pus will be white, ripe, uniform, inodorous, extraordinary thick; the Fever and other ſymptoms will be much alleviated, and perfect health be reſtored without much trouble. But if the Pus be diſcharged into the Inteſtines, the Excrements are firſt aqueous, then like Water in which raw Fleſh has been waſhed; after this, like thoſe which are voided in a Dyſentery, accompanied with Exulceration of the Inteſtines. Sometimes concreted Blood comes away; ſometimes yellow Bile, deeply tinged, or porraceous, and at laſt, when death is at hand, black.

But if the Tumor does not come to Suppuration, an offenſive Smell attends the Excrements, as if they were putrefied; the food paſſes through the Body crude and indigeſted, becauſe of the weakneſs of the Stomach and Inteſtines; for the Liver, under ſo great a diſorder, is incapable of giving it a ſecond Concoction. Some patients are much afflicted with a ſharp corroding Heat, and grow worſe every day. There is a Colliquation of the Fleſh, a ſmall Pulſe, with a difficulty of Breathing, and death is not far off. Some recover of the Dyſentery and the *Abſceſs*, and afterwards fall into a Dropſy. But if all theſe ſymptoms remit, and the Pus that comes off by Stool is white, equal, uniform, void of Smell, and the Food is digeſted, there is good hope of the patient. But the beſt Criſis of the diſtemper is by Urine, for by this way the Pus goes off moſt ſafely and inoffenſively. *Aretæus* περὶ αἰτιῶν χρονίων παθῶν, *lib.* i. *cap.* 13.

Abscesses of the Spleen.

The Spleen is very ſubject to a chronic Diſtemper called a Schirrhus, but is ſeldom affected with a Suppuration. In the former caſe it is hard, and reſiſting to the touch, like a ſtone; but under this latter diſorder it is ſofter, and at its moſt eminent part, where the Pus gathers, yields to the touch; though in thoſe parts where there is no Pus it is hard, and reſiſts. Sometimes the whole Spleen hangs looſe in the Belly, and may be moved this way or that way, as long as it is ſmall enough, and has room for Fluctuation. The Nauſea and Anxiety are moſt grievous when the *Abſceſs* is ready to break.

This diſtemper, in its progreſs, is generally accompanied with a Fever, Pain and Shiverings; though ſometimes the Heats are but gentle, and without the other ſymptoms, which is the reaſon why an *Abſceſs* in the Spleen ſometimes eſcapes our notice; for it is but a ſlender part, and void of ſenſe, even in its ſound ſtate.

Perſons afflicted with an *Abſceſs* of the Spleen ſwell, and overflow with Moiſture, as if they were in a Dropſy. They are all over of a black colour mixt with green, are reſtleſs, and fetch their Breath heavily, as if they were oppreſſed with a load at their Breaſts; for this diſorder is very dangerous. Their Belly even to the Upper region is inflated with a groſs Vapour, moiſt only in appearance. They have great inclinations to cough, but expectorate only a little dry Matter. If they feel a motion downwards, the Fæces are watery, but the patient is relieved by it at firſt; but if the Stools increaſe, he finds himſelf indeed extenuated, but however relieved by it.

If the *Abſceſs* comes to break, there iſſues from it not pure and digeſted Pus, but a whitiſh, or aſh-colour'd, and ſometimes a fæculent, or livid kind of Matter is diſcharged. And if the *Abſceſs* lie deep, a black ſort of Humour, together with ſome of the Juice of the tabid Spleen, are evacuated; from ſome, whole pieces of that Bowel come away; for the Spleen is of a diſſoluble nature. If the Ulcer continues a long time without healing, an intire loſs of Appetite comes on, with a Cachexy: the ſick perſon is bloated, looks diſmal: there ariſe all over the Body, eſpecially in the Legs, round, hollow, livid, foul Ulcers, which are difficult to cure; and the patient finds no remedy for his evils but death. *Aretæus* περὶ αἰτιῶν χρονίων παθῶν. *lib.* i. *cap.* 14.

In *Abſceſſes*, if there appears no probable way to hinder their breaking, anoint them with Bread boiled in Hydrelæum [a Mixture of Water and Oil] or apply to the place Barley-meal prepared after the ſame manner, and foment it with a Decoction of the Root of Marſh-mallows. When the Tumour is with difficulty brought to a Suppuration, and no leſs difficult to diſcuſs, a Cataplaſm of dried Figs is to be uſed. You muſt take the fatteſt and ſweeteſt Figs, and boil them in Water, till it become of the thickneſs of fine Honey, ſometimes adding Barley-meal, and ſometimes fine Wheaten bread. If the Diſcuſſion of the Tumour do not proceed ſo well as it ought, boil Hyſſop, or Origanum with your Figs, and, for more efficacy, put Salt in your Decoction; but great care is to be taken that, while you make uſe of vehement Dryers, you do not render the part callous. If any ſuch thing appear, boil the Roots of Wild cucumber, Marſh-mallows, or Bryony in Water, or, which is more effectual, and a more powerful Digeſtive, the Root of the Dracunculus. Boil this Root ſometimes by itſelf, ſometimes with Figs, adding ſome Meal and Fat. Maidenhair alſo is a Digeſtive, and ſo is Oil of Dill, which alſo maturates crude Humours, and Tumours of indigeſted Matter. Pitch, eſpecially the liquid ſort, added as an ingredient in Cataplaſms, digeſts all crude and hard Tumours.

Here follows a compounded Medicine, which cures *Abſceſſes* where the Matter is concocted, without any trouble, bringing away the Pus in the dreſſings, and perfectly digeſts them when they are crude: Take of the Lapis pyrites, and Ammoniac, of each twelve drams; of Bean-meal ſix drams; make them into a Plaiſter, with Liquid Roſine, and ſpread it on Leather, and let it ſtick to the place till it falls off of itſelf. But this medicine muſt be prepared not long before it is uſed, becauſe it ſoon grows dry. *Oribaſ. de Morb. Curat. lib.* iii. *cap.* 43. *Paulus Ægineta, lib.* iv. *cap.* 18.

Abscesses of the Kidneys and Bladder.

An *Abſceſs* of the Reins, or Kidneys, is attended with Pains about the Ilia, and unuſual Shiverings at Intervals, with an anomalous Fever. The digeſted Pus which is voided by Urine plainly indicates an Ulcer, that requires ſpeedy help, without which it will be difficult to cure. Ulcers in the Kidneys are to be diſtinguiſhed from thoſe in the Bladder by the Situation, Action, and Properties of their Subſtance and Faculties. Firſt by the Situation; for when the Bladder is affected, the Pain is felt in the Pubes, and the Bottom of the Belly; but when the Kidneys ſuffer, the Pain lies in the backpart of the Loins. Secondly, by their Action, as thus: When the cauſe of the diſeaſe lies in the Bladder, there is a difficulty or total ſuppreſſion of Urine; but when the Kidneys are in fault, the Urine paſſes off freely. Thirdly, by the Properties of the Body; as for inſtance, fibrous pieces of Fleſh are voided from the Kidneys, but Membranous ſcales come off from an ulcerated Bladder. Laſtly, they are diſtinguiſhed by their Faculties. A violent Pain is felt in the Bladder, when that is exulcerated; but when the Kidneys are thus affected, there is a dull Pain of the part, accompanied with the ſenſe of a weight on the Loins. Sometimes the Ureters are ulcerated, and Pus and Blood are voided with the Urine; for theſe are ſeated between the Reins and the Bladder; but if the Pudendum be ulcerated, Pus and Blood come away unmixed with the Urine.

For Abscesses in the Reins and Bladder.

Take Linſeed, the Seeds of Cucumber, and of white Poppy, Tragacanth, of each eight drams, of Amylum four drams; make them into Troches.

For Ulcers of the Bladder, attended with an Inflammation.

Take twenty Pine-kernels, forty Seeds of Garden Cucumbers, of Amylum, Spikenard, each a dram, Seed of Smallage five drams. Let the Spikenard and Smallage be boiled in a pint of Water, and one ſixth of a pint of the Decoction be mixed with the beforementioned ingredients.

For an Hæmorrhage from the Bladder.

Take of Sciſſile Alum, one dram, of Tragacanth eight drams, of Gum Arabic two ſcruples and a half. Adminiſter them in Paſſum. *Oribaſ. Synopſ. lib.* ix. *cap.* 27.

An Abscess of the Uterus.

When an Inflammation begins to ſuppurate, the Suppuration is to be promoted by a Cataplaſm of Fœnugreek and Linſeed, or rather of Barley-meal, to which let a Fig be added; ſometimes Pigeons-dung is uſed. Frequent Inſeſſions are recommended, and Peſſaries of a heating and irritating nature. But it ought to be obſerved, that the *Abſceſs* diſcharges itſelf ſometimes by the Orifice of the Uterus, ſometimes into the Bladder, and oftentimes into the Inteſtinum rectum. *Oribaſ. Synopſ. lib.* ix. *cap.* 51.

The Seed of Treacle-muſtard is of ſo acrid a quality, as to break Internal *Abſceſſes*, if drank. *Orib. de Virt. Simpl. lib.* ii. *cap.* 1.

If a diſeaſe turn to an *Abſceſs*, the patient being in a good way, we are to divert our thoughts and concern to this new diſorder. While the Fever keeps its courſe, and the Urine appears always thin and crude, never depoſiting a Sediment, if there be felt in any of the Lower parts, as in the Legs, or about any Joint, a Weight or a Tenſion, a Heat or a Pain, without manifeſt cauſe, we are to expect an *Abſceſs* in that part. If the patient be ſuddenly taken with a difficulty of Breathing, and is ſoon relieved, and be afterward ſeized with a Heavineſs or Pain in the Head, a profound Sleep, or Deafneſs, he will unavoidably have an *Abſceſs* in the Glands about the Ears. *Abſceſſes* happen principally in Winter, and to thoſe who are paſt thirty. *Aetius Tetrab.* ii. *Serm.* 1. *cap.* 51.

If the Inflammation continues, and inclines to a Suppuration, we are by all means to endeavour that the Tranſmutation may be perfected as ſoon as poſſible. Waſh the part affected therefore with a Decoction of Marſh-mallows and Figs, and apply Bread or Barley-meal, with Water and Oil, to the place. If the Suppuration be difficult, apply Barley or Bread boiled in a Decoction of fat Figs and Marſh-mallows. If it continue ſtill obſtinate, we muſt add Pigeons-dung, Nitre, (not our Nitre, but a fix'd Alcaline ſalt) and Turpentine. The tranſmutation into Pus being perfected, the place is to be opened at the moſt eminent part, for there the Skin is thinneſt; and if any part of the ſuppurated place appear putrefied, it is neceſſary to cut it off. But the Reſection muſt be in the figure of a Myrtle-leaf, which indeed ought ſtrictly to be obſerved in *Abſceſſes* under the Arm-pits, and of the Groins; but in the Head, and ſuch like places, no more than a ſimple Inciſion is uſed, after which we ſtrew fine powder of Frankincenſe in the cavity of the wound, and put Lint therein. Our author goes on with preſcribing the ſame treatment of an *Abſceſs* where ſeveral Inciſions are made, as is quoted below from *P. Ægineta*, and then recommends for a Detergent the Ægyptian plaiſter, which, ſays he, conſiſts of equal parts of Liquid turpentine, Honey, and Oil of roſes; but for ſtrong Bodies, and very foul Ulcers, he recommends an equal meaſure of Turpentine and Honey, without Oil, as a wonderful Deterſive. But for Ulcers that are difficult to cleanſe, the yellow Ægyptian ointment, which they call Coctum, does good ſervice. It conſiſts of Ærugo raſa and Honey boiled together till they become of a yellow colour.

An approved Suppuratory for Abscesses is this, *viz.*

Take of Wild-mallows bruiſed and boiled, Meal of wheat, Hogs-dung, of each equal parts, boil them in Sapa (they muſt boil to a conſumption of one half) and apply it to the place, and a Suppuration will very ſoon be brought about.

Here follows another Remedy, called the Philosophical Medicine for Inflammations, particularly in the Breaſts and Glands.

Take of the Fat of hogs an ounce and a half, the Whites of two eggs, Honey as much as will fill the two Egg-ſhells, two ounces of Nitre, of Meal of dried Barley, called Polenta, as much as is ſufficient. Melt the Fat, and mix it with the Eggs and Honey; then add the Nitre, and laſtly, as much of the Meal as will make it into a Plaiſter.

Some prepare it thus:

They take eleven eggs with the Yolks, one pound of Meal of dried Barley, called Polenta, one pound of Hog's fat, Honey as much as is neceſſary; for if they intend to diſcuſs, they put the more Honey; but if Mitigation only be deſigned, they add the leſs. Some add Nitre; but what has Nitre in it is more diſcuſſive; what has none rather mitigates. Uſe alſo that which is prepared with the Juice of Fleabane.

To break Abscesses

Take Nitre and Gum Ammoniac worked up together with Vinegar, and apply them to the place as long as you intend to break it. Some, inſtead of Ammoniac, uſe Frankincenſe.

To diſcuſs an *Abſceſs* even after alteration, uſe the Emplaſtrum Ariobarzanium, or that called Dionyſianum. See below.

The Ægyptian Detersive of Oribasius.

Take one pint of clarified Honey, two pints of Vinegar, one ounce of Squama æris, four drams of Ærugo. Boil the Vinegar and Honey to the conſiſtence of Honey, and then mix up the reſt.

Another excellent Detergent of the ſame author for foul Ulcers.

Take of Lees of oil, Clarified honey, and liquid Alum, equal quantities.

Another Medicine, to diſcuſs or break an Abscess, and evacuate it without Pain:

Take of Spuma Argenti, Ceruſs, Ammoniac, each one pound, Oil a ſufficient quantity, the Reſine of the Pine-tree, Propolis, (Bee-glue) Opopanax, of each an ounce and a half, of Caſtor four ounces, of Galbanum, Myrrh, Frankincenſe, each two ounces, Vinegar a ſufficient quantity. Boil the Spuma Argenti and Ceruſs in the Vinegar; bruiſe the ingredients, that are proper to be bruiſed, in the Vinegar, and melt the reſt, and mix them with the things that are boiled, and adding them to the bruiſed, cool and work them altogether. *Aetius Tetrab.* iv. *ſerm.* 2. *cap.* 32.

The Emplastrum Ariobarzanium.

Take of Spuma Argenti one ounce, of Ceruſs one pound five ounces, of Sea water twenty five ounces, of old Oil one pound, of Whelks calcined ſeven ounces, of yellow Wax nine ounces, of Turpentine ſix ounces, of Frankincenſe three ounces and three ſcruples. *P. Æginet. lib.* vii. *cap.* 17.

Emplastum Dionysianum.

The celebrated Dionysian Plaister for Abscesses, and for tumid Breasts and Glands.

Take of old Oil, Water, each a pint; let them boil a little, and then put in ſix ounces of Aphronitre, an ounce or two of Miſy, and boil it till it will not ſtick to the Fingers, then add of grained Frankincenſe, Wax, Turpentine, each ſix ounces. *P. Æginet. lib.* iv. *cap.* 17.

Abscesses of the Nails, called Paronychiæ, in Engliſh Whitlows, or Felons.

At the beginning of a Paronychia, whether on the Nails of the Fingers or Toes, before it comes to a Suppuration, apply Wool, dipt in cold Water, to the part affected, or refrigerate it continually with a Linen cloth, dipt in cold water, and ſqueeze it over the place; or apply Frankincenſe and Galls bruiſed with Honey, either ſeparately, or mixed together; or ſprinkle it with the Juice of Myrtle-leaves bruiſed, or apply Cerate of Myrtle, or Ear-wax, and it will be healed. If there be an Inflammation, apply Bread moiſtened with Water, with Oil of roſes, or the tender Leaves of Olives, or the Powder of Cadmia. The Fleſh ought to be ſeparated from the Nails all round, and Lint interpoſed, and the applications well bound on. Powder of Spodium may alſo be ſprinkled on the place. Another medicine for an Exulcerated Paronychia is as follows: Ærugo, Spuma Argenti, each four drams, Sarcocolla one dram, reduce them to powder, and ſprinkle the place well with the ſame; or apply the Meal of the bitter Vetch. When you have raiſed the Fleſh from the Nail, as before adviſed, apply a Linen cloth, ſqueezed out of Wine, and upon that a Spunge dipt in Wine, which is my common practice. Another Medicine which I uſe is the following: Nitre, Squama æris, Pumice-ſtone calcined, each one ounce, Fullers-earth three ounces, beat them in Vinegar, mixed with a little Honey, and make them into Troches, and when you have occaſion to uſe them dilute them in Water, and ſpread it on a Linen cloth. Another famous Troche, which I alſo make uſe of, diluted alſo in Wine, is called the Iris, and is thus prepared: Take of Liquid alum one hundred drams, of Saffron, Myrrh, each eight drams (ſome add eight drams of Aloes). Pound them, and make them into Troches, and uſe them with Wine, and tie over them a Linen cloth dipt in Wine. Maſa's Troches is a good medicine in this caſe, and ſo are others of the like kind. If the *Abſceſs* eats and ſpreads, its progreſs may be ſtopped by plentifully ſtrewing on it the Powder of burnt Orpiment, laying on it a Linen cloth ſqueezed out of Wine. I uſe Orpiment and red Arſenic, powdered in equal quantities together; and to heal the place mix the foreſaid with liquid Turpentine. If the Paronychia be ſuppurated, firſt pierce it, and evacuate the Humour; then apply the Meal of Lentils, mixed with Honey, to the place, or elſe freſh Roſes, or dried ones after they have been bruiſed and moiſtened with Water. *Aetius Tetr.* iv. *Serm.* 2. *cap.* 75.

For Internal ABSCESSES an ECLEGMA, ſo powerful a DETERGENT that it brings off large Films or Pellicles.

Take of Cardamoms eight drams, of Sagapenum and Myrrh each four drams, of Opium two drams, of Caſtor two drams, of Pepper one dram; reduce them with Water into the form of Troches of the weight of twenty Grains, and give one of theſe at a time in warm Water.

The THESPIANA for Internal ABSCESSES.

Take Seeds of Smallage, of Opium, wild Fennel flowers, each three drams, of Caſtor two drams, wild Carrot ſeeds, Orris, Muſtard, each ſeven drams; make them into an Eclegma with clarified Honey, and give the quantity of a Haſle-nut in Water for a doſe. *Aetius Tetrab.* ii. *Serm.* 4. *cap.* 65. From *Archigenes.*

AN ABSCESS of the INTESTINES.

An *Abſcæſs* is ſometimes formed in the Inteſtines, and when it breaks, quantities of aqueous Pus are voided by Stool, which the ignorant and unexperienced miſtake for a ſymptom of a Dyſentery; and indeed, if the Exulceration continue long after the breaking, it is treated in the ſame manner as a Dyſentery; but in the beginning their treatment is very different. And it is certain that ſome patients have been endangered by unſkilful phyſicians, who have begun with Infuſions, and other things proper for a Dyſentery. Theſe diſtempers therefore are carefully to be diſtinguiſhed, and indeed they are eaſily known one from another. Before an *Abſceſs* there is always a throbbing Pain, which is felt near the part affected, but no biting ſenſation, that ſhifts from place to place, which is the uſual Forerunner of a Dyſentery. Again, the beginning of a Suppuration is attended with unequal Shiverings, which increaſe and remit, and a Fever, with an Exacerbation of the ſymptoms in the evening. But after a perfect tranſmutation of the Humour [into Pus], the Symptoms are much abated, and the Pain mitigated, till the time of breaking approaches, and then the Pain increaſes anew, and ſometimes the Belly is quite bound up. After Breaking, the Stools are as has been ſaid, whereas none of that nature attend a Dyſentery.

In this diſorder we apply Cataplaſms of Linſeed, mixed with Aſtringents, ſuch as Dates, Quinces, and the like. To prevent the increaſe of the Flux, we uſe Infuſions of the Ptiſanæ Succus, Alica, with ſome moderate Aſtringent; for we are cautious of cauſing too great an Aſtringency in theſe caſes. By Cataplaſms and Infuſions as aforeſaid, we mitigate the Inflammation. If the breaking of the *Abſceſs* is ſuſpected, we promote it by Epithems of Figs and Marſh-mallows mixed with Pigeons-dung. If there be room to hope that the Inflammation may be diſcuſſed and vaniſh, we apply Epithems prepared of ſuch ingredients as are remarkable for their diſcuſſive and digeſtive qualities. One of the beſt compoſitions in this kind is the Emplaſtrum Anicetum (the Invincible plaiſter). If we are aſſured that the *Abſceſs* is broken, we have recourſe to Infuſions, firſt of the Ptiſanæ Succus, with which afterwards we mix a little Honey, to cleanſe the Ulcer. If what comes off indicates an extraordinary foulneſs, we add to the Ptiſan and Honey a Decoction of Lentils and the outer Rind of Pomegranates (Malicorium). When the Ulcers are cleanſed, we are to omit the Honey in the Infuſion, and ſubſtitute in its ſtead a little of the Troches of Winter Cherries, in order to induce a Cicatriſation. When this is accompliſhed, we are yet to ſee that the particles thus reſtored be mollified and ſubſide; for there is danger of a freſh collection of Humours in the ſame place. If any Sinus remain, go on with the ſame remedy as before; if the Matter iſſuing from the Ulcers corrode the adjacent parts, you are to have recourſe to the remedies proper to be uſed in the beginning of a Dyſentery. *Aetius Tetrab.* iii. *Serm.* 1. *cap.* 42.

ARTHRITIC, or GOUTY ABSCESSES of the INTESTINES.

A gouty Dyſentery ſometimes degenerates into an *Abſceſs*, juſt in the ſame manner as an Hæmoptoe does into an *Abſceſs* of the Lungs.

This *Abſceſs* ends like all other *Abſceſſes*, in Health, a Scirrhus, or a Gangrene.

This ſort of *Abſceſs* is ſometimes ſo large, as to contain two or three pints of Pus.

Celſus, lib. v. *c.* 28. obſerves, that large *Abſceſſes* generally follow Fevers, or Pains of any particular part, eſpecially of the Belly.

This *Abſceſs* is more ſubject to a Relapſe, than any other *Abſceſs* whatſoever.

If this *Abſceſs* happens in the Anus, it muſt be cured as a Primigenial *Abſceſs* of the part.

An *Abſceſs* often happens in the Œſophagus, Stomach, or Inteſtines, without giving any reaſon to ſuſpect it, till the Vomica breaks, and the Pus is diſcharged. The only things that can give any warning of it are, a previous vomiting of Blood, or an Arthritic Dyſentery. And when either of theſe have preceded, we ſhould guard againſt returns of them; and at the ſame time, and by the ſame means, againſt an *Abſceſs.*

As ſoon as ever the Vomica is broke, let the patient keep his bed, or at leaſt indulge reſt as much as poſſible.

If the Pus be diſcharged, either by Vomit or Stool, too copiouſly, let it be moderated by Laudanum, but by no means ſtopped.

Let the Temples, Noſe and Tongue be moiſtened with Laudanum, till the Flux is reſtrained within moderate bounds.

Then, in order to dilute the Pus, bring it away by degrees, and deterge the Ulcer, let the patient take every fourth, fifth, or ſixth hour, a glaſs of the following Apozem.

Take of clean Barley half an ounce,
  Roots of the leſſer Comfrey an ounce,
  Tops of Betony and Sanicle, each two drams;
Boil theſe ingredients in three pints of water to two, and add to it when ſtrained, Honey of Roſes two or three ounces.
Make an Apozem.

Mean time, in caſe of great Faintneſs, let the patient take a glaſs of generous Wine, or ſome Cordial Julap. And let nothing be done to hinder the diſcharge of the Pus.

When the Vomiting, Diarrhœa, and Evacuation of Pus ceaſe, the patient ſhould take a ſcruple or half a ſcruple of Turpentine, mixed with the yolk of an Egg; or half a ſcruple of Lucatellus's Balſam, with Myrrh ſufficient to make it of a conſiſtence fit for Pills. And this ſhould be repeated twice a day with a draught of the Apozem.

All Acids and Acrids muſt be avoided, and even all Cardiacs, which are ſtrong enough to exagitate the Blood, and promoting a diſcharge from the wounded Veſſels. Let the patient's food be Jellies of Calves-feet, Hartſhorn, or Ivory; or Broths made with Barley, Oatmeal, Chicken, Mutton, or Veal.

If the patient has too many Stools, let him drink the white Decoction; if he be coſtive, Hydromel.

In order to prevent a Relapſe, the Diuretic waters are moſt effectual; to which may be added Salt and Crocus of Mars, Myrrh, and Japan Earth, with Syrup of Quinces, in the form of Pills. For by them the wounded and debilitated Parts are ſtrengthened and contracted, and the offending Matter is carried off by Urine.

Bleeding in Plethoric habits may be proper, where nothing contra-indicates. Walking exerciſe, Frictions of the Feet, and warm bathing, may be uſeful; but purging is to be avoided. *Muſgrave de Arthritide Anomala.*

An *Abſceſs* is a Corruption and Alteration of the Fleſh, or fleſhy parts, as the Muſcles, Veins and Arteries. Some *Abſceſſes* are contained in a Bag, as Atheromata, Steatomata, Melicerides; others have no Bag, and theſe are *Abſceſſes* properly ſo called, of which only we intend to ſpeak.

An *Abſceſs* is generally preceded by an Inflammation; though ſometimes, as Galen ſays, it is found without, as it happens when it is generated of good Blood. For immediately from the Beginning, ſays he, on account of ſome other Humour, of what kind ſoever, the Skin comes off, and in time the Matter which conſtitutes the ſore abſcedes from the other parts. So that, after Inciſion, ſuch *Abſceſſes* have ſeemed to contain all ſorts of Humours and ſolid Bodies; for there have been found in them Corpuſcles reſembling Excrement, Urine, Clots of Blood, Melleous and Mucous Juices, Bones, Nails, Hair, and even Animals very much like thoſe which owe their riſe to Putrefaction. He even ſays farther, that there have been obſerved in them things like ſtones, ſand, ſhells, wood, coals, clay, chips, lees of Oil or Wine, eſpecially in old *Abſceſſes*, which owed their formation to an impetuous Flux of Humours to their receptacle.

To prepare the way for an *Abſceſs* after an Inflammation, there comes on a vehement heat and increaſe of the Tumour, which grows redder and hard, with a pricking Pain and Throbbing, and a weight as if ſomething hung to the part. If a noble part be affected, a Fever accompanies the *Abſceſs*, with Shiverings; and at night the Pain and Fever are exaſperated, by which means the Inflammation ſometimes ſpreads to the adjacent Glands. When the *Abſceſs* is perfected, the ſymptoms are for the moſt part mitigated. The pricking Pain turns to an Itching, which is ſucceeded gradually by a Stupidity. The Tumour grows to a Head, becomes ſoft, and yielding to the touch, and at length the Skin breaks, or is perforated at the point. If the Tumour breaks of itſelf, or by the Help of Medicines, it is treated by applying linen Rags to receive the Pus, which is evacuated time after time; if it is opened by a ſurgeon, it is managed according to the rules of his art. *P. Ægineta. lib.* iv. *cap.* 18.

After a perfect alteration into Pus, which is known by the mitigation of the ſymptoms, as the Fever, Pain, Redneſs, Throbbing, the gathering of the Tumour to a head, and the ſubſiding of the Pus uuder the preſſure of the Finger, eſpecially if the *Abſceſs* lie ſhallow juſt under the Skin, we betake ourſelves to ſurgery. But if it neither ſubſides under the touch, nor comes to a head, by reaſon of its deep ſituation, we content ourſelves with the other ſigns of alteration, and ſo proceed to operation. But you are to obſerve, that we make an Inciſion before a perfect mutation into Pus, if the *Abſceſs* be ſeated near a Joint, or ſome principal part, for fear, while the Suppuration proceeds, ſome Ligament, or neceſſary part ſhould be corrupted. We are directed by Hippocrates to cut a crude *Abſceſſus*, if it lies near the Anus, to prevent a Fiſtula. We are then to cut, tho' not to make an Inciſion always alike, but with regard to the place. As for inſtance, we are to follow the traces of the natural lines, if it be in the Face; or the way of growth of the Hair, if it happen about the Head; and, univerſally ſpeaking, all poſſible care is to be taken of the natural comelineſs of the part affected. When we make an Inciſion in the Limbs, we do it lengthways, as in Muſcles and Tendons, avoiding the Nerves, Arteries and principal parts, with an eye to the ſafety of the patient, which muſt be conſulted, ſometimes by cutting lengthways, at other times by dividing tranſverſely, as the particular caſe requires. In ſmall *Abſceſſes* we make but one Inciſion, in large ones more, according to their bigneſs, cutting every where ſmaller Orifices convenient for the Efflux of the Pus. *Abſceſſes* that riſe with a very ſharp head, crude, thin, and mortified, are to be amputated triangularwiſe, or according to the figure of a Myrtle-leaf, or ſome other angular figure; for that of a circle s unfit to cicatriſe. Such as do not riſe to a head are to be treated with a bare Inciſion. If we diſcover a large Sinus, and the incumbent ſkin be carnous, and capable of Glutination, we make Inciſions on the place only, to make way for the Efflux of the Matter: but if the ſkin be thin, and void of Fleſh, we divide the whole, by making an Inciſion lengthways, and afterwards, if the Corpuſcles on both ſides the Section be very thin, and quite bare of Fleſh, we cut them off. After the operation, and wiping out the place with a Spunge, if the *Abſceſs* be ſmall, and there be but one Inciſion, we dreſs with nothing but Lint; but if it be large, with ſeveral Inciſions, we thruſt a Tent into them, which may be drawn through. We alſo fill up with Lint thoſe *Abſceſſes* which are amputated; and if the Blood burſts out, we uſe cold Water, or Poſca; but if the place continues to bleed, we ſprinkle a little Powder of Chalcitis, which is often uſed alſo when the Fleſh is flabby and putrid. Moreover in winter, and to Nervous Conſtitutions, we apply Bolſters moiſtened with Wine and Oil; but in ſummer, and in a fleſhy Habit of Body, it is enough to dip them in Water and Oil, or Wine and Oil cold, and then apply the Bandage, embrocating the place next day with the ſame liquors. The third day, after taking off the Bandage, and Deterſion with a Spunge, we uſe the Tetrapharmacum ſpread on Lint, and if there be no Inflammation, repeat the Embrocation to keep the dreſſings moiſt. But in caſe of an Inflammation, after we have well waſhed the place, we lay over it a digeſtive Cataplaſm. The Inflammation being repreſſed, the cure goes on by ſuppurating and incarnating Medicines, and the Sinus is healed by Conglutinants. *P. Ægineta*, *lib.* vi. *cap.* 34.

The Emplaſtrum regium Tetrapharmacum is prepared of equal quantities of Wax, Colophony, Pitch and Bulls Fat. *P. Ægineta*, *lib.* vii. *cap.* 17.

A Cataplasm for Abscesses, Erysipelas, Herpes, Parotides, and Burnings.

Take a pound of the freſh tender leaves of Marſh-mallows, and boil them in Vinegar, and bruiſe them well; then add Oil of Roſes four ounces, of Spuma Argenti, Ceruſs, each two ounces and a half, and bruiſe it all with the Juice of Coriander, or Houſleek, or Nightſhade; this done, with crumbs of Bread make it up into a Plaiſter, and lay it on. Or uſe the following Plaiſter:

Take of Oleum Cecinum and Oil of Myrtle each one pound, of Wax five ounces, of Spuma Argenti three ounces, of Ærugo raſa two ounces; let the Ærugo and Spuma Argenti be pounded with Vinegar. *P. Ægineta*, *lib.* iv. *cap.* 21.

A Plaister of Nitre for Abscesses and harden'd Tumours.

Take of old Oil, Wax, Aphronitrum, Sope, Lye, each one pound; of Turpentine ſix ounces, of Galbanum, Bee-glue, Gum Ammoniac, each one ounce; let the Wax, the Oil and the Lye be ſtrained through Lime, and beat the Nitre in the Lye. *P. Ægineta*, *lib.* vii. *cap.* 17.

To break an Abscess.

Since ſome delicate perſons cannot bear an Inciſion, we are to ry what can be done by drawing medicines, ſuch as the Roots f Narciſſus, Honey and Water boiled with Oil of Orris; or he tender Roots of the Reed bruiſed with Honey; or, if they re hard, firſt boiled in Honey and Water; or apply Birthwort ith Honey.

Dry Pitch, and Bee-glue of Crete, an equal quantity of each, both breaks and cicatrizes *Abſceſſes*. *P. Æginet. lib.* iv. *cap.* 18.

To break an *Abſceſs* cauſed by an Inflammation of the Liver, we uſe a Cataplaſm *ex Triſpermo*, with Reſine, Grains of Frankincenſe, Pitch, Roots of Marſh-mallows, and the Dung of Pigeons and Goats. The patient muſt drink the Decoction of Poley Mountain, or Fumitory that grows by the Hedge, boiled to a third Part; or the Decoction of Thlaſpi, or of Succory, or of Germander. When the *Abſceſs* is broken, he muſt drink Water and Honey, and ſuch things as are proper for ulcerated Kidneys: outwardly we uſe the Plaiſter of Mnaſeas (prepared of Marſh-mallows) and other Emollients, or the Iceſian Plaiſter, or that which is prepared of Willows. *P. Ægineta*, *lib.* iii. *cap.* 46.

The Icesian Plaister for Strumæ, Abscesses, the Spleen, Gout, and Sciatica.

Take of Spuma Argenti one hundred and twenty drams, of old Oil two pints, of Vinegar one pint, of Ærugo one dram, of the Bark of Fir eight drams; of the Chamæleon with its root, Euphorbium, Juice of Hypociſtis, Beeglue, Myrrh, Pellitory of Spain, and Elecampane, each ſixteen drams, of Wax three pounds. *P. Æginet. lib.* vii. *cap.* 17.

The Emplastrum Smilium for Abscesses.

Take a pound and a half of old Oil; of Spuma Argenti, red Nitre, Sal Ammoniac, of Lye of the Aſhes of the Fig-tree, made with an addition of Lime, Reſine, each one pound, of Galbanum, Gum Ammoniac, each a quarter of a pound; of Vitriol four ounces, of Wax ſix ounces, of Ærugo, Opopanax, each one ounce, of Vinegar a ſufficient quantity. Boil the Spuma Argenti and Ærugo in the Oil till it will not foul, and then add the reſt. *P. Æginet. lib.* vii. *cap.* 17.

If the *Abſceſs* reſiſts the Medicine, and there be Pus in it, an Inciſion ought to be made, and the Pus evacuated. After this uſe no more Oil or Water; but if the place require waſhing, uſe Honey and Water, Poſca, or Wine, or Wine and Honey for that purpoſe. If there be an Inflammation, apply a Cataplaſm of Lentils: If there be none, any approved Plaiſter in ſuch caſes will ſerve, eſpecially one prepared with Chalcitis, and over it lay a Spunge, or piece of Wool dipt in rough Wine; but apply no fat Medicine, ſuch as the Tetrapharmacum; for the wound requires vehement Driers. *P. Ægineta*, *lib.* iv. *cap.* 18.

When the ſerous humour in the Veins grows redundant, and putrefies, a Fever ariſes, and the Urine becomes for the moſt part thick and turbid; and Nature now hurrying to a Criſis, plenty of thin Urine, much above the quantity of what is drank, comes off, and this is called a Criſis by Urine: but when the humour is crude, and the ſeaſon of the year unfavourable, and the expulſive faculty drives out what is ſuperfluous, if the noxious humour makes its way to the Head, and there make an eruption, *Abſceſſes* are generated under the Ears, which are called Parotides. Sometimes an Eryſipelas, and Protuberances in the Neck ariſe from bilious and other corrupt juices. If the humour takes its courſe downwards, there ariſes what we call a *Tranſlation* [ἀπόσκημμα]; but if the humour turn inwards, there is form'd an *Abſceſs* [ἀπόστημα]. Of theſe, ſuch as appear in ſight are much the better, and eaſier to be managed; but ſuch as lie deep and out of reach, have need of a great deal of care and good fortune to attend them: for unleſs they are diſcharged downwards by Stool or Urine, or, when they affect the Breaſt, break, and are brought up by coughing, tho' they are poſterior in point of time they are ſometimes accounted worſe than the diſtemper which preceded them. *Actuarius*, *lib.* ii. *cap.* 2.

For *Abſceſſes*, take the Root of the white Reed, and beat it up well with Fat, and anoint the place with it, and you will ſee wonders; for it mollifies, breaks, and diſcuſſes in a ſurpriſing manner. *Myrepſus*, *ſect.* xxxviii. *cap.* 107.

For Abscesses, Tubercles, and Pani, a much approved and wonderful Medicine.

Take the Leaves of Nettles, bruiſe and beat them, and rub them warm on the place. Or take the Leaves of Pellitory of the Wall, pounded and bruiſed, and anoint the part affected. *Myrepſus*, *ſect.* xlv. *cap.* 11.

The following cures Buboes, and all sorts of Phlegmons.

The Leaves of the wild Olive bruiſed, and rubbed on the place; or pound the Leaves of Fleabane, and anoint the place with them well warmed. *Myrepſus*, *ſect.* xlv. *cap.* 11.

An approved Remedy against Abscesses, Strumæ, Atheromata, Melicerides, and Tubercles.

Take of Ladanum, Bdellium, Galbanum, Gum Ammoniac, Bee-glue, Turpentine, of each one ounce. Pound and mix them well together. *Myrepſus*, *ſect.* xlvi. *cap.* 16.

As almoſt all *Abſceſſes* are the conſequences of Inflammations, and theſe produce a variety of events as they are differently complicated with other diſorders, it will be proper to make ſome inquiry into their diſpoſition. Inflammations from all cauſes have three ways of terminating, either by Diſperſion, Suppuration, or Gangrene; a Scirrhus after an Inflammation of a Gland is always mentioned as a fourth, but I think with impropriety, ſince it ſeldom or never occurs but in Venereal, Scrophulous, or Cancerous Caſes; and then it is the forerunner, and not the conſequence of an Inflammation, the Tumour generally appearing ſome time before the diſcolouration. *Sharp*.

The uſe of too hot applications, at an improper time, or in the beginning of an Inflammation, frequently cauſes an *Abſceſs*; a remarkable obſervation of which is as follows:

> A decayed old gentleman walking in the ſtreets one evening, was cruſhed up to a wall by a cart; the wheel paſſing too near him, bruiſed the outſide of his Left-leg, but did not break the Skin: it was ſuddenly ſwelled, and very painful. His friends chafed it with Brandy, and dipping a cloth in the ſame, bound it about the part. By this way of dreſſing, that ſide of his Leg ſwelled and inflamed very much. Others adviſed him Lucatellus's Balſam; by which improper application the Fluxion was increaſed, and the patient confined to his bed. Here was an object of charity, upon which account I was ſent to him. I found the outſide of his Leg ſwelled and apoſtemated from the Gartering to the Small. I laid it open by Cauſtic an inch or two, according to the length of the Member. In dividing the Eſcar, there was diſcharged a large quantity of Matter, with clotted Blood in it. I dreſſed the Eſcar with Lenients, and embrocated the parts affected with Oil of Roſes and red Wine, and applied an Emplaiſter of Armenian Bole over the Tumour, with Compreſs and Bandage. The next day I brought a Decoction of Wormwood, Chamomile flowers, red Roſes and Myrtle-berries, fomented the Leg, and dreſſed the Eſcar with Lenients, to haſten Suppuration; then by good Bandage thruſt out the Matter, and endeavoured to agglutinate the hollow parts; but could not do it without laying it more open by a ſnip made with a Probe-ſciſſars. After which I deterged the Ulcer with the Vitriol-ſtone, and with Baſilicon mixed with Red-mercury-precipitate. Then I incarned and cicatrized it. If, inſtead of Spirits of Wine, *&c.* they had dreſſed this man's Leg with Armenian Bole, Vinegar, Whites of eggs, and Oil of Roſes, they might have haply prevented the pain and trouble that followed. *Wiſeman*.

There are ſome Inflammations, ſuch as for the general part are thoſe which proceed from the Criſis of a Fever, wherein Diſcuſſion ought by no means to be attempted, leſt a Mortification be the conſequence, and the common Furuncle or Boil; the Juices conſtituting this Tumour being ſo groſs and viſcid as to make it wholly incapable of Reſolution or Diſcuſſion. *Wiſeman*.

As all Inflammatory Tumours tending to ſuppurate are accompanied with Pain, Pulſation, Tenſion, and a ſymptomatic Fever, ſo if there is an increaſe of theſe, with enlargement of the Tumour, and eſpecially if a ſmall Rigor comes on, it is hardly to be doubted but Matter will be form'd. *Sharp*.

In this caſe, Suppuration muſt be promoted by ſuch applications as increaſe the native Heat in the affected part; for if Nature is not aſſiſted in the ripening theſe Tumours, a Mortification is frequently the conſequence.

Yet it is not unfrequent to ſee a Suppuration made accidentally by cold Topics, which by a ſlight gentle Aſtriction of the Pores perform the office of Emplaſtics; as white Ointment, Sorrel roaſted in embers. Nay in ſome Tumours I have ſeen Suppuration cauſed by the ſtronger Diſcutients. *Wiſeman*.

Abſceſſes are more or leſs dangerous according to their nature or ſituation. Thus an *Abſceſs* from the Criſis of a Fever, or Strumous *Abſceſſes*, are always attended with more danger and difficulty than thoſe which proceed from a Fullneſs of Blood; the Tendons, Perioſteum, and even the Bones themſelves, being often much injured by theſe Impoſthumations.

Abſceſſes in the internal Muſcles of the Larynx, as they threaten the Suffocation of the patient, are certainly far more dangerous than *Abſceſſes* in the Muſcles of the Limbs.

So alſo are thoſe on the Breaſt, Belly, or near the Joints, from the Sinuſſes and Fiſtulas, which they generally leave behind.

Abſceſſes in the Liver, Lungs, Pleura, and Kidneys are all extremely dangerous, from the Office and Function of each part, and ſeldom admit of any cure, but generally bring on a Conſumption and Death.

Yet ſome caſes we have, where Nature, with a little aſſiſtance, has performed wonders; one of which I have here ſet down:

> A daughter of a ſubſtantial citizen laboured under an *Abſceſs* in the Region of her Left-kidney, and was long treated by a bold empiric, who promiſed cure; but after all his endeavours, the child languiſhing under the Ulcer, ſometimes by reaſon of the great diſcharge of Matter by Urine, and other times through the ſuppreſſion of it, great Pains were ſtirred up within the Body, and outwardly in the *Abſceſs*. I being conſulted, obſerved that the external *Abſceſs* took its original from the Ulcer within the Kidney, and required another manner of dreſſing, its cure being the work of time. I propoſed the laying it open to the very part where the Matter paſſed forth from the Kidney. To which purpoſe I applied a Cauſtic upon the Sinus below, divided the Eſcar, and dreſſed it up with Lenients. Then after Separation and Digeſtion of the Ulcer, ſearching the ſame with my Probe, I found the Sinus run up above the Orifice; which being alſo laid open, I diſcovered the paſſage into the Kidney, and felt the ſide of the laſt Short-rib bared by the Matter in its paſſing out. I dreſſed the Ulcer with the mundificative Ointment of Smallage, and healed up the remaining Sinuſſes above and below to the very Aperture. While I was doing this work, Dr. Barwick was conſulted to help us in the cure by Internals, who preſcribed a Traumatic Decoction of Sarſa, *&c.* with the more temperate plants, and Balſamic Pills to contemperate the Humours. During my diſpoſing of this Ulcer to retain a Cannula, the Matter diſcharged by Urine in great quantity; and the patient was as ſorely afflicted, and had the ſame ſymptoms that others have who are diſeaſed with Ulcers or Stones in the Kidney; but after vent was given by a ſhort Cannula of lead, ſhe recovered. Having continued the uſe of the Cannula ſome months, I removed it, and kept a Pea juſt in the opening, and by red Sparadrops and Compreſs retained it on; then left her to her mother to dreſs, and only called ſometimes, when they gave me notice of their wants. After a year or thereabout that ſhe had kept this Fontanel open, the internal pains and diſcharge of Impurities ceaſed, and ſhe grew more fleſhy and ſtrong. She went alſo daily to a neighbouring ſchool, where ſhe was exerciſed in dancing, *&c.* After the ſpace of two years, or thereabout, the Ulcer ſeeming not to matter more than might be expected from a ſmall Fontanel, the mother caſt out the Pea, and permitted it to heal up. But being ſoon alarmed by the old accidents which returned upon the child, ſhe ſent for me. I opened it again, and left them to keep it ſo. Dr. Barwick was alſo again conſulted, who repeated the former method with ſome little alteration. The Ulcer was afterward kept open near three years, during which ſhe repeated her courſe of phyſick Spring and Fall, and was frequently brought to me. At length I ſeeing her well grown, and of a fleſhy and healthy Complexion, and the Fontanel in a manner dried up, I adviſed them to throw out the Pea, it being of no uſe. They did ſo; from which time the patient hath continued ſtrong and well, and is ſince married. *Wiſeman*.

Applications to promote Suppuration are, the Fats of all domeſtic creatures, old Oil, Onions roaſted in embers, Lilly-roots, Mallows, and Marſh-mallows, Colt's foot, Bryony, and ſharp-pointed Dock-roots, Linſeed, and Fœnugreek, Barley, Lentil, Vetch, Lupin, and Wheat-meal, Gum Galbanum, Ammoniacum, Bdellium, and the Mucilage Plaiſter.---For inſtance, if Nature be ſtrong, and the Matter lies not very deep, the following Cataplaſm may be applied:

> Take of the Roots of Marſh-mallows, and of white Lillie each two ounces, Leaves of Colts-foot, and of Mallow each one handful; boil them in broth, and let them b well maſhed, then add of powdered Linſeed one ounce, o Wheat-meal two ounces, of Hogs-lard and freſh Butt each an ounce and a half, of Saffron in powder tw ſcruples, and the Yolk of one Egg; mix and make a Ca taplaſm. *Wiſeman*.

In cold Tumours, or where the Matter is deep,

> Take of Bryony, and ſharp-pointed Dock-roots, each tw ounces, boil and pulp them through a ſieve; to whic add of Capers and Garlick, roaſted under the ember each three ounces, Yeaſt or Barm two ounces, Powde of Linſeed and Fœnugreek each one ounce, Wheat-me two ounces, Hogs-lard two ounces, of Honey a Gooſe-greaſe each one ounce, of Saffron in powder o dram. Mix.

Where the Matter is tough and viſcid, as in the Furunc Emplaſters of Gum Galbanum, Ammoniacum, Bdelliu and of the Mucilages are preferable. *Wiſeman*.

In ſcrophulous Swellings alſo, the Gum Plaiſters are troubleſome than any other applications, and may be renew every four or five days, theſe Tumours being very ſlow of S puration.

But the uſe of ſuppurative Plaiſters in haſty *Abſceſſes*, Inflammations, in a weak or dropſical Habit of Body, is by means adviſeable, as they are ſubject to ſit uneaſy on the flammation, are often painful to remove, when we enq into the ſtate of the Tumour, and by their Compreſs in Conſtitutions, add ſomething to the diſpoſition of the par mortify.

Am

Amongſt the ſuppurative Pultices perhaps there is none preferable to that made of Bread and Milk, ſoftened with Oil; at leaſt the advantage of any other over it is not to be diſtinguiſhed in practice. *Sharp.*

The *Abſceſs* may be covered with the Pultice twice a day, till it arrives at a ripeneſs ſufficient to require opening, which is ſooner or later according to the Humour by which it is produced, or the place in which it is formed. *Wiſeman.*

Baſilicon, mixed up with a third part of the Ointment of Marſh-mallows, is an excellent Suppurative. *Turner.*

Abſceſſes from a Plethora, and in fleſhy parts, with leſs difficulty come to maturity, than thoſe which ariſe from crude Humours, and are near, or in the Joints, or parts endued with little Heat, eſpecially thoſe contained in a Cyſtis. *Wiſeman.*

It often alſo happens, that notwithſtanding the uſe of Cataplaſms, Suppuration, through the Blood-veſſels being clogged, advances very ſlowly. In this caſe, Bleeding will ſometimes quicken it exceedingly; but however this practice is to be followed with caution, it being a maxim laid down in ſurgery, that evacuations are pernicious in every circumſtance of a diſeaſe that is at laſt to end in Suppuration. *Sharp.*

In the formation of large *Abſceſſes* the Pain is ſometimes almoſt intolerable; to remedy which an Anodyne draught will be of great ſervice, and may be repeated at proper intervals till the *Abſceſs* is opened.

Dr. Sydenham's method of treating the Small-pox ſufficiently juſtifies this way of proceeding.

Many ill conſequences attend opening an *Abſceſs* too ſoon, eſpecially in the Breaſts and inguinal Glands from the Venereal Diſeaſe; for Pus generates Pus, and therefore if it is let out before all the obſtructing Matter and deſtroyed Veſſels are converted into Pus, the part that remains unſuppurated will harden, the Air will gain admittance, and the Ulcer will diſcharge Ichor, inſtead of well-concocted Pus. *Turner.*

Tumours made by tranſlation have been known, which have had Matter in them from their firſt appearance; but it being commonly lodged deep under the Muſcles, the Matter is not felt till it hath raiſed the Tumour, which is not done without Pain, Pulſation, *&c.* as in a Phlegmon; but theſe ſeem deeper, and do not affect the Skin with Inflammation till the Matter reach near it.

In theſe Tumours we do not attend the ſymptoms of Suppuration, but open them as ſoon as any quantity of Matter offers itſelf.

Whilſt the Matter is making, the native Heat of the part is to be preſerved and increaſed by applications, which may alleviate the Pain, and promote Concoction. *Wiſeman.*

The Paronychia Maligna is an inſtance of this; for were we to wait for a regular Suppuration, the loſs of the Joint would be the conſequence.

Suppuration is known to be compleated by the thinneſs and eminence of the Skin in ſome part of the Tumour, by the fluctuation of Matter underneath, and a general remiſſion of the Pain, Tenſion, and Fever: indeed it ſometimes happens, if the Matter lies deep, that the ſymptoms, particularly the Pain, continue till the Pus is diſcharged.

If the Tumour becomes more compact, and thruſts out into a Cone, and looks pale, the opening of it is not to be deferred; for as Apoſtems opened before the Suppuration is perfected loſe their Heat and become crude, ſo the Matter if ſuffered to lie long after it is made, tends to Putrefaction, whereby the parts underneath corrupt, and the *Abſceſs* becomes ſinous, particularly if in the Joints, or over the Sutures in the Head.

So alſo in *Abſceſſes* in Ano, where through the weakneſs of the part, a Putrefaction is apt to follow; or in the Fauces, where the neighbouring parts are compreſſed, and the patient is in hazard of Strangling.

In theſe caſes we wait not for perfect Suppuration, but by deep Scarifications diſcharge the ſerous Blood, and prevent an *Abſceſs.* There is alſo care to be taken in *Abſceſſes* of the Breaſt and Belly, where the Matter is in danger of breaking inwards, for by opening theſe too ſoon, they ſometimes apoſtemate again, or become crude and difficult to digeſt and cure. *Wiſeman.*

Notwithſtanding it is very much taught to open critical *Abſceſſes* before they come to an exact Suppuration, in order to give vent ſooner to the noxious Matter of the diſeaſe; yet in opening before this period, they miſs the very deſign they aim at, ſince but little Matter is depoſited in the *Abſceſs* before it arrives towards its ripeneſs; and beſides, the Ulcer afterwards grows foul, and is leſs diſpoſed to heal. *Sharp.*

Abſceſſes are to be opened either by Knife or Cauſtic.

In ſmall *Abſceſſes*, and in thoſe of the Face, the Knife has the advantage, where a Cauſtic would deſtroy its beauty by the Cicatrix it occaſions.

But in large *Abſceſſes* where the quantity of Matter is great, or we would keep the *Abſceſſes* long open, a Cauſtic is more proper, from the great opening it makes, than by Puncture or Inciſion. *Wiſeman.*

Mr. Sharp prefers the Knife even in large *Abſceſſes*, and adviſes, if there be much diſcoloured Skin, to cut out a circular, or oval piece of it, which operation, if done dextrouſly, is much leſs painful than by Cauſtic, and at once lays open a great ſpace of the *Abſceſs*, which may be dreſſed down to the bottom, and the Matter of it freely diſcharged; whereas, ſays he, after a Cauſtic, though we make Inciſions through the Eſcar, yet the Matter will be under ſome confinement, and we cannot have the advantage of dreſſing properly till the ſeparation of the Slough, which often requires a conſiderable time, ſo that the cure muſt be neceſſarily retarded.

Mr. Wiſeman is a warm advocate for the Cauſtic, and ſays in the opening large *Abſceſſes* it is moſt ſafe and eaſy, as the Pus thereby is diſcharged more plentifully than by Inciſion; nor only for this reaſon does he commend the uſe of it, but on account of another advantage; for if a Cauſtic be applied on the declining part of a Tumour, the *Abſceſs* is ſometimes near cured before the Eſcar ſeparates, if the Matter be not contained in ſome particular Cyſtis.

Turner is of the ſame opinion, and ſays the Pain proceeding from the operation of a Cauſtic is ſufficiently recompenſed by the eaſe of the dreſſing, when there is no occaſion to cram in Tents or Doſſils, as there muſt be to keep the Lips of a recent wound diſtended, and thereby choak in the Matter, by the one increaſing the Pain, by the other the Sinuoſity.

If an *Abſceſs* is to be opened with the Knife, if the Matter does not lie deep, the Inciſion muſt be made the whole length of the Tumour, in ſuch manner that the depending part may be open for the diſcharge of the Matter, which will prevent the trouble of dilating.

By this, with good Compreſs and Bandage, many Apoſtems are healed in a very little time, without any other application than a Pledgit, armed with a common Digeſtive.

The Inciſion is always to be made according to the direction of the Fibres: If it be in the Groin or Arm-pit, it ought to be oblique: In other parts it muſt be made according to the length of the Member.

For ſhould you make a tranſverſe Inciſion, the Matter would bag below the wound, where, for want of a diſcharge, in a little time it would find a way in the Interſtices of the Muſcles, and produce Sinuſſes very difficult of cure; beſides the hazard of corroding the Veins, Arteries, Nerves and Tendons, or the Bone itſelf, if it lies near one. *Wiſeman.*

In making the Inciſion, great care muſt be taken that no large Blood-veſſel be wounded. On this account it is always neceſſary that the ſurgeon ſhould be provided not only with ſome reſtringent applications, ſuch as Galen's powder of Frankincenſe and Aloes, mixed with the white of an egg, but with Ligatures, as guard againſt ſuch accidents.

Nerves alſo and Tendons are to be taken great care of, the Pain and Fluxion ariſing from wounds of theſe always producing very dangerous ſymptoms, and often a Mortification.

It is a general rule that in opening large *Abſceſſes*, whether by Knife or Cauſtic, the whole Matter is not to be diſcharged at once, leſt the heat of the part be over-weakened, or the patient faint. *Wiſeman.*

Inciſion-knives are of various kinds, and are in uſe as the particular ſituation of the *Abſceſs* ſhall require: The common one uſed in opening *Abſceſſes* is ſmall, ſtrait, and round-edged, but in dilating of Sinuſſes, or after a Puncture, the flat-edged Knife with the Director is preferable.

In *Abſceſſes* of the Fauces, the blade of the Knife is ſhorter, and the handle longer than of the common knives. *Wiſeman.*

The Lancet alſo comes in, as ſometimes neceſſary in ſmall *Abſceſſes*; but too often calls for the Knife or Sciſſars to finiſh what it had ſo imperfectly begun.

An *Abſceſs* ſometimes burſts before Suppuration is compleated; in this caſe the uſe of the Cataplaſm muſt be continued till the Tumour will admit of dilatation (which generally happens in two or three days) with the Knife or Sciſſars.

For this purpoſe the ancients uſed the Root of the Papyrus. *Dioſcorides.*

The Inciſion being made, the accidents or ſymptoms that attend it are to be removed. If any Bleeding ſhould happen, it muſt be reſtrained with Galen's powder before mentioned, mixed with the white of an egg. *Wiſeman.*

But the uſual method of dreſſing an *Abſceſs* the firſt time, is with dry Lint only, or if no Blood appears, then with Doſſils, armed with ſome Digeſtive warm, as Turpentine mixed with the yolk of an egg; or, which is preferable, with a mixture of Baſilicon and Arcæus's Liniment, obſerving to lay the Doſſils looſe in the cavity, unleſs the *Abſceſs* be deep, and the wound narrow, as is the caſe ſometimes of *Abſceſſes* in Ano, when the Lint muſt be crammed in pretty tight, that we may have afterwards the advantage of dreſſing down to the bottom, without the uſe of Tents.

The Doſſils in deep cavities muſt be ſecured by tying a bit of thread or ſilk about them, many bad accidents having been occaſioned by one of theſe lying unobſerved ſome time. Witneſs the following obſervation.

A man of about fifty years old, of a full Body and ſtrong Conſtitution, was taken with a Pain under his Right-arm, with Hardneſs and Inflammation. I was ſent for, and concluding it a Bubo, thruſt forth by the ſtrength of Nature, applied a plaiſter of Diachylum with the Gums, deſigning not to dreſs again till it was near ſuppurated; but the Tumour increaſing with great Pain and inflamed Redneſs, I was put upon a neceſſity of applying Anodyne Cataplaſms. Within few days after, it being ſuppurated, I opened it by Inciſion, and diſcharged a well-concocted Matter; then dreſſed it with Baſilicon with the Yolk of an Egg upon a Tent, and applied a Plaiſter of Diachylum malaxed with an Ointment of Marſh-mallows, and afterwards dreſſed it with the Mundificative of Paracelſus. Having ſo diſpoſed it to heal, I left dreſſings, and after three or four days viſited the patient again; when, obſerving the Hardneſs digeſted off, and the *Abſceſs* fit to cicatrize, I left off the uſe of the Tent, and dreſſed it with a Pledget of the Ointment of Pompholix, and the Cerate over it, and left them wherewithal to finiſh the cure. But a few days after they ſent for me again. I found it ſwelled, and the Matter iſſuing from it thin and fœtid, and much more in quantity than I could expect. I enlarged the opening by Inciſion, and there came forth a Tent, which in his ſervants dreſſing had ſlipped into the *Abſceſs*. From that time the Matter leſſened, and the *Abſceſs* cured without relapſe by the method aforeſaid. *Wiſeman.*

Over the Doſſils, Pledgits armed with the ſame Digeſtive muſt be applied to the Lips, with a large Pledgit of Baſilicon above, and the whole ſecured with good Compreſs and Bandage.

The common Compreſs is made of linen rags folded ſeveral times; but the plaiſter Compreſs which is made of three or four folds of the common defenſative plaiſter ſtuck together, and ſhaped as near as may be to the compaſs and dimenſion of the cavity to be compreſſed, obſerving heedfully to bring the edge thereof even with the Lips of the disjoined part, has much the preference as it remains immoveable on the part it is applied to. *Turner.*

The Bandage muſt be ſuited to the ſituation of the wound. In the Limbs the ſingle-headed Roller is generally uſed, but is oftentimes exceeded by the laced Sock, Stocking, Knee-piece, Trowſe, Glove, Elbow, and Arm-piece, by their equal lacing when well fitted to the ſeveral members.

If the Roller be uſed, care muſt always be taken, that the circumvolution be made that way, whether to the right or left, as may bear firſt upon the extremity of the Sinus before it reach the edge of the wound or ulcer; by which the contained matter will be preſſed out, and the wound unite at the ſame time. *Turner.*

The length of the Roller for the Arm or Leg ſhould be about two yards, and for the Thigh a yard more muſt be added; its breadth, two, three, or four inches, as appears neceſſary; for the Fingers one of a foot long, and an inch broad, will ſuffice.

If the wound be on the Head, the Cap or double-headed Roller muſt be made uſe of. See BANDAGE.

After the *Abſceſs* is dreſſed, if it is on the Leg, it muſt always be placed upon a pillow; if on the Arm, in a ſling, by which means a flux of humours will be prevented from falling upon the part, which would very much retard the cure, and which would inevitably happen, ſhould the Limb be ſuffered to hang down.

Fainting, which ſometimes happens through weakneſs or timorouſneſs of the patient, may be relieved by laying him down on his Back, and ſprinkling a little cold water on his Face: but if it proceeds from ſome preceding ſickneſs, and is continued by the greatneſs of the evacuation, and noiſom corrupt Matter; in this caſe Cordial Julaps are neceſſary, and may be taken at pleaſure. *Wiſeman.*

The Spirits may alſo be refreſhed with Epithems, made up of ſome Diſtilled Waters and Cordial Species, with Vinegar of Roſes, which for want of a phyſician may be preſcribed. *Wiſeman.*

The frequency of dreſſing will depend on the quantity of the diſcharge; once in twenty four hours is ordinarily ſufficient, but ſometimes to do it twice, or perhaps three times, may be neceſſary.

In cleaning the wound it is needleſs to be too ſcrupulouſly nice; but it is worth remarking, that a ſore ſhould never be wiped by drawing a piece of tow or rag over it, but only by dabbing it with fine lint, which is a much eaſier method for the patient; the parts about it may be wiped clean in a rougher manner without any prejudice.

I do not think the air has that ill effect on ſores as is generally conceived; nor would the large *Abſceſſes* on beaſts, which are often expoſed to the air the whole time of cure, do well, if it was ſo very pernicious as it is repreſented; but as it tends to the making a ſcab, and in winter is a little painful to the new fleſh, it will be right to finiſh the dreſſing as quick as may be without hurrying.

Another caution neceſſary in the treatment of *Abſceſſes* is, that ſurgeons ſhould not upon all occaſions ſearch into their cavities, with the Finger or Probe, as it often tears them open, and indiſpoſes them for a cure. *Sharp.*

At the next dreſſing if there is any conſiderable Hardneſs from the Tumour not being ſufficiently ſuppurated, as in large *Abſceſſes* it frequently happens, or if the Lips of the wound are painful, and inflamed, in theſe caſes a Fomentation prepared of the tops of Mallows, Marſh-mallows, Wormwood, and Chamomile Flowers ſhould be ready, out of which a Stuph of flannel may be wrung, and applied over the *Abſceſs*, to give a breathing to the part.

But if the *Abſceſs* was the conſequence of a congeſted Tumour, and Nature wants aſſiſtance to preſerve the heat, and ſtrengthen the relaxed parts, inſtead of the emollient Fomentation above, it muſt be bathed with a decoction of Wormwood, Elder-flowers, red Roſes, Myrtle-berries, and Fœnugreek ſeed, in Wine and Water, adding afterwards ſome Spirit of Wine. *Wiſeman.*

The *Abſceſs* may be dreſſed with Liniment and Baſilicon, and the Lips, if inflamed, with a mixture of Oil of Roſes, and the Yolk of a new laid Egg, with Compreſs and Bandage as before.

The uſe of the Fomentation muſt be continued every dreſſing, till there is a good Digeſtion.

In winter the dreſſings may be warmed; but in ſummer it is ſuperfluous.

If the Ulcer ſhould want deterging, a little red Precipitate finely powdered, and mixed with Liniment, or Baſilicon, will not only deterge it, but will incarn it, ſo as in a very little time to want nothing but the white Ointment, the Cerate of Lapis Calaminaris, or even dry Lint to cicatrize it.

Sometimes, notwithſtanding all our care, the Matter will ſo inſinuate itſelf into the parts about, and form ſuch cavities as will not admit of this way of healing. In theſe caſes great caution is to be had with regard to the uſe of Tents, which are almoſt univerſally decried in theſe days, though they ſtill continue to be employed too much by the very people who would ſeem to explode them moſt; in ſhort, they are very ſeldom neceſſary.

However, in this caſe they are ſometimes found uſeful to thin the Skin for the more eaſy dilating, which muſt be done immediately.

And in ſome large and deep *Abſceſſes* of the Breaſts, where the Matter cannot diſcharge itſelf by the Orifice already made, and yet does not point ſufficiently to any other part for an opening, though it make ſigns whither it would tend if it was a little confined. In ſuch an inſtance a Tent would be uſeful, for by plugging up the Orifice, it would make the Matter recur to the part diſpoſed to receive it, and mark the place for a counter opening. But Tents do moſt good in little deep *Abſceſſes*, whence any extraneous body is to be evacuated, ſuch as ſmall ſplinters of Bone, &c. *Sharp.*

The Uſe of Injections is alſo recommended by many, as ſerviceable in deep *Abſceſſes*, but with little reaſon; for they do ſo much miſchief by diſtending the parts of the *Abſceſs*, and in a manner macerating the new Fleſh generated within them, that they are hardly proper in any caſe; though one of the great miſchiefs of Injections, and Tents, has been the miſleading ſurgeons into a faith, that where-ever theſe medicines were applied, the part would heal; and upon that preſumption, they have neglected to dilate *Abſceſſes*, which have not only remained incurable after this treatment, but would often have done ſo, for want of a diſcharge, if they had been dreſſed more ſuperficially. *Sharp.*

For the cure of theſe Sinuſſes, See ULCER.

Mortifications ſometimes ſucceed large *Abſceſſes*, though not very often. For the method of treating them, See GANGRÆNA.

On the other hand it frequently happens, that Nature in her office of incarning is ſo luxuriant, as to produce great quantities of looſe ſpungy Fleſh, which often gives a deal of trouble to the ſurgeon, by its riſing conſiderably above the ſurface of the Skin, and thereby preventing the Ulcer cicatrizing.

To remedy this inconvenience, it may be touched moderately with the Vitriol, or Alum-ſtone, by which it will be daily waſted with little or no Pain. Dry Lint alone will often have the ſame effect, by abſorbing the ſuperfluous juice, and will cicatrize at the ſame time. When they prove troubleſome, and will not give way to the common Eſcarotics, they may be broke in pieces by the Fingers, and pulled out, and the cavity filled with Pledgits, armed with this mixture. Take of clear Turpentine and Honey, each half a pound, the Yolks of three eggs; boil them to the conſiſtence of an Ointment: to every ounce of which add of Red-mercury-precipitate one dram. This is called Paracelſus's Mundificative, and muſt be continued till the Ulcer is deterged; after which it may be treated as beforementioned. The following Obſervation ſhews the neceſſity ſometimes of this way of proceeding.

A young gentlewoman after child-bed being indiſpoſed in her health, her left Breaſt became diſeaſed, and ſwelled. They contented themſelves with ſuch help as thoſe about them could afford. But after ſome days it growing more painful and ſwelled, the apothecary brought in his brother, who endeavoured Suppuration, and after ſome while gave vent to the Matter, and proceeded in the cure. But while he was dreſſing that opening, the Fluxion increaſed, and other *Abſceſſes* were raiſed, and from the ſeveral Apoſtemations ſinuous Ulcers were afterwards made. Thus the work became difficult. I was conſulted. In the pulling out one of the Tents, a thin white Matter iſſued out in great quantity. My brother-chirurgeon called it Milk, but I thought it Matter; and obſerved the *Abſceſs* to have begun deep in the body of the Glands, which, through length of time corrupting them, rendered the Swelling hard; and the Tent ſtopping in the Matter between dreſſings, had occaſioned that large diſcharge we then met with. The method of cure conſiſted in the enlarging of that Orifice where the Matter ſeemed to be detained, and then to proceed with Deterſives, *&c.* They entertained me in the cure, and I continued my brother-chirurgeon. We began with the application of a Cauſtic to the part round about the Orifice, ſtopping the hole with Lint; by which means in a ſhort time we made an eaſy way for the Matter, and ſaw no reaſon afterwards to think it Milk.

As the Eſcar ſeparated, a Fungus thruſt forth, which we ſprinkled with red Precipitate, dreſſing up the Eſcar with Baſilicon, and the other openings with Ointment of Pompholyx, and Cerate of Althæa over all. After a more full ſeparation of that Eſcar, we obſerving the Fungus to riſe more large, applied a Stuph wrung out of a Decoction of the Tops of Wormwood, Rue, Mint, and Flowers of red Roſes, and Balauſtines, made in Wine and Water; and the while ſent for ſome Chalcanthum, which we applied upon the Fungus, and Pledgits of Ointment of Tutty over the ulcerated parts. The ſecond day after we took off the dreſſings, and found an Eſcar made by the Cathæretic, which we thruſt off, and dreſſed it again with the ſame, and continued the uſe of Eſcarotics. During thoſe applications we applied over the Breaſt the Plaiſter of Bole to reſtrain the Influx; but yet the Fungus increaſed upon us, and raiſed a Swelling between that and the other Orifices. Upon which conſideration we applied a large Cauſtic upon that Swelling, which laid ſome of the other Orifices into this; then divided the Eſcar, and dreſſed it up with Lenients, and covered the Fungus with Eſcarotics where-ever it began to thruſt out, by which it was kept down. But after the Separation of this latter Eſcar, we ſeeing the Fungus great, and the way of extirpating it by Eſcarotics ſlow; and fearing the ill conſequences of it, I preſt with my Finger under it, and at once broke into it, and pulled it out in pieces; then filled up the place with red Precipitate, and Mundificative of Paracelſus upon Pledgits, with the aforeſaid Plaiſter over the whole Breaſt, and bound it up. The ſecond day after that we opened it again; and by this ſame method often repeated, we ſubdued the remainder of the Fungus, and raiſed a firm Baſis, on which we incarned, with an addition of powder of Orris-root, Myrrh, and Sarcocolla, to the fore-mentioned Mundificative; and then applied the Cerate of Agrippa over the Breaſt, and in few days cicatrized it with a ſmooth Cicatrix, the Lips falling in by the benefit of Nature, which was aſſiſted the while by Traumatic Decoctions, *&c.* as in ſuch caſes is uſual. *Wiſeman.*

Sometimes the Lips of the Ulcer grow callous, and will not cicatrize. In this caſe, the actual Cautery is often found of good ſervice, and the part muſt be treated after the ſame manner as a common Burn. For further directions ſee ULCER.

When an *Abſceſs* is judged proper to be opened by Cauſtic, two things are to be conſidered: the thickneſs of the Integuments, and the age of the patient; for it would be ridiculous to apply a burning Cauſtic to a child, when a mild one would do the buſineſs as well; and where the *Abſceſs* lies deep, it would be unpardonable in a ſurgeon, ſhould he either apply too mild a one, or on the other hand take a proper one off too ſoon, that is, before it has ſheathed its points in the Matter contained in the *Abſceſs*.

Cauſtics are of various ſorts; the ſtrongeſt is reckoned the Lapis infernalis, being the firſt running of Soap-makers Lees, boiled in a braſs or copper ladle, to a conſiſtence, and cut with a hot knife into pieces of ſeveral ſizes, and kept cloſe ſtopped from the air, till the time of uſe; a piece of this, of the compaſs of a ſilver three-pence, will make an Eſcar near as large as a ſix-pence, and uſually performs its work in an hour's time.

A milder than this, is a Paſte made of Soap-lees, and Quick-lime powdered; and a ſtill milder, called from its ſoftneſs, the Velvet Cauſtic, is a Paſte made of Quick-lime powdered, and a little Soap. This is chiefly adapted to Infants, and tender Bodies, and may be ſuffered to lie on twenty four hours. *Turner.*

The beſt Cauſtic in uſe, is Lapis infernalis powdered and mixed into a Paſte with Soap, which is to be prevented from ſpreading by cutting an Orifice in a piece of ſticking Plaiſter, nearly as big as you mean to make the Eſcar, which being applied to the part, the Cauſtic muſt be laid on the Orifice, and preſerved in its ſituation by a few ſlips of Plaiſter laid round the edges, and a large piece over all, with moderate Bandage to retain the whole. *Sharp.*

The ſize of the Cauſtic muſt always be proportioned to that of the Eſcar propoſed; for upon the ſolution of its ſalts, in ſpight of all precaution they will ſpread, ſo as to form an Eſcar much larger than their own compaſs when firſt laid on.

This caution is not altogether unneceſſary, having frequently ſeen an Ulcer, the effect of one of theſe Cauſtics, as big as a half-crown, and that too upon the Face, Neck, and Breaſts of gentlewomen, where the Scar as much as poſſible ought to be avoided, which needed not to have exceeded the compaſs of a ſilver groat. *Turner.*

This Cauſtic generally does its buſineſs in an hour and a half, two hours, or three, according to the thickneſs of the Skin, and, what is very remarkable, notwithſtanding its ſtrength and ſudden efficacy, it frequently gives no pain, where the Skin is not inflamed, as in making Iſſues, and opening ſome few *Abſceſſes*. *Sharp.*

When the Eſcar is made, which is known by a remiſſion of the Pain, and the time the Cauſtic lay on, the Plaiſters muſt be removed, and the Salts waſhed from the part with warm Milk. The Eſcar, now inſenſible to the Knife, muſt be cut through, and the Matter diſcharged, without over-much preſſing the parts adjacent to get out all at once, for reaſons mentioned before.

If the patient bears the diſcharge of the Matter without ſickneſs or fainting, it may be neceſſary to cut away as much of the Eſcar as can be done conveniently; the remaining part is to be dreſſed up with Doſſils armed with Baſilicon, and dipt in Oil of Lillies warm, and over all a Diapalma Plaiſter, or an Anodyne Cataplaſm, with gentle Compreſs and Bandage juſt to retain the dreſſings on the part. *Wiſeman.*

This method muſt be continued till the patient grows eaſy, which is generally in two or three days; after which the Compreſs and Bandage will be abſolutely requiſite, by the artful management of which, and the continuance of the ſame Digeſtives, a Sinuoſity may perhaps be prevented, and nothing more upon the fall of the Eſcar wanted than a little dry Lint to compleat the cure. *Turner.*

As *Abſceſſes* opened by Cauſtic are liable to the ſame accidents with thoſe which are opened by Inciſion, the method of treating them are in both caſes the ſame; we ſhall therefore proceed to treat of particular *Abſceſſes*, with their different methods of cure, in every part of the Human Body.

ABSCESSES of the HEAD.

Abſceſſes in the Forehead and Hairy Scalp are, for the general part, the conſequences of a Contuſion; where the extravaſated Juices, from the want of timeiy bleeding, and reſtringent applications, their regreſs through the broken Capillaries being deſtroyed, inflame and ripen into Matter.

If they happen upon any of the Sutures, they ſometimes produce dangerous ſymptoms, by inflaming the Dura Mater, which paſſes through them, and is continued to the Pericranium. *Wiſeman.* See PERICRANIUM.

In all *Abſceſſes* of the Hairy Scalp, the Cauſtic is preferable to Inciſion, (eſpecially if the Matter has been ſo long confined as to make the Skull black or carious) as it makes way for the Rugine or Raſpatory [ſee RUGINE] which is always to be uſed, except upon the Sutures, the thinneſs of the Skull there forbidding it; for ſhould we wait for an Exfoliation by the common methods, ſome weeks, perhaps months, would be required; whereas, by the Raſpatory, Incarnation is compleated in a few days.

Abſceſſes in the Forehead muſt always be opened by Inciſion, which muſt be made according to the direction of the Fibres, for a tranſverſe wound here may cauſe the Eyebrows to fall over the Eyes.

Arcæus's Liniment is the common dreſſing in theſe *Abſceſſes*, it being by the author deſigned particularly for wounds of the Head, and the cure is to be finiſhed with dry Lint, with good Compreſs and Bandage.

If a Sinus ſhould be formed, let it be opened in the moſt depending part, the Matter let out, and a Compreſs of the whole length of it applied, with the double-headed Roller or Cap; by which, and dreſſing as above, it will heal without farther trouble.

ABSCESSES in the EYELIDS.

Internal *Abſceſſes* in the Eyelids muſt be treated by making an Inciſion in their moſt eminent part, and evacuating the Humour. After this waſh the place with Brine, and bind on it a piece of Wool moiſtened with an Egg. Next day foment the ſore, and anoint it with Honey; after this, let the cure be carried on by frequent Inſtillation of the Collyrium Repreſſum.

As for external *Abſceſſes* in theſe Parts, after Inciſion and Evacuation, as in the former, we apply ſome Lint ſpread with Honey, and bind thereon a piece of Wool.

If the *Abſceſs* affect the Cartilage of the Eyelid, if on the external part, it is not impoſſible, after they have been well cleanſed with Egg and Honey, to incarnate them by ſome drying Medicine proper for the parts about the Head. If the *Abſceſs* lie in the inward part of the Cartilage, after the Eyelid has been turned up, and the Cartilage laid bare and ſcraped, lay thereon ſome of the fineſt Powder of Copper, and to the Eyelid apply an Egg beaten up with Wine and Oil of Roſes; next day foment the place, and apply the Powder and Egg as before; on the third day anoint the Eyelid with Honey, and then betake yourſelf to the uſe of the Collyrium Repreſſum. *Aetius Tetr.* 2. *ſerm.* iii. *cap.* 79. See Collyrium.

Abſceſſes in the Eyelids ſometimes happen, and are eaſily cured by a ſmall puncture with a Lancet, and a bit of Diachylon Plaiſter. But theſe Apoſtems are better prevented by letting out the Blood with the point of a Lancet, which often by a blow is thrown upon theſe parts in greater quantity than can be abſorbed again into the circulation. No other dreſſing is required than dry Lint covered with a bit of defenſative Plaiſter.

The Lachrymal Glands frequently apoſtemate, which is cauſed, as moſt authors imagine, by the Tears becoming acrid and corroſive, and ſo exciting an Inflammation and *Abſceſs*; tho' many of them imagine that the Tears themſelves, not finding a way through the Naſal Duct, do, from ſtagnating in the Saccus, corrupt, and become the Matter diſcharged by the Puncta Lachrymalia: but the latter opinion is moſt certainly ill grounded; for beſides that the Tears are not of a compoſition to become Pus, it may be obſerved almoſt at any time, upon preſſing the *Abſceſs*, that the two Fluids appear unmixed; and with regard to the general doctrine of the ſharpneſs of the Tears producing this diſorder, I think it is much to be queſtioned, ſince the Cornea and Tunica Conjunctiva, being more ſenſible Membranes than the Saccus, would more readily be offended by them; but as we ſee they are not in the leaſt injured, and every part of an animal Body is ſubject to Inflammation from internal cauſes, I believe this external one may be juſtly doubted. *Sharp.*

Theſe *Abſceſſes* are ſometimes ſo foul as not to cure by Inciſion; in this caſe a piece of the Bag itſelf muſt be cut away. *Sharp.*

The manner of performing the operation is this: Suppoſing the *Abſceſs* not broke, chooſe a time when it is moſt turgid with Matter; and to this end you may ſhut the patient's eye the day before, and lay little ſlips of Plaiſter upon one another acroſs the lids, from about the Puncta lachrymalia to the internal Angle; which compreſſing their channels, and preventing the Flux of the Matter that way, will heap it up in the Bag, and indicate more certainly the place to be cut. If the *Abſceſs* is already open, the Orifice and Probe will inform you where to inlarge; then placing the patient in a ſeat of convenient height for the management of your Hand, with a ſmall Inciſion-knife dilate from the upper part of the Bag down to the edge of the Orbit, without any regard to the Tendon of the Orbicularis Muſcle, or fear of wounding the Blood-veſſels; though if you ſee the Veſſels, it is proper to ſhun them: the length of this Inciſion will be near four tenths of an inch. It has been adviſed, in opening the Bag, to introduce a ſmall Probe through one of the Puncta into its cavity, to prevent wounding the poſterior part of it; but I think this exceſs of care may be more troubleſome than uſeful, ſince in ſo large a Veſſel a very ſmall ſhare of dexterity is ſufficient to avoid the miſtake. In making this Inciſion care muſt be had not to cut too near the joining of the Eye-lids, becauſe of the deformity of the ſucceeding Scar; though the blear Eye, or uneven contraction of the Skin in that part, after the operation, is generally owing to the uſe of the Cautery, and not to the wound of the Tendon of the Orbicularis Muſcle; for this laſt is neceſſarily, from its ſituation, always cut through, but without any inconvenience, becauſe of the firm Cicatrix afterwards that fixes it ſtrongly to the Bone.

When the Bag is open, it is to be filled with dry Lint, which the next day may be removed, and exchanged for a Doſſil dipt in a ſoft digeſtive Medicine: This muſt be repeated every day once or twice, according to the quantity of the diſcharge: Now and then, when the Matter is not good, uſing the precipitate Medicine, and from time to time a Spunge-tent, to prevent the too ſudden reunion of the upper part of the *Abſceſs*. When the diſcharge begins to leſſen, it will be proper to paſs a ſmall Probe, or ſilver Wire through the Naſal Duct into the Noſe, every time it is dreſſed, in order to dilate it a little, and make way for the Tears and Matter, which by their drain will continue to keep it open. This method muſt be followed till the diſcharge is nearly over, which will be in a few weeks, and then dreſſing ſuperficially with dry Lint, or any drying application, the wound will ſeldom fail of healing. After the cure, in order to prevent a relapſe, it will be proper, for a few weeks, to wear the compreſſing Inſtrument. *Sharp.*

Theſe *Abſceſſes* generally end in a Fiſtula Lachrymalis, for the treatment of which ſee Fistula Lachrymalis.

In the Noſe ſometimes *Abſceſſes* are formed, and are to be treated as directed in the following obſervation:

A gentleman near ſeventy years old was ſorely afflicted with a Furuncle within his Noſtrils and about his Noſe, with great Inflammation and Hardneſs. I fomented the diſeaſed parts with a Decoction of the Tops of Marſh-mallows, Mallows, Violets, Chamomile flowers, Melilot, Linſeed, and Flea-wort ſeeds, and with a ſyringe injected ſome of the ſame into his Noſtrils, and applied the fore-mentioned Cataplaſm over his Noſe. I purpoſed the letting him blood in the Arm, but it would not be admitted by reaſon of his age; but by ſetting on Leeches behind his Ears, I took away ſome Blood; alſo by bliſtering the Neck and Shoulders, I endeavoured Revulſion, by Clyſters kept his Body ſoluble, and continued the applications, by which his Pain was ſomewhat mitigated. After five or ſix days the Skin became thin, and a white tough Matter ſhewed itſelf in ſeveral places within and about his Noſe, and gradually made its way through many ſmall openings. I made it more way here and there with the point of a Lancet, and dreſſed them with Oil of Lillies mixed with the Yolk of an Egg, and continued the uſe of the Fomentation, and applied the Cerate. I was much troubled to think what would become of his Noſe, the exterior or interior parts being all ſtuffed with that clammy Matter, ſo that it would not iſſue out; and, when it ſhould, I doubted it would leave little covering upon the Cartilages. To haſten it out, I daily dropt in a mixture of Honey of Roſes, with Juice of Smallage decocted; and, by conveying a big Tent dipped in the ſame into each Noſtril, I preſſed the Matter outward, and ſometimes pulled it away with my Forceps. It came out as if it had been broken pieces of the Spinal Marrow, and burſt ſome of the openings into one another, which I was ſorry to ſee. But the Matter not being accompanied with Acrimony, the hollowneſs filled up, and the diſtended Lips falling near one another, agglutinated as the Matter digeſted out; and by the compreſſion I made with my Tents within the Noſtrils, I inlarged them, and furthered the well-cicatrizing of the Ulcer; which was effected in a few days after, with Cicatrixes not unſeemly. *Wiſeman.*

Abscesses about the Jaws.

The Conglobate Glands under the Jaws are very ſubject to *Abſceſſes*, which have been taken by ſome to be ſtrumous, but they differ greatly; the Struma being contained in a Cyſtis requires to be eradicated by Eſcarotics after the Matter is diſcharged; but theſe, after the diſcharge of the Matter, are cured either of themſelves, or by the ordinary intentions of Digeſtion.

Theſe *Abſceſſes*, as the part is not very capable of Bandage, are beſt opened by Cauſtic. *Wiſeman.*

After the diſcharge of the Matter till the Eſcar is ſeparated, it muſt be dreſſed with Lenients, and the cure muſt be compleated as in the *Abſceſſes* opened by Inciſion.

A child of about nine years old having been diſeaſed with a Fever, ſome reliques of that Matter diſcharged themſelves in a Swelling under the right Jaw, as big as a pullet's Egg. It was ſuppurated, and required vent, which I gave it by Inciſion, but could not cure it till I had applied a Cauſtic on the depending part. The place not being very capable of Bandage, it could not be treated ſo advantageouſly when opened by Inciſion, and dreſſed with Tents; but after the laying it more open by Cauſtic, the Matter plentifully diſcharged, and the *Abſceſs* cured. *Wiſeman.*

Abscesses of the Ears.

If an Inflammation or *Abſceſs* affect the Ears, the ſame Regimen of Diet is to be ordered as in a Fever, that is to ſay, a very thin one, and that affords little or no nouriſhment. And becauſe this Senſorium is near the Brain, and of quick Senſation, a ſmall error with reſpect to it may prove of bad conſequence. Let the patient therefore live on Cremor of Ptiſan, and Water, and be kept quiet; and apply freſh Fats, void of all Acrimony, to the part. If the Inflammation proceed to an *Abſceſs*, and Pus appears, it muſt be evacuated, and the *Abſceſs* cleanſed, by the Emollients, and moderate Drawers, and Deterſives. But ſince ſome, by their negligence, let their Ears run with Pus for a long time, which is not afterwards eaſily dried up, and which has a very offenſive ſmell, drying Medicines are to be uſed, ſuch as thoſe which are prepared of the Recrements of Iron with Vinegar, which are of wonderful efficacy in drying up old and foul Ulcers, eſpecially in the Ears. *Actuarius Meth. Med. lib.* iv. *cap.* 10.

Abſceſſes near the Ears, which the Greeks call παρωτίδες, are accounted among Inflammations, for they are generated by an Inflammation of the Glandules about the Ears. But we ſeldom treat Inflammations in theſe parts according to the method regularly adapted to an Inflammation, when there is no concomitant Malignity, nor any extraordinary Influx of Humours; and the Body is not burdened with a Plethora; for in ſuch a caſe, a Spunge dipped in Poſca, and laid to the place, repreſſes the Inflammation without any bad conſequence. But in the Parotides we are obliged to take another courſe, and uſe drawing Medicines; and if theſe are of little effect, we apply a Cupping-glaſs, or frequently foment the place: for our intention is directed, by all manner of ways, to call the noxious Humours from the Internal Parts to the Superficies. However, when their Influx becomes violent, we are not to be too buſy or ſollicitous, but let Nature have a great ſhare in the management. Wherefore, in this caſe, we do not comply with the Propenſion of the Humours, but rather mitigate them by ſuch Medicines as are remarkable for their lenitive qualities. Such are thoſe prepared of the Meal of Wheat, Barley and Linſeed boiled with honey'd Water, the Decoction of Fœnugreek, Marſhmallows, or Chamomile, and other Medicines of a moderately hot and moiſt quality, whence they have the virtue not only of mitigating Pain, but of digeſting and bringing to a Suppuration the confluent humours. Such are Wheaten meal, with the Decoction of Figs, and Oil, and a preparation of fine Wheaten flower and Yeaſt. When the Parotides are ſuppurated, the Pus muſt be evacuated, either by Inciſion, and the Ulcer healed, as all agree, or by breaking the *Abſceſs* with ſome acrid Medicine, ſuch as the Emplaſtrum Smilium, or one prepared with Garlick; or, laſtly, it muſt be diſcuſſed by ſuch Medicines as are of fine parts, and are, at the ſame time, endued with a drawing faculty; and if, after the greater part of the Pus is diſcuſſed, any Hardneſs ſhould remain, it muſt be treated with Emollients.

Archigenes recommends the following remedies for diſſolving theſe *Abſceſſes* of the Ears. Apply every day a Cataplaſm of Plantain bruiſed with Salt, or Goat's dung, with Vinegar, or the Sharp-pointod Dock boiled in Wine, or Figs bruiſed or boiled with Vitriol, or Figs boiled with Wormwood, and bruiſed in Wine; or apply the calcined Shells of Whelks, or of the Purple-fiſh, with Honey; and Diſcuſſion will ſoon be effected. The ſame virtue is in Oyſter-ſhells calcined, and applied with Honey, and in Cerate of Roſes, or Oleum Cyprinum mixed with Rue, or Sulphur vivum mollified, and in Fullers Earth and Vinegar. This laſt boiled in Sea-water or Brine, and beaten and applied, is a moſt powerful Diſcutient. Horehound and Salt laid on Wool that is impregnated with it, and then applied, has the ſame virtue, and is very proper in the beginning of the Parotides; or, to name no more, apply a Cataplaſm of the Meal of bitter Lupines boiled in Honey, with the addition of a moderate quantity of Quick-lime. *Actuarius*, *lib.* vi. *cap.* 3.

The external Salivary Glands behind and about the Ears are frequently afflicted with very large *Abſceſſes*, which are to be conſidered as ſalutary or malign according to their different cauſes. For inſtance, thoſe which happen from an external cauſe, as a Bruiſe, whereby Blood is extravaſated and caſt into theſe Glands, are ſalutary, and eaſily cured; but thoſe which happen after great Evacuations, or a Fever, without remiſſion of it, are pernicious and dangerous.

As Nature is ſometimes very ſlow in ripening theſe *Abſceſſes*, ſhe muſt be aſſiſted by the application of ſtrong ſuppurative Cataplaſms, or even Cupping-glaſſes; Gum Plaiſters too are proper, and, in a full Habit of Body, Bleeding may be of ſervice. *Wiſeman.*

When the Matter is well concocted, let a Cauſtic be applied, and proceed in the cure as in other *Abſceſſes*.

Theſe *Abſceſſes* ſometimes burſt in the Ear. In ſuch a caſe, a little of the Oil of St. John's Wort, mixed with Honey of Roſes, and dropped into the Ear once a day, with a bit of Wool lightly preſſed in after it, will forward the cure greatly: the outward parts muſt be kept warm with flannel, as long as the Matter continues to diſcharge.

Inſtead of digeſting, by the common methods, the *Abſceſs* frequently turns ſordid. See Ulcer.

At other times, after it has been incarned and cicatrized, a Hardneſs will remain, which will require the application of another Cauſtic, the full compaſs of the induration, which having penetrated deep, the Eſcar muſt be divided to the Quick, and ſeparated and digeſted as above.

A perſon of about fifty years of age, having long laboured under Scorbutical Affections, was ſeized with a ſlow Fever; his Head was affected with Vapours, and his Spirits oppreſſed; during which a Tumour aroſe behind his left Ear, and reached down under that Jaw, growing big and hard, of a dark red colour. We endeavoured by diſcutient and emollient Cataplaſms and Embrocations of various ſorts; but it would not yield to any of them. We repeated Venæſection, and made him Fontanels between the Shoulders; Purgations were alſo repeated, but without ſucceſs. I then applied the Plaiſter for the Evil, and continued it without removal the ſpace of ſix or ſeven days, ſuppoſing thereby the Tumour would ſuppurate or reſolve: yet it continued hard amongſt the Muſcles. I repeated the uſe of the Emplaſter; and the third or fourth day after, feeling the Matter fluctuate under it, I took off the Emplaſter, applied a Cauſtic on the depending part about an inch in length, divided that Eſcar, and gave a diſcharge to a crude ſerous Matter, then dreſſed it with Lenients, and applied the Mucilage Plaiſter, with a third part of Diachylon with the Gums. After ſeparation of the Eſcar, I deterged with the Vitriol-ſtone, and Baſilicon, and red Precipitate, and at other dreſſings dipt them in Precipitate-powder. Having thus deterged, I incarned, and by Epulotics cicatrized it firm. During the time he was often purged, and Traumatics and Antiſcorbutics were preſcribed; but a Hardneſs remained notwithſtanding. Whereupon, doubting a Relapſe, I applied another Cauſtic, the length of that Induration; and having thereby penetrated deep into it, divided that Eſcar to the Quick: and by ſeparation of the Eſcar, and digeſtion of the Lips of the Ulcer, that Hardneſs was breathed forth, and the patient cured, and enjoys good health to this day. *Wiſeman.*

In the beginning of April, 1599, I ſaw at Cologn an unmarried woman of about forty afflicted with an *Abſceſs* behind her left Ear, which phyſicians call *Parotis.* She had no Fever, neither kept her bed, but all the time followed her domeſtic affairs. About the fourteenth day from its firſt appearance, the *Abſceſs* being grown as big as my fiſt, and the Matter quite ripe, but by the thickneſs of the Skin being retained too long, it was abſorbed into the Circulation. Being then ſent for, I found the *Abſceſs* had broke of itſelf ſome hours before I came, the patient alſo in a Fever attended with Fainting, Sickneſs at her Stomach, Loathing of Food, and want of reſt, with a Pain alſo in her Back and Loins. The *Abſceſs* diſcharged little or nothing, nor was it poſſible to invite the Matter back again, ſo ſhe died a few days after. Hence it is evident, that in this kind of *Abſceſs*, whether ſeated in or near the Emunctories, we ought not to wait till they break of themſelves. *Hildanus.*

Abſceſſes under the Chin are very frequent in children, but are eaſily cured by the common methods.

Dangerous *Abſceſſes* ſometimes affect the Jaws, and generally proceed from the Tooth-ach, or from ſome Hurt in the Drawing a Tooth.

The method of cure is fully laid down in the following obſervation:

An officer of the king's regiment of foot, of a ſanguine and healthful conſtitution, marching at the head of his company in a hot Summer's day, heated his Blood, and was ſeized with a Pain in one of his Teeth of the lower Right-jaw. He ſent to a tooth-drawer, who pulling out the Tooth, broke the Sockets off from the Jaw, according to the length of it. The Pain made great Fluxion, and required Evacuation and Revulſion by Bleeding and the like. But this being omitted, and the part affected not treated as it ought, the Pain increaſed, the neighbouring parts ſwelled and apoſtemated, and all his Teeth and part of the Sockets caſt off. After ſome weeks continuance in the country, finding his diſeaſe increaſe upon him, he came to town, and ſent for me. That ſide of his Head, Face and Neck were extremely ſwelled outwardly, ſo was the Cheek and Tonſil within, and the fractured Bones hidden within the Tumour. Upon a preſſure with my hand on the outſide of his Cheek, ſeeing the Matter flow into his Mouth out of a ſmall opening near the farther part of the Jaw, I made a ſearch with a Probe, and felt the Jaw bare. There was a neceſſity of laying that Orifice open, for the more eaſy diſcharging of the Matter: which being done, I employed my endeavours to take off the Fluxion and Fever he laboured under, let him blood from that Arm ten ounces, preſcribed Fomentations and Cataplaſms to be applied outwardly to diſcuſs the Tumour, and inwardly an Injection, to deterge the Ulcer, of the Roots of Orrice, Tormentil, Biſtort, Birth-wort, with Syrup of Roſes, and a little Spirit of Wine; alſo a Gargle, to waſh his Mouth, of the Flowers of red Roſes, Plantain, Tops of Brambles, *&c.* with Diamoron and Spirits of Vitriol dulcified. Dr. Warner being conſulted, he directed anodyne Draughts, Cordials, Julaps, Emulſions and purging Apozems. The ill Humours thus evacuated, and contemperated, we hoped the outward and inward Swellings and diſcharge of Matter would have leſſened; but they not yielding one jot to our endeavours, I laid open the Cheek from the Orifice I had enlarged forward along the Bone, with intention to take it out; but it was ſo ſhut in, that I could by no means get it out, till with watch-maker's files I cut through that Bone; then the ends thruſt out into his Mouth. Theſe I pulled out; they proved to be pieces of the Sockets. Then I felt the Jaw itſelf ariſe; and conſidering that if it were looſe it muſt come out, I paſſed the end of my Probe under it, whereupon it roſe up, having been ſome while looſe, and was only held down by the foreſaid Sockets; which being removed, the Jaw came away without the leaſt Pain, or one drop of Blood, he only crying out of his Ear, as if it had made a hole through there.

The Jaw being extracted, the ſide was ready to fall in: to prevent which I cauſed the patient to hold it ſtretched out with his Fingers in his Mouth, and a looking-glaſs held before him, that he might the better ſee to keep it more exactly even, whilſt I, by agglutinative Powders, with the White of an Egg, made a cruſt upon the outſide; which, with Paſteboard wet in Vinegar applied over it, ſate cloſe to it, and after it was dried kept that ſide of the Cheek firm, and by Bandage it continued ſo, he helping it as hath been ſaid above. It alſo was ſomewhat ſtiffened by the hard Swelling which was in the Cheek.

To haſten the Callus, I gave him daily Oſteocolla, as I had read in Fabricius Hildanus's works. Whilſt his Chaps were thus bound up, I continued to waſh his Mouth with the Decoction abovesaid, injected often in a day with a ſyringe; by which means the Ulcer was cleanſed and cured, and diſpoſed to a Callus, which grew and hardened in leſs than twenty days, ſo equal with the other, as without looking in his Mouth it could not be diſcerned. *Wiſeman.*

ABSCESSES about the NECK.

The Neck is not often ſubject to Apoſtemation, being more generally affected with encyſted and ſcrophulous Tumours; yet ſometimes it happens, when great care muſt be taken the internal Jugular Vein is not wounded if the Tumour be opened by Inciſion; but this danger may be intirely prevented by giving a Cauſtic the preference; however, if it ſhould ſo happen, it muſt be treated as is directed in the cure of wounds of the Veins and Arteries.

As the ſituation of the Neck frequently cauſes *Abſceſſes* there to turn ſinuous, ſo with Compreſs and Bandage well adapted, thoſe Sinuſſes will be healed in a little time, without the trouble of dilating. The dreſſings are the ſame with thoſe already ſpecified.

ABSCESSES of the TONSILLS.

The Tonſills are often ſubject to violent Inflammation, to the great hazard of the patient's life, eſpecially when they are inclined to ſuppurate, when the Tumour increaſes to ſo great a magnitude as to intercept the Breath almoſt to Suffocation.

Theſe Tumours oftentimes have ſo great a tendency to ſuppurate, that all evacuations prove ineffectual; and it frequently happens, that when the patient is juſt ſuffocated, the Tumour burſts, and he recovers immediately: for as ſoon as the Matter is diſcharged, the Tonſills contract themſelves; and by the help of a little Honey of Roſes, or a Gargariſm of the Decoction of Elm Bark, mixed with a little Honey, are well as it were in an inſtant.

To prevent theſe dangers, it is the common practice to make deep Inciſions with a Knife, or large Lancet, into the bodies of theſe Tumours, which frequently is of ſervice, by diſcharging the Blood and Juices before they are ripened into Matter. See ANGINA.

When the patient is in danger of being ſuffocated, the operation of Bronchotomy is often adviſed, but ſeldom made uſe of. The very thoughts of having their Throats cut, without conſidering the reaſonableneſs and ſafety there is in it, throwing ſuch a terror upon moſt people, that they will rather chooſe to die than ſubmit to the operation. See BRONCHOTOMY.

ABSCESSES of the ARMPITS.

Abſceſſes are ſometimes formed in the Armpit by a conſent of the parts in painful wounds, Tumours or Ulcers, in the Arm or Fingers; or proceed from a tranſlation of morbific Matter in the Criſis of a Fever, and are more or leſs difficult of cure, as the febrile Matter is peſtilential or ſalutary: If they ariſe from malignant Fevers, Suppuration comes forward very ſlowly; in this caſe, nature muſt be aſſiſted with ſtrong Cataplaſms, or Cupping-glaſſes.

When the *Abſceſs* is ripe, it muſt be opened by Cauſtic, ſo as to prevent a neceſſity for dilating.

The Matter being diſcharged, and the part dreſſed with the common Digeſtive, it may be neceſſary to apply a mild Cataplaſm over the dreſſings, ſecured with a Compreſs and double-headed Roller, and to continue the uſe of it as long as may be found needful; but in theſe caſes, there never is a good Digeſtion, till the malignity is corrected by proper Internals.

A young man, aged about twenty years, riding a long journey in the heat of Summer, put his Blood into a ferment, which affected his bridle-hand with great pain, and produced an Inflammation, with a Tumour in that Wriſt. To remedy which, he was let blood in the other Arm, and the part diſeaſed was embrocated with Oil of Roſes and Vinegar, and a Plaiſter of Armenian Bole was applied; and the ſecond day after he was purged with an Infuſion of Senna, *&c.* The Swelling increaſing, with Inflammation and Hardneſs, the moderate repelling and diſcutient Cataplaſm of Mallows, Pellitory of the Wall, Plantain, *&c.* was applied: but this patient being of a very ill Habit of Body, the Tumour increaſed, and, collecting more round, ſhewed its inclination to ſuppurate; wherefore I left out the Repellents, and added white Lilly-roots, *&c.* by the application whereof, it ſuppurated in few days after. I opened it by Cauſtic, and diſcharged a proportionable quantity of Matter well concocted, and haſtened the fall of the Eſcar by Lenients. During the Fluxion (which was in the Wriſt amongſt the Tendons) he complained of a Soreneſs in that Armpit, but took little notice of it, till, after the opening this, the pain diminiſhing there, he felt that in his Armpit more ſore. I alſo felt a ſmall Gland there, and applied a Plaiſter of the Mucilages, ſuppoſing that would reſolve it. After the ſeparation of the Eſcar, whilſt I was digeſting that *Abſceſs*, he was again purged; but the Swelling increaſed in the Armpit, and ſuppurated, and was likewiſe opened by Cauſtic, and endeavours uſed to digeſt that. But whilſt the former *Abſceſs* cured, this latter became more crude and ſinuous, and the patient was ſeized with a Rigor, and a Fever followed; for the cure of which he was let blood again, and purged, by doctor Walter Needham's preſcription, with an Infuſion of Senna in a Decoction of Tamarinds, with the addition of Manna, purging Syrup of Apples, and Syrup of Buckthorn. By the repeating of this he was freed of his Fever, but the *Abſceſs* would not digeſt three days together by any application: upon which conſideration we preſcribed him a Decoction of the Woods, *&c.* By the drinking thereof a few days, the *Abſceſs* digeſted, and healed ſoon after to a wonder. *Wiſeman.*

The cure of theſe *Abſceſſes* muſt not be hurried on too faſt; for in times of Contagion, or where-ever a peſtilential Venom is ſpread abroad, and become epidemic, if the ſame happens by the ſtrength of Nature to be thrown upon theſe Glands, the Ulcer muſt not be too haſtily healed up, leſt the malign particles to be thrown forth by theſe Emiſſaries or Outlets, being ſhut in, ſhould afterwards deſtroy the patient; for whoſe ſecurity, if ſome part of the Ulcer, where the ſame can commodiouſly be done, was continued as an Iſſue for a little time, or till the ſick was abſolutely out of danger, it might ſufficiently compenſate for the trouble. If this cannot be done, Fontanels near the part may ſupply the place. *Turner.*

Notwithſtanding the Compreſs and Roller, fiſtulous Ulcers frequently ſucceed theſe malignant *Abſceſſes*; for the cure of which ſee FISTULA.

Abſceſſes in the Arms are very frequent, not only from Contuſions, but from the Criſis of a Fever, and are very often ſtrumous.

In the firſt caſe they are ſeldom dangerous or difficult; but in the other frequently produce Sinuſſes, with Caries of the Bones.

Theſe *Abſceſſes*, in good Habits of Body, are eaſily cured by the methods laid down in the general doctrine of *Abſceſſes*.

But if, from the Criſis of a Fever, they prove ſinuous or carious, they muſt be treated as Ulcers of thoſe kinds.

Abſceſſes in the Hands and Fingers are for the moſt part ſtrumous; for the cure of which ſee STRUMA.

Theſe parts, being much expoſed to view, ſhould never be opened by Cauſtic, on account of the Blemiſh they generally cauſe.

ABSCESSES of the BREASTS.

If an Inflammation and Hardneſs in the Breaſts perſevering, produce an *Abſceſs*, which will not admit of Diſcuſſion, we are to uſe ſuch medicines as will promote Maturation; tho', for our part, we have often diſcuſſed Inflammations of the Breaſt after their tranſmutation into Pus, by means of the Dionyſian Plaiſter, which cauſed the Humours to perſpire by inviſible paſſages, and the Hardneſs to vaniſh. The yellow Plaiſter of Piſcator, prepared without Vinegar, and the black one of Aſclepiades, are alſo of good uſe in this caſe; but if all ſhould fail, we muſt have recourſe to ſurgery. All parts of the Breaſt will ſafely admit of an Inciſion, if the ſubject Matter be putrefied, except thoſe near the Nipple, which muſt be treated with a Lunar Section, ſo as that the bottom of the *Abſceſs* may be laid open, and yet the Nipple preſerved; in men, for the ſake of beauty; in women, not only for beauty, but that the power of ſuckling may not be deſtroyed. After the operation the wound muſt be dreſſed with Lint; but you muſt avoid, by all means, the ſtuffing in too much of it, which is the ready way to induce a Fiſtula. The third day after this, you are to think of Suppuration; and when this is performed, Cleanſers will come in uſe, and after them Dryers and Healers. For theſe two laſt purpoſes the yellow Plaiſter of Piſcator before mentioned without Vinegar, and the yellow one of Galen for malignant Ulcers, are excellent medicines. On theſe muſt be laid a Spunge ſqueezed out of Wine. The black Plaiſter, prepared of Darnell, is alſo a good remedy, for it evacuates and glutinates; or bruiſe Earthworms with Polenta, and apply them. *Aetius, Tetr.* 4. *ſerm.* iv. *cap.* 39.

Abſceſſes in the Breaſts, particularly of women, are very frequent, and generally proceed from too active and vigorous a Ferment in the ſeparation of the Milk, tho' a Contuſion ſometimes is the cauſe.

In order to bring the Tumours to a more ſpeedy Suppuration, eiſter adviſes to apply a Plaiſter of Diachylon with the Gums, of Henbane, or, what he apprehends more conducive to is end, the following Cataplaſms:

Take of Wheat Flower half an ounce or an ounce, and with a ſufficient quantity of Honey make a Cataplaſm; to which having added a little Saffron and Milk, ſpread it upon double cloths, and apply it hot to the Breaſts, and renew it often.

Or take of Wheat Flower four ounces,
Gum Galbanum diſſolved in the Yolk of an Egg one ounce,
Vinegar three ounces;
Theſe muſt be boiled to a Cataplaſm, with a ſufficient quantity of Water.

Or the Cataplaſm of Barm, Honey, and Venice Soap, beforementioned, from the ſame author.

Theſe Apoſtemations generally burſting at the top, produce inuous Ulcers very difficult of cure.

But when the Tumour is ſo ripe as to want opening, a Cauſtic uſt be applied to the moſt prominent part, yet a little dependng; which being done, and the Eſcar ſeparated, if a good Digeſtion ſucceeds by the uſe of the common applications, with entle Compreſs and the Scapular Bandage with the Napkin, and here is no Hardneſs or Pain, the cure is compleated in a few ays. On the other hand, if the Fluxion continues, more *Abceſſes* may be expected, which generally form Sinuſſes ſometimes ery difficult of cure.

If the Sinus is ſuperficial, it muſt be laid open with the Knife r Sciſſars; but if deep in the Glands, it is adviſeable to try hich way nature points for a Diſcharge, by plugging up the Orifice with a large Tent, and continuing it there for two or hree days, that the incloſed Matter may either produce a freſh Apoſtemation in a more depending part, or inſtruct where to ake another with advantage. After the ſeparation of which he Ulcer may be incarned with Liniment, and cicatrized with Ointment of Tutty, or dry Lint.

In theſe *Abſceſſes*, Funguſſes ſometimes greatly impede the ure, and prove very troubleſome. See Fungus.

A Varix alſo may ſometimes prevent a cure. See Varix.

A maid of about twenty years old, of a groſs body, receiving by accident a blow on her right Breaſt, it ſwelled, and grew hard and painful. After ſeveral applications, the Hardneſs and Pain rather increaſing, ſhe, ſuſpecting a Cancer, came to me. I viewed it, but ſaw no ſymptoms of it. I embrocated it with Oil and Vinegar, and applied a Plaiſter of red Lead with Soap; and the day after let her blood, and then purged her with Whey, Manna, and Cremor Tartar, by which the Hardneſs was ſeemingly reſolved for ſome time: but ſhe being irregular in her appetite, it ſwelled again, as when I firſt ſaw it. Upon which conſideration I applied Emollients; and ſeeing the Tumour increaſe, and ſhe impatient at the ſight of it, I applied a ſuppurative Cataplaſm, of the roots and leaves of Marſh-mallows, white Lillies, &c. By the continued uſe of it in a few days it ſuppurated well, and I opened it by Cauſtic in the declining part, and diſcharged a large quantity of Matter. I dreſſed the *Abſceſs* with Lenients, and continued the uſe of the Cataplaſm till the Eſcar ſeparated. Then I deterged with Paracelſus's Mundificative, and applied the Mucilage Plaiſter, and ſhortened the Tent. The Orifice growing leſs, and ſomewhat of the Hardneſs yet remaining, I put in a ſhort Cannula of Lead, and kept the Orifice open till the Hardneſs was totally reſolved, and that it mattered very little, or not at all; then threw out the Tent, and applied a Pledgit of Ointment of Pompholix, and permitted it to heal, which it did in few days. This was a pure Phlegmon, and lay deep in the Breaſt, and owed its ſpeedy cure to the perfect Suppuration made in it before the opening. For otherwiſe, ſuch *Abſceſſes* in large Breaſts do frequently terminate in ſinuous Ulcers, and grow callous, by reaſon of their laxity and want of natural heat. *Wiſeman.*

One having been troubled with a ſore Breaſt about a year after child-bed, it growing more ſwelled and ulcerated, ſhe ſent for me. It was hard, without Inflammation or diſcolouring in the Skin, and diſcharged a well-concocted Matter out of the Nipple, and ſome ſmall openings near it. I wondered what ſhould be the reaſon it did not cure: at laſt, in handling the Breaſt, I felt a Varix lying under the Skin; it felt like net-work. I dreſſed the Ulcer with Baſilicon ſometimes, and at others with Ointment of Tutty; applied a Plaiſter of Armenian Bole over the Breaſt, with Bandage to ſupport it; and adviſed the wearing of fine Tow, ſprinkled with Ceruſs, under that Armpit; by which method it was afterwards cured in a month or thereabouts. *Wiſeman.*

Inflammations of the Lungs and Pleura, frequently produce *Abſceſſes* in the Breaſt and upon the Ribs, which often turn fiſtulous, and cariate the Bones underneath.

In theſe critical Tranſlations the danger is more or leſs, according to the quantity of Matter diſcharged, it being ſometimes ſo great, as to bring on an incurable Conſumption.

If a Tumour appears on the Breaſt or Ribs, preceded by a Cough and Difficulty of breathing, the Suppuration muſt be forwarded, as faſt as poſſible, by ſome of the ſuppurative Cataplaſms; which muſt be continued till the Tumour is fit to be opened, when a Cauſtic muſt be applied, and the Matter diſcharged. For want of this aſſiſtance, it ſometimes burſts inwardly, and falling upon the Diaphragm, produces ſuch diſorders as may make the operation of the Empyema neceſſary. See Empyema.

When the Diſcharge is very large, a Cannula of Lead may be proper to keep the Orifice open; for Funguſſes will frequently ariſe, if not prevented by this means, and do a great deal of miſchief, by ſtopping up the Orifice, and thereby preventing a Diſcharge of the Pus.

The Cannula muſt be continued till the Matter is of a good conſiſtence, and little in quantity; when it may be thrown out, and the Ulcer incarned and cicatrized by the common methods: Or a Pea may be ſubſtituted in its ſtead, and the Ulcer kept as a Fontanel, as long as you think proper.

If any of the Ribs ſhould be carious or bare, which ſometimes happens by the conſtant preſſure of the Cannula againſt it, an Exfoliation, by any applications, is unneceſſary, Nature ſeldom wanting any aſſiſtance, if the Ulcer is kept well digeſted. *Wiſeman.*

The Bandage is the Napkin and Scapular.

Some while ſince I was accidentally in the country, and was ſhewed, by a chirurgeon thereabout, an apoſtemated Breaſt, the biggeſt I ever ſaw. The patient was a woman about forty years old. She had a Cough, and was oppreſſed with Difficulty of breathing. The ſurgeon opened her Breaſt in the declining part, and diſcharged a proportionable quantity of fetid Matter. She was ſomewhat relieved by it, but it penetrated into the Breaſt, and the large Diſcharge of Matter ſoon waſted her. *Wiſeman.*

ABSCESSES of the BELLY.

Abſceſſes of the Belly are generally the effects of a violent Contuſion, and are ſubject to great Defluxion from the laxity of the parts, eſpecially in ſcorbutic and ill Habits of Body, where the Matter is apt to inſinuate itſelf amongſt the circumjacent Muſcles, and to form ſinuous Ulcers difficult of cure, as we cannot make ſo good Bandage on them, by reaſon of their figure, ſituation, and perpetual motion, as elſewhere may be made. *Wiſeman.*

When the Tumour is ripe, let it be opened by Inciſion on the moſt depending part; and, the Matter being diſcharged, the Ulcer may be dreſſed with Pledgits armed with Liniment, or Balſam of Turpentine, mixed with a little Oil of St. John's Wort, with a Plaiſter of the Mucilages ſpread upon a rag over it, and the whole ſecured with the Napkin and Scapular.

A Fomentation of Wormwood leaves, tops of Elder, Marſhmallows, Centaury, and Chamomile flowers, will greatly aſſiſt Nature in producing a good Digeſtion; the Belly being bathed with it half an hour at each dreſſing.

The cold air is very prejudicial to theſe Ulcers; therefore they muſt be guarded againſt it, by having a chafing-diſh of Coals near the patient when he is dreſſed.

If Sinuſſes ſhould be formed, they muſt not be dilated the whole length, but the Matter diſcharged by Inciſion in the moſt depending part. The upper parts of the Sinus will be united by good Compreſs and Bandage, and the cure of the Ulcer compleated by the ordinary methods.

In the year 1597, a luſty Savoyard, about forty years old, being afflicted with a great Pain in his right Side, at the extremities of the falſe Ribs, came to Lauſanne and ſent for me, and Albertus Roſcius, a very noted phyſician there, to conſult about his caſe. Upon examination, we could not perceive the leaſt Tumour, but felt a Hardneſs deeply ſeated amongſt the Muſcles. His Pain, accompanied with a ſmall Fever, we found was cauſed by the compreſſion and extenſion of the Peritonæum. After gently purging him, we applied Fomentations, Cataplaſms, Ointments, diſcutient, reſolvent and anodyne, for ſome days, but without effect. Hence we entertained ſome hopes that the Hardneſs might be diſcuſſed, as I had known formerly to have happened in a caſe of the like nature. A Decoction of Guajacum, Sarſaparilla, with ſome hepatic Herbs therefore was preſcribed, and given for ſome days: But, inſtead of being diſcuſſed, in a few days Matter flowed about the Region of the Liver, between the Abdominal Muſcles and the Peritonæum, and in ſuch quantity, that by the pricking Pain and Pulſation it occaſioned, we had ſufficient knowledge where to make an Inciſion for the Diſcharge of it; which we agreed ſhould be done without delay, tho' nothing appeared outwardly, leſt the Matter ſhould penetrate the Peritonæum, and fall into the Cavity of the Abdomen. The operation I happily performed in the preſence of the ſaid Dr. Roſcius, Claudius Mario, and others; and diſcharged a great quantity of Pus. The Fever, Pain, and Fainting went off gradually. The Ulcer we were obliged to keep open ſome months, on account of the great quantity of Matter which flowed out. In the mean time, by obſerving a good Regimen, and purging between whiles, together with the uſe of the Decoction of the Sudorifics and hepatic Herbs, the parts gained ſtrength, and the patient, by the bleſſing of God, was perfectly cured. *Hildanus*, *obſerv.* xxxviii. *cent.* 2. *p.* 115.

ABSCESSES in the GROIN.

Abſceſſes in the Groin, like thoſe in the Armpit, frequently ariſe by a conſent of parts, in painful Wounds and Ulcers. They are ſometimes the Criſis of a peſtilential Fever, and very often are venereal.

A Tranſlation of Matter from an *Abſceſs* in the lower parts of the Belly, in the Glands, and other parts near the Iliac Branch, may alſo cauſe an *Abſceſs* in the Groin very difficult of cure: but, if theſe *Abſceſſes* ſuppurate kindly, and are timely opened, they are not dangerous; if the contrary happen, they may degenerate into Fiſtulas, and then are not without danger. *Wiſeman.*

Fallopius ſays, that Blood extravaſated in the Cavity of the Abdomen, will fix on the Inguina, and there form an *Abſceſs*.

When Matter is formed, and begins to fluctuate, if the Tumour is kindly and not venereal, a Knife is preferable to the Cauſtic for the Diſcharge of it. The Inciſion muſt be oblique; and great care muſt be taken that the point of the Knife deſcends not ſo deep as to wound the Inguinal Artery, which would endanger the patient's life.

If a Flux of Blood ſhould happen from a diviſion of ſome ſmall Veſſels, after the Matter is diſcharged, let the Wound be dreſſed with ſome of the reſtringent Powders, with Doſſils of Lint tied with a thread, preſſed down pretty hard on the wounded Veſſels, and upon the Lips, Pledgits armed with the common Digeſtive. A Plaiſter of the Mucilages over all, and the whole ſecured by Compreſs and Bandage.

The cure of theſe mild *Abſceſſes* is compleated by the common methods in a few days.

If the *Abſceſs* is the Criſis of a Fever, it muſt be opened by Cauſtic, and the Wound muſt be kept open till Nature has freed herſelf of her diſorder.

A diſcutient Fomentation ought to be always ready at the dreſſing of theſe critical *Abſceſſes*, for reaſons before-mentioned.

The uſe of the common Detergents are ſeldom ſufficient here, without the addition of red Precipitate; which muſt either be ſprinkled in the Ulcer, or mixt with Baſilicon or Arcæus's Liniment, as is thought moſt proper.

This ſeldom fails of producing a good Digeſtion; and is ſo good a Detergent, that by proper management in the mixing it, there will ſeldom need any thing elſe but dry Lint to compleat the cure.

The method of curing *Abſceſſes* from a Tranſlation of Matter from the Belly, is much the ſame as the foregoing, and for the cure of venereal *Abſceſſes* in the Groin. See BUBO.

ABSCESSES in the PUDENDA.

Abſceſſes are ſometimes formed in the Lips of the Pudenda in women, which, if not venereal, generally yield to the common methods. They may be opened either by Cauſtic or Inciſion. See ALÆ.

ABSCESSES in the SCROTUM.

The Scrotum in men is often ſubject to *Abſceſſes*, from Contuſion or the Venereal Diſeaſe.

In the cure of thoſe by Contuſion, care muſt be taken not to open them by Cauſtic, leſt the native heat of the part ſhould be deſtroyed, and a Mortification be the conſequence. Regard alſo muſt be had to the dreſſing theſe *Abſceſſes*: no greaſy applications muſt be made uſe of, leſt a ſordid Ulcer ſhould be produced; but Balſams of Peru, Capivi, or Arcæus's Liniment, are all neceſſary. A Fomentation alſo of the diſcutient Herbs muſt be uſed every time the Ulcer is dreſſed, till there is a good Digeſtion, and then the common methods may effect the cure.

For the method of treating venereal *Abſceſſes* in theſe parts, ſee HERNIA HUMORALIS.

ABSCESSES in the BACK and LOINS.

The Back and Loins are ſubject to *Abſceſſes*, in which the Matter is generally ſeated ſo deep, that the Bones are often ſufferers before it can be felt, with any certainty, to fluctuate; and, for want of timely aſſiſtance, ſometimes burſts inwardly, to the great danger of the patient's life.

To remedy theſe inconveniences, if, by the prominence of the Tumour or other ſymptoms, Matter may be judged to be formed, however deep, a Cauſtic muſt be immediately applied, and continued till the remiſſion of the Pain it cauſes certifies its effect; and then the Eſcar muſt be divided, which is ſometimes near an inch in thickneſs, and the Matter diſcharged.

The firſt dreſſing muſt be dry Lint, and over this Pledgits armed with common Digeſtives, covered with a ſuppurative Cataplaſm; and the whole muſt be ſecured by the Napkin and Scapular. A diſcutient Fomentation muſt be made uſe of, if there is not a good Digeſtion.

If a fetid Ichor diſcharges, or the Bone is felt bare or ragged, the Ulcer muſt not be healed till an Exfoliation is procured by Tincture of Myrrh, Euphorbium, or Spirit of Vitriol; which laſt requires to be uſed with caution, and the ſound parts muſt be well defended from their Acrimony, by applying Doſſils of Lint over them, ſo as to keep the Lips of the Ulcer diſtended, and the Bone bare and dry. *Wiſeman.*

Injections muſt never be uſed here, they oftentimes cauſing Sinuſſes very hard to be cured. Tents may be ſometimes neceſſary to thin the Integuments, for the more eaſy dilating, if required.

The actual Cautery and Rugine, tho' often found to be of great ſervice in exfoliating rotten Bones, yet the Vertebræ of the Back will admit of neither. *Wiſeman.*

If, by the uſe of the Fomentation, deſquammatory and other applications, with good Bandage, the Ulcer digeſts well, is free from callous Lips, and Nature ſeems forward to fill the cavity with new Fleſh, care muſt be taken ſhe does not do it in too luxuriant a manner, by the application of proper Detergents, ſuch as Precipitate mixed with Digeſtives, as is ſaid before; by the uſe of which, and afterwards dry Lint, or white Ointment, the cure in a little time will be compleated.

But great care muſt be taken that Internals are not forgotten, as they are ſo highly neceſſary.

Strumous *Abſceſſes* appear frequently in theſe parts; for the cure of which ſee STRUMA and SCROPHULA.

Mr. T. P. of a corpulent habit, and about fifty years old, was ſeized with an Inflammation upon his Back, near the Spine, without any preceding Fever, attended with almoſt intolerable Pain. Mr. ——, a noted ſurgeon, was ſent for, who, upon examination, finding very little Tumour, attempted the cure by bleeding him plentifully, and embrocating the part with Oil and Vinegar. His Body was opened by a gentle Cathartic, given that evening. The next day the Pain and Inflammation being increaſed, and the Tumour a little elevated, attended with a violent Pulſation and ſymptomatic Fever, the dreſſings were altered. An emollient Fomentation of Marſh-mallows, tops of Elder, Melilot, and Chamomile flowers was uſed; and afterwards the Tumour covered with a Cataplaſm of white Bread and Milk, with a little Linſeed Oil: Upon which, ſtronger ſigns of a Suppuration appeared the next day, by an increaſe of his Fever, Pain and Pulſation.

The Fomentation was then laid aſide, and the Pultice changed for one of white Lilly-roots, Linſeed and Fœnugreek-ſeeds powdered, roaſted Onions, and Hogs-lard; by the application of which, Matter ſeemed to be formed, but lay very deep under the Muſcles.

Being fearful the Tumour would burſt inwardly, it ſtill being very hard on the outſide, a Cauſtic, prepared of the Lapis Infernalis and black Soap, was laid upon the part; and in about two hours the Eſcar, above an inch in thickneſs, and as big as a half-crown, was divided, and about half a pint of fetid Matter diſcharged. Upon examining the Ulcer with the Probe, one of the Proceſſes of the Spine felt ragged: Doſſils of dry Lint, ſecured with threads, were preſſed to the bottom; and Pledgits armed with Baſilicon, and Oil of Turpentine, applied to the Lips, with the Cataplaſm upon them; and the whole was ſecured by the Napkin and Scapular with proper Compreſs.

An anodyne Draught was given that night to quiet the Spirits, ſo much fatigued by the operation. The next day a diſcutient Fotus of Wormwood, Centaury, Rue, and Chamomile flowers was uſed, and the ſame dreſſings renewed, after having cut away great part of the Eſcar. Upon dreſſing the third day, Matter was perceived to bag a little in the depending part; to cure which, a larger Compreſs was applied, and rolled on very tight; notwithſtanding which, the Sinus was increaſed about two inches below the Ulcer, when it was judged proper a Spunge-tent ſhould be applied, for the more eaſy dilating.

Two days after the Sinus was divided with a pair of ſtrong Sciſſars, and dreſſed with Liniment with the other Ulcer In about three weeks a ſmall ſcale of the Bone came away during which time a Fungus often aroſe; but by now an then ſprinkling a little Precipitate upon it, it was kept down and the Ulcer, in about a fortnight after the Bone exfoliated was incarned, and cicatrized with the common applications.

During the cure he was often purged with fifteen grains of C lomel in a Bolus, over night; and an ounce of Syrup Buckthorn, mixed with ten grains of Jallap Powder and h an ounce of Milk Water, in the morning; and had afte wards a Diet-drink made, by the uſe of which he has ſin enjoyed a good ſtate of health.

Abſceſſes in the Hips, Buttocks, and Rump, are very frequen and are ſeldom dangerous, unleſs in ill Habits of Body, wh th they are very apt to turn ſinuous; or near the Fundament; where a Fiſtula is the common conſequence; or ſometimes a Gangrene, if the Fat be not ſpeedily digeſted out. *Wiſeman.*

The Cauſtic is preferable to the Knife in theſe *Abſceſſes*, eſpecially when they are very large; and in good Conſtitutions, a cure is generally effected by the common methods; but where they prove difficult, muſt be treated as is laid down in the following obſervations:

A gentleman of about fifty-ſix years of age, ſtanding long in the cold to ſee ſome extraordinary ſhew, was taken with a Pain above his left Hip, and the ſecond day after he ſent to me for an Emplaſter. The meſſenger not telling me the name of the patient, nor where he lodged, I ſent him an Emplaſter of Bole, proper to reſiſt and defend a part from Fluxion. The fourth day after he ſent to me for another Emplaſter, ſignifying to me that his Pain was much increaſed; and two days after ſent for me. I went, and ſaw a large Tumour lying upon the Ilion backwards, with great Inflammation and Hardneſs, with all the ſymptoms of a Phlegmon near its ſtate. I directed a Cataplaſm, to be made of the tops of Mallows, Marſh-mallows, Wormwood, Elder and Melilot flowers, Linſeed and Fœnugreek, Barley meal, with an addition of Honey, Oil of Chamomile, Yolks of Eggs and Saffron; and in the interim let him blood, and adviſed a Clyſter to be adminiſtered that afternoon. If this perſon had been of a temperate life, and been let blood when he ſent for the firſt Emplaſter, this Tumour might have been happily repelled; but it was now too late to diſcuſs it: yet I repeated the application of that Cataplaſm till I ſaw it more collected, and then I haſtened Suppuration by one of the milder Suppuratives; by the uſe of which the Tumour was more collected, and raiſed into a Cone; and by its pale colour and thinneſs of the ſkin, gave an aſſurance of a perfect Suppuration. Then I applied ſome of the milder Cauſtic, with a ſimple Diachylon Plaiſter over it, and the Cataplaſm over all. The next day I took off the dreſſings, with deſign to divide the Eſcar; but it was done to my hands, and a large quantity of well-digeſted Matter was diſcharged. I fomented the *Abſceſs* with a Stuph wrung out of Milk, and dreſſed the Eſcar with a Pledgit of Baſilicon, dipt in Oil of Roſes; and continued the application of the Cataplaſm. Thus in few days the Swelling aſſwaged, and the Eſcar ſeparated. I then endeavoured Deterſion with Paracelſus's Mundificative; but the *Abſceſs* being large, and the Suppuration in the middle, and the part not very capable of Bandage, there remained a large hollowneſs, which put me upon a neceſſity of laying it more open, for the ſpeedy effecting the cure, which I did with a pair of Probe-ſciſſars. This work is neceſſary in ſuch large Phlegmons; and therefore it is, I ſuppoſe, that Sennertus places his chapter of Sinuſſes next to that of a Phlegmon. After I had made this Inciſion, I dreſſed it with the Digeſtive of Turpentine with the Yolk of an Egg, *&c.* and having digeſted it, I incarned, by adding Powders of Orrice and round Birthworth roots, and Sarcocolla, *&c.* to the Digeſtive; and by the help of the Vitriol and Alum ſtones, Ointment of Tutty, and Plaiſter of Chalcities, I cicatrized it. *Wiſeman.*

I was ſent for to a gentleman about thirty-ſix years old, much emaciated, and of a very ill Habit of Body; he was diſeaſed with a painful Tumour on the left ſide of the Anus, reaching from the Os Coccygis to the Perinæum, of a dark-red colour, hard in the circumference, but along the Verge of the Anus it felt ſoft; it ſeemed to ariſe from under the Anus, and to be an ill-conditioned Tumour. I applied a Cauſtic upon the ſoft part, according to the length of it, near the Anus; and ſome hours after divided the Eſcar, and gave vent to a fetid brown Matter. I dreſſed the Eſcar with Baſilicon and Oil of Turpentine, and applied a Cataplaſm over it, of Bean-meal, Powders of Linſeed and Fœnugreek, Chamomile flowers, Elder and red Roſes, decocted in Oxymel; as the Eſcar ſeparated, the Ulcer ſhewed itſelf putrid. I fomented it with a Lye, wherein good ſtore of Wormwood had been boiled, and dreſſed the Ulcer with Paracelſus's Mundificative, with red Precipitate, and Alum, and the Eſcar with Lenients, *&c.* as before.

This patient had laboured ſome weeks with a Diarrhæa, which after the Eſcar was ſeparated, flowed into the Ulcer, and much diſturbed our cure; therefore I cauſed an Injection to be made of a Decoction of Wormwood, St. John's Wort, Scordium, Centaury, *&c.* to which I added Spirits of Wine, Honey of Roſes, and Ægyptian Ointment: and, that the Excrements or Sordes might not be retained, and render the Ulcer more ſinuous, I cut it open the whole length above and below, and filled it up with red Precipitate, with the Mundificative upon Doſſils, and with Plaiſter and Bandage retained them on. Then preſcribed him a Decoction of Sarſaparilla, *&c.* alſo an Electuary of Conſerve of red Roſes, Diaſcordium, and toaſted Rhubarb, *&c.* which he took once in four hours, and thereby ſtopped his Looſeneſs. The Ulcer not deterging with the former applications, I dreſſed it with Ardens Powder; and defended the Lips with Baſilicon, and a Plaiſter of Bole over all. Thus, in two or three dreſſings, I conſumed the Foulneſs; then dreſſed it with Paracelſus's Mundificative and Precipitate; and applied Stuphs of Tow over it, preſt out of red Wine, wherein had been infuſed red Roſe flowers, Balauſtins, *&c.* and afterwards preſcribed him the taking of Calomel, a ſcruple, every other night. Thus the Ulcer deterged. I incarned it with Powders of Aloes, Blood-ſtone, Myrrh, Sarcocol, round Birthwort roots, Orris roots, and Lapis Calaminaris, made up into the form of an Ointment with Honey of Roſes. While this was incarning, and in ſome parts cicatrized, a Sinus appeared, running under the Verge of the Anus about half an inch. I applied a Tent, armed with Paracelſus's Mundificative; and after it was deterged, left out the Tent, and it cured. But then a ſmall Sinus diſcovered itſelf on the other ſide of the Anus: Upon ſight thereof, leſt more miſchief ſhould fall upon thoſe weak parts, whilſt I attended the cure of that ſinuous Ulcer under the Anus, I dilated it, and ſnipt it open with a pair of Probe-ſciſſars, into that great Sinus; and from that time the Ulcer cured, and I thought my work had been done; but, within a few days after, another Sinus appeared near the Verge of the Anus, on that ſide where the former was. It much diſcouraged the patient; but it lying ſo convenient for diſcharge of the peccant Matter, I continued it to further conſideration, it proceeding from the meer weakneſs of the part. I adviſed the keeping it clean, and to wear a dry Pledgit of Tow over it. It was kept with much eaſe, and the patient enjoyed his health very well many years; and at length it cured of itſelf. *Wiſeman.*

As Phlegmons are ſubject to Mortification through unſeaſonable application of Medicaments in time of their ſtate; ſo alſo, in fat Bodies, they are apt to gangrene after opening, if that Fat be not ſpeedily digeſted out. Thus it happened to a perſon labouring with a Phlegmon on the Os Sacrum. After the Diſcharge of Matter, the Ulcer became crude and gangrened. Another chirurgeon was conſulted, who ſcarified the *Abſceſs*, and by his warm applications, ſuppoſed he had extinguiſhed the Mortification; but it appearing otherwiſe, I was fetched, and ſaw the Lips and parts within gangrened and gleeting. We ſcarified the Lips; but finding them to be gangrened more within than without, we pared them off round, then ſcarified the *Abſceſs* within, and cut out the putrefied Fat, and with an armed Probe, dipt in Oil of Cloves hot, cleanſed the *Abſceſs*, and filled the Scarifications with red Precipitate. We then dreſſed up the *Abſceſs* with a Mixture of Baſilicon and Oil of Turpentine, and applied Cataplaſms and Fomentations, as is uſual in ſuch caſes. The next day we came, provided with actual Cauteries, but found the *Abſceſs* warm, and diſpoſing to Digeſtion in the Lips and fleſhy parts; and from that time it digeſted well. But in the Baſis of the Ulcer, where the Mortification had reached to the Perioſtium, the Slough ſeparated more ſlowly; but by the warm application of Lenients, it came off, and the Ulcer happily incarned. *Wiſeman.*

An Abscess of the Anus.

After an Inflammation, ſometimes there happens an *Abſceſs* about the Anus; in which caſe the Putrefaction uſually extends itſelf all around, becauſe of the abounding Heat and Humidity of the parts. Whence the ſurgeon is under a neceſſity of uſing Reſection, and the operation is ſubject to be ſucceeded by a Fiſtula. Wherefore, tho' in ſimple *Abſceſſes* the cure be eaſy enough, yet, when the Diſeaſe is great, and an Amputation made round the Anus, while we endeavour to cicatrize the Wound, there uſually happens a Conſtriction of the circumjacent parts, and an Obturation of the Paſſage of the Anus. For this reaſon it will be proper, when we undertake the cure, to put ſome Lint, firſt moiſtened with Tetrapharmacum, or ſome other fit Solution, into the Fundament; and while the cure proceeds, it will be no leſs proper to put up a convenient Tin Cannula into the Paſſage, which muſt be ſlender, round, and poliſhed in the part that enters; but wide and ſpreading in the reſt, and be bored quite through for the Flatus to paſs that way. This Pipe may be ſmeared with ſome healing Medicine, or Samian Earth and Wine, or with Ceruſs; and let a Bolſter or ſome Wool be applied to the place, and a proper Bandage be made. The Pipe muſt not be taken out till the cure is perfected. *Aetius*, *Tetr.* iv. *ſerm.* 2. *cap.* 9. From *Leonidas.*

Abscesses in the Lower Extremities.

Abſceſſes in the Thighs and Legs happen often; and if they are only Terminations of inflammatory Tumours in good Habits of Body, yield to the common methods of cure.

But if from the Criſis of a Fever, they often degenerate into ſinuous Ulcers with Caries of the Bones.

They are oftentimes Strumous, and muſt be treated accordingly. See Struma.

Theſe *Abſceſſes* often run into Sinuſſes the whole length of the Limb; when it ſo happens it is by no means adviſeable to lay the Sinus open as far, but to make Perforations or Orifices by Knife or Cauſtic at proper diſtances, when the Matter being let out the other parts will heal with good Compreſs and Rolling.

The laced Stocking is of great uſe in theſe *Abſceſſes*.

In the year 1652 paſſing from Cheſhire into the County of Rutland, taking North Luffenham in my way to London, I was deſired there to viſit a Freeholder, who had laboured under a Fever, and had been long bed-rid by reaſon of a grievous pain in his Thigh, which was ſuppoſed the Criſis of that Fever. I ſaw him much emaciated, and his pained Thigh was ſomewhat the bigger of the two, but it retained its ſhape without any viſible Tumour, Inflammation or Hardneſs; nor was the Fluctuation ſo diſtinguiſhable as that I could poſitively ſay there was Matter, it lying ſo deep and equally in the outſide of it; but, ſuſpecting Matter, I opened it on the outſide according to the length of the Member, and feeling my Knife in the cavity, I made the apertion large, and diſcharged a putrid Matter like the Lees of Beer. After I had diſcharged a porringer full, I dreſſed the Opening with Baſilicon upon a Tent, with an Emplaſter of red Lead over it, and with Compreſs and Bandage rolled it up. The next day finding the patient relieved, and the Matter plentifully diſcharged, I fomented the Tumour with a Decoction of Wormwood, Chamomile Flowers, red Roſes, and ſuch like; and making a ſearch with my Probe, found the Bone bare a great length. I enlarged the Opening to make more way for the Matter; and the better to apply my Medicines to the Bone, then dreſſed it up as before, and againſt the next day made an Injection of the tops of St. John's Wort, Centaury, Roots of the greater Comfrey, Biſtort, Tormentil, Gentian and Orris; to which ſtrained liquor I added Syrup of Roſes, and caſt ſome of it daily in, warm, to deterge the Ulcer. His body was kept ſoluble by Clyſters of Milk and Sugar, and his ſpirits relieved by a morſel of London Treacle with Conſerve of Wood-Sorrel. I alſo ordered him a Julap made with a few Strawberry leaves and roots, a little Ivory and a Cruſt of Bread, infuſed a ſtick of Cinnamon in the ſtrained Decoction, put in a few drops of Spirit of Sulphur, and ſweetened it with Sugar. His Diet was Oatmeal Caudle, Broth, Grewels and Figs; and as his appetite increaſed we allowed him a more liberal Diet. Although the Opening was large, and the Thigh very bare of Fleſh, yet by reaſon of the diſtance the Bone lay from the Opening, and the hollowneſs of the Ulcer, it was not poſſible to make any applications to the Bone by Medicaments to exfoliate it, that ſhould not be offenſive to the Ulcer, if they were ſo powerfully drying as the Bone required. Therefore I cauſed an actual Cautery to be made at the next ſmith's, and dried the Bone that way, and the while continued the aboveſaid method of dreſſing, keeping the Orifice moderately dilated with Doſſils preſſed out of the Injection; then by good Compreſs and Bandage, ſqueezed out the Matter, inſomuch as it leſſened daily, the more remote cavities agglutinated, and the Ulcer was like to cure if the Caries in the Bone did not obſtruct it. That it might not, I got the Cautery made in the form of a wedge, but thicker, to retain heat; and having fitted it with a Cannula, placed it upon the Bone according to the length of the Caries, paſſed the Cautery through it to the Bone, and repeated it again and again, cooling the Cannula each time in a diſh of water near me; then I covered the Bone, and dreſſed the Opening with Doſſils dipt in a Mucilage of Barley and Comfrey Roots, faſtning a thread to thoſe Doſſils which I conveyed firſt in towards the Bone, the better to bring them out again, and applied Galen's cooling Ointment outward upon the Ulcer, with a Plaiſter of Galen's Cerate over all. This way of dreſſing I continued daily till the Excoriation was healed without; then I repeated the uſe of the former Injection, adding red Roſe flowers, Balauſtians, and Sumach, with a little Alum, and by Compreſs and Bandage haſtned the Union of it within, leaving the Exfoliation of the Bone to Nature. While I ſtaid in that country, the Cavity filled up, and by the well digeſted and little Matter the Ulcer ſeemed near cured; and I was afterwards informed that the patient followed his huſbandry one or two months after. The Exfoliation was here inſenſible, as it moſt frequently happens, the ſcales mouldering away, and diſcharging with the Matter. *Wiſeman.*

Abscesses of the Feet.

Abſceſſes are ſometimes formed in the Feet, and are generally the effects of a bruiſe upon thoſe parts.

Bleeding in the Foot may cauſe an *Abſceſs* by a Nerve or Tendon being pricked in the operation, or by the tranſlation of a Tumour from another part.

But ſtrumous *Abſceſſes* are the moſt dangerous, the Bones ſeldom or never eſcaping free.

Abſceſſes in the Feet are generally very difficult to cure, from their ſituation, as Sinuſſes are perpetually forming in the Interſtices of the Muſcles, and ſometimes cariate the Bones.

In opening theſe *Abſceſſes* the Cauſtic is preferable to the Knife, as there is no danger of wounding either Nerves or Tendons, which by the uſe of the Knife may ſometimes happen, and create exceſſive pain.

The method of curing theſe *Abſceſſes* with all the bad ſymptoms attending, is contained in the following obſervation.

A weak ſickly child, about ten years of age, was recommended to my care by Dr. Mapletoft; ſhe had a ſtrumous Tumour ſuppurated on the right Foot, amongſt the Tendons and Bones leading to the two leſſer Toes. I ſuſpected them corrupted; but there being a neceſſity of opening it, I applied a Cauſtic proportionably, and gave vent to an albuginous Matter, and felt thoſe Bones bare from the Tarſus to the firſt joint of the Toes. I fomented the part affected with a diſcutient Decoction, and dreſſed the Eſcar with Lenients, to haſten ſeparation of the Slough; and as it began to ſeparate, I deterged with red Precipitate and the Vitriol-ſtone, making way through the luxuriant Fleſh to the Caries. Then with Doſſils, dipt in Honey of Roſes and Spirits of Wine, and preſt out, I dreſſed the Bones, and kept the Ulcer ſo dilated, as to ſee the Bones ſo far as they were carious. But in the applying my Doſſils, they preſſing upon the Tendons, rendered the Ulcer painful, and ſubject to great Defluxion of a thin ſerous Matter, and threatened worſe miſchief. To remedy which I cut off thoſe Tendons, dreſſed up the Ulcer with Digeſtives, and applied Refrigerants externally to reſtrain the Fluxion. At the next dreſſing, finding the Tendons contracted, and the Bones more eaſy to come at, and ſeeing the Exfoliation of them by Medicaments like to be a tedious work, the Matter having made its way under them, threatening Apoſtemations in the ſole of the Foot, I reſolved to attempt them by actual Cautery. To which purpoſe I dreſſed them with Doſſils of Lint, to dilate them more for my view; and the next day I burnt them the whole length: Then with my Forceps pinched them to pieces, and pulled thoſe broken bits out; after which I cleanſed the Ulcer, and applied my Doſſils preſſed out of a mucilaginous Decoction between and over the ends of the remaining Bones, dreſſing up the Ulcer with Digeſtives, and applying externally Compreſſes dipt in Vinegar, wherein had been infuſed Salt-petre, Myrrh, &c. over which a laced Sock was put on. Thus I reſtrained the Influx, and preſſed forth the Matter from its ſeveral cavities: yet I was neceſſitated to make afterwards an Apertion through the ſole of the Foot, and to lay open the Ulcer beneath the Ancle, for the readier diſcharge of Matter. I continued the application of Doſſils, preſſed out of Spirits of Wine, to the ends of the Bones, till a Callus thruſt forth, filled up the void ſpace, and ſupplied the want of the Bones. During this work, the patient was afflicted either with a Cough, Looſeneſs, or Vomiting; in all which caſes Dr. Mapletoft aſſiſted with various preſcriptions, and contemperated the acid quality of her Blood; after which, by good nouriſhment, the child recovered her Strength. She being thus, at length, diſpoſed to a fair way of recovery, the Ulcer near cicatrized to the Bones, and there being nothing more to do but to keep it open with dry Doſſils and a Pledgit of Diapompholygos, with the uſual Bandage; I, by degrees, left it to her mother to dreſs, and ſaw the child afterwards upon her Feet; and at length ſhe recovered. And thus, time may be ſaid to contribute much to the cure of this diſeaſe; but without the ſurgeon's careful attendance, they miſerably languiſh, and die: for Amputation, in this diſeaſe, ſignifies little; the Ulcers riſing with Caries in one part, while you are extinguiſhing them in another. *Wiſeman.*

Abscesses in the Heel.

The Heel is ſubject to *Abſceſſes*, but generally they are ſtrumous; yet a prick with a ruſty nail is ſometimes the cauſe.

There requires no more in the cure of theſe than after the opening to keep the Ulcer open with Doſſils, or the Spunge-tent, till we are ſatisfied whether the bone is bare or carious; if it is not, they eaſily incarn and cicatrize by the common applications.

But if it ſhould be carious, there is nothing ſo good as the actual Cautery paſt through a Cannula, which will ſave the trouble of waiting ſome weeks for a Deſquammation by the common methods. By this operation the Caries ſeldom comes off in a ſcale, but moulders and comes away with the Matter inſenſibly. *Wiſeman.*

The Sock with the Roller is of good ſervice in theſe *Abſceſſes* to keep the Dreſſings on.

As moſt *Abſceſſes* in the Joints are ſtrumous, for their cure ſee **Struma.**

ABSCISSIO. Abscission. Ἀποκοπή. This is uſed by phyſicians in many ſenſes, but the moſt common ſignification is to expreſs the dividing any corrupted and uſeleſs part of the Body from the ſound, by a ſharp inſtrument. It is principally applied to ſoft parts of the Body, for in the Bones it is called Amputation, though Abſciſſion is ſometimes applied to ſmall fragments of Bones, which being almoſt divided either by Exfoliation or Fracture, require to be taken away by Abſciſſion, or to be cut off as uſeleſs or pernicious.

It is not confined to corrupted Parts, but is ſometimes apply'd to the ſound, when, by reaſon of its Luxuriancy, it is curtailed. Thus there is ſaid to be an *Abſciſſion* of the Uvula, or Prepuce.

Sometimes *Abſciſſio* ſignifies the ſudden Termination of a Diſeaſe in Death, before it arrives at its declining State.

Abſciſſio alſo ſometimes expreſſes an utter Depravation, or Loſs of the Voice. And in this Senſe *abſciſſa Vox* is uſed by *Celſus*.

ABSCONSIO. It ſignifies a Sinus; but it ſeems to mean a Sinus that is unnatural, and from a morbid Cauſe, whereas Sinus is applied to many natural ſmall Cavities in the Body, but particularly thoſe of the Pudenda, Uterus, and Brain.

ABSINTHITES VINUM. *Dioſcorides*, deſcribes ſeveral Ways of making the *Vinum Abſinthites*. The beſt Way, in the Opinion of *Fuchius*, is to bruiſe an Ounce of the beſt Wormwood, and, tying it up in a thin linnen Rag, infuſe the ſame in nine Gallons of Wine. Then put Muſt [Wine never fermented] to it, and let it work, leaving a Hole open, that it may not burſt the Veſſel.

Dioſcorides, lib. v. cap. 49.

The Virtues of the Vinum Abſinthites.

The *Vinum Abſinthites* is good for the Stomach, excites Urine, accelerates Concoction, relieves ſuch as labour under Diſtempers of the Liver, the Stone, or Yellow Jaundice, removes a Nauſea, and helps Infirmities of the Stomach. It is effectual alſo for an inveterate Diſtenſion of the Hypochondria, and all Inflammations; kills round Worms, reſtores the ſuppreſſed Menſes, and is an Antidote againſt the Poiſon of the white Chamæleon, provided it be drank in a large Quantity, and returned by Vomit.

ABSINTHIUM, WORMWOOD. ['Αψίνθιον, *q. d. unpleaſant*, of α privative, and ψίνθος, which Heſychius interprets τέρψις, *Delectation*; others will have it 'Απίνθιον, *i. e. not portable*, from α privative, and πίνω, *to drink*, on account of its Bitterneſs; others derive it of ἅπτεσθαι, *i. e. to touch* or *handle*, by Antiphraſis, becauſe no Animal touches it, by reaſon of its extreme Bitterneſs.] it is called in *Engliſh* from the *Anglo-Saxon* wyꞃm-ƿyꞃꞇ, *i. e. Wormwood*.

There are ſeveral Sorts of Wormwood uſed in Medicine.

1. *Abſinthium vulgare Offic.* Park 98. Raii Hiſt. 1. 366. Synop. 3. 188. *Abſinthium vulgare majus* J. B. 3. 168. Hiſt. Oxon. 3. 7. *Abſinthium latifolium ſive Ponticum*, Ger. 937. Emac. 1096. *Abſinthium Ponticum ſeu Romanum Officinarum, ſeu Dioſcoridis*, C. B. 135. Tourn. Inſt. 457. Boerh. Ind. A. 126. WORMWOOD. *Dale*.

The Root of Wormwood is thick and woody, divided into ſeveral Branches, enduring many Years, and holding its lower Leaves all the Winter, which are large and winged, divided into ſix, eight, or more Sections, with an odd one at the End, very much cut in, greeniſh above, and white or hoary underneath. In the Summer it ſhooteth out ſeveral woody, ſtriated, hoary Stalks, two or three Feet high, full of a white Pith, having ſeveral leſſer Leaves growing on them; thoſe towards the Top are long, narrow, and very little cut in, having among them long Spikes of ſmall yellowiſh naked Flowers, growing many together, hanging down their Heads, and including very ſmall Seeds. The Leaves and Flowers have a very bitter Taſte, and a ſtrong Smell.

It grows in Lanes by High-ways and in waſte Places, and flowers in July.

This is believed by Gerard, Bauhine, and others, to be the *Abſinthium Ponticum* of the Antients, the beſt Wormwood being ſuppoſed to grow in Pontus, a Country of the Leſſer Aſia. *Dale*.

The Leaves and Tops are uſed, and are accounted good in all Diſorders of the Stomach, as Weakneſs, Loſs of Appetite, Vomiting, and Surfeits: They ſtrengthen the Viſcera, and are of Service in Dropſies, Jaundice, and in Tertian and Quartan Agues, and kill Worms. In all the above-named Caſes, it is given infuſed in Water, Ale, or Wine; a Cataplaſm of the green Leaves, beat up with Hog's-lard, was commended to Mr. Ray, by Dr. Hulſe, as a good External Remedy againſt the Swelling of the Tonſils and the Quinſey. *Miller*.

It is good in long Fevers, is diuretic, and kills Moths. *Dale*.

Eſſential Oil of Wormwood, made into Pills with a Bit of Bread, and given two Hours before Meals, after Faſting a conſiderable Time, is a certain Cure for the Worms. *Boerhaave*.

People in the Country believe Wormwood wore at the Breaſt as a Noſegay, or ſmelled to, has great Efficacy in preſerving from the Infection of the Small-pox, or Meaſles, or any other Contagion; which does not ſeem unlikely.

A Water prepared from freſh Wormwood, by ſeveral Cohobations, is excellent for ſupplying the Place of Bile, aſſiſting the Chylopoietic Organs, killing Worms, and expelling them. *Boerhaave*.

The Virtues of this Herb, ſays Boerhaave, are immortal: for its Juice cures all Sorts of Dropſies, provided there be no Rupture of the Viſcera. An Ounce thereof, extracted out of the green Leaves, is of great Service to ſuch as labour under a Languor. A Conſerve is alſo made of the tender Tops of the Leaves, which is called *the Father of the Stomach*; it is of excellent Uſe where the Stomach is clogged with Phlegm and unactive Bile, but of none at all in a hot Diſtemperature. An Infuſion of the Leaves in Wine is good againſt Worms. The Herb is effectual againſt a Quartan, and in the Scurvy; in ſuch Caſes I take the Tops of the Branches, and pulveriſe them, and preſcribe the Powder in the Morning faſting. 'Tis an excellent Remedy for the Poor, but the Rich require a more ſpecious Medicine. The Surgeons are alſo much obliged to this Herb. If a Part begins to putrefy, and a Gangrene approaches, let it be wrapped up in the Leaves contuſed with Wine or Vinegar, and a little Salt, and I dare warrant the Patient's Security.

Of the Leaves of this Plant, burnt in a cloſe Fire, a Salt is made, in Tachenius's Way, of great Efficacy; but thoſe made by burning in an open Fire are not ſo good. See SALES TACHENIANI. Of this Herb is alſo made the *Vinum Abſinthites*, which is always proper where the Bile fails in cold Diſtempers. It reſtores loſt Appetite, where there is a cold Cauſe; but it has one Fault, that, if taken in too great a Quantity, it weakens the Sight, becauſe of its drying Quality. It is very proper in Obſtructions of the Menſes, and Retention of Urine, and is a Sudorific in Intermittent Fevers, and the Scurvy. It is an Anticolic, and, by its ſtrong Smell, is ſaid to provoke Sleep; it quickens the Hearing.

2. *Abſinthium Romanum, Offic. Abſinthium Ponticum ſive Romanum vulgare*, Park. 98. Raii Hiſt. 367. *Abſinthium tenuifolium Ponticum Galeni*, Ger. 937. Emac. 1096. *Abſinthium Ponticum tenuifolium incanum*, C. B. 138. Tourn. Inſt. 457. Boerh. Ind. A. 126. *Abſinthium Ponticum vulgare, folio inferiùs albo*, J. B. 3. 175. Hiſt. Oxon. 3. 8. ROMAN WORMWOOD. *Dale*.

This Wormwood is a much leſſer Plant than the former, the Leaves a great deal ſmaller and finer, the Sections narrower and ſlenderer, hoary and white both above and underneath. The Leaves that grow on the upper Part of the Branches are long, narrow, and undivided; its Flowers are numerous, growing on the Tops of the Branches, as the former, of a darker Colour, and is in all Reſpects a more neat and elegant Plant. It has neither ſo ſtrong a Smell, nor ſo bitter a Taſte, as the common Wormwood. It grows with us only in Gardens, being natural only to warm Climates. It flowers in July.

This Wormwood is of the Nature of the common, but its Virtues weaker; it is uſeful, however, in Diſorders of the Stomach and Liver. Mathiolus writes, that he knew ſeveral Perſons in a deplorable Condition by the Dropſy, that were cured by the conſtant Uſe of the Conſerve of the Leaves of this Plant; and indeed, this is the Roman Wormwood, that the Apothecaries ought to make their Conſerve of; whereas they altogether make it of the Sea Wormwood, becauſe more pleaſant and palatable. *Dale, Miller*.

3. *Abſinthium Alpinum*, Cod. Med. 2. *Abſinthium Alpinum candidum humile*, C. B. Pin. 339. Prod. 71. Tourn. Inſt. 458. MOUNTAIN WORMWOOD.

It grows in the Mountains of Savoy, and agrees in Virtues with the preceding.

4. *Abſinthium Ponticum Antiquorum; an Abſinthium Orientale fruticoſum, incanum, amplo folio tenuiſſimo diviſum*, Tourn. Cor. 33? Boerh. Ind. 126. PONTICK WORMWOOD.

Dale thinks this the Sort of Wormwood mentioned by Tournefort, as the *Abſinthium Ponticum* of the Antients, which, according to him, was not known to the Moderns, tho' it has flouriſhed for twenty Years in the Royal Garden at Paris.

5. *Abſinthium Seriphium, Offic. Abſinthium marinum album*, Ger. 940. Emac. 1099. Raii Hiſt. 1. 370. Synop. 3. 188. Boerh. Ind. A. 126. *Abſinthium Seriphium ſive marinum Anglicum*, Park. 102. *Abſinthium Seriphium Belgicum*, C. B. 139. J. B. 3. 178. Hiſt. Oxon. 3. 9. Tourn. Inſt. 458. See WORMWOOD.

This Wormwood is uſually about two or three Feet high, with many winged Leaves, leſſer and much finer than common Wormwood, very white, and hoary all over both Leaves and Branches. Its Scent is much like Southernwood; and it has but little Bitterneſs in Taſte, but is ſomewhat ſaltiſh. The Flowers are ſmall and naked as the former Kinds, and the Time of flowering is the ſame. It grows abundantly in all our ſalt Marſhes.

The Leaves and Tops are uſed, and this is the Roman Wormwood that is in Uſe in the Shops, and has been ſo for this hundred Years, if not much longer. Parkinſon complaining in his Time, that the Phyſicians and Apothecaries made Uſe of it inſtead of the former, though it came far ſhort of it in Virtue, and Dioſcorides and Galen affirmed that Seriphium was hurtful to the Stomach.

6. *Abſinthium Seriphium Gallicum, Offic.* C. B. Pin. 139. Tourn. Inſt. 458. Elem. Bot. 363. Hiſt. Oxon. 3. 9. Magnot. Bot. 1. Chomel. 431. *Abſinthium Seriphium tenuifolium marinum Narbonenſe*, J. B. 3. 177. Chab. 373. Raii Synop. 3. 189. *Abſinthium Seriphium Narbonenſe*, Park. Theat. 102. Raii Hiſt. 1. 370. *Abſinthium minus tenuifolium alte inciſis foliis, cinereum, ſalſum, Hiſpanicum*, Barr. Obſ. 1008. Icon. 460. FRENCH SEA WORMWOOD.

It grows on the Sea Coaſts of England and Narbonne. The Virtues are the ſame as the other Sea Wormwoods. *Dale*.

7. *Abſinthium Santonicum, Offic. Abſinthium Santonicum Gallicum*, C. B. 139. Tourn. Inſt. 458. Magnol. Bot. App. 289. Hort. Monſp. 2. FRENCH WORMSEED.

It is found in Narbonne, growing with the Seriphium Gallicum above-mentioned, and is of the ſame Virtues.

8. *Santonicum & Semen Sanctum*, *Offic. Sementina*, Ger. 941. Emac. 1100. *Abſinthium Santonicum Alexandrinum*, *ſive Sementina & Semen Sanctum*, Park. 102. *Lumbricorum Semen vulgare & Mattioli*, J. B. 3. 180. WORMSEED.

The Seed is in Uſe.

It is imported from Alexandria. The Seeds are ſmall, oblong, yellow, of an acrid Bitter, and diſagreeable Smell. They ſeem to be formed of ſmall Scales incloſing each other.

Theſe Seeds are in great Reputation for their Virtues in killing Worms. *Dale.* See SANTONICUM.

9. *Abſinthium Santonicum Judaicum*, C. B. Pin. 139. Raii Hiſt. 1. 369. Chomel. 445. Hiſt. Oxon. 3. 8. *Lumbricorum Semen Rauwolfii*, J. B. 3. 180. *Lumbricorum Semen*, *ſive Abſinthium Santonicum Rauwolfii*, Chab. 375. *Scheba Arabum.* ARABIAN WORMSEED.

It is brought from Judæa to Alexandria. *Dale.*

Botaniſts are not agreed about the Plant which produces the Wormſeed. Some are of Opinion that it is the Seed of Zedoary, which is not likely, becauſe theſe are round and of a dark Colour, and incloſed in a tricapſular Veſſel, whereas Wormſeed has none of theſe Marks.

Others, amongſt which is C. Bauhine, affirm, that this Seed is the Product of a Sort of Wormwood, to which Dale aſſents; but will not determine abſolutely, whether it is a Species of Wormwood or Abrotanum.

Rauwolfius ſays, it grows in Paleſtine about Bethlehem.

Miller is of Opinion, that what we call Wormſeed, is only the young Bud of the Flower of a Species of Abrotanum. See SANTONICUM.

10. *Santonicum viride*, *Offic. Choccan*, *Pomet.* GREEN WORMSEED.

It is like the above-mentioned Wormſeed, but is larger, and of a green Colour, inclining to a yellow.

The Virtues are the ſame as thoſe of the other Wormſeeds.

Pomet ſays, they were firſt brought to Paris from Turkey. *Dale.*

11. *Heliochryſum*, Offic. Chab. 369. *Heliochryſon*, Park. Parad. 374. *Heliochryſum quorundam*, *foliis Abrotani*, J. B. 3. 150. *Eliochryſon foliis Abrotani*, C. B. 264. *Coma Aurea*, *ſive Heliochryſon*, Ger. 520. Emac. 645. *Abſinthium tenuifolium corymbis æqualibus ſeu compactis*, Hiſt. Oxon. 3. 8. *Abſinthium corymbiferum annuum*, Elem. Bot. 363. Tourn. Inſt. 458. GOLDEN CUDWEED.

It is cultivated in Gardens, and flowers in July.

The Herb is in Uſe.

It is recommended againſt the Bites of Serpents, and in Pains of the Hips and Stranguries. It is ſaid to provoke the Menſes, diſſolve concreted Blood, and ſtop Catarrhs. *Dale.*

Miller in all makes thirty two Sorts of Wormwood, but we have no Account of the medicinal Virtues of any but thoſe already ſpecified.

It is much to be lamented, that the Moderns, who have been very diligent in regulating Plants, and reducing them to Method, ſhould have contented themſelves with rendering Botany in ſome Meaſure a barren Science. In all the Volumes that have been wrote of late Years on this Subject, we meet with very few Accounts of the Virtues of Plants which were not taken Notice of by the Antients. The uſual Way has been to tranſcribe what they found in the Writings of their Predeceſſors, being very little ſollicitous whether the Virtues attributed to Plants were real or imaginary. If, inſtead of this, they had employ'd their Induſtry in confirming the true Virtues of Plants as ſpecified by the Antients, rejecting thoſe Accounts which are fabulous, or introduced by Error or Caprice, and diſcovering other Virtues as yet concealed, the Art of Healing had by this Time been brought to a Degree of Perfection which at preſent we have no great Reaſon to boaſt of.

The following Extracts of Dioſcorides, Pliny, and Galen, in Regard to the medicinal Virtues of Wormwood, compared with thoſe mentioned above, will ſhew how little has been added to what theſe Authors were acquainted with.

From GALEN, quoted by *Fucius.*

Wormwood has at once an aſtringent, bitter, and acrimonious Quality, both warming and cleanſing, ſtrengthening and drying. For this Reaſon it purges the Belly of bilious Humours, both by Stool and Urine; but is moſt effectual in clearing the Veins of Bile, and carrying it off by Urine. Wherefore it is of no Efficacy againſt Phlegmatic Humours in the Belly, nor operates at all upon Phlegm in the Breaſt and Lungs; for its aſtringent Faculty is more powerful than the bitter.

From PLINY.

Wormwood corroborates the Stomach, for which Reaſon its bitter Flavour is communicated to Wines. A Decoction of it in Water is alſo drank, to make which, Take about half an Ounce of the Leaves with their Stalks, and boil them in three Pints of Rain-water, putting in ſome Salt, and let the Decoction ſtand a Day and a Night in the open Air. The Herb, they ſay, is ſeldom bruiſed, nor is the Juice of it much in Uſe; but an Infuſion of it is uſually drank. The Juice of Wormwood is hurtful to the Stomach and Head, whereas the Decoction, they ſay, is very wholeſome, for it ſtrengthens the Stomach, and expells Bile, excites Urine, lubricates the Paſſages, eaſes Pain, and kills Worms in the Belly. Mixed with a little Hartwort and Gallic Nard, with ſome Vinegar, it removes a Nauſea, and diſcuſſes Inflations of the Stomach; creates an Appetite, and helps Concoction. Mixed with Rue, Pepper, and Salt, it corrects Crudities. The Antients preſcribed it as an Ingredient in a Purge, together with a Pint of Sea-water that had ſtood a long Time, half an Ounce of the Seeds, a Quarter of an Ounce of Salt, and a Glaſs of Honey. It works better with double the Quantity of Salt. Some give the aforeſaid Quantity in an Electuary with an Addition of Pennyroyal. Some uſe it for the Palſy; others give their Children the Leaves in Figs, to conceal its Bitterneſs. Taken with Orris, it gently purges the Breaſt. For the Yellow Jaundice it is infuſed green with Parſley or Maidenhair. Againſt Inflations the Decoction in Water is ſupped hot. In Diſtempers of the Liver it is uſed with Mountain Spikenard. In Diſorders of the Spleen it is adminiſtered in Vinegar, Barley-water, or a Fig. For watery Eyes it is applied in a Cataplaſm with new Wine; for Eyes that have received Blows, it is applied with Honey. Three or four Stalks, with a Root of Mountain Spikenard, infuſed in half a Pint of Water, provoke Urine and the Menſes; and the latter, if mixed with Honey and made into a Peſſary with Wool, and applied to the Pudenda. It cures green Wounds, if laid on them before they are waſhed; as alſo ſcald Heads, and the Itch. It is not to be given in Fevers. It prevents Sea-ſickneſs, if drank. Worn in an Apron, it diſcuſſes Tumours of the Groins. The Smell of it inclines to Sleep; or, if it be privately laid under your Pillow, it works the ſame Effect. The Aſhes of Wormwood mixed with Ointment and Oil of Roſes turn the Hair black. The Sea Wormwood, by ſome called Seriphiun, is hurtful to the Stomach, looſens the Belly, and kills Worms in the Bowels. They boil a Handful of the Herb in a Pint of Water till half be waſted, and ſo in Proportion.

The dried Branches of Wormwood, laid in Granaries, are ſaid to drive away Inſects, and prevent their deſtroying the Corn. *Geoponica.*

Wormwood is pernicious to Bees. *Geoponica.*

A Decoction of Wormwood is much recommended by Heiſter for ſtopping a Gangrene.

DIOSCORIDES, Liber 3. Cap. 26.

Wormwood, called alſo Bathypicron, is a well known Herb. The beſt is that which grows in Pontus, and in Cappadocia on a Mountain called Taurus. It is of a warming, aſtringent Nature, promotes Digeſtion, and purges the Stomach and Inteſtines of bilious Concretions adhering to them. It alſo provokes Urine, and is a Preſervative againſt Surfeits. It is good likewiſe againſt Inflations, and, if it be drank with Hartwort or Mountain Spikenard, eaſes Pains in the Stomach or Belly. A Quarter of a Pint of the Infuſion or Decoction of it, taken every Day, removes a Nauſea, and cures the Yellow Jaundice. If drank, or outwardly applied with Honey, it brings down the Menſes. Taken in Vinegar, it helps Oppreſſions from eating of Muſhrooms; and in Wine is an Antidote againſt the Poyſon of the white Chamæleon, and Hemlock, and the venomous Bite of the Shrew-mouſe, and Sea-dragon. Made into an Ointment with Honey and Nitre, it helps the Quinſey, and ſteeped in Water cures the Puſtules called Epinyctides. Applied with Honey, it heals a black Eye, ſharpens a dim Sight, and helps the Running of the Ears. The hot Vapour of the Decoction eaſes Pains of the Teeth and Ears. Boiled in ſweet Wine, it makes a Cataplaſm for Eyes which are very painful. Contuſed with Cyprian Cerate, it is applied to the Hypochondria, and Region of the Liver, when labouring under inveterate Pains and Diſorders; but for Infirmities of the Stomach it is uſed with Cerate of Roſes. Mixed with Figs, Nitre, and Meal of Tares, it relieves hydropical Perſons, and ſuch as are ſubject to Diſorders of the Spleen. They prepare a Wine of it, which they call Abſinthites, eſpecially in Propontis and Thracia, and uſe it for all the Purpoſes aforeſaid, if there be no Fever in the Caſe; they recommend it even in the Heat of Summer, believing it to be a great Preſervative of Health. Wormwood, ſtrewed among Clothes kept in Cheſts, will, they ſay, preſerve them from Moths; and, mixed with Oil, will keep off Gnats from touching the Body. If ſteeped in Ink, it will preſerve ſuch Books as are written with it from being gnawed by Mice. The Juice of the Herb is ſuppoſed to work the ſame Effect, though not fit to be drank, becauſe hurtful to the Stomach, and cauſing Headach. Some adulterate the Juice with Lees of Oil boiled up and mixed with it.

ABSORBENTIA. ABSORBENTS.

Thus all Medicines are called, which have the Power of drying up redundant Humours, whether applied externally to Ulcers, or taken into the Stomach.

The Teſtaceous Powders of all Sorts are *Abſorbents*, and are much recommended by Dr. Harris, in Diſorders of Children eſpecially.

Phyſicians are much divided in their Opinions concerning the Efficacy of this Sort of Medicines. Some extol them as the moſt Sovereign Remedies in almoſt all Diſtempers, whether Acute or Chronical; whilſt there are others, who affirm they are very pernicious, becauſe, if taken in conſiderable Quantities, as they muſt be to have any Effect, they mix with the Mucus of the Stomach and Inteſtines, and, concreting therewith, line the Inteſtinal Tube, or ſome Part of it, with a cruſtaceous Coat, and thereby ſtop up the Orifices of the Lacteals, and of the Excretory Veſſels of the Inteſtines, by this Means both preventing a freſh Supply of Chyle from being carried into the Blood, and a Diſcharge of Redundancies by the uſual and moſt proper Way, that of the Inteſtinal Glands.

Both Parties endeavour to ſupport their Opinions, with that Obſtinacy uſual with thoſe who are jealous of the Honour of their favourite Hypotheſis; but, what is more unfortunate for thoſe who deſire to be informed of the Truth, both alſo appeal to Experience, the only Thing that can decide the Controverſy.

The real Fact ſeems to be thus:

When the Body labours under any Diſtemper, either Acute or Chronical, the Stomach is either more or leſs impaired, and conſequently incapable of reducing the Aliment to that exact Neutrality, which is neceſſary for the Formation of a ſoft mild Chyle. Hence the Aliment, taken into the Stomach, will putrefy much in the ſame Manner, that it would have done out of the Stomach in an equal Heat, and the Putrefaction will be either alcaline or acid, according to the Nature of the Food taken in. Thus, if the Food is Animal, the Putrefaction will be alcaline, like that of Carrion; but if of aceſcent vegetable Juices, or of Milk, it will be acid, or ſour. By Aceſcent Vegetables, I mean thoſe that grow ſour out of the Body, when they putrefy. Now when either of theſe Putrefactions happen in the Stomach, the putrified Juices grow acrimonious, and their Salts, ſtimulating the Nervous Fibres of the Stomach, produce new Symptoms, and at the ſame Time lay a Foundation for the Increaſe of the original Diſorder. Nor is this all; for the Efficacy of Medicines is hereby either totally deſtroyed, or impaired, before they can reach the Part, where they are intended to have their Effect.

In either of theſe Caſes, that is, either in an alcaline, or acid Putrefaction of the Contents of the Stomach and Inteſtines, Teſtaceous or Abſorbent Medicines ſeem to be of great Uſe. In that which is acid, they are doubly ſerviceable: Firſt, becauſe they are endued with a Specific Virtue, if I may be allowed to call it ſo, of rendering Acids mild. Secondly, by mixing with the acid Juices, and rendering them leſs fluid, they impair their Action, for Salts do not act, unleſs in a State of Fluidity: For this laſt Reaſon, they are alſo ſerviceable in an alcaline State of the Contents of the Stomach and Inteſtines, and, in both Caſes, render the acrimonious Juices inoffenſive, till it is proper to carry them off by Purging.

It is farther to be obſerved, that in all Diſeaſes, whether Acute or Chronical, ſome of the corrupted Juices are perpetually ſeparated, by the Glands of the Stomach and Inteſtines, from the diſordered Maſs of Blood, and depoſited in the reſpective Cavities; and theſe muſt, if left to themſelves, putrefy and become alcaline, in Acute Diſtempers eſpecially, when the Putrefaction is promoted by the Increaſe of Heat. Here again *Abſorbents* muſt be of great Efficacy, for the Reaſons given above, if taken conſtantly at proper Intervals, and in Quantities ſufficient for the Purpoſe.

The Inconvenience, mentioned as an Objection to them, of concreting to the Sides of the Stomach and Inteſtines, is very eaſily remedied, by carrying them off with proper gentle Purges, when they have had their Effect; or, in Chronical Diſorders, by giving them mixed with ſuch ſmall Quantities of purging Ingredients, as to admit of their being frequently repeated.

But I am much miſtaken, if the Efficacy of *Abſorbents*, as they are called, is confined to the Stomach and Inteſtines; for I am firmly of Opinion, that the Saponaceous neutral Juices, which meet in the Stomach, and concur with other Cauſes for the Solution of the Aliment, are capable of diſſolving a Part of theſe Powders, or drawing a Tincture from them, which entering the Lacteals, and getting into the Circulation, becomes a Deobſtruent: But whether they have this Effect by ſtimulating the ſmall Veſſels, and thereby making them contract themſelves, and diſlodge the obſtructing Matter, which adheres to their Sides; or whether they act as Files, and wear away the Obſtructions by Degrees; or, laſtly, whether they mix with the mucilaginous Obſtructions, and, getting into the Pores thereof, leſſen their Coheſion, and render them friable, I will not pretend to determine.

ABSORBENTIA is alſo applied to ſeveral Sorts of Veſſels in the Body; as the Lacteals, which abſorb the Chyle; the Cutaneous Veſſels, which admit a Part of the Water of Baths, or Fomentations, or any Thing elſe that is applied to the Skin; or Veſſels which, opening into any Cavities of the Body, either natural or accidental, take up any Juices that are extravaſated, and convey them again to the circulating Blood.

ABSTEMIUS. ABSTEMIOUS. Caſtellus informs us this ſtrictly ſignifies (ἄοινος) one that abſtains from Wine.

ABSTENTIO. This is uſed by Cælius Aurelianus to expreſs a Suppreſſion, or Retention. Thus *Acut. l.* iii. *cap.* 17. he mentions *Abſtentio Stercorum*, a Retention of the Excrements, as a Symptom very frequent in a Satyriaſis. And, *Acut. l.* 2. *c.* 5. *Abſtentas officiorum naturalium Egeſtiones*, ſignifies the ſame Thing. And again, *Chron. l.* 1. *c.* 5. *Abſtentis denique naturalibus Officiis, impletum Caput magis gravatur.* The Head, already loaded, is more oppreſſed by the Suppreſſion of the natural Evacuations, ſpeaking of a *Mania*.

In a Senſe ſomewhat different, the ſame Author uſes the Word *Abſtenta*, *Acut. l.* 2. *c.* 16. applied to the Pleura: *Hinc denique, quoties Tumore denſatur, Oſſibus vicinantibus Abſtenta ire latius prohibetur.* He ſeems to mean, that the Tumour of the inflamed Pleura is prevented, by the adjacent Bones, from extending itſelf.

ABSTERGENTIA. ABSTERGENTS.

Caſtellus ſeems to think theſe the ſame as *Abluents*, from which they appear to me to differ very much, Abluents being Fluids which can only diſſolve and waſh away Salts, which are diſſolvable in Water; whereas *Abſtergents* are of a Saponaceous Nature, and capable of diſſolving Concretions formed of Earth and Oil, of the Nature of a Reſin, which cannot be diſſolved by ſimple Abluents, or a watery Menſtruum.

ABSTINENTIA. ABSTINENCE, either general, from all Sorts of Aliment, or particular, from ſome Kind of Food.

The Diatritos of the Methodic Sect, whence they acquired the Name of *Diatritarii*, was not the *Abſtinence* of three Days, as is generally ſaid, but the Space of three Days, during which theſe Phyſicians enjoined Abſtinence. See DIATRITOS.

Eraſiſtratus made a ſtrict *Abſtinence* ſupply the Place of Bleeding, in Inflammations and Fevers. *Galen.*

Diodorus Siculus remarks, that *Abſtinence* was much recommended by the antient Ægyptians, as a Cure for Diſtempers.

Abſtinence ſeems to be the very beſt Preſervative of Health for People that lead a ſedentary Life, and, properly managed, will be of great Aſſiſtance to Medicines, in the Cure of Diſtempers both Acute and Chronical.

Beſides the uſual Senſes of *Abſtinentia*, Cælius Aurelianus uſes it to ſignify a Suppreſſion: Thus, *Chron. l.* 2. *c.* 9. *Abſtinentia Hæmorrhoidarum Veterum*, ſignifies a Suppreſſion of habitual Hæmorrhoides, and is mentioned amongſt the Cauſes of ſpontaneous Hæmorrhages. Thus alſo *Abſtinentia Sudoris* ſignifies a Suppreſſion of Sweat, *Acut. l.* 2. *c.* 37. Sometimes, in this Author, it ſignifies a Compreſſion. Thus, *Acut. l.* 3. *c.* 17. *Spiritus ob Abſtinentiam clauſus*, means the Wind ſhut up in the Inteſtines by Compreſſure, thereby cauſing the Iliac Paſſion.

The Verb *Abſtinere* alſo, in the above-mentioned Author, ſignifies frequently to reſtrain, or ſuppreſs.

ABSTRACTITIUS. ABSTRACTITIOUS. Thus the native Spirits of aromatic Vegetables are called, to diſtinguiſh them from Spirits produced by Fermentation. *Caſtellus*, from *Libavius*.

ABSUS. The Ægyptian Lotus, *Raii Hiſt.*

ABVACUATIO, or ABEVACUATIO. Thus N. Leonicenus tranſlates the word ἀποκένωσις. *Caſtellus.* See APOCENOSIS.

ABUNDANTIA. This is uſed to ſignify any Exceſs of Humours of any Kind in the Body.

ABUSUS. An ill Uſe of any Thing: It is frequently applied to the Non-naturals and Medicines by Medicinal Writers.

ABUTIGE. A Town in Ægypt, famous at this Time for producing the very beſt Sort of Opium: It is within the Territories of the antient Thebes. *Schulzius.*

ABUTILON. (The Name is Arabic.) YELLOW MALLOW.

The Character of this Plant.

It hath the whole Appearance of the Mallow, both in Leaves and Flower: The Flower hath a ſingle Cut; the Seeds, which are ſhaped like a Kidney, are each of them lodged in a ſeparate Cell.

ABUTILON, Offic. Elem. Bot. 83. Tourn. Inſt. 99. Boerh. Ind. A. 274. Rupp. Flor. Jan. 31. *Althæa lutea*, Ger. 790. Emac. 935. Raii Hiſt. 1. 699. *Althæa Theophraſti flore luteo*, C. B. Pin. 316. Hiſt. Oxon. 2. 531. *Althæa Theophraſti flore luteo, quibuſdam Abutilon*, J. B. 2. 938. Chab. 302. *Althæa lutea, ſive Abutilon Avicennæ putatum*, Park. Theat. 305. *Alcea Indica, Abutilon dicta major, pericarpio membranaceo, orbiculari, compreſſo, vertice corniculis extus coronato, intus in decem, aut duodecim loculamenta diviſo*, Pluk. Almag. 17. YELLOW MALLOW.

It is cultivated in Gardens, and flowers in July. The Leaves and Seed are in Uſe; the Leaves, externally applied, cleanſe Ulcers; the Seed provokes Urine, and expels the Gravel. The Plant is an Aperient and Vulnerary.

Its Species are thus enumerated by Miller.

1. *Abutilon Dod.* The common Yellow Mallow.
2. *Abutilon Indicum.* J. B. The Indian Yellow Mallow.
3. *Abutilon Carolinianum reptans Alceæ foliis gilvo flore.* Act. Phil. The Carolina Abutilon, with Leaves like the Vervain Mallow.

4. *Abutilon Americanum ampliſſimo folio, caule villoſo*, Plum. The large-leav'd American Abutilon, with woolly Stalks.

5. *Abutilon Americanum, fructu ſubrotundo, pendulo, e capſulis veſicariis criſpis conflato*, Rand. The American Abutilon, with roundiſh pendulous Fruit, whoſe Seed-veſſel is like a ſwelled Bladder.

6. *Abutilon Althæoides, flore carneo, fructu globoſo*, Hort. Elth. p. 1. Abutilon with the Appearance of Althæa, having a fleſh-coloured Flower, and a globular Fruit.

7 *Abutilon Periplocæ acutioris folii, fructu ſtellato*, Hort. Elth. p. 4. Abutilon, with a ſharp-pointed Periploca Leaf, and a ſtarry Fruit.

8. *Abutilon Americanum, folio haſtato, flore amplo purpuro-cæruleo, pediculis longis inſidentibus*, Houſt. American Abutilon, with a ſpear-pointed Leaf, and large purple Flowers, with long Foot-ſtalks.

9. *Abutilon Americanum, flore albido, fructu e capſulis veſicariis plenis conflato, pediculo geniculo*, Martyn. Cent. 1. Pl. 33. American Abutilon, with a whitiſh Flower, a ſmooth ſwelling Seed-veſſel, and a jointed Stalk.

10. *Abutilon Americanum, ribeſis foliis, flore carneo, fructu pentagono aſpero*, Houſt. American Abutilon, with Currant Leaves, a fleſh-coloured Flower, and a rough five-corner'd Fruit.

11. *Abutilon Americanum fruteſcens, folio amplo cordato, ſubtus lanuginoſo, floribus amplis luteis*, Houſt. Shrubby American Abutilon, with a large heart-ſhaped Leaf, woolly on the under Side, and large yellow Flowers.

12. *Abutilon fruticoſum aquaticum, folio cordato ſcabro, flore pallido luteo*, Houſt. Aquatic Abutilon, with a rough heart-ſhaped Leaf, and a pale yellow Flower.

13. *Abutilon Americanum, populi folio leviter ſerrato*, Houſt. American Abutilon, with a Poplar-leaf lightly ſawed on the Edges.

14. *Abutilon Americanum fruticoſum, foliis cordatis, floribus parvis purpuraſcentibus*, Houſt. Shrubby American Abutilon, with heart-ſhaped Leaves, and ſmall purpliſh Flowers.

15. *Abutilon Americanum viſcoſum, Altheæ folio mucronato, flore parvo luteo*, Houſt. American viſcous Abutilon, with pointed Marſh-mallow Leaves, and a ſmall yellow Flower.

16. *Abutilon fruticoſum, foliis ſubrotundis ſerratis, floribus albis pentapetalis, ad alas foliorum conglomeratis.* Sloan Cat. Shrubby American Abutilon, with roundiſh ſerrated Leaves. and white Flowers growing in Cluſters from the Wings of the Leaves.

ABYSSUS. Gulielmus Menens calls by this Name the *Materia prima*, or firſt Matter, of which all Things are formed. *Theatrum Chymicum, p.* 274.

It is alſo uſed by the Chymiſts to expreſs a proper Receptacle for the Seminal Matter, from which all Things are formed. *Caſtellus*, from *Libavius*.

ACAÇALIS. A Shrub, bearing a papilionaceous Flower, and ſiliquous Fruit, called alſo Kirmeſen. *Raii Hiſt.*

It is ſaid to take its Name from the Nymph Acacalis, who was raviſhed by Apollo. *Gorræus*.

Dioſcorides ſays, it is the Fruit of an Egyptian Shrub, like a Tamarisk, the Infuſion of which is mixed with Collyria, to ſharpen the Eye-ſight. *Dioſcorid. l.* 1. *c.* 118.

The Plant is like the *Siliqua Sylveſtris rotundifolia* of C. B. JUDAS'S TREE.

It is a popular Remedy at Conſtantinople for Diſorders of the Eyes. *Raii Hiſt.*

The Pods are in Uſe, and are aſtringent. *Dale.*

Heſychius explains ἀκακαλὶς, the Flower of the Narciſſus.

ACACIA. Egyptian Thorn, or Binding Bean-tree ('Ακακία, of ἀκάζω, *to ſharpen.)*

1. *Acacia*, Offic. Alp. Ægypt. 9. Veſling. Obſ. 6. *Acacia vera*, Schrod. 4. 6. Raii Hiſt. 1. 976. J. B. 1. 9. Tourn. Inſt. 605. Boerh. Ind. A. 2. 56. *Acacia vera*, Chab. 92. *Acacia vera ſive Spina Ægyptiaca*, Park. Theat. 1547. *Acacia Dioſcoridis*, Ger. Emac. 1590. *Acacia vera Ægyptiaca, ſiliquis ſinuoſis, ſive Lupini*, Breyn. Prod. 2. 2. *Acacia Ægyptiaca*, Col. in Rech. 866. *Acacia Ægyptiaca foliis Scorpioidis leguminoſæ, ſiliquis albis, compreſſis, iſthmo interceptis, floribus luteis*, Herm. Cat. Hort. Lugd. Bat. 5. *Acacia vera*, Ger. 1149. *Acacia foliis Scorpioidis leguminoſæ*, C. B. Pin. 392. *Acacia Ægyptia, ſiliquis Lupini, floribus luteis*, Herm. Parad. Bat. Prod. 303. *Acacia vera, ſeu Spina Ægyptiaca, foliis Scorpioidis leguminoſæ floribus luteis, ſiliquis compreſſis Lupini*, Dougl. Ind. 2. *Acacia vera ſeu Ægyptiaca*, Ind. Med. 2. *Acacia vera, ſive Spina Ægyptiaca, ſubrotundis foliis, flore luteo, ſiliquâ brevi, paucioribus, iſthmis glabris & cortice nigricantibus donata*, Pluck. Almag. 3. *Mizquitl ſeu Acacia*, Hern. 59. The EGYPTIAN THORN. *Dale.*

This grows to be a pretty big Tree, though not very tall, ſpreading out into many Branches full of ſharp Thorns, having many large winged Leaves divided into ſeveral pinnated *Surculi*, ſet oppoſite to one another, like Fern, about three Inches long, ſet thick on each ſide with ſlender narrow *Pinnulæ*. The Flowers come forth at the Setting on of the ſmall Branches, on pretty long-footed Stalks, conſiſting of round Cluſters, of whitiſh yellow Filaments, which are ſucceeded by flat Pods, near an Inch broad, and five or ſix Inches long, containing ſeveral flat Lupin-like Seeds, ſeparated from each other by a round ſhort Partition, which makes each Pod appear like a String of flattiſh Beads.

It grows in Ægypt, Arabia, &c. The inſpiſſated Juice, expreſſed from the unripe Fruit, is reddiſh or yellowiſh within, and blackiſh without; of a bitter Taſte, and harſh, with an Aſtringency. Of the Pods, before they are ripe, is made the true *Acacia* of the Ancients, which enters the Compoſition of their Theriaca; and this is meant, when *Acacia* is mentioned alone. *Gummi Arabicum*, or Gum Arabic of the Shops, is thought, by ſome, to be the Gum of this Tree; it is of a white Colour, inclining to yellow, pale and pellucid, of an inſipid Taſte, and viſcous; it exſudes ſpontaneouſly from an Inciſion of the Tree, made on Purpoſe. That is the beſt, which is pellucid like Glaſs, unmixed, and in the Form of ſmall Worms. The Juice refrigerates and dries, conſiſts of groſs Particles, incruſtates, and aſtringes. The Gum heats and moiſtens, inſpiſſates, ſtops the Pores of the Skin, and blunts the Acrimony of Medicines. From its ſoft, glutinous Quality, it is ſerviceable againſt Coughs, Hoarſeneſs, and Diſorders of the Aſpera Arteria, is a proper Ingredient in Applications to the Eyes and Arteries, and is of great Efficacy in the Dyſuria, or Heat of Urine, and the Diabetes. *Dale, Miller.*

Proſper Alpinus tells us, that the Pods are beaten in a Mortar, and the Juice, being preſſed out, is afterwards evaporated by a gentle Heat to a due Conſiſtence. There is what they call the Liquid Juice, and the Dry Juice; the latter is moſt hardened by Evaporation, and is much uſed in dying of Leather.

The ſame Author tells us, that a Clyſter of the Decoction of the green immature Pods, or the Leaves, or Flowers, is very effectual in ſtopping Fluxes of Blood, or any other Humours; and that it is excellent in Uterine Hæmorrhages.

The true *Acacia*, Miller ſays, is rarely to be met with in the Shops, the *Acacia Germanica*, or the inſpiſſated Juice of Sloes, ſupplying its Place.

2. *Acacia Indica Farneſiana*, Ald. 2. Raii Hiſt. 1. 977. Tourn. Inſt. 605. Elm. Bot. 477. Ind. Med. 57. Jonſ. Dendr. 366. Rupp. Flor. Jen. 18. *Acacia Indica ſiliqua tumida tuberoſa*, Breyn. Prod. 2. 2. *Acacia America ſiliquis teretibus ventrioſis, floribus luteis*, Herm. Par. Bat. Prod. 303. Cat. Jam. 152. Hiſt. 2. 56. *Acacia Americana Farneſiana*, Park. Theat. 1547. *Acacia Indica foliis Scorpioidis leguminoſæ ſiliquis fuſcis, teretibus, reſinoſis*, Herm. Hort. Lugd. Bat. 5. Boerh. Ind. B. 2. 56. Volck. Flor. Nor. 4. INDIAN THORN.

It is cultivated in the Gardens of the Curious.

The Gum Arabic, according to ſome, alſo flows from this Tree.

3. *Acacia ſiliquis compreſſis*, Ind. Med. 57. *Gummi Senica*, Offic. *Gummi Senica ſeu Orientalis*, Mont. Exot. 10.

The Gum, called Senegal, in the Index Medicamentorum, is like Gum Arabic, but in greater Lumps; of a rough external Superficies, but clear and tranſparent within, its Colour inclining ſometimes to White, ſometimes to Red, of an inſipid watery Taſte, and viſcous, and of no Smell at all. It is imported from Guinea, and takes its Name, as ſome affirm, from the River Senega. But from what Tree it flows or is extracted, I am at Loſs to gueſs, except it be a Species of *Acacia*, as from its Likeneſs to Gum Arabic, both in outward Form and Virtues, we may reaſonably conclude. The London Apothecaries uſe the whiteſt and pureſt Lumps of this Gum, inſtead of Gum Arabic.

4. *Lycium Indicum*, Offic. *Lycium Indicum putatum Garciæ*, Park. Theat. 1011. *Lycium Garciæ ſive Cate*, J. B. 1. 61. Raii Hiſt. 2. 1628. *Lycium Indicum & Cate*, Chab. 51. *Lycium Ericæ foliis, Cate Garciæ*, Jonſ. Dendr. 268. *Lycium foliis Ericæ*, C. B. Pin. 479. *Arbor Spinoſa, unde Cate ſive Lycium exprimitur*, Bont. 92. INDIAN THORN.

It grows in the Eaſt-Indies. The inſpiſſated Juice is called *Cate*, which ſtrengthens and faſtens the Teeth and Gums. Whether the *Cate* of Bontius, and the *Terra Japonica*, or *Catechu*, be the ſame, is not eaſy for the Learned to determine. From the Nearneſs of the Names *Cate* and *Catechu*, I am inclined to think they are the ſame Thing. But ſince Holbigius affirms, that the *Catechu* is taken from that Tree, whoſe Fruit the Natives eat with Lime and Betel, which, Bontius aſſures us, is the Fruit of the *Areca*, or *Fauſol*, I cannot but give Credit to ſo great a Man, eſpecially, conſidering he lived many Years in that Country. And ſince there is ſo great a Variety, both in the Colour and Weight, of *Terra Japonica*, I don't ſee why they may not be the Product of different Plants, tho' called by the ſame Name.

Dale mentions a fifth Species, from which the Raath or Lycium Indicum is made, from the German Ephemerides, Anno 13. P. 8, 9, 10. T. 1.

ACACIA GERMANICA. This the College directs to be made thus:

> Take of wild Sloes, yet hardly ripe, any Quantity, preſs out their Juice, and in a Bath Heat inſpiſſate it. J. B. *Quincy's London Diſpenſatory.*

Great Care muſt be taken, by continual Agitation, or well Regulating the Fire, to prevent its Burning, which it will be very ſubject to do, before it acquires that Conſiſtence, which will make it prove ſomewhat brittle, as it ought to be in the Cold. *Shaw's Notes to the Edinburgh Diſpenſatory.*

Acacia is extremely rough and aſtringent, and conſequently proper in Hæmorrhages, Diarrhœas, and Dyſenteries.

It is uſed as an Ingredient in Gargles, to brace the Salival Glands, and Uvula, when relaxed, and as a repellent Collyrium in Inflammations of the Eyes. It is uſed in Egypt to ſtrengthen the Gums, and faſten the Teeth. *Geoffroy.*

As *Acacia* is an Aſtringent, it may properly enough be made Uſe of in Medicines deſigned to brace up the Animal Fibres, when in a State of Relaxation. The Doſe of the true *Acacia* is from four Grains to a Dram; that of the *German Acacia*, from ſix Grains to a Dram and half. *Boerhaave.*

It may be properly given in Hæmorrhages, diſſolved in Vinegar and Water. *Cœlius Aurelianus.*

ACACIA FERREA. An Iron Spoon. *Rulandus. Johnſon.*

ACACOS. From α Negative, and κακὸς, bad. It has been applied to Diſtempers which are not attended with Danger by Pechlinus. And to the Aphthæ of Children. *Caſtellus.*

ACADEMIA. There was ſomething very grand in the Imagination of Paracelſus, of which this is an Inſtance. He ſays, he was educated neither at Paris, nor Rome, nor Tholouſe, nor any other ſophiſtical School, but all Nature was his Univerſity, where God manifeſts himſelf all powerful, wiſe, and glorious to thoſe that ſeek him. Hence it was, ſays he, that I learned all I write, and which I know to be true.

ACÆRIA. Unſeaſonableneſs. From α Negative, and καιρὸς, Time.

ACAHI, or ACHAHI. Alum Water. *Rulandus.*

ACAID. Vinegar. *Rulandus. Johnſon.*

ACAJA *Piſonis. Acaja quæ & Nametara Braſilienſibus* Marcgrav. called alſo by Ray, *Prunus Braſilienſis Fructu racemoſo, ligno intus pro Officulo.*

This Tree grows to the Size of a tall Lime. The Bark is rough and of a light Aſh Colour, like Elder. The Leaves are ſmooth, exactly oppoſite to each other, two, three, or four Fingers long, of unequal Sizes, a Finger and half, or two Fingers broad, acuminated, ſhining, and have a broad Nerve running the whole Length of it; not unlike thoſe of the Walnut.

It produces a great Number of Flowers in Cluſters, of a yellowiſh White. Theſe are ſucceeded by yellow Plums, not unlike ours in Figure and Magnitude, with a thin Skin, and of an acid Taſte, containing a large Stone, which conſiſts of woody Filaments, and which is ſoft enough to be eaſily cracked with the Teeth, it incloſes a Kernel of a yellowiſh white Colour.

The Leaves are extremely acid and aſtringent, and are recommended for the Recovery of a loſt Appetite, and to aſſwage Thirſt in Fevers.

Of the young Leaves bruiſed, a very agreeable Sauce is made for roaſted Meats.

The Wood is red and light as a Cork.

The Plums are of a very grateful acid Taſte. When ripe they fall, and ſmell deliciouſly. They are refrigerating and aſtringent, and very good in a Nauſea, and Fever, and much eſteemed for a Dyſentery.

A Wine is made of them, which, when old, will intoxicate.

The Buds and Tops are uſed as Pickles; and theſe, when bruiſed, emit a Froth, which, put into the Eyes, cures Inflammations, clears the Sight, and takes away Specks and Films. At firſt it gives them Pain, but that is very ſoon over.

The Leaves, Buds, Juice, and Bark, are recommended in Gargariſms for Inflammations of the Throat; and in Baths for hot Diſorders of the Feet and other Parts of the Body.

It is upon the Extremities of the Branches of this Tree, that certain Birds, about the Size of a Magpy, adorned with beautiful black, and yellow Feathers, build their Neſts pendulous, that they may be out of the Way of Serpents, and other noxious Inſects. *Raii Hiſtor.*

ACAJAIBA.

Pomifera ſeu potius prunifera Indica nuce reniformi ſummo pomo innaſcente, CAJUM *dicta. Anacardii alia ſpecies* C. B. *Cajum* Ger. Park. J. B. *Acajaiba* Piſonis & Marcgravii. *Kapa Mava* H. M. P. 3. T. 54. p. 65. *Anacardium occidentale Cajou dictum, Officulo reni leporis figura.* Herman. The CAJOU or CASSU TREE. Raii Hiſt. p. 1649.

The Characters.

The Cup of the Flower (which is produced at the Extremity of a Foot-ſtalk) is oblong and quinquefid; the Flower conſiſts of one Leaf, which is divided into five long narrow Segments; in the Bottom of the Calyx is the Ovary, which becomes a ſoft Pear-ſhaped Fruit, upon the Apex of which grows a Veſſel, in which is contained one Kidney-ſhaped Seed.

There is but one Species of this Plant yet known, which is ACAJOU. *Thev. Franc. Antarct.* The CASHEW-NUT.

This Tree is very common in many Parts of America, particularly in Jamaica and Barbadoes, where it grows to be a very large Tree. *Miller.*

It grows every where in Malabar, but is reckoned a Native of Braſil. It bears ripe Fruit every Year in Auguſt and September, and continues fruitful about 30 Years. In Braſil, according to Marcgravius, it begins to bloſſom about the End of Auguſt, and is in full Bloom in September, and produces the greateſt Quantity of ripe Fruit in December and January. It is found alſo in Jamaica.

Of the Juice of the Fruit they make a Drink, which duly fermented inebriates like Wine. The Fruit roaſted far exceeds Cheſnuts, and taſtes as well as Almonds. There is no Biting of the whole Fruit raw, without loſing the Skin off your Jaws by the acrid Juice; therefore it is cut open with a Knife. Swallowed raw, it grates the Throat with its acrid and auſtere Juice; therefore it is cut up into little Balls, which are dipped in Water or Wine, and Salt thrown over them, by which Means their Acrimony is taken off, and they become of a moſt delicious Taſte. They corroborate the Stomach, help Concoction, and ſtop Vomiting and Nauſea. The Indians eat them ſlightly roaſted as a Provocation to Venery. The Juice ſtops a Diarrhœa, and cures a Diabetes. The Nuts will blaze in the Flame.

From the ſweetiſh Liquor contained in the two Shells the Natives extract an Oil, in Uſe with Painters, to give their Colour a laſting Black; the ſame preſerves Wood from Putrefaction. They ſay there is nothing better than this acrid Oil for Tetters, Ringworms, Itch, and to kill Worms, outwardly applied.

The Tree, when wounded, diſtills a pellucid Gum, both in Colour and Conſiſtence like the beſt Gum Arabic. *Marcgrav.*

Query whether the Cattee, or Caſſu, or Catechu, be not made of this Oil.

The Braſilians compute their Years by the Nuts of the *Cajou*, laying up one for every Year.

The Wood is ſerviceable for ſeveral Purpoſes, being of a hard Subſtance. It is not ſubject to Worms, and therefore fit for Shipping.

This Tree is peculiarly remarkable on Account of its Fruit. It might, perhaps, more properly be reckoned among the pruniferous Kind. *Raii Hiſt. Plant.*

ACAJOUANUM LIGNUM.

This is not the Wood of the Tree that bears the Acajou Nuts. It is of a red Colour, and never touched by Worms, which renders it very proper for Furniture; but it is ſeldom uſed in Phyſick. *Geoffroy.*

ACAIROS. Ἄκαιρος. From α Negative, and καιρὸς, Time. Unſeaſonable. It is applied to any Thing that happens at an improper or unuſual Time, or is unlike what ought to happen under the ſame Circumſtances of Time and Place; and in this laſt Senſe ἄκαιρος ἀπόστασις, Hippocrat. Epidem. L. 1. ought to be taken, that is, a crude Hypoſtaſis or Sediment in the Urine, not like what it ought to be in order to conſtitute a favourable Symptom. Thus ἄκαιρα διαχωρήματα, and ἀκαιρότερα διαχωρήματα, and ἄκαιροι ἱδρῶτες, are to be underſtood of Stools and Sweats, which are unſeaſonable, and which bring no Relief. Ἀκαίρως alſo is uſed by Hippocrates to ſignify unſeaſonably, as Epid. L. 1. ου λίην δὲ ἀκαίρως τὰ τῶν ψυχέων. Cold Weather not very unſeaſonable for the Time of the Year. And in the ſame Book, διψώδεες ου λίην ἀκαίρως, not more thirſty than might reaſonably be expected, conſidering the Fever. And Epid. L. 6. Sect. 3. Aph. 28. ſpeaking of the Piles, he ſays, they cauſe many Diſorders there ſpecified, (ἰητευθέντες ἀκαίρως) if unſeaſonably cured. Πόνον ἄκαιρον, de Ratione Victus in Acutis, ſignifies unſeaſonable Exerciſe and Labour, or, as Galen explains it, ſuch as the preſent Condition of the Body cannot ſupport without Inconvenience.

ACAJOU. The Cajou, Caſſu, or Caſhew-Nut.

ACALAI. Salt.

ACALCUM. Tin. *Caſtellus* from *Mullerus.*

ACALEPHE. Ἀκαλήφη, or Ἀκαλύφη, a Nettle. *Gorræus. Foeſius. Conſtantine.*

It ſignifies alſo a certain Fiſh, whoſe Fleſh is very tender, and eaſy of Digeſtion. I take it to be a Shell Fiſh mentioned by Athenæus. It ſignifies alſo a Sea-fowl mentioned by Nicander. And a Sea-animal mentioned by Gellius. They derive it from α Negative, καλὴ, handſome or agreeable, and ἁφὴ, a Touch. Becauſe the Touch, as it hurts, is not agreeable. *Conſtantine.*

ACAMATOS. Ἀκάματος, from α Negative, and κάμνω, to labour. By this Galen means, if I underſtand him, that Poſition of a Limb, which is equally diſtant from Flexion, and Extenſion, which Situation the Part can longeſt bear without Wearineſs. Thus, when we ſleep, the Knees are bent, that neither the Flexors nor Extenſors of the Leg may be upon the Stretch. In like Manner the Arm is generally laid ſpontaneouſly in the moſt eaſy Poſition, or ſuch a one as can be longeſt ſupported without Fatigue. This is when the Arm makes near a right Angle with the Humerus, the Palm is turned inwards, and the Back of the Hand outwards; for then the Flexors and Extenſors, the Pronators and Supinators, are in a middle Situation betwixt Flexion and Extenſion, Pronation and Supination, that is, they act leſs than they would do in any other Poſition.

ACAMECH, or ACEMECH. This both Rulandus and Johnſon explain by Superfluitas Argenti. But whether he means Superfluity of Silver, meaning Money, or the Scoria of the Metal, or a Superfluity of the Humidum radicale in Silver, I cannot determine.

ACANOR. A particular Sort of Chymical Furnace.

ACANTHA. Ἄκανθα. This ſignifies in general any thing that is ſharp-pointed and prickly, as a Thorn, or the Fins of ſome Sorts of Fiſh. Hence it has been applied to the Aſſemblage of the acute Proceſſes of the Vertebræ, each of which is called a ſpinal Apophyſis, or Proceſs. Ἄκανθα λευκὴ, is the Spina Alba, or White Thorn. *Gorræus.*

ACANTHABOLUS. Ἄκανθα, a Thorn, and βάλλω, to caſt, or caſt out.

A Chirurgical Inſtrument deſcribed by Paulus Æginæta, like Tweezers, uſeful in taking away a cariated Piece of Bone that is looſe, or Thorns, or Tents, or any thing extraneous in a Wound; or elſe to pull away Hairs from the Eye-lids, that are troubleſome, and irritate the Eyes, or from the Inſide of the Noſe, or Eye-brows.

There are ſeveral Indentations on each Side of the Chaps, which, anſwering to each other, make it take faſter hold when ſhut.

Scultetus gives a Figure of it, Tab. 4. Fig. 1. In this the Handle is made flat, that upon Occaſion it may ſerve inſtead of a Spatula to ſpread Plaiſters.

ACANTHACEOUS. A Botanical Term applied to Plants of the Thiſtle Kind, which are prickly.

ACANTHALZUCA. The ſame as Echinopus. Glove Thiſtle.

ACANTHICE. Ἀκανθικὴ μαστιχὴ, Gorræus explains this, The Tear which is contained in the Top of the Helxine, which is Pellitory of the Wall, of an agreeable Taſte; but I believe by a double Miſtake, for in the firſt Place it is, according to Theophraſtus, the Product of the Carduus Chamæleon, or Carline Thiſtle; and in the next the Word εὔστομον, which he tranſlates, *of an agreeable Taſte*, ſignifies here, *good for Diſorders of the Mouth. Salmaſius.*

ACANTHIUM. The Cotton Thiſtle. See CARDUUS.

ACANTHIΩN. The Hedge Hog. See ECHINUS. *Gorræus.*

ACANTHUS. [Ἄκανθος, ſo called of ἄκανθα, a Thorn, — the Youth Acanthus, whom the Poets fable to be metamorphoſed into the Flower of this Herb.] This is called Branca Urſina, or Bears-breech.

It is the *Acanthus, Branca urſina, Offic. Acanthus ſativus*, Ger. 986. Emac. 1047. Park. Theat. 992. Raii Hiſt. 2. 1325. *Acanthus ſativus vel mollis Virgilii*, C. B. Pin. 383. Tourn. Inſt. 176. Elem. Bot. 145. Boerh. Ind. C. 238. Hiſt. Oxon. 3. 604. *Acanthus mollis*, Rivin. Irr. M. Tab. 87. *Carduus Acanthus, ſive Branca urſina*, J. B. 3. 75. *Carduus, Acanthus, Branca urſina*, Chab. 350. BRANK URSINE. *Dale.*

The Leaves of the *Acanthus* are of a ſhining, dark, green Colour, about a Foot long, and three or four Inches broad, cut deeply into ſeveral Parts after a neat Manner; ſo that from thoſe Leaves the Antients took the Pattern of the Foliage Work about the Capitals of their Pillars, and the other Parts of their Buildings. From among the Leaves, which lie on the Ground, ariſes a Stalk about two Feet high, and about a Finger thick, ſmooth, round, and bare of Leaves till near the Top, which is compoſed of a Head, or Thyrſus, of white gaping Flowers, ſtanding amongſt ſmall, hard, prickly Leaves, which ſupply the Place of the Calces, and almoſt cover and hide the Acorn like a Seed-veſſel, which is divided by a Partition into two Cells, each containing two Seeds. The Root is long and ſpreading. It is cultivated with us in Gardens, its native Place being Italy, Spain, and the Southern Part of France. It flowers in July and Auguſt.

It is a Plant but ſeldom uſed, and that only in Clyſters and Baths for Obſtructions, and for the Stone and Gravel. The Herb-women ſell the Leaves of Helliboraſter, or Bears-feet, or Sphondylium, or Cow-parſnep, for Bears-breech. *Miller.*

Dale ſays, it provokes Urine, and ſtops a Diarrhæa.

It is endued with an emollient and aperient Virtue. That called *Acanthus Mollis*, in the Shops, is of a very ſoft Nature, ſomewhat ſaponaceous, like the Mallow, and inſipid. Its glutinous and demulcent Juice is an Ingredient in all emollient Clyſters and Cataplaſms. It is excellent for Combuſtions and Laxations, applied in the Manner of a Cataplaſm. The Root is good for ſuch as ſpit Blood after a Bruiſe. *Boerhaave.*

2. *Acanthus Sylveſtris*, Offic. Park. Theat. 992. Ger. 986. *Acanthus Sylveſtris aculeatus*, Ger. Emac. 1047. *Acanthus aculeatus*, C. B. Pin. 383. Raii Hiſt. 2. 1325. Hiſt. Oxon. 3. 624. Boerh. Ind. A. 239. Tourn. Inſt. 176. Elem. Bot. 145. *Acanthus Sylveſtris, ſive Branca urſina ſpinoſa*, J. B. 375. WILD BRANK-URSINE.

It is cultivated in Botanic Gardens, and flowers in July; the Herb is uſed in Phyſick, and hath the ſame Virtues as the former. *Dale.*

To the two Species of *Acanthus*, above-mentioned, Miller adds

Acanthus rarioribus & brevioribus Aculeis munitus, Tourn. The middle Bears-breech with ſhort Spines.

Acanthus Luſitanicus, ampliſſimo folio lucido. The Portugal Bears-breech, with large ſhining Leaves.

Acanthus Orientalis humillimus, Foliis pinnatis aculeatis, Tourn. Cor. Dwarf Eaſtern Bears-breech with prickly winged Leaves.

As the ACANTHUS of the Antients has given the Learned ſome Perplexity, the Curious will not be diſpleaſed at the following Obſervations from Salmaſius, eſpecially as they are of ſome Importance for the diſtinguiſhing juſtly ſome Plants mentioned by the antient Writers on the Materia Medica.

Of the ACANTHUS, a Topiarian [ornamental to a Garden] Plant, and the ACANTHUS of Egypt.

The ACANTHUS is a Plant that ſerves for an Ornament to a Garden. The *Acanthus*, a Tree of Egypt, called by Theophraſtus the *Egyptian Acanthus*, or Thorn of Egypt, is a thorny Tree, which, what I wonder at, was called *Acanthus* by the Latins, a Word ſignifying a Thorn; for ἄκανθος is the ſame as ἀκάνθη. But I more wonder that it has been, by moſt, confounded with the Topiarian *Acanthus*. Iſidorus, from an antient Author, tells us, "that the Myrrh, a Tree of Arabia, "five Cubits high, is like the Thorn which they call *Acanthus*." This is the Egyptian *Acanthos* or *Acanthe*, which Diodorus Siculus and Dioſcorides affirm to be like the Myrrh-Tree. The ſame Iſidore makes the *Acanthus* an Egyptian Plant, an Evergreen, very prickly, and with flexible Twigs; that is, he makes the Topiarian *Acanthus*, and the *Acanthus* that is the Egyptian Tree, to be one and the ſame. The ſame does Servius. But the Egyptian *Acanthos*, which is deſcribed by Theophraſtus, and diſtinguiſhed into two Kinds, is quite another Thing from the *Acanthus* of Virgil, which he reckons among the foreign Trees.

——— *Baccas ſemper frondentis* Acanthi.

The Egyptian *Acanthos* of Theophraſtus has Pods for its Fruit, that of Virgil Berries. The *Acanthus* of Virgil was the Cyrenean Lotos, which Herodotus relates to be like the *Acanthos*, or Egyptian Thorn. Hence the Cyrenean Lotos was called alſo by many *Acanthos* or *Acanthe*, becauſe of its Prickles. This Kind was alſo common in Egypt, as well as in the Cyrenean Territories. Of theſe Thorns is Demetrius in Athenæus to be underſtood, where in his Account of Egypt he writes, "The "Country beyond this produces a Sort of *Acantha*, [Thorn] a "Tree, which bears a round Fruit on twiſted Branches." Hence the Poet calls them Berries, for a Berry is properly a round Fruit. Servius takes Virgil right, when he remarks, that it is plentiful in the Iſland Cercinna, where it is called *Acanthus*, becauſe of its Prickles. It is certain that the Latins called a Gum *Acanthium*, becauſe it was gathered from the Egyptian Thorn; and Pliny calls the Leaves of the Euphorbium *Acanthina*, which, it is certain, were prickly. Virgil's *Acanthus* is the very ſame which the Arabians call Sadar, and its Fruit Nabac. Under this Name Aviſena deſcribed the Tree Lotos of Dioſcorides, and Interpreters ſay it was the Tree Alſadar, which produces the Fruit Nabac. Others interpret it of the Fig-tree, or a great Tree. Serapio alſo calls it Sadar, and quotes the Lotos of Dioſcorides under this Name. It is the ſame which Bellonius in his Obſervations calls Napeca, and, as he ſays, is named by the Greeks Œnopolia, and is an Evergreen. Proſper Alpinus, in his Book of the Egyptian Plants, takes Notice of it by the Name of Nabeca, and ſays it is a thorny Tree, though there is another Kind which is not thorny. Leo Afer, Lib. 3. Cap. de Zarfa, calls it Rabich inſtead of Nabich or Nabac; Thorny Trees whoſe Fruit is called, in the Arabian Tongue, Rabich, being leſs than Cherries, and taſting almoſt like Jujubes. He certainly means the ſame Fruit; but perhaps there is an Error in the Copy, or the Arabians of Barbary call that Rabic which the Eaſtern Arabians named Nabac. That it is the Connarus of Agathocles in Athenæus is plain by the Deſcription; for he furniſhes the Tree with Thorns and every thing elſe that anſwers to the Fruit Nabac. He alſo ſays, that they make Meal of the dried Berries: "The Fruit is "eaten green, and when it is dry they make Meal of it, but do "not knead it into Lumps, nor work it up with Water, when "they have reduced the Berries to Powder, but after an odd "Manner uſe it raw as it comes." This one Thing, Alpinus confeſſes, was his principal Reaſon why he could not believe the Napeca to be the Connarus of Agathocles, *viz.* becauſe he never obſerved in Egypt that they made Meal of it. But certainly he ſtumbled at a Straw; for he might have read that nothing is more frequently mentioned among the more modern Greeks than Meal of Nabac, (ἄλφιτα) that is, of the Nabacine or Lotine Berries, when they are dry, and that, in the lateſt Times, a Meal was made of them for medicinal Purpoſes. That he did not obſerve ſuch a Thing in Egypt in his Time, is but a ſlender Proof that it was never done there. Charito in the Compoſition of a Pulvis Cœliacus, which is alſo good to ſtay Vomiting, "Take, ſays he, the Meal [Alphita] of Nabac, Guberes, Hypocyſtis, Xylonnes, and Suc." Theſe are all of an aſtringent Quality, as the Fruit of the Lotos is known to be. The Guberes are the Guberæ of Aviſena, in Latin, Corna, the Fruit of the Cornel or wild Cherry-tree. The ſame Charito in another Place calls them Gomberes. An old Expoſitor of Arabian Words makes Suc to be the Galia Muſcata. The ſame Charito, in another Place, "[Take] the Meal of Nabac of Bdellium, and Guberes," in a Tro-a Trochiſe, prepared for cœliacal and dyſenterical Patients. The Alphita Nabac is ſaid to be the Savich Alnabach of Aviſena. For Savich or Suich ſignifies Barley bruiſed and roaſted, which the Greeks mean by Ἄλφιτον. This Savich Nabac is a Styptick as well as the Fruit. The Fruit and Stones of the Nabac don't ſeem to Alpinus to agree with the Fruit and Stones of the Connarus; becauſe the Stone of the Nabac is round, but that of the Connarus oblong like an Olive-ſtone. For ſo relates Agathocles in Athenæus, "The Fruit taſtes very "ſweet, is of the Size of a Phaulian Olive, and is like it in Pulp and Stone." He does not ſeem to have conſidered of what Olive Agathocles ſpeaks, who does not compare the Stone of the Connarus to that of an Olive in general, but of a Phaulian Olive, which is a round Olive. Polybius, in his Deſcription of the African Lotos, which is the ſame as the Connarus, makes its Fruit to be "of the Size of a round Olive." Alpinus ſays, the Nabac is thorny like the Acacia. Herodotus ſays the ſame Thing of the Cyrenian Lotos, when he makes it very like the Egyptian Thorn, which is the Acacia of the Moderns.——— This then is the *Acanthus* of Virgil, evergreen, bacciferous, and exotic to Italy. Of the ſame Kind is the African PALIURUS, which Theophraſtus enumerates among the Species of Lotos, and ſays it is fuller of Shoots and Branches than the common Lotos. Athenæus joins the Connarus and Paliurus, and Heſychius ſays, the Connarus is a Tree in Fruit like the Paliurus. Agathocles himſelf ſays, the Connarus has Thorns; and the Paliurus too is thorny, for a Kind of Thorn in Greece is ſo called; and the Polybian Lotos in Athenæus is armed with Prickles, "The Lotos is not a great Tree, but "rough and thorny." He ſpeaks of the Lybian Lotos, which is certainly the ſame which Leo Afer calls Rabich, which is the ſame as Nabac; for N and R are often changed into one another. Among the Species of Lotos reckoned up by Theophraſtus, there are none thorny but the Paliurus, which took its Name from its Likeneſs to the Greek Paliurus. Therefore it cannot be doubted, but the African Paliurus was thorny, and the Arabian Sadar, whoſe Fruit is Nabac. There are two Kinds of it, the Thorny, and the Smooth: The Thorny, it is plain, are the Paliurus, the Connarus, the *Acanthus* of Virgil, and the Ἀκανθὴ Ἀιγυπτία of Demetrius. As to the Lotos Latophagitis of Theophraſtus, it appears by the Deſcription to be the red Jujube. As to the common Lotos, which Pliny relates to have been tranſplanted out of Africa into Italy, but to have degenerated with Change of Soil, it can be no other than the Azadarat of the Herbaliſts, and the * * * * of Aviſen. For there is no Species of Lotos at this Time in Italy, except this which is cultivated for its Shade, being one of the larger Sort of Trees. Aviſena writes, that it is a great Tree, and bears a Fruit like the Nabac. I doubt not but the Antients took it for the Lotos, by which Name they called it, and mean the ſame, when they ſay, the "Lotos is a great Tree, and of a good "Bigneſs." But the true Lotos is not over large, whereas this is tall, and ſpreads extremely; its Leaves ſhading all around, and extending themſelves to the neighbouring Houſes, according to Pliny. The common Lotos went at Rome by the Name of the Grecian and Syrian Bean, and indeed they were very plentiful in thoſe Countries. The other Lotos Pliny calls a tranſmarine Plant, which was quite a Stranger to Italy. The Fruit of this Lotos being no ſmaller than a Cherry, it is ſtrange that Dioſcorides, in making its Bigneſs, ſhould draw his Compariſon from Pepper: "It bears a Fruit, ſays he, bigger than Pepper." This Paſſage can be underſtood in no other Senſe, but that the Lotos bears a Fruit but little bigger than Pepper. It is a Wonder too, that, when there are ſo many Species of Lotos, he mentions but one. But it is a common Thing for him, inconſiderately, to involve many Species under one Appellation. But the Interpreters alſo of Aviſena are grievouſly miſtaken, when they render Hab almenen, which is ſaid, Aviſ. Cap. 305. to be bigger than Pepper, and almoſt of the ſame Colour, by the Fruit of the Lotos Tree. Nay, they note too in the Margin, that the ſame is repeated, Cap. 520, in which Place the Nabac is deſcribed as the Berry of a Tree, that is, of the Lotos. Theſe are quite different Things. The Arabians ſeldom uſe Hab for the Fruit of Trees, but pretty commonly for the Seeds of Herbs. I am not ignorant, that the Word may be read in Aviſen as applied to the Pine, the Laurel, the Turpentine-tree, and the Ben-nut; but it is rather uſed for the inner Stone, or Kernel, than for the whole Fruit; as, in an Apple or Pear, they would not call the whole Fruit Hab, but the Seed which is within. They do not call a Pine-nut Hab alſcunbar, but the Kernel. Theſe are the Seeds from which ſown Trees are propagated, and anſwer to the Seed of Herbs. The Berry of the Lotos is like the Cherry with all its Pulp about it. This Pulp is what the Greeks call Περικάρπιον, but the Stone within, Nucleus, is the proper Καρπὸς of the Greeks. I do not deny, but Hab almenon may be uſed to ſignify the Nucleus of the Berry of the Lotos; but for the whole Berry, which is called Nabac, it can by no Means be taken. The Grain, Almenen, Aviſena will have to be hot and dry in the ſecond Degree, but the Nabac tempered with moiſt and dry. When he ſays the Almenen is bigger than Pepper, and is eaſily broken and ſeparated from the Medulla, which is extraordinary white, it is plain that he ſpeaks of the Stone, or Nucleus. Whatever other Fruits of Trees conſiſt of an unctuous Medulla, may doubtleſs be rightly called by the Arabian Word Hab, as the Berries of Laurel, the Ben-nut, the Fruit of the Turpentine Tree, and ſuch like: But as for thoſe which conſiſt of an eatable Pulp, and a Stone within it, in theſe the Stone, which is in the Place of Seed, is properly called Hab, and by the Greeks Καρπὸς and Πυρὴν, when Fruits that have no Stone are called ἀπύρηνα. Salmaſius de Hom. Hyl. Iatr. Cap. .

Of ACANTHI.

The Greek Word Ἄκανθος, ſignifies a Thorn, or a Thiſtle, and is the ſame as Ἄκανθα, being general Names for all Kinds of Thorns or Thiſtles; thus ὀξυάκανθος and ὀξυάκανθα are the ſame. The Ἄκανθα Ἀιγυπτία in Theophraſtus is a thorny Tree, which in many other Places he calls Ἄκανθα Αἰγυπτία. This Name, among the Greeks, became appropriated to a Topiarian Plant, which the Latins alſo, keeping the Greek Word, call *Acanthus*;

——— *& flexi tacuiſſem vimen* Acanthi,

and in many other Places. But this *Acanthus*, eſpecially the Topiarian and Garden Kind, had no Thorns; for the wild thorny Kind is called Ἄκανθος ἀγρία. The Greeks alſo called Ἄκανθα, in an abſolute Senſe, what the Latins name Carduus, which has a Head like a Pine-apple, and is eatable, "Cinara; "for ſo we find the *Acantha* was called by the Dorian Poet" Pollux. The Latins alſo called it Carduus, by Way of Eminence. Hence in the old Gloſſaries Cardui, κινάραι. From this Homonymy Dioſcorides, under the Word Ἄκανθος, which ſome Editions read Ἄκανθα, ſeems to have deſcribed both the Topiarian *Acanthus*, and the Carduus, confounding the Characters. Our Herbaliſts take it for granted, that the *Acanthus* of the Antients is what they now call Brank Urſine. Dioſcorides gives the Topiarian *Acanthus* a Thyrſoidal Head: But it is evident that Brank Urſine has no ſuch Head, as we ſee in the Carduus or Cinara [Artichoke]. Dioſcorides did not deſcribe the Cinara; for they are miſtaken who think it was the Scolymus. Only the Root of the Scolymus is eatable, according to Theophraſtus. Dioſcorides ſays, that the young Shoots are fit to eat, but the Carduus, or Cinara, has ſomething in the Figure of a Pine-apple, which is eaten, that is, this Thyrſoidal Head. When, therefore, he had read that the *Acantha* had a Thyrſoidal Head, which was to be underſtood of the Carduus Cinara, he took it for the *Acantha* Topiaria, which is alſo called *Acantha* abſolutely. But Dioſcorides is the rather to be pardoned, becauſe, perhaps, he did not know the Carduus: For Theophraſtus expreſly ſays, that the κάκτος, ſo he calls the Carduus, did not grow in Greece. But there is a great Similitude between the *Acanthus* and the Carduus, eſpecially the ſmooth *Acanthus*. Columella of the Cinara or Carduus thus ſings,

Nunc ſimilis Cacto *ſpiniſque minantibus horret,*
Pallida nonnunquam tortos imitatur Acanthos.

Dioſcorides being deceived with this Similitude, and the ὁμονυμία, gives the *Acanthus* a Thyrſoidal Head, which is proper to the Ἄκανθα, or Carduus. It ſeems as if Dioſcorides alone was miſtaken in this Matter, becauſe Pliny, in his Deſcription of the *Acanthus*, ſays nothing of its Thyrſoidal Head; which proves alſo that he took his Account of the *Acanthus*, as he did that of the reſt of the Plants, not from Dioſcorides, but another Author, ſince he paſſes by ſo remarkable a Characteriſtic. "Its Seed is oblong, of a yellow Colour, and the Plant has "a Thyrſoidal Head." Dioſcorides de Acantho. In order to prove that the *Acanthus* has not a Head like the Thyrſus, but that ſuch a Head belongs to the Species of Carduus, which we call Artichoke, we muſt explain what is meant by κεφαλὴ θυρσοειδὴς, Thyrſoidal Head. The Thyrſus was a Staff belonging to Bacchus, which had on the Top the Figure of a Pine-cone with a Ribbon tied in a Knot, and the Ends hanging down on each Side. This is the Figure of the Thyrſus in antique Sculptures. Some Authors aſſure us that it was a real Pine-cone, which was placed on the Top of the Thyrſus, and the Greeks eſpecially call it Κῶνος, and the Thyrſus Κωνοφόρος. The Epigram on the Dedication of the Bacchanalian Inſtruments has

Καὶ θύρσου χλοερὸν κωνοφόρου κάμακα:

κωνοφόρος θύρσος, which has a κῶνος at the Top, that is, a Pine-cone. In the Grammarians we find κωνοφόροι, θυρσοφόροι, The botryœidal [like a Cluſter of Grapes] Fruit of the Pine, which the Women carried in the Ceremonies of Bacchus, is called a Cone; becauſe the Figure of a Cone is like that of a Man's Heart. Now the Greeks ſay, that Bacchus preſides over that Part of Man, and therefore they performed that Ceremony in their domeſtic Myſteries. Hence the Matter of Fact is certain, though the Reaſon given for it be but a Trifle. The religious Rites of Bacchus were akin to thoſe of the Mother of the Gods. They had the ſame Rites and Symbols. Hence in the Bacchæ, a Tragedy of Euripides, Bacchus ſays, Ρίπτε μητρὸς ἐμαθ' εὑρήματα. Now the Pine was ſacred to the Mother of the Gods, and every Year, on a ſtated Day, was carried into her Sanctuary. Arnobius, Lib. V. The Day was the eleventh of the Calends of April, as it is marked in the Roman Calendar of Conſtantine the Great, with *Arbor intrat*; which muſt be underſtood of the Intromiſſion of the Pine into the Sanctuary of the Mother of the Gods. The following Days were dedicated to various Solemnities of the ſame Goddeſs; as *Sanguinis Dies*, in the ſame Calendar, marked at the Ninth of the Calends of April. *Hilaria*, at the eighth; *Requietio*, at the Seventh; *Lavatio*, at the Sixth. The Poet calls Pine-cones the Apples of Cybele, Poma ſumus Cybeles. The Pine was alſo accounted holy to Liber and Neptune, Πίτυς ἱερὰ Διονύσῳ ϗ Ποσειδῶνι. Artemidorus. And the Strobilus, or Pine-cone, is enumerated among the Play-things with which the Titans amuſed the Infant Bacchus, by Orpheus in his Myſteries, thus

Κῶνοι ϗ ῥόμβοι, παίγνια καμπεσίγυια,
Μῆλα τε χρύσεα, καλὰ, παρ' Ἑσπερίδων λιγυφώνων.

Theſe Verſes are cited by Clemens in his Protrepticon, where he alſo informs us that all theſe παίγνια were afterwards received as Symbols in the Myſteries of Bacchus. "It "may be of Service, for your Conviction, to ſet before your "Eyes the uſeleſs and inſignificant Utenſils of your religious "Worſhip, as the Dye, the Sphere, the Pine-cone, [ϛρόβιλος] "the Apple, the Top, the Looking-glaſs, and the Fleece." &c. In this Paſſage Clemens interprets the κῶνοι of Orpheus by ϛρόβιλοι, that is, Pine-cones. Arnobius therefore was in the wrong, when he rendered ϛρόβιλος and κῶνος by Turbines in his Book V. It is certain that the Greeks uſed ϛρόβιλος, and κῶνος, and alſo ϛρέμβος for a Boy's Play-thing, called by the Latins, Turbo, [a Top]; but in this Place we are ſure he means a Pine-cone, as the antient Scholiaſt, in the King's excellent Copy, rightly obſerved, κῶνοι οἱ ϛρόβιλοι ϗ οἱ θύρσοι. Ὁ Διογενιανός. And theſe are the Pine-cones, the Symbols of the Rites of Bacchus, which the Bacchæ carried on the Top of their Thyrſi; theſe made the θυρσοειδῆ κεφαλὴν, as we ſee it in antient Monuments. For this Reaſon Grammarians interpret θύρσȣς by κώνȣς, becauſe they have Pine-cones on their Tops, Κῶνοι, οἱ θύρσοι ϗ ϛρόβιλοι, Heſychius. Of the ſame Shape are the Heads of the Cardui, [Artichoke] being made up of Leaves placed like Scales, and running up to a Point like a Top, forming a Cone. Thus Columella of the Cinara,

——— *Nunc pinea vertice ſurgit.*

This is the Carduus with a κεφαλὴ θυρσοειδὴς, not the *Acanthus*, which, if it be Brank-Urſine, as no Body doubts, has a Head very different from the Figure of a Pine-cone, or rather no Head at all. There is no Doubt to be made then, but Dioſcorides confounded the Marks of ἄκανθα, properly ſo called, with thoſe of ἄκανθος. The firſt has a κεφαλὴ θυρσοειδὴς, which riſes like a Pine-cone; the other has no ſuch Thing. We have many other Plants left us deſcribed by the Antients, with the Head of a Thyrſus, which are known by the very Character not to be the ſame as our modern Herbaliſts would have them. Dioſcorides deſcribes the Aliſma to have καυλὸς λεπτὸς, ἁπλȣ̃ς, ὑπὲρ πῆχυν, ἔχων κεφάλιον θυρσοειδές· that is, "a ſlender, plain Stalk, above a Cubit "high, having at Top the Head of a Thyrſus, or like a "Thyrſus." How this Place has been tortured and interpolated by very learned Interpreters, for want of knowing the κεφάλιον θυρσοειδές. From the ſame Ignorance they take Plants for the Aliſma, which have not that Characteriſtic. Pliny ſpoke right of the Aliſma, and according to the Mind of Dioſcorides, though he had it not from him: Caule ſimplici ac tenui, cubitali, capite Thyrſi. We are therefore to ſearch for ſuch a Plant with a Thyrſoeidal Head, as is here deſcribed, that it may be the true Aliſma. The Thymum Græcum, that has the Epithet of κεφαλωτὸν, bears the Head of a Thyrſus, whence it is called by the Greeks θύρσιον. The little Heads of the Cirſium are θυρσοειδῆ, and are therefore by Apuleius called Thyrſiculi, i. e. κωνία (for θύρσοι are κῶνοι). Herba Cirſion Thyrſo eſt bicubitali, trigono, inferius ſummitate rotunda, cum Thyrſiculis purpureis atque caneſcentibus. This Character ſhews that the Cirſium or Criſſion is not the Bugloſs of Leonicenus, which has no ſmall Heads of that Shape. The Herba impia (or Filago) in Pliny, Lib. 24. Cap. 19. Thyrſi modo veſtita atque capitata. Hence note, that the Thyrſi were not only headed but cloathed; and indeed the Stem of the Thyrſus was, for the moſt Part, bound about with Ivy. Whence the θύρσοι βρέμοντες κατακισσοις πλοκάμοις in Anacreon. Nothing is more common in Authors, eſpecially the Poets, than Thyrſos hedera velatos & Frondibus amictos, which, it is plain, muſt be underſtood of the Staff of the Thyrſus arrayed with Ivy Leaves. Pliny, Lib. 16. Cap. 34. ſpeaking of Ivy, ſays, "that Alexander, for "the Novelty of the Thing, returned from India with his

"conquering Army, crowned with Ivy, after the Example "of Liber Pater; and the Thracians uſed it in their ſacred "Solemnities to adorn the Thyrſi of the aforeſaid Deity, "and their Helmets and Shields." You ſee the Thyrſi were adorned with Ivy, which was ſo trite and obvious a Circumſtance among the Poets, that the Author of a Greek Epigram on a female Votary of Bacchus, who forſook the Service, and conſecrated her Arms, puts κίσσος for Thyrſus,

——— παρρίψασα δὲ κισσὸν,
χεῖρα πεισφίγξω χρυσοδέτῳ σπατάλῃ.

Anacreon in an Epigram, where he had firſt named θύρσος, as ἢ τὸν θύρσον ἔχȣσ' Ἑλικωνίας, ſoon after ſubſtitutes κίσσος, to expreſs the ſame Thing,

—— Διωνύσῳ δὲ φέρȣσι
Κισσὸν ϗ ϛαφυλὴν,

that is, the Thyrſus adorned with Ivy. Euripides in his Bacchæ has κίσσινον βάκτρον for a Thyrſus,

—— Ἀλλ' ὅπȣ μοι κισσίνȣ βάκτρȣ μέτα;

In another Place he has κισσίνȣς θύρσȣς, and in the ſame Tragedy repreſents the Thyrſi crowned and adorned with Ivy, and in many Places thereof the Thyrſus is called κίσσινον βέλος and κίσσινον κλάδος. So the Poet,

Et Foliis lentas intexere mollibus Haſtas.

He means the Thyrſi woven about and enwrapped in the Leaves of Ivy. Hence the Sutiles Thyrſi in the Priapeia; which were woven about with the ſewed Leaves of Ivy;

Liber ſutilibus committit prælia Thyrſis.

The Thyrſi were covered with Ivy-leaves ſewed to one another. So the Sutiles Roſæ, of which were made the Coronæ Sutiles.

I have been the more prolix on this Subject, becauſe I know ſome Men, who would ſeem to know more than the vulgar Learned, incapable of being convinced, that the Thyrſi were arrayed with Ivy, becauſe in their precious Stones and antique Monuments they ſee nothing but a ſmooth Pole, with a bare Head like a Pine-cone, and a Ribbon hanging down on each Side. But I do not ſee the Wiſdom of giving Credit to a few Stones againſt the Teſtimony of ſo many Authors. Certainly nothing can be more ſilly than a Sort of Antiquaries, who derive all their Knowledge from Stones, whether wrought with Letters or Figures. What they cannot find in Stones, they believe exiſts no where. Such is the Literature of curious but injudicious Perſons. For the ſame Reaſon will they deny that there were any Thyrſi which had their Point covered with Ivy, becauſe their Stones afford no ſuch Figure. But we have abundant Mention of them in the Books of antient Authors, which are the true and certain Monuments of Antiquity. Macrobius, to begin with the ſlighteſt, in Lib. 1. "The Lacedemonians worſhipped alſo "the Image of Liber Pater, holding a Spear, not a Thyrſus; "for when he holds a Thyrſus, what does he more than carry "a covered Weapon, whoſe Point is enwrapped and hid in "lambent Ivy?" Macrobius here ſeems to think that the Thyrſus was nothing but a Weapon, whoſe Point was covered with Ivy. And indeed it is certain there were Thyrſi of this Form, but very different from thoſe we have explained, which had a Pine-cone for their Head. Nay, even that Spear, held by the Image of Liber Pater, which was worſhipped at Lacedemon, was ſuch a Sort of Thyrſus with its Point wrapped in Ivy. They were called λογχωτοὶ θύρσοι, and in one Word θυρσόλογχοι, which ſignifies, headed like a Spear, whoſe Iron was enveloped and hid by the Ivy. Juſtin Martyr mentions them, "The Bacchæ, ſays he, under an Appearance of Peace, carry λόγχας prefixed to their Thyrſi. Properly λόγχη ſignifies the Iron or pointed Head of a Spear, whence λελογχωμένα ἀκόντια, præpilatæ haſtæ, aut pilo inſpicatæ; Spears headed or pointed with Iron. Præpilatæ in another Senſe is the ſame as ἐσφαιρωμένα, rounded, not from Pilum, a pointed Iron, but Pila, a Ball, which was fixed on the Point of their Spears, when they ſkirmiſhed in Sport. I have ſeen learned Men at a Loſs here. In the Greek Epigram on the Prieſteſs of Bacchus renouncing her Profeſſion, and conſecrating her Arms,

——————— ϗ τὸ δίθυρσον
Τȣτο τὸ λογχωτὸν ϗ τὸ περισφύρσον,

this Pair of Spears or Thyrſi were headed with Iron. In the Aſteriſms in Proclus, the Centaur holds θυρσόλογχον. Ptolemy calls it barely θύρσον. Among the threatening Arms of the Gods carrying Fear and Death, Strabo reckons θυρσόλογχα ὅπλα. Lib. 1. There were two Sorts of Thyrſi then; one had a λόγχην with a Point, but covered with Ivy, that it ſhould not appear; and the other had a Pine-Cone placed on it. The Bearers of the firſt were θυρσόλογχοι, of the other κωνοφόροι. Both Thyrſi were adorned with Ivy. The old Epigram Καὶ θύρσον, &c. before-mentioned, calls the Staff of the Thyrſus green, becauſe of the Leaves of Ivy which covered it: This was a harmleſs Thyrſus, that had no Iron. Hence Euripides introduces his Bacchæ tearing and ſcattering abroad the Bodies of Bulls χειρὸς ασιδήρου μέτα, which he would not have ſaid, had their Thyrſi been headed with Iron. Sometimes the bare Staff, bound with Ivy, ſerved for the Thyrſus; as it appears in that extraordinary fine Agate, which repreſents the Orgia of Bacchus in Sculpture, explained by Scaliger and Caſaubon. One of the Bacchæ is there ſeen holding a Staff, bound about with Ivy Leaves inſtead of a Thyrſus. He that denies it to be a Thyrſus, does but trifle; tho' it has neither the conoeidal Head, nor the Point enveloped with Ivy. Sometimes the Thyrſi were covered with Garlands and Ribbons, inſtead of Ivy. Athenæus, *lib.* v. ſpeaking of a Proceſſion in the Bacchanalia, ſays, "They had "in their left Hand a Thyrſus crowned with Garlands." No precious Stones, or others, repreſent ſuch a one; nor do I remember ever to have ſeen it painted on Walls.

Now, ſince the θυρσοειδὴς κεφαλὴ is named by Authors, and the Heads of ſome Plants likened to it, it is reaſonable we ſhould underſtand it of the Thyrſi with a Pine-Cone Head, which was by far the moſt common Form of the Thyrſus. Such a one is very conſpicuous in the Carduus, not in the Topiarian Acanthus, which Dioſcorides confounded with the Acanthus properly ſo called, which is the Carduus.

Of the Ægyptian Papyrus, to which Pliny in like Manner aſſigns the Head of a Thyrſus, it is harder to determine. The Buſh of Hair of the Papyrus, as drawn by thoſe who have ſeen it, has nothing which can allude to ſuch a Shape. It does not riſe turbinated into a Cone, but rather from a narrow Baſe grows wider. He who has ſeen the thick Knot of Fringe which they call Houpe, a TUFT, may think he has ſeen the Buſh of Hair of the Papyrus. It is alſo much like the Whiſks uſed to bruſh duſty Clothes. Strabo ſays no more of the Papyrus, than that it has a ſlender Stalk, ἐπ' ἄκρῳ ἔχουσα χαίτην, which has a Buſh of Hair at the Top; but of what Figure he does not inform us. Pliny thus expreſſes himſelf, *Decem non amplius cubitorum longitudine, in gracilitatem faſtigatum Thyrſi modo cacumen includens;* Here you ſee the Head of the Papyrus running up ſlender like a Thyrſus. He means the τὸ ἄκρον, and the τὴν χαίταν, which it bears, ἐπ' ἄκρῳ. But 'tis very falſe that it ends in a Point like a Line, after the Manner of a Thyrſus. Nor does it mend the Matter to ſay, that learned Men, who had been in Ægypt, had a Draught made of the Plant when it was in its Perfection; and the Hair opened and ſpread, which before its Expanſion was contracted and drawn up into a conic Form. It is plain by the Figure, that it begins to expand at its firſt Appearance, as we ſee it happen in almoſt all umbelliferous Plants: For in this, from a ſlender Baſe it ſpreads itſelf at the Top: but the contrary happens in ſuch as firſt are contracted into a Cone, and afterwards expanded and inlarged by Maturity, like the Artichoke when it flowers. And Lobel expreſly informs us, that the Buſh of Hair of the Papyrus, which is its Flower, does not ſpread like that of the Cyperus, but is rather compreſſed like that of Fennel Gyant. Pliny tranſlated his Account of the Papyrus *verbatim* from the Greek of Theophraſtus, which in the common Edition reads, Κόμην ἔχονται ἀχρείαν ἀσθενῆ, καρπὸν δὲ ὅλως οὐδένα. Pliny renders it *in gracilitatem, &c.* as before. When I ſaw the Latin was tranſlated from the Greek, and the Greek manifeſtly corrupted by the Latin, I endeavoured to amend it, by reading κόμην ἔχοντας ἀκρίαν θυρσίνην. Nor indeed otherwiſe could I have thought that Pliny had fairly tranſlated his Author. Now I have not ſo good an Opinion of Pliny, as not to have a better of Truth, which agrees very ill with what Pliny ſays of the Hair of the Papyrus, that it runs up to a Point like the Thyrſus. If Theophraſtus recorded the ſame, he has not regarded the Truth: But as his Words are corrupted, he might appeal from Pliny's Verſion, or his own corrupt Text to the true and genuine Reading as he wrote it. I ſuppoſe he wrote κόμην ἔχοντας ναρθηκίνην inſtead of ἀχρείαν ἀσθενῆ. Try your utmoſt, it is the trueſt and moſt genuine Reading you can come at. Pliny himſelf, who conſtantly takes νάρθηκα for Thyrſus, ſhews that Theophraſtus wrote it thus. Of this we have a fair Example under Euphorbium, which by the Greeks is deſcribed to be δένδρον ναρθηκωειδὲς. Pliny tranſlates it *Specie Thyrſi.* In the Place under Debate, by the true Greek Copy, the Papyrus hath κόμην ναρθηκίνην, which Pliny renders *Thyrſi modo faſtigatum in gracilitatem cacumen.* Νάρθηξ was ſomething carried by the Greeks in Honour of Bacchus, as well as θύρσος; whence there are ναρθηκοφόροι βάκχοι and θυρσοφόροι. Authors often put one for the other; νάρθηκι βακχεύειν and θύρσῳ βακχεύειν are frequent with the Greeks. The νάρθηξ was properly a Staff or Rod cut out of the Shrub Ferula [Fennel Gyant]. Maſters ſtruck Scholars on the Hand with it; whence *ferulæ magiſtrales.* Becauſe it was light and ſpungy, a Blow with it did no Harm; and for that Reaſon was uſed to chaſtiſe School-boys, who are ſaid by the Satiriſt *manum ferulæ ſubducere.* It is alſo uſed for any Stick or Rod that is a fit Inſtrument of Caſtigation; on which Account it may be called alſo a Thyrſus; for θύρσος ſometimes is a plain Staff. Euripides calls it βάκτρον κίσσινον, and κίσσινον κλάδον, a Staff bound with Ivy. In Heſychius θύρσος, ῥάβδος, βακτηρία βακχικὴ, ἡ κλάδος. It is alſo a νάρθηξ, but properly of the Ferula Shrub. Pliny, *lib.* xiii. *cap.* 22. ſays of the Ferula, "that no Wood "was lighter; for which Reaſon, being eaſy to be carried, it "was choſen by Old Age for a Staff." Old Satyrs are commonly introduced in the Company of Bacchus with a Ferula. Theſe are the ναρθηκοφόροι. The Bacchæ uſually went with Thyrſi, which alſo may be called νάρθηκες, if they were made of the Ferula, as, on the contrary, the Ferulæ might go by the Name of Thyrſi, eſpecially if carried in the Solemnities of Bacchus. The Stalks of Plants were alſo called Thyrſi by the Latins, which are alſo νάρθηκες, provided they be hollow, as are Reeds, and all thoſe of the ferulaceous Kind. Therefore the νάρθηξ and the θύρσος, being both carried by the Bacchantes, might the ſooner be taken one for another. However they differ not a little. The Thyrſus was ſometimes a Bacchian Spear with an Iron Point, enveloped and covered with Ivy. This was the λογχωτὸς θύρσος. At other Times the Thyrſus was a Staff, likewiſe enveloped with Ivy, or without Ivy; and having on its Top a Pine-Cone, which was one of the Symbols of Bacchus. This is the κωνόφορος θύρσος, from whence comes the κεφαλὴ θυρσοειδὴς in many Plants. But the νάρθηξ is the Plant itſelf, called by the Latins Ferula; which being conſecrated to Bacchus, was on that account borne by the Bacchantes. Pliny, *lib.* xxiv. *cap.* 1. ſays, "the Ferula is delicious Food to Aſſes, but mortal Poi"ſon to other Cattle;" wherefore that Animal is dedicated to *Liber Pater,* to whom the Ferula was conſecrated. The Greeks write, that the Ferula was ſacred to Bacchus, becauſe Fire uſed to be kept in it; for Wine alſo was of an igneous Quality. Οἶνος τῷ πυρὶ ἴσον ἔχει μένος. The Perſon, in the Greek Tragedian, ſays, "I ſearch for a Fountain of Fire that lies hid in the "Ferula." Heſychius, "laid up in the Ferula; for they "made Uſe of the Ferula to kindle their Fires; whence it was "appropriated to Bacchus, both on account of the Bonfires at "their Feaſts, and becauſe Wine is of a hot and fiery Nature." It is a noted Fable of Prometheus, who brought the Fire he ſtole from Heaven to Mortals in a Ferula. Other Reaſons are given why the Antients conſecrated this Shrub to Bacchus. It is a light and hollow Plant, and is therefore very ſuitable to an idle and everlaſtingly drunken Deity. Bacchus himſelf carries one in the Bacchæ. Euripides, ὁ Βακχεὺς δ' ἔχων πυρσώδη φλόγα πεύκας, ἐκ νάρθηκος ἀΐσσει. Interpreters render this, *geſtans ignitam facem piceæ, quæ ex ferula emicat;* which is ridiculous and abſurd. The Fire is laid up and preſerved in the Ferula, does not *emicare,* burſt out of it. Hence νάρθηξ πυρικοίτας in the Epigram, in which *the Fire is kept incloſed.* The Poet's Meaning is, that Bacchus carrying both a Torch and Ferula would ſpring forth. Torches, *i. e.* αἱ πεύκαι, as well as Thyrſi and Ferulæ, were uſed in the Orgia of Bacchus. Hence ſome expound θύρσους by λαμπάδας, as others νάρθηκας by Thyrſos. Heſychius, θύρσοι, κλάδοι, λαμπάδες, λύχνοι. Theſe are the three different Arms of the Bacchantes, the Thyrſi, the Torches, and the Ferulæ. The ſame Euripides plainly diſtinguiſhes θύρσους from νάρθηκας in theſe Words:

Θύρσον δέ τις λαβοῦσ' &c.

i. e. "One ſtruck the Rock with a Thyrſus, and there guſhed "out Water; another ſmote the Ground with her Ferula, and "the God ſent forth Wine." Silvanus in the Poet is ſaid to come ſhaking Ferulæ and Lillies;

> *Venit et agreſti capiti Silvanus honore,*
> *Florentes Ferulas et grandia Lilia quaſſans.*

Which muſt be underſtood of the true Shrub of the Ferula. Bacchus alſo ἐκ νάρθηκος ἀΐσσων, in the Tragedian, ſhakes a true Ferula which was conſecrated to him; whence there were ναρθηκοφόροι in his Myſteries as well as θυρσοφόροι. It is a very noted proverbial Verſe.

> Πολλοὶ μὲν ναρθηκοφόροι, παῦροι δέ τε βάκχοι.

Becauſe they were alſo θυρσοφόροι; whence many Interpreters rendered νάρθηκας as if it were θύρσους. Among theſe was Pliny, who took ναρθηκίνην κόμην of the Papyrus to mean ſuch as was like the Head of a Thyrſus. But the Philoſopher ſpoke of the Top of the Ferula Shrub.

That the Ferulas of the Schools were made of this Shrub, Martial clearly ſhews in this Diſtich;

> *Inviſæ nimium Pueris, gratæque Magiſtris,*
> *Clara Prometheo munere ligna ſumus.*

The ſame is plain from the Greek Epigram on a Schoolmaſter dedicating his Stock, after leaving his Employment, *viz.*

> Σκίπωνα προποδαγὸν, ἱμάντα τε καὶ πυρικοίταν
> Νάρθηκα, προτάφων πλάκτορα νηπιάχων.

I read πυρικοίταν νάρθηκα, inſtead of παρακοίτας in the Copy: In Suidas it ſtands πανακοίταν. The Epithet πυρικοίτας beſtowed on the Ferula, is an Elegancy expreſſing its Uſe in holding and keeping of Fire. Of the ſame Ferula was the Phyſicians Malleus, νάρθηξ, which, tho' afterwards made of Ivory, retained its antient Name. *Martial.*

Artis ebur medicæ Narthecia cernis habere.

Gloſſ. Malleus, νάρθηξ ἰατρικός. Hence Martial joined theſe Narthecia with Whips and Ferulas; and hence ναρθηκισμὸς in Dioſcorides, which relates to that ἐπίκρουσις, Pulſation, exerciſed on the Bodies of venal Slaves, in order to recall the Blood and Spirits into the extenuated Parts, by frequent Strokes of the Ferula. This is the νάρθηξ ἰατρικὸς of the Gloſſary, which renders it Malleus. But I do not think that Martial's Narthecia are to be taken in this Senſe, tho' ſoon after the Subject of Whips and Ferulas follows. No; for νάρθηξ, or ναρθήκιον, ſignifies a little Pot or Box to hold Ointments, and the Deſign of the Poet plainly ſhews that it muſt ſo be underſtood in this Place. “Thou ſeeſt, ſays he, that Narthecia of Ivory contain “the Gifts of the medical Art, which Pactius had rather were “his own;” that is, Ointments.

Hence the antient Phyſicians often gave this Title to the Books which they compoſed on the Art of Medicine. *Galen, lib.* v. *De Comp. Medic. ſecundum Genera, cap.* 3. “Eras, “ſays he, compoſed a Treatiſe of the Compoſition of Medi“cines, which he intitled Νάρθηξ.” He mentions alſo the Νάρθηξ of Cratippus, which was a Book of Compoſitions. The Νάρθηξ of Soranus is cited by Aetius. The Νάρθηξ, as I ſaid, was a Box to keep Ointment, Myrothecium. Hence one of the moſt correct Copies of Homer went by the Name of Ἐκ τοῦ νάρθηκος. The Reaſon why it was called ſo was, as Strabo tells us, *lib.* xiii. becauſe Alexander the Great had laid it up in a Box, νάρθηκα, moſt richly adorned, which he found in the Perſian Treaſury. This νάρθηξ is the ſame which Pliny calls *Scrinium unguentorum*, a Box of Ointment, adorned with Gold and precious Stones, which being found among the Spoils of Darius, was pitched upon as the fitteſt Repoſitory for Homer's Works, that the moſt valuable Production of the human Genius ſhould be laid up in the moſt exquiſite Piece of human Workmanſhip. Scaliger was in the wrong when, in an Epiſtle, he interprets the ναρθήκιον, appointed by Alexander for the keeping of a correct Copy of Homer's Works, called ἀπὸ τοῦ νάρθηκος, a more ſacred Repoſitory, in which Jewels were kept, or perhaps Ointments. Why Boxes of Ointment are ſo called I know not, except it be from the Form of a Ferula, which might give Occaſion to call a round Box by that Name; for the Ferula is a light and hollow Sort of Wood, as being Reed-like, καλαμώδες φυτόν. More than that, it was a Cuſtom to gather ſweet-ſcented Herbs into Bundles, and lay them between the Calami and the Ferulæ, to preſerve their Fragrancy. *Theophraſtus, lib.* ix. *cap.* 16. Hence any Box or Repoſitory for keeping Ointments, came to be called improperly ναρθήκιον and νάρθηξ. This is the very Truth. There is another νάρθηξ among the Phyſicians, ſignifying a Stay to a Bandage [Splints]. Νάρθηξ is alſo a Porch or Court belonging to the Temples and Cathedrals of the antient Chriſtians.

Theſe Things were neceſſary to be explained, which, for want of knowing, have hitherto caſt a Miſt before the Eyes of Botaniſts as to the Meaning of θυρσοειδοῦς κεφαλῆς. The Grammarians expound κώνειον by νάρθηξ; not that κώνειον and νάρθηξ, Ferula and Cicuta, are the ſame, but becauſe they are of a Ferulaceous Kind. The Greeks called it κώνειον, or κῶνον, becauſe, when its Flower begins to paſs into Seeds, it turbinates towards the Vertex, and forms the Figure of a Cone. This laſt Remark I thought neceſſary to be added.

ACANUS. A Species of Thiſtle, called *Acanus Theophraſti.* See CARDUUS.

ACAPNON. Ἄκαπνον. A Name of the Sampſuchum, or Marjoram. It alſo ſignifies dry Wood, from α Negative, and καπνὸς Smoak. *Gorcæus.*

ACARDIOS. Ἀκάρδιος. Fearful, depreſſed, faint-hearted. *Caſtell.*

ACARI, or ACARUS. A ſmall Inſect, ſaid by Ariſtotle to breed in Wax.

It ſignifies alſo an Inſect like a Louſe, which harbours in the Skin. *Caſtellus* from *Aldrovandus*, and *Piſo.*

ACARNA. The Fiſh Thiſtle. See CARDUUS.

ACARNAN. Ἀκάρναν, Ἄκαρνος, Ἄκαρνα. A Sea Fiſh, mentioned by Athenæus, Rondeletius, and Aldrovandus. It is ſaid to be eaſy of Digeſtion, and to afford good Nouriſhment. *Caſtell.*

ACARON. The wild Myrtle. *Blancard.*

ACARTUM. Red Lead; called alſo AZEMAFOR. *Rulandus.*

ACATALEPSIA. Ἀκαταληψία. Incomprehenſibility, or Uncertainty in Science; the contrary of which is CATALEPSIS, κατάληψις, certain Knowledge.

This Word is taken Notice of by Caſtellus; but I do not know why it claims a Place in a Medicinal Dictionary, except becauſe it occurs in Galen.

ACATALIS. A Juniper-berry. *Conſtantine.*

ACATASTATOS. Ἀκατάστατος, from α Negative, and καθίσταμαι, which, amongſt other Significations, implies to fix, eſtabliſh, or render certain. Inconſtant.

This is applied to irregular Fevers, where the Periods of Exacerbation are uncertain, and the Appearances in the Urine perpetually changing.

It is alſo applied to ſhivering Fits in Fevers, which return at irregular Periods; ſometimes every Day, ſometimes every other Day, or every third Day.

Or it is applied to Urines, which are turbid, but do not depoſite any regular Sediment.

ACATERA. The larger or black Juniper. *Blancard. Brunfelſius.*

ACATHARSIA. Ἀκαθαρσία, from α Negative, and καθαίρω to purge. It ſignifies an Impurity of the Humours. Thus Hippocrates, in his Treatiſe of Diſeaſes, *l.* iii. informs us, that if the Head aches violently from a Plenitude of the Brain, 'tis a Sign the Blood is loaded with Impurities (ἀκαθαρσίην σημαίνει). And in the ſame Book he ſays, in Apoplectic Caſes, the Brain is filled with much Impurity (πλήθῃ πολλῆς ἀκαθαρσίας).

It is alſo applied to the Sordes, or Impurities of Wounds.

ACATO, or ARAXOS. Soot. *Rulandus.*

ACAULIS, of *a* Negative, and *Caulis* a Stalk or Stem.

A Plant is ſaid to be *Acaulis*, or without Stalk, whoſe Flower reſts on the Ground.

ACAULOS *magno Flore Caſp. Baubin*, is the Carline Thiſtle.

ACAZDIR. Tin; called alſo ALKAIN ALOMBA. *Caſtellus. Rulandus. Johnſon.*

ACCATEM. ACCATUM. The ſame as AURICHALCUM, which ſee.

ACCELERATORES URINÆ. So called from their Uſe in expediting the Ejection of Urine and Seed. Authors have been miſtaken in the aſſigning the Originations of theſe Muſcles, either to the Sphincter Ani or Tubercles of the Oſſa Iſchii. They ariſe fleſhy from the ſuperior Part of the Urethra, as it paſſes under the Oſſa Pubis, and encompaſſing the external Part of the Bulb of its cavernous Body, both Muſcles meet on the inferior Part, and march according to the Length of the Seam of the Skin in the Perinæum, parting from each other. They aſcend to their Inſertions on each Side the Corpora Cavernoſa Penis.

Beſides the Uſe commonly aſcribed to theſe Muſcles, in compreſſing the Urethra in driving out the Remains of Urine, and promoting the Ejaculation of the Semen in Coitu, (which Action is chiefly done by the laſt deſcribed Part of them embracing the Urethra as they paſs to their Inſertions on each Side the cavernous Bodies of the Penis) they alſo aſſiſt the Erectores Penis in its Erection, by driving the Blood contained in the Bulb of the cavernous Body of the Urethra towards the Glands in greater Quantities, whereby it becomes diſtended, the Veins which carry off the refluent Blood from the Corpus Cavernoſum Urethræ, at that Time being alſo compreſt by the Tumefaction of theſe Muſcles. *Cooper.*

ACCESSIO. ACCESSION. It ſignifies the Beginning of a Paroxyſm, or Fit of an Intermitting Fever.

ACCESSORIUS. Willis has given this Name to a particular Nerve.

The *Nervi Acceſſorii* belong to the eighth Pair, and ariſe by ſeveral Filaments from both Sides of the Medulla Spinalis of the Neck, ſometimes higher and ſometimes lower. Each of them runs up between the two nervous Planes which come out from the Spinal Marrow, to form the Vertebral Nerves, and they gradually increaſe in their Courſe upwards, by means of ſeveral Filaments which they receive from the poſterior nervous Planes.

Having reached above the firſt Vertebra, each Nerve is fixed to the Backſide of the Ganglion of the Nervus ſub-occipitalis, or that of the tenth Pair; and having, at the upper Part of this Adheſion, received two Filaments from the poſterior Portion of the Medulla, they part from the Ganglion, and continue their Courſe upward. Theſe two Filaments are ſometimes without any Communication with the Ganglion, or with the anterior Plane; ſo that they ſeem rather to belong to the *Nervus Acceſſorius* than to the Sub-Occipitalis.

They enter the Cranium by the great Occipital Foramen; and having communicated with the Origin of the Sub-Occipitalis, or Nerves of the tenth Pair, and with the great Hypogloſſi or ninth Pair, they return out of the Cranium with the Nerves of the eighth Pair, or Sympathetici Medii, with which they communicate in their common Paſſage through the Cranium.

As ſoon as they get without the Cranium, each of them give off a conſiderable Branch, which divides into two. One is ve ſhort, and immediately joins the Trunk of the eighth Pair; t other, which is longer, joins the ſmall Portion or firſt Branch which goes to the Tongue, They likewiſe communicate wi the great Hypogloſſus and Sympatheticus on each Side.

Afterwards the *Nervus Acceſſorius* runs backward, and perfo rating the Muſculus Sterno-Maſtoidæus, runs to the Trapeziu on which it is diſtributed, and terminates after having ſupplie the Rhomboides. In this Courſe it communicates with the fi three Pairs of the Cervical Nerves, and gives Branches to th Glands of the Neck, to the Muſculus Angularis of the Scapul the Complexus, Occipitalis, and to the Integuments. *Winſ*

ACCESSUS. It ſignifies the approaching, or having carnal Knowledge of a Woman.

ACCIB. Lead. *Rulandus. Johnſon. Caſtellus.*

ACCIDENS. The ſame as SYMPTOM, which ſee.

ACCIPITER. Ἱέραξ. A Hawk, of which there are many Kinds. That mentioned by Dale is thus diſtinguiſhed.

ACCIPITER, Offic. Schrod. v. 13. *Accipiter Fringillarius*, Mer. Pin. 170. Schw. A. 189. *Fringillarius Accipiter vulgo Niſus dictus*, Aldrov. Ornith. i. 344. *Accipiter Fringillarius*, Geſn. de Avib. 43. Jonſ. de Avib. 10. Charlt. Exer. 72. *Accipiter Fringillarius ſeu Recentiorum Niſus*, Will. Ornith. 51. Raii Ornith. 86. Ejuſd. Synop. A. 18. *Fringillarius*, Bellon. des Oyſe. 122. The SPARROW-HAWK. *Dale.*

The whole Bird, its Food and Excrements are in Uſe.

Oil wherein a Hawk has been boiled, is ſaid to cure Diſtempers of the Eyes, if they are anointed with it.

The ſame Virtue is in the Fat. The ſame Oil cures all Deformities of the Skin. The Excrements are of ſo heating a Quality, that Galen will not admit them as Part of the *Materia Medica*. But there are ſome who uſe them in Diſorders of the Eyes; others however adviſe them in order to promote Delivery, taken inwardly, or by way of Suffumigation. Hippocrates and Pliny preſcribe them againſt Barrenneſs. *Dale.*

ACCIPITRINA. The ſame as HIERACIUM. Hawkweed.

ACCRETIO. ACCRETION, or Growth. See NUTRITION.

ACCUBITUS. This ſignifies lying together in the ſame Bed, without any Venereal Commerce.

ACCURTATORIA. A Synopſis, or Epitome. The Word is uſed by Raymond Lully.

ACCUSATIO. The ſame as INDICATIO, which ſee. *Caſtellus.*

ACEDIA. Ἀκηδίη, from α Negative, and κῆδος, Care. Careleſſneſs, Neglect.

This Word occurs in *Hippocrates de Locis in Homine*, and embroils the Sentence not a little. The Interpreters tranſlate it Panniculus, a Rag, from the Context and parallel Places in the ſame Author; tho' ἀκηδίη ſignifies no ſuch Thing. Foeſius thinks the Paſſage corrupted; unleſs by ἀκηδίη Hippocrates means a Rag that has been much worn, *not worth Care*, and good for nothing elſe. This Conjecture ſeems right, tho' Foeſius does not think ſo himſelf.

ACEDIA is alſo uſed by Hippocrates in his Treatiſe on the Glands, to ſignify Trouble or Fatigue.

ACEPHALOS. Ἀκέφαλος, from α Negative, and κεφαλὴ a Head.

This is applied to Monſters born without Heads, of which there have been ſome Inſtances.

ACER. The Maple Tree; ſo called, according to Voſſius, of *acris*, becauſe of the very great Hardneſs of the Wood.

It hath jagged or angular Leaves; the Seeds grow together in hard-winged Veſſels. *Miller.*

The CHARACTERS are;

1. ACER *majus*, Offic. Ger. 1299. Emac. 1484. Mor. Pin. 1. Raii Synopſis iii. 470. *Acer majus, multis falſo Platanus*, J. B. i. 168. Raii Hiſt. ii. 1701. *Acer majus quibuſdam Platanus dictum*, Chab. 61. *Acer majus Latifolium, Sycomorus falſo dictum.* Park. Theat. 1425. *Acer montanum candidum*, C. B. Pin. 430. Tourn. Inſt. 615. Elem. Bat. 488. Boerhaave Ind. A. ii. 134. Dill. Cat. Giſſ. 72. Rupp. Flor. Jan. 129. Buxb. 3. *Acer montanum candidum, aliis Platanus*, Jonſ. Dendr. 131. *Acer majus, ſive Platanus Scotica Cardini*, Merc. Bat. i. 16. Phyt. Brit. 2. The GREAT MAPLE.

It grows in Walks and Church-yards, bloſſoms in May, and the Fruit is ripe in September. The Juice that diſtils from the wounded Tree is uſed in Phyſic, and ſuppoſed to be beneficial in ſcorbutic Diſorders.

In the Beginning of Spring, when the new Buds ſwell with Juice, the Tree wounded in the Trunk, Branches or Roots, yields a ſweet and potable Liquor in abundance, as the Birch does. *Buxb.* Some uſe it for their ordinary Drink. *Rupp.* The Inhabitants of Canada made a Sugar out of the Juice of this Tree. See *Act. Philoſ. Lond.* N° 171. *p.* 988. *Dale.*

2. ACER, Offic. Chab. 60. *Acer, Opulus*, Ment. Ind. 35. *Acer minus*, Ger. Emac. 1484. Raii Hiſt. ii. 1700. Synop. iii. 470. Mer. Pin. 2. Merc. Bat. ii. 16. Phyt. Brit. 2. *Acer minus ſive vulgare*, Park. Theat. 1415. *Acer campeſtre et minus*, C. B. Pin. 431. Tourn. Inſt. 615. Elem. Bat. 488. *Boerh. Ind.* A. ii. 134. Dill. Cat. Giſſ. 55. Rupp. Flor. Jan. 129. Buxb. 3. *Acer campeſtre, aliis Opulus campeſtris veterum*, Jonſ. Dendr. 132. *Acer vulgare minori folio*, J. B. 166. The MAPLE.

It is common in Hedges, and bloſſoms in May. The Root is uſed in Phyſic. Infuſed in Wine, it is with very good Succeſs applied in Pains of the Liver. *Pliny. Dale.*

To theſe two Sorts Miller adds the following:

ACER *majus Foliis eleganter variegatis*, Hort. Edin. The greater Maple, with ſtriped Leaves, commonly called the ſtriped Sycomore.

ACER *Virginianum, folio majore, ſubtus argenteo, ſupra viridi ſplendente.* Pluk. Phyt. The Virginian flowering Maple.

ACER *Americanum, folio majore, ſubtus argenteo, ſupra viridi ſplendente, floribus multis coccineis.* The American flowering Maple, with larger Bunches of ſcarlet Flowers.

ACER *maximum, foliis trifidis, vel quinquefidis Virginianum*, Pluk. Phyt. The Virginian aſh-leaved Maple.

ACER *Platanoides, Munt.* The Norway Maple, with Plane-Tree Leaves.

ACER *Platanoides foliis eleganter variegatis.* The ſtriped Norway Maple.

ACER *trifolia*, C. B. P. The Maple with a trifoliated Leaf.

There is another Sort of Maple, which is very common in Virginia, and is known by the Name of the Sugar Maple; from which Tree the Inhabitants of that Country make a very good Sort of Sugar, and in large Quantities. But this Tree is at preſent very rare in Europe; tho' I am of Opinion, that the People make Sugar from more than one Sort of Maple. M. Ray and Dr. Liſter prepared a tolerable good Sort of Sugar from our greater Maple, by tapping ſome of the Trees in their bleeding Seaſon; and I have obſerved, upon cutting off a Branch of the aſh-leaved Maple in February, a great Quantity of a very ſweet Juice hath flowed out for ſeveral Days together. *Miller.*

ACERATOS. Ἀκήρατος, from α Negative, and κεράω, or κεράννυμι, to mix. Unmixed, uncorrupted. It is applied ſometimes to the Humours of the Body by Hippocrates. Paulus Ægineta mentions a Plaiſter under this Name, but probably means *Aceron.* See ACERIDES.

ACERBUS. Στρυφνὸς. Sour, Harſh. It is uſed to expreſs ſuch a ſour Taſte accompanied with Aſtringency, as we meet with in unripe Fruits.

Sometimes figuratively it ſignifies prickly, στρυφναὶ ἄκανθαι. *Dioſcorides.*

ACERIDES. Ἀκηρίδες, from α Negative, and κηρὸς Wax. Plaiſters made without Wax are thus called. *Galen.*

ACEROSUS, of ACUS, from ἄχυρον Chaff. It is an Epithet of the moſt brown and coarſe Sort of Bread, made of Flour not ſeparated from the Bran.

ACESIAS. A Greek Phyſician. All that we know of him is, that he was ſo unfortunate in his Practice, that it gave Riſe to a Proverb, Ἀκεσίας ἰάσατο, *Aceſias has had it under Hand*; ſpoken of any Thing that grows worſe for being taken Care of. This is quoted by many Collectors of Proverbs from *Ariſtophanes.*

An ACESIAS, in the Opinion of Fabricius, different from the above-mentioned, is taken Notice of by Athenæus, and numbered amongſt the Writers on the Subject of Preſerving or Pickling.

ACESIS. Ἄκεσις. A Remedy, or Cure.

ACESIUS. The ſame as TELESPHORUS, or Evamerion, according to Pauſanias. It is not known who or what is meant by this real or pretended Perſon. He is repreſented in the Figure of a Boy on ſome antient Medals ſtruck at Pergamus, which are preſerved in the Cabinets of the Curious. See TELESPHORUS.

ACESO. A Daughter of Æſculapius, fabled to have had great Knowledge in Phyſic. Le Clerc is of Opinion, that *Aceſo* means allegorically the Purity of the Air, refined by the Rays of the Sun, and rendered Medicinal and Reſtorative to thoſe that reſpire it thus in Perfection.

ACESTA. Diſtempers which are curable. *Gorræus.*

ACESTIDES. Thus the Chimneys of Furnaces, where Braſs was made, were called; contrived narrow at the Top, on purpoſe to receive the Fumes of the melting Metal, and collect them, that Cadmia might be produced in greater Quantities. *Dioſcorides, Salmaſii Hyl. Iatrica.* See CADMIA.

ACESTIS. Ἀκεστίς. A factitious Sort of Chryſocolla, made of Cyprian Verdigreaſe, the Urine of Children, and Nitre. *Pliny.*

ACESTORIS. Ἀκεστορίς, from ἄκος a Cure.

It ſignifies ſtrictly a Female Phyſician, and is uſed for a Midwife.

ACESTRA. Ἄκεστρα. A Needle.

ACESTRIDES. Ἀκεστρίδες, from ἀκέομαι, to cure. Midwives were ſo called amongſt the Greeks. The Word is uſed by Hippocrates in this Senſe, at the latter End of his Treatiſe *de Carnibus.*

ACETABULUM. Κοτύλη, Κοτυληδὼν, Ὀξύβαφον. The Herb UMBILICUS VENERIS, which ſee.

ACETABULUM ſignifies a large Cavity in a Bone, which receives another convex Bone, for the Convenience of a circular Motion of the Joint thus articulated. Thus the large Cavity found by the Oſſa innominata is particularly called, which receives the Head of the Femur, or Thigh Bone.

It is formed by the Juncture of the Os Ilium, Iſchium, and Pubis. In it the Edge called Supercilium, the cartilaginous Cavity, the Impreſſion at the Bottom of the Cavity, and the Notch in the Edge, are obſervable.

The Edge, or Supercilium, is very prominent on the upper Part; on the Sides this Prominence decreaſes as they deſcend, and between the anterior and inferior Part it is quite loſt. In the natural State it is increaſed by an additional elaſtic Circle.

The Cavity is proportionable to the Prominence of the Edge, and conſequently deeper on the upper and back Part than on the lower and fore Part. It is covered with a very ſmooth Cartilage, except from the Middle to the Notch, which terminates preciſely at the Edge of the Cavity.

This Portion of the Cavity which is without Cartilage, is what is called the unequal Impreſſion, which is broader toward the Bottom of the Cavity than toward the Edge, and ſerves to contain a Ligament and a Bundle of Glands.

The Notch is preciſely between the anterior and inferior Portion of the Edge of the Cavity, near the Foramen Ovale, which it, in a Manner, unites with the Cavity. The Situation of this Notch is oblique with reſpect to the Direction of the whole Body in an erect Poſture.

The elaſtic Border of the cotyloide Cavity may be reckoned among the Ligaments. It is a Sort of additional Piece, ſtrongly united to the Edge of that Cavity, but eaſily yields both Ways to any Preſſure. It may be ſtretched out by pulling, and recovers and contracts again when that Force is removed. It is of a very ſingular Texture, being compoſed of elaſtic Fibres, interwoven together through its whole Circumference, and which, in ſeveral Places, are by Degrees inclined toward the bony Edge of the Cavity. It makes an intire Circle; and where it paſſes over the Notch, the tranſverſe Ligament before-mentioned ſerves to ſupport it, as the bony Edge of the Cavity does through all the reſt of its Circumference. *Winſlow's Anatomy.*

ACETABULUM alſo ſignifies a Sort of glandular Subſtance, many of which are found in the Placenta of ſome Animals. See COTYLEDON.

ACETABULUM was alſo a Meaſure uſed by the Antients, which anſwers to one eighth Part of our Pint.

It ſeems to have taken its Denomination from a Veſſel in which Vinegar was brought to their Tables, which probably contained about this Quantity, and was called *Acetabulum* from *Acetum*, Vinegar. This Derivation is quoted by Chambers from *Agricola*; and it has the greater Appearance of being right, becauſe ὀξύβαφον, Oxybaphon, which is exactly the ſame Meaſure, ſeems to be in like Manner derived from ὄξος, Vinegar.

Authors have taken ſome Pains to determine the Weight of the *Acetabulum* of different Liquids, in which they are not agreed. As the ſpecific Gravity of Fluids are various, the Weight of the *Acetabulum*, as well as all other Meaſures, muſt be ſo too.

ACETARIA. Salads.

ACETARIUM SCORBUTICUM. A Kind of Medicine, or rather Pickle, recommended by Bates; in which he adviſes ſcorbutical Patients to dip their Victuals before they eat it. It is made thus:

Take of the picked Leaves of Sea Scurvy-graſs three Ounces,
White Sugar ſix Ounces,
Salt of Scurvy-graſs an Ounce;
Beat all together, and add ſix Ounces of the Juice of Oranges.

ACETOSA, [of *acetoſus*, eager, ſour, L.] Sorrel; ſo called of the Anglo-Saxon *ꞅuꞃ*, ſour.

The Leaves of Sorrel are ſmooth, ſucculent, and tender; ſomewhat long, and ſharp-pointed; ending near the Footſtalk in two ſharp Ears like Spinage; of a very ſour Taſte. The Stalk is long and ſlender, ſet with two or three ſmaller Leaves; and at the Top, a long reddiſh Spike of ſmall ſtaminous Flowers, which are ſucceeded by a ſmall ſhining three-ſquare Seed. The Root is about a Finger thick, branched, and full of Fibres of a yellowiſh brown Colour, abiding ſeveral Years. It grows every where in the Fields and Meadows, flowering in May. The Leaves, Seed, and Root are uſed. *Miller.*

1. ACETOSA *vulgaris*, *Oxalis*, Offic. *Acetoſa vulgaris*, Park. 742. Raii Hiſt. i. 178. *Acetoſa pratenſis*, C. B. 114. Hiſt. Oxon. ii. 582. Tourn. Inſt. 502. Boerh. Ind. A. ii. 85. Dill. Cat. 67. Buxb. 4. *Acetoſa major vulgatiſſima*, Schw. 5. *Acetoſa vulgaris*, *ſive Rumeæ campeſtrinus*, Munt. Herb. Brit. 221. *Oxalis ſeu Acetoſa*, Ger. 319. Emac. 396. Park. Parad. 486. Chab. 311. *Oxalis vulgaris folio longo*, J. B. ii. 989. *Lapathum Acetoſum vulgare*, Raii Synop. iii. 56. COMMON SORREL.

It grows in Meadows and Paſtures, and flowers in May. The Parts of it uſed in Phyſic are, 1. the Leaves, which are juicy, ſmooth, pointed, of a dark green Colour, and of an acid Taſte; 2. the Root, which is fibrous, yellow, and has an aſtringent Taſte; 3. the Seeds, which are of a triangular Figure, and of a bright red Colour. As to its Virtues; it is one of the principal Cardiacs and Hepatics, reſiſts Putrefaction, creates an Appetite, repreſſes Bile, and allays Thirſt; whence it is moſt frequently given in common and peſtilential Fevers. *Dale.*

The Leaves are of great Uſe againſt the Scurvy, and to that End are recommended to be eaten in the Spring in Salads; and the Juice is frequently given among the other antiſcorbutic Juices. The Root has no Sourneſs, but a bitter aſtringent Taſte; and is accounted ſerviceable againſt the Scurvy, and bilious Fluxes. The Seed is alſo very aſtringent, and is therefore put into Diaſcordium, and other binding Medicines. *Miller.*

This Plant is excellent in hot, lax, putrid Conſtitutions, abounding with Bile. *Boerhaave.*

The Root of this Plant is not ſour, as Matthiolus affirms: it is, on the contrary, very bitter, very aſtringent, and gives but a faint red Colour to the blue Paper; whereas the Leaves give it as deep a Red as Alum. The Red from the Leaves continues after the Paper is dry; that from the Roots vaniſhes, nothing remaining but a brown Spot. The eſſential Salt of the Sorrel is a Mixture of Sal Ammoniac and Nitre; it crackles in the Fire, and ſmells of an urinous Spirit when diſſolved in Oil of Tartar. The Sal Ammoniac ſeems to be moſt diſengaged in the Roots, becauſe they ſtain the blue Paper with a red Colour, which the Nitre could not do; but in the Leaves their Acids are diſengaged from a great Quantity of acrid Salt, and become, in ſome Meaſure, like the acid Spirit of Sal Ammoniac, or that of Nitre. In the Roots theſe two Sorts of Salts are united with a little fœtid Oil, and a pretty deal of Earth. In the Leaves they are diſſolved in a great Quantity of Phlegm. There does not appear any Vitriol in the Sorrel; for the Juice of its Leaves does not blacken the Tincture of Galls, any more than other Acids which have nothing metallic in them. So that it is no wonder the different Parts of the Sorrel have different Virtues. The Roots where the Sal Ammoniac, the Sulphur, and the Earth predominate, are good to remove Obſtructions in the Bowels: They are preſcribed in Broths, Decoctions, and opening Ptiſans. The Leaves, on the contrary, which are ſo ſharp that they ſet the Teeth on Edge, cool, by diminiſhing the Fermentation of the Blood, and temper the Bile, or keep it from inflaming. Simon Paulli relates, that in Greenland they give to thoſe that are troubled with the Scurvy, Broths, or Decoctions of Cochlearia, with Sorrel Leaves; which correct its Acrimony. It has been obſerved alſo, that the Uſe of the Roots and Leaves of this Plant very much relieve ſcorbutic Perſons, of a dry and bilious Conſtitution. The Leaves bruiſed, or roaſted under the Coals, haſten the Suppuration of Tumours, as well as Leaven. The Roots ſtain Water with a red Colour; and may ſerve to cheat ſick People who want to drink Wine, eſpecially if you add a little Juice of Pomegranates. *Martin's Tournfort.* See, under the Article BOTANICA, an Account of the Method of examining the Contents of Vegetables, by the Alterations they produce in the Colour of blue Paper, *&c.*

2. ACETOSA *arvenſis*, Offic. *Acetoſa minor*, *ſeu Lujula*, Ind. Med. 111. *Acetoſa arvenſis lanceolata*, C. B. 114. Raii Hiſt. i. 180. Dill. Cat. 52. Hiſt. Oxon. ii. 584. Boerh. Ind. A. ii. 86. Tourn. Inſt. 503. Buxb. 4. *Acetoſa minor lanceolata*, Park. Theat. 744. Munt. Herb. Brit. 222. *Acetoſa lanceolata major*, Schw. 8. *Oxalis parva auriculata repens*, J. B. ii. 992. Chab. 312. *Oxalis tenuifolia*, Ger. 320. Emac. 397. *Lapathum acetoſum repens lanceolatum*, Raii Synop. 56. SHEEP'S SORREL.

This grows in Tillage Grounds; its Leaves are in Uſe; it is more grateful to the Palate than the common Sorrel, and is beſides endued with all its Virtues. *Chab. Dale.*

This Sorrel is lower and ſmaller than the common, having many narrow ſharp-pointed Leaves, each of which has two large Ears growing to the End next the Stalk, which makes the Leaf appear like the Head of a bearded Spear. They are ſour, like the common. The Flowers grow in Spikes, as thoſe of the former; are ſmall and ſtamineous; and the Seeds triangular, and leſs than the Seeds of that. The Root is ſmall, and creeping in the Ground. It grows in dry barren Soils, and flowers in May. It is but rarely uſed, being ſuppoſed to have leſs Virtue than the common Sorrel. *Miller.*

3. ACETOSA *Romana rotundifolia*, Offic. Munt. Herb. Brit. 224. *Acetoſa rotundifolia hortenſis*, C. B. 111. Raii Hiſt. i. 180. Hiſt. Oxon. ii. 583. Boerh. Ind. A. ii. 86. Tourn. Inſt. 503. Buxb. 4. *Acetoſa Sabandica*, Schw. 214. *Oxalis Franca ſeu Romana*, Ger. 320. Emac. 397. *Oxalis ſaliva Franca ſive Romana rotundifolia*, Park. 743. *Oxalis folio rotundiore repens*, J. B. ii. 991. Chab. 311. FRENCH SORREL.

It grows in Gardens; the Leaves are uſed, and have the ſame Virtues as thoſe of the other Sorts. *Dale.*

The Leaves of this Sorrel are of a glaucous or blewiſh green Colour; they are broader, ſhorter, and rounder than the common; and the Ears that ſtand on each Side, at their joining to the Footſtalk, are very large. The Stalks do not ariſe to that Height; they are weaker, and ſtand not ſo erect; the Flower and Seed much like the other.

This Sorrel is found in Gardens, and flowers in June. The Leaves are as ſour as the common, and may be uſed indifferently with it, both in Medicine and Salads. *Miller. Bot. Off.*

This Plant is of great Service in Phyſic. From the Juice decocted, well depurated, and inſpiſſated, and afterwards laid up in a ſubterraneous Place, is made an acid Salt, which ſtimulates and purges, corroborates and aſtringes, and is proper for all Diſeaſes attended with a burning, putrid, and continual Fever. A Decoction of the Leaves or Roots, in Whey of new Milk, is excellent againſt all lingering Diſeaſes in general, where there is an Acrimony tending to Putrefaction. Its Conſerve, Syrup, and Water are in Uſe. No Plant better purges the Body of fœculent Humours collected in the Winter. A Handful of the Leaves boiled in a Pint of Whey, is an excellent Medicine in April. In ſhort, it is one of the moſt effectual Remedies againſt the Scurvy, if the Plant itſelf be eaten green, or its Juice drank; for it helps a ſtinking Breath, faſtens looſe Teeth, and cures the Putrefaction of the Gums; and is extremely beneficial in all Caſes where the Blood is too fluid, and the Veſſels lax. They who ſpit Blood, and are prone to a Conſumption, find extraordinary Relief from taking the Juice hereof, which is of Uſe alſo externally applied; for it is proper to cleanſe ſordid Ulcers; and the Leaves, contuſed with Freſh-Butter, are of the greateſt Service againſt ſuch Carbuncles as tend to a Gangrene. *Boerh. Hiſt. Plant.*

To theſe three principal Kinds Miller adds the following:

Acetosa *Foliis criſpis*, C. B. P. Sorrel with curled Leaves.

Acetosa *montana maxima*, C. B. P. Greateſt Mountain Sorrel.

Acetosa *Pyrenaica*, *anguſtiſſimo & longiſſimo folio*, Schol. Bot. Pyrenean Sorrel, with very long narrow Leaves.

Acetosa *montana*, *lato Ari rotundo folio*, Bocc. Muſ. Mountain Sorrel, with a broad Arum Leaf.

Acetosa *montana pumila*, *fagopyri folio*, Bocc. Muſ. Dwarf Mountain Sorrel, with a Buckwheat Leaf.

Acetosa *tuberoſa radice*, C. B. P. Sorrel with a tuberoſe Root.

Acetosa *Calthæ folio*, *peregrina*, C. B. P. Foreign Sorrel, with a Marigold Leaf.

Acetosa *lucida*, *folio Atriplicis*, H. R. Par. Shining Sorrel, with Orach Leaves.

Acetosa *major Italica*, *ſemine rotundiore & glomerato*, H. R. Par. Greater Italian Sorrel, with a round glomerated Seed.

Acetosa *lanceolata anguſtifolia elatior*, Mor. Hiſt. Taller, narrow-leaved, ſpear-pointed Sorrel.

Acetosa *Ocymi folio*, *Neapolitana*, C. B. P. Neapolitan Sorrel, with a Baſil Leaf.

Acetosa *Americana*, *foliis longiſſimis pediculis donatis*. American Sorrel, with Leaves growing on long Pedicles.

Acetosa *rotundifolia repens Eboracenſis*, *folio in medio deliquium patiente*, Mor. Hiſt. Creeping round-leaved Sorrel of the North.

Acetosa *arboreſcens*, *ſubrotundo folio*, *ex inſulis Fortunatis*, Pluk. Almag. Shrubby Sorrel, with a round Leaf, from the Fortunate Iſlands.

Acetosa *Muſcovitica ſterilis*, M. H. The Northern barren Sorrel.

As Boerhaave attributes great Virtues to the native Salts of *Acetoſa*, it will be proper to inſert his Method of making them.

1. Take a large Quantity of broad-leaved Garden Sorrel, in the Prime of its Growth, a little before it flowers; let it be gathered early in the Morning, and well waſhed from its Sand in fair Water; cut it, bruiſe it; commit it to a clean Linen Bag, and ſqueeze out all the Juice in a ſtrong Preſs. This Juice will be very acid, green, and thick as Muſt. 2. Dilute it with ſix times its Quantity of pure Rain-water, that it may the better paſs the Strainer; now filter it through a conical Linen Bag, returning it ſo often till at length it becomes pure, thin, and limpid; at which Time it will be gratefully acid. 3. Put the Liquor, ſo purified, into wide Glaſs Veſſels, and inſpiſſate it by a very gentle Boiling, in a Place free from Duſt, and over a clear Fire, till the remaining Matter become almoſt as thick as recent Cream, and ſtrongly acid. 4. Pour this thick Liquor into a clean Urinal Glaſs, which it may fill till it reaches within its Neck; then gently pour on the Top a little pure Oil-Olive, to the Height of about the tenth of an Inch; and thus let it ſtand at reſt for eight Months, upon the Floor of a Cellar. By this Means the Oil preventing Fermentation, Putrefaction, and Ropineſs, a Salt will be produced reſembling Tartar, which nearly approaches to the natural Salt of Vegetables. 5. The Liquor, therefore, being now poured off, let the Salt be a little waſhed by the quick and ſudden Affuſion of cold Water, to cleanſe it of its adhering ſlimy Feculencies; then gently dry it, and it will be the native Salt of the Plant. *Boerh. Chem.*

Acetosa Esurina. Eſurine Spirit of Vinegar, which will be deſcribed under the Article Acetum.

ACETOSELLA. A Plant thus diſtinguiſhed by Authors:

Acetosella *Lujula*, *Alleluja*, Offic. *Acetoſella & Lujula ſive Alleluja Officinarum*, Buxb. 5. *Acetoſella vulgo*, Herm. Hort. Lugd. Bat. 2. *Acetoſella vulgaris & Officinarum*, Rupp. Flor. Jen. 101. *Trifolium Acetoſum vulgare*, C. B. Pin. 330. Hiſt. Oxon. ii. 183. Park. Theat. 746. Raii Hiſt. ii. 1098. *Trifolium Acetoſum vulgare Lujula*, *Alleluja Officinarum*, Merc. Bot. i. 74. Phyt. Brit. 123. *Oxys alba*, Mer. Pin. 90. Ger. 1030. Emac. 1201. Raii Synop. iii. 281. *Oxys flore albo*, Tourn. Inſt. 88. Elem. Bot. 76. Boerh. Ind. A. 319. *Oxys ſive Trifolium acidum*, *flore albo*, J. B. ii. 387. *Oxys ſive Trifolium acidum*, Chab. 168. Wood-Sorrel. *Dale.*

Wood-ſorrel has a ſmall, long, and ſcaly Root, inclining to a red Colour, with a great many fine ſlender Fibres. The Leaves are numerous, ſpringing directly from the Root, each on a ſlender reddiſh Stalk, about two or three Inches high, divided into three equal Parts, each in Shape of a Heart, of a pale green Colour, and a pleaſant ſour Taſte. The Flowers ſpring up among the Leaves, upon their own Foot-ſtalks, conſiſting each of one ſingle Leaf, divided into five Parts; in ſome Plants white, in others of a pale purple Colour. When the Flowers are fallen, the Seed Veſſels grow large and five-corner'd, and when ripe will burſt aſunder at the leaſt Touch, caſting abroad their ſmall round Seed. This Plant grows in Woods and ſhady Places, and flowers in April.

The Leaves of Wood-ſorrel, which only are uſed, are believed to excel common Sorrel in all phyſical Virtues, and are reckoned more cordial and uſeful in inflammatory Fevers, quenching Thirſt, and allaying the Heat of the Stomach, which they ſtrengthen, and create an Appetite; they help Diſorders of the Liver, and are good for the Dropſy and Jaundice. The Juice, when clarified, is of a fine red Colour, and makes a very agreeable Syrup.

Officinal Preparations from Wood-ſorrel, are a Syrup of the Juice, and a Conſerve of the Leaves. *Miller.*

The Juice of this Plant is ſomewhat oily, acid, and nitrous, therefore it is good in all burning, putrid, peſtilential Diſtempers. The Herb boiled in Milk and Water, is an excellent Remedy for an Inflammation, Pleuriſy, and all acute Diſeaſes. Nothing better corrects the Humours, Bile, and Putrefaction, than this Herb; therefore it muſt be good for a Nauſea and Want of Digeſtion ariſing from putrefied Bile, or any alcaleſcent Humour in the Stomach. Let the Patient eat this Herb like Lettuce, but without Vinegar, for it is ſour enough of itſelf. It is a fine Remedy in a Diarrhœa, Dyſentery, and Looſeneſs; therefore it ſhould be often uſed in Phyſic. Its diſtilled Water is of no Virtue. The Taſte of this Plant is an unpleaſant Sour, penetrating almoſt like the Juice of Citrons, and rather aperient than aſtringent. It is a very good Medicine in burning Fevers, Inflammations of the Jaws, Buboes, Carbuncles, and the Plague. Contuſed green, and applied, it is uſeful in the Diſtempers laſt mentioned. There is an excellent Conſerve made of it with Sugar. A Volume has been written of the Virtues of this Herb in the German Tongue, and tranſlated into Latin, wherein you will find that the Plague has been cured, and the Gums that were eaten with the Scurvy reſtored and healed by the Uſe of it. *Boerhaave.*

ACETUM, Vinegar.

This Fluid ſo commonly known has in all Ages been eſteemed of great Importance both in Phyſic and Surgery.

Hippocrates recommends it in Hyſterical Diſorders; and in Inflammations of the Liver, and Diaphragm, mixed with Honey. See Oxymel. But he ſays it is more ſerviceable in bilious, than atrabilarious Conſtitutions; for where Melancholy abounds it is prejudicial. And that it is more proper for Men than Women, becauſe it is hurtful to the Uterus. *De Ratione Victus in Acutis.*

By Galen Vinegar is repreſented as moſt attenuating, diſcutient, repelling and antiphlogiſtic. He ſays in order to inform himſelf of the Effects of Vinegar, he applied the Thapſia to ſeveral Parts of the Legs, which in four or five Hours were much inflamed and painful. He then waſhed one Sore with Water, another he anointed with Oil, another with Roſaceum, and to another he applied Vinegar, and found nothing gave ſo effectual Relief as the laſt.

He ſays it penetrates all Bodies like Fire, and runs thro' the thickeſt and cloſeſt Cloths ſooner than Water. That it diſſolves ſcirrhous Tumours of the Spleen; and is an Antidote againſt the Poiſon of Muſhrooms, and of the Thapſia, or Deadly Carrot.

It cures Hickups that are cauſed by the Putrefaction of Aliment that remains undigeſted upon the Stomach. I ſuppoſe he means an alcaline Putrefaction; for then it cannot fail of being very ſerviceable.

In burning Fevers that happen during the Heat of Summer, attended with great Thirſt, or in Fevers that happen in any other Seaſon attended with Heat and Thirſt, he recommends Vinegar mixed with Water, as an effectual Remedy; and directs it to be applied to Achors that are mild, and require only topical Applications, and to a ſuperficial Herpes, which he affirms it will cure.

Vinegar with Bitters he directs for inflammatory Tumours tending towards a Scirrhus, eſpecially of the Spleen, becauſe it attenuates without heating. And a Scirrhus in general, he ſays, may be cured by the Fumes of Vinegar received from a red-hot Pyrites.

This Author alſo adviſes to apply Vinegar to the Noſtrils of lethargic Patients, wherein Thyme, Pennyroyal, and Origanum have been boiled. This reviving, or exciting Virtue of Vinegar will be taken notice of hereafter from Boerhaave; mean time I muſt from my own Experience recommend it as the moſt powerful Exciter known in Faintings, Hyſteries, and all thoſe ſudden Diſorders which are uſually called Fits, where it is of much greater Efficacy than any fœtid Fumes, or volatile Salts, which frequently are of little Service, and often do a great deal of Hurt.

The Virtues of Vinegar according to Dioscorides.

Vinegar refrigerates and aſtringes, is good for the Stomach, and creates an Appetite. Stops all manner of Fluxes of Blood, either taken inwardly, or externally applied. And boiled with the Food ſtops a Looſeneſs. It is proper for Wounds, and prevents Inflammation if applied in greaſy Wool ('Οισυπηροῖς) or a Spunge. It cures a Prolapſus of the Anus and Uterus, and the Putrefaction and Bleeding of the Gums; it is ſerviceable for eating Ulcers, Eryſipelas, Herpes, Leproſy, Tetters, and Films in the Eye, if joined with other proper Ingredients. It reſtrains the Spreading of phagedenick and cancerous Ulcers, if they are conſtantly fomented with it. A warm Fomentation of Vinegar with Sulphur relieves the Gout; and Vinegar applied with Honey effaces the Lividneſs from Blows and Bruiſes. With Oil of Roſes (ῥοδίνῳ) applied in greaſy Wool, or a Spunge, it cures the hot Diſtempers of the Head. The hot Steam thereof is effectual againſt the Dropſy, Thickneſs of Hearing, and Noiſe in the Ears; and Vinegar dropped into them kills Worms bred therein. A Fomentation of warm Vinegar, or a Spunge dipped therein, cures Swellings of the Glands and Itchings: The hot Fomentation is effectual againſt the cold Poiſon of venomous Creatures, as on the contrary, the cold Fomentation is a Remedy for their hot Poiſon. A Vomit of hot Vinegar is effectual againſt all Sorts of Poiſon, eſpecially the Papaver Spumeum, and Hemlock; and, taken with Salt, againſt Concretions of Blood, or Milk in the Stomach, Muſhrooms, the white Chamæleon, and the Yew. A Draught thereof expells Leeches out of the Stomach, mitigates an old Cough, and irritates a new one. It is good ſupped hot for an Aſthma, In Gargariſms, it ſtops Defluxions on the Throat; is uſeful in the Quinſey, and Relaxation of the Uvula, and held in the Mouth hot relieves the Toothach.

As the illuſtrious Boerhaave has been indefatigable in his Enquiries concerning the Production of Vinegar, curious in his Reſearches into the Nature of it, and accurate in his Account of its Virtues, I cannot do a more agreeable thing to my Readers than make them acquainted with his Sentiments on this Subject, upon which I ſhall take the Liberty to make ſome Remarks. Mean time I would adviſe them to read the Articles FERMENTATION and ACIDUM, in order to the better underſtanding what follows.

After underſtanding the Effect of the firſt Fermentation of vegetable Juices, that is, Alcohol, or an inflammable Spirit, it remains that we conſider the other Production of it, Vinegar, which cannot any ways be procured without previous Fermentation, and that a double one; for the Generation of a vinous Liquor muſt precede that of Vinegar, and then any Wine or vinous Liquor is fit for this Purpoſe. For if you mix with any Sort of Wine a large Quantity of its own Lees, and the Flowers that riſe to the Top, during its Fermentation, adding alſo powder'd Tartar, and the Twigs, Stalks, and Skins of the Grape, and the acid, auſtere Vine-leaves, which abound with a ſaline, tartarous Matter, and then ſtir theſe well together, and ſet them in a warm place, particularly in wooden Caſks that are thoroughly penetrated with the Vapour of Vinegar, and in an Air that is alſo impregnated with the Fumes of Vinegar, they will by this means undergo a ſecond Fermentation, with a conſiderable Production of Heat, and, in this particular, the ſecond acetoſe Fermentation differs from the firſt. If this is protracted too long, the Wine, indeed, grows ſouriſh, but then it grows flat, and never becomes good Vinegar.

The remote Matter, therefore, of an acetoſe Fermentation is every Vegetable, which is capable of a vinous Fermentation, provided it is firſt, by this, converted into Wine. The Matter from which Vinegar is immediately prepared, is every Sort of Wine, with this Circumſtance however, that the ſtronger the Wines are, the ſharper generally are the Vinegars which are made from them, whilſt the ſmaller Wines produce indeed Vinegar, but of a weak and more unactive Nature.

The Ferments by which an acetoſe Fermentation is moſt ſucceſsfully promoted, are particularly theſe.

1. The acid Fæces, or Lees of an acidiſh Wine, called the Mother of Wine.

2. Fæces of Vinegar collected in old Caſks, eſpecially ſuch as are well ſaturated with very ſtrong Vinegar.

3. Tartar of an acid Wine, reduced to Powder.

4. Vinegar itſelf, firſt well prepared, and brought to its greateſt Degree of Acidity.

5. Old wooden Caſks, which have been for a long time full of the ſtrongeſt Vinegar, and hence are thoroughly penetrated with its ſharp Acid.

6. The frequent ſtirring up of the Lees in its own Wine.

7. The Stalks, Twigs, and Skins of Cherries, Currants, and Grapes, the Tendrels of Vines, and the like Parts of other acid auſtere Vegetables.

8. The acid Rye-leaven of the Bakers.

9. A Compoſition of all the preceding mixed together, eſpecially if there are ſome very warm Aromatics added to the Acids; for then the ſtrongeſt Vinegars are produced.

Glauber long ago gave the whole Hiſtory of the Generation of Vinegar, with great Accuracy, and an Account of this was afterwards publiſhed in the *Philoſophical Tranſactions*, the Purport of which is as follows.

Two large oaken Veſſels are prepared in the Shape of common Caſks; in each of theſe, at about the Diſtance of a Foot from the Bottom, as they ſtand upright, a wicker Grate is fixed. Upon theſe Grates are laid a moderately thick Stratum, of freſh, green Tendrels of Vines, and over theſe, ſuch a Quantity of the Pedicles of Grapes from which the Grapes have been ſtripped, as is ſufficient to fill the Veſſel to within a Foot of the Top. When theſe two Veſſels are thus prepared, the Wine of which the Vinegar is to be made is poured into both of them, but in ſuch a Manner, that one of them is filled quite full, the other only half full; and then every Day alternately, the Veſſel which was half full, is filled out of the other, ſo that neither remains full above twenty four Hours. After proceeding in this Manner for two or three Days, a Fermentation ariſes in the Wine with a ſenſible Heat, in the half filled Veſſel, and this increaſes gradually every Day. Mean time the Motion and Heat are almoſt ſuffocated in the Caſk which is quite full, ſo as nearly to ceaſe in the Space of the twenty four Hours, during which it remains full. Thus Fermentation and Heat are alternately excited and ſuffocated in the two oaken Veſſels.

In this Manner the Operation is continued, till the Heat is extinguiſhed, and there appears no more Motion in the half filled Veſſel; and this is a Sign that the acetoſe Fermentation is compleated, the Vinegar therefore muſt be then put up in Caſks well ſtopped.

The hotter the Room is where theſe Veſſels, in which the Vinegar is prepared, are placed, the ſooner will it be made; in France it is compleated in Summer in about fifteen Days: But in cold Weather, and a cold Place, the Operation is more ſlow. But when either the Seaſon or the Workhouſe is very hot, it is often neceſſary to fill the half filled Veſſel out of that which is full, every twelve Hours; for otherwiſe there ariſes ſuch a Heat and Fermentation in the Veſſel half full that the volatile Spirits of the Wine, not being yet ſufficiently fixed, are diſſipated by the Heat, and fly off before they can be properly intangled and converted into the acid Spirit of Vinegar; And hence the Liquor, though it would be ſour would at the ſame time be vapid, and in no reſpect ſtrong generous Vinegar. For this reaſon alſo, the Veſſel which is half full, is always accurately cloſed with a Cover of Oak, that the foaming Ebullition of the fermenting Liquor may be reſtrained, and checked, and thus the repelled Spirits may act longer and more forceably upon the auſtere Subſtances underneath, and by the Reaction of them be better ſecured from Diſſipation. But the full Veſſel is not covered, but left quite open, that the Air may have a free Acceſs to the Liquor deſigned to be changed..

This is the ſecond Fermentation, which tends to the Production of Vinegar, and there terminates. Vinegar is erroneouſly by ſome eſteemed a Liquor produced after the Evaporation of the inflammable Spirits generated by the firſt Fermentation; for this would be vapid, and nothing like Vinegar. On the contrary, the more generous, and the more replete with Spirits the Wine is which is uſed for this Purpoſe, the better will the Vinegar be, and the weaker the Wine is, the leſs acid is the Vinegar prepared from it. For this reaſon, the ſtrongeſt Malt-Liquors, if they are treated in the ſame Manner, yield an exceeding good Vinegar, as do the richeſt Spaniſh Wines. In this Operation, it is particularly remarkable, that this Converſion of Wine into Vinegar is not brought about without the Generation of a conſiderable Heat during the Fermentation; whereas Muſt fermenting in the time of Vintage ſcarcely generates any Heat; and Malt-Liquor, notwithſtanding the violent Motion which is excited whilſt it works, does not grow warm. Is Heat therefore always required for the Generation of an Acid? It is cert that Corn and Milk and Food prepared from theſe do not gro acid without Heat either of the Seaſon, of artificial Fire, or th of the Body. And we find, that a violent Fire converts Nitre, Sulphur, and Salt, which are not acid, into Spirits extreme acid. Hence perhaps, upon Reflection, we ſhall find reaſon t believe, that almoſt every Change which is brought about i Nature, requires a certain Degree of Heat.

In this Operation, another Circumſtance occurs which deſerv our Conſideration, which is, that whilſt Wine is thus convert into Vinegar, this clear thin Liquor depoſites an incredible Qua tity of thick, pinguious, oily, and as it were ſoapy Fæces, whic hang about the Sides of the Veſſels, the Vine Tendrels, and th Pedicles of the Grapes. Whence ſhould this ariſe? In the Wi there is not the leaſt Sign of any ſuch thing, and in the auſte Tendrels, and Pedicles, one would expect to find nothing b a pinguious oily Subſtance. And yet it is in this Manner form from the Wine; for if it is waſhed off it will be generated ag inſomuch that it is neceſſary once a Year to clear away all t groſs unctuous Matter, for otherwiſe, when the Wine was p into the Veſſels, it would not be changed to a thin ſharp Vineg but to a thick, corrupted, pinguious Liquor fit for no Uſe wh ever.

But Care muſt be taken to clear the Pedicles, and Tw from this pinguious Matter which adheres to them, by a ſud Affuſion of Water upon them, which muſt be ſuffered to thro' them, leſt if it ſhould remain, it ſhould deprive the their acid Ferment, with which they are now impregn

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After this the Grates, Sides, and Bottoms of the Veſſels, in which the Vinegar is made, are cleared with the ſame Caution, and as ſoon as ever the pinguious Impurities are removed, the Grates, Twigs, and Stalks are diſpoſed as before, and are then again fit for making Vinegar; till, by a long Uſe, the ſame oily Cruſt will be formed again; which evidently demonſtrates, that the Wine actually throws out an Oil whilſt it is changed from its own proper Nature to that of Vinegar. At the ſame time too, the acetific Ferment remains in the Veſſels, Grates, aud Stalks; and hence, when theſe Veſſels have been uſed a conſiderable time, they acquire very ſtrongly the Power of converting Wine into Vinegar, and with the Grates, and Stalks &c. become as it were ſpungy Reſervoirs of Vinegar.

It is farther to be remembered that as Alcohol, prepared from very ſtrong old Malt Liquor, can ſcarcely be diſtinguiſhed from that drawn from the richeſt Wine, ſo here the ſame Malt Liquor, treated in the Manner explained, may be converted into Vinegar, as good, pure, and fit for any Uſe, as can be made from the beſt Wine; nor is it eaſy to find any Difference betwixt them, except what is owing to the Bitters put into Malt Liquor, to make it keep, which give it a Colour and Taſte different from what it would have had, if prepared from Corn alone. In other reſpects they are intirely the ſame.

The Effect therefore of this ſecond Fermentation, when compleated, is the Production of good Vinegar. In order now to underſtand this the better, let us conſider what Vinegar is. Vinegar is an acid, penetrating, ſubpinguious, volatile, vegetable Liquor, produced from Wine by a ſecond Fermentation; the firſt Part of this which riſes in Diſtillation is truly acid, and by no means inflammable, but extinguiſhes Fire and Flame, like Water; and by theſe remarkable Properties, Wine is diſtinguiſhed from Vinegar.

Wine, then, by one Fermentation is prepared directly from vegetable Juices; Vinegar, by a ſecond Fermentation, from Wine that is already made. The volatile Part that firſt riſes from Wine in Diſtillation will take fire, and riſe into a lucid Flame, but the moſt volatile Part of Vinegar, which riſes firſt like Water, puts it out. This, therefore, is an Inſtance of a very extraordinary Production of one thing from another of a different Nature. Some of the moſt able Chymiſts have called Vinegar a volatile Tartar of Wine, becauſe Tartar is the moſt acid part of Wine, but not volatile; Vinegar, Wine converted into a volatile Acid; and they were farther confirmed in this Opinion, becauſe Wine generally depoſites a Tartar, and Vinegar, if it reſt never ſo long, produces not the leaſt portion of it, though as it is deprived of a great deal of Oil in making, and hence is rendered more acid, it ſhould ſeem reaſonable to expect it would generate a greater Quantity. It muſt be confeſſed that what remains at the Bottom of the Retort, after the Diſtillation of Vinegar, ſeems to approach near to the Nature of Tartar, but yet, upon Examination, we find it a Subſtance very different from it. But it will be of ſingular Service to Chymiſtry, Medicine, and Natural Philoſophy, to explain the ſpecific Nature of Vinegar; which I ſhall endeavour to do as follows.

Vinegar is a Liquor, diſtinguiſhed by its proper Characteriſtics above ſpecified, to which I ſhall only now add, that it is a volatile, oily, acid Salt; for its Oil, which lies ſurpriſingly concealed under a ſharp, thin Acid, moſt evidently diſcovers itſelf by a great many Experiments.

This Compound is extremely uſeful, becauſe it powerfully reſiſts that dangerous Putrefaction to which animal Juices are very ſubject, and at the ſame time it is rendered leſs acrid by reaſon of the oily Particles joined with it. This Liquor alſo is ſo penetrating that it eaſily paſſes through very denſe Subſtances, (as was obſerved by Galen) in its full Strength, and without any Separation of its Parts, and will inſinuate itſelf into all Parts of the Body, very few Veſſels excepted, and thus being diſtributed thro' the greateſt Part of the vaſcular Syſtem, will there exert its proper Powers, eſpecially as it is then aſſiſted by the natural Heat, and vital Motion. It alſo very readily ſuffers itſelf to be mixed with every animal Fluid we are acquainted with, the Oil itſelf not excepted, and thus by its Penetrability and Miſcibility is productive of very great Effects in the Body.

It effectually refrigerates in Fevers cauſed by the Stimulation of the Bile grown too acrid, of an alcaleſcent Salt, or of a Putrefaction prevailing in the Juices of the human Body, or by venemous Bites, and at the ſame time allays the Thirſt which accompanies theſe Diſorders. And hence in theſe Caſes, we have nothing extolled more by Dioſcorides and Hippocrates, than Oxycrate, or Vinegar and Water, eſpecially when rendered milder by an Addition of Honey. The Surgeons are acquainted with nothing of greater Importance in many external Maladies, as an Eryſipelas, Phlegmon, or putrid Ulcer. In virulent Bites, there is not any thing more efficacious than Oxycrate. It is ſo far from intoxicating, that whereas fermented Spirit of Wine is the only thing that inebriates, Spirit of Vinegar on the contrary proves a Remedy for Drunkenneſs when it is excited; even though a Man is quite ſunk in Sleep from the Abuſe of Spirituous Liquors, he may be rouſed by giving him Vinegar. Hence, in exciting the Nerves, and adding Motion to the Spirits, ſcarcely any thing is of greater Service. In weak, languid, drowſy, and lethargic Patients, and thoſe much ſubject to Faintings and Vomitings, after having tried the moſt celebrated chymical Productions in vain, I have frequently at laſt given Relief by applying Vinegar to the Noſe and Mouth, or giving it internally. And farther, which perhaps only thoſe who have tried it would readily believe, in convulſive, hypochondriacal, and hyſterical Caſes I have often known it do good (and for theſe purpoſes it is ſtrongly recommended by Hippocrates in many Places). Juſtly, therefore, did Hippocrates and Galen recommend it to Hypochondriacs. In a true Putrefaction and deadly Corruption of the Humours, and for ſtopping the Progreſs of a Gangrene, nothing is equal to it; and this I affirm from Experience. But the following Obſervation renders all farther Arguments upon this Subject ſuperfluous. During the moſt extreme autumnal Heats, when animal Subſtances are ſtrongly inclined to run into a putrid Sanies, Fleſh and Blood are preſerved from Corruption by ſprinkling them plentifully with Vinegar. But, with all due Deference to the Opinions of thoſe who think otherwiſe, I attribute an attenuating Virtue to Vinegar. For if it is mixed warm with the Blood, or its Serum, it is ſo far from coagulating them, and from generating polipous Concretions by its Admixture, that it attenuates them, and agreeably reſolves Coagulations already formed. In acute Fevers, therefore, in malignant burning Fevers, in the Plague, the ſmall Pox, Meaſles, and the like Diſtempers, Vinegar is an excellent Medicine, whilſt volatile alcaline Salts are uſed with much Prejudice and Danger to the Patient, becauſe by their ſtimulating Acrimony they increaſe the Velocity, and of Conſequence the Denſity of the Blood. Conſiſtent with this was the Practice of the illuſtrious Franciſcus de le Boe Sylvius, who, if not the Inventor, was at leaſt a great Favourer of the Sal Volatile Oleoſum; for by the Help of what Prophylactic did he viſit his Patients in the Plague with Safety? It was by only drinking firſt an Ounce or two of Vinegar: And he informs us, that having once omitted it, he for this Neglect was puniſhed with a ſevere Pain in his Head. In ſhort we are not acquainted with a more certain and effectual Sudorific; for Vinegar, either diluted with Water, or alone, will procure a plentiful Sweat, in the Plague, and other malignant Diſeaſes, where other things ſeldom anſwer.

Vinegar ſeems to be generated by the Combination of the inflammable Spirit, produced by the firſt Fermentation, with an Acid ſomewhat more fixed, which lay concealed in the Wine; for theſe inflammable Spirits are not loſt. Perhaps therefore theſe Spirits, by the ſecond Fermentation, may be united with the eſſential Salt of the Wine, that is, the Tartar. This I leave to mature Examination, only adding, that it ſeems as if the Spirit of the Wine was altered in its Nature, and had put on that of Vinegar. And if this is true, this is the only Way commonly known of truly changing the Matter of Alcohol into ſomething of a quite different Nature.

Perhaps the fineſt eſſential Salt of Wine is the Tartar which is generated from it; and which is utterly conſumed in the making of Vinegar, though in the Proceſs there is nothing ſeparated from it, but a thick Oil; for if the pureſt and moſt defecated Rheniſh Wine is, whilſt new, put into a clean Caſk, it will produce a great Quantity of the beſt Tartar, when at the ſame time if the very ſame Wine is by the above deſcribed Proceſs converted into Vinegar, and ſtands ever ſo long, it will never generate the leaſt Portion of Tartar, and yet, as I before obſerved, there is nothing depoſited or formed, during the ſecond Fermentation, that in any reſpect reſembles Tartar, but only a pinguious, tenacious Matter, that is widely different from it.

In the Diſtillation of Wine, the Spirit produced by the firſt Fermentation comes over before the Water; but in Vinegar prepared by the ſecond Fermentation, the watery Part riſes firſt, and when this is drawn off, an acid Spirit ſucceeds, which is always the ſtronger and more acid, the lower it is drawn. Whence we perceive, that the firſt Fermentation renders its Productions volatile; but the ſecond makes what it generates more fixed. The Action therefore of Fermentation appears very ſurpriſing, which from Muſt, that is ſweet, produces a Wine, which inclines to an Acidity; and from a Fluid void of Alcohol before, generates it; and again, from a ſweet Liquor forms an Acid; and makes the Matter of Alcohol afford ſomething in every reſpect widely different from it.

The Promoters of this ſecond Fermentation are,

1. A ſufficient Degree of Heat.
2. The free Acceſs and even Admixture of the Air.
3. Motion, Conquaſſation, and frequent ſtirring of the Liquor in the open Air.
4. The Addition of ſome very warm Aromatic during the Fermentation. The Impediments to this Fermentation are every thing which retards the firſt Fermentation, except that ſtirring the Liquor about is here of ſervice, whereas in the other it does harm. See FERMENTATION.

We ſee here that Boerhaave attributes an attenuating Virtue to Vinegar, contrary to the Aſſertions of many great Men, who have ſet it in a very different Light. I am ſenſible, that the Effects of Vinegar upon Blood out of the Limits of Circulation will not determine thoſe it has upon the ſame Fluid, whilſt circulating in the Veſſels. However the Queſtion whether Vinegar mixed with the Blood freſh drawn from a Vein, preſerves, or deſtroys the Fluidity of it, ſeems of Importance enough to deſerve Examination, eſpecially as Men of conſiderable Figure in the Profeſſion of Phyſic have maintained Aſſertions in regard to this directly oppoſite to each other.

In order to ſatisfy my ſelf of the Truth, July 29. 1741, I got a Surgeon to take ſome Blood from the Arm of a Boy about fifteen Years old, who was in a Fever. He took it in four different Tea-cups, each of which held an Ounce and a half. Into the firſt I put three Tea-ſpoonfulls of the beſt White-Wine Vinegar I could get, as ſoon as ever the Cup was near full, and ſtirred it round two or three times.

In the ſecond I put none, but ſtirred it as near as I could in the ſame Manner I did the firſt, that I might be ſure the moving it had an equal Effect on the Fluidity of the Blood contained in both the Cups.

In the third Cup I put four Tea-ſpoonfuls of the ſame Vinegar, and ſtirred it in the ſame Manner.

In the fourth Cup I put none, and ſtirred it in the ſame Manner.

In half an Hour, the Blood in the ſecond and fourth Cup was coagulated; the Blood in the firſt Cup was coagulated but very little, and that in the third not at all.

About four Hours after, the Serum was perfectly ſeparated from the Craſſamentum in the ſecond and fourth.

The firſt was not much coagulated. The third ſcarce at all.

The next Morning the Blood in the ſecond and fourth was the ſame as the Night before.

That in the firſt coagulated, but not ſtrongly, and without any Separation.

That in the third was ſomewhat thick, but ſtill preſerved its Fluidity. I believe thoſe who have repreſented Vinegar as a Coagulator of Blood, have been led into this Error by the Effect which the ſtronger Mineral Acids have upon Blood; for thoſe make it coagulate very ſoon, and ſtrongly, as 'tis probable Vinegar would do, had it the ſame Quantity of Acid in it; but ſtrong Vinegar contains only about fourteen Grains of true Acid in an Ounce, whereas there is three Drams and ſix Grains, that is, 185 Grains of Acid, in five Drams of Oil of Vitriol. Now the ſame thing in different Degrees has frequently very different Effects on the ſame Body.

However, ſo far as may be judged by Effects, Vinegar may be ſaid to be a great Attenuator of the Blood, whilſt in the Courſe of Circulation; and at the ſame time, which is very extraordinary, preſerves the Texture of the Blood, and keeps it from that Diſſolution, which it is inclinable to in the Plague, and peſtilential Fevers. This will appear leſs wonderful, if we conſider that Vinegar as an Acid prevents Putrefaction, as was obſerved above; and that when the extremely elaſtic Particles of the Acid are mixed with the circulating Fluid in a juſt Proportion, the Heat of the Body rarefies and expands them with a Force ſufficient to break thro' and deſtroy the Coagulations or Concretions of the Blood, which are the very Eſſence of Inflammations.

I ſay in a juſt Proportion, becauſe the Blood may be overcharged with the acid Particles. 'Tis for this Reaſon probably that Hippocrates adviſes Vinegar in Fevers, diluted with Water and mixed with Honey; for, as Galen expreſſes it, Vinegar adds Wings to Water, and enables it to penetrate into the moſt extreme Parts of the Body.

Cœlius Aurelianus adviſes to blow Vinegar into the Noſe in an Epileptic Fit.

Upon reflecting on the Appearances in both the Fermentations neceſſary to the Generation of Vinegar, I think there is Reaſon to believe that the Acid of Vinegar is a new Production, but that it rather lay concealed and enveloped in the Oil of the vegetable Juice, till diſengaged from it by two Fermentations, which are nothing more than continued Efforts of the extremely elaſtic Acid, aſſiſted by a proper Degree of Heat, to diſunite itſelf from the vegetable Oil, which diſguiſes it, and detains it, thereby preventing it from flying off, and mixing with the Air, of which perhaps it was originally a Denizon, and from whence it may be entertaining to trace it, till it diſintangles itſelf from the vegetable Juices, and exhaling, leaves the remaining Fluid taſteleſs, and vapid, being only Water with a ſmall Portion of mucilaginous and unactive Oil.

It is ſaid under the Article Acidum, that there is an Acid perpetually floating in the Air. This Acid is ſo ſtrongly attracted by alcaline Salts of all kinds, that in time they become ſo ſaturated therewith, as to be entirely neutral. Now alcaline Salts are the great Promotors of Fertility, inſomuch that, unleſs the Earth is ſufficiently ſaturated with them, no Vegetable of any kind will grow in it, becauſe theſe Salts are abſolutely neceſſary to the Formation of a ſaponaceous, neutral Menſtruum, capable of diſſolving Earth; for otherwiſe Earth, which is incapable of Solution by Water alone, could not enter the Pores of the Roots, and contribute to the Formation of the ſolid Parts of Plants.

If we examine all the Subſtances in Nature, that are uſed to promote Fertility, we ſhall find they contain an alcaline Salt. Thus all the Parts or Excrements of Animals contain an alcaline Salt; and the ſame kind of Salt is found in all Vegetables that have undergone Putrefaction. Thus Lime alſo contains an extremely volatile and penetrating alcaline Salt, of ſingular Efficacy in fertilizing barren Lands. Amongſt Limes may be reckoned a Kind of Sal Terræ, to be diſcovered by its Effects in all Countries: For Earth, by the continual Action of the Sun upon it during Summer, is in ſome Meaſure calcined, and furniſhed with a Salt of the Nature of Lime. Hence the Advantages of a Summer Fallow, as the Farmers call it, which is only expoſing the naked Earth to the Influence of the Sun. Hence alſo the great Fertility of Meadows from Inundations; for the Waters having in their Paſſage taken up and diſſolved large Quantities of this Sal Terræ, depoſites them upon the Lands they overflow.

But this is no where ſo remarkable as in Ægypt, whoſe prodigious Fertility ſeems to depend intirely upon this kind of alcaline Salt; for the Water of the Nile being gathered in the parched Mountains of Æthiopia, collects in its Paſſage this Salt, which it afterwards depoſites on the Soil of Ægypt.

This Kind of Salt is perhaps that which the Inhabitants in all Ages have collected in great Quantities, under the Name of Natron, which is not unlike the Cineres Clavellati, and may be uſed for the ſame Purpoſes.

When theſe alcaline Salts are committed to the Earth, and conſequently expoſed to the Air, they attract the Acid floating therein, till they are ſaturated therewith, and become neutral. At the ſame Time they attract the Moiſture, and with it the volatile Oils of Animals and Vegetables floating in the Air. Theſe then, mixed withthe Oil of the Earth, being digeſted by the Heat of the Sun, form a penetrating, neutral Soap; which, when diluted by the Rains, becomes a Menſtruum capable of diſſolving Earth, or reducing it to Particles fine enough to enter the Pores of the Roots of Plants.

I call this Soap, becauſe it has all the Ingredients of Soap in its Compoſition, and anſwers the ſame End, that is, it diſſolves Concretions of Earth, or, in other Words, Dirt. And I believe every Body has obſerved the Earth to foam and lather upon a haſty Shower of Rain. The Ingredients of Soap are an alcaline Salt, and Oil. Now, all Oils contain an Acid, and this Acid neutralizes the alcaline Salt, as it mixes with it, in the Formation of Soap. It is, perhaps, on account of this Acid, that Oils flame; for Acids, tho' not readily inflammable, yet flame with the utmoſt Violence, and greateſt Degree of Exploſion, when once ſet on fire. And I do not recollect any Body in Nature that will flame, that has not an Acid in it. Turpentines, which are vegetable Oils, and contain a great Quantity of Acid, are remarkable for the Violence of the Flame they emit.

From this Sapo Terræ, or Soap of the Earth, is made that neutral Salt which we call Nitre, perhaps the greateſt Diſſolvent in Nature, and for that Reaſon a Medicine of the greateſt Importance in the Practice of Phyſic. It muſt be obſerved here, for the better underſtanding and Confirmation of what I am going to ſay, that the Acid of the Air which enters the Compoſition of common Nitre, is not loſt or deſtroyed, but only diſguiſed and concealed under the Maſk of the alcaline Salt and Oil with which it is united, and from which it may again be ſeparated, as it actually is in making Spirit of Nitre.

This ſaponaceous Menſtruum then, together with the diſſolved Earth, is conveyed into the Pores of the Roots of Plants, where a Part of the Earth and Salt is employed in the Formation of the Solids, and a Part of the Oil ſerves as a Cement for joining the Particles of Earth together, which otherwiſe would not cohere, but fall from each other like the Aſhes of Vegetables, which are nothing but Earth and Salts deprived of their cementing Oil by Fire. Mean time the Juices, deprived of Part of their Earth, Salt and Oil, are ſomewhat acid; that is, the Acid in ſome Degree diſengaged from the enveloping Oil, neutralizing Salts, and auſtere Earth, has Liberty to act and affect the Organs of Taſte. But as the Plant approaches to Maturity, leſs of the Oil and Earth received by the Root is employed in Accretion: They mix therefore with the Juices, and contribute by Degrees to their Neutralization, which is farther promoted by the Heat of the Sun, which digeſts them together, and mixes with them itſelf; for Heat is a Body, as has been proved by many Experiments; and according to its different Degrees, has the Power of neutralizing Acids, or expelling them from the Subſtances to which they adhered; but I do not know that it has been proved, by any Experiment, that it can utterly deſtroy them.

It muſt alſo be remembered that Vegetables imbibe the Air, and no doubt the Acid thereof. And indeed this kind of Reſpiration is not leſs neceſſary to Vegetables than Animals; for without an open Intercourſe with the Air no Plant can live, but very ſoon withers away and dies. If we farther conſider, that this Sort of Reſpiration is performed by Means of the Leaves, and that in moſt Plants the Leaves by Degrees decay

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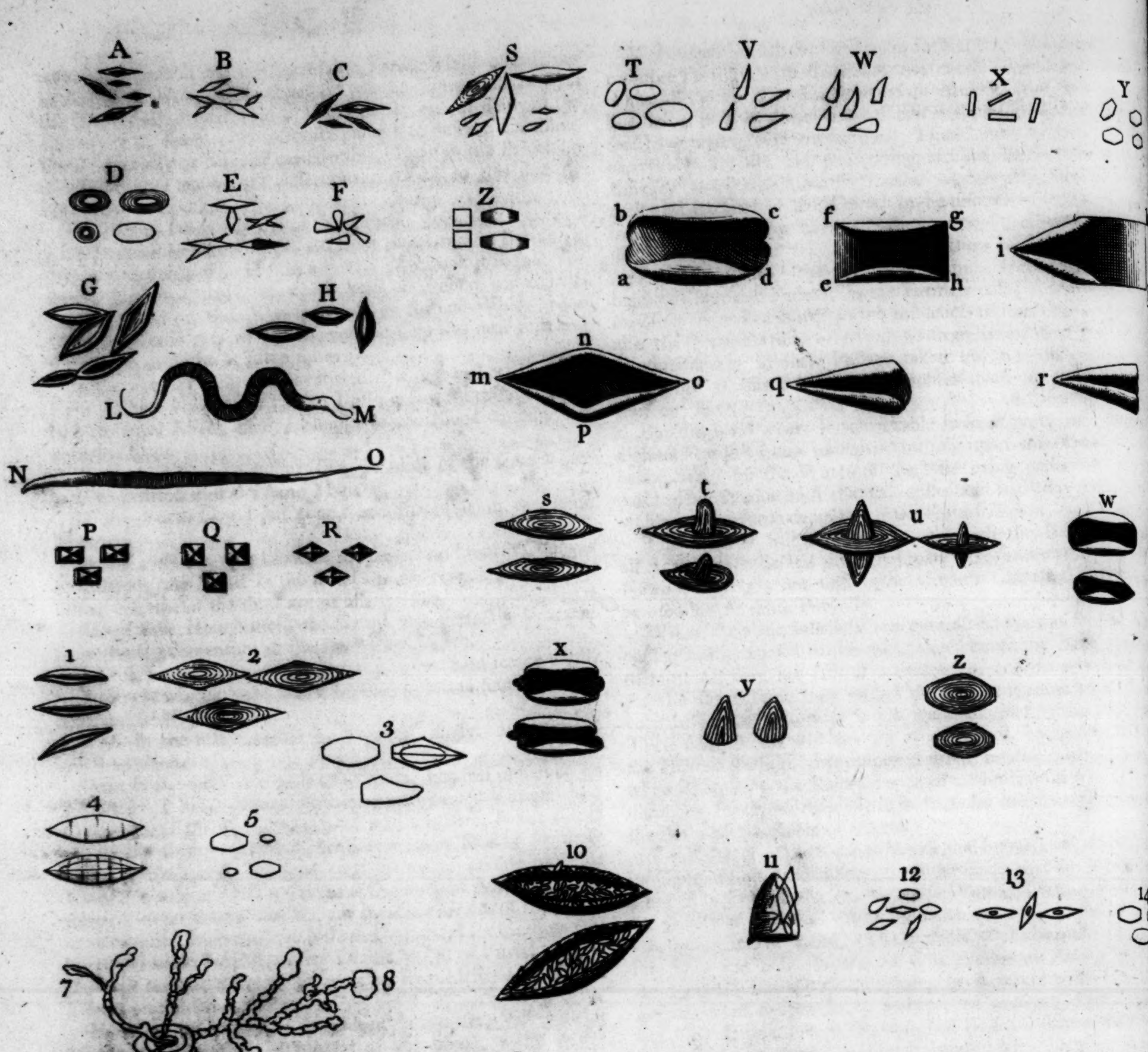
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nd wither as the Fruit approaches to Maturity; we may, perhaps, find Reaſon to believe, that the Juices of Vegetables eceive an additional Acid by Reſpiration, which ceaſes by Degrees, when the Acid is no longer of Uſe, and when the Neuralization of the Juices are neceſſary to the Maturation of the Fruits.

And this will be farther confirmed by moſt of thoſe Vegetables that produce a Fruit very acid when full ripe, as the Lemon, Orange, Citron, and others of the ſame kind; which do not loſe their Leaves as the Fruit ripens.

Upon the different Combinations of the Acid, alcaline Salts, Oils, Water and Fire, depend the different Taſtes of Vegetables. Hence alſo ſome Plants are ſalutary and medicinal, whilſt others are deleterious and fatal, to Animals that eat them. How far the Acid may be concerned in rendering them poiſonous, I cannot determine; but it is well known that Acids, when naked, are the greateſt Poiſons known in Nature, tho', when properly combined with Things of a different Nature, they are not only ſalutary, but endued with excellent medicinal Virtues.

The Example of the Vine may ſerve for an Illuſtration of what I have advanced, whoſe Juices in the Spring are much inclinable to Acidity, whilſt the ſolid Parts, that is, the Tendrels and Branches, increaſe ſurpriſingly faſt. The Juices of the Fruit, that is, the Grape, are alſo very acid till arrived at their full Growth, and neutralized by the Acceſſion of oily and alcaline Particles, and the Admixture of Heat or Fire; a great deal of which laſt is neceſſary to bring them to Maturity.

When theſe Juices are neutralized, that is, full ripe, they are ſweet, or, in other Words, the Acid is inveloped in Oil and a Portion of Earth and Salts, and mixed with Particles of Fire; for an Acid thus modified ſeems neceſſary to the Formation of a ſweet Taſte, as is evident in Sugar and Honey.

Thus Muſt and Wort are ſweet; which put in a proper Veſſel, and ſet in a ſufficient Degree of Heat, begin to ferment; that is, the Acid, which is extremely elaſtic, begins to expand, and to diſengage itſelf from the inveloping Oil. Mean time, a Part of the Acid flies off with ſo prodigious a Force, that no Veſſel is ſtrong enough to confine it. This is what Helmont called the Gas Sylveſtris, or Savage Spirit, which is the moſt ſudden and deleterious Poiſon known in Nature; and to a Portion of this remaining in the fermented Liquors the intoxicating Faculty of ſuch Liquors is indiſputably owing.

This Gas Sylveſtris I call acid, becauſe it has an acid Smell, and becauſe its expanſive Force is greater than that of any known Body in Nature, except the Acid of Nitre, to which it ſeems nearly related.

Mean time, the more groſs Particles of the Oil are ſeparated, and riſe to the Top of the fermenting Liquor in a Froth, where they condenſe by Degrees, and become at laſt heavier than the Liquor, when they ſink to the Bottom, and remain there under the Name of the Lees, or Mother of Wine; but in Malt-Liquors it is called Yeaſt, or Barm.

When this firſt Fermentation is compleated, the Liquor changes its ſweet Taſte for one ſomewhat inclinable to Acidity; and the finer and lighter Parts of the Liquor, ſeparated from the heavier by Diſtillation, will take fire, and flame, which therefore muſt be an Oil attenuated by Fermentation, containing an Acid.

During the ſecond Fermentation, more groſs Particles, which entered the Compoſition of the Oil, and inveloped the Acid, are ſeparated from the Fluid, and depoſited on the Sides and Bottom of the containing Veſſel; and then the naked Acid is at Liberty to act, and affect the Organs of Taſte with that Senſation which we call ſour. But if the ſecond Fermentation is carried on a little too far, the Acid making its Eſcape, mixes with the Air from whence it came, and leaves the remaining Liquor a taſteleſs vapid Maſs.

What Galen obſerves in regard to Vinegar, makes very much for what I have advanced. This Author tells us, that Vinegar in its penetrating Quality reſembles the Northern Air. Now Hoffman informs us, that thoſe who are concerned in the making Nitre obſerve, that the Northern and Eaſterly Winds favour the Production of Nitre, that is, bring the Acid, which fixes on the Earth, impregnated with alcaline Salts, and renders it nitrous.

'Tis probably a Portion of this Acid, which uniting with the groſſer Particles of the Oil, fixes to the Sides and Bottom of Caſks, and forms Tartar. Hence that incoercible Spirit or Gas which riſes from Tartar in Diſtillation, and which either perſpires through the Lute, or burſts the Veſſels. See TARTARUS.

If it ſhould be mentioned, as an Objection to what I have ſaid, that the Spirit of Wine is lighter than Water, and riſes firſt in Diſtillation; but that the Acid of Vinegar is more fixed, and riſes after the Water; it would not much embarraſs the Affair. For when the Particles of the Acid are divided minutely, and kept from joining by the Tenacity of the Oil, they muſt neceſſarily be affected by a leſs Degree of Heat than when their Gravity is increaſed by their Union, which happens as ſoon as they are in ſome Meaſure releaſed from their Confinement. And then their Coheſion muſt be conſiderable; for Acids are, of all Fluids, the moſt ponderous, and conſequently very ſolid.

What I have ſaid above in regard to Vinegar, will be greatly confirmed by the following Experiments and Obſervations made by Leewenhoek.

I have had repeated Sollicitations from ſome eminent Men of my own Neighbourhood, to undertake an Examen of ſome Salts, but hitherto have not been able to comply with their Requeſt, not only becauſe the Buſineſs required an infinite deal of Labour, but becauſe what I had already beſtowed thereon proved unſucceſsful; and beſides, in this Sort of Obſervations which I deſigned to make concerning ſaline Affairs, the Heat and Cold of the Air might cauſe various Changes in the Figures of Salts: I invented therefore a new Way of ſearching into theſe Matters, which however did not ſucceed with me alike in all kinds of Salts.

Some Wine Vinegar (of which I buy a Barrel yearly for the Uſe of my Family, and keep it a whole Year) after I had kept it about three Months in my Cellar, had contracted ſuch an Acidity, that it far ſurpaſſed all the Vinegar that ever I had before. A Quantity of this, whenever expoſed a few Hours to the Air, entertained my Sight with a vaſt Number of Corpuſcles, which I uſed to call the Salt of Vinegar, repreſented P. 1. *Fig.* A, acute at both Extremities. Many of them had in the Middle an oblong Figure, of a browniſh Colour; others, of which there were alſo Multitudes, ſhone like Cryſtal, as in *Fig.* B. Some of thoſe oblong and browniſh Figures had a clear Light appearing in their browniſh Colour, as is ſhewn *Fig.* C. In another Part appeared a few oval Figures, ſome of which carried in them a Light, of an oval Form, as in *Fig.* D. Among thoſe of the aforeſaid Figures A, B, D, I often fancied I ſaw many with a Cavity, as if we beheld the Form of ſome Ship; and ſometimes there appeared ſuch a one as, I ſaid, belonged to the firſt Figure, with one half browniſh, and the other pellucid. Sometimes the Corpuſcles reſted on one another, as in *Fig.* E. I obſerved now and then ſome Corpuſcles that made but one half of thoſe in A, B, C; as you ſee in *Fig.* F. Many of the Corpuſcles in all the before-mentioned Figures were extremely minute, ſo as to become inviſible. Thoſe I mentioned, which I call the Salt of Vinegar or of Wine, were found in Vinegar in ſo great Plenty, that I diſcovered ſome Thouſands in a ſmall Drop, beſides an incomprehenſible Number of ſmall Globules, ſix of which, I judged, would go to make up one of Blood. Beſides theſe I obſerved yet a far greater Number of ſmaller Globules, the leaſt Sort of which was ſo minute, that thirty-ſix of them would make but one of Blood. In ſhort, it ſeemed incredible and inconceivable how ſuch a Multitude of Particles could be contained in ſo ſmall a Quantity of Fluid, eſpecially limpid, ſuch as Vinegar is. All thoſe Corpuſcles then, which I call the Salt of Vinegar, I ſuppoſe to be thoſe acute and pungent Parts which imprint on the Tongue that Senſation or Taſte which we call acid. And though I found theſe Parts to be of this Bigneſs by the common Microſcope, I did not queſtion but there were far ſmaller than the ſmalleſt here expreſſed; and that all theſe Figures, both great and ſmall, are only compoſed of a great Number of ſmaller Particles, of the ſame Figure, as I have often had Opportunity of obſerving, when I have viewed Sea Water, or common Water, in which Salt has been diſſolved, in a Microſcope. What fine, ſmall, and quadrangular Figures come out of it; ſo minute, that a thouſand Myriads of them would not equal the Bulk of a good Sand! And theſe minute Particles of Salt, though increaſing in Bulk on all Sides from the Moment I firſt ſee them, yet retain their elegant quadrangular Superficies nearly. Hence I conclude, and take for granted, that I find no acute Particle in Vinegar, which is not compoſed of a great Number of other Particles of the ſame kind.

I placed a cylindrical Glaſs, of two Fingers Breadth in Diameter, with Vinegar in it, in my Parlour, and let it ſtand there open almoſt eight Weeks; at the End of which, I found an infinite Number of Particles of Salt ſwimming on the Superficies; which having well inſpected, I could clearly perceive, what before I had not been able to find out, that theſe ſaline Figures were furniſhed with a Cavity; for theſe Cavities, in many Particles of Salt, appeared to my Eyes very ſenſibly. Some of them, whoſe Cavities were more remarkably viſible, I took care ſhould be drawn, as you ſee them, *Fig.* G; and for others, which afforded only a Side-proſpect, you ſee a Part of their Cavities repreſented accordingly, *Fig.* H. You have alſo a little Eel, alive and full-grown, *Fig.* LM; and another dead, at its full Growth, which I killed that the Painter might the better diſtinguiſh it, as you ſee in *Fig.* NO, with this Intention, partly that the Smallneſs of the ſaline Particles contained in the Vinegar might be the better perceived by comparing them with the Greatneſs of the Eel, (firſt taking Notice, that the Figures above explained, and the Eels, were taken by a common Microſcope; but that vaſtly more numerous ſaline Particles were by me diſcerned in the Vinegar, which could by no Means be diſcovered by that Glaſs); partly that I might confute an Error which many have imbibed, who account for the Acidity of Vinegar merely from our Senſe of the Punction of theſe Eels, who prick our Tongues with their ſharp Tails. This, I ſay, is a Miſtake; for if we ſhould ſuppoſe it to be true, it would follow, that vaſt Quantities of Vinegar would be inſipid, becauſe deſtitute of theſe Eels; and in Winter, when they die, all Vinegar would be inſipid.

I went on with my Enquiries into Vinegar, and examined ſuch as had imbibed a Solution of Crabs-Eyes, becauſe theſe are ſaid to abſorb all the Acidity of Vinegar. If this were true, thoſe acute Particles above deſcribed muſt, of Neceſſity, aſſume other Figures, either blunter, or more ſoft and flexible ones, with which they could not prick our Tongues, nor impreſs that Senſation on them which we call an acid Taſte. For this Purpoſe I took ſeveral new Glaſſes, and in them put ſome Crabs-Eyes, firſt broken into ſmall Fragments only, that I might not be incommoded by the Sand if pulveriſed; and I found that the oblong little Figures above-mentioned, that were ſharp at both Ends like a Weaver's Shuttle, were all changed into others, which had an oblong quadrangular Baſe, from which they aſcended pyramidically, appearing like angulous and poliſhed Diamonds, repreſented *Fig*. P. Some few had a ſquare Baſe, as in the *Fig*. Q; and a few others a Parallelogram, as in *Fig*. R. Theſe two laſt Figures I judged to have been formed by Accident, from a Defect of ſufficient Matter to compleat all the Sides. *Note*, "The "Size of theſe Particles muſt not be compared with the "Size of the before-mentioned ſaline Particles, contained "in ſimple Vinegar; becauſe theſe ſaline Particles were "drawn by the Help of a Microſcope, which magnified "vaſtly more than that which I had uſed in drawing the former, becauſe it was impoſſible, by any other Means, to "diſcover their Frame." The Number of theſe ſaline Particles was vaſtly great, as amounting, according to my rude Calculation, to more than ſix thouſand in the Compaſs of a ſmall Drop, no bigger than two Grains of Barley; and what I chiefly wondered at, almoſt all theſe Particles were of the ſame Size, which I had never obſerved in other kinds of Salts. I alſo poured out the Vinegar which contained the Crabs-Eyes, while the Effervescence continued, and it ſent forth Plenty of Bubbles; and in that Vinegar I found an infinite Number of ſaline Particles, with quadrangular Baſes, as before; but I could not perceive any Particles of that kind, of which I ſaid vaſt Numbers were contained in the Vinegar before the Crabs-Eyes were put into it. The Effervescence being over, and the Bubbling almoſt ceaſed, I took into my Mouth about a third Part of a Thimble-full of this Vinegar, that I might know how it taſted; and I could perceive no Acidity, but a Sort of bitteriſh and very nauſeous Taſte. I alſo put ſome Pieces of white Chalk into Vinegar, and found that they raiſed as great an Effervescence and Bubbling as the Crabs-Eyes would have done, and that the acute Parts of the Vinegar produced a like Number of ſaline Particles, and that the acid Taſte in like Manner vaniſhed as before.

Leewenhoek obſerves, that Vinegar kills the Animalcula, which are diſcovered by Microſcopes in the white Matter which adheres to the Teeth and Gums, as will be farther taken Notice of under the Article ANIMALCULA.

I next took Wine under my Conſideration, and entered upon a freſh Examen of my own, which was very good and pleaſant, and in France, for its fine Taſte, is called by a new Name, *Vin de Damoiſelle*; it comes from Orleans, and is brought down the River Loire to Nantes. I diſcovered a vaſt Number of very fine and exquiſitely ſhaped Figures in it, and Multitudes of the utmoſt Minuteneſs, which, on the preſent Occaſion, I will call the Salt of Wine. Many of theſe Figures agreed with the ſaline Particles I before proved to be in Vinegar. In ſome of them you might not only ſee a Cavity, but they were ſo increaſed in Bulk, becauſe I had left the Wine to ſtand four and twenty Hours open in my Parlour, as to become equal to the bulky Particles of Vinegar, before deſcribed; as you ſee in *Fig*. S. I obſerved alſo ſome blunt Figures, whoſe Extremities were round, without ſharp Tops, as in *Fig*. T; and there were ſeveral, which were blunt at one End, and ſharp at the other, *Fig*. V. Some differed from theſe laſt only in that they had one End flat, and not round; *Fig*. W. A few of them were oblong, and looked like an oblong Rectangle; *Fig*. X. Many had their two longeſt Sides ſomewhat rounded, and the two ſhorteſt ſtrait, almoſt in the Form of a Beer-Barrel; *Fig*. Y. Some few repreſented a perfect Square, others were twice as long as broad, but about the ſhorter Sides terminated acutewiſe, with a remarkable Swelling in the Middle, anſwering the Form of a flat-bottomed Boat with a flat Head and Stern, as in *Fig*. Z. As all theſe Figures, in infinite Numbers, were promiſcuouſly ſwimming about in one ſmall Drop of Wine, it was extremely pleaſing to view ſo great a Variety of ſuch elegant Figures perpetually traverſing one among another, and wandering about the Wine. I did not doubt but the ſaline Figures, above taken notice of, might imprint an acid Savour on our Tongues, were they not involoped and depreſſed by vaſt Quantities of ſweet Particles, which are contained in this and all other Sorts of Wine, and cannot be ſeparated from them without raiſing in them a very ſtrong Fermentation. For as ſoon as Wines begin the leaſt to ferment, their Sweetneſs vaniſhes in part, and as the Fermentation proceeds, goes off gradually, 'till at laſt all their ſweet and grateful Savour concentrates, and degenerates into the moſt acid of all Taſtes, and for Wine gives us Vinegar. This Phænomenon confirms me in the Opinion that the grateful Savour of Wine proceeds from ſuch Parts as are neither too ſweet nor too acid, where not one prevails above another, by which means the Wine obtaining a juſt Temperature, and a certain Harmony of Parts, affects our Tongue and Palate with ſuch a Savour as we call grateful. And this we are taught by daily Experience, when we mix different things, which uſed alone would be too ſweet, or fat, or acid. One Inſtance ſhall ſerve for many. The ſharpeſt Vinegar boiled over the Fire with Butter till they are well mixed makes a moſt grateful Sauce. As to the Sweetneſs of Sugar, which is itſelf a Salt, it conſiſts in this: That though the Particles of Sugar are acute and angulous, yet they are eaſily reſolved when immerſed in Water, eſpecially in a warm Place, ſuch as the Mouth, where they are not only reſolved in a Moment, and united with the Saliva, but acquire ſuch a Flexibility as to give way to all other Particles on the Tongue; by which their Complaiſance they impart to us the Senſe of Sweetneſs. Theſe things being ſuppoſed, and inferred from Experiments, it will be very eaſy to account for the different Savours of Wines, even though they are produced by the ſame Vine. For not only the Grapes growing in the mountainous Part of the Upper Palatinate, which declines towards the South, might taſte ſweeter, becauſe more expoſed to the Sun's Heat, but even the acute, or ſharp-pointed Parts of Wine, might acquire a ſtill greater Rigidity, and ſo become more inflexible. We ſee alſo the Reaſon why Wine left for ſome time to ſtand open in the Air loſes its grateful Savour, namely, becauſe many of its ſaline Particles run together into one Maſs, or become one ſaline Part; and this Diminution of the ſaline Particles, which is made by the Concretion of many ſmall into a few great ones, cannot affect our Tongue and Palate with ſo grateful a Senſation, as would ariſe from the Titillation of more but minuter Particles.

The DISTILLATION of VINEGAR into an ACID WATER, an ACID SPIRIT, an EXTRACT, a SAPA, and OIL, and FIX'D Salt.

Fill a tall narrow Glaſs Cucurbit three fourths full with old Vinegar prepared from the beſt Wine, and with a moderate Fire draw off one fourth. This then will be light, and limpid, will be diſperſed all over the Alembic in the form of dewy Drops, and will run down like Water, not in Striæ like Spirits; the Taſte of it will be ſomewhat acid, and if it is thrown upon Flame it will extinguiſh it like Water. If this Water is diſtilled again to one half in a clean Cucurbit, the Part that comes off firſt conſiſts chiefly of Water, and is of excellent Service where a very mild Acid is required. In this the Writings of all the Chymiſts have agreed. Vigani, however, has taken the liberty to aſſert, that the Liquor which firſt riſes in the Diſtillation of Vinegar is inflammable, and will burn if it is thrown upon Fire. To determine therefore this Controverſy, I ſhall relate what, upon Examination, I have found to be the Fact. I took twenty Pints of Vinegar, which was made in France, and thence brought here directly, and which had not yet acquired the utmoſt Degree of Acidity, and putting it as it was into a very large Glaſs Retort, with a great deal of Patience, I diſtilled it with a very gentle Heat; upon this to my great Surprize a Vapour roſe into the Receiver, which when it came to be cool, formed oily Streaks, juſt ſuch as appear in the Diſtillation of Wine. I proceeded in the ſame gentle Manner, till theſe Striæ were ſucceeded by ſome dewy Vapours diſperſed about in the ſame Manner as happens in the Diſtillation of Water and Vinegar. I then immediately removed what came off firſt, which had a Taſte like common Spirit of Wine diluted with a weak Vinegar, and when it was thrown upon a bright Flame, it burnt like Spirit of Wine. When the ſame Vinegar, however, was better than a Year old, and had been kept all the time in a Veſſel nicely ſtopped, upon performing the ſame Operation the Succeſs was different; for then what came off firſt was not an inflammable Spirit, but a mere watery Vapour of Vinegar. Hence I learned, that the inflammable Spirits are by Time intimately fixed into the Acid of the Vinegar; that hence the Taſte of new

Vinegar ſtill continues vinous, but gradually grows ſharper and ſourer; that then all the firſt inflammable Spirits are changed, and none but thoſe which are acid remain; that ſomewhat therefore truly inflammable is by this Means converted into Vinegar, which is not inflammable afterwards; and that for theſe Reaſons what the Chymiſts have aſſerted is true, though Vigani's Opinion muſt be allowed ſo likewiſe, if underſtood of new Vinegar.

I then increaſed my Fire a little, in order to diſtil the Remainder of the old Vinegar, which was three fourths of the whole; and kept it up in this Degree, till I had drawn off two thirds of the Reſiduum, ſo that now there was only one Pint left in the Retort of four I made uſe of at firſt. This Liquor then appeared in Drops like Dew, was of a much more acid Taſte than the former, not of a diſagreeable Smell, but ſomewhat empyreumatical. It was heavier too than the former; for being mixed with it, it ſubſided to the bottom. This may properly be called diſtilled Vinegar.

Let the remaining fourth Part be diſtilled with a ſtill ſtronger Fire out of a Glaſs Retort into a Receiver not too cold, a very limpid Liquor will come over exceedingly acid, and ſo penetrating that it will inſinuate itſelf through the Lute; but it will ſcarcely riſe, uuleſs it is urged with a great Degree of Fire, and then will heat the Receiver ſo much, as to endanger its breaking. Even here, however, there is no Appearance of Streaks; and if this Liquor is thrown upon Fire, it extinguiſhes it. Proceed then till there remains only a twentieth, or leſs, of the Vinegar firſt made uſe of. This laſt Liquor will have an empyreumatical Smell.

This being done, there will be left at the bottom of the Retort, a black, thick, acid, oily Liquor, ſmelling very ſtrong of an Empyreuma, which being urged with the laſt Degree of Fire, will yield an exceeding acid, heavy, empyreumatical, fœtid Liquor, and an Oil of a ſurpriſingly fœtid Smell, whilſt there remains a black, acid Caput Mortuum in the Retort. This being burnt in the open Fire, yields a bright Flame, and produces ſome brown Fæces, in which there is a large Quantity of an acrid alcaleſcent Salt.

Hence then it appears, that there does not remain the leaſt Appearance of Alcohol in ſo large a Quantity of Vinegar, that there is nothing here of the Nature of Tartar, but that the whole, a very ſmall Part only excepted, is become volatile; and that Vinegar is abſolutely of a different Nature from any other Acid which we are at preſent acquainted with.

Theſe Things I have gone through in this Manner, in order to give an Inſight into the Nature of Vinegar from its Compoſition and Reſolution. This Operation, however, would be both too tedious and chargeable for preparing diſtilled Vinegar for common chymical Uſes. For this Purpoſe therefore, we take a Copper Still, well tinned within, and fill it three Parts full of Vinegar; and then fixing on a Glaſs Head, proper for this Uſe, we diſtil with a Worm, by a Fire ſufficient to make the Vinegar boil. The firſt fourth Part that comes off, we collect by itſelf, and afterwards draw off two Quarters more, which we keep under the Title of diſtilled Vinegar for chymical Operations. The other fourth that remains in the Still may be ſaved too, till by repeated Diſtillations a ſufficient Quantity of it is got together, and then it will ſerve for preparing the ſtrongeſt diſtilled Vinegar for ſome particular Uſes. I have always, however, found it tainted by corroding the Copper, for which Reaſon it is dangerous to preſcribe it internally.

REMARKS.

This diſtilled Vinegar is a ſaline, oily Acid, poſſeſſing the ſame Virtues which are above aſcribed to Vinegar; but more penetrating, active and volatile, becauſe freed from all terreſtrial Impurities. The Sapa that remains in the Retort after ſeven Eights is drawn off by Diſtillation, is a moſt noble antiſeptic Medicine, uſed either internally or externally, but on account of its horrible Taſte, it muſt be taken mixed with a great deal of Sugar or Honey, as Angelus Sala has obſerved. This Sapa is a true detergent acid Soap, which becomes continually more efficacious in Proportion at it grows thicker; for by this Means it gradually grows of a more oily Nature. By this Experiment, we learn farther how wonderfully the diſtinct Elements of Bodies may lie concealed among each other; for who could believe that after Wine was grown fine, it could contain ſo much of an oily Matter, as we ſee it depoſites in the making of Vinegar? Who, from Vinegar ſo thin and ſharp, could expect a black, oily, thick, inflammable Sapa? Or who could poſſibly imagine, that in the moſt limpid diſtilled Vinegar, which in Thinneſs vies with Water, there ſhould be an inviſible pinguious Oil, and that too in great Quantity. In the mean time, ſome of the moſt eminent Artiſts have obſerved, that if the Acid of diſtilled Vinegar is combined with Powder of Lead in ſuch a Manner, as to produce the Sugar of Lead, it then coaleſces with that into a pinguious, tenacious kind of ſweet Sugar; and that if this is then gently dried, and diſtilled in a Retort, it yields an oily Liquor, which burns like Spirit of Wine. So that hence it ſeems as if the latent ſulphureous Part, which was concealed in the thin Vinegar, diſcovers it ſelf by this Operation, and is, as it were, regenerated. Unleſs you would rather imagine, that a combuſtible Oil is ſeparated from the ſoft metalline Body of the Lead by the Acid of the Vinegar, and conſequently that the inflammable Liquor drawn off owes its Origin intirely to the Metal. This, however, I confeſs, does not ſeem probable, becauſe the Lead when it is corroded by the acid Spirit of Nitre, though it produces a rough ſweetiſh Vitriol in Diſtillation, does not, that I know of, yield ſuch an inflammable Liquid, as it does when it is corroded by Vinegar. And then, beſides, upon the Mixture of the pureſt Spirit of Wine with the moſt thoroughly calcined Salt of Tartar, there is regenerated an inflammable Liquor, as evidently appears in the Preparation of regenerated Tartar. Nothing, however, here, is more ſurpriſing, than that the exceeding acid Fæces of Vinegar ſhould afford an alcaline Salt. *Boerhaave Chem. Proceſs* 51.

The RECTIFICATION of DISTILLED VINEGAR.

Take any Quantity of the diſtilled Vinegar of the preceding Proceſs, and with a gentle Fire, in a tall Cucurbit, draw off half the Quantity. The half that comes off keep by itſelf, as do likewiſe that which remains in the Cucurbit. That which riſes will be light, limpid, watery, and leſs acid, whilſt that which remains after Diſtillation will be an exceeding ſtrong, ſharp, diſtilled Vinegar, and heavier than the former.

REMARKS.

The Rectification therefore of Wine and Vinegar are effected in a quite different Manner. In the former, the firſt volatile Part is the beſt; in the latter, that which is more fixed, and is left behind. Hence Vinegar, by boiling, is rendered ſtronger and more ſharp; Wine, by being boiled, becomes weak, thick, turbid, diſagreeable, and vapid. And for this Reaſon, if Fleſh, Cartilages, Bones, and Skins, are boiled a great while in Vinegar, they are, by the Action of the Acid of the Vinegar, which is agitated, and grows ſtronger during the boiling, reduced at laſt to a thick liquid Matter. This ſtrong diſtilled Vinegar is uſeful, in particular, in all Solutions of Metals; for theſe require a pretty ſtrong Acid. *Boerh. Proceſs* 52.

The DISTILLATION of VINEGAR, as directed by the College, is thus performed:

Take enough of the beſt Vinegar to fill two thirds of a Retort, which place in warm Aſhes; and diſtil firſt with a moderate Heat, to bring over the Phlegm; then increaſe the Fire by Degrees, ſo as to finiſh the Operation with a ſtrong Heat.

The RECTIFICATION of DISTILLED VINEGAR by the Help of VERDIGREASE.

If Plates of the beſt red Copper are corroded by the Spirit that exhales from preſſed Grapes, after the Muſt is ſeparated, and they are laid together till they grow warm, and emit a ſpirituous Vapour, there will be an Efflorеſcence generated upon their Surfaces, of a bluiſh-green Colour. This is ſcraped off and ſaved, and then the Plates are again heated in the ſame Manner, by which Means they afford more of the ſame Efflorеſcence.

This then being collected together is called Verdigreaſe; which therefore is Copper corroded by this Spirit, and combined with it. And this cannot be ſucceſsfully prepared in any Places, where there are not theſe Fæces of Muſt poſſeſſing ſuch a ſharp and penetrating Power. This Spirit therefore is not properly an aceſoſe Spirit, but one rather of a middle Nature, betwixt a true Acid and a fermented vinous one. Take ſome of this Verdigreaſe, that has an agreeable Colour quite through its whole Maſs, pound it, put it into a clean Glaſs Cucurbit, and pour upon it ſuch a Quantity of rectified diſtilled Vinegar as is ſufficient to cover it to the Height of ten Inches. Set the Cucurbit in a pretty great Heat, *viz.* one about a hundred and fifty Degrees; and with a Stick keep the Mixture frequently ſtirring, and in a ſhort Time the Spirit of Vinegar will be tinged of a beautiful deep green Colour. Let it ſtand to ſettle, and then decant the clean Liquor very gently, without pouring off any of the Bottom; and upon the Reſiduum pour ſome more diſtilled Vinegar, and digeſt it; ſtir it, and let it ſtand quiet, and decant as before. Repeat this Operation as long as the Vinegar continues to be tinged; and then all theſe coloured Liquors, mixed together, are called a Tincture of Copper. When the Verdigreaſe will give out a Tincture no longer, there will be a great Quantity of it ſtill left undiſſolved.

Let the tinctured Liquors be filtered through Paper, and then be diſtilled in a clean Cucurbit, with a Heat of two hundred Degrees, till a Pellicle begins to be formed on the very green Liquor that remains. The Fluid then that comes off will be limpid like Water, aqueous, and but little acid. Let the inſpiſſated Liquor be ſet by in a Cellar, and it will, in a ſhort Time, ſhoot into moſt beautiful, green, pellucid Cryſtals, which will faſten particularly to the Sides of the Glaſs, and incruſtate it over. Pour off the remaining Liquor, as nicely as you can, from the cryſtalline Cruſt, which muſt be dried as gently as poſſible in a hot Air, and carefully ſeparated from the Glaſs; and ſo kept, that it may not be affected with too great a Degree of Heat, for fear of its becoming opake. Let the decanted Liquor be again inſpiſſated to a Pellicle, and then formed into the ſame Cryſtals, which muſt be treated with the ſame Caution as the former. And thus you muſt proceed, till by this Means all the Copper that was contained in the Verdigreaſe is reduced to theſe pure Cryſtals of Verdigreaſe, which in the Shops go commonly by the Name of diſtilled Verdigreaſe. If this is reduced to Powder, it gives a moſt beautiful Pigment. If it is ſprinkled upon a foul Ulcer, it excites Pain, forms an Eſcar, and thus dries up the Mouth of the Ulcer; whilſt at the ſame time an Inflammation is excited underneath, which ſeparates the Cruſt, by which Means the worſt kind of Ulcers are ſometimes happily cured; for it is of the ſame Nature as the Cauſtics made with Mercury and Silver.

When you have got a ſufficient Quantity of ſuch Cryſtals, put them in a Glaſs Retort, and diſtil them with a Fire gradually increaſed, and you will have firſt a ſmall Quantity of a watery Liquor, which muſt be kept by itſelf, or thrown away. When this is drawn off, there will ſucceed an acid, pinguious Liquor, which will run down in Streaks, is conſiderably heavy, and is the moſt ſaturated with an Acid of all the Liquors that can, by any Art whatever, be prepared from Vinegar. Baſil Valentine therefore recommends this for the Solution of Pearls, in his *Manuductio Medicinæ*, and Zwelfer being acquainted with this, boaſted of his *Acetum Eſurinum*, pretending to be Maſter of the Alcaheſt, for which he was ſharply handled by Tachenius. When the Operation is over, there remains the Powder of the corroded Copper, which may be again diſſolved in diſtilled Vinegar, and be formed into green Cryſtals as before.

REMARKS.

This fermented Acid is the ſtrongeſt that can be procured from Vegetables, and conſequently poſſeſſes the moſt excellent Virtues, both chymical and medicinal, that can be expected from ſuch an Acid. As it is efficacious therefore in reſtoring an Appetite, where it is deſtroyed by a Putrefaction of the Bile, or other Humours, hence it has obtained the Name of *Acetum Eſurinum*, Hungry Vinegar. But in thoſe Caſes where the Appetite is palled by a predominant Acid, which the Phyſicians are ſenſible is often the Caſe, there this only increaſes the Cauſe, and ſo proves prejudicial. This Acid, however, by being mixed with abſorbent or alcalious Subſtances, will loſe its acid Virtues in the ſame Manner as all others do; and therefore Zwelfer, who aſſerts the contrary, in this Caſe muſt not be regarded. In order now to underſtand the proper Effect of this Operation, we muſt obſerve, that diſtilled Vinegar conſiſts of Water, and an Acid. This Acid is attracted out of the Vinegar by the Copper, whilſt the Water is unaffected by it, and left by itſelf: The Acid then adheres to the Copper, and ſubſiſts with it in the Form of a ſolid Body; and ſcarcely at all altered, till by the Force of the Fire it is ſeparated from it in its former Nature, and then it leaves the Copper reduced to Powder, but without any Alteration. This now, as far as I have been able to inform myſelf, cannot be effected by any other but Copper; for Gold, Silver, Mercury, and Tin, are not diſſolved by it; and though Iron and Lead are, yet they change it in ſuch a Manner, that a pure acetoſe Acid cannot be procured from them again, but ſomething of a very different Nature. Hence then we ſee what a prodigious Difference there is in Solutions; the Acid of Vinegar is attracted into Copper, and is thence procured again by Diſtillation, very little altered, being only freed from its watery Part; Lead attracts the ſame Acid into it, and rejects the Water; and yet, if you endeavour to ſeparate it by Diſtillation, you have an oily pinguious Liquor, of a quite different Nature from that of Vinegar; and if Iron is diſſolved by the ſame Acid, it yields nothing again but Water, and ſurpriſingly altered. And as for other Abſorbents, or fixed or volatile Alcali's, if it is combined with any of them, it never returns back again a pure Acid; ſo that, perhaps, Copper alone, or Verdigreaſe made from it, is the only Body we are acquainted with that is diſpoſed to ſharpen and exalt the pure Acid of Vinegar.

This is called by ſome of the Chymiſts, *Acetoſa Eſurina*; and by ſome Diſpenſatory Writers, *Spiritus Aceti*.

The Antients, as well as Moderns, had various Preparations of Vinegar, calculated for different Purpoſes; of theſe I ſhall mention ſome, for to deſcribe them all would take a Volume.

The firſt is the *Oxalme*; of which Dioſcorides gives the following Account, *l.* v. *c.* 23.

OXALME.

Vinegar impregnated with Salt, or acid Brine, which they call *Oxalme*, uſed as a Fomentation, cures ſpreading and putrid Ulcers, and the Bite of Dogs and venomous Creatures. It ſtops the Bleeding that follows upon Lithotomy, if immediately after the Operation it is poured hot into the Wound; and is good for a Prolapſus Ani, Dyſenteries, attended with Corroſions of the Inteſtines. It is given in Clyſters, but it muſt immediately be followed with one of Milk. It alſo cleanſes ſcald and ſcabby Heads, that are waſhed therewith.

THYMOXALME.

The Antients preſcribed the *Thymoxalme* for Weakneſs of the Stomach, for the Gout, and for Inflations. The Doſe is about a Quarter of a Pint, diluted with warm Water. It purges black and groſs Humours. It is made after the following Manner:

> Take an Acetabulum (two Ounces) of bruiſed Thyme, as much Salt; of coarſe Meal, Rue, Pennyroyal, each a little; put them all into a Pot, and pour upon them three Sextarii (Pints) of Water, and as many Cyathi (four Ounces and a half) of Vinegar; cover the Pot with a Linen Cloth, and let it ſtand in the Air. *Dioſcorides*, *l.* v. *c.* 24.

ACETUM AMINUM is White-wine Vinegar. *Rulandus. Johnſon.*

The three following are from BATES.

ACETUM LETHARGIRITES. *Vinegar of Litharge.*

> Take Litharge of Gold powdered four Ounces,
> Of the beſt Vinegar half a Pint;
> Digeſt for three Days, often ſhaking the Veſſel; then filtrate it.

It is deſigned only as a Waſh for a red Face, and to cure Pimples.

ACETUM MELLIS. *Vinegar of Honey.*

> Take Honey a Pound, of the beſt Vinegar three Pints; diſtil in a Sand-Heat, and rectify.

It is ſaid to diſſolve Stones, without previous Calcination.

ACETUM PESTILENTIALE. *Peſtilential Vinegar.*

> Take of the Roots of Angelica and Zedoary, of each an Ounce, Juniper-berries two Ounces, Rue three Handfuls, the beſt Vinegar three Pints; let them macerate together, and ſtrain them.

Bates recommends it as a Suffitus, or Gargariſm, in Time of peſtilential Infection.

ACETUM ROSACEUM. *Vinegar of Roſes.*

> Take of red Roſes clipped from their white Heels one Pound, the beſt Vinegar one Gallon; let them ſtand to infuſe in the Sun, put up in a well cloſed Veſſel, forty Days; then ſtrain off the Liquor.

This is ſooner made by boiling the Ingredients together in a Bath-Heat for a few Hours. *Pharmacopœia Edinburgenſis.*

The Vinegar of Roſes is ſeldom uſed but in Embrocations for the Head or Temples, in ſome kinds of the Head-ach, where it frequently does great Service. *Quincy.*

It might likewiſe be uſefully added to Julaps, Draughts, or the like, in malignant Fevers, where cordial Acids are required. *Shaw's Notes.*

ACETUM RUTACEUM. *Vinegar of Rue.*

> Infuſe the Leaves of Rue and Scordium, that is, Water Germander, picked from the thick Stalks, each three Handfuls; Juniper-berries and Angelica Roots, each two Ounces; Zedoary and Sevile Orange-peels, each one Ounce, in the beſt Vinegar eight Pints. Let them digeſt for a Month, and then preſs the Vinegar from the Ingredients; which keep for Uſe.

This is not preſcribed, or kept in the Shops; but is ſo eaſily made by any private Family, and is ſo good a Medicine to procure Sweat, upon any Threatnings of a Fever, or upon a Surfeit, that it is very well worth any one's making, and keeping in caſe of Neceſſity. It may be given from half a Spoonful to two or three Spoonfuls, in any convenient warm Liquor. And if the Patient is kept warm with Cloths, it cannot fail of raiſing a Sweat; and it is the beſt Succedaneum to Treacle-water in the World, where that cannot be had for a ſudden Occaſion. *Quincy.*

In the ſame Manner a Vinegar is made with Elder, mentioned in the Edinburgh Pharmacopœia, under the Title of *Acetum Sambucinum*, which partakes of the Virtue of the Elder.

ACETUM SCILLITICUM, *Vinegar of Squills*, is thus prepared according to *Dioſcorides*.

> Take white Squills; and having cleanſed them, cut them into Slices, and ſtring them on a Line, ſo as not to touch

one another, and let them hang in the Shade to dry forty Days. Take of theſe a Pound (the Pound was about ten Ounces) and infuſe them in ſix Quarts of good Vinegar, and let them ſtand macerating in the Sun ſeven Days in a Veſſel well ſtopped. Then take out the Squills, ſqueeze them and throw them away, but ſtrain off the Vinegar into a Pot, and ſet it aſide for Uſe. Some put a Pound of the Squills into five Pints of Vinegar. Others infuſe the ſame Quantity, as ſoon as they have cleaned the Squills, without drying them, and let them macerate for ſix Months; and this Sort is of a more inciding Nature.

Vinegar of Squills is good to conſolidate the too lax and humid Gums, and faſten looſe Teeth. It is excellent to heal putrid Ulcers in the Mouth, and for an offenſive Breath. Drinking of it hardens the Throat and Jaws, and make them callous; it helps the Voice, and renders it clear and ſonorous. It is adminiſtered to ſuch as labour under Infirmities of the Stomach, have weak Digeſtions, to epileptical, vertiginous, melancholy, and mad People. It is given alſo in hyſteric Fits, in Diſorders of the Spleen, and the Sciatica. It wonderfully clears and revives infirm Perſons, renders the Body ſound, and gives a good Colour. It quickens the Sight, and, dropped or poured into the Ears, helps Thickneſs of Hearing. In ſhort, it is good for every Thing except internal Exulcerations, Pains of the Head, and Diſtempers of the Nerves.

It is to be drank every Day faſting, beginning with a ſmall Quantity, which by Degrees may be increaſed to a Cyathus (an Ounce and a half). Some preſcribe twice as much or more.

The *Acetum Scilliticum*, or Vinegar of Squills, as directed by our College, is ſomething different from this of Dioſcorides.

Acetum Scilliticum, *Vinegar of Squills.*

Take that Part of the Squills between the outer Leaves and the Core, cut it into ſmall Pieces, which cleanſe and expoſe to Heat for thirty Days; and put one Pound of it into a Bottle with ſix Pints of the beſt Vinegar; and in the Summer Time let the Veſſel, cloſe ſtopped, be placed in the Sun for thirty Days; then open it, and ſtrain it out for Uſe.

This is ſometimes uſed of itſelf, but chiefly made into Oxymel Scilliticum.

Vinegar of Squills is ſaid to be the Invention of Pythagoras, or that he learned the Uſe of it from Epimenides. He began at the fiftieth Year of his Age to take ſome of this Vinegar every Day, and to this it was attributed that he lived in perfect Health to the Age of a hundred and ſeventeen. It is eſteemed to preſerve the Hearing, and open the auditory Paſſage, uſed by Way of Gargarium. The auditory Paſſage is the ſame as what has been called, by the Moderns, the Tuba Euſtachiana, but it was firſt diſcovered by Alcmæon, a Diſciple of Pythagoras. *Galen. Pliny. Schulzius.*

Acetum Theriacale, *Treacle Vinegar.*

Take of the Treacle of Andromachus, or that of the College of Edinburgh one Pound, beſt Vinegar two Quarts, digeſt them together, with a gentle Heat, for three Days, and afterwards ſtrain off the Liquor. *Pharmacopœia Edinburgenſis.*

This promiſes very fair, for being an admirable medicated Vinegar; and in many Caſes preferable to Treacle-water; as particularly where a ſudden Sweat is required, a venomous Bite, or any Infection received, *&c.* on which Account ſomething like it richly deſerves a Place in all publick Diſpenſatories, and conſequently in the Shops. *Shaw's Notes.*

To theſe I ſhall add the Oxymels, that the Preparations of Vinegar may not be ſeparated.

Oxymel of DIOSCORIDES.

Oxymel is made after the following Manner:

Take two Pints and a half of Vinegar, one Pint of Sea-water, ten Pints of Honey, and five Pints of common Water; mix them together and ſet the Liquor over the Fire, and let it boil up ten Times; then take it off, and, when it is cool, pour it into a Veſſel.

Oxymel is good to expel groſs Humours, and help ſuch as are troubled with the Sciatica, Gout, or Epilepſy. It is a Remedy for the Bite of that Viper called Seps, and for the Poiſon of the Peplus [μηκώνειον] and white Chamæleon [ἰξίαν] and, uſed as a Gargariſm, is good for a Quinſy.

Very different from this is our Oxymel as directed by the College under the Name of

Oxymel simplex, *ſimple Oxymel.*

Take two Pounds of the beſt Honey, of White-wine Vinegar one Pint, and boil them over a gentle Heat into the Conſiſtence of a thin Syrup.

Oxymel compositum, *compound Oxymel.*

Take of the Roots of Fennel, Smallage, Parſley, Butchers Broom, and Aſparagus, each two Ounces; of the Seeds of Smallage, Parſley, Fennel, and Anniſeeds, each one Ounce. After the Roots are waſhed and ſliced, and the Seeds bruiſed, infuſe them together in ten Pints of Water and one Pint and a half of Vinegar. The Day following boil them by a moderate Fire, to the Conſumption of a third Part of the Liquor; ſtrain and clarify the Remainder, and mix with it three Pounds of Honey, and over a gentle Heat, with continual Scumming, boil it to the Conſiſtence of a thin Syrup, S. A. *London Diſpenſatory.*

Oxymel Pectorale, *Pectoral Oxymel.*

Take of the Roots of Elicampane and Florentine Orrice, each half an Ounce; ſlice, bruiſe, and boil them in a Quart of Spring-water, till it comes to a Pint and a half; to the ſtrained Liquor add of unprepared Gum Ammoniac an Ounce diſſolved in four Ounces of Vinegar; add alſo four Ounces of Honey; then boil them together, ſcum the Matter and ſtrain it. *Edinburgh Diſpenſatory.*

This promiſes to be a very effectual Medicine, and ſeems one of the beſt that was ever preſcribed in this Form; it is ſomewhat nauſeous indeed, but it will doubtleſs cauſe a large Expectoration, and cannot but be ſerviceable in aſthmatic and phthiſical Caſes.

Oxymel Pectorale, *Pectoral Oxymel.*

Take of the Roots of Elicampane, Aſarabacca, and Ginger, each ſix Ounces; or Florentine Orrice, Galangal Roots ſliced, and white Pepper a little bruiſed, each three Ounces, Spring-water, ten Pints, White-wine Vinegar, ſix Pints; ſteep them together twenty-four Hours, then boil to ten Pints; ſtrain and add Honey ſix Pounds; then boil and clarify; to which add of the Extract of Liquorice half a Pound, and make into a Syrup.

This is an efficacious Detergent, and greatly promotes Expectoration; for which Purpoſe it is much given in all aſthmatic Caſes, and where the Breaſt is clogged with viſcid Humours, two or three Spoonfuls are ordered to be taken at any Time. *Pharmacopœia Pauperum.*

Oxymel Scilliticum, *Oxymel of Squills.*

Take of Honey three Pounds, and of Vinegar of Squills a Quart; boil them together to a Syrup; obſerving to ſcum it in the Operation. *London* and *Edinburgh Diſpenſatory.*

It is ſaid, Acetum Scilliticum ſuffers no Obſtructions to be generated in the Body, diſſolves all beginning Coagulations, keeps the Body open, and provokes Urine.

Oxymel of Squills is a gentle Vomit, if taken in a large Quantity, and inclines to a Nauſea in a ſmall one. Add to this, that it is ſomewhat nauſeous to moſt Palates, and for theſe Reaſons it would be ſomewhat difficult to introduce it into Practice as a Preſervative againſt Diſtempers. But as a Remedy it is deſervedly in great Eſteem, and much uſed. There is a pretty and commodious Way of giving it loaded with ſome agreeable compound Water, and Syrup, which takes off the diſagreeable Taſte in ſome Degree, and prevents it from cauſing Efforts to vomit. In Dropſies and Aſthmas, the following Mixture is frequently given at Bed-time, and is of great Efficacy, as it relieves the Shortneſs of Breath, and is very diuretic.

Take of ſtrong Cinnamon-water, Syrup of Balſam, each half an Ounce; Oxymel of Squills two or three Drams, mix them.

Many other Forms of this Kind are contrived to ſuit particular Caſes either to be taken at once, or by Spoonfuls often repeated. See Oxymel. See Squilla. See Apomeli.

Chambers makes a little Miſtake, when he ſays, the College retains the Acetum Theriacale Norimbergenſe, for upon the laſt Regulation, which happened many Years before Mr. Chambers wrote his Book, it was left out.

The Chymiſts talk much of their philoſophical Vinegar, but have not been ſo obliging as to inform us what they mean. It is probably either Mercury itſelf, or ſome mercurial Water. The Account Lagneus gives of it is thus: *Acetum Philoſophorum eſt Denigratio noſtra, quæ eſt Lignum Diſſolutionis veræ.* This Definition I give as a Specimen; but it will neither admit of being tranſlated or underſtood. A Solution of Butter of Antimony in Water is ſometimes called Acetum Philoſophorum.

ACETUM RADICATUM. Boerhaave thinks the Tartarus Regeneratus is the *Acetum Radicatum* of the old Chymiſts. See Tartarus Regeneratus.

ACHAHI. Alum Water. *Johnſon.*

ACHAMELECH. The ſame as Acamech.

ACHAOVAN, or **Achaova.**

Some take an Herb, very like Chamomile, which they call *Achave*, or *Uchove*, and ſometimes *Alactuan*, for *Achaova.* This Herb grows very plentifully in Egypt, and eſpecially at Cayro, in a Place called Sbechie. It is not quite ſo high as Chamomile, but very much reſembles it in Flowers, and Feverfew in Leaves. Proſp. Alpinus has often gathered it green, and found it of an obſcure, but not very agreeable Taſte and Smell. Others perhaps, on the Authority of Aviſena, who ſaid, that *Achaova* was of an acid Taſte and Smell, have miſtaken it for another white aromatic Plant, almoſt as acrid as Origanum. Hence it appears, that Aviſena was not quite wrong, when he told us, that the Flowers of *Achaova* came neareſt thoſe of Marum in Smell and Taſte, meaning the above-mentioned Plant of an acrid Taſte and Smell. But whether it be the true Marum or not, I cannot determine. *Proſper Alpinus de Medicina Ægyptiorum.*

ACHARISTON. Αχάριστον. From α Negative, and χάρις, Thanks, becauſe eſteemed too precious to be given away. It is an Epithet of many Antidotes and Collyria deſcribed by the antient medicinal Writers. There are two Collyria under this Title mentioned by Ætius, both of the aſtringent Kind, and called ἐρεικηρὸν, from ἐρείκη, or Heath, which is one of its Ingredients. Galen gives the Forms of two as follows, which are likewiſe aſtringent. The firſt is the dry *Achariſton* of Philoxenus, which was thus prepared.

> Take of Cadmia ten Drams, of Chalcitis eight Drams, of Aloes two Oboli, of Verdigreaſe two Oboli, ten Grains of Pepper, and one Dram of the Flower of Roſes. Beat them all together.

The other *Achariſton*, which the Egyptian Phyſicians uſed in the moſt obſtinate Rheums, with good Succeſs, eſpecially on robuſt Conſtitutions, was the following.

> Take of Cadmia ſixteen Drams, of Acacia eight Drams, of Copper calcined and waſhed eight Drams, of Opium, Berries of Erica, Myrrh, each four Drams, of Gum ſixteen Grains; put them in Water, and uſe them with Woman's Milk.

Celſus deſcribes another which he intitles,
Theodoti Collyrium ſive Achariſtum, viz.

> Take of Caſtor, Indian Spikenard, each p. i. of Lycium, Juice of Poppies, each an equal Quantity, of Myrrh p. ii. of Saffron, Ceruſs waſhed, Aloes, each p. iii. of Cadmia botryitis waſhed, calcined Braſs, each p. viii. of Gum p. xviii. of the Juice of Acacia p. xx. of Antimony the ſame Quantity. Put them in Rain-water.

Another *Achariſton* is aſcribed to Antiochus, and deſcribed by *Marcellus, Lib.* 8.

Achariſtos is alſo the Name of an Antidote deſcribed by Ætius, Lib. 13. Cap. 109; and alſo by Marcellus, whoſe Advice is, to aſk the Fee of the Patient immediately after the Remedy is adminiſtered; for many, ſays he, whoſe Cure has been quick, have behaved ungratefully, whence the Antidote took its Name *Achariſtus*, that is to ſay, Thankleſs. But ſee the Receipt,

> Take of Caſſia, Myrrh, white and black Pepper, Caſtor, Galbanum, Styrax, Saffron, Coſtus, Opium, Spikenard, each an equal Weight, Honey a ſufficient Quantity. The Doſe is the Bigneſs of a Bean; it is a Remedy for old Purulencies in the Breaſt. Taken in Hydromel it cures the Cholic and Diſtempers of the Liver; but in Oxymel is its proper Vehicle for Diſorders of the Spleen. *Gorræus, Med. Def.*

ACHATES, an Agate, a precious Stone, which takes its Name from a River of Sicily, ſo called, where it was firſt found. It is various, not only in Colours, but in the very Images of Things, which it repreſents, not done by the Hand of the Painter, but formed by Nature itſelf. For the Veins and Spots run in and out, and intermingle in ſuch a Manner, that ſometimes you ſee the Figure of a Dove, and then it is called *Phaſſachates*; ſometimes that of a Horn, whence it is named *Kerachates*; ſometimes a Tree appears, or perhaps two, or more, like a little Wood, which gives it the Title of *Dendrachates*. In others of theſe Stones you ſee the Reſemblances of Chariots, Rivers, ſeveral Sorts of Birds, and Cattle, and Men among the reſt. Pyrrhus, King of Epirus, had an Agate Stone, in which were repreſented the nine Muſes, and Apollo holding his Harp, not the Work of Art, but drawn by Nature, the Spots, as Pliny ſays, ſo happily laid and interſperſed, that each of the Nine had her proper Symbol. India abounds with this Sort of *Agates*. They are of a black, dark, or Aſh Colour, or like that of Coral, the Skin of an Hyena, Lion, or Panther: This latter they call *Pardalion*, the other *Leontion*, and *Leontideiran*. Theſe Colours, eſpecially the firſt named, are ſometimes ſtriped with Veins of White, and then the Stone is called *Leucachates*, ſometimes with Blood-coloured ones, and then it is *Haimachates*, or with Red, like the Sarda or Cornelian Stone, which make it a *Sardachates*.

But though it is ſaid to take its Name from a River of Sicily, it is found in many other Countries, as Pliny remarks. It ſtill retains its old Name, changing only one Letter.

Of this Stone, eſpecially that Sort called *Leontion*, is made the Plaiſter named Diachaton, which heals the Bites of venomous Creatures, diſcuſſes hard Tumours, and Strumæ; and maturates, ſuppurates, and breaks an Abſceſs. See it deſcribed by *Ætius, lib.* 15. *Gorræus, Def. Med.* Held in the Mouth, it quenches Thirſt in Fevers. *Dale.*

ACHATES.

Achates, Offic. Worm 96. Mer. Pin. 209. Boet. 245. Charlt. Foſſ. 34. De Laet. 79. Schw. 357. Aldrov. Muſ. Metall. 904. Calc. Muſ. 247. Geoff. Prælect. 78. *Lapis Jaſpis Achates Antiquorum, Agatha vulgo dictus*, Cup. Hort. Cath. Supp. 2. 44. The AGATE. *Dale.*

Agate is a precious Stone, reckoned commonly between the Opake and Tranſparent, of different Colours, and marked with Spots or Specks; which are imagined to repreſent Trees, Fiſhes, and other Things. The fineſt come from the Eaſt-Indies, the common Sort from Germany, Bohemia, &c. Great Virtues have been attributed to this Stone, both Cardiac and Alexipharmac; but they ſeem all to be imaginary. *Geoffroy.*

ACHEIR. Ἄχειρ, from α Negative, and χεὶρ, a Hand. It ſignifies without Hands. *Galen.*

ACHEMENIS. An Herb mentioned by Pliny, which was fabled by the Antients to ſpread Terror throughout an Army, and make them fly, if thrown into the Midſt of it.

ACHICOLUM. This is uſed by Cœlius Aurelianus, Acut. l. 3. c. 17. to expreſs the Fornix, Tholus, or Sudatorium of the antient Baths, which was a hot Room where they uſed to ſweat. It is alſo called *Architholus*.

ACHILLEA. A Species of the Millefolium, called Achilles's Iron Wort, which will be taken Notice of under the Article MILLEFOLIUM.

ACHILLEA MONTANA. Five-leaved Mountain Rag-Wort. It is a Species of the Jacobæa, which ſee.

Theſe are ſometimes ſpelt Achyllea with a *y*, but that is not right, as they take their Name from Achilles.

ACHILLEION. A Sort of Spunge proper for making Tents, ſo called from the Uſe Achilles is ſaid to have made of it. *Gorræus.*

ACHILLEIOS. A Sort of Maza made of Achillean Barley. *Gorræus.*

ACHILLEIS. Ἀχιλλῆις. A large Sort of Barley mentioned by Theophraſtus. It was thus called, according to Galen, from a Huſbandman, whoſe Name was Achilles. But it ſeems more probable, that it derived its Name from its being the largeſt and beſt Sort of Barley, as Achilles was the beſt Warrior in the Grecian Army.

It is mentioned by Ariſtophanes and Sophocles.

Hippocrates in his third Book, de Morbis, gives the Preparation of Barley-water made with this Sort, which he recommends as proper to be drank in burning Fevers, and this is the firſt Inſtance of the Uſe of Barley-water, a Remedy of great Efficacy in the Caſe he directs it for. Take, ſays he, of *Achillean* Barley, dried, a Hemina (κοτύλην about half a Pint) take off the Beards (ἀθέρα) and waſh it, then pour upon it a Gallon (χόα, about ſix Pints) of Water, and boil it to the Conſumption of one half; cool the Remainder, and give it for Drink. And ſoon after he adviſes the *Achillean* Barley as an Ingredient in an Infuſion, which he directs for a Jaundice.

ACHILLES. This Hero is ſaid to have been taught Medicine by Chirón the Centaur his Tutor. His Spear was endued with a medicinal Virtue, and cured the Wounds it made. It was of Braſs, and Pauſanias relates, that it was in his Days preſerved in the Temple of Minerva at Phaſelis, a City of Pamphilia. This Spear was the Gift of Chiron to Peleus the Father of *Achilles*, as we learn from Homer, Iliad 16. V. 143. 144. Telephus, it is ſaid, was cured by *Achilles* with this Spear; but Pliny ſays, his Wound was healed by the Achillea, a Plant introduced into Medicine by *Achilles*, and from whom it takes the Name. Others attribute the Diſcovery of the Virtues of Verdigreaſe to this Hero, an Ingredient very uſeful to Surgeons, and of great Importance in the Cure of Ulcers.

ACHILLIS TENDO. See TENDO ACHILLIS.

ACHIMBASSI. The Name of an Office, or rather Officer, at Grand Cayro. It ſignifies the chief Phyſician, or Prefect of the Phyſicians. His Buſineſs is to examine into the Qualifications of thoſe who practiſe Phyſic in that City, and licenſe them. Little Regard is paid to the Merit and Learning of the Perſon who is made *Achimbaſſi*, for the Baſſa of Cayro always confers it on the Perſon that pays him moſt for it. And this Officer conſiders as little the Qualifications of the Candidates who preſent themſelves for Licences, but, like our Spiritual Courts, permits every Body indiſcrimately to practiſe, provided they pay their Fees. *Proſper Alpinus.*

ACHIOTL. This is the *Orleana*, Offic. Mont. Exot. 10. Commel. Plant. Uſu 81. *Orleana ſeu Orellana folliculis lappaceis*, Herm. Cat. Hort. Lugd. Bat. 464. Pluck. Almag. 272. Phytog. 209. f. 4. *Orleana ſeu Orellana, ſive Urucu*, Parad. Bat. Prod. 357. *Urucu* Piſon. (Ed. 1648) 65. (Ed. 1658) 133. Cat. Jam. 150. Hiſt 2. 52. *Urucu Braſilienſibus*, Marcgr. 61. *Kaiebaka, Daburi*, Ger. Emac. 1554. *Achiotl ſeu Medicina tingendo apta*, Hern. 74. *Arbor Mexicana fructu Caſtaneæ, coccifera*, C. B. Pin. 419. Raii Hiſt. 2. 1771. Jonſ. Dendr. 119. *Bixa Oviedi*, J. B. 1. 440. *Metella Americana maxima tinctoria*, *via*, Tourn. Inſt. 242. Boerh. Ind. A. 208. *Arbor finium regundorum*, Scalig. ARNOTTO. *Dale.*

Its CHARACTERS *are*,

A broad, roundiſh Leaf; a large, Carnation-coloured, pentapetalous Flower; and ſhort, pyramidical Pods, prickly, and full of Grain.

It is cultivated in New Spain and Braſil.

The Tincture made of the Fruit, and uſed in the famous Compoſition, called Chocolate, is thus prepared: They take the Grains, when thoroughly ripe, and infuſe them in hot Water. What ſubſides is made into Lozenges, which are uſed in dying Wool, or as a Fucus or Paint for the Face, commonly known by the Name of Spaniſh Wool.

The Tincture, mixed with ſome ſuitable Water, either drank, or outwardly applied, mitigates the Heat of Fevers, ſtops the bloody Flux, and diſcuſſes Tumours. *Piſon.*

The Roucou, which the Indians call *Achiotl* or *Urucu*; the Dutch *Orleane*; and we *Raucou*, is a Meal of Flower, which the Inhabitants of the Leeward Iſlands, and St. Domingo, make from a little red Grain or Seed, which is found in a Huſk or Shell.

The Shrub, which bears the Roucou, produces, according to Father du Tertre, from the Root ſeveral Shoots that grow into Shrubs, and divide themſelves into ſeveral little Branches: The Leaves are very like thoſe of Lilac, and bear twice a Year ſeveral Cluſters of Flowers, that are white, mixed with red, and in Shape like thoſe of black Hellebore. The Flowers are full of a vaſt many little Stamina, or yellow Threads tipt with red: At the Fall of the Flowers come dark coloured Buttons all haired, or briſtled, with fine little brown Points, which do not prick at all. When they are ripe, there are in the Middle two double Seeds, or Kernels, intirely ſurrounded with a Kind of Vermillion, or liquid red Dye, which the Natives call *Roucou*: It is with this they paint themſelves when they travel abroad; but, before they uſe it, it is mixed with certain Oils which they draw from ſome Seeds.

The Europeans do it with Linſeed Oil; they beat it in a Mortar with this Oil, and, after they have reduced it to a Maſs, they ſend it into France, *&c.* where they uſe it to colour Wax yellow, when it is too pale, and likewiſe to give a Colour to Chocolate. There are likewiſe thoſe who beat it in a Mortar without Oil, and make it into a Maſs, or into Cakes; which, being diſſolved in Urine, makes a red Tincture, which ſtains as well as the beſt Dye in Europe, and is a very good Commodity.

This Account of *Roucou* is quite different from that of the Sieur Francis Rouſſeau, who wrote me Word it was a Tree of eight or nine Feet high, whoſe Leaves were like thoſe of the Peach Tree; after which came Huſks, or Shells, much like the Cheſnut Shell, furniſhed with little Prickles throughout; within it is a little red Seed, which they bruiſe in a Mortar, or on a Stone, and that they put into a Veſſel of Water. In ſhort, the *Roucou* is made in thoſe Iſlands after the ſame Manner as we make Starch, not according as Mr. Meuve has deſcribed, but juſt as our Starch-makers work; and after it is made into Cakes, and dried, it is brought hither.

This laſt Relation of the Sieur Rouſſeau is much juſter than the firſt; for as much as the Cods or Huſks I have, exactly agree with his Deſcription. Beſides it is eaſy to ſee by the *Roucou* which we ſell, eſpecially when it is good, that it was never ſteeped in Oil, in that the good Smell of the true *Roucou* makes it diſtinguiſhable from any Mixture. Again, we ought to undeceive thoſe who believe, that the *Achiotl* is made as the Sieur Blegny deſcribes it, when he ſays, that it is the thickened Juice which is drawn from the Fruit of the *Achiotl*, which is a Fruit Tree of America. That this Fruit is a red Seed or Grain, which is found in great Plenty in large round Huſks, or Shells; that, when they take this Seed from the Huſks, they ſtamp or beat it in a Mortar, and then preſs out the Juice, which they ſet afterwards in a hot Place, to evaporate the Moiſture, and, when it grows thick almoſt like Paſte, they work it into ſeveral Forms or Shapes; which, being thoroughly dry, are properly called *Achiotl*: For on the contrary, it is certain, that the *Roucou* is made like Starch, and that it is impoſſible to draw a Juice from it, ſince the Matter, out of which it is made, is a reddiſh downy Subſtance, which is found ſticking to the Seed that is in the Huſks, which they cannot ſeparate without Water, in the ſame Manner as our Starch-makers ſeparate the Meal from the Bran to make Starch of; and not any Juice expreſſed, or drawn from the Grain, as that Author would have.

Chuſe ſuch *Roucou* as is of an Orrice or Violet Smell, the drieſt and higheſt coloured you can get. *Roucou* of this Kind is that, which ought to be called *Achiotl*; for the chief Part of that we ſell is moiſt, foul, mouldy, *&c.* ſo that, in a Word, it is unfit to be given inwardly, mixed in Chocolate, or otherwiſe. It is much uſed by the Dyers. There was brought formerly from theſe Iſlands, and alſo from Holland, a *Roucou*, in little Cakes, of the Shape of a Crown-piece, which was endowed with a great many Excellencies, and very good for internal Uſes; which is quite contrary to what we have brought at this Time, which is in great ſquare Cakes, like Marſeilles Soap, or in round Balls, and which is ſometimes ſo baſe and ſtinking, that it is almoſt impoſſible to bear it.

The ſavage Americans cultivate the Shrubs that bear the *Roucou* with great Induſtry, becauſe of the many Uſes they make of them: Such as, firſt, to adorn and furniſh their Gardens, and from thence to cover or thatch their Houſes. Secondly, being a hard dry Wood, it ſerves for Fuel. Thirdly, the Bark ſerves them for Cordage, and to make Linnen. Fourthly, they put the Leaves and Root into their Sauces, to give them a Reliſh, and to tinge them of a Saffron Colour. Fifthly, from the Seed they make the *Roucou*, as well to paint their Bodies when worked in Oil, eſpecially on great Days of Rejoicing, as to exchange for other Commodities with Advantage. *Pomet.*

Roucou, called by the Indians *Achiotl*, or *Urucu*, is a dry Paſte, made from a little red Seed, which is found in a longiſh Huſk or Cod, that has the Shape of the Mirobalans, but prickly, almoſt like thoſe of Cheſnuts. Authors are not agreed about the Kind of Tree, or Shrub, that bears this Fruit; ſome ſaying that the Leaves are like thoſe of Lilac, and others Peach Leaves.

To prepare *Roucou*, they bruiſe or pound the red Seed, then they dilute it with Water, and paſs it through Strainers, to ſeparate the Bran, or groſſer Parts; afterwards they dry this into a Sort of Flower or Starch. Chuſe the drieſt, of a violet Colour. The Dyers uſe it chiefly, though it is ſometimes made Uſe of in Chocolate. If it be pure, it ſtrengthens the Stomach, ſtops Looſeneſs, helps Digeſtion, promotes Reſpiration, and provokes Urine. *Lemery.*

ACHIOTE. The red Grains of the *Achiotl*, made into Lozenges, or Paſtils, for mixing with Chocolate or Dying. *Raii Hiſt. Plant.*

ACHLADES. A Sort of wild Pear that grows in the Mountains of Crete. *Raii Spinoſ. Stirp. Europ.*

ACHLYS. 'Αχλὺς, Darkneſs, Cloudineſs, and is generally applied to a cloſe, foggy Air, or a Miſt. Hence ἀχλυῶδες ὄμμα, a dark, or miſty Eye, or that ſees with Difficulty, mentioned by Hippocrates as a bad Symptom in acute Diſorders. Prædict. L. 1. 46. and again in the Coacæ Prænotiones 218. Hence alſo the South-Winds are called ἀχλυώδεες by the ſame Author, Aph. 5. l. 3. becauſe they incline to Dimneſs of Sight, and, as Celſus obſerves, make all the Senſes dull, L. 2. C. 1. Thoſe alſo who, during a Fever, are affected with a Dimneſs of Sight are called 'Αχλυώδεες. Coac. Prænot. 35. Tho' others think it means thoſe who labour under violent Agitations of the Humours; or where the Colour and Complexion are altered and obſcured by Diſtempers. But Galen interprets it of thoſe who, during Sickneſs, loſe that uſual Luſtre and Livelineſs obſerved about the Pupil of the Eye, during Health.

Achlys ('Αχλύς) alſo ſignifies condenſed Air in the Uterus. *Hippocrat. de Morb. Mul. L.* 2.

It farther ſignifies a ſmall Mark or Scar over the Pupil of the Eye, left upon the Cornea by a ſuperficial Exulceration, as Galen interprets it. Or, according to Ætius, the Exulceration itſelf almoſt covering the Pupil, of a very light blue Colour. And thus 'Αχλύες is to be underſtood. *Hippocrat. Prædict.* L. 2.

ACHMADIUM, or ACHIMADIUM. A Corruption of the Arabic *Achman*, or *Achiman*, Antimony.

ACHNE. Ἄχνη. This ſignifies Chaff, and the Froth of the Sea, or of Water in general; or any Thing that is light or ſoft.

But it is uſed in a different Senſe by Phyſicians; and thus Hippocrates Epidem. Sect. 1. N. 16. ſeems to explain it, when enumerating many Circumſtances of bad Preſage relating to the Eyes, in Fevers, amongſt the reſt mentions, ϗ τὸ ἐπιξηραινόμενον οἷον ἄχνη, ſomething dried upon them like Froth. By this, Phyſicians, who have attended the Sick, will know he does not mean thoſe hard Concretions like Gum, that ſometimes glue the Eye-lids together, but a Sort of ſoft, white Mucilage that ſwims in the Eye, which is very frequent in Fevers. And in this Senſe 'Αχνῶδες, Coac. Prænot. 225. is to be taken, though Foeſius has thought proper to ſubſtitute 'Αχλυῶδες inſtead of it in this Place.

Nor is this peculiar to the Eye, for Hippocrates *de internis Affect.* ſpeaking of an Exulceration of the Lungs, ſays, that ſometimes in this Caſe the Fauces are full of (ἄχνη) a frothy Matter: The Interpreters tranſlate it Lanugo, which I do'nt think expreſſes the Meaning of the Author.

Achne alſo ſignifies Lint. Thus in a Fracture of the Noſe, when the Cartilage is depreſſed, Hippocrates, *Mochl.* 2. and *de Art.* 18. adviſes to ſupport it with Lint wrapped up in ſomething that will not irritate, and introduced into the Noſtrils.

The ſame Author directs Lint to be dipped in the Gall of an Ox boiled in Oil, and to be uſed as a Peſſary, to procure Conception, *(de. Morb. Mulierum, L.* 1.) and again *de Morb. Mulierum, L.* 2. he uſes Lint for a Peſſary with other Ingredients.

ACHOR.

The *Achor* is a ſmall Ulcer in the Skin of the Head, which ſeems to be the Effect of a ſalt and nitrous Phlegm. It diſcharges

charges an Ichor, not quite ſo thin as Water, nor yet ſo thick as Honey, which laſt is like what iſſues from the κήριοι (or Favi). For theſe ſwell and break into many Holes, which ſhed a Honey-like Humour; they alſo form themſelves into ſmall Tumours not ſo large as thoſe of the *Achor*. *Gal. de Tumoribus.*

Among the Diſeaſes which affect the Skin of the Head may be reckoned the *Achor*, which is a Sort of preternatural Tumour that takes its Name from ſome ſignal Property belonging to it. For it is perforated with very ſmall Holes, which contain a thin Humour, moderately viſcous. Much reſembling another Diſeaſe of the Skin, called κήριον (*Favus*, Honey-comb) in which the Perforations are larger, and diſcharge a Humour much like Honey (that diſtills from the *Favi*, or Combs). *Gal. de Comp. Phar.*

What they call an *Achor* poſſeſſes the Skin of the Head, and is full of ſmall Perforations which diſcharge a thin and moderately viſcous Ichor. Another Diſtemper, much like this, is what they name the κήριον (*Favus*.) This has large Perforations, which contain a Humour reſembling Honey. *Oribaſius ad Eunap. L.* 4. *c.* 11.

An *Achor* is an external Sore of the Head, full of little Perforations, which diſcharge a Humour much like Ichor, whence the Diſeaſe, or Sore itſelf, is called an *Achor*. *Trallianus, L.* 1. *c.* 8

Now you muſt know that the *Cerion* is a Diſeaſe like an *Achor*, only greater. For the Mouths of the Perforations, by which the Humour iſſues forth, reſemble thoſe of the Honey-comb. Wherefore the Diſeaſe was named by the Antients *Cerion*; but in *Achors* theſe Mouths, or Outlets of the Humours, are inviſible. *Trallian.* Lib. 1. Cap. 2.

Among Diſeaſes of the Head which break out in the Skin, there is one which is called an *Achor*, where the Skin is full of very ſmall Perforations, which diſcharge a viſcid Ichor. Alike to this in Kind is what they call a *Cerion*, in which the Perforations are large, and contain a Honey-like Humour, reſembling that in the Honey-combs of Bees. *Æginet.* Lib. 3. Cap. 4.

What they call an *Achor* has its Seat in the Skin of the Head, which it perforates with many ſmall Holes, through which it diſcharges a moderately viſcid Ichor. The *Cerion* is a Diſeaſe, much of the ſame Nature, but having larger Perforations, which contain a Humour reſembling Honey, and called Meliceris. *Ætius*, Lib. 6. Cap. 68.

Achor is an Ulcer upon the hairy Scalp perforated with a great many little Holes, which contain a Humour ſomewhat viſcid.

It differs from the Favus and Tinea, only in Degree of Virulency, the Cauſe of all three being a corroſive Salt Humour fretting the cutaneous Glands.

It is called *Favus*, when the Holes are large, and like thoſe of a Honey-comb; and *Tinea*, from the Similitude of the Holes to thoſe made in Cloaths by Moths. But generally the *Tinea* is taken for a dry Scab on the hairy Scalp, with filthy thick Scales, and a ſtinking Smell, to which Children are very ſubject, whoſe Faces it often alſo affects, in which Caſe it is called *Cruſta Lactea*, and is often mild and inconſiderable, but ſometimes malignant and dangerous. There is alſo a worſe Species of the *Tinea*, or Scabbed-Head, covering the whole Scalp with a thick cineritious Scurf, very troubleſome from its violent Itching, and fœtid Smell, and is not unfrequently very difficult to cure. The Patients for the moſt Part are pale, and diſcoloured. This Diſeaſe appears more frequently in Infants, than Adults, and is cauſed generally by a bad Diet, either of the Nurſe, or the Child, from which a corrupt Blood is generated, which produces theſe Ulcers. But ſometimes they invade grown Perſons, and reſemble a Sort of Leproſy, when they are very difficultly cured. Oftentimes alſo in Perſons afflicted with the Venereal Diſeaſe, not only the hairy Part of the Head, but that without Hair, and eſpecially the Forehead, is affected with dry Scales, and ſcabby Ulcers of this Kind, which they call the *Pocky Scab*. Even the Venereal Gummata, and Tophs of the Head, as they often ulcerate, may in ſome Meaſure be numbered amongſt theſe: But altho' the Ulcers before-mentioned are perhaps different from one another, yet as the Method of Cure is the ſame, I ſhall not here ſeparate them, but will treat of them together, and ſhew how they are to be cured. Therefore, when they are very mild, it is convenient to evacuate the noxious Humours, by repeated Purges with Mercurials, eſpecially Mercurius dulcis, and correcting the Blood in the Intervals, if the Patient's Age will admit of it, with a Decoction of the Woods, and with alterative Powders, Pills, and Eſſences. If the Diſorder is in ſucking Children, they may take the Powders, and their Nurſes alſo the Diaphoretic Powders, Pills, Decoctions, and Eſſences. The Scab, or Scurf, may be anointed with Cream mixed with a little prepared Ceruſs, oftentimes in a Day; or with Oil of Eggs only, or with a little Oil of Wax added to it; or with Ointment of Elicampane, Diapompholygos, Ceruſs, or any ſuch Preparation of Lead; obſerving at the ſame Time a proper Diet, and keeping the Body warm. By this Method, not only the mild Sort of theſe Ulcers heal, but even thoſe which are ſomewhat more ſtubborn, eſpecially if Calomel be given cautiouſly, and in a ſmall Quantity, as an Alterative, or even if crude Mercury be mixed with the Ointments of Lead.

In the more obſtinate Sort of theſe Ulcers, eſpecially if the Patient will not take Mercurial Medicines, a Cure will not be effected, unleſs the Hairs are firſt pulled up, to which theſe Ulcers are ſtrongly annexed, which is done either by Degrees, or all at once, with a Plaiſter made of common Pitch, melted over a ſlow Fire, and ſpread upon thick Cloth, or Leather; and, the Hair being firſt cut off cloſe down to the Scab, the Whole muſt be covered with it, whilſt warm, that it may ſtick. The Head muſt afterwards be kept very warm. The Plaiſter muſt remain on the Part, twelve or twenty-four Hours, and then muſt be ſtript off at once by Force, together with the Scabs and Roots of the Hair; but this is not done without giving conſiderable Pain, and making the Head bleed. After the Blood is wiped off with Rags, the Head muſt be bathed with Oil of Bricks warm, with a little Oil of Wax added to it; and a Plaiſter of Frogſpawn, impregnated with a little Camphire, or one made of Roſin, is to be applied over it, and muſt be renewed daily, till the affected Part appears clean. Then it muſt be anointed with Oil of Eggs, or Eſſence of Amber, till it is intirely healed. The internal Medicines, with proper Diet mentioned before, muſt be continued; among which, Antimony, either by itſelf, or mixed with a ſmall Quantity of Flower of Brimſtone, is of excellent Service, and forcibly expels the offenſive Matter. But, in the Beginning, Ointments prepared of Mercury, or Sulphur, muſt be ſtrictly forbore; for it has been often obſerved, that they repel the corrupt Matter, and thereby hazard the Patient's Life, which they would not do, were proper Internals given ſufficiently before.

In ſcabby Ulcers in the Face of Children, which are commonly called *Cruſtæ Lacteæ*, or *Achores*, the internal Remedies, before commended, muſt be given to their Nurſes, as well Purgatives as Correctors. But, in theſe Infants, the noxious Humours muſt be evacuated by often Purging, and in the Intervals with Powders of Diaphoretic Antimony, Crabs-Claws, Crude Antimony, and Flower of Brimſtone. When theſe have been uſed ſome Time, let a Liniment be made of Cream with Chalk or Ceruſs, with which let the Scabs be anointed often in a Day; or in its Stead, with Oil of Tartar per Deliquium; or Oil of Eggs, with a little Oil of Bricks. But Ointments made of Mercury, or Sulphur, as is juſt now ſaid, do much Hurt in weak Bodies. But if Remedies of this Kind have been unſkilfully made Uſe of too ſoon, as is very often the Caſe, and the Children are thereby made ill, then both the Nurſe and Child muſt take internal Sudorifics, Powders, Eſſences, and Potions, with warm Drink, and a warm Regimen, and the Uſe of them muſt be continued, till the morbific Matter is thrown out, and the Child is well again. *Heiſter. Chirurg.* L. 5. C. 10.

The Danger, attending repellent Applications in theſe Ulcers, is ſeen in the following Obſervation from *Turner*.

OBSERVATION.

I was ſent for, ſays he, in much Haſte, to a Gentleman's Child, labouring under a convulſive Fit, and perceiving a ſtrong Smell from the Head, whilſt I tried to bleed him, and was about to cup him for want of getting away any Blood thereby, I aſked the Servant whether the Child had any Breakings-out, or ſore Head: The Nurſe told me it had a violent running Head two Days before, but it was much ſlackened by an Application they had lately put on, and in a fair Way to do well: I after enquired for the Medicine, and found it to be no other than Nutritum; from the Coldneſs thereof, and repercuſſive Nature, the Matter was drove inwards upon the Brain, exciting this cruel and deadly Convulſion, in Oppoſition to all Endeavours by Bleeding, Bliſtering, Cupping, with Anti-ſpaſmodic and Anti-epileptic Remedies.

The following Plaiſter is reckoned almoſt infallible in this Diſorder.

Take of Pitch one Pound,
Verdigreaſe in fine Powder two Drams,
Flowers of Brimſtone an Ounce,
Hogs-Lard half an Ounce,

Boil all gently over the Fire for a Quarter of an Hour, conſtantly ſtirring them.

This, after the Hair is cut off very cloſe, muſt be applied in the ſame Manner as the Pitch Plaiſter, before-mentioned, and torn off, and often renewed again, till the Hair is pulled up by the Roots.

ACHORISTOS. Ἀχώριστος, from α Negative, and χωρὶς, Separate, Inſeparable, and is underſtood of Accidents, Symptoms, or Signs, which are inſeparable from particular Things. Thus a pungent Pain in the Side, is an inſeparable Symptom of a Pleuriſy. *Caſtellus.*

ACHRAS. A wild Pear-Tree. The Fruit is more ſour, aſtringent, and drying than the other Pears. Theophraſtus calls it ὄγχνη. *Gorræus.*

ACHREION. 'Αχρεῖον, from α Negative, and χρεία, *Uſefulneſs. Uſeleſs.* It is applied by Hippocrates to the Limbs, which, through Weakneſs, are become uſeleſs. *Foeſius.*

ACHROI. Ἄχροοι, from α Negative, and χρόα, *Colour. Pale.* In this Senſe it is uſed by Hippocrates (*de Victus Ratione in Acutis*). Galen explains it pale through a Deficiency of Blood. And Hippocrates (*Epidem. L. 6. Sect. 6. Aph.* 19.) mentions it in this Signification, as a bad Circumſtance, when conſequent to a conſiderable Hæmorrhage of the Noſe.

ACHROMOS. Calvus, the firſt Tranſlator of Hippocrates into Latin, has made a very great Miſtake, by making *Achromos* a Woman, who was poſſeſſed of an infallible Secret for a Dyſentery; and this probably led Tiraquellus, the great Civilian, into the ſame Error. The Paſſage of Hippocrates in Queſtion is thus in the ſeventh Book of *Epidemics*, πορνείη ἄχρωμος δυσεντερίης ἄκος. The Senſe of this is very obvious, *ſhameleſs (exceſſive) Whoring, is a Remedy for a Dyſentery.* A very extraordinary Preſcription, and one, I believe, very ſeldom made Uſe of in this Intention. However, Hippocrates is not the only one that mentions it. Ætius ſays, that *Venereal Commerce dries up Chronical Dyſenteries*; and Paulus repeats this almoſt in the ſame Words. From theſe ſome amongſt the Moderns ſeem to have tranſcribed it.

A Want of Attention to what has been ſaid by later Authors, with reſpect to this Method of Cure, and the ſeeming Extravagance of the Remedy, probably made Calvus look out for another Senſe.

ACHROUS. 'Αχρῦς, from α Negative, and χροία, *Colour.* In the Opinion of Salmaſius, it ſignifies *White*, and is applied to Flowers of that Colour by Theophraſtus.

ACHY. Ἄχυ. A Species of Caſſia growing in Arabia, called alſo (Δαφνίτης.) *Daphnites. Gorræus.*

ACHYRON. Ἄχυρον. This properly ſignifies *Bran*, or *Chaff*, or *Straw*. Thus in pituitous Diſorders of the Uterus, Hippocrates (*de Natura Muliebri*) adviſes a Fumigation of moiſt Bran (ἄχυρα νότερα) of Barley; the Interpreters tranſlate it *Straw*. The ſame Author directs it frequently either as an Ingredient in Fumigations, or Cataplaſms, in uterine Diſorders, both in his Treatiſe quoted above, and that *de Morbis Mulierum*, *L.* 2. By comparing the Paſſages together, it ſeems more probable he means Bran, than Straw or Chaff.

Achyron alſo ſignifies a Straw, Hair, or any ſmall Thing that ſticks upon a Wall. Thus Hippocrates (*Prænot.*) mentioning the fatal Symptoms which occur in acute Fevers, Inflammations of the Lungs, a Phrenitis, or Cephalalgia, amongſt others, ſpecifies the picking ἄχυρα from the Wall, which Celſus interprets, any ſmall Thing that ſticks in it (*ſiqua minuta eminent*). This is a Symptom which occurs frequently, and I believe, Phyſicians generally find this Prediction of Hippocrates too true.

ACIA. This is mentioned by Celſus, *L.* 5. *C.* 26. and has much puzzled the Learned, who are divided in their Opinions about it, ſome taking it for a Needle, others for the Thread. Johannes Rhodius has wrote a whole Volume about it. But the Account Fabricius Aquapendente gives of it ſeems moſt reaſonable.

Celſus having juſt before mentioned the Suture, and Fibula, ſays, *utraque optima eſt ex Acia molli, non nimis torta, quo mitius Corpori inſideat.*

Hence Aquapendente interprets *Acia* a Kind of Thread. *Filum*, he ſays, comprehends the *Linum*, and *Acia*. *Linum* is a ſingle thin Thread as it is ſpun. *Acia* is a *Filum* or Thread compoſed of a double *Linum*, and twiſted. The *Italians* call it *Azza*, or *Reſe*.

ACICYS. Ἄκικυς, from α Negative, and κίκυς, *Strength, Vigour.* It ſignifies weak, infirm, or faint, and in this Senſe it is uſed by Hippocrates (*de Morbis, L.* 4.)

ACIDA. ACIDS. All Things, that affect the Organs of Taſte with a pungent Sourneſs, are called *Acids*. But the Chymiſts call all Subſtances *Acids*, that make an Effervefcence with an *Alcali*. However, this does not ſeem to be a true Characteriſtic of *Acids*, becauſe ſome *Acids* will make an Effervefcence, upon being mixed with *Acids* of a different Kind; and alcaline Subſtances will do the ſame with Alcalies; and *Acids* with Bodies that are neither alcaline nor acid, but neutral.

Another Mark of *Acids* is, that they change the Colour of the Juices of the Heliotropium, Roſes, and Violets, red, whereas animal Alcalies turn them green. I mention animal Alcalies, becauſe others will not always do it.

A few Years ago, it was the Faſhion in Phyſick, to explain the Nature and Cauſes of Diſeaſes, by the Doctrine of Alcalies and *Acids*, and from this to deduce Methods of Cure; but this, like all other Syſtems, dropped to the Ground, when Experience had made it appear falſe and inſignificant, without doing much more Service to Phyſic, than demoliſhing the Galenical Doctrine of the four Elements, four Qualities, four Degrees, and four Humours, which had been the more fatal, as it had obtained Credit for a great many Centuries, and had prevented farther Reſearches into the Nature of Diſeaſes and Remedies, and conſequently had retarded the Improvement of Phyſic.

With reſpect to *Acids*, if I miſtake not, they have another very obvious Characteriſtic, which will better diſcover them in Bodies, than either Effervefcence with Alcalies, or producing a red Colour when mixed with the Juice of the Heliotropium, Roſes, or Violets. What I mean is, that all Bodies whatever, that will flame, contain either a manifeſt or a latent *Acid*, and that *Acids* are the only Bodies in Nature, that are convertible into that Species of Fire, which we call Flame. Boerhaave has, by a great Number of Experiments, endeavoured to prove Oil the Pabulum or Food of Fire, and I know of no Oil that has not an *Acid* in it, inſomuch that I believe an *Acid* eſſential to the Compoſition of Oil. Vegetable Oils contain an *Acid*, in ſome manifeſt to the Taſte, and from moſt others it may be ſeparated by Diſtillation. 'Tis this *Acid* that makes Oils ſo readily mix with alcaline Salts, which are by this Junction neutralized, and converted into Soap. Hence alſo Oils are enabled, in a certain Degree of Heat, to diſſolve ſome Metals. And 'tis upon Account of this *Acid*, that Oils preſerve animal and vegetable Subſtances immerſed in them from Putrefaction.

Alcohol, or pure Spirit of Wine, is a vegetable Oil ſubtilized by Fermentation, and probably for the Reaſons given under the Article ACETUM, it contains an *Acid*, and for that Reaſon readily flames.

Vegetables flame ſo long as a black Oil remains in them, but no longer; and 'tis manifeſt that this black Oil contains an *Acid*, both by the Smell and Effects. Thus the Fumes of Charcoal have an acid or ſulphureous Smell, and are fatal to Animals that are confined with it in a cloſe Room. Bees-Wax is an Oil of the vegetable Kind, containing an *Acid*, and therefore it flames.

Mineral Oils in general contain a manifeſt *Acid*, as the Oil of Coal, Petroleum, Naphtha, and all Sorts of Bitumens.

In animal Oils, the *Acid* is not ſo manifeſt, but ſeems diſguiſed by a large Portion of volatile alcaline Salts. But we may conclude an *Acid* enters its Compoſition; firſt, becauſe after it is cleared from the membranous Cells which contain it, and the Blood-veſſels which enter it, tho' kept never ſo long, it does not putrefy like the other Parts of Animals, nor does it afford a Nidus for the Eggs of Inſects, and breed Maggots. But, if it has once been deprived of a Part of its alcaline Salts by boiling, it will keep for Ages unaltered and untainted in the hotteſt Seaſons, of which Tallow Candles may ſerve as an obvious Inſtance. Now *Acids* are the grand Preſervatives againſt Putrefaction, and known Deſtroyers of thoſe Kinds of Inſects that breed in animal Bodies.

Secondly, becauſe animal Oils do not only preſerve themſelves, but alſo all other animal and vegetable Subſtances immerſed in them from Putrefaction; and on this depends the Art of Potting various Kinds of Meat.

Thirdly, like vegetable Oils, they readily mix with alcaline Salts, which they neutralize, as is evident in making ſome Kinds of Soap.

Pure *Acids* are not eaſily inflammable by common Means, becauſe perhaps of their Solidity, and ſtrong Coheſion. But when *Acids* are divided into exceeding fine Particles diſperſed in the Interſtices of other Bodies, and by Means of ſome other Subſtance ſet on Fire, they burſt into a lucid Flame, and explode with the utmoſt Violence.

I remember ſome Years ago, Mr. Lemon, a wholeſale Apothecary, was cutting a Retort, which had ſome Days before been uſed in making ſweet Spirit of Nitre, with a hot Ring of Iron, as is the common Way. None of the Spirit remained in the Retort, except a ſmall Portion that adhered to the Sides, not conſiderable enough to be viſible; but this Quantity, ſmall as it was, took Fire, and burſt the Veſſel, with a Noiſe not leſs than that of a Cannon, and a Force that drove the Fragments of the Retort out of the Cupola of the Laboratory, to a conſiderable Diſtance.

Other Inſtances of the prodigious Exploſions of *Acids* ſet on Fire, we meet with in Hoffman's Experiments with fuming Spirit of Nitre, and aromatic Oils. This great Philoſopher and Chymiſt mixed, in a common Wine-glaſs, a Dram of genuine Oil of Cloves, with the ſame Quantity of the fuming Spirit of Nitre; the Mixture inſtantly burſt out into a very lucid Flame, with an exceſſive Ebullition.

The ſame fuming Spirit, mix'd with Oil of Saſſafras, Oil of Turpentine, or Oil of Caraway, in like Manner takes Flame; but it is not ſo vehement, as when mixed with Oil of Cloves.

No Flame, we are acquainted with, is ſo fierce and penetrating as that of Lightning. And this, it ſhould ſeem, can be produced by nothing but the aerial *Acid* ſet on Fire by ſome Means not ſo eaſy to be determined. But it may give us ſome Light in this Affair to conſider, that, during very hot Weather, the Air abounds with vegetable, animal, and perhaps mineral Oils; and this is ſo remarkable with reſpect to vegetable aromatic Oils, in hot Climates, that they are perceivable by the Smell at a prodigious Diſtance from the Place where the Vegetables they exhale from grow.

It ſeems therefore poſſible, that theſe Oils, when confined in the Clouds together with the *Acid* of the Air, may, by an Efferveſcence, like that of the fuming Spirit of Nitre with Oil of Cloves, be kindled into Flame; or the extremely volatile Oils may at leaſt ſerve as a Medium to ſet the aerial *Acid* on Fire, which, when pure and unmix'd, is not, that we know of, inflammable.

Thunder and Lightning are nearly imitated by Gun-powder, and this receives all its Force and exploſive Power from the *Acid* of Nitre, the principal Ingredient in its Compoſition; for the Powder of Charcoal performs the Office of Tinder, and catches the Fire, which is inſtantly communicated to Sulphur the third Ingredient, and the Sulphur lights the acid Spirit of Nitre into a Flame.

It is obſervable that the *Acid* of Nitre is the very ſame with that of the Air which cauſes Lightning, for the alcaline Earth, which is the Baſis of Nitre, is neutralized by the *Acid* of the Air, as has been mentioned under the Article ACETUM, and will be farther explained under the Article NITRUM.

It is a manifeſt Error to explain the Exploſion of Gun-powder by the Rarefaction of the Air contained in it, for I have yet met with no Experiment which convinces me, that Air is capable of being rarefied by any Degree of artificial Fire, ſo as to take up above three Times the Space it does naturally in a warm Summer's Day. In this Caſe the Inſtance of the Fire Engine will not make againſt me, for the Weight there is raiſed by the Vapour of Water, which, though it will not flame, has an expanſive Force greater than even Gun-powder itſelf, upon the Application of Fire in a certain Degree.

Upon the Whole, I conſider Wood, and all other Bodies that flame, as a Sort of natural Gun-powder, perpetually exploding, but with a leſs Degree of Violence, becauſe the *Acid*, diſſeminated in every Particle of the inflammable Matter, is in a very ſmall Proportion to the other Ingredients.

It may not be amiſs, in this Place, to take ſome Notice of an Error, which I apprehend the Patrons of the Mechanic Philoſophy have fell into, with Reſpect to the Solution of hard mineral Bodies by acid Spirits. They tell us, that the Solution is performed by the Attraction of the acid Salts of the Menſtruum to the diſſolving Body, and the Repercuſſion of the elaſtic Particles of the Salts, and that by theſe Means the Surfaces are worn off, till the Body is intirely diſſolved. This Attraction betwixt the Particles of acid Salts and metalline Bodies may poſſibly prevail, but, if it was the Cauſe of Solution, it would be retarded by Heat, which univerſally impairs the Attraction of the Particles of the Bodies to each other, whereas Heat always promotes the Solution. It ſeems therefore more reaſonable to believe the Solution of metalline Bodies performed in this Manner: When a metalline Body is immerſed in an acid Menſtruum, the Fluid enters the Pores thereof, and carries with it a Part of the acid Salts, which are very hard and pointed. Now as the Heat of the Atmoſphere is never exactly the ſame for many Moments together, but perpetually altering, the Size of the acid Particles muſt alter in Proportion to the Heat, for all Bodies in Nature expand by Heat, and contract by Cold. And by this Expanſion I apprehend the Coheſion betwixt the metalline Particles is diſſolved by Degrees, and the Metal, thus divided, becomes inviſible as it ſwims in the Menſtruum. But if an artificial Fire is applied, and the Heat increaſed, the Solution goes on with more Effect, and is ſooner performed, as the expanſive Force of the acid Particles is augmented.

Silver is diſſolved by Aqua Fortis, the proper Solvent of Gold is the acid Spirit of common Salt. It ſeems as if Gold remains untouched in Aqua Fortis, becauſe the acid Particles in this Spirit are not ſmall enough to enter the Pores of Gold. And Silver is not affected by Aqua Regia, becauſe the acid Particles of common Salt are ſo extremely ſmall, as not to be capable of an Expanſion by any Degree of Heat we are acquainted with, ſufficient to diſſolve the Union, and deſtroy the Coheſion of the Particles of Silver, which has Pores much larger than thoſe of Gold.

I make no Doubt, but *Acids* are of ſome great Uſe in the Œconomy of the World, becauſe they are ſo univerſal. In the Bowels of the Earth we meet with them in almoſt every Mine, and Mineral; but particularly in thoſe prodigious Rocks of Salt, which are found in almoſt every Country, and which the Induſtry of a great many Ages has not been able to exhauſt. Such are thoſe in the famous Salt Mines in Poland, and our own in Cheſhire, where vaſt Quantities are got every Year, and exported. Not to mention the Quantities of *Acids* that are hourly diſcharged from the Bowels of the Earth, in the Salt that may be found by a nice Examination in the Waters of every Spring, the freſheſt not excepted.

In the Air the *Acid* is univerſal, and that in every Part of it, inſomuch that it ſeems the very Principle in it, which is ſo neceſſary to animal and vegetable Life, that neither can ſubſiſt without it. And I am inclined to believe, that, if any Part of Air is deprived of its *Acid*, it loſes at the ſame Time its Elaſticity. It is remarkable that the *Acid* abounds moſt in the Air, when the Winds blow from the Eaſt and North, and when the Weather is ſerene. This Hoffman informs us from the Obſervations of thoſe who are concerned in Nitre Works, who remark, that, principally during theſe Winds, their alcaline Earth is impregnated with an *Acid*. Now as theſe Winds are remarkably cold, and as acid Spirits, that of Nitre particularly, increaſe the Coldneſs of Ice to a prodigious Degree, I think there is Reaſon to believe, that the aerial *Acid* is more concerned in the Production of Cold in the Air, than is generally imagined. The Analogy betwixt *Acids* and Cold, and betwixt *Alcalies* and Heat, is very remarkable. Heat promotes the Putrefaction of animal Bodies, or, in other Words, deſtroys the Coheſion of the Particles of which they are compoſed, and then the Oils, Salt, and Water fly off, as they are of themſelves volatile, as ſoon as they can break their Union with the inert Earth that detained them. Alcaline Salts in the ſame Manner promote Putrefaction in animal Subſtances, and the Diſſolution of all Bodies whatever, and are therefore uſefully employed in extracting Tinctures from hard Bodies that will not yield it without their Aſſiſtance. Alcaline Salts alſo, as the Lapis Infernalis, Salt of Hartſhorn, and all others in a greater or a leſs Degree, as they are ſtronger or weaker, induce the very ſame Kind of Eſcar on the Part of living Animals, as actual Fire will do if applied to them.

On the contrary, *Acids* preſerve animal Subſtances from Putrefaction, that is, preſerve the Coheſion of their component Parts, and prevent their Diſſolution. Cold does the very ſame.

The ſtronger *Acids*, applied to the Fleſh of living Animals, cauſe a Gangrene of the Parts they touch, but of a Nature very different from that produced by Fire and alcaline Salts. Exceſſive Cold brings on a Gangrene much of the ſame Nature. We are told by People that have travelled into very cold Climates, that the Coldneſs of a Glaſs has ſometimes taken the Skin off their Lips, as they have been drinking Brandy out of it. And this is exactly the Effect of a ſtrong *Acid*.

Phyſicians have obſerved, that the South-Winds favour peſtilential Conſtitutions of the Air, eſpecially if the Seaſon happens at the ſame Time to be moiſt and rainy; and that the Malignity of peſtilential Diſtempers is abated by the Winds which blow from the North, or North-Eaſt, and cool ſerene Weather. So that there is Reaſon to believe, in one Caſe, that the Diſſolution of the Juices, uſual in peſtilential Diſtempers, is promoted by Heat, and the Contagion propagated by an alcaline Putrefaction: And in the other, that this Diſſolution is reſtrained by Cold, and the alcaline Contagion deſtroyed by the aerial *Acid*.

Upon reflecting on the great Similitude betwixt the Effects of *Alcalies* and Heat, and betwixt the Operation of *Acids* and that of Cold, I have been often inclinable to think, that Cold is itſelf, as well as Fire or Heat, a Body, and capable of being fixed and detained in other Bodies; and that, as Heat is the Principle which, uniting with Earth and Oil, conſtitutes alcaline Salts, ſo Cold, concentrated, and joined to vegetable or mineral Bodies, is the very Eſſence of thoſe Salts which we call *Acid*. And farther, that the Effervеſcence, which enſues upon the Mixture of Alcalies and *Acids*, happens for the very ſame Reaſons that an Effervеſcence much like it is raiſed, upon immerging a red-hot Coal, or Iron, in cold Water.

That Cold is a Body there are ſome other Reaſons to believe. Thus, Cold contracts every Part of Matter we are acquainted with in the Univerſe; that is, it makes the ultimate Particles of which Bodies are formed approach nearer each other, and leſſens the Dimenſions of the Compound. Now I cannot comprehend, how Cold, if it was not Matter itſelf, could act in this Manner upon Matter. Theſe Things I recommend to the Conſideration of Gentlemen who are entertained with Philoſophical Reſearches, and ſhall only make this farther Obſervation, that in caſe Alcali and Fire mean the ſame Thing, and *Acid* is the ſame as Cold, the chymical Philoſophers, in accounting for all the grand Operations in Nature, by the Action of Alcalies and *Acids*, were not much miſtaken, though they do not ſeem to comprehend the Reaſon why they were in the Right.

I have hinted before, that *Acids* are the great Preſervatives againſt Putrefaction in the Air, and we ſhall find them not leſs uſeful in this Reſpect in the Sea. For that vaſt Body of Water, which we call the Sea, would putrefy in hot Climates particularly, and hot Weather, and conſequently no Animals could either live in it, or near it. This great Inconvenience is prevented by the *Acid* of the Salt which is diſſolved in Sea-water. Now, as Putrefaction is promoted by Heat, it ſhould ſeem that a greater Quantity of Salt is neceſſary to prevent Putrefaction in hot Climates than in Cold. And accordingly, it has been diſcovered by an Experiment made by a Friend of Mr. Boyle's at his Requeſt, that the Sea-Water increaſes in Saltneſs the nearer it approaches the Line. And other Experiments make it appear, that a Pint of Sea-water in the Mediterranean contains an Ounce of Salt, but the ſame Quantity of Water in the Baltic only half an Ounce.

The medicinal Virtues of *Acids* are very great, when alcaline Food, taken in too large Quantities for the Action of the Stomach to digeſt, putrefy in the Stomach and Inteſtines. Or when any extravaſated Juices in the Body verge towards an alcaline Putrefaction. Or in thoſe Sorts of Fevers where the Blood tends to Diſſolution. Theſe Virtues will be more particularly ſpecified under the reſpective Articles, where they are indicated. See that Part of the Article ALCALI, where the Diſorders cauſed by an Alcaleſcence of the Juices are treated of.

But I muſt not omit to mention, that the acid Water which riſes firſt in the Diſtillation of Turpentine, well ſeparated from the Oil, is the moſt admirable vegetable *Acid* known, in the Opinion of Boerhaave, and I think it is univerſally allowed to be endued with great medicinal Virtues. Floyer, in his Treatiſe on an Aſthma, recommends it as an extraordinary Diuretic.

Some Notice was taken of the Effects of *Acids* upon Blood, under the Article ACETUM. I ſhall only inſert here what Boerhaave obſerves upon this Subject.

The *Acids* of Moſelle and Rheniſh Wine, Vinegar, and diſtilled Vinegar, dilute the Blood, ſcarce alter its Colour, and in ſome Meaſure prevent its Coagulating. The *Acid* of Nitre inſtantly coagulates it, and turns its Colour bluiſh; the *Acid* of Sea-ſalt likewiſe ſoon coagulates it, and changes it of a grey Colour, inclinable to Black. The acid Spirits of Vitriol and Sulphur alſo bring it to a firm Maſs, which is generally whitiſh.

Hence appears the fatal Error of thoſe Phyſicians, who unjuſtly condemn *Acids*, under the falſe Notion of their coagulating the Blood, by an Argument wholly derived from Milk; whilſt Hippocrates from a cloſer Obſervation of Nature judged, that Vinegar was proper in inflammatory Diſtempers, though the Blood is thence rendered more denſe. And we cannot ſafely pronounce concerning the Effects of *Acids* upon the Blood, unleſs it be firſt diſtinctly explained what Kind of *Acid* is underſtood: The Uſe of mineral *Acids* is dangerous, but of vegetable *Acids* more wholeſome; and it frequently happens, that the Things, which really coagulate the Blood, are ſuppoſed to diſſolve it. *Boerhaave's Chymiſtry.*

The following Obſervations upon *Acids* made by the laſt-quoted Author, are both entertaining and inſtructive. But he ſeems to err when he ſays, Vegetables receive all their *Acids* from the Earth, whereas it is highly probable they imbibe ſome from the Air.

Count Marſilli's Obſervation on Sea-plants only proves, that in theſe the Earth is not ſufficiently united with the alcaline Principle, to render the Salt fixed, and that they contain a leſs Quantity of *Acid* than ſome Plants which fix their Root in the Earth.

The *Acids* of Vegetables are either native, or produced by the Help of Fermentation. Native vegetable *Acids* ſeem to owe their Origin intirely to the Juices which the Plants draw out of the Earth which nouriſhes them; and hence, perhaps, all theſe may be looked upon as belonging originally to the foſſile Kingdom, eſpecially as Plants which grow in the Sea, and have not their Roots inſerted into the Earth at its Bottom, conſiſt purely of alcaleſcent Parts, and in Diſtillation yield an oily, volatile Alcali, as the illuſtrious Count Marſilli, in his Writings upon this Subject, informs us, he long ago obſerved. In ſome Vegetables the native *Acids* diſcover themſelves evidently; as in Sorrel, the Trifolium Acetoſum, and the Juice of all Fruits, whether the pulpous or Summer-fruits, eſpecially whilſt unripe, for, when concocted by the Heat of the Sun, they grow more mild. The Sap alſo of all Vegetables which riſes in the Spring is almoſt as acid as Vinegar. Many Woods alſo and Aromatics contain a true *Acid*, which however is not ſo manifeſt. In Guaiacum, Saſſafras, Cinnamon, and a vaſt many more of the like Kind, who would ever have ſuſpected an *Acid*, if it had not been manifeſted by Diſtillation? Who would believe that the moſt noble Balſams contained ſuch an *Acid*, as Turpentine yields eaſily and in great Quantities by Diſtillation? But as *Acids* can ſcarcely be obtained pure and without Mixture, it is exceedingly difficult to give a diſtinct Account of their proper Actions: The Virtue of ſome of them, however, upon certain Bodies, is evident; thus we ſee the freſh Juices of Oranges, Citrons, and Lemons diſſolve Lead, Tin, Copper, and Iron, and is capable of ſtrongly calcining them, like foſſile *Acids*. The acid Salts, however, are formed into ſolid Globules, in a different Manner from the other; for their moſt acid liquid Juices being preſſed out, filtred, inſpiſſated, and then ſet to reſt in a cool Place, ſhoot into ſaline Globules, not unlike Tartar, and containing a true vegetable *Acid*.

But Fermentation ſeems more and more to exalt the latent *Acid* of Vegetables. For the Juices of Vegetables, that are exceeding ripe and ſweet, appear to have ſcarcely any Thing of Acidity in them, as we ſee evidently in the expreſſed Juice of Grapes. Who can perceive any Thing like an *Acid* in Caſſia, Manna, Honey, and Sugar; and yet, when theſe are rightly fermented, and ſet a-working, the *Acid* preſently appears, but eſpecially when the Wine begins to grow finer and more ſubtile. In ripe, mealy Corn, is there the leaſt Indication of an *Acid*? And yet, when this has fermented but a very little while, it diſcovers an Acidity. As theſe *Acids*, now, thus produced, are of a ſomething different and more ſubtile Nature than the native ones; hence, to diſtinguiſh them, we may be allowed, for the future, to call them vinous *Acids*. Theſe vinous *Acids* then are of two Sorts; for either they are diſperſed through the Wine, in Form of liquid *Acids*; or elſe in Time collect themſelves together in the Wine, and fix themſelves to the Surface of the Veſſel, in the ſolid Form of Tartar. And theſe fermented vinous *Acids* have pretty nearly the ſame Virtues as the preceding native ones.

But the *Acids* of Vegetables, produced by a ſecond Fermentation, I will call by the Name of Acetoſe. For if any known Wines are, by an Admixture of auſtere, acid, crude Juices, made to undergo again a proper acetoſe Fermentation, they will be converted into Vinegars, will conſume their own Tartar, become much more acid, and will acquire a ſtronger and more durable Acid, which will remain even in Diſtillation: Hence in Vinegars there is obtained a pure, active Acid, and then they are called pure, diſtilled, acetoſe *Acids*. Theſe laſt are of ſuch incredible Service and Efficacy in Chymiſtry, that hence all other Menſtruums likewiſe have been called Aceta by the Chymiſts.

But among *Acids* we muſt take Notice likewiſe of fermenting *Acids*; by which we mean, vegetable Juices, that are in the very Act of Fermentation, and thus in a Kind of middle State between that which is natural to them, and that which they obtain when the Fermentation is compleated; for, during this Time, the moſt elaſtic Part of the fermenting Liquid acquires ſuch a Power, as is not to be equalled by any Thing I know of in all Nature. For if this (Sylveſtris) ſavage, incoercible, exploſive, acid Spirit, riſing from a vaſt Quantity of fermenting Vegetables, ſhould paſs through a very ſmall Vent-hole into the Noſtrils of the ſtrongeſt Man, it would ſtrike him dead in an Inſtant. If it does not act with all its Force, it cauſes a ſudden Apoplexy; if leſs powerfully ſtill, a Loſs of the Senſes, with a Paraplegia; if very lightly, only a Vertigo. The Truth of all this has been too certainly evinced by melancholy Inſtances. Hence we come to have a more perfect Idea of the more immediate Cauſe of Drunkenneſs, and the Tremors upon the Nerves that are conſequent to it. And hence we ſee the Occaſion of that ſurprizing Phenomenon mentioned by the illuſtrious Cornaro, in his noble Treatiſe, wrote in the Praiſe of Sobriety, where he tells us, as he grew in Years, he was annually, juſt before the Time of Vintage, troubled with a Languor, and Lowneſs of Spirits, which would not give Way to any Medicine, or Regimen, but increaſed ſo as to become extreme, till, upon drinking new Muſt, he recruited his exhauſted Spirits, and re-aſſumed his former Vigour: This then he continued to enjoy till the Wine of that Year began to grow old, and then relapſed into his uſual Debility, and was forced to wait for a freſh Recruit of new Wine, to ſet him to rights again. From all this then we evidently learn, what an incredible Effect this fermenting Acid has upon the Bodies of Animals, either for their Detriment, or their Advantage. Whence does it happen that the Cholera Morbus in ſo ſhort a Time becomes ſo fatal? Certainly from Muſt, and ripe Summer-fruits, actually fermenting in the Stomach, and ſmaller Guts, and, by the Exploſion of their Spirits, contracting the Muſcles of theſe Parts into Spaſms, that often prove mortal. Of this there is a remarkable Inſtance in the Philoſophical Tranſactions, where the Anatomiſt, St. Andre, gives a very accurate Account of the Body of a Man that fell into a Cholera, upon drinking a large Quantity of bottled Ale, of which he died, in the Manner there deſcribed. As by theſe Accounts the ſingular Efficacy of ſuch an *Acid* evidently appears, ſo likewiſe it ſeems exceeding probable, that thoſe Spirits, conſidered as a Menſtruum, produce often upon other Bodies very ſurprizing Effects. And I have ſometimes doubted, whether this wonderful Spirit is not fixed in Tartar, and afterwards, when by the Action of the Fire, in the Diſtillation of this Salt, it is ſet at Liberty, does not produce that elaſtic Vapour which the Chymiſts have always obſerved to be ſo prodigiouſly elaſtic as to burſt to Pieces all their Glaſſes, let them be ever ſo large.

It is however certain, that Bodies which we intend to diſſolve, if mixed with Liquors in the very Act of Fermentation, will be diſſolved by them in a very different Manner from what they would have been, if put into the very ſame Liquors, when not in Fermentation. A manifeſt Inſtance of this we ſee in green Herbs, when thrown into fermenting Muſt, or Wort; for hence we have a Liquor, in which all their Virtues ſeem to be moſt equally united into one and the ſame Liquid, and afterwards to act with a joint Efficacy. And thus alſo the different Ingredients in the Theriaca, or Venice Treacle, when they are mixed together with Honey, are reduced into one homogeneous Maſs, and conſpire together in the ſame Operation. *And hence appears the Folly of thoſe, who in this, and the like Compoſitions, ſubſtitute Diacodium inſtead of Honey, thereby ſpoiling the Medicine.*

But pure, thin, acetoſe *Acids*, are procured, pretty much in their natural Form, from Vegetables expoſed to the Fire: For if you take a Stick of Wood, a green one in particular, and lay it upon a clear Fire, in ſuch a Manner, that both the Ends ſhall lie out, then the Fire, acting upon the middle Part of the Wood, will fuſe the Humours contained therein, and expel them at the Extremities, in the Form of Water, with a Hiſſing and Froth. This Liquor, upon Examination, appears to be a pure *Acid*, has all the Properties of *Acids*, and the diſſolving Qualities common to them. Hence, we learn, that the Smoke of Wood, that which is green particularly, gives the Eyes Pain, by the acrid *Acid* which it diſperſes all about. This, likewiſe, when it penetrates into Fleſh or Fiſh, that are hung in Smoke, tinges them with a red Colour, and, by its Acidity, prevents their growing putrid, or rancid. And this *Acid* is exceedingly like thoſe that exiſt naturally in moſt Trees.

But again, there are diſcovered other very ſingular *Acids*, that are in ſome Meaſure of a balſamic and oily Nature, which are drawn from Vegetables by Fire in a cloſe Veſſel, both *per adſcenſum* and *deſcenſum*. Thus the Wood of Guaiacum, Juniper, Oak, and a great many others, if reduced to dry Shavings, and carefully diſtilled in a Retort, yield a limpid, reddiſh Liquor, which is very acid, ſomewhat oily, and has a good deal of the Smell of a Herring dried in the Smoke. And the Liquid thus prepared is ſtrongly acid, and may be rendered ſtronger by Depuration and Rectification, and then the ſolvent Virtue of this Menſtruum is perfectly ſingular. In the Human Body, it produces wonderful Effects, by attenuating, preſerving, ſtimulating, and reſiſting Putrefaction, and carrying off the noxious Matter by Sweat and Urine. If in theſe Menſtruums, therefore, the Virtues of medicinal Plants are diſſolved, the Solutions become exceedingly efficacious, as they act by their very ſubtile, penetrating, ſingular *Acid*, and exalt the Qualities of the Bodies diſſolved in them. Of all theſe vegetable *Acids*, therefore, it is true, that they are capable of intimately diſſolving many animal, vegetable, foſſile, and metalline Subſtances: By Digeſtion and Coction, they diſſolve the Horns, Hoofs, Bones, and Fleſh of Animals: The Shells of Fiſh, and other Animals, they perfectly corrode into a pellucid Liquor: And Metals they diſſolve, except Mercury, Silver, and Gold.

Art, therefore, has ſought out and diſcovered other *Acids*, which are able to diſſolve Mercury, Gold, Silver, and other Foſſils, which were unaffected by vegetable *Acids*, and theſe are not eaſily digeſtible by the Power of animal Bodies. For vegetable *Acids* may, by the Action of a ſtrong healthy Body, eſpecially if aſſiſted by a conſiderable Motion, be ſo changed, as to loſe their acid Nature, and be converted into another Kind of Salt: But thoſe *Acids* that we are at preſent acquainted with, which are capable of diſſolving Mercury, Gold, and Silver, are not ſo eaſily ſubdued by the concoctive animal Powers; but being ſuperior to them, for the moſt Part, deſtroy them. And hence theſe become generally Poiſon to Animals, except in a very few Caſes, where a putrid Alcaleſcence prevails, as when alcaline Poiſons are taken in by them, or in a putrid State of the Humours, as where a peſtilential Virulence, or an univerſal Putrefaction in the Small-pox, threaten immediate Deſtruction.

Foſſile, native *Acids*, are rarely to be met with, for it is now diſcovered, that the medicinal Waters, once looked upon as acid, approach, in every Character, nearer to an Alcali. There is often, indeed, a Vapour obſerved in Mines, which reſembles a ſuffocating, ſulphureous *Acid*, and by other Marks demonſtrates its Acidity: But it is very ſeldom found alone, and very pure, in a fluid Form.

But whenever it happens, which is very often the Caſe, that it meets with a ſolid Body, which is capable of attracting that *Acid*, it then unites with it, and becomes fixed, and palpable: And, when it is afterwards drawn out of that fixed Body, it then falls under the Notice of our Senſes; and then, as far as it is poſſible to judge, appears to be always one and the ſame.

For, if it lays hold of a pinguious Foſſil, it produces various Kinds of Sulphurs, which, if they are burnt, emit Fumes, which being collected, refrigerated, and mixed with the humid Air, yield the Spirit, or Oil of Sulphur *per Campanam*. If you take this, and put it into a clean Glaſs Veſſel, and expoſe it for a conſiderable Time to a Heat equal to that of boiling Water, you will diſtil from it a conſiderable Quantity of pure Water, which, whilſt the Sulphur was burning, had inſinuated itſelf out of the Air into the acid Fume of the Sulphur; and there will then remain at the Bottom a ponderous, thick, cauſtic *Acid*, which in every Character reſembles the pureſt Oil of Vitriol, except in this alone, that it contains nothing of a volatile Metal, which is always found more or leſs in Oil of Vitriol.

But if this *Acid* happens to corrode Lime-ſtones, it then produces Alums, which are different, according to the Diverſity of the Matter which is mixed with them. All theſe, if they are firſt lighly calcined, and then with an intenſe Fire urged into Vapours, will, by the Condenſation of theſe, yield a Liquor, which, when it is purified according to Art, is nearly the ſame with the former procured from burning Sulphur.

Again, if native green Vitriol is by the Help of a moderate Heat reduced to a dry, white Powder, and then expoſed to a Fire gradually increaſed to the extremeſt Degree, it will emit white, cloudy Vapours, which, collected into a Liquid, and accurately depurated, is the very ſame again as was obtained from Sulphur, and Alum.

The blue Vitriol alſo, treated in the ſame Manner, yields a Liquid which is the ſame with the former, nor can it be diſtinguiſhed from them, when rectified according to Art, as the Artiſts expreſs themſelves. All theſe acid Liquors, if urged with a Heat of five hundred and ſixty Degrees, begin to boil, emit white, cloudy Fumes, which diſperſe themſelves all around to conſiderable Diſtances, and deſtroy all known Animals, and even Inſects.

But, if theſe Fumes are drawn into the Lungs by Inſpiration, they immediately excite a moſt troubleſome Cough, which admits of no Cure, which is ſucceeded by a ſuffocating Dyſpnœa, and almoſt immediate Death; or perhaps a moſt troubleſome and incurable Aſthma. Oil of Sulphur, Alum, both Sorts of Vitriol, as ſoon as, by the Action of the Fire, they are raiſed into Vapours, by Combuſtion, Diſtillation, or Ebullition, have exactly the ſame Effects. Any of theſe *Acids*, united with a pinguious Oil, produces Sulphur; with a calcarious Earth, Alum; with Iron, Vitriol of Iron; and with Copper, Vitriol of Copper: From all theſe Conſiderations, then, we collect, that it is one and the ſame *Acid*, which is found native amongſt all Sorts of Foſſils, and is ſo very ponderous, and requires ſo great a Degree of Fire to make it boil.

The Properties of this *Acid*, are, Firſt, That it is naturally the heavieſt of all *Acids*. To Spirit of Nitre its ſpecific Gravity is as 11 to 9: To Spirit of Salt, as 11 to 8: To Aqua Fortis, as 11 to 9: And to diſtilled Vinegar, nearly as 11 to 7, *Mem. de bac Roy. des Sc.* 1699.

Secondly, It is of all *Acids* the moſt fixed; for, in the Heat of boiling Water, it never emits any Fumes, for, tho' the Water which adheres to it may riſe in Vapour, the *Acid* itſelf never does in ſuch a Degree of Heat, for it requires ſomething more than five hundred and ſixty Degrees of Heat to make it boil, and then it emits noxious Vapours.

Thirdly, Theſe *Acids* being perfectly freed from all their Water, by a ſtrong Fire, and by this Means rendered very pure, heavy, and acid, very greedily attract into them Water out of the Air, and by this Means dilute themſelves, and increaſe in Weight.

Fourthly, When rendered very pure, they immediately, upon the Affuſion of cold Water upon them, grow ſurprizingly hot.

Fifthly, This *Acid* induces ſuch an Alteration on Sea-ſalt, Fountain-ſalt, and Sal Gem, by the Aſſiſtance of Fire, that in Diſtillation they yield a Spirit of Salt; mixed with Nitre, it cauſes a Spirit of Nitre to riſe from it; and if it is mixed with many other Bodies, diſſolved by acid Spirits, it ſets them free from their ſolvent *Acids*, by diſlodging them, and rendering them volatile, whilſt it often inſinuates itſelf into and fixes in their Places. Upon this Principle it is that Alum and Vitriol, if they are firſt calcined, and then mixed with Nitre, yield Aqua Fortis; if with Sea-ſalt, Spirit of Sea-ſalt: For in the Colcothar there ſtill remains a latent *Acid* of Vitriol, exceedingly ſtrong, and ſo fixed, that the Fire was not able to expel it, which, being mixed with Nitre, makes the acid Spirit of the Nitre riſe into Aqua Fortis, which is the pure Spirit of Nitre without any Mixture of Oil of Vitriol; but at the ſame Time that Part of the vitriolic *Acid*, which remained in the Calx of the Colcothar, is left at the Bottom with Part of the Nitre, and produces there an exceeding fixed Salt, like vitriolated Nitre; and the ſame happens with Reſpect to Sea-ſalt.

Sixthly, It readily diſſolves Iron, but Copper ſomewhat ſlower, Silver with a good deal of Difficulty, and Mercury not in leſs than five hundred and ſixty Degrees of Heat: But it will not diſſolve either Lead or Tin. In other Reſpects, this *Acid* agrees with all the reſt. It has this too in common with ſome, that it will perfectly diſſolve Camphire into liquid Oil, which, by the Affuſion of a large Quantity of Water, revives into true Camphire.

Another foſſile *Acid*, which we are acquainted with, is produced from Nitre only, inſomuch that there never was ſeen in the World a ſingle Drop of it, except what was diſtilled from Nitre. For if Nitre is intimately mixed with three Times the Quantity of Bole, Clay, Brick-duſt, or any Thing of the like Nature, and then urged with a very ſtrong Fire, a great Part of it will be converted into red Fumes, which being condenſed into a Liquid, it is then called Spirit of Nitre. Or if dry Nitre is mixed with an equal Quantity of Oil of Vitriol, and diſtilled in the ſtrongeſt Sand-heat, gradually increaſed, the ſame Spirit of Nitre will be procured from the ſame Sort of red Fumes.

Or Laſtly, Nitre rubbed and mixed with an equal Quantity of the Calx of red Vitriol, or Alum, and then urged with a very great Degree of Heat, will then emit the ſame Fumes, and from them yield a Spirit of Nitre, which is as good, and as pure, as the former; but is then called by the Chymiſts Aqua Fortis, Aqua Stygia, and Aqua Docimaſtica. This Spirit, howſoever prepared, is the ſame in every Reſpect, and every Property; for, if there is any Difference, it ſcarcely diſcover itſelf by any Experiment. And it has this peculiar in it that, when it grows very hot in the Fire, it always ſend forth very red Fumes, and diſſolves Silver into very bitter cauſti Chryſtals, which Solution is proper to this Spirit, and ca ſcarcely be effected by any other *Acid*; even pure Oil of Vitrio

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will not do it without Difficulty. It diſſolves alſo Mercury, Lead, and Copper. Gold however it will not touch; and ſcarcely diſſolves Tin. This *Acid*, when it is intimately united with the Metal it diſſolves, adheres to them with a conſiderable Force, ſo as to remain united with them, in a very ſtrong Fire. An Inſtance of this is, Silver diſſolved in this Manner, which ſuffers itſelf to be melted into the Lunar Cauſtic, without letting go its corroding *Acid*. Mercurius præcipitatus ruber, red Mercury præcipitate alſo, when it is rightly fixed, will for a long Time reſiſt an intenſe Fire, before it parts with the *Acid* that adheres to it.

Sea-ſalt, like Nitre, when it is pure, diſcovers no Sign of an *Acid*, but if it is treated in the Manner juſt mentioned, in Regard to Nitre, it is changed into a volatile acid Liquor. For if, to prevent its Melting, it is mixed with three Times its Weight of Earth, and then urged by a Fire increaſed, gradually, to the greateſt Degree, it will be diſſipated into denſe, white Fumes, that float about, are very volatile, and, being collected, form a Liquid of a golden or green Colour. If diſtilled with Oil of Vitriol, it yields the ſame Liquor, but more volatile. And if mixed with the Fæces of diſtilled Alum, or Vitriol, and afterwards expoſed to a very ſtrong Fire, it will then, in like Manner, give the ſame Spirit of Sea-ſalt. And theſe Spirits, prepared in theſe three different Ways, are intirely one and the ſame, and they will be the ſame, if made with Sal Gemmæ, Fountain, or Sea-ſalt. This Spirit has this Peculiarity, that if it is drawn from the pureſt Salt, and you repeat the Diſtillation upon freſh, pure Salt, when it begins through the Violence of the Fire to grow exceeding hot, it emits white Fumes, and diſſolves Gold, which no other *Acid* in Nature is able to penetrate. It likewiſe diſſolves Tin, Mercury with a flatulent Noiſe, Iron, and Copper. Silver it does in no Manner affect; nor does it perfectly diſſolve Lead: So that this again is an *Acid* perfectly ſingular in its Kind.

Hence, therefore, it appears, that Spirit of Nitre, and Spirit of Salt, are two perfectly diſtinct Things, though at the ſame Time they are ſurpriſingly alike, and are converted into each other with a great deal of Eaſe. Thus, if Spirit of Nitre is cohobated in a glaſs Retort upon Nitre that is exceeding dry, and purified with the utmoſt Skill, ſo that there is not the leaſt Grain of Sea-ſalt in it, you will then have the very choiceſt Spirit of Nitre, growing better and better upon every Cohobation, and fitter for the Operations proper to this Spirit. But if this Cohobation is performed upon common Nitre, which is not purified by Cryſtallization, then the cohobated Spirit of Nitre will loſe the Nature of Spirit of Nitre, and will acquire the Properties of Spirit of Sea-ſalt, or Aqua Regia, and will diſſolve Gold. If we carefully examine this extraordinary Fact, we ſhall eaſily perceive, that to this natural Nitre there muſt adhere ſomewhat of Sea-ſalt, which intermixes itſelf with the nitrous Spirit in Diſtillation, and thus from Spirit of Nitre produces Aqua Regia. And this again appears evident from the following Experiment: Take one Part of pure decrepitated dry Salt, reduced to Powder; put it into a clean Retort, and pour upon it four Parts of good Spirit of Nitre, or Aqua Fortis; diſtil it then, according to Art, to the utmoſt Dryneſs, keeping your Sand-heat very ſtrong to the laſt; and the acid Spirit, which is thus procured, will be no longer Aqua Fortis, but Aqua Regia, which will diſſolve Gold, but will not touch Silver. If you examine then the Salt that remains at the Bottom of the Retort after this Operation, by Solution, Filtration, and Cryſtallization, you will have a true, pure, inflammable Nitre. *Du Hamel.* Hiſt. de l'Ac. Roy. des Sc. p. 158. *Boyle's* Orig. Forms, p. 215.

Again, Take one Part of the pureſt Nitre, and two of the beſt Spirit of Sea-ſalt, and diſtil them in a proper Manner in a Retort, there will come over a Spirit which will diſſolve Gold much eaſier and ſooner than Spirit of Sea-ſalt. And if the Salt, which remains after the ſtrongeſt Diſtillation, is diſſolved in Water, filtred and cryſtallized, it becomes good inflammable Nitre. *Boyle*, Ib. from p. 215. to 224. *Bohn.* Chem. 35, 36. 163. *Hoffm.* Diſſert. Chem. Phyſ. L. 3. Obſ. 20.

Hence therefore it appears, that Aqua Fortis becomes Aqua Regia, as ſoon as ever Spirit of Nitre and Spirit of Salt come to be mixed together, in whatever Manner, and almoſt in what Proportion ſoever: And farther, if any Portion of Sal Ammoniac, Sal Gemmæ, Sea-ſalt, Fountain-ſalt, the Sal Febrifugus of Sylvius, or true Spirit of Salt, is mixed with Aqua Fortis, an Aqua Regia is always produced.

In this Hiſtory of *Acids* it is particularly remarkable, firſt, That *Acids* are ſo eaſily generated from Subſtances not acid; as appeared above under the Article of vegetable *Acids.* Wine alſo, which was not in the leaſt acid, was by being cloſe ſtopped up in a clean Bottle, and tied to the Sails of a Wind-mill, converted in three Days into good Vinegar, according to the Obſervation of Monſieur *Homberg*, Mem. de l'Acad. Roy. des Sc. T. 2. p. 11.

Secondly, It is farther remarkable, that *Acids*, when they are once generated, are ſcarcely altered by Fire, though expoſed to it ever ſo long: For Aqua Fortis, Aqua Regia, Spirit of Nitre, Spirit of Salt, and Oil of Vitriol, included in Glaſſes hermetically ſealed, and expoſed for four Years to the equable Heat of an Athanor, retained the ſame diſſolving Power: Vinegar only was grown inſipid, and acquired an aromatic Smell; and the Spirit of Salt had begun to corrode the Glaſs.

Thirdly, Theſe very ſame *Acids* loſe their acid Nature, whilſt they act as Menſtruums upon ſolvend Bodies. This Monſieur Homberg very ingeniouſly inferred from a tedious Experiment performed with Mercury and Spirit of Nitre. *Du Hamel.* Hiſt. de l'Acad. Roy. des Sc. p. 442, 443.

Hence it is evident that the ſtrongeſt acid Menſtruum is, by diſſolving its Object, converted into an inſipid, unactive Fluid, not unlike Water, and deprived of the proper ſolvent Power which it before was endowed with. And hence, perhaps, it is not improbable, that theſe *Acids* are generated and periſh. For what Perſon living has ever diſcovered any Spirit of Nitre in the World, which was not firſt procured from pre-exiſting Nitre? And yet Nitre is produced from Earth, filled with animal Excrements, Lime, and an Alcali, and Air; or from pure Spirit of Nitre attracted into a pure Alcali, particularly one that is fixed. Rich and fat Earths alſo, if defended from the Rain, and prevented from conſuming their Strength by nouriſhing of Vegetables, are all found by Length of Time to be impregnated with a fertile Nitre, if Care is taken that no Sea-ſalt comes at them. *Boyl.* Scept. Chem.

Hence then it is evident, that the acid Spirit of Nitre is, by the ſole Action of Fire, produced from pure Nitre; whereas native Nitre is produced without any ſuch Spirit firſt exiſting in any ſenſible Form.

Fourthly, Theſe *Acids*, whilſt they diſſolve Bodies, become concreted with them, are changed and converted into new ones, and thus from one give Riſe to a great Variety: For Spirit of Nitre diſſolves Silver, Lead, ſurpriſingly alters Tin, Copper, Mercury, Nitre, Antimony, Zincq, and Emery, and with theſe forms new Bodies, that are different in Taſte, Smell, Colour, Denſity, and in every Effect. *Boyl.* Mech. Qual. 118, 119.

Fifthly, All theſe *Acids* agree in ſome Particulars, but differ in others.

They agree with Regard to their Compoſition with Alcalies, the Effervescences thence ariſing, and the Generation of new Salts from this Union. As alſo in their Compoſition with Chalk, Corals, Crabs-eyes, Pearls, Mother of Pearl, the Shells of Cockles, Limpins, and Oyſters, Stones, Bones, Hoofs, quick and flaked Lime, Iron, and Copper. For all theſe are generally diſſolved by all Sorts of *Acids* ſooner or later, whether it is affected quietly or with a great Effervescence. Theſe Bodies, when they are thus diſſolved, always attract into them the *Acid* of the Solvent out of the Water, with which that *Acid* was before diluted: And then the Matter thus diſſolved, by this Means united with its ſolvent acid Salt, is converted into a Kind of Salt, and admits of a Diſſolution in Water, ſo long as the *Acid* adheres to it; though theſe Bodies, before this Mixture, were no Ways diſſoluble in Water. But when this *Acid* is again by any Method removed from the diſſolved Matter, then this conſtantly appears again in the Form of an Earth, which moſt powerfully reſiſts Solution by Water. Hence it appears, how very much we may be impoſed upon by Water, whilſt, judging of it by its Appearance, we make Uſe of it in our Operations for pure elementary Water; whereas, in Reality, it may contain in it various Kinds of diſſolved Bodies, together with their Solvents. And hence, Effects are frequently ſuppoſed to be produced by ſimple Water, which, in Fact, are owing to theſe latent Solvents and Menſtruums. And this happens the more eaſily, becauſe *Acids* in general, when they are accurately united with the Bodies above-mentioned (Metals only excepted) to a perfect Saturation, loſe all their Acrimony, and commonly all their Taſte, and thus lie perfectly concealed. Thus, for Inſtance, let Spirit of Nitre be perfectly ſaturated with Crabs-eyes; this Solution will be a limpid, and almoſt inſipid Liquor; and when diluted with fair Water, filtred, and kept for ſome Time in a gentle Heat, it will have the Appearance of pure Water; but, upon pouring into this a ſtrong fixed Alcali, the whole Maſs of Crabs-eyes, before diſſolved, will immediately fall to the Bottom, and might impoſe a Belief upon the Unwary, that this was generated from pure Water.

Theſe *Acids* farther agree in this, that, by diſſolving Bodies, they not only become united and concreted with their Solvends, but are farther at the ſame Time changed in their own Nature: For it is demonſtrated by undeniable Experiments, that the moſt acid *Acids*, whilſt they corrode their Objects, are truly changed by them, and put off the Diſpoſition, not only of an *Acid*, but of a Solvent alſo. Thus Spirit of Nitre, for Inſtance, when it has corroded Mercury, and is ſeparated from it again, preſently loſes the Power of diſſolving it any more. Another Property of *Acids* in Common, is their turning vegetable Juices of a red Colour, as appears in the Turnſole, Roſes, and Violets. And again, they all agree in this, that they do not ſo much alter the Bodies they diſſolve, as they are altered by theſe themſelves. This is found to hold true in almoſt every Caſe. Vinegar, in diſſolved Lead, does not continue Vinegar there, nor is ſeparated Vinegar again from it; but the Lead is recovered perfect Lead. Spirit of Nitre diſſolves Mercury, and the Mercury is procured from it again exactly the ſame; but the Spirit of Nitre, when it is ſeparated, is nothing like what it was before. Hence it appears, that it is common to all *Acids*, that a great deal of them are continually periſhing.

Theſe *Acids*, however, differ very widely, firſt of all, with Reſpect to the Proportion between their true *Acid*, and the Water it is mixed with. Thus, in an Ounce of the beſt Vinegar, there are eighteen Grains of pure *Acid*, and all the reſt Water: In an Ounce of Spirit of Salt, ſeventy-three Grains of true *Acid*, the Reſidue pure Water: An Ounce of Spirit of Nitre gives two Drams, and twenty-three Grains of *Acid*, the reſt Water: The ſame Quantity of Aqua Fortis, two Drams and twenty-ſix Grains: And laſtly, an Ounce of Oil of Vitriol yields four Drams and ſixty-five Grains of *Acid*, according to the Obſervations of Monſieur *Homberg*, Hiſt. de l'Ac. Roy. des Sc.

Secondly, This very *Acid*, when pure, in every particular Sort of it, differs ſurpriſingly in its diſſolving Power: For the *Acid* of Nitre, boiled with Gold, has ſcarce any Effect upon it, except that it changes it black; whereas it diſſolves Silver immediately: And the Contrary is true of Aqua Regia. Hence it is evident, that the *Acid* does not act there ſo much as an *Acid*, as a Body endued with a peculiar Virtue.

Thirdly, *Acids* differ in this Reſpect, that, whilſt they diſſolve their Objects, ſome of them are changed a great deal more than others; thus, Spirit of Vinegar, in diſſolved Lead, becomes an oily pinguious Spirit: But Spirit of Nitre, whilſt it corrodes Lead, is not altered in this Manner.

Fourthly, The ſame *Acid* is very much changed by acting upon ſome particular Bodies, but very little, or not at all, when it acts upon others. Thus, diſtilled Vinegar, in the Solution of Lead, is altered in the Manner I juſt now obſerved; if it corrodes Iron, it loſes all its former Nature, nor can it be ever recovered from it again; but if Copper is corroded by it into a Ruſt, and then diſſolved into a green Liquor, and from this Cryſtals are procured, theſe Cryſtals will contain an exceeding ſtrong Vinegar, and if diſtilled in a Retort, with a great Degree of Fire, yield a very ſtrong acid Spirit of Vinegar, ſcarcely in the leaſt altered, though it adhered ſo tenaciouſly to the Copper. Hence then it appears, what different Changes *Acids* undergo by being united with different Metals; which is true alſo, with Reſpect to other Bodies. All *Acids* in general may be diluted with Water. They may be mixed with Spirits, as Spirit of Nitre with Alcohol, with a prodigious Heat, very red Fumes, and an Efferveſcence which almoſt burſts out in Flames. They may be combined alſo with Oils; Spirit of Nitre, ſometimes, with ſuch an Agitation as excites Fire; for the moſt Part with an intenſe Heat. Oil of Vitriol alſo, mixed with Alcohol and Oils, generates a prodigious Heat. But, whenever *Acids* are intimately united with Oils, ſomewhat bituminous, pitchy, or ſulphurous, is almoſt always produced; whence often ariſe very extraordinary Changes.

Of Diſeaſes cauſed by a predominant Acid *in animal Bodies.*

It is to be obſerved, that all animal Juices are formed either of Vegetables, or other Animals taken into the Stomach, and thence tranſmitted to the Inteſtines, where, by the Power of the digeſtive Organs, they are converted into a balſamic neutral Chyle, neither alcaline nor acid; and this, ſo prepared, is by the animal Actions mixed with the Blood, in ſuch a Manner, that the Whole together forms one uniform Maſs, fit for Nutrition, and adapted to ſupply all the Exigencies of the animal Œconomy. But if the digeſting and aſſimilating Organs are weak, or the Aliments taken in Quantities diſproportioned to their Strength, they are not converted, in the Manner mentioned above, into a balſamic neutral Chyle, but, putrefying in the Stomach and Inteſtines, acquire that Sort of Acrimony, which they would produce upon Putrefaction in any Place out of the Stomach, in an equal Degree of Heat and Moiſture. And in this Caſe cannot properly be ſaid to digeſt in the Stomach, but rather to putrefy. Hence, as the Food is either of an alcaleſcent or aceſcent Nature, an alcaline or acid Acrimony prevails in the Juices formed from it. Thoſe Aliments are called Alcaleſcent, whoſe Juices become alcaline upon Putrefaction; thoſe are called Aceſcent, whoſe Juices upon the ſame Occaſion contract an Acidity.

The Aliments, from which acid Juices are formed, are all thoſe which are uſually called farinaceous. Such amongſt many others are Wheat, Rye, Barley, Oats, Beans, Peaſe, Millet, and Rice. If theſe are mixed with a ſufficient Quantity of Moiſture, they ferment, and grow acid, in a Degree of Heat not exceeding that of the Atmoſphere in warm Weather; but when mixed with a little Moiſture only, they do not ſo eaſily ferment, but form a Kind of tenaceous viſcid Subſtance like Glue. Milk is to be numbered amongſt aceſcent Aliments; and all the Parts of Vegetables, which are naturally acid, or capable of being rendered ſo by Fermentation, ſupply the animal Juices with Acidities. Such are all the Fruits which are uſually termed Fructus horæi, as Apples, Pears, Apricocks, Peaches, Nectarines, Plums, Oranges, Lemons, Citrons, Cherries, Mulberries, Currants, Raſberries, Strawberries, Elderberries, Figs, Pomegranates, Cucumbers, Melons, Jujubs, and many others of this Sort.

Theſe, though generally excellent Food, eſpecially for thoſe who are accuſtomed to a plentiful Diet of Fleſh, yet become noxious, by Reaſon of their Acidity, when taken into the Body in Quantities too large for Digeſtion and Aſſimilation. Theſe Quantities cannot be exactly determined, for the digeſtive Organs of the moſt robuſt may be overloaded, but theſe are capable of digeſting and aſſimilating a much larger Quantity, than when the Fibres of which theſe Organs are compoſed are relaxed and weak, and cannot act ſufficiently upon theſe Aliments, but ſuffer them to retain their natural or acquired Acidity in the Stomach and Inteſtines. Thus we find Girls in a Chloroſis, ſtudious ſedentary People, and Children, whoſe Fibres are either through Infirmity, naturally, or for Want of Motion and Exerciſe relaxed, contract an Acidity of the Juices, by eating acid or aceſcent Aliment. As Exerciſe braces the animal Fibres, and promotes Digeſtion, ſo Reſt, or a Defect of Motion, relaxes the Fibres, and retards or hinders Digeſtion, and may therefore be reckoned amongſt the Cauſes of an acid Acrimony in the Juices formed from aceſcent Food.

A Deficiency of good Blood in the Body may alſo be numbered amongſt the Cauſes productive of an acid Acrimony from aceſcent Aliment. For the Chyle, formed from this Sort of Food, will, like Milk, turn acid, unleſs mixed with a Quantity of good Blood ſufficient for its perfect Aſſimilation. Hence the Rule of Horace,

———— *vacuis committere Venis*
Nil niſi lene decet,

may be taken very juſtly in a medicinal as well as culinary Senſe.

The original Seat of this Acidity is in the Organs of the firſt Digeſtion. Theſe are the Stomach and Small Inteſtines; but from theſe, by Degrees, it is propagated to the Receptacle of the Chyle, from hence to the Blood, and laſtly to all the Humours ſeparated from it.

This acid Acrimony is productive of many Effects, both troubleſome and dangerous to the animal Œconomy, as,

Acid Eructations, which have in ſome Caſes been ſo ſharp, as to induce a Stupor of the Teeth.

A Senſation of Hunger by contracting the Fibres of the Stomach. But it muſt be obſerved that this does not confirm the Doctrine of thoſe who aſſert that all Hunger is cauſed by an *Acid*, for there is not the leaſt Portion of an *Acid* to be diſcovered in the Stomachs of the moſt rapacious, and conſequently moſt hungry Quadrupeds, Birds, or Fiſh.

Cardialgia, or, as it is uſually called, the Heart-burn, from a Stimulation of the Cardia, or left Orifice of the Stomach, which is endued with a moſt exquiſite Senſe, by the acid Juices contained in the Stomach. This Species of Heart-burn is cured by Chalk, or any other alcaline Abſorbent. But there is another Sort cauſed by an alcaline Acrimony, which muſt be treated with diluted *Acids*.

Coagulations of the Aliment taken into the Stomach, eſpecially if it happens to be Milk; Pains, Flatulencies, and ſpaſmatic Contractions of the Inteſtines, but particularly of the Ileum. Theſe are cauſed either by the Acrimony of the acid Juices, ſtimulating the ſenſible Membranes of the Inteſtines, or, which I believe is much more frequently the Caſe, by the Rarefaction of that extremely ſubtile and elaſtic Vapour, which ariſes from vegetable Juices during the Action of Fermentation, which has been called by ſome of the Chymiſts, Gas Sylveſtris. Theſe Symptoms often ariſe to ſuch a Degree of Violence, as to conſtitute that Diſtemper which is called the Cholera Morbus, and which without a great deal of Care will ſometimes be ſo acute, as to prove fatal in a few Hours. See CHOLERA MORBUS.

As theſe Acidities mix with the Bile in the Duodenum, they muſt neceſſarily alter its Nature, and render it unactive. And as the Bile has a conſiderable Share in aſſimilating the Aliment, and converting it into good Chyle, this Aſſimilation muſt be prevented, in Proportion as the Bile, by Reaſon of any foreign Admixture, deviates from its own Nature. The ſame holds good in Regard to the Pancreatic Juice, and the Saliva, both which, in a natural State, contribute to the Digeſtion of the Aliment, and the Converſion of it into a balſamic Chyle, capable of entering the Lacteal Veſſels, and mixing with the Blood, without communicating to it any Acrimony, either alcaline or acid. But when the Action of the above-mentioned Juices is impaired by an *Acid* in the Primæ Viæ, an acid Chyle is formed, and the very Excrements diſcharged from the Inteſtines, betray an *Acid* in the Smell.

By a careful Obſervation of theſe Signs, we may diſcover an acid Acrimony to prevail in the Stomach and Inteſtines. And then it is the Buſineſs of the Phyſician, and Intereſt of the Patient, to correct it in the Primæ Viæ, before it infects the Blood, becauſe then the Diſorders, ariſing from it are not ſo eaſily remedied. But, when the Glands and glandular Secretions are affected, the Caſe becomes much more difficult and dangerous.

When the acid Acrimony reaches the Blood and Juices, it is diſcovered by its Effects. Thus, when the acid Chyle is communicated to the Blood, as it cannot by the Force of the Circulation be intimately mixed with it, ſo as to form one uniform Maſs, the Blood loſes by Degrees its florid red Colour, and the Patient, in Conſequence of this, becomes pale. Of this we frequently meet with Inſtances in weak Children, and Girls, of a lax Habit, labouring under a Chloroſis, whoſe Blood, as it appears when let out of the Veins, is white inſtead of red, mixed with ſome Streaks of red Blood. Hence alſo the Serum of the Blood is chylous, as it appears after ſtanding a ſufficient Time to ſeparate.

The Secretions from the Blood, thus infected with Acidity, are alſo frequently acid. Thus, in Women of a lax Habit, we ſometimes meet with acid Milk. The Saliva is alſo in ſome Caſes infected with an Acidity, and even the Sweat has an acid Smell. But the Acidity of the Sweat is not in all Caſes a bad Symptom; for in Fevers, where the Juices have had a Tendency to an alcaline Putrefaction, theſe Sweats are a good Sign, as they diſcover that the Danger from an alcaline Putrefaction is at an End. This Symptom is taken Notice of by Hippocrates, and ranked amongſt thoſe of good Preſage.

From this State of the Blood Obſtructions in the capillary Veſſels are generated, and hence troubleſome Itchings of the Skin; Puſtules, very frequent after eating great Quantities of Fruit; Ulcers which are pale, ſlow in their Progreſs, and difficult to heal.

Hence alſo Coagulations of the Blood, which render it unfit for Circulation, and conſequently for Nutrition, and the Uſes of the animal Œconomy.

But the acid Acrimony has yet a worſe Effect when it reaches the Nerves, nervous Membranes, and the Brain; for then, by ſtimulating theſe ſenſible Parts, it is productive of Convulſions, Epileptic Fits, an irregular Circulation of the Blood, and at laſt Death, of which Children afford too frequent Examples.

From what has been ſaid with Reſpect to an *Acid* abounding in animal Bodies, many Diſorders, to which ſedentary People, and Women of a lax Habit, are ſubject, may be diſcovered and underſtood. But it will be particularly uſeful in explaining the Diſtempers to which Children are ſubject, in whom all the Cauſes of an acid Acrimony ſeem to contribute to their Deſtruction, as aceſcent Aliment, Laxity, and Want of Motion.

Poor People, whoſe Food is principally of the farinaceous Kinds of Vegetables, and who eat but little Fleſh-meat, are ſubject to theſe Diſorders, but would be much more ſo without the ſtrong Exerciſe they generally uſe; for Exerciſe, as was before obſerved, by ſtrengthening the animal Fibres, and promoting the Digeſtion of the Aliment, and Aſſimilation of the Chyle, prevents an acid Acrimony from being formed in the Juices.

Artificers alſo who are concerned in the Preparation of acid Spirits, or who uſe them in their Trades, are very ſubject to contract Acidities in their Juices. Of this Sort are thoſe who prepare Ceruſs, and Scarlet-Dyers.

Diſorders from a prevailing *Acid* in animal Bodies are to be cured in general by ſuch Things as are directly oppoſite to the Cauſes of Acidity. Thus, Aliments are to be uſed which are of an alcaleſcent Nature, or which turn alcaline upon Putrefaction. Such are Broths made of the Fleſh of Birds, Quadrupeds, or Fiſh; Jellies made of the ſame; and the Fleſh of theſe, which beſt anſwer this End, either roaſted or boiled.

Thoſe Vegetables alſo which contain an aromatic alcaline Oil, as they are oppoſite to Acidity, are in this Caſe proper in Medicine or Food. Of theſe the illuſtrious Boerhaave gives the following Catalogue:

Abſinthium	Wormwood.
Alliaria	Sauce alone, or Jack by the Hedge.
Allium	Garlick.
Anethum	Dill.
Anthora	Wholeſome Wolfſbane.
Angelica	Angelica.
Aniſum	Aniſe.
Apium, Celeri	Smallage.
Ariſtolochia longa	Long Birthworth.
Ariſtolochia rotunda	Round Birthworth.
Armoracia	Wild Radiſh.
Arum	Cuckow-pint.
Aſclepias	Swallow Wort.
Aſparagus	Sparrow-graſs.
Aſphodelus Albus	White Aſphodel.
Baſilicum	Baſil.
Braſſica	Cabbage.
Calamus Aromaticus	Aromatic Reed.
Calamentha	Calamint.
Carduus Benedictus	Holy Thiſtle.
Carduus Mariæ	Ladies Thiſtle.
Carum	Carraway.
Caryophyllata	Avens.
Caryophilli Aromatici	Cloves.
Cochlearia	Scurvy-graſs.
Cepa	Onion.
Centaurium minus	Leſſer Centaury.
Daucus	Wild Carrot.
Eruca	Rocket.
Eryngium	Eryngo.
Eryſimum	Hedge Muſtard.
Eupatorium	Agrimony.
Galanga major	Greater Galangals.
Galanga minor	Leſſer Galangals.
Helenium	Elecampane.
Lepidium	Dittander.
Majorana	Marjoram.
Marrhubium	Horehound.
Matricaria	Feverfew.
Mezereon	Spurge Olive.
Napus	Navew gentle.
Naſturtium	Creſſes.
Nepeta	Cat-mint, or Nep.
Origanum	Origany.
Piper	Pepper.
Porrum	Leeks.
Pyrethrum	Pellitory of Spain.
Raphanus	Radiſh.
Ruta	Rue.
Saponaria	Soap-wort.
Satyrion	Satyrion.
Serpillum	Mother of Thyme.
Sabina	Savin.
Satureia	Savory.
Sedum acre vermiculare	Acrid vermiculated Houſe-leek.
Sinapi	Muſtard.
Squilla	Squill.
Thymus	Thyme.
Thlaſpi	Treacle Muſtard.
Victorialis	Spotted Ramſons.
Urtica	Nettle.
Zedoaria	Zedoary.
Zinziber	Ginger.

Amongſt Foods that are proper to deſtroy an acid Acrimony in the Juices, are,

Firſt, thoſe aquatic Fowls that prey on Fiſh or Frogs.

Secondly, Thoſe Birds which devour Inſects; for in theſe the volatile Salts are rendered highly alcaline, having undergone a double Sublimation, or rather Rectification, firſt in the Body of the Fiſh, Frog, or Inſect, and next in the Fowl or Bird that eats it.

A third Species of Animals, proper in theſe Diſorders, are thoſe which, though their Food is very ſimple, yet by exceſſive Motion have their alcaline Salts highly exalted, and rendered extremely alcaline and penetrating.

A fourth Sort are Fiſh of Prey, and Shell-fiſh.

Amongſt the firſt Sort is the Duck, of which Lemery ſays, that which is tame yields much Oil, volatile Salt, and Phlegm; but the Wild Duck yields more volatile Salt, and leſs Phlegm. It is for this Reaſon the laſt have a higher Taſte than the tame Sort. To this Claſs belong all Fowls of the Duck Kind, as the Teal, Widgeon, Macreuſe. The Bittern yields more volatile Salt than the Duck.

The Gooſe. All Fowls of the Gooſe Kind yield a great deal of volatile Salt, but they that are wild more than the tame Sort. And it may be laid down as an univerſal Rule, that wild Animals yield more volatile Salts, and thoſe of a mere alcaline Nature, by Reaſon of the greater Motion and Exerciſe which they uſe, than thoſe which are tame. It is on Account of the volatile Salt in Geeſe, that their Fat is very penetrating. It ſhould ſeem that the Solan Gooſe, whoſe Oil, upon Fuſion, emits a very penetrating and fœtid Smell, and whoſe Fleſh is of a very exalted Taſte, ſhould contain the greateſt Quantity of alcaline Salts of any of the Gooſe Species.

Boerhaave reckons the Larus, or Sea-mew, amongſt theſe Fowls of Prey.

Amongſt the ſecond Sort are the Sparrow, Chaffinch, Mavis, Fellfare, and Lark, which yields a great deal of volatile Salt, as does the Partridge, Pheaſant, Quail, Land Rail, and Plover. *Lemery*.

Of the third Species are the Woodcock, Snipe, Hare, Deer, and Wild Boar, all which contain large Quantities of highly exalted volatile Salt.

The Eggs of the Birds or Fowls mentioned above, as well as their Fleſh, are excellent Food, when an acid Acrimony prevails.

Almoſt all Sorts of Fiſh may be numbered amongſt the fourth Species, becauſe they either prey upon other Fiſh, or Inſects, and yield a very volatile alcaline Salt.

That the Meaning of the Words *Volatile Salts*, ſo often uſed, may be underſtood, I muſt take Notice, that the Salts of moſt Vegetables are fixed; that is, they do not riſe in Diſtillation, being detained by a large Portion of Earth, to which they are ſtrongly united. But this Earth is ſeparated from them by Putrefaction, inſomuch that moſt Vegetables, which are putrefied, yield in Diſtillation a volatile Salt, much like that of Animals. And as the Diſſolution of vegetable Food in the Stomachs of Animals has the ſame Effect upon it, as Putrefaction, that is, diſengages the Salt from the fixing Earth, for this Reaſon all the Salts of animal Bodies are volatile, highly alcaline, and of a penetrating Nature.

The Salts alſo of many Plants, that have an aromatic Acrimony, yield a volatile alcaline Salt by Diſtillation, as Muſtard, Horſe-radiſh, Scurvy-graſs, and many other of thoſe ſpecified in the Catalogue given above. It is theſe Salts in animal and vegetable Subſtances that neutralize and deſtroy the acid Acrimony prevailing in the Primæ Viæ, and the Animal Fluids.

With the Aliments ſpecified above, Boerhaave adviſes every three Hours a Glaſs of the following Wine, containing three Ounces:

Take French White Wine a Pint and half.
Salt of Wormwood two Drams, mix together

There are many Sorts of Medicines which either deſtroy the *Acid*, or render it ineffectual, ſo that the Acrimony thereof can do no Hurt. For this Reaſon theſe are to be uſed in an acid State of the Juices.

Abſorbents ſeem to claim the firſt Place amongſt theſe, becauſe, when immerſed in *Acids*, they have the Faculty of deſtroying their Acrimony, and rendering them mild and inoffenſive.

This Claſs conſiſts of the dried Bones of Fiſhes, as the Jawbone of the Pike.
Of the Eyes, Claws, and Shells of Crabs, Crevices, and Lobſters.
Of the Shells of Oyſters, and other Sea-fiſh of the teſtaceous Kind.
Of Coral, Pearl, and Mother of Pearl.
Of Chalk, Bole, Oſteocolla, and fat marly Earths.
Amongſt theſe are alſo the Lapis Hæmatitis, Filings of Tin and Iron.

Some of theſe Abſorbents are attended with the Inconveniencies mentioned under the Article ABSORBENTIA: That is, they mix with the Viſcidities which they meet with in the Stomach and Inteſtines, and with them form a tenacious Kind of Mortar, if I may ſo call it, which ſticks to the Stomach and Inteſtines, and does a great deal of Miſchief. This however may be prevented by giving them either mixed with gently cathartic Ingredients in ſmall Quantities, or elſe by giving gentle Purges, repeated at proper Intervals during their Uſe.

Hoffman is of Opinion, that the Medicines of this Claſs do a great deal of Miſchief by increaſing Viſcidity in the Stomach and Inteſtines, unleſs they meet with an *Acid*; and in this Caſe they are of great Service, not only by deſtroying and taking off the Effects of the acid Acrimony, but by forming a neutral Salt, which is of itſelf an admirable Reſolvent, and well adapted to cure the Diſorders proceeding from a redundant *Acid*.

Hence the Miſchief that young Girls do themſelves, who are inclined to what is uſually called the Green Sickneſs, by taking great Quantities of Chalk, Lime, and other Abſorbents, is accounted for and underſtood. They are directed by Nature to eat theſe, in order to relieve themſelves under the uneaſy Senſations they perceive in their Stomachs from the Stimulation of the acid Acrimony. But as they take them in great Quantities, and without proper Purges to carry them out of the Stomach and inteſtinal Tube, when they have had their good Effects, they form viſcid Concretions, which hinder Digeſtion, ſtop the Orifices of the Lacteals, and conſequently prevent a Supply of Chyle from being conveyed to the Blood, and hence Weakneſs, Inability to Motion, Paleneſs, and the reſt of thoſe Symptoms which Phyſicians obſerve in Girls who have uſed themſelves to eat theſe Abſorbents.

This natural Inclination to Things capable of relieving the preſent Diſorders which affect Animals, is common in the Brute Creation, and is called Inſtinct; and Phyſicians, by a careful Attention, may daily diſcover ſomething of the ſame Kind in Man, which directs to what will relieve. And it is probably for this Reaſon that Hippocrates lays it down for a Rule, that *thoſe Meats and Drinks, though not altogether ſo proper, which are agreeable to the Patient, are to be preferred to thoſe which are better, but unpleaſant.* Aph. L. 2. 38.

Diluters alſo are ſometimes proper in theſe Caſes, becauſe the more an *Acid* is diluted, the weaker it is, and conſequently acts in a leſs Degree. Thus, the ſtronger *Acids*, in the Quantity of a ſingle Drop, will corrode and deſtroy the Skin or Fleſh of any Animal that it touches. But, when the ſame Quantity of *Acid* is diluted with a large Portion of Water, it becomes innocent and inoffenſive.

It was doubtleſs this Conſideration that directed Dr. Sydenham to give large Quantities of warm Water to one that had taken corroſive Sublimate, both by the Mouth as a Vomit, and by Way of Clyſter.

But theſe Diluters muſt be uſed with Care and Caution, for they relax and weaken the Organs of Digeſtion, and thereby increaſe one Cauſe of Acidity.

Theſe Diluters are either Water itſelf, or Decoctions of animal or vegetable Subſtances made with Water.

Another Claſs of Medicines, which give Relief in an acid Acrimony, conſiſts of ſuch Subſtances as ſheath the Spicula, or ſharp Points of the *Acid*, and prevent their Action on the ſenſible Membranes, and at the ſame Time defend the nervous Fibres from its Acrimony. But theſe are ſubject to the Inconveniences mentioned above in Regard to Diluters, that is, they tend to relax ſtill more the Fibres of the Organs of Digeſtion already too weak. Amongſt theſe are the following:

Almonds, both ſweet and bitter.
Piſtachio Nuts.
Common Nuts, Filberts, Walnuts, Cocoa Nuts, of which Chocolate is made.
Seeds of the white Poppy.
The expreſſed Oils of all theſe, and of Olives.
Jelly Broths of Fleſh or Fiſh.
To this Claſs alſo belong the oily aromatic Vegetables, of which I have given a Catalogue above.

There is another Claſs of Medicines of great Importance, where an acid Acrimony prevails, becauſe, upon being mixed with *Acids*, they immediately raiſe a ſtrong Efferveſcence, deſtroy the *Acid*, and are themſelves at the ſame Time deſtroyed, both together by their Union forming a new Species of Salt, neither alcaline nor acid, but neutral, which is endued with conſiderable medicinal Virtues, being gently ſtimulating, diuretic, diaphoretic, and reſolvent.

The Subſtances, which induce this great and ſudden Alteration in *Acids*, are
Fixed alcaline Salts, prepared from burnt Vegetables of any Sort.
Volatile alcaline Salts diſtilled from animal Subſtances, putrefied Vegetables, or alcaline aromatic Plants.
Soaps, either fixed, as Venice Soap; or volatile, as the volatile, oily, ſaline Spirits, diſtilled from Blood, Urine, Hartſhorn, or Silk; the Offa Helmontiana, made by the Union of a highly rectified Spirit of Wine with a ſtrong Spirit of Sal Ammoniac. See OFFA HELMONTIANA.
To this Claſs alſo belong volatile alcaline Salts united by repeated Sublimations with an aromatic vegetable Oil, of which Boerhaave gives the following Example:

Take the pureſt Salt of Hartſhorn an Ounce,
Chymical Oil of Lemons a Dram; unite them by repeated Sublimations in a tall glaſs Veſſel.

Theſe, however, muſt be uſed with great Care and Caution, for whenever the Blood is moved with too much Violence, and any Degree of a Fever is raiſed, theſe will infallibly increaſe it, and the concomitant Symptoms, introduce others, and endanger the Life they are intended to preſerve.

All the Claſſes of Aliment and Medicines, ſpecified above, are very good Aſſiſtants in the Cure of Diſorders proceeding from an acid Acrimony, but are not ſufficient alone to compleat it; for, ſo long as the Organs of Digeſtion remain in a State of Laxity, aceſcent Aliments will again produce the ſame Acrimony, and renew the Diſorders depending thereon. For this Reaſon the Cure muſt be compleated by a corroborating Regimen, and ſtrengthening Medicines, that is, ſuch as reſtore the Fibres, Veſſels, and Membranes, which compoſe the Viſcera concerned in the Digeſtion and Aſſimilation of the Aliment, to that Tenſion and Elaſticity, which are neceſſary to the Performance of their reſpective Functions.

Aliments adapted to render the weak Fibres of the digeſtive Organs, and the animal Fibres in general, ſtrong, are ſuch as require but a ſmall Action of theſe Organs, in order to convert them into good Chyle; and even theſe ought to be taken in very ſmall Quantities at a Time, and to be repeated frequently, that is, the Quantity, and Frequency of Repetition, muſt be proportioned to the Power of digeſting. For nothing can be more irrational than to imagine that ſtrong Aliments, and thoſe in large Quantities, can contribute to the Strength of an Animal, whoſe Organs cannot digeſt them ſufficiently for the Formation of good Chyle.

It is for this Reaſon, that Hippocrates lays it down for a Rule, that *the more you nouriſh*, that is, the more Aliment you give to *impure Bodies*, *the more Miſchief you do them. Aph.* Sect. 2. 10.

Aliments of the moſt eaſy Digeſtion are,

1. Milk, which is a Sort of Chyle already prepared, and gives the Stomach but very little Trouble to digeſt it. But it cannot be a proper Food whilſt there are any Remains of Acidity in the Stomach and Inteſtines, becauſe it will be ſubject to curdle, when mixed with theſe; but when the acid Acrimony

mony in the Primæ Viæ is deſtroyed, it affords an excellent Nouriſhment, if given in Quantities at a Time, not ſuperior to the Powers of Digeſtion, for then it will not be ſubject to turn acid. But Milk loſes all its medicinal, and a great deal of its alimentary Virtues, if once boiled. It muſt therefore be taken warm from the Animal that gives it.

The Milk of a Woman in the Flower of her Age, that uſes a good Diet, and moderate Exerciſe, is of all others the beſt. Next to that Aſſes; then Goats, and laſtly Cows Milk. *Boerhaave.*

2. The raw White of an Egg juſt laid, before it has had Time to cool. This approaches very near the Nature of the Serum of the Blood, being deſigned for the Nutrition of the Chicken during Incubation. But this, like Milk, loſes its Virtue when boiled. It may be taken in new Milk, mixed with an equal Quantity of Water, provided no Acidity, in the Primæ Viæ, forbid the Uſe of Milk.

3. Broths, prepared from the Fleſh of young healthy Animals, accuſtomed to moderate Exerciſe, carefully cleared of the Fat. Amongſt theſe Chickens claim the firſt Rank, next Veal, then Mutton, and Beef the laſt. The Fat is eaſily ſeparated from them, when ſuffered to grow cold. They are beſt when boiled in a Veſſel, ſtopped ſo cloſe, as to prevent the moſt ſubtile Parts from exhaling. *Boerhaave.*

4. Aliment in various Forms may be contrived to be made from Wheat Bread, or Biſcuit, moderately fermented, to deſtroy the Viſcidity, to which all farinaceous Vegetables are ſubject. Boerhaave's Directions are, to boil eight Ounces of Bread, or Biſcuit, with three Pints of Water for an Hour, in a cloſe earthen Veſſel, and then to ſtrain it through a Sieve. This may be mixed with Milk, Broth, Wine, Beer, or Water, as the preſent Circumſtances of the Patient ſhall render either the one or the other moſt ſuitable.

A very ſmall Quantity of theſe Aliments ſhould be taken every Hour, or every two Hours, according as the Organs of Digeſtion ſhall be found to be more or leſs in a State of Imbecillity, but never to Satiety, or, to uſe the common Expreſſion, till the Belly is full. *Boerhaave.*

I am ſenſible there are ſome, who think Directions, in Relation to Aliments of this Kind, deſerve more the Notice of Nurſes, or thoſe who are employed in culinary Offices, than Phyſicians. But nothing can be unworthy the Regards of a Phyſician, that can in any Degree contribute to the Cure of Diſeaſes. Thoſe who have been Witneſſes of the prodigious Effects of a well regulated Courſe of Food, obſtinately perſiſted in, for a ſufficient Length of Time, in Caſes where the beſt choſen Medicines have proved ineffectual, will not be diſpleaſed that I have been thus particular.

Wine is a Part of Aliment not to be neglected. Thoſe that are proper, in the Caſe before us, are ſuch as by their Abundance of Spirit, and Stypticity, manifeſted by their auſtere rough Taſte, contribute to the neceſſary Elaſticity and Tenſion of the animal Fibres. Such are Florence Wines, the ſtronger French Clarets, the black Greek Wines, and ſome of the Spaniſh. And to theſe the Spirits of Wine, properly managed, may be added, generous Malt Liquors, and ſtrong Mead. *Boerhaave.*

Amongſt Simples, all thoſe that abound with earthy auſtere Particles, and all aromatic Bitters, are adapted to brace the animal Fibres, promote Digeſtion, and deſtroy the original Cauſe of Acidity. In Regard to theſe, ſee a more particular Account under the Article LAXITAS.

But nothing is more effectual, by Way of Medicine, in theſe Caſes, than Bitters, wherein Steel is an Ingredient. For Steel has great Virtues, both as it is highly deſtructive of an *Acid*, and effectual in corroborating the animal Fibres.

This Regimen, and theſe Medicines, are of very little Importance without Exerciſe, which muſt be adapted to the Strength and Condition of the Patient. For Motion promotes the Alcaleſcence of the Juices, and univerſally increaſes Strength, of which the robuſt Legs of Chairmen, and Arms of Watermen, afford obvious Examples.

The different Sorts of Exerciſe, proper to reſtore the loſt Elaſticity to the Fibres, are Riding, Walking, Sailing, and Frictions, for a more particular Account of which ſee the Articles LAXITAS and GYMNASTICA.

ACIDULÆ. Thus cold mineral Waters have been called, which contain a briſk Spirit, to diſtinguiſh them from THERMÆ, which are thoſe that are hot.

The Name owes its Original to a Suppoſition, that theſe Waters were acid, which latter Obſervations and Experiments have proved to be without any Foundation.

Theſe mineral Waters, both hot and cold, were called by the Greeks Ὕδατα φαρμακώδη, or αὐτοφυῆ, *Medicinal Waters*, or *Waters produced ſpontaneouſly.*

Galen relates, that in his Days many People purged themſelves in Spring and Autumn by the ſulphurous, bituminous, and nitrous Waters; and that thoſe, who were ſubject to the Stone, drank them by Way of Precaution. And Cælius Aurelianus *Chronicor. L. 3. C. 2.* recommends drinking the Waters of COTILIA (he means CUTILIA,) and NEPI, in that Diſorder which he calls *Stomachica Paſſio.* Le Clerc is therefore miſtaken, when he ſays, it does not appear that Cælius Aurelianus made Uſe of mineral Waters internally.

The Waters of Cutilia are mentioned by Pliny in the following Extract, who is more particular with Reſpect to the Uſes and Advantages of mineral Waters, than any of the Antients, and has amongſt ſome fabulous Accounts given others which daily Experience proves to be true. I ſhall therefore inſert what he ſays upon this Subject, after having remarked, that tho' ACIDULÆ properly ſignifies, the *briſk cold mineral Waters*, it will be impoſſible, in treating of them, to ſeparate them ſo far from the warm, as not to take ſome Notice of the Latter.

PLINY, Book 31. Chap. 2.

Of the different Qualities of Waters, and their medicinal Virtues.

Medicinal Springs, and thoſe very plentiful ones, are found every where in many Countries, ſome cold, ſome hot, and, in ſome Places, both cold and hot, with a very ſmall Diſtance between them; as among the Tarbelli, a People of Aquitain, and in the Pyrenean Mountains. Some cure Diſeaſes by their kindly Warmth, or piercing Cold, and riſe out of the Earth for the ſole Benefit of Mankind above all other Creatures. To theſe Waters are the Gods themſelves obliged for the Increaſe of their Number and Names, and Cities for their Original, as Puteoli in Campania, Statyellæ in Liguria, and Sextiæ in the Province of Narbonne. But no Place, both for Plenty and Variety, is better ſtocked with them, than the Bay of Baiæ, or has them endued with more Kinds of Virtues, as they are differently impregnated with Sulphur, Alum, Salt, Nitre, Bitumen, or a Mixture of Acid and Saline; the very Vapour of ſome of them is beneficial. Thoſe, called the Poſidian, are of ſuch Force as to heat the Bagnio's, and make the cold Water in the Bathing-tubs to boil, and thoroughly dreſs Meat. Thoſe which belonged to Licinius Craſſus ſend their Vapour out to the Sea itſelf, inſomuch that ſomething ſalutary to Man is found amidſt the Waves.

Generally ſpeaking, they are good for the Nerves, and help the Gout and Sciatica. Some are proper in Luxations and Fractures. They empty the Abdomen, cure Ulcers. They are particularly beneficial to the Head and Ears, and thoſe, called the Ciceronian, are good for the Eyes. The Sinueſſan Waters, in the ſame Country (Campania) are reported to cure Barrenneſs in Women, and Madneſs in Men, and thoſe in the Iſland Ænaria, to cure the Gravel; as does alſo that called Acidula, four Miles from Teanum Sidicinum. This laſt is cold. The ſame Virtue is in that of Stabianum, which is called Dimidia, and another in Venafranum that comes from a mineral Spring. The ſame Benefit is experienced by thoſe who drink of the Veline Lake, and of a Fountain in Syria, near Mount Taurus, as Marcus Varro reports; and Callimachus ſays the ſame Thing of Gallus, a River of Phrygia. But this laſt ſhould be drank with Moderation, leſt it ſhould cauſe Madneſs, as it happens to thoſe who drink of the red Fountain in Æthiopia, according to Cteſias. The Waters of Albula, near Rome, cure Wounds: Theſe are extremely cold: But the Cutilian Waters in the Country of the Sabines, which are alſo remarkable for their Coldneſs, ſeize the Body with a Kind of Suction, ſo that a Perſon almoſt fancies himſelf bitten, being of excellent Benefit to the Stomach, Nerves, and the whole Body. A Fountain in Theſpiæ, and the River Elatum in Arcadia, promote Conception: The Fountain Linus, in the ſame Arcadia, preſerves the Child in the Womb, and prevents Miſcarrying. On the other Hand, a River in Pyrrhea, called Aphrodiſium, cauſes Barrenneſs. The Lake Alphion cures the Leproſy. Varro tells us, that one Titius, a Man of Pretorian Dignity, was ſo disfigured with that Diſeaſe, that he had the Face of a marble Statue. The Cydnus in Cilicia cures the Gout; on the contrary, the Water in Trœzene makes the Feet diſtempered. Tungri, a City of Gallia, has a famous bubbling Spring, of a ferruginous Taſte, which remains laſt on the Tongue, and is not perceived before. It cures Tertians and the Gravel; ſet over the Fire, it firſt grows turbid and thick, and at laſt turns red. The Leucogæan Springs, between Puteoli and Naples, heal Wounds and ſore Eyes. Cicero, among his Wonderful Curioſities, took Notice, that the Hoofs of Cattle were hardened in the Reatine Marſhes. Eudicus relates, that there were two Springs in Heſtiæotis; one called Cerone, which made the Sheep black that drank of it; and the other Melan, which made them white; but thoſe, which drank of both, were pye-balled. Theophraſtus writes, that the Crathis, in the Country of the Thurii, made Sheep and Oxen white, but the Sybaris black: Nay, the Alteration was viſible in the Inhabitants themſelves, for they who drank of the Sybaris were blacker, harder, and had curled Hair, but the Drinkers of the Crathis were white, ſoft, and ſtrait-haired. In Macedonia, they who deſired a white Breed, drove their Stock to the Aliacmon; ſuch as fancied black, or brown, kept theirs by the Axius. The ſame Author tells us, that in ſome Places all

Things, even the Fruit, are produced of a dark Colour, as among the Meſſapii; that the River Aleos in Erythræ breeds Hairs in Bodies. In Bœotia, by the Statue of the God Trophonius, near the River Orchomenon, are two Springs, one cauſing Memory, the other Forgetfulneſs; from whence they take their Name. In Cilicia, by the Town of Ceſcus runs a Brook, called Nûs, which quickens the Senſes of ſuch as drink of it, as Varro reports. But in the Iſland Cea is a Spring, which cauſes Dulneſs; another at Zama in Africa, which clears and heightens the Voice; that a Loathing of Wine comes on ſuch as have drank of the Clitorian Lake. Polycletus ſpeaks of a Fountain near Soli in Cilicia, that ran with Oil; Theophraſtus of another ſuch in Ethiopia. Lycus tells us of a Fountain in India, that lighted Torches; ſuch another is ſaid to be at Ecbatana. Theopompus ſays, there is a Lake in Scotuſſa, which heals Wounds; Juba, that there is a Lake among the Troglodytæ, called the Mad Lake for its ill Qualities; that thrice in the Day-time it becomes bitter and ſalt, and then grows ſweet again; the like Changes it undergoes in the Night; and that it produces white Serpents, twenty Cubits in Length. The ſame Author relates, that, in a Fountain of Arabia, the Water mounts with ſuch a Force, as to caſt off whatever Weight is preſſed upon it. Theophraſtus relates, that the Fountain of Marſyas in Phrygia, at Celænæ, threw out Stones. Not far from thence are the two Fountains of Clæon [Weeping] and Gelon [Laughing] which took their Greek Names from their Effects. At Cyzicum is Cupid's Well, of which, whoſoever drinks, as Mutianus believes, is freed from Love. At Cranon is a hot Spring, but not to an extreme Degree, whoſe Water, mixed with Wine, preſerves the Heat of the Mixture three Days in the Veſſel: And at Mattiacum, in Germany, beyond the Rhine, are hot Springs, whoſe Waters keep their Heat three Days after they are drawn. At the Brinks of the Springs are Pumice-ſtones, generated by the Waters.

If any one thinks theſe Things incredible, let him know, that greater Miracles of Nature are no where to be found than in the Waters. Cteſias tells us of a Pool in India, called Siden, in which nothing would ſwim, but all ſunk; and Cœlius ſays of our Lake Avernus, that the very Leaves ſunk in it; Varro, that the Birds which flew over it fell dead. On the Contrary, in the Lake Apuſcidamus, in Africa, all Things float, and nothing ſinks. The ſame Thing is obſerved of the Pythian Well in Sicily, as Apion relates, and of a Lake in Media, and of Saturn's Well. In Judæa is a Brook that dries up every Sabbath Day. Some of theſe Wonders are of ſuch a Nature as to ſtrike us with Horror. Cteſias writes of a Fountain in Armenia, that produced black Fiſh, which gave preſent Death to the Eater of them. I have heard of the like Sort near the Riſe of the Danube, which holds till you come to a Spring in the Bank of its Channel, where that Kind of Fiſh ends; for which Reaſon the Head of that River is ſuppoſed to be at this Place. The like is reported of the Nymphs Pool in Lydia. In Arcadia, by the Pheneus, there runs out of the Rocks a Water, called Styx, which kills on the Spot. But Theophraſtus informs us, that there are ſmall Fiſh in it, which are alſo rank Poiſon; and in this Reſpect it differs from other deadly Fountains. Theophraſtus alſo ſpeaks of deadly Waters at Cychri in Thracia; and Lycus of ſome among the Leontines, which killed the third Day after drinking them. Varro tells us of a Fountain by Soracte, four Feet in Breadth, which at Sun-riſe works up, like a boiling Pot, and overflows, and that the Birds, which ſip of it, lie dead on the Spot. For ſome of theſe fatal Streams, it muſt be obſerved, have an enſnaring Quality in them, and an alluring Aſpect, like the Nonacris of Arcadia. They take this to be hurtful by its exceſſive Coldneſs, ſince it petrifies as it runs. Quite other Circumſtances attend that of Tempe in Theſſaly, whoſe very Sight ſtrikes a Terror; it is ſaid that Iron and Copper are corroded by its Water. Its Head is but narrow, and, what is remarkable, embraced all around, as it is ſaid, by the Roots of a Siliqua Sylveſtris, ever blooming with Purple, and the Brims are covered with a green Herb peculiar to it. In Macedonia, not far from the Sepulchre of Euripides, the Poet, two Streams mix, one of moſt wholeſome Water, the other deadly. In Perperenæ is a Fountain, which makes the Ground ſtony wherever its Water comes. The ſame Property belongs to the hot Spring at Delium in Eubœa; the Stream waſhes againſt the Sides of the Rocks, and theſe grow in Height. In Eurymenæ, Garlands, caſt into the Fountain, turn to Stone. At Coloſſi is a River, into which you caſt Bricks, and pull them out converted into Stones. In the Corycian Grotto's the Drippings of the Water harden into Stone; at Mieza in Macedonia, they petrify as they hang from the Vault; at Cerycum, after they are fallen off; in ſome Places both Ways, and form Pillars of a diſcoloured Hue, as in the large Grotto of the Rhodians at Phauſia in the Cherſoneſus.

Thus far we find, by the Evidence of Pliny, what the Antients knew of mineral Waters, and they have been uſed ever ſince, more or leſs, as different Faſhions in the Theory of Phyſic have happened to prevail. And yet, what is greatly to be lamented, the Practice of Phyſic, ſo far as mineral Waters are concerned in it, is at this Day in a great Meaſure empirical, No-body having diſcovered a Method of determining the Effects of mineral Waters a priori, or before a Number of random Experiments have ſhewn their Efficacy. Hence, though every Country abounds with mineral Waters, but very few have been introduced into Practice, and even thoſe originally by Accident. And, indeed, very little was known of the Nature of mineral Waters, till Hoffman, by ſome well adapted Experiments, diſcovered the Errors of former Writers upon theſe Subjects, and laid a Foundation for farther Advances; and our own Countryman, Dr. Shaw, improving upon Hoffman, has carried his Enquiries farther, inſomuch that we are now in a fair Way of bringing this valuable Part of the Materia Medica into more general Uſe, and to better Purpoſes, as we may be more able to aſcertain the Effects of different mineral Waters, in different Caſes, when a ſufficient Number of Experiments have been made upon their Plans.

It is to the laſt-mentioned Authors, and Dr. Slare, I ſhall be principally obliged for what I ſhall ſay on this Head; and I ſhall be very particular, as the Importance of the Subject ſeems to demand it, for I am inclined to believe, that if all the Virtues of mineral Waters were underſtood, Phyſic, in the general Acceptation of the Word, would be no longer of much Uſe in chronical Diſorders, which might then be cured by a Method ſafe, expeditious, and agreeable, and, perhaps, much more effectual than any other which Phyſicians have yet contrived. I am not ſingular in this Opinion, as will appear by the following Obſervations of the illuſtrious Hoffman.

1. It appears, that mineral Waters, both of the hot and cold Kind, are of ſuch Virtue and Efficacy, for the Preſervation of Health, and the Cure of Diſeaſes, as in the higheſt Degree to exceed the Shop Remedies, prepared by the niceſt Art: And we are well aſſured that this Fact cannot be diſputed, but by ſuch as derive their Arguments from their Ignorance and Indolence, and are no Way competent or experienced Judges in the Caſe.

2. Theſe Waters approach, the neareſt of any Thing in Nature, to what has been ſo much ſearched after, an univerſal Medicine, ſuited to the Cure of all Diſeaſes. But there is no Occaſion for any ſuch laborious Enquiry, whilſt we find Waters, adapted to all Kinds of Diſorders, ſpontaneouſly offer themſelves. And I would fain know whether any Phyſician, of practical Knowledge and Experience in his Art, can ſay of any other Medicine, what we certainly know to be true of Waters, viz. that they effectually cure, both with Expedition and Safety, yet occaſion no Loſs of Strength; but gently operate by all the Outlets of the Body; and thus diſcharge, at every Pore, the Matter which generates and breeds Diſeaſes. For theſe Waters not only readily dilute, propel, and carry off Collections of impure Humours, lodged in the Stomach and Inteſtines, but likewiſe admirably promote the Diſcharge of all peccant, ſaline, and unctuous Matter, by the Conduits of Urine; and at the ſame Time breathe out the more ſubtile and rarefied pernicious Particles, by that general Strainer of the Body, the Skin.

3. Theſe Waters, beſides their Power of evacuating, are alſo poſſeſſed of a ſingular alterative Virtue; inſomuch that there is no other Remedy, hitherto known, ſo fit for diſſolving viſcid and clammy Humours, diluting and tempering ſuch as are ſharp and corroſive, correcting and changing ſuch as are acid and auſtere; and for opening and breaking away Obſtructions and Coagulations in the finer Veſſels. Add to this, that they have a moſt deſirable, ſtrengthening Virtue, whereby they nobly brace up, and recover ſuch ſolid Parts of the Body as have loſt their natural Tone or Springineſs, or become ſlack and remiſs. And, what is more extraordinary, they produce all theſe good Effects, without occaſioning any ſubſequent Miſchief; and therefore may, with the utmoſt Safety, be given, not only to Perſons in a State of Health, but even to thoſe in the weakeſt Condition, Women in Child-bed, old People, and Children. In ſhort, they have alſo this Particularity, that they may be innocently and advantageouſly uſed in different Conſtitutions, and Ages, at all Seaſons of the Year; not excepting the Winter itſelf.

4. What is ſtill more wonderful, but no leſs certain, every capital mineral Spring ſeems endowed with quite different Virtues, ſo as to produce contrary Effects. Thus, if the Excretions of the Body are too large, theſe Waters check them with Safety; or if they are too ſmall, the very ſame Waters will effectually increaſe them. Again, if the firſt Paſſages, particularly the Stomach and the Duodenum, be over-loaded with a bilious Matter, they without Violence diſcharge it by Vomit; and, on the contrary, ſoon cure that ſtubborn and violent Vomiting wherewith hypochondriacal Perſons are ſometimes afflicted. So likewiſe, if the menſtrual or hœmorrhoidal Flux be too large, ſtopped, or obſerves not its natural Periods, there is no better Remedy, hitherto diſcovered, than mineral Waters, for bringing theſe Diſorders to rights.

5. Another ſingular Inſtance of the Deſign, Wiſdom, and Goodneſs of Providence, in providing mineral Springs is,

that they have this Advantage above moſt other Things, that they are not very ſubject to loſe their Virtues, or fall to Ruin or Decay. For tho' this has ſometimes happened, yet the more capital and ſerviceable Springs, of medicinal Uſe, have certainly retained their Virtue through the Courſe of many Ages, and afforded a ſufficient Quantity of Water, even in the hotteſt Seaſons, whilſt other common Springs have been dried up. They have alſo continued to abound with the ſame Quantity of Principles, or Ingredients of the ſame Quality, in an equal Proportion of the Water. And laſtly, though the Bowels of the Earth, through which theſe Waters run, are pregnant with Metals and Minerals, ſome of them prejudicial and poiſonous to the Body; yet the Waters of theſe Springs diſſolve and drink up none of this Kind: But, as if directed by an Appetite of Choice, impregnate themſelves with only ſuch Principles in their Paſſage, as render them highly agreeable to the Solids and Fluids of the human Body.

Since, therefore, there are ſo many Advantages derivable to Mankind from medicinal Springs, whence they were held ſacred by the Antients, who can help wondering at the ſupine Indolence and Neglect both of Philoſophers and Phyſicians, in not examining into their Principles, Operations, and Effects? The greateſt Part of the Authors, upon this Subject, ſeem to have wrote hood-winked, ſo as not to have ſeen the real Principles and Ingredients of theſe Waters: But on the contrary, to have imagined in them Matters whereof they could trace not the leaſt Marks or Signs. Whence it has happened, that not only the Phyſicians upon the Spot, but thoſe likewiſe of other Countries, who had not the Opportunity of examining our Waters, have held them very ſuſpect, precarious, and dangerous, and therefore adviſed their Uſe only to the robuſt, the ſtrong, and the healthy; being very apprehenſive of doing Miſchief at leaſt, if not occaſioning ſudden Death, by preſcribing a Courſe of Waters which they thought abounded with the Principles of ſo many Minerals, oppoſite and deſtructive to the human Body, unleſs all the Parts thereof were perfectly ſound and intire. In this Point, however, ſuch Phyſicians have not acted conſiſtently with themſelves, for their Cuſtom has been to make theſe Springs, as it were, their laſt Reſource for the Cure of chronical Diſorders, which had reduced the Patient to the utmoſt Extremity, after all other Remedies failed, as if Perſons, who had ſo long laboured under inveterate Diſeaſes, could be ſuppoſed to have their Viſcera ſound and untainted. Such Phyſicians, therefore, notwithſtanding all the Darkneſs and Diſtruſt which may hang upon their Minds in this Matter, muſt acknowledge that mineral Waters cannot, at leaſt, but be innocent, if they here do no Miſchief; or highly ſerviceable, if they effect a Cure, in Bodies ſo worn out and weakened by a Diſtemper, though they ſhould not underſtand the Reaſons whereon the Thing depends.

And if I ſhall have made any uſeful Diſcoveries in this Subject, what led me to them was a firm Reſolution, to take nothing upon Truſt, nor meaſure the Skill of Phyſicians by popular Opinion; but myſelf to try, as far as my Abilities went, and examine every Thing by the Rules of Reaſon. And finding, by Obſervation and Experience, the ſuperior Excellence and Uſefulneſs of mineral Waters in the Art of Medicine, I thought myſelf obliged to proſecute my Enquiries with a Caution and Exactneſs, proportionable to the Importance of the Affair. Thus, by the with-holding my Aſſent to the received Notions upon this Head, and coming perſonally to examine into the true Nature, Principles, and Virtues of theſe Waters, by the Means of chymical and philoſophical Experiments, I found the greateſt Part of what had been ſaid of them by Authors, to be falſe and fictitious. And being once thoroughly convinced of this, I held it incumbent upon me to oppoſe the Errors every where ſtrongly prevailing to the Diſadvantage of the Art I profeſs, and ſupport my own Diſcoveries with all the Light and Strength of Reaſon I could give them. And, in the Courſe of theſe my Enquiries and Endeavours, I have happily diſcovered certain Springs of uncommon Virtues, and advantageouſly introduced them into Phyſic. And if others will proceed in the ſame or a better Manner, I queſtion not but their Labours will be crowned with the ſame or better Succeſs; which is what I earneſtly wiſh for the Benefit of Mankind. *Hoffman.*

Dr. Slare ſeems to have been one of the firſt who was ſenſible that the popular Notions, with Reſpect to mineral Waters, were erroneous. His Obſervations are worth inſerting. But I muſt obſerve, once for all, that I have ſeen remarkable Inſtances of the Effects of our own chalybeate Waters in ſome of the Caſes mentioned by Pliny, as in the Gravel; but for Hyſterics, promoting Fœcundity, and preventing Miſcarriages, they are not to be equalled by any Medicines, or Method I am acquainted with, and will very ſeldom fail of anſwering this good End, if the Caſe is retrievable by any Means whatever. This makes me very eaſily believe the Virtues attributed to the Spaw, and Pyrmont Waters, in the following Pages, to be real. But, I muſt confeſs, I never yet ſaw the leaſt good Effect produced by either of theſe Waters, in any Caſe whatever, tho' I tried them in many Caſes, till their Succeſs, at leaſt in my Hands, contradicted the Character they have acquired, and made me, for that Reaſon, uſe them no more. I don't ſay this with a View of derogating from the Reputation of theſe Waters, but to ſhew, that they either loſe their Virtues at this Diſtance from the Fountain, or, which is more probable, that the wholeſale Dealers in Medicines have found Methods of counterfeiting theſe Waters, in ſuch a Manner, that the ſpurious have the Appearance of the genuine, without the leaſt Participation of their Virtues.

Dr. Jordis, a Fellow of the Royal Society, with whom I kept a Correſpondence for above thirty Years paſt, practiſed Phyſic at Franckfurt, and often at Swalbach in Summer-time: I deſired him to examine the Spaw-Waters, and give me an Account of the Contents of that *Sowr-Brunn* or *Acidula* (ſo much celebrated for its Virtues, and Concourſe of Perſons of the greateſt Quality). He gave me an Account of ſome Ocres or ferrugineous Parts, which he calcined and tortured in the Fire, to make them confeſs their ſulphur Original; but, in all his Experiments, did not ſatisfy me that the Water held one Drop of an Acid by Diſtillation, *&c.* That which gave me the firſt Suſpicion, that the chalybeate Waters did not contain any rough, or vitriolic, or acid Salts in them, proceeded from an accidental Uſe of a ſtrong iron Water, in which I diſſolved Soap, and found it lather and waſh my Hands well; and then I uſed a Waſh-ball and ſhaved with it, and tried ſeveral other Waters of this Sort, which did the ſame, and much better than ſome Pump-Waters.

I conſulted my Palate, and tried whether I could diſcover any Sharpneſs or Acidity in our Engliſh Steel-Waters at Tunbridge, at Black-Boy in the Pariſh of Franfield in Suſſex, Hampſtead, Sunning-hill in Berkſhire, *&c.* but I was ſo far from diſcovering any ſuch Thing, that theſe Waters ſeemed rather to leave a ſweetiſh Flavour or Fare-well behind: Thus many alcaly Salts, if nicely examined (of the fixed Kind) have affected my Taſte.

I made Experiments with ſeveral Sorts of ſuch Spirits as are apt to ferment with Acids; ſuch as Spirit of Hartſhorn, of Sal Ammoniac, *&c.* but theſe made no Ferment, nor any Motion or Change in theſe Waters.

I conſidered the Diſeaſes in human Bodies, which theſe Waters were preſcribed, by Phyſicians, to cure, that they were often ſuch as proceeded from ſharp, acid, or acrimonious Cauſes, as Cardialgiæ or Heart-burnings, ſour Vomitings, corroſive Diarrhœa's, Colics from Scurvies, and Stranguries; and that, for theſe Diſtempers, ſweetening and alcaliſate Remedies are made Uſe of.

I conſider theſe Waters, as containing in them the Properties of Iron; and I find by Experience, that it is moſt oppoſite to Acids, being one of their great Correctors, and therefore rather to be eſteemed an Alcali.

1. Take ſome Filings of Iron, ſuppoſe a Dram, and pour on them about an Ounce of the milder Acids, ſuch as Vinegar, Verjuice, or the Juice of Lemons, and it will deſtroy the Sharpneſs of theſe Juices: Or, if you pour on theſe Filings mineral Acids, as the very corroſive Spirit of Nitre, or of Salt, or what is called Oil of Vitriol, they will immediately loſe their Acidity, be diſarmed of their ſharp Points, and by Evaporation give a Salt that will taſte ſweetiſh, and is by Chemiſts called Saccharum Martis, if duly prepared, which is ſafely given inwardly, and is eſteemed a good Altering Medicine.

2. Steel beaten to a fine Powder is, without any farther Preparation, given inwardly with great Succeſs for ſtomachic Diſeaſes, as in the Green-ſickneſs, hypochondriac, and various other acid and acrimonious Diſaffections.

I conſidered Milk to be a very proper and obvious Subject to bring this Controverſy to a plain and unqueſtionable Deciſion. I made this Experiment with all poſſible Exactneſs: I firſt proved the chalybeate Waters, more particularly the Spaw-Waters, by trying whether they tinged with Galls. Theſe being very good, I put Part of the Waters to cold Milk; ſome I only made luke-warm, and ſome I boiled together, in equal Proportions: But they were ſo far from affording any Curd or Coagulation, that they continued ſeveral Days without being ſour.

Since mineral Waters, eſpecially thoſe that are chalybeate, are of ſuch important Uſe in Phyſic, and have gained amongſt us ſo juſt a Reputation for their excellent Virtues, and are the greateſt Refuge in very potent and obſtinate Diſeaſes, this has made me judge it a Work not unacceptable to Virtuoſo's, eſpecially thoſe of the Faculty of Phyſic, to have this Medicine fairly examined, its genuine Properties aſſerted, and what was called an Acid, to be demonſtrated an Alcali. Is it not a Sort of Juſtice due to the World, that the Germans who ſent us over theſe Waters, with this falſe Character of ſour Waters, ſhould baniſh this miſguiding Term from their Spaws? It is from this Miſtake, that their Phyſicians do prohibit the Uſe of all Manner of Lacticinia, as if they were as noxious as deadly Poiſons, whilſt they are in a Courſe of their medicinal Waters.

Since this Prejudice has prevailed very much amongſt moſt of our Water-drinkers in England, I do atteſt, that I have frequently

quently adviſed, in ſome Caſes, Milk to be given daily in the Evening, through a whole Courſe of Steel-Waters, with good Effect: Nay, I do affirm, that ſome others could not bear the Waters without having a third Part of Milk, or more, mixed with them, and have continued them ſo for many Weeks, with good Advantage: Nor do I find the leaſt Reaſon to prohibit the Uſe of Milk in a Courſe of Bath Waters, having been here above a Year and half, making the beſt Scrutiny I ran into the Properties, Virtues, and Vices (if they have any) of theſe Waters.

Since our Experiments diſcover, that thoſe Things, which are of a ſweetening alcaliſate Nature, do ſo very well agree with theſe mineral Waters, it will appear by the following Experiments, that Acids do very much diſagree. I put but one Drop of Oil of Vitriol to a large Glaſs full of ſtrong Spaw Waters, which, before the Addition of this Acid, did give a deep Purple to the Solution of Galls, but now would not give the leaſt Tincture, though I put in four times as much of the Galls. From hence, I conclude, that the Virtues of the chalybeate Ingredients, which I take to be the Life and Soul of theſe Waters, were ſo far bound up or deſtroyed, as to have loſt their cordial or corroborating Faculty; and that the Bile or Gall in the human Bowels could not be able to ſeparate the chalybeate (which are the only medical) Particles, and mix them with the Chyle, in order to any End in Phyſic. Let this be a Caution to thoſe that deſign to make theſe Waters paſs better by Urine, that they do not make uſe of any Acids, it being a common Practice to uſe Spirit of Vitriol, Spiritus Nitri dulcis, *&c.* as a Diuretic; unleſs it ſhould ſo happen, that they have a Deſign to take off, and diveſt them of their warm, cordial, or altering Power, and ſo to bring them near to common Water; which I muſt confeſs we are forced to do, eſpecially in the Uſe of Bath Waters, in ſome hot inflammatory Caſes.

I ſhall conclude with one ſhort Experiment in Favour of our Alcalies; that if you put any alcali Salt, volatile or fixed, ſuch as volatile Salt of Hartſhorn, or of Sal ammoniac, or fixed Salt of Tartar, of Wormwood, or any other true Alcali, you will then deſtroy the above-named acid Spirit, recover the Virtue of the Waters, and diſpoſe them to give their Tincture as they uſed to do in their natural State.

Having procured about a dozen Quarts of Pyrmont Waters this laſt Summer, I made ſome Trials with them. I found by the Taſte that they contained a rich chalybeate Virtue, and alſo made a very briſk and lively Impreſſion on the Palate, more grateful and ſpirituous, than the beſt Spaw Waters I ever taſted. The Spaw Waters are looked upon as moſt excellent, if they ſparkle a little in the Glaſs: But theſe, in Summer Time, when poured into the Glaſs, nay, ſometimes even the Bottle, as ſoon as the Cork was opened, and the Air was admitted, would make a notable Ebullition, ſomewhat like bottled Cyder, though this was ſoon over; but they did yet continue their ſmart and briſk Taſte, and high chalybeate Reliſh to the laſt Drop, though we were ſome Hours in drinking them off. In the Winter-time, theſe Waters do not ſparkle, nor ferment, at leaſt mine did not; but they were not carefully preſerved, being expoſed in cold Cellars where our Beer or Wine ſtood in the Winter, and yet notwithſtanding, they loſt not the chalybeate Taſte, and alſo retained a very pleaſant briſk Guſt. Theſe Waters have been reckoned in the Number of the German *Acidulæ*, and ſome of my Friends, to whom I gave a Glaſs of the Water, have aſcribed to it a ſharp Taſte, and have been ready to run away with a poſſeſſed Opinion of its being ſour: But when I required them to call back that haſty Aſſertion, and to conſider it better, whether that Taſte was really ſour or acid, they have been forced to recant, and confeſs, that the ſmart and briſk Taſte miſled them to call it Acid, or truly Sour. Thus Cyder, and ſoft Ale, when bottled, will give ſuch an acute Affection to the Palate, when it is far from being ſour: And even volatile Alcalies of Sal ammoniac, or of Hartſhorn, may be made to give the like Pungency to the Tongue.

In order to a more nice Enquiry, whether any Acidity were diſcoverable in theſe Pyrmont Waters, we dropped in conſiderable Quantities, both of Spirit of Hartſhorn, and of Spirit of Sal ammoniac, both juſtly prepared; but could not diſcover the leaſt Luctation or Motion to appear upon this Conjunction, as it uſually does with an Acid. I made a yet more nice and certain Examen of theſe Waters, by mixing Milk with them, ſometimes in equal, ſometimes in double Proportion; and in various Degrees of Warmth, both in lukewarm Degrees, and alſo with a boiling Heat; but I could not perceive any Curdling; but rather, on the contrary, the Water preſerved the Milk from Coagulation, for four or five Days, even in September, it being hot Weather.

Take a very little Gall in Powder, about half a Grain, to a Glaſs of a Quarter of a Pint; this does in a Moment render it turbid, and make a dark Purple, eſpecially if you ſtir it: but, if you drop the Powder on the Surface of the ſame Water, it then cauſes a fine blue Tincture. If you will make a very fine Tincture pleaſant to the Spectator, take five Leaves of ſtrong green Tea, put them into the Bottom of a Glaſs, holding a Quarter of a Pint, and you will ſee thoſe Leaves unfold themſelves, and, in a Quarter of an Hour, tinge the Water with ſuch a cerulous azure Blue, that few Vegetables do afford the like. We obſerve, that the longer theſe Leaves, or any other Styptics (which are the Precipitators) do ſtay together, the more they degenerate into a deep Purple, or even in to an atramentous Colour.

In Reference to the internal Uſe of theſe Waters, I drank about a Quart at a Time, after this Manner: I firſt began with the Spaw Waters, which I procured very good, and drank them for a Week, and they agreed very well. I then drank the Pyrmont Waters for three or four Days, and continued the Uſe of theſe Waters alternately, until I had drank about twenty Days. By the Reſult of my Experiment, it ſeemed to me very plain, that the Pyrmont Water was more agreeable, gave more Strength and Spirit, and was as much or more preferable for its internal Virtue, as for its excelling the other in a brisker and more ſprightly Taſte.

There is another Excellency in theſe Waters, which will make them more uſeful to us, than any foreign chalybeate Waters we yet know; becauſe theſe will keep better, being not ſo ſoon ſpoiled by any accidental Inſinuations of Air, as the Spaw are ſubject to be. The chalybeate Mineral is here thoroughly diſſolved and well united, and mixed in the Water, ſo that it does not eaſily precipitate; for which Reaſon it may alſo the better paſs the Vaſa Lactea, and even enter into the Maſs of Blood itſelf, and work the more conſiderable Effects. That this is not a bare Hypotheſis, may be proved by this Experiment.

Having ſuffered the Spaw Water to be expoſed in a Bottle which was half full, and unſtopped twelve Hours, I examined it, and found it taſte juſt like common Water; but the Pyrmont Waters, that were opened to the Air after the ſame Manner, taſted ſtrong of the Mineral, and gave their Tincture as at firſt; nay, they continued thus for full two Days, and perhaps might have done ſo longer, but I thought that Time ſufficed. I may fairly conclude, that, ſince the Spaw has been very beneficial to our Patients in chronical Diſeaſes, theſe Waters of a much ſuperior Virtue will ſurpaſs them in conquering many of our obſtinate Diſtempers.

Having had lately ſome Diſcourſe about a purging Quality contained in theſe Waters, I am now enquiring into the Truth of this Queſtion, whether they in reality do contain any purging Ingredients or Properties.

I evaporated about a Quart of this Water *ad ſiccitatum*; I then poured on the Reliquiæ ſome Rain Water, enough to diſſolve and take up the Salts, and exhaled that Water, and had a Grain or two of the Salts, that taſted muriatic, ſuch as moſt River and Pump-Waters give. It is well known, that the purging Waters have a very bitter Taſte, and by the learned Dr. Grew, that Salt was called *Sal catharticum amarum*, which diſtinguiſhed it from all other Species of natural Salts: That of the Pyrmont Water, above-mentioned, has no Relation to this, but to the Sea-Salt, not being in the leaſt bitter.

It is alſo well known, that, unleſs our Waters be impregnated with a conſiderable Quantity of this bitter Salt, they will not purge at all: Two or three Grains ſignify nothing, nor have the leaſt cathartic Power. For Example, put two Drams of the purging Salts to a Quart of common Water; and this Quantity will give but a Stool or two, to one who is naturally very eaſy to work upon. I have examined ſeveral other chalybeate Waters, and found much the like Ingredients, and never any that I could ſuſpect to carry any purging Properties.

I think we can much better demonſtrate, that the chalybeate Waters do contain ſtyptic and reſtringent Virtues, becauſe they owe their Birth to the Iron Mineral, and more particularly to the Pyrites, which Dr. Liſter ſuggeſts (not without ſome Reaſon) to be the Parent even of all Iron Ores, as it is doubtleſs the Cauſe of all chalybeate Waters: Thus I have often examined the Solution of the Pyrites by the Rain-water at Deptford, and at other Places where Copperas is made, and found it a very ſtrong chalybeate Water. It is from this Mineral we have our ſtrong ſtyptic and conſtringent Medicines, for external and internal Uſe; we have our Powders and Salts of Steel, or Vitriol of Mars, from hence; nay, even thoſe obſtinate and inveterate Diarrhœa's, which have baffled the Force of all Medicines, have, by a judicious Uſe of Tunbridge, and other Iron Waters, received a Cure.

But, notwithſtanding all we can ſay, it will be retorted, that there is Matter of Fact and Experience againſt us, that the Waters really do purge at Pyrmont, where they are drank. This we do allow to be true, that Tunbridge Waters do not only purge, but ſometimes vomit, when drank haſtily, and in great Quantity; but our Phyſicians have corrected this Irregularity, and we hear of no ſuch Complaints, where they obſerve a juſt Regimen. And we do all agree, that thoſe Waters are in their own Nature binding, and do oft require ſome opening Medicine. The Quantities of Water drank at Pyrmont are very large, often two or three Engliſh Quarts. It is no Wonder that their Weight forces them through the Bowels; for any common Water drank haſtily, and in ſuch Quantity, will do the ſame. Whereas, if you take this Method, and will drink Pyrmont, or any other chalybeate Waters leiſurely, viz. a Pint Glaſs in an Hour, or rather two Half-pint Glaſſes, you may drink three Pints in ſo many Hours, without Danger of loſing them by Dejection. But if any one will be careful, and take this Caution with him, he will ſcarce fail of Succeſs, that is, let him be very quiet and ſtill, both in Body and Mind; the leſs he ſtirs or walks, the better he will paſs off his Waters by Urine. And though this will appear a Paradox, eſpecially to thoſe Phyſicians, who practiſe abroad, and commend to their Patients much Action in Walking, yet I know I have both Reaſon and Experience on my Side. To avoid Prolixity, I ſhall not declare them at this Time, and ſhall only aſk Leave to mention one Obſervation I have made, that none of our Engliſh Steel-waters do ſtrike ſuch a Purple as the foreign celebrated chalybeate Waters do; for ours do give a more turbid and dark Colour, and the worſe the Waters are, the blacker Sediment they make. Thoſe of Iſlington abound with a coarſe Oker, the Mineral is not well diſſolved, but gives an atramentarious Colour; but the Pyrmont Waters excel all I have happened to examine in its bright cœruleous Luſtre. *Slare's Diſſert. Philoſ. Tranſ.*

An Examen of Mineral Waters.

The admirable Virtues, and extraordinary Efficacy of mineral Waters, both the cold, which are called *Acidulæ*, and the hot, named *Thermæ*, in perfectly curing the moſt obſtinate and inveterate Diſeaſes, are ſo well known and atteſted, by long Uſe Time out of Mind, and an infinite Number of Experiments, as to put the Matter beyond all Queſtion. But whence theſe Waters derive their ſanative Power and Virtue is a Thing not ſo commonly known; and, really, there are very few who know how to ſearch out the Elements and Ingredients, in which their wonderful Efficacy lies, by a chymical Examen.

Now there is no better Way to diſcover the Elements of medicated Waters, than by evaporating the Liquid by a gentle Heat, either in a Tin Veſſel ſet over hot Embers in the open Air, or, which is better, in a glaſs Cucurbit, carefully ſaving the Liquor that goes through the Alembic, that the Proportion of the Solid to the Liquid may be obtained. If then the Evaporation be made to a Dryneſs, and the dry Maſs, left in the Cucurbit, be accurately weighed, we have the true Weight of the Ingredients, which are of a more fixed Nature, and, though of a different Texture, muſt be examined.

Firſt, then, a Solution of the Reſiduum muſt be made with pure Water that is diſtilled, which is always requiſite for the more accurate Examen of Things chymically prepared, for many Spring-waters contain much of the Elements of Earth and Salt. In this Solution the Salt is ſeparated, and the Earth remains, which is leſs ſoluble in Water. It is eaſy to know, whether this Salt be alcaline, by mixing it with an Acid, for then it forms a Sal Tertius, or neutral Salt; or with Sal Ammoniac, in which Caſe the volatile urinous Smell betrays it. Or it may be known, when a Solution of ſublimate Mercury in Water is added to it, for then a yellow Powder precipitates; or if it gives a green Colour to Syrup of Violets mixed with it.

The Caſe carries a little more Difficulty, when the Salts, left after Evaporation, are not of one and the ſame, but of different Kinds: As when, for Example, alcaline Salts are mixed with thoſe that are neutral, ſuch are common Salt, or calcareous Salt, as Aphronitrum, or ſulphurous Salt, which approaches to the Nature of Arcanum duplicatum, or vitriolated Tartar. Hence it may well be aſked, How ſhall theſe be ſeparated from one another? It muſt be done after the following Manner: Pour common Water on the dry Maſs, and, after a gentle Agitation, let it run off. By this Means there will remain a ſaline Powder, not eaſily diſſoluble, ſuch as are all your middle Salts, for alcaline Salts readily diſſolve in Water. There is another Way of ſeparating neutral Salts from alcaline, and that is, by Cryſtallization; in which, if rightly performed, every middle Kind of Salt, beſt fitted to receive a ſolid Figure, firſt deſcends in the Form of Cryſtals, there remaining nothing but a lixivious Liquor, which ſwims a-top, and receives with more Difficulty a ſolid Form.

Here another Queſtion will ariſe, viz. How may the genuine Nature and Properties of the middle Kind of Salts be found out? You are to know then, that no other Salts are conveyed out of the Bowels of the Earth in the Vehicle of Water, than either common Salt, or a Kind of neutral Salt, of a vitriolic and ſulphurous Nature, being made up of the Acid of Sulphur or Vitriol, and a Sort of Salt, or Earth, of the alcaline Kind: The former, that is, common Salt, may very well be diſtinguiſhed, partly by the Savour, and cubical Figure, which Cryſtallization gives it, and partly, by emitting, when mixed with Oil of Vitriol, a copious white Fume, of a moſt penetrating Smell; the other Salt, which derives its Original from an univerſal, ſubterraneous, ſulphurous Acid, is thus tried, viz. Mix two Parts of the ſame with one Part of Salt of Tartar, and one of Powder of Charcoal, and let them incorporate and fuſe together in a Crucible over a melting Heat; there will then be produced a red Maſs, of a ſulphurous alcaline Taſte, much reſembling the Liver of Sulphur, and from which, with highly rectified Spirits of Wine, is extracted the true yellow Tincture of Sulphur, which ſtains Silver with a ſooty Colour.

From a Solution of this Maſs with Water, by an acid Liquor, is precipitated the true Lac Sulphuris; a manifeſt Evidence, that the mineral Sulphur, which is compounded of the univerſal Acid, and inflammatory Principle, is revived in this Proceſs. I not only found this true, in all Salts procured by Art, which are compounded with the Acid of Vitriol or Sulphur, but alſo by Means of this Proceſs produced a ſulphurous alcaline Maſs out of all the middle Salts, common Salt excepted, which are found in the mineral Waters, both cold and hot; but with this Difference, that, if the middle Salt be compounded of an alcaline Salt and the Spirit of Sulphur, the eaſier is the Fuſion by Fire, which becomes far more difficult, if this Acid be united with a terrene, or gypſeo-calcareous Element, ſuch as is the Salt in what they call the Aphronitre which adheres to Stones.

Beſides alcaline and middle Salts, there is, in very many of the cold mineral Waters, a vitriolic Salt, which is ſeldom of a fixed Nature, but, for the moſt Part, ſubtile and volatile. This ſame Salt is known to be in all Waters and Liquids, not ſo much by the Taſte, as by the dark-purple and blackiſh Colour they receive from the fine Powder of Galls, or the Rinds of Pomegranates, or an Infuſion of the Flowers of Pomegranates. The Volatility of the Spirit of this Vitriol, or rather of the Acid of this Mineral, which, in Conjunction with martial or olearous Particles, conſtitutes the ſubtile Salt of Vitriol, appears eſpecially in this, that mineral Waters, which take a black Tincture from Powder of Galls, and drank make the Excrements black, if expoſed a-while to the open Air in a warm Place, immediately loſe their vitriolic Taſte and Faculty of changing their Colour, which happens yet much ſooner upon a gentle Boiling and Ebullition.

There remains yet ſomething to be examined in mineral Waters, and that is their very ſubtile ſpiritous Element, which ſeems to be of an aereo-ethereal Nature, and to have an elaſtic Property. The Preſence and Abundance of this are manifeſted, not only by the Vapour, which ſtrikes the Noſtrils, but alſo by their Effect on the Head in drinking. To this Principle alſo it muſt be aſcribed, that mineral Waters, eſpecially the cold Springs, poured out of one Glaſs into another, raiſe Plenty of Bubbles, which ſtick to the Sides of the Veſſel.

But theſe Bubbles riſe in ſtill greater Plenty, and with more Force and Celerity from the Interſtices of theſe Waters to the Superficies, when they are mixed in equal Proportion with Moſelle or Rheniſh Wine, or any other that contains a ſubtile Acid, and a little Sugar. For ſo they look well to the Eye, and become of a delicious Taſte, the Vapours proceeding from them in ſuch Plenty, that they ſeem to ſmoak. This Efferveſcence, by which theſe Bubbles are principally raiſed, depends on the Conflict of the alcaline Salt, which prevails in mineral Waters, with the ſubtile Acid of the Wines.

This ſpiritous Principle, reſiding in the Waters, is alſo the Cauſe why Veſſels, or Bottles, cloſe ſtopped, when heated, burſt with great Vehemence; a ſure Evidence of the vaſt expanſive Power of this very ſubtile Matter.

Moreover, the Exiſtence of this ſpiritous Element, which ennobles mineral Springs, may very conveniently be tried, in a Vacuum, by Help of the Air-pump, in which ſo great a Quantity of Bubbles riſes to the Superficies of the Veſſel, that they ſeem like a Liquor heated to a Degree of Ebullition.

Such Springs therefore, as have undergone an Examen, and do not produce the like Effects and Phænomena, are to be eſteemed of much inferior Virtue. For it is that moſt ſubtile mineral Spirit, which endues the Waters and their Ingredients with ſuch extraordinary Virtues, ſo as not only with Speed to enter and penetrate into the very inmoſt Receſſes and Emunctories of the Body, but to communicate greater Strength, and Power of Moving, to the ſolid Parts, and the Fibræ Motrices, for the more ready Paſſage of the Waters through the tubulous Frame of our Bodies, by which not only the Veſſels are cleaned and freed from all Obſtructions, but the Secretions and Excretions of uſeleſs Parts are in an extraordinary Manner promoted.

But as there is no Spring-water, which does not afford ſomething earthy, and hardly ſoluble, after Evaporation, ſo we find the ſame Thing in mineral Waters, whether hot or cold, even in thoſe that have the greateſt Reputation for medicinal Virtues. Now the Nature and Properties of this groſs Subſtance ought alſo to be inquired into. For there are various Kinds of Earth, through which the Waters take their Courſe, ſome Parts of which are eaſily taken up by Waters, becauſe of their inteſtine Motion.

The Things, which get into the Pores of the Water, are chiefly theſe: Limy, okerous, clayey, and even ſtony Earths. The Matter of the limy Kind is known by its Efferveſcence with an Acid, and alſo by Burning, in which it acquires the higheſt Acrimony. If there be vaſt Quantities of this limy Earth in the Waters, eſpecially hot Waters, it ſeparates in cold Weather, and ſticks to the Veſſels and Pipes, that contain the Water, and, in a little Time, covers them over with a ſtony Cruſt, as we ſee in the Caroline Baths, which contain ſuch Plenty of alcaline and limy Earth, that Stones of vaſt Bigneſs are formed in the Veſſels and Pipes that hold them. If the Sediment, or Precipitate, which, after Evaporation and Cryſtallization of the Salts, remains in the Filtre, is of a yellow Colour, which, in Calcining, changes to red, it is a Sign of a martial or ſtrong Matter, which never fails to exert its wholeſome Operations on the Human Body, by its gently aſtringent and corroborating Virtue.

But this okerous Subſtance, though it takes its Colour from Iron, will not ſuffer a Solution by an Acid, becauſe it is of the Nature of Clays. Many Waters are full of this Sort of bolar and martial Earth, without any other ſaline and ſpiritous Ingredient, whence they are of no ſmall Service in the Cure of Chronic Diſtempers, both drank and uſed as Baths. In this Claſs we may reckon the Spring at Freyenwald in the Marquiſate, at Bibra in Thuringia, and Leuchſtad in Meiſſen, whoſe corroborative, drying, and diaphoretic Virtues, eſpecially when uſed by Way of Bath, cannot be too much commended.

If there be any Thing ſtony in mineral Springs, it may readily be known by Elutriation with a ſufficient Quantity of Water, by which all the ſubtile terreous Parts are diſſolved; for its Weight carries it to the Bottom, and will not eaſily ſuffer it to be moved out of its Place.

Beſides the hot and cold mineral Waters, in which it was our firſt Aſſertion that Alcalies predominate, there are alſo medicinal Springs, impregnated neither with Acid nor Alcali, nor capable of tinging Syrup of Violets, but containing only a Salt of a middle Nature, which may beſt be procured by Evaporation. Of this Kind, chiefly, are ſome Springs firſt diſcovered by me ſome Years ago in Bohemia, at the Town of Zetliz, two Miles from the City of Tœpliz, whoſe Waters, are very bitter, laxative, and contain a conſiderable Quantity of a middle Salt, which is much of the ſame Nature and Virtues with Aphronitre, or artificial Epſom Salt. *Hoffman*, *Obſ. Phyſ. Chy.*

The following Particulars, relating to ſome of the principal mineral Waters in Germany, will, it is to be hoped, both encourage, and enable the Curious, who live near any mineral Springs, of which there is great Plenty in England, not yet taken ſufficient Notice of, to examine into their Contents and reſpective Natures, that their Efficacy, in the Cure of Diſeaſes, may be rendered more certain, and more generally known to the World.

1. As it is certain, that medicinal Springs, whether of the hot or cold Kind, found in different Countries, differ conſiderably with Regard to the Principles or Ingredients they contain; and again, in Point of Purity of the Waters, whence ſome become ſerviceable in one Sort of Diſtempers, and others in another; ſome of them uſeful in this Conſtitution, and ſome in that; it becomes a Matter of Importance, to determine the preciſe Virtues and Efficacies of different Springs, by the Means of ſure Experiments. And to lead others into a regular and juſt Method of doing this, or of diſcovering ſuch Springs, as are of greateſt Efficacy for the Cure of Diſeaſes in every Country, is the Deſign of the preſent Section. To render the whole Matter familiar and intelligible, we ſhall proceed in the inſtructive Way of Examples, rather than Precepts; and lay down Sets of Experiments, that we have ourſelves made upon the Waters of certain Springs of the greateſt Character and Reputation in Germany: Whence at the ſame Time we ſhall have an Opportunity of confirming their medicinal Virtues by Experience, and Inſtances of Perſons who have drank them with Succeſs; and thus of demonſtrating their Virtues to be agreeable to the Contents, which our Trials manifeſt in them.

2. We begin with the Pyrmont Waters, which, on Account of their penetrating Nature, and quick Paſſing off, hold the principal Place among cold Springs. It is remarkable of theſe Waters, above all others, that the glaſs or earthen Veſſels, filled with them at the Spring-head, and well ſtopped down, eaſily burſt to Pieces, with conſiderable Violence, upon ſhaking, or being gently treated. So that, if Flaſks of it are to be carried to diſtant Places, it is neceſſary not to fill them to the Top; or elſe, to let them remain open for ſome Hours, that their volatile elaſtic Spirit may in ſome Degree fly off.

3. If theſe Waters be drank cold, upon an empty Stomach, in the Morning, they not only briſkly ſtrike the Noſe with a ſubtile penetrating Vapour, that riſes from them; but alſo render the Head giddy, as if the Perſon had drank too much Wine.

4. They ſometimes operate by Stool; and this the more powerfully, when they are not drank at the Spring-head, but carried to ſome Diſtance before they are uſed. And the Matter they thus diſcharge out of the Body, is of a blacker Colour than happens upon drinking the Waters of other cold Springs. But they loſe all their purgative Virtue, by being long expoſed to the open Air; and in that Caſe do not tinge the Excrements black.

Dr. Slare finding, upon Evaporation, no bitter cathartic Salt in theſe Pyrmont Waters, will not allow them properly purgative; but attributes this Effect to their being drank haſtily, or in large Quantities; in which Caſe common Water would have the ſame Effect. But, from the Account here given, they appear to be ſomewhat purgative, by Means of their volatile vitriolic Spirit; which is alſo vomitive, when it largely abounds in Steel-waters; as appears by an eminent Inſtance in the newly diſcovered ſtrong chalybeate Waters of Paſſi in France. See *Hiſt. de l'Ac. Roy. An.* 1720.

5. If Tea-leaves, Balauſtian Flowers, or powdered Galls be thrown in a Glaſs of this Water, it firſt acquires a blue Colour, which ſoon after turns to a Purple, and at length a Black: Which ſhews, that black Colour proceeds from a Concentration of the Purple; and that the blue Colour is nothing more than a faint and dilute Purple. But, if a little Spirit of Vitriol be dropped into the Water that is thus tinged, all the Colour preſently vaniſhes.

6. If any acid Spirit, whether of the ſtronger Kind, ſuch as Spirit of Vitriol and Aqua Fortis; or of the weaker, ſuch as Vinegar, Lemon Juice, or Rheniſh Wine, be mixed with this Water, it cauſes a manifeſt Ebullition, and throws up a large Quantity of Bubbles to the Top with Violence, and a vaporous Exhalation.

7. On the other Hand, if any alcaline Liquor, whether of the fixed Sort, as Oil of Tartar, or of the volatile, as a dilute Spirit of Sal Ammoniac be mixed with this Water, no obſervable Conflict or Ebullition enſues: But the Water only becomes a little thick and white. And if now Spirit of Vitriol be dropped into it, ſo as to ſaturate the alcaline Principle, the Water again becomes pellucid and tranſparent.

8. Upon mixing an equal Quantity of Cow's Milk along with this Water, the Milk does not curdle, but rather becomes more fluid; and is by this Means preſerved from turning ſour; which affords an indiſputable Proof that this Water abounds not with an Acid.

This Particular is farther confirmed of theſe Waters by Dr. Slare; who found they did not curdle Milk, even when boiled, in an equal Quantity with it, but cauſed the Milk to continue ſeveral Days without turning ſour.

9. If Syrup of Violets be mixed with this Water, it turns of a deep green Colour; which preſently diſappears again upon the Addition of a few Drops of Spirit of Vitriol.

10. Upon evaporating forty-eight Ounces of this Water over a gentle Fire, we obtained two Scruples of a dry Matter; one half whereof being put into a proper Glaſs, we let fall thereon thirty Drops of Oil of Vitriol; upon which there aroſe a ſtrong Ebullition, and a fine rarefied Vapour that ſharply ſtruck the Noſe, in the ſame Manner as when Oil of Vitriol is poured upon common Salt. Upon the other half of this dry Matter we poured ſome pure Spirit of Vitriol, which made a Conflict therewith, and turned it into a bitteriſh ſaline Subſtance; leaving behind a conſiderable Proportion of a chalky Earth, which, when waſhed in fair Water, no longer made any Efferveſcence with an acid Spirit.

11. Upon expoſing ſeveral Pints of Pyrmont Water in a large Silver Veſſel, for twenty-four Hours, to the open Air, we found it ſo much altered from its original State and Diſpoſition, as ſcarce to be diſtinguiſhable for what it was, ſo ſluggiſh and unactive it appeared. For to the Taſte it had quite loſt its mineral, briſk, and penetrating Nature, and became perfectly inſipid. It was alſo changed in its Tranſparency, and became thick and turbid, with a fine yellowiſh Earth fallen to the Bottom. And when the Liquor, that floated above that Powder, was poured off, it no longer made any Ebullition with an Acid, nor turned black with powdered Galls, nor greeniſh with Syrup of Violets.

12. From theſe ſeveral Particulars it plainly appears, that the Pyrmont Waters very copiouſly abound in a pure, penetrating, elaſtic, mineral Spirit, whereon their principal and diſtinguiſhing Virtue and Efficacy depend. For this highly rarefied Principle, ſo long as it cleaves to the earthy and chalky Particles of the Water, aſſumes the Nature of an Alcali: But, being alſo joined with a ſubtile Irony Earth, it reſembles the

Nature of Vitriol, has a vitriolic Taſte, renders the Excrements black, and makes an inky Tincture with Galls. Therefore, whilſt this Principle remains in the Waters, it thus renders them extremely active and powerful in opening Obſtructions, and promoting the Secretions of the Body. But, when once this Spirit is gone from them, all their medicinal and diſtinguiſhing Virtue and Excellence is loſt, or goes off along with it. And as theſe Pyrmont Waters copiouſly abound with this ſpiritous Principle, and conſequently have a ſtrong Operation and Effect, it is evident that the Uſe of them is rather fitted to ſuch as are of robuſt and corpulent Habits, than for Perſons of a ſoft, delicate, and tender Conſtitution. Yet they may, with great Safety and Advantage, be drank by the Weak and Infirm, in a ſmall Quantity, or diluted with other pure and wholeſome common Spring-water. They are alſo very advantageouſly mixed with an equal Quantity of Milk, and thus become eminently ſerviceable to Perſons troubled with the Gout and Scurvy, of which we have ſeen numerous Inſtances, in our long Experience of theſe Waters.

13. Next to the Pyrmont come the Waters of Egra; as nearly approaching them in Virtue. For altho' they do not abound ſo largely in Spirit, but are of a milder Nature; yet for this Reaſon they are drank with more Succeſs, and at preſent are more frequented than the Pyrmont Wells: An immenſe Quantity thereof is alſo yearly ſent to foreign Countries.

14. Upon pouring Spirit of Vitriol into this Water, there ariſes a manifeſt Ebullition, though not ſo large as in the Pyrmont Waters.

15. Upon mixing Oil of Tartar with this Water, it ſtill remains tranſparent or limpid, without any Thickneſs or Foulneſs; whereas other mineral Waters generally turn muddy or milky, upon dropping an alcaline Liquor into them, on Account of the common Salt or chalky Earth they contain.

16. If this Water be freſh taken from the Spring-head, it turns purple with Galls; but alters not its Colour therewith, when carried to any great Diſtance; unleſs the containing Veſſel were very exactly cloſed, which is a ſure Indication that it contains extremely little, if any Thing, of an Irony Earth.

17. With Syrup of Violets it turns of a dilute Green, which ſhews, that the alcaline Principle rather predominates in it.

18. A Solution of the Vitriol of Iron, being added to it, throws down yellowiſh Clouds, or a dreggy Matter, to the Bottom; though this is rather owing to the Vitriol itſelf, that was added, than to the Water, which thus diſſolves and ſpreads it, whilſt the Acid of the Vitriol meets with the alcaline Salt of the Water, and lets go its fine Particles of Iron.

19. Upon diſtilling twelve Ounces of this Water, in Balneo Mariæ, we firſt obtained a perfectly inſipid Phlegm, and twenty-four Grains of a dry ſaline Matter at the Bottom; upon this Matter we poured Oil of Vitriol, but there enſued no Struggle or Efferveſcence, nor any volatile Fume, which ſhews this Water contains no Proportion of common Salt.

20. Hence it is manifeſt, that the Waters of Egra owe their purging Quality to their large Quantity of bitter cathartic Salt, which is of a neutral Nature, in Reſpect to Acid and Alcali; and this purging Salt is yearly prepared from theſe Waters, by boiling, and ſent away, in very large Quantities, to foreign Countries. The Salt has no Virtue different from that commonly called Epſom Salt, and if an Ounce of it be diſſolved in a Pint of Water, it purges advantageouſly, or gives three or four Motions without Diſturbance. Theſe Waters are alſo highly commendable, on Account of the Subtilty, Lightneſs, and Purity of their aqueous Part; and may in this Reſpect be preferred to the Pyrmont Waters, which abound with a copious Oker, and a chalky Earth. It is therefore agreeable to Reaſon and Experience, that the Egra Waters are well fitted for carrying off Viſcidities, eſpecially in the firſt Paſſages, and waſhing away the obſtructing Matters in hypochondriacal Perſons, or thoſe of an ill Habit of Body, and diſcharging ſuch Matters by Stool; and, again, for opening Obſtructions in the Blood-veſſels of the Viſcera, and diſſolving any tough, clammy Humours lodged therein.

21. We next proceed to the Seltz Waters, which for their Excellence are celebrated far and near; and, on Account of the mild Manner they act in, are drank with ſingular Advantage, even in extremely weak and emaciated Conſtitutions; eſpecially by conſumptive Perſons, or thoſe of weak and unſound Lungs.

22. Theſe Waters make an immediate Efferveſcence with any Acid, whether it be ſtrong or weak, and if mixed with Rheniſh Wine, and a little powdered Sugar, they bubble up in a violent Manner, with a crackling Noiſe and Fume, whilſt the whole Mixture appears like frothy Milk.

23. When mixed with an equal Quantity of old Hock, they turn duſky, or appear of a brown, reddiſh Colour, in the ſame Manner as when Oil of Tartar, or ſtrong Spirit of Sal Ammoniac, is poured into a generous White Wine.

24. The Taſte of theſe Waters is not ſprightly, penetrating, and tartiſh, like the Waters of other briſk mineral Springs; but ſomewhat lixivious upon the Tongue.

25. They turn not blue, or purple, much leſs black, with Galls, nor tinge the Excrements inky in the Courſe of drinking them.

26. With Oil of Tartar they turn milky, but let fall no Sediment to the Bottom.

27. Twenty-four Ounces of this Water, being gently exhaled away, left behind it a Dram and twelve Grains of a ſaline Matter, which being again diſſolved in Water, and paſſed through Filtring-paper, afforded a Lixivium, from whence we obtained two Scruples of a pure alcaline Salt. To a Solution of this Salt we put a Solution of Mercury ſublimate; whence a fine yellow Precipitate, or Turbith Mineral, gradually fell to the Bottom. We had alſo the Pleaſure of ſeeing an Infuſion of Rhubarb turned into a beautiful red Colour by this Solution.

28. This ſame alcaline Salt alſo, being mixed with Sal Ammoniac, bound up the Acid thereof, and ſet free the volatile urinous Part, ſo that it roſe in Spirit, and briſkly ſtruck the Noſe, which are all evident Signs of a fixed Alcali.

29. Having ſaturated twenty-four Ounces of this Water with Spirit of Vitriol, then gently exhaled away the Mixture to Dryneſs, we procured a Dram and an half of a neutral Salt, like to the Tartarum Vitriolatum.

30. We know of no medicinal Waters which ſo eaſily run into Putrefaction and Stench as theſe, inſomuch that the Bottle muſt be perfectly filled, exactly ſtopped down with Cork, and carefully pitched over, to preſerve them ſound.

31. If this Water be expoſed to the open Air, in a wide Veſſel, for twenty-four Hours, it intirely loſes its original Taſte, and becomes lixivious, as if Oil of Tartar had been dropped into it, and yet there falls no yellow Subſtance to the Bottom.

32. An attentive Conſideration of theſe Phænomena will clearly ſhew, that this Spring plentifully abounds with the Matter of a pure alcaline Salt, of which it contains a larger Quantity than any other in Germany. Yet it holds no bitter calcareous Salt, nor any Principle of Iron; whence it has no great purgative or aſtringent Quality, but principally operates by Urine. Again, this Spring is but ſparingly ſupplied with the fine volatile mineral Spirit; and, for this Reaſon, proves of a very mild and gentle Nature. All which being conſidered, it follows, that theſe Waters are not only innocent, but may frequently be uſed with great Succeſs and Advantage, even by ſuch as are of the weakeſt Habit of Body; and particularly in ſcorbutic, phthiſical, and nervous Diſorders. They may either be uſed alone, or, what is ſtill better, mixed with Aſs's, or Goat's-milk; which Method of drinking them I firſt, with good Succeſs, introduced above five and twenty Years ſince, and numerous Phyſicians, with the ſame Succeſs, have followed my Example. I think, I can aſſuredly affirm, that for diluting and waſhing off acid and ill-concocted Humours, correcting the ill Habit of the Blood and Juices in arthritical or gouty Perſons, and for relaxing and reſtoring the contracted nervous Parts, there is not a ſafer, a ſurer, more immediate, and effectual Remedy, than the Seltz Waters drank with Milk.

33. We come next to the moſt noted Spring in all Germany, the Waters whereof are extremely pleaſant to the Taſte, and commonly called by the Name of the Tonnſtein Waters.

34. Theſe Waters have this in common with all other briſk and cold Springs, that they cauſe an Ebullition with Acids; and on this Account, when mixed with Sugar and tart Wines, froth up, like Milk, with a great Smoke and hiſſing Noiſe, thus diſcharging numberleſs Bubbles, as it were, in a thick Miſt or Steam.

35. They afford no Tincture with Galls, but preſerve their natural Clearneſs when mixed therewith, which ſhews they contain no irony or vitriolic Particles.

36. They turn Syrup of Violets of a faint Green, like all other ſprightly cold Springs, which ſhews they abound with an alcaline Principle.

37. If Oil of Tartar be dropped into them, they preſently turn milky, and let fall a light Sediment, which ſhews they contain common Salt, or ſomewhat of a chalky Nature.

38. By ſtanding any conſiderable Time in an open Veſſel, expoſed to the Air, they alſo loſe their pungent Taſte and Tranſparency.

39. When evaporated in a pewter Baſon, ſet over the Fire, there appears a Skin upon their Surface, exhibiting various Colours, which is a Phænomenon that does not appear in other Waters of this Claſs.

40. Twenty-four Ounces of theſe Waters being evaporated to Dryneſs, there remained two Scruples of a ſolid Matter, which being again diſſolved in fair Water, and properly dried, yielded one Scruple of Salt, and another of chalky Earth. The Salt was put into a Glaſs, and a few Drops of Oil of Vitriol poured thereon, which preſently cauſed a great Ebullition

ction, that ſent out a thick pungent Vapour, exactly of the ſame Kind as ariſes from a Mixture of common Salt and Oil of Vitriol.

41. Hence it plainly appears, that the Tonnſtein Waters contain little alcaline Salt, but a large Proportion of common Salt, chalky Earth, and mineral Spirit; whence they prove of a mild and gentle Nature, ſo as to act powerfully neither by Stool nor Urine. They may therefore, with Safety and Advantage, be uſed both in chronical and acute Diſtempers, either alone or mixed with Wine, ſo as to ſerve inſtead of Malt-liquors, which are very ſeldom proper in Diſtempers. They ſeem alſo capable of being ſtill farther applied, with Succeſs, in the Cure of hypochondriacal Diſeaſes.

42. The Wildung Waters have a great Affinity with thoſe of Tonnſtein, and are commonly uſed rather in the Way of Diet, than Medicine.

43. They afford manifeſt Signs of an alcaline Principle, as making a Conflict and ſmall Effervescence with Acids. They alſo appear plainly impregnated with a fine mineral Spirit, becauſe, if long expoſed to the Air, they loſe their peculiar mineral Taſte.

44. They afford no Tincture with Galls or Balauſtian Flowers, and turn but lightly green with Syrup of Violets.

45. Twenty-four Ounces of this Water, upon Exhalation, afford us four Grains of alcaline Salt, and eight of an extremely white Earth, ſoluble in Spirit of Vitriol.

46. From theſe Experiments it may appear, that the Wildung Waters are of a milder Nature than any hitherto examined, and therefore highly proper to be uſed, either alone or with Wine, inſtead of the ordinary Drinks. And altho' they are not well fitted for overcoming obſtinate chronical Diſorders, or cleanſing the firſt Paſſages, yet they may be employed to good Advantage, for tempering and diluting the ſharp Juices in gouty and ſcorbutic Caſes.

47. The Swalbach Waters being kept in Bottles but lightly ſtopped, they grow fœtid, and depoſit a yellow Sediment.

48. If freſh taken up, and mixed with Galls, they turn purple, and, drank at the Spring-head, tinge the Excrements ſomewhat blackiſh, which ſhews them inclining to an irony Nature.

49. They make an Effervescence with Acids, turn thick and milky with Oil of Tartar, and, if expoſed to the open Air, intirely loſe their grateful Taſte and laxative Virtue.

50. Twenty-four Ounces of this Water left, upon Exhalation, almoſt two Scruples of a ſaline Matter, a third Part whereof was a Kind of Oker.

51. Hence it appears, that the Swalbach Waters are of a middle Nature betwixt thoſe of Egra and Pyrmont, and may, by Reaſon of their fine mineral Spirit, and ſubtile irony Principle, not only promote the Excretions, by Stool or Urine, but at the ſame Time ſtrengthen thoſe Offices of the Parts, and conſequently are of great Uſe in hypochondriacal Caſes.

52. Though we ourſelves have had no Opportunity of examining the Waters of the Spaw, yet we cannot omit giving ſome Account thereof, from the more eminent Writers upon them, but eſpecially from Henricus ab Heer, who has wrote an elegant Treatiſe thereon, intitled *Spadacrene*, and partly alſo from the phyſical Eſſays of Vallerius.

53. If the Spaw Water be carried to any great Diſtance from the Spring, in well ſtopped Bottles, it lets fall, after ſome conſiderable Time, a ſmall Quantity of Matter like yellow Oker.

54. A ſingle Grain of powdered Galls will preſently tinge an Ounce of this Water of a deep Purple, but, if the Water be firſt heated, it changes not its Colour with Galls.

55. Theſe Waters do not curdle Milk, and, when mixed with Wine, throw up a hot Steam, almoſt like boiling Water, that ſmells very gratefully, and exhibits an agreeable Sight of ſparkling Bubbles to the Eye.

56. This Water ſeems to intoxicate, but that Effect is commonly over in a Quarter of an Hour.

57. The Spaw Water is ſpecifically lighter than common diſtilled Water, by one Grain in about an Ounce and a half.

58. Twelve Ounces of this Water yield, by Evaporation, a Grain and a half of a white Powder.

59. Suppoſing theſe Experiments juſt, it will appear from them, that the Spaw Waters are perhaps as light and ſubtile, as any of the cold Springs, their ſpecific Gravity falling ſhort of common diſtilled Water. And as they contain but a ſmall Proportion of Earth, or ſaline Matter, and a large one of the univerſal mineral Spirit, it is eaſy to conclude, they muſt have great medicinal Virtues, which are very fully expreſſed by Henricus ab Heer, who principally recommended the drinking of them in Diſeaſes of the Bladder and Kidnies, the Gonorrhœa, and venereal Ulcers of the Mouth and Tongue. But beſides theſe Virtues, which ſeem peculiar to the Spaw Waters, they have others in common with the cold medicinal Springs.

60. The Buch Waters make a ſtrong Effervescence with Oil of Vitriol, and turn Syrup of Violets of a deep Green, but give no Tincture with Galls.

61. Upon dropping a Solution of the Vitriol of Iron into them, ſome light curdly Matter gradually falls to the Bottom.

62. Twenty-four Ounces of this Water afford, by Evaporation, twenty-two Grains of ſaline alcaline Matter, which, being again diſſolved, gives ſixteen Grains of pure alcaline Salt, and ſix of Earth.

63. Upon dropping Oil of Vitriol upon this Salt, there aroſe a violent Ebullition, but no Vapour at all, like what common Salt would have afforded.

64. Theſe Waters, tho' drank in a large Quantity, do not purge, yet operate powerfully by Urine; but, if a proper Quantity of Spirit of Vitriol be added to them, it produces a Salt, that immediately gives them a different Taſte, and purgative Virtue.

65. They are impregnated with a copious mineral Spirit, which, flying off, leaves them in a Manner inſipid.

66. Hence it plainly appears that the Buch Waters excel, on account of their remarkable Purity, Lightneſs, and Subtilty; and by being impregnated with a ſaline Alcali, and a copious elementary Spirit. But becauſe of their Adjacency to the Egra Waters, and the hot Caroline Springs, they are almoſt neglected by the Inhabitants; and the Phyſicians, who practiſe there, ſeldom preſcribe them, except while the Courſe of Bathing is in Hand at the Caroline Springs. But 'tis ſomewhat ſtrange that the Buch Waters, which, in medicinal Virtue, do not fall ſhort of thoſe of Seltz and Tonnſtein, ſhould not be exported to other Countries; eſpecially as they keep excellently, when the Bottles are well ſtopped down. *Hoffman.*

We have hitherto examined ſuch medicinal Springs as come under the general Name of *Acidulæ*, which, in reality, owe their operative Matter in Part to an alcaline Principle. We next proceed to examine ſuch as fall not under this Denomination, but are of their own peculiar Nature, and abound with very different Principles. And among theſe we ſhall give the firſt Place to ſuch as receive their Virtue from an irony Subſtance, whence they have been antiently called STEEL WATERS.

Among Steel Waters, we reckon the Waters of Radeberg, Lauchſtad, Bebran, Freyenwald, and Weiſſenburg; all which, if carefully examined, are found to contain no other viſible effective Matter, beſides a very fine Crocus of Iron, commodiouſly received and harboured in an exceeding light and elementary Water. For they do not manifeſt, nor ſo readily loſe their copious, fine, ſpiritous Part, as the others above-mentioned; nor participate of an alcaline Principle; as neither making an Effervescence with Acids, nor turning Syrup of Violets green. They alſo differ from moſt other medicinal Waters in this, that they turn of a black Purple with Galls; and when long expoſed to the open Air, or boiled, they let fall a yellow Sediment: Nay, the Matter they throw up manifeſtly exhibits to the Eye their peculiar Nature, and the irony Principle they abound with: For not only the Confines of the Spring are ſometimes coated over with a yellow Oker, but the Inſides of the Pipes are lined with the ſame Kind of Cruſt; and a like Subſtance they depoſit after ſtanding ſome Weeks. This okery Matter proves, upon Examination, to be no other than Iron reduced to a ſubtile Flower, or a natural Crocus Martis, like the artificial; as appears from hence, that it may not only by Calcination be converted into a true Crocus, but alſo, if mixed with an equal Quantity of Sal Ammoniac, and put into an ignited Crucible, there ariſe from it bright and fragrant Flowers, which, being collected and thrown into Spirit of Wine, afford an excellent Tincture of Iron.

To examine the medicinal Virtue of theſe Steel Waters, we ſhall find them endued both with an operative and ſtrengthening Property, ſo as to be advantageouſly uſed, as well internally as externally. Thus, when drank, they looſen the Belly, but ſtrengthen the Body and Stomach, provoke the Appetite, and may therefore be very ſafely and ſerviceably uſed in ſuch Diſtempers, as give Way to any Preparations of Iron. Their external Uſe, in the Way of Bath, is very conſiderable, for ſtrengthening and cheriſhing benumbed and motionleſs Limbs, curing Pains, Contractions, or Relaxations, and for drying and healing up old Ulcers. And tho' uſed for this Purpoſe in the Way of Bath, made but gently warm, yet they heat the Body, open the Pores of the Skin, and provoke Sweat; eſpecially if the Patient goes directly from the Bath to Bed.

Theſe Steel Waters are very common in England; there is ſcarce a County that is not furniſhed with ſeveral. Where there are Coal-mines, almoſt every Spring is impregnated with Steel, and the Waters diſcharged by the Soughs made for draining theſe Mines, depoſit this Sort of Oker mentioned by Hoffman.

Our Anceſtors attributed the medicinal Virtues of theſe Waters, to the miraculous Influence of ſome Saints, in Imitation of the Heathens, who dedicated particular Springs to the Gods. This is what Pliny means, in the Paſſage quoted above, when he ſays, the Gods are obliged to Waters for the Increaſe of their Number. In like Manner we may ſay, that the Saints are obliged to our Waters, for a Part of their Reputation.

This however proves both the Antiquity of the Mineral Waters, and the Reality of their Virtues.

There are other medicinal Springs, which can neither be reckoned among the Acidulæ, Thermæ, nor Steel Waters; but are of their own peculiar Nature, and contain a pure, neutral, bitter, purging Salt. Theſe kind of Springs are very rare in Germany, (and none of them known to this Day, beſides thoſe which I ſome Years ſince diſcovered at Sedlitz in Bohemia; and after having carefully examined their Principles, taught their Uſe, and introduced them with good Succeſs) but very common in England; for thoſe of Epſom, Dulwich, Northal, &c. and many others, appear of this kind. Theſe will be taken notice of as their Names occur.

Before I came to examine this noble Water, it had never been of any domeſtic Uſe; only there ran a rumour among the Inhabitants that half a Pint of it would purge. There was this remarkable obſerved of it, that though in the Winter, and in rainy Weather the Spring flowed much freer than in the Heat of Summer, yet it always retained the ſame Taſte, and, as I afterwards found, the ſame Virtues and Quantity of Salt. For an Inſtruction to others, who may happen to be leſs verſed in the Examination of unexperienced Springs, I ſhall here deliver my whole Procedure on this Occaſion.

1. I firſt poured a Quantity of the Water into a clean, cryſtal Glaſs, where it appeared perfectly limpid and tranſparent; but to the Taſte proved remarkably bitter and ſaline.

2. I then let fall into it a few Drops of the ſtronger Acids, ſuch as the Spirit of Vitriol, Spirit of Nitre, &c. but perceived no Signs of any Ebullition; and as it turned not green with Syrup of Violets, I was hence well aſſured it abounded with no alkaline Principle.

3. It did not turn purple upon mixing with Galls, which ſhewed it contained no irony Subſtance.

4. Upon mixing with Oil of Tartar it grew ſomewhat thick, as generally happens when any chalky Earth is harboured in Water.

5. Upon a ſlow Evaporation of twelve Ounces thereof, I obtained two Drams of a bitter neutral Salt, like that in England called Epſom Salt.

Upon the Strength of theſe Experiments I recommended the Waters to the Phyſicians near the Place, to be uſed inſtead of the rough and coarſe Purgatives of the Shops, and intreated them to go upon a fuller Diſcovery of its Virtues; but ſcarce any one of them thought me worth their Attention, till a very favourable Opportunity happened to eſtabliſh the Reputation of theſe Wells. For in the Spring of the Year 1721, when the Empreſs came to the Caroline Waters, ſhe made uſe of thoſe of Sedlitz, in the Preſence and by the Advice of her chief Phyſician, whom I had acquainted with my Diſcovery, and before whom I afterwards repeated my Experiments. Upon which, we with Caution gave of the Waters to Perſons labouring under Intermitting Fevers to great Advantage. This excellent Phyſician afterwards returning to Prague along with the Empreſs, recommended theſe Waters to the Nobility of Bohemia; upon which an immenſe Quantity of them was ſent both to Prague and Vienna, where they were fully approved for purging advantageouſly, and ſtrengthening the Stomach. And in the Autumn following, the Nobility and Gentry of Bohemia, who yearly flock to the Hot Wells at Toplitz, drank theſe purging Waters with great Succeſs. And now the Fame of them reached to Dreſden, Berlin, and others of the moſt conſiderable Cities, where at preſent they uſe the Sedlitz Waters as common as thoſe of Egra.

But as the principal Virtue of theſe Waters reſides in their Salt, and as the Carriage of them to diſtant Places is troubleſome and expenſive, I perſuaded a Chymiſt of Toplitz gently to evaporate the Water, ſo as to obtain its pure Salt for public Sale; and the Event proved anſwerable to our Expectation; for he now yearly diſpoſes of very large Quantities thereof, and ſends it to diſtant Countries.

The Character of theſe Waters being thus eſtabliſhed, I went upon examining more narrowly into the Nature of the Soil adjacent to the Spring; and the Search was attended with this Advantage, that we diſcovered another Spring near Seydſchutz, not far diſtant from the Sedlitz, though it lies ſomewhat higher, flows in plenty, and has a bitter and more ſaline Taſte. And it ſeems, upon the whole, unqueſtionable, that this Spring runs down to, and ſupplies the Water at Sedlitz. The Principles however of this Spring, and the Nature of its Salt, differ not from thoſe of the other; for upon Examination they both exhibit the ſame Phænomena, though the lateſt diſcovered affords the largeſt Quantity of Salt, twelve Ounces thereof yielding two Drams and ten Grains, and ſix of a chalky Earth. The Reaſon ſeems owing to this, that the Spring which lies higher is leſs expoſed to the Reception of the Rain-water than that of Sedlitz, which lying lower, may be eaſily weakened by the Rain, or the Admixture of other Waters.

As this Salt has a great Relation to that called Epſom Salt, we will here deliver the Experiments we made on both, the better to manifeſt the peculiar Nature of each. The learned Dr. Grew was the firſt who from the Waters of Epſom prepared ſuch a kind of bitter, purging Salt, and wrote an elegant Treatiſe on the Subject: But as twelve Ounces of the Epſom Water will not afford above half a Dram of Salt, 'tis certain that the Salt which commonly goes by the Name of Epſom Salt, and is ſent into foreign Parts in large Caſks, and ſold for leſs than Sixpence the Pound, cannot be prepared from thoſe Waters, but is rather an artificial Thing. And in Fact, 'tis not only prepared in England from the Bittern, or bitter Liquor that remains after the making of common Salt, but alſo at Leipſick, and other Parts of Germany, in very large Quantities. And it appears plainly, that a certain aluminous Acid, mixed along with the alkaline Earth of common Salt, is contained in the Bittern which affords it. But it is remarkable, that all Salt-ſprings do not yield this neutral purgative Salt, perhaps only becauſe the Salt-waters do not run upon Beds of Alum-ſtone.

1. The Sedlitz Salt is of an opake, ſnow-white, or milky Colour; but the Epſom Salt more tranſparent and watery; whence its greater ſpecific Gravity, and Diſpoſition to relent in the Air.

2. The Sedlitz Salt, whether in a ſolid Form, or diſſolved in Water, taſtes much bitterer and more nauſeous than the Epſom.

3. Both of them, when thrown into an ignited Crucible, melt and loſe one half of their Weight in a watery Vapour; but the Sedlitz Salt flows clear and thin like Water, whilſt that of Epſom is more viſcous and tenacious.

4. Neither of them in the leaſt diſſolves with the higheſt rectified Spirit of Wine.

5. Both of them melt along with Pot-aſh and powdered Charcoal, into a Maſs like the Hepar Sulphuris; but the Maſs made by the Epſom Salt turns with Water of a much deeper green Colour than the other; and when the Solution is precipitated with an Acid, affords a much larger Quantity of Lac Sulphuris.

6. Both of them, when mixed with Vitriol, calcined to Redneſs, and put into an ignited Crucible, ſend out a Vapour like that of Spirit of Salt, and this Vapour is ſoon followed by that of the volatile Spirit of Vitriol.

7. With Syrup of Violets the Sedlitz Salt turns green, but the Epſom blue.

8. A Solution of either coagulates with Oil of Tartar; ſo that ſcarce any thing falls out when the Glaſs is inverted; but the Sedlitz Salt coagulates ſtrongeſt.

9. In like manner a clear Solution of either becomes very turbid upon the Addition of Spirit of Sal Ammoniac, and affords a large Quantity of curdly Matter.

10. An Ounce of Water will diſſolve an Ounce and two Scruples of Sedlitz Salt, but only an Ounce of the Epſom.

11. A rich Solution of the Sedlitz Salt appears of a yellow Colour; whilſt that of the Epſom Salt remains limpid, without diſcolouring the Water.

12. The Cryſtals they both afford by Solution and Evaporation ſcarce differ at all, except that thoſe of the Epſom Salt are larger and more beautiful, in ſome ſort reſembling Nitre.

13. The Epſom Salt, being kept for ſome Days upon a Sand-heat, loſes its Tranſparency, and becomes in Appearance like that of Sedlitz; from all which it is manifeſt, that theſe two Salts have a great Affinity, as well in their Principles as their Nature and Virtue.

The Experience of ſuch as have drank theſe Sedlitz Waters confirms them ſerviceable for waſhing off all crude, viſcid, acid, bilious, and corrupted Humours, lodged in the Stomach and Inteſtines; and this in ſo ſafe, eaſy, and agreeable a Manner by Stool, that nothing ſeems better diſpoſed, or more effectual for the Purpoſe. Other medicinal Waters, though they may move the Belly, yet require to be drank in large Quantities before they will operate, and therefore eaſily pall the Stomach; whereas theſe operate quick, and in a ſmall Doſe; ſo that three or four Tea-cups full generally prove ſufficient, and the ſtrongeſt Conſtitutions ſcarce require more than a Pint. There is alſo this Property attending theſe Waters, that they require not to be uſed for any long Time, but only for eight or ten Days at moſt, and that too intermediately. And as they exceed other purging Waters in the Quickneſs and Efficacy of their Operation, ſo their Wholeſomneſs and purgative Virtue recommend them before all other purging Medicines in Uſe; ſcarce one whereof but operates more or leſs than was intended, weakens the Patient, gives him a Sickneſs at the Stomach, and leſſens his Appetite; whereas the Sedlitz Waters, though they purge briſkly, have none of theſe ill Effects, nor occaſion Dryneſs of the Mouth; but rather, by their Bitterneſs, relieve the Stomach, and provoke the Appetite. We can therefore aſſuredly affirm, that there is not in any Diſpenſatory, nor in all the Catalogue of Drugs, a Purgative that operates with ſuch Safety, Efficacy, Agreeableneſs, Quickneſs and Certainty, as theſe Waters. And in caſe of hypochondriacal Diſorders, I never found any thing ſo ſerviceable as this Water. And I have known ſeveral, who remaining highly coſtive for many Years together, recovered, by the Uſe of this Water, the natural Habit of other Men in that particular. Theſe Waters are alſo found eminently ſerviceable in ill Habits of the Body, Obſtructions of the menſtrual Diſcharges, at the time when they firſt begin to ſtop, or towards the Decline of Life, in ſcorbutick Caſes, in Diſpoſitions to the Piles, againſt Worms in the Body; and in ſhort, for curing and preventing many other Diſtempers, if drank with the neceſſary Rules and Cautions.

As theſe extraordinary Virtues of the Waters ſeem principally owing to their Salt, it is proper to enquire whether the Salt could not be obtained from them, ſo as to produce the ſame good Effects. It is certain that a Salt may be thus procured, which being diſſolved in Water ſhall make that Water have ſome Reſemblance with thoſe of the Mineral Spring; but whether any Art can make the Imitation perfect, and in all reſpects equally ſerviceable with the natural Water, may be queſtioned. For it is evident upon Experience, that there is a great Difference betwixt ſuch Mineral Waters as are taken up at the Spring-head, and ſuch as are artificially prepared by diſſolving the Contents of the ſmall Waters, gained by Evaporation, in the pureſt Spring Water; for the artificial do not paſs ſo readily through the Body, nor ſo effectually raiſe a languid Appetite, increaſe the Strength, nor purge ſo well as the natural. And this evidently appears in the preſent Waters; which being drank at the Spring-head, or elſewhere, out of Veſſels well ſtopt, have not only a bitterer Taſte than if the ſame Quantity of Salt they afford were diſſolved in a leſs Proportion of freſh Water; but alſo ſix Drams of the Salt will ſcarce purge ſo often as a Pint and a half of the Waters themſelves; which contain but three Drams of Salt. Whence theſe natural Mineral Waters, beſides the fixed ſaline Particles, intimately mixed therewith, are likewiſe impregnated with a ſubtile, though inſiped, aerial Principle, that by its Fineneſs and Elaſticity, forces its way through the ſlender Cavities of the Canal, and as it were, opens the Paſſages for the Water to follow it; in ſuch a manner, as greatly to increaſe its Operation: And this is not only to be underſtood of purging Waters, but of all other Mineral Springs. For a free Acceſs of the Air, and the Heat of the Fire, ſtrangely alter, impair, and deſtroy the Connexion, Arrangement, and Mixture of the Parts, which give medicinal Waters their Virtue and ſpecific Efficacy.

If therefore the Attempts of this kind ſhould fail, we might have an Eye to the Production of ſome other Salt, wherewith to impregnate common Water, in imitation of the purging Waters. Thus Glauber's artificial Salt has ſome Reſemblance with the Epſom Salt; and proves, if the Point of Saturation be exactly hit, a Salt of a neutral Nature, of a bitter Taſte, and a purgative Virtue. But its Taſte is much more pungent than either the Epſom or Sedlitz Salt, though it contains a larger Quantity of Water, inſomuch that if laid upon a warm Sand-furnace, it melts and runs like a Water, and loſes one third of its Weight. Again, if diſſolved in an equal Quantity of Water, and expoſed to the Air, it coagulates into a ſolid Maſs. On the other hand, if Oil of Tartar be added to the Solution, it does not coagulate as the Sedlitz and Epſom Salts do. However, there are ſeveral other neutral Salts procurable, by means of Oil of Vitriol, not only of a bitter Taſte, but alſo, when given largely, purgative; of which kind is the *Arcanum Duplicatum*, or *Tartarum Vitriolatum*. But then, again, the Bitterneſs, and purgative Virtue are much greater in the natural Salts, and their Parts more ſubtile, as plainly appears from hence; that theſe natural Salts readily diſſolve in about an equal Quantity of Water; whilſt the artificial require four times their own Quantity to diſſolve them.

The *Tartarum Vitriolatum* here meant is not in any reſpect like that commonly ſold in the Shops, though made of the ſame Ingredients. This is ſomewhat bitter, exactly neutral, and perhaps as good a Medicine in all Sorts of inflammatory Concretions as can be procured by Art. That of the Shops is very acid, and capable of doing a great deal of Miſchief, and not of the leaſt Efficacy that I could ever diſcover. See TARTARUS VITRIOLATUS.

Beſides the above mentioned purgative Waters, that abound with a bitter neutral Salt compoſed of a chalky and an acid Principle, there are many others, as that of Ratzeburg, *&c.* which afford not only a calcarious Salt but a conſiderable Quantity of common Salt. And theſe kind of Waters are of conſiderable Uſe for cleanſing the Stomach and Inteſtines of tough, viſcid Humours, reſtoring the Appetite, promoting Digeſtion, and remedying ſuch Crudities and Flatulencies, as produce ſpaſmodic Diſorders in the remote Parts of the Body. But it is not proper to drink them in any large Quantity, or for any Length of Time; whence they are leſs ſuited to thoſe Diſeaſes which ſeat themſelves deep in the Viſcera, and proceed from Obſtructions therein; becauſe a long Uſe of Waters is required to remove thoſe Obſtructions from the fine Canals whereof the Viſcera conſiſt. They may however be fitted to this Purpoſe by mixing and diluting them with other Waters.

There are other Springs, which upon the ſtricteſt Examination ſcarce manifeſt the leaſt Signs of a neutral or alkaline Salt, or of a mineral or irony Earth; and yet are highly valuable on account of their extreme Lightneſs and Subtilty: And of this kind there are ſeveral hot as well as cold Springs. A hot Spring of principal Note of this kind is that of Toplitz; where the Waters are extremely hot, and nearly reſemble the Piperine Springs in Rhetia, which continue to run from the Month of May, when the Sun begins to diſſolve the Snow upon the Tops of the Mountains, to the end of September. And although theſe hot Waters of Toplitz hold not the leaſt ſaline or earthy Matter, ſo that when mixed either with acid or alkaline Liquors, they preſerve their natural Clearneſs, and after a total Evaporation leave no ſolid ſubſtance at the Bottom; yet they have conſiderable Virtues upon account of their Purity and Lightneſs: in both which reſpects they exceed even fine Rain-water: And hence they become highly ſerviceable in the way of Bathing, for the Cure of external Diſorders; as in Contractions, Dryneſs, Rigidity, Stiffneſs, and Want of Motion in the Limbs; by relaxing and ſtrengthening the Fibres, and giving a due Circulation to the Blood and Spirits. They alſo prove beneficial in this way, where the internal, tendinous, and nervous Parts are affected; as in hypochondriac Diſorders, the Colic, the Aſthma, Contractions and Diſtentions of the Limbs; eſpecially if the Bath be not too hot, but lukewarm. Whence it is my conſtant Advice to have theſe Waters fetched home, and a Bathing-tub filled with them; becauſe Perſons cannot well bear the exceſſive Heat of the Bath; and therefore the Spring without the Town, commonly called the Sulphur Bath, is of much more frequent Uſe, and found wholeſomer, though, excepting its temperate Heat, it is exactly of the ſame Nature as that within the Town. And as all Phyſicians agree that the lighteſt and pureſt Waters are the wholeſomeſt, and as the Piperine Springs afford an eminent Inſtance hereof, no doubt but the Toplitz Waters, though drank cool, may prove ſerviceable in many Diſtempers; notwithſtanding the Cuſtom of drinking them is not introduced, any farther than the mixing of them with Wine.

This Subtilty, Purity and Levity, is alſo the true Reaſon of the Virtue and Efficacy of ſome other Springs in the Cure of Diſtempers; and particularly the Schlangenbad Springs of Heſſe, which contain no ſaline, earthy, irony, or other mineral Principle, that can by any Art be extracted from them; and are no other than an extremely ſimple, pure and light Water, which nevertheleſs, both by drinking and bathing, has very remarkable Virtues and Effects. The ſame Reaſons recommend the Schleuſing Spring, called in the German Language, Withems-brunn; for theſe Waters have all the Marks of Purity and Excellence, and if put into the exhauſted Receiver throw up abundance of Bubbles, do not grow thick, or precipitate any thing upon the Addition of Oil of Tartar, a Solution of Silver, or Sugar of Lead; but leaving all their Impurities in their Paſſage through the Sand and ſtony Beds, receive no change from the common Experiments of Galls, Acids, Alkalies, *&c.* and when evaporated, leave no earthy Subſtance behind them. Hence the purer and lighter ſuch Waters are, the more they ſhould be eſteemed; as their Wholeſomneſs, and Power of curing many chronical Diſorders depends thereon: For thus they are fitted for readily entering the fineſt Veſſels of the Body, and for diſſolving and carrying off viſcous Humours.

From the ſeveral preceding Examinations we conceive it plainly appears, that Mankind are liberally ſupplied with medicinal Springs, of different Natures, admirably ſuited to the Cure of different Diſtempers. Thus, for Example, if the firſt Paſſages of the Body require to be cleanſed of their groſſer Excrements, there are numerous Springs that anſwer this Intention, beyond all Compariſon better than the Medicines of the Shops: In particular, among the hot Springs are the Caroline, and thoſe of Aix la Chapelle; and among the cold ones, thoſe of Egra, Sedlitz and Ratzeburg. If ſerous Humours are to be carried off by Urine, the Seltz and Embſene Waters anſwer this Intention. If weak Viſcera want to be repaired and ſtrengthened, the Pyrmont Waters do it effectually. If groſs and viſcid Humours are to be diſcharged, and the obſtructed Viſcera to be relieved; if weak Fibres require to be ſtrengthened, and the Kidneys and Bladder to be freed from their ſtony Matter, the Antonian, Wildung and Spaw Waters are ſovereign for theſe Purpoſes. If ſaline, ſharp, and tartareous Juices, which cauſe the Gout and Rheumatiſm, require to be diluted and corrected, and the nervous Parts of the Body to be innocently relaxed and ſet to rights, the pure Waters of Schlangenbad, Seltz, *&c.* aſſiſt in the moſt effectual manner, eſpecially if mixed with Milk. Laſtly, if corroſive, bilious Humours are to be rendered mild and temperate, and the weakened Tone of the Stomach and Inteſtines to be reſtored, the Steel Waters, in theſe Caſes, are of eminent Service.

The external Uſe of Mineral Springs is no leſs ſuitable to the various Diſorders of the Body and its Parts: Thus, for Inſtance, when the Fibres of the external Parts are too dry, hard and criſpy, bathing in the Toplitz, Embſene, Piperine or Schlangenbad Springs, relaxes, ſoftens, and renders them pliable, better than any other Means hitherto known. Again, if the external Parts are too weak, ſlack and moiſt, the Steel Waters powerfully brace them up, dry, ſtrengthen and confirm them. To conclude, when Swellings are to be diſcuſſed, viſcous and ſluggiſh Humours to be diſperſed or dried up, Blemiſhes and Foulneſs of the Skin, whether in the Form of Scab, Tetter or

Ulcer, to be removed ; the Caroline and Aix la Chapelle Baths are excellent.

Through the whole Courſe of our Enquiries into the Principles, Natures, and Uſes of medicinal Springs, we have purpoſely avoided a large Apparatus of chymical and philoſophical Experiments, and contented ourſelves only with a few that are eaſy, ſimple and concluſive ; thus avoiding an Oſtentation, which many have run into, and multiplied Experiments to no Purpoſe ; for it is Labour loſt to examine theſe Waters by mixing them with common Salt, Nitre, Vitriol, Alum, Copper, Brimſtone, Orpiment, and numerous other mineral Bodies, ſince no ſuch Experiments can manifeſt to the Senſes any other Principles than what we have in our ſimple Method diſcovered, as will be evident to ſuch as are well verſed in natural and experimental Enquires.

For the ſameReaſon we have purpoſely omitted the hydroſtatical Trials of ſuch as, by the Means of Water-poiſes, or Hygrometers, examine the ſpecific Gravities of Liquors ; for though it might at firſt ſeem probable, that the Weight of Mineral Waters is thus diſcoverable, as it is in Wine, Malt Liquors, Urine, common Water, and Lixiviums ; yet whoever attentively conſiders it, will find this kind of Experiment very fallacious in Mineral Waters: For it appears by repeated Obſervation, that the Hygrometer plunged into theſe Mineral Waters, when taken firſt from the Spring-head, floats high, and ſhews their Gravity much greater than it is ; and that when the Day following it comes to be plunged into the ſame Parcel of Water, it ſinks lower, and makes the Water ſeem lighter. And as no one that we know of had before taken notice of this Phænomenon, we examined into the Cauſe thereof, and found it owing to the Preſence or Abſence of the ſubtile, expanſive, aerial Principle, that plentifully abounds in theſe Waters, when freſh taken from the Spring, and buoys up the Inſtruments, as if it were ſo much Air ſtriving to get out, and riſing in Bubbles ; but after this Spirit is exhaled, the Inſtrument no longer meets with the ſame Reſiſtance which kept it from its due Station, and therefore ſinks down deeper. Whence it appears, that the elaſtic Power of Bodies may paſs for Gravity, or that the Power of Elaſticity and Gravity are equal.

Neither does the hydroſtatical Balance determine the preciſe Gravity of Mineral Waters, or the exact Quantity of their Contents, if we wait till this ſubtile elaſtic Principle is exhaled ; for then the Waters commonly become turbid, and the okery Parts fall to the Bottom, whence their true Gravity cannot be aſſigned ; much leſs can the Hygrometer examine the Gravity of Hot-well Waters, becauſe all Waters rarefy, and become lighter with Heat ; inſomuch that if the Inſtrument be plunged into the Waters while hot, they ſeem to be extremely heavy, by making the Inſtrument float higher ; but much lighter when cold, by ſuffering it to ſink lower. *Hoffman.*

The OBJECTIONS to MINERAL WATERS conſidered, and RULES laid down for rendering ſuch WATERS ſafe and effectual in the CURE of DISEASES. From *Hoffman.*

I. Though the Virtues of medicinal Waters are great, and their Uſe extenſive, yet they have this in common with all other Medicines, that their good Effects depend upon a proper Adminiſtration. To adminiſter them properly, requires a Knowledge of the Circumſtances both of the Patient and Diſtemper, ſo as judiciouſly to ſuit them in every Caſe. And after underſtanding the Diſtemper, its Cauſes, and the State of the Patient, there is nothing more neceſſary than a thorough Acquaintance with the Faculties and Virtues of medicinal Waters, and the Manner wherein they operate. The Sum of this Knowledge not only directs to the Choice of ſuch Waters as are beſt appropriated to the Diſtemper ; but likewiſe ſo diſpoſes and regulates their Uſe, that the deſired Effect muſt neceſſarily follow. On the contrary, if theſe Particulars are diſregarded, no Wonder if they who raſhly adviſe the Uſe of Waters ſhould thereby injure their Patients, unleſs by Accident. And yet it is certain that theſe Waters are but as an Idol to many Phyſicians, or a Thing whereof they, without ſufficient Ground, believe and relate numerous idle Fables. Many, in this Particular, are guided by a childiſh Superſtition, and apprehend great Danger from the Uſe of ſuch Waters ; ſo that they preſcribe them only in deſperate Caſes, or as a laſt Remedy in reputed incurable Diſeaſes. But my Experience of them, in a Courſe of many Years Practice, beſides the particular Experiments I have uſed to examine them, have convinced me that theſe Apprehenſions are groundleſs ; that ſuch Waters are at the ſame time the moſt efficacious and moſt innocent of all the Medicines hitherto diſcovered ; and that they never fail of Succeſs, where the Phyſician knows how to apply them ſeaſonably and in the true Manner. I will therefore here deliver what I have obſerved upon the imprudent and unſkilful Uſe of theſe Waters ; the happy Effects I have obſerved upon the true way of employing them ; and the neceſſary Rules and Cautions for the Direction of others ; that none, if poſſible, may hereafter complain they have uſed this excellent Gift of Nature to their Prejudice, or in vain.

II. In order to ſtrike at the Root of the Errors, which ſtill prevail to the Diſcredit of Mineral Waters, we muſt here retouch the Ingredients whereof they conſiſt, and by Means whereof they act. There are ſome who ſuſpect moſt of the Ways of trying and examining the Nature of theſe Waters as uncertain or fallacious ; and it muſt be acknowledged, that there is no abſolutely perfect Method of determining their preciſe Contents, by reaſon of the numberleſs Bodies they waſh in the Bowels of the Earth ; but on the other Hand, no one, that underſtands the true philoſophical and chymical Way of enquiring into Waters, will deny, that though we cannot preciſely determine every Ingredient they may poſſibly contain, yet we may certainly diſcover and demonſtrate the principal ones, and thoſe whereon their Operations and Effects depend. But let it be here obſerved, that whoever thinks to gain any real Knowledge in this Subject by conſulting the Writings of the Ancients, will find himſelf greatly diſappointed, and receive nothing for his Labour but an abſurd Collection of imaginary Principles ; and yet it is ſurpriſing, that even in the preſent Age, when ſuch a great Light of Natural Philoſophy is ſet up, there ſhould be ſome, who, through a Veneration of Antiquity, a Love of Contradiction, or I know not what other Reaſon, obſtinately cleave to the Opinions of the Ancients.

III. It is a prevailing Notion at preſent, among moſt of the Writers upon Mineral Waters, that they contain a Vitriol like to the common Vitriol of Iron, which is the Opinion of the better, or more experimental kind of Writers ; and in order to countenance this Opinion, they laboriouſly endeavour to prove, that Mineral Waters exhibit the ſame Phænomena as a Solution of that Vitriol in common Water. The Experiments they produce on this Occaſion are theſe.

1. That Mineral Waters, and common Water impregnated with Vitriol, have nearly the ſame Taſte.

2. That both of them turn purple, upon a ſmall Addition of Galls.

3. That both of them turn to a kind of Ink, with a larger Addition of Galls.

4. That neither of them will curdle Milk.

5. That both of them grow thick with Oil of Tartar, and let fall a Sediment.

6. That the Earth they both afford upon Evaporation, as alſo the okery Sediment they ſpontaneouſly let fall, make a conſiderable Ebullition with Spirit of Nitre, and ſend out a Smoke in the ſame Manner as the Vitriol of Iron would do in the like Caſe.

7. And laſtly, that the Salt, properly extracted from the inſipid Earth, has a pale Colour, an irregular Figure, and produces the ſame Effects as Vitriol of Iron. And by theſe Arguments there are ſome who think they ſufficiently prove the Exiſtence of an actual Vitriol in Mineral Waters.

IV. But this Opinion reſts upon weak Pretenſions, which need not all of them be ſeparately conſidered, becauſe they make nothing to the Proof of the Aſſertion ; we ſhall therefore only conſider the capital thing among them, which being overturned, the reſt will fall of Courſe. No one who uſes his Senſes can poſſibly doubt but there is ſomewhat of a vitriolic Nature found in Mineral Waters ; for not only the Taſte, but the Sight confirms it, by their turning inky with Galls, *&c.* But the ſingle Queſtion is, whether this vitriolic Matter be the ſame with the groſs corporeal Vitriol in common Uſe ? Which has hitherto been proved by no Arguments nor Experiments. For the vitriolic Matter in medicinal Waters is volatile, but the common Vitriol fixt ; ſo that their Nature and Operations are intirely different. Thus it is evident by numerous Trials, that the Addition of Galls to the Waters of hot mineral Springs cauſes but a very ſmall Change of Colour, unleſs the Water be freſh taken from the Spring-head ; and when it has ſtood any time expoſed to the open Air, it no longer changes Colour at all. It is true, that in the briſk Waters of cold Springs this Tincture appears blacker ; but here alſo the natural irony Taſte immediately vaniſhes upon their being expoſed to a gentle Heat, or the open Air, and then they ſtrike a duſky Colour with Galls no longer. So that the ſtrongeſt Steel Waters, even thoſe of Pyrmont, when heated, or ſuffered to ſtand in the Air for twenty-four Hours, afford no Signs of a vitriolic Nature. Nor has any one of thoſe who argue ſo earneſtly for a ſolid Vitriol in Steel Waters been able, by their utmoſt Endeavours, from a hundred Pints of theſe Waters, to extract and exhibit to the Eye a ſingle Grain of Vitriol. For though Helmont, in his fourth Paradox, declares, that by the Means of Diſtillation he obtained a Vitriol from the Spaw Waters ; yet this plainly appears to be one of his Pretences, as no other Perſon, by the ſame Operation, though ever ſo exactly performed, could obtain an actual Vitriol from them. The Concluſion upon the whole is, that theſe kind of Waters really contain ſomewhat of an irony Nature, which, being joined with a ſulphurous Spirit, reſembles common Vitriol only in the Taſte and the Colour it gives, without any farther approaching to the Nature thereof ; and conſequently that they err who, upon hearing the Name of Vitriol mentioned about theſe Waters, judge of them and cry them down, as abounding with the groſs or common Vitriol of the Shops.

V. There is another Error deeply fixed in the Minds of Phyſicians, as if Mineral Waters, eſpecially thoſe of the cold briſk kind, contained an acid Salt, as their common Name Acidulæ ſeems to imply; and according to this Notion, their Virtues have been theoretically judged of, without Practice. This was the conſtant Opinion of the Writers upon this Subject, except Giurius, who, in the Year 1667, publiſhed a Treatiſe at Paris with this Title: *The Secret of the Acidulæ newly diſcovered, in which the common Opinion of the Acidity of Mineral Waters is overthrown.* But the Book itſelf no way anſwers to its Title; but is full of Vanity, and promiſes more than it performs. There have indeed been ſome who allowed of an alkaline Salt in Hot Well Waters; but no one before myſelf experimentally proved it true of the Acidulæ, or briſk and cold Springs. For though Henricus ab Heer, in his Account of the Spaw Water, expreſly declares, that not only thoſe, but moſt of the Acidulæ in Germany made an Ebullition, and yielded a warm Fume upon mixing with Wine, at the ſame time diffuſing a grateful Odour, and throwing up numerous Bubbles to a conſiderable Height; yet this Author never ſuſpected they abounded with an alkaline Principle, but declared himſelf for their containing an Acid. We have, in the preceding Pages, ſo fully proved the contrary of this Opinion, or the actual Exiſtence of an alkaline Principle in theſe briſk mineral Springs, that it is needleſs to dwell longer upon it here. And the ſame we have alſo done with regard to their fine mineral elaſtic Spirit, whereon their Virtues have a great Dependance.

VI. We next proceed to conſider the various Virtues of Mineral Waters, when uſed internally. And here we lay it down as certain, that their Virtues are greater and more numerous than thoſe of any other Remedy, however ſpecious or highly commended. A Knowledge of which Truth has given occaſion to a conſiderable Error; for hence many have preſently aſcribed the particular Virtues of theſe Waters to the Ingredients they contained, without allowing any thing conſiderable to the pure Water, or Vehicle, wherein the more medicinal Parts reſide. But when, upon full Examination, I found that neither the pure alkaline or neutral Salts, nor the fine elaſtic Spirit with which theſe Waters are impregnated, were able to produce ſuch Effects, or work ſuch Cures, ſeparate from the Waters that contained them, I diſcovered that the Efficacy of Mineral Waters, both in preventing and curing Diſeaſes, was in a great Meaſure owing to the Water itſelf; and that the other Principles ſerved only to quicken or ſtimulate its Operation. And this will appear more manifeſt from an exact Knowledge of the Laws of Circulation, Secretion, and Excretion in the human Body; for as all the Juices of the Body require to be in a continued Motion, and as they neceſſarily conſiſt of a large Proportion of an aqueous Fluid, it is agreeable to Reaſon and Experience that there is nothing in Nature which approaches nearer, or is more agreeable to them than Water; and accordingly there are ſeveral Inſtances of ſuch, as by a daily Uſe of Water for their common Drink have prolonged their Lives to a great Age, and relieved themſelves from ſtubborn Diſtempers. And no Wonder, ſince Water is a Fluid capable of preſerving all the Juices, and all the Offices of the Body, in their proper or natural State, preventing the more ſubtile, earthy, ſaline and ſulphurous Particles lodged in the Juices from introducing Putrefaction or Corruption, and capable of thinning and diſſolving all the viſcid, clammy, or tenacious Humours, that are apt to clog and obſtruct the finer Veſſels. In ſhort, Water is that Fluid which aſſiſts and promotes all the Excretions by Stool, by Urine, by Sweat, and other Out-lets, ſo as to diſcharge and waſh away all the Matters prejudicial to the Body.

VII. What adds a Confirmation to our Propoſition is, that there are numerous Springs which afford no ſenſible Mark of containing a truly ſaline, or mineral Principle, and yet have medicinal and curative Virtues, which cannot therefore be juſtly attributed to any thing ſo much as the Purity, Thinneſs, and Lightneſs of the Water itſelf; but then as pure Water can have no conſiderable Effect, unleſs drank in a large Quantity, ſince when taken in a ſmall one it often proves more pernicious than ſerviceable; and ſince to drink it in great Plenty might eaſily over-burden Nature, or prove too much for the Power of the Body to diſpenſe with, and thus produce Stagnations, Extravaſations, *&c.* To prevent theſe Inconveniencies, nothing can appear more proper than to quicken ſuch Water with ſome ſaline and active Matter; for ſuch a Matter will not only ſtimulate the moving Fibres of the Body, and accelerate their Motion, but alſo help to diſſolve any groſs or viſcid Humours adhering to the Sides of the Veſſels, and obſtructing the Circulation of the Juices. Hence it is manifeſt, that the additional Efficacy of Mineral Springs is conſiderably owing to ſuch ſaline, active and ſpiritous Principles as naturally enter their Compoſition; though we ſhould not attribute more to them than they deſerve, or may by Experiment be demonſtrated to perform.

VIII. From the ſame falſe Notion of the Effects of Mineral Waters has proceeded another conſiderable Error. For there are many, even among Phyſicians, who conceive that the Wholeſomneſs and Virtues of theſe Waters can be no way ſo well judged of, as by the large Quantity of Ingredients they afford upon Evaporation, without conſidering that Fire is no truſty Operator in this Caſe; for by Means hereof only the more fixed Principles of the Waters are made manifeſt, and not their ſubtile ones, whereon it is certain that a Part of their Virtue depends. Thus the terreſtrial, chalky Matter wherewith many Waters are loaded, rather hinders than promotes their deſired Effect, eſpecially when their Heat and ſpiritous Principle has left them. Whence the Waters of ſuch hot Springs coming to cool, and ſtand for ſome time in the Air, if they are afterwards drank, they occaſion many Diſorders, and paſs not ſo readily as when drank freſh from the Spring-head. And of this we have a remarkable Inſtance in the two Caroline Springs formerly mentioned.

IX. Since therefore Phyſicians themſelves have run into great Errors, with regard to the Principles and Powers of Mineral Waters, it is the leſs to be wondered that, from ſuch falſe and theoretical Notions, ſeveral abſurd and pernicious Opinions ſhould have ſpread concerning the Uſe of theſe Waters. Theſe Opinions we come now to examine, after having thus prepared the Way. There are many who paſs their Cenſure upon Mineral Waters from Hear-ſay, without having ever viſited the Wells themſelves, or been Eye-witneſſes of their Effects; hence, after the common Manner of Men, they fancied numberleſs noxious Ingredients in them, and boldly ventured to declare them a kind of violent dangerous Remedy, which they currently ſtigmatize with the Name of a Horſe Medicine, as a thing unfit to be uſed in any but robuſt Conſtitutions. But as great Authority as this Notion ſtalks about with, we ſhall make it plainly appear to be directly oppoſite both to Reaſon and Experience. And I would willingly know who can pretend that pure Water is a violent Medicine? For certainly there is nothing in Nature more ſafe or innocent. I would next aſk, what Medicine the whole Art of Phyſic affords more ſafe than Salts, eſpecially thoſe of the neutral or alkaline kind? What is more mild or gentle, and indeed more ſerviceable in weak Habits than a ſubtile, aſtringent, or irony Earth, mixed with a kindly Salt, and kept diſſolved in the lighteſt and pureſt Water? In the laſt Place, I demand what can poſſibly add greater Strength to the Body than a ſubtile, inſipid, ſpiritous Fluid? And yet theſe are the active Principles, which, being kindly mixed in medicinal Waters, give them all their Virtue. And hence they are ſo far from violent, that all their Operations are performed agreeably, and without Diſturbance, ſo as when they purge or vomit, to occaſion no Loſs of Strength, no Loſs of Appetite, no Sickneſs, even when they work in their powerfulleſt Manner; but rather raiſe the Appetite, ſtrengthen the Stomach, and recruit the Spirits. When they paſs by Urine, they occaſion no Strangury or Sharpneſs, but go off with a Degree of Pleaſure. When they operate by Sweat, they do it without occaſioning any Faintneſs, or other Diſorder. Nay, we have ſeen Perſons of both Sexes, of the tendereſt Conſtitutions, and labouring under Fevers, Bleedings, *&c.* Women newly delivered, and brought to the weakeſt State, undauntedly drink the hot Caroline Waters without the leaſt Diſadvantage; but on the contrary, theſe Waters excellently promoted all the Secretions, ſtrengthened the Faculties, and finiſhed a Cure. And ſo innocent are theſe Waters, that Children aud Women with Child may uſe them with Safety and Advantage; and Perſons of delicate and tender Conſtitutions find them to operate with more Eaſe than the robuſt, and need uſe them but in a moderate Doſe. It muſt however be allowed, that the drinking of theſe hot Caroline Waters, which are not of an agreeable Taſte, in ſo large a Quantity as that of ten or twelve Quarts a Day, or in the Compaſs of a few Hours, is nauſeous and diſagreeable, eſpecially to thoſe unaccuſtomed to it; but from hence to call this a Horſe Medicine, is arguing very unfairly and inconcluſively; for it is no true Logic that would prove the Violence of theſe Waters from the Largeneſs of their Doſe.

The drinking of Mineral Waters in ſuch immoderate Quantities ſeems the peculiar Cuſtom of Germany, and not adviſeable but upon extraordinary Occaſions. We find in England, that two Quarts of the Bath Water is eſteemed a large Proportion; and the general Stint is a Quart, or three Pints. A Flaſk of the Spaw or Pyrmont Waters, drank at ſeveral Draughts, is with us a conſiderable Doſe; and four or five half-pint Glaſſes of the New Tunbridge-wells at Iſlington, a Quantity generally ſufficient. Shaw's Notes upon Hoffman.

X. But though Mineral Waters, with regard to their Nature and Virtue, are an extremely ſafe and gentle Remedy; yet it frequently happens, by the ignorant Advice of Phyſicians, that they become a Horſe Medicine with a Witneſs; for it is the prepoſterous Cuſtom of ſome, either upon the Day the Patient begins his Courſe, or the Day before, to prepare his Body for the Waters, as they call it, by giving him ſome violent Purge. Surely whoever conſiders this abſurd Procedure, will find it prejudicial almoſt beyond Repair. For ſuch is the Nature of the ſtronger Purgatives of the Shops, as Coloquintida, Reſin of lap, Scammony, Elaterium, Gamboge, *&c.* that by the rulent and cauſtic Principle, whereon their Action depends, ey may intirely pervert or deſtroy the Tone and Strength of the omach and Inteſtines, and invert their natural periſtaltic Mo- on, by the immediate Contact they have with thoſe Parts. nd how unſeaſonable this may prove, is manifeſt from hence, at nothing is more requiſite towards ſecuring the deſired Effect the Waters, than an unimpaired and intire Motion and Tone theſe Parts; but the Uſe of ſuch virulent and rough Purges is uch more dangerous and fatal to thoſe who are entering upon a ourſe of Cold Waters, by which all the Miſchiefs brought pon them from ſuch Purges are rather increaſed than removed, rough the Coldneſs of the Water; whereas the hot Waters, their Heat, in ſome Degree help to moderate theſe Diſorders, ſolve the Contractions, and reſtore the inverted Motion. But e greateſt Miſchief which ariſes from this violent Purging, and nders its ill Effects obſervable to the Eye, is, that in a Day or o after the firſt drinking of the Waters they do not paſs ſo adily as they otherwiſe would through all the Strainers and Out- ts of the Body, by Reaſon of the Conſtricture which ſuch urges leave behind them in the inteſtinal Tube and Parts adja- nt, after the ſame Manner, as daily Experience ſhews, that e Body is bound up, or rendered more coſtive, for ſeveral ays after the Uſe of violent Purges.

XI. But as the Abuſe of a thing ſhould by no Means deſtroy s Uſe, we do not here condemn all Sorts of Purging, by way preparing the Body for a Courſe of Waters; but only thoſe the violent kind, which have a pernicious Quality. Particu- rly it is neceſſary, in ſome Caſes, before the Courſe, to take gentle lenitive Purge, when the Inteſtines are clogged with a oſs, viſcid Matter, which might otherwiſe hinder the free aſſage of the Waters, prevent their Effect, and bring on ſe- ral Inconveniencies. The ſame Caution is likewiſe to be uſed hen Bathing alone is the thing intended, to prevent freſh Diſ- ders, which, through ſuch an Omiſſion, frequently happen, hen Perſons unwarily bathe in the hot Caroline Springs. But r this Purpoſe Choice ſhould be made of ſuch mild Purgatives , without Diſturbance, may cleanſe the firſt Paſſages, *viz.* Solution of Manna with Cremor Tartar, or half an Ounce Epſom Salt, diſſolved in half a Pint of Water, or a proper uantity of any of the purging Waters, which may thus be taken to dvantage a Day or two before the Courſe is entered upon; but the Body has long been coſtive, and the Excrements hardened in e Inteſtines, it is better to uſe an emollient Clyſter or two, pre- red of Mallow-leaves, Marſh-mallow-roots, or the like, iled in Water-gruel or Milk, with the Addition of Oil and a tle Salt; but for ſuch whoſe Bodies are open, or have not the ſt Paſſages blocked by any large Collection of Humours, it is fficient to diſſolve in the firſt Glaſs of the Waters about three rams of the Epſom Salt, which wonderfully facilitates their aſſage. Laſtly, they who are ſufficiently laxative already re- uire no Preparative at all.

XII. That Error deſerves no leſs to be cenſured which leads hyſicians, when the Courſe is over, to uſe violent Cathartics purge off the Remains of the Waters, without a due Regard to eople's Conſtitutions, or the Regimen neceſſary in this Caſe. t is indeed certain, and confirmed by Obſervation, that when aters have been freely drank for a great Length of Time, hey are apt to collect and ſtagnate in various Parts of the Body, ut particularly in the Folds of the Inteſtines, and that ſuch agnant Waters ſhould not be ſuffered to remain there, but rather be diſcharged. This however is not to be done imprudent- y, or with Loſs of Strength to the Body, but by mild and entle Means; whence it is the Buſineſs of a Phyſician to make hoice of ſuch Medicines for the Purpoſe, as beſt agree with he particular Conſtitution, Temper and Strength of the Drinker; nd upon this Foundation not abſolutely to reject the Uſe of he ſtronger Purges, but to prefer ſuch as act by no virulent rinciple, yet have Strength and Briſkneſs ſufficient to perform he Work. And of this Kind are principally Manna, in a arge Doſe, quickened with any of the purging Salts, Extract f Rhubarb, or Extract of Aloes; all which being very eaſily iſſolved by the Fluids of the Inteſtines, act briſkly, without ticking to the Coats thereof, without vellicating them, or oc- aſioning violent Gripings, Inflammations, *&c.* as Reſin of alap, Scammony, and Gamboge, too often do, eſpecially when iven alone, or without their proper Correctives. But if any ne is ſtrongly attached to the Uſe of theſe violent Purgatives, s thinking them more efficacious, let them by all Means be iven in a ſmall Doſe, and along with a Dram or two of the pſom or other neutral Salt, to quicken their Operation, and carry hem off; for it is now a thing well known, how much theſe inds of Salts increaſe the Efficacy of the reſinous Cathartics, nſomuch that a ſingle Grain of Scammony, or Reſin of Jalap, hen mixed along with ten or fifteen Grains of a neutral purg- ng Salt, ſhall operate better than ſix Grains of ſuch a reſinous ubſtance taken alone; and this with greater Eaſe and Safety. ut where a Perſon has naturally a robuſt and ſtrong Stomach, r inteſtinal Tube, wherein there remains a large Quantity of the ſtagnant Waters; then, without Diſpute, a ſtronger Purgative is proper, and may be ſafely given, if the due Regimen be obſerved; that is, if the Body be well defended from all Cold, the Patient keeps in a warm Room, and, both a little before and after the Operation, drinks emollient Broths, Water-gruel, or the like, in order to defend the Stomach and Bowels from the corroſive Acrimony that might otherwiſe prove pernicious.

Riding on Horſeback, or other proper Motion and Exerciſe, ſeems a good Expedient to prevent this ill Effect, and might therefore perhaps be properly uſed, at leaſt after, if not during a Courſe of the Waters. But Dr. Slare is of Opinion that the Waters paſs beſt if the Perſons who drink them ſit ſtill, lie in Bed, or on the Couch. This appears juſt, with regard to their paſſing by Urine; but that not being the only Way wherein ſuch Waters act, and it being neceſſary in ſome Caſes that they ſhould alſo find their Way through the Strainers of the Skin, and all the excretory Ducts, gentle Motion and Exerciſe may be ſerviceable to that general Intention of the Waters, the making of them paſs indifferently through all the Canals of the Body. Shaw's Notes.

XIII. There is ſtill another Error committed by Phyſicians, with regard to Purgatives, in the Caſe of Mineral Waters; for moſt of them preſcribe but one Kind in all Caſes and Conſtitutions, as if Nature had framed all Bodies to be relieved by one and the ſame Medicine. Whereas it is certain, that to render Purgatives ſucceſsful, they muſt be ſuited to the particular Conſtitution, Age, Sex and Diſorder. Thus for ſuch as have the Tone or natural Tenſity of the Stomach and Inteſtines deſtroyed; ſuch as are ſubject to Diarrhœas, Women with Child, Women who have lately lain in. *&c.* the proper Purgative is Rhubarb. Where the Humours are ſharp and acrimonious, where the Body is ſubject to the Gout, Rheumatiſm, or hypochondriacal Diſorder, Manna and the neutral purgative Salts are beſt. Where the Bile overflows, in order to leſſen its Quantity, and take off its Heat, there is nothing better than Tamarinds; but to invert this Order, and give the contrary Medicines in the ſame Caſes, muſt needs produce different Effects.

XIV. There is a Queſtion often ſtarted, to the Perplexity both of the Phyſician and the Patient, *viz.* Whether it be always neceſſary, after a Courſe of the Waters, to take a Purgative before entering upon Bathing? To which we anſwer, That it is not always neceſſary; for if the Waters have paſſed off kindly, without leaving any Signs of Stagnation behind them, either in the Feet, or Habit of the Body, and eſpecially if the Cure be uſed only as preſervative, there is no Neceſſity for fatiguing the Stomach and whole Body with repeated Purging. And to ſpeak a plain Truth on this Occaſion, the Phyſicians have rather an Eye to their Fees, than the Health of their Patients, in adviſing it. *I hope the German Phyſicians only deſerve this Reproach; thoſe of our own Country that I have converſed with being generally Men of more Honour than to enter into ſuch mean Conſiderations ſo unbecoming Gentlemen and Chriſtians. However it is no Part of my Buſineſs to defend every Individual of the Profeſſion from an Imputation of unwarrantable Avarice.*

But the Caſe is quite otherwiſe when the Waters are not diſcharged in Proportion as they are drank, but actually remain behind in the Body; or when the Stomachs of hypochondriacal Perſons are loaded with a Collection of viſcid and acid Matter, from a Want of Digeſtion: In theſe Circumſtances Purging muſt be recommended, unleſs we mean to expoſe the Patient to greater Danger by the Uſe of the Bath. But here alſo the Purges ſhould be of the mild and gentle kind, ſuch as Epſom Salt, Manna, Pilulæ Ruffi, Extractum Rudii, or the like.

XV. Having thus ſettled the Matter of Purging, we proceed to the Conſideration of Bleeding, with regard to its Service or Diſſervice in the Caſe of Mineral Waters. There are ſtill remaining amongſt us many Phyſicians, who following Eraſiſtratus, Helmont, and others of that kind, pronounce from Authority, without Proof, that Bleeding is a Remedy of all others the moſt diſpoſed to let out the Treaſure of Life, and draw away the Receptacle of the Soul, and therefore at once baniſh it the Kingdom of Phyſic. We ſhall not here enter into an Examination of this Opinion; but ſhew that Bleeding is often proper in order to receive Benefit from drinking the Waters, and ſometimes ſo highly neceſſary, as not to be omitted without the greateſt Danger. We do not however indiſcriminately adviſe it to all Perſons, but only to ſuch as are too full of Blood and Juices; and particularly in the Caſe of Women, whoſe menſtrual Diſcharges are ſtopped, either through Pregnancy, or ſome Diſtemper; and to thoſe Men who are ſubject to an Hæmorrhoidal Flux, and find it ſtopped. Again, to ſuch whoſe Veſſels, through the whole Habit of the Body, are full and turgid. And laſtly, to thoſe accuſtomed to high Living, and a plentiful Uſe of Wine, or have a florid Complexion, and a full corpulent Habit.

XVI. That the natural Fluids may readily paſs through all the Canals of the Body, it is neceſſary that the Veſſels ſhould not be overfilled with Blood. Thus we plainly find by Experience, that in a full and florid Habit of Body the Pulſe beats ſlow; and the Excretions move languidly; but as ſoon as a Quantity of Blood is taken away, the Pulſe beats freer and ſtronger; and all the Secretions go on to better Advantage. If, therefore, whilſt the Body remains full of its own Blood and Juices, the Waters ſhould be drank in a large Quantity, they would not only move ſlower through the Veſſels, but alſo ſtagnate and corrupt; and by Reaſon of this large additional Quantity, they may drive the Blood forcibly upon the more noble Parts, and thus produce Inflammations, Hæmorrhages, Obſtructions in the Viſcera, and many other Miſchiefs, inſomuch that Perſons of this Habit of Body coming directly to drink the Waters, without taking away ſome Blood, run great Riſques of their Lives. On the other Hand, Perſons who bleed a Day or two before they enter upon this Courſe, have none of theſe Dangers to fear, but may drink the Waters with the deſired Succeſs; as is well known to thoſe who have prudently obſerved the Effects of Mineral Waters. For it is a common Obſervation at the Wells, that Perſons who found themſelves ill upon firſt drinking the Waters, on Account of their not paſſing off regularly, but oppreſſing and incommoding the Body, ſo far as to determine them to quit their Deſign, yet having, by the Advice of another Phyſician, loſt a little Blood, they have not only been ſoon relieved from their Diſorders, but entered upon their Courſe again to great Advantage.

XVII. There are ſeveral Phyſicians who ſcruple preſcribing the Uſe of cold Waters to ſuch as have weak Nerves, for fear of weakening them ſtill farther. It muſt indeed be acknowledged, and Experience manifeſts, that the moſt dangerous Symptoms are frequently produced in the Body from external Cold; and that this happens in a much greater Degree when the Cold reaches to the internal Parts, which are unaccuſtomed to bear it. Thus we have Inſtances where the whole Body being ſuddenly cooled, has occaſioned Loſs of Sight, and a Trembling of all the Limbs; where the Adminiſtration of a cold Clyſter has cauſed immediate Death; with other Inſtances to the like Purpoſes. But for theſe Reaſons totally to reject the Uſe of cold Mineral Waters, betrays great Weakneſs and Ignorance. All that they juſtly indicate is, if the drinking of ſuch Waters cold occaſions any bad Symptom, the drinking of them cold is to be forbid, and a Method of drinking them adviſed, which ſhall render the Water ſuitable to the weak State of the Body. And this I have for a long time very advantageouſly done, by directing the Bottles of the Water to be plunged in Balneo Mariæ, till they receive a Degree of Heat more agreeable to the Body and the Palate; a fine Hole being firſt made with a Needle in the Cork, to prevent the elaſtic Spirit, thus expanded by the Heat, from evaporating, and to keep the Bottles from burſting. Nor let it be apprehended that this Treatment of the Waters cauſes an intire Loſs of the mineral Spirit, whereon their Efficacy depends; for as the Heat is not great, and as a proper Caution is here uſed, a ſufficient Quantity of the Spirit is ſtill kept in. And though there be no Need of farther Arguments, ſince Matter of Fact confirms the Truth hereof, yet we find that even the Waters of the hotteſt Springs, whoſe Heat is much greater than that here recommended, are not intirely deſtitute of this volatile, mineral Principle.

Diseases wherein Mineral Waters are serviceable, contrary to the common Opinion.

XVIII. Having thus given the neceſſary Cautions and Directions, as well to Phyſicians as the Patients, with regard to entering upon a Courſe of the Waters; we now proceed to conſider in what Diſtempers they are of more eminent Service than any other Remedy. But as the Catalogue of theſe Diſtempers is extremely large, we ſhall only ſpeak to thoſe wherein moſt Phyſicians rather think the Waters detrimental than advantageous; and ſhew the Erroneouſneſs of this Opinion, both from Reaſon and Experience.

XIX. And firſt, the Uſe of Mineral Waters is held dangerous in violent Fluxes of the Menſes and Hæmorrhoids. The Reaſon upon which Phyſicians proceed in forbidding Waters in theſe Caſes depends upon a falſe Notion of the Cauſes of ſuch Diſcharges, and of the Ingredients of the Waters, which they take to be metallic, vitriolic, and ſtyptic; and having found by Experience that Aſtringents are very prejudicial in ſuch Caſes, they have forbid both the Uſe of hot and cold Waters therein. But as a Knowledge of the Blood's Circulation diſcovers the true Cauſe of theſe Diſcharges, and as the Apprehenſion of ſtyptic Ingredients in Mineral Waters is groundleſs, this Opinion of theirs muſt be rejected as idle and frivolous. A careful Enquiry into the Cauſe of violent Hæmorrhages ſhews it to be no other than an Obſtruction to the free Circulation of the Blood in certain Parts of the Body. And thus the Blood having not its due Motion through the Canals, impacted Matters are of Conſequence generated in the Viſcera, and the Obſtructions neceſſarily rendered greater; whence the Blood coming to theſe obſtructed Parts in a ſtill greater Quantity, and finding no Paſſage, of Courſe diverts, and breaks its Way through other Parts, where it has either been accuſtomed to find Vent, or meets with the leaſt Reſiſtance when it comes to be diſcharged with Violence in the Parts above mentioned. The firſt Intention therefore in the Care of theſe Diſorders, is to open the Obſtructions of the Viſcera, and to reſtore a free Circulation of the Blood therein; and this can no other way be ſo effectually done, as by the drinking of Waters impregnated with a gentle ſtimulating Salt; for it is the Property of theſe Waters, by the large Quantity of their aqueous Part, to dilute and thin the ſtagnating Humours, and render them fit for Motion, whilſt by their ſaline Particles they diſſolve the Viſcidities, twitch and ſhake the Canals, and cauſe them to preſs, protrude and ſqueeze forwards their Contents. This appears to be the Rationale of the Caſe; and thus in fact Henricus ab Heer expreſly declares that the Spaw Waters are extremely well fitted for provoking the Menſes, as appears by a thouſand Inſtances, and yet are more ſucceſsful than any other Medicine in ſtopping too large a Flux thereof.

XX. But that the Waters may with the greater Certainty and Advantage have this Effect, proper Care muſt be taken that the Body in ſuch Circumſtances be not charged with an immoderate Quantity thereof, but be drank in a ſmall Doſe, and not too hot. How neceſſary a due Regard to this Circumſtance is, appears by an eminent Inſtance in the two Caroline Springs, where the Uſe of the moſt temperate of them, called the Millſpring, has an admirable Effect in theſe Caſes, whilſt the common violently hot one rather increaſes the Diſorder. It is alſo of great Importance, when the above mentioned Fluxes are large, that both before, in, and after a Courſe of the Waters, all Aloetics, and the ſtronger Purgatives be carefully avoided, which put the Blood into a violent Motion; and, if any Purges become neceſſary, to uſe in their ſtead thoſe that are gentle, and of a ſtrengthening Virtue, ſuch as Epſom Salt, Rhubarb, Sena, *&c.*

XXI. And as theſe Waters have an extraordinary Efficacy in the ſtopping of Hæmorrhages, their Virtue is no leſs conſiderable in a Suppreſſion thereof. And this Truth can be queſtioned by none but ſuch as have never attended at the Wells; for as a Stoppage of theſe natural and critical Diſcharges of the Blood proceeds intirely from an Obſtruction, or ſpaſmodic Contraction of the Blood-veſſels, through which it uſes to run, Mineral Waters are wonderfully adapted to reſtore and promote theſe Diſcharges; it being the Property of ſuch Waters to flow to the Extremities of the Blood-veſſels, and there ſoften or attenuate the groſſer Subſtances that block up the Paſſages, and force it away by the elaſtic Property of their aerial Spirit; and at the ſame time, by the large Quantity of their pure aqueous Part, they relax the hardened and contracted Fibres, and thus again open the accuſtomed Paſſage to the Blood. To confirm this Reaſoning, we ſhall here inſert the Hiſtory of an extraordinary Caſe, whereof ourſelves were Witneſſes, and chooſe it as a ſingular Inſtance, out of a very large Number to the ſame Purpoſe.

A Perſon of Diſtinction, about fifty Years of Age, of a Conſtitution betwixt ſanguine and bilious, long uſed to a Court-life, Wine, and a high irregular Diet, was ſeized with the Gout, and hæmorrhoidal Flux, returning at ſtated Periods; but without being much incommoded thereby, ſo long as he continued to open a Vein at proper Seaſons. But being, a few Years ago, adviſed by ſome Phyſician or other to leave off Bleeding, under Pretence of growing in Years; and following this Direction, he was in the Summer Seaſon afflicted with a violent Colic, extreme Coſtiveneſs, and Pain. His uſual Phyſicians little ſuſpecting the true Cauſe of the Diſtemper, aſcribed it to the Gout ſtruck inwards, and therefore rejected Bleeding as a perfectly uſeleſs or dangerous thing. Another Phyſician being called, and enquiring narrowly into the Cauſe of the Diſorder, immediately ordered the Patient to have a Vein opened in his Foot, and to uſe emollient Clyſters. Upon this the Violence of his Pain was immediately leſſened, and growing better by Degrees, he was carried at the proper Seaſon to the Caroline Waters; by the internal and external Uſe whereof, he happily recovered the periodical Return of his Hæmorrhoids and Gout, and was perfectly cured of his Colic.

XXII. From too large Diſcharges of the Blood-veſſels, we paſs on to the immoderate ones of the Lymphatics; the more common whereof are the Gonorrhœa and Gleet in Men, and the Fluor albus in Women. With regard to Diſtempers of this kind, many Phyſicians imagine that Mineral Waters are improper; but Henricus ab Heer, in his time, clearly remarked the Falſity of this Opinion, and declared that, how doubtful ſoever others might be in the Point, the Spaw Waters were certainly ſerviceable in the virulent Gonorrhœa, and produces Inſtances of his own Knowledge to confirm it. It is however certain that theſe kinds of Fluxes are generally increaſed by the Uſe of Mineral Waters, whence their Diſrepute in ſuch Caſes ſeems to have proceeded. For whilſt Phyſicians remained ignorant of the Cauſes of theſe Diſorders, they attributed this Increaſe of the Flux to an Increaſe of the Diſtemper; but as the preſent Diſcoveries in Anatomy have given much better Light into the at and Nature of ſuch Diſtempers, it is proper the Cures of em ſhould be regulated accordingly. An obſtinate Gonorrhœa Gleet in Men generally has its Riſe from the unſkilful Cure a common venereal Running, which corrodes the Proſtate lands, asd others belonging to the Parts of Generation, and enders them ſcirrhous and fiſtulous. An inveterate Fluor albus roceeds from an acrimonious Humour, generated by a too vio- nt or frequent Uſe of Venery; or from a Humour introduced the way of a communicated Taint, which afterwards infects e Glands of the Vagina, ſo as not only to make them diſcharge their Juice in plenty upon the adjacent Parts, but the me Juice being alſo infected, eats and corrodes the fine Fibres the Parts it paſſes over, and thus occaſions ſharp darting Pains, xcoriations and Ulcers, whence proceeds the Matter of a viru- nt Flux. From this Account, which is taken from Diſſec- ions, it clearly appears, that in order to waſh away, dilute nd weaken theſe infected Juices, ſoften the hardened Glands, rengthen the Fibres that are fretted and corroded, and join hem again with the other untainted Parts, a Courſe of Mineral Vaters is highly proper. And though it be true that whilſt the ourſe is in hand the Flux will increaſe, yet, when the Courſe over, there enſues a more certain and confirmed Cure. But order to this End, balſamic Remedies, and a moderate De- oction of the drying Woods, are to be uſed in the drinking of hem, by which Means the Cure may be ſurpriſingly faci- itated.

XXIII. And no leſs ſerviceable is a Courſe of Mineral Wa- rs towards the Cure of Diſtempers ſeated in the Glands of the ody, whether proceeding from Obſtructions or Relaxations of e glandular Parts; for ſuch Waters have a very opening, di- uting, reſolving, abſterſive and ſtrengthening Quality. To ain the better Credit to this Aſſertion, we ſhall here ſubjoin e Hiſtory of a curious Caſe that happened lately.

Portugueſe Lady of a noble Family requiring of her Phyſician a Purgative by way of Prevention, he officiouſly preſcribed her an Electuary, upon the Uſe whereof ſhe ſoon fell into a violent Salivation, that continued for almoſt eight Months, till it had brought her to the extremeſt Weakneſs, and rendered her almoſt like a dead Carcaſs. The Caroline Waters were adviſed her, by the Uſe whereof, both internally and externally, with the Aſſiſtance of gentle Purgatives at proper Intervals, ſhe not only got rid of her Spitting, but quickly recovered her former Strength and Beauty. It was remarkable in this Lady's Caſe, that after her Cure was compleat, ſhe by ſitting longer in the hot Bath than was directed, had nearly relapſed into her Spitting, and doubtleſs would have done ſo, if her Phyſician had not immediately prevented the Miſchief by proper Purgatives.

I have inſerted theſe two Caſes, as being remarkable, though ot properly belonging to the Article ACIDULÆ.

XXIV. It is a current Opinion, that the drinking of Mineral aters proves prejudicial to the Lungs, and increaſes all the iſorders thereof. The Origin of this Error is apparently ow- g to a falſe Notion of the Ingredients of theſe Waters, and n improper Advice of them to ſuch Perſons whoſe Lungs e already ulcerated and eat away; whence the Ignorance of hyſicians has pronounced them prejudicial in pulmonic Diſor- ers. It is manifeſt by Inſpection, and the Anatomy of tabid odies, that moſt Diſtempers of the Lungs ariſe from an Ob- ruction and Hardneſs of the Glands, wherewith this Part plentifully abounds. Hence proceed inveterate Coughs, hthiſics, Difficulty of Reſpiration, Aſthma's, *&c.* in all which iſeaſes the primary and ſole Intention ſhould be to open and iſſolve away the Obſtructions and Scirrhoſities in the Lungs, at cauſe the Diſtemper; and this can no other way be ſo eadily effected as by a Courſe of Mineral Waters. But to pre- ent their ſaline Acrimony, which is certainly unſuitable to the elicate ſpungy Subſtance of the Lungs, from doing any Miſ- hief thereto, it is adviſeable to mix the Waters with Aſſes ilk, which Experience ſhews is the beſt for this Purpoſe, or lſe with Goats Milk. And mixing the Waters in this Manner ot only blunts and mollifies their ſaline Particles, but alſo con- uces to temper and ſheathe the Acrimony of the whole Maſs of lood, ſo as to render them eminently ſerviceable in Diſeaſes of e Lungs. We have ſeen numerous Inſtances of their good ffects, ſo drank in theſe Caſes.

XXV. What we have above ſaid about the Diſeaſes of the ungs, may alſo be extended to the other Viſcera, and Diſeaſes the Lower Belly. The Writings and common Diſcourſes of hyſicians are full of the Miſchiefs which they ſuppoſe Mineral aters bring upon the Viſcera. And indeed the Uſe of theſe aters cannot be recommended where the Viſcera are con- umed, or highly tainted; where the Humours are extravaſated n account of Veſſels broke either in the Thorax or Abdomen, where Impoſthumations are formed. To preſcribe the drink- g of Waters in theſe Caſes, is to increaſe the Diſorder, and aſten Death: But this Reſtriction does not reach to all the iſeaſes of the Viſcera. The greateſt Number of chronical iſtempers, which come on ſlowly, and prove of long Continuance, proceed from an Obſtruction in theſe Parts, and a Hindrance to the Circulation of the Blood; for the Prevention or Removal whereof there is nothing more ſerviceable than Mineral Waters, which preſerve the Viſcera in their natural State, and open Obſtructions. Thus they are admirably preventive of the Scurvy, of the Aſthma, of Abortion and Sterility, of the Dropſy and the Stone; curative of an ill Habit of Body, and leſſen a preſent Fit, as well as repel an approaching one, of the Gout; and all this is atteſted by Experience and Obſervation. Whence it clearly appears how idle and childiſh that Fear is, which many Phyſicians indulge, of the pernicious Effects of theſe Waters; though it is true, they have always at hand certain ingenious Compariſons, and Inſtances of like Caſes, as they call them, which they uſe on all Occaſions, with a plauſible Shew to the People.

XXVI. In the laſt Place, we ſhall ſay a Word or two of the proper Diet and Regimen to be obſerved in drinking the Waters. For as no Remedy, without a proper Regimen, can have its Effect, ſo a Courſe of Mineral Waters requires an exact Care in this Particular. There are two Errors generally run into by the Drinkers, *viz.* indulging themſelves either too much, or too little. Some Phyſicians are ſo ſcrupulous as to forbid their Patients the Uſe of all acid, ſaline and ſpicy Meats, though perhaps theſe alone are pleaſing and agreeable to them. But the Point of Exactneſs is, here, for every one not greatly to recede from his uſual Cuſtom, otherwiſe the Appetite may be hurt, Digeſtion not well performed, and Crudities and new Diſorders generated. Others, who have a principal Regard to the Stomach, only adviſe the Uſe of ſpiritous and aromatic things, which is a great Hindrance to the Buſineſs of Excretion; for common Experience teſtifies that ſuch things bind up the Belly. Above all, Voracity, and turbulent Diſorders of the Affections ſhould be prevented, as great Enemies to Digeſtion; whence the Body is loaded with an uſeleſs Weight, and the Waters rendered ineffectual for ſubduing and diſcharging the Crudities of the Body. The Stomach alſo will be weakened and relaxed by this Procedure, and the Waters now plentifully drank remain longer therein, and thus give riſe to many Inconveniencies.

How deſtructive the turbulent Paſſions of the Mind are, appears from daily Experience in a State of Health; and unleſs well regulated, will prove more pernicious in a ſick State, and a Courſe of the Waters, whereby the Humours and Foulneſs of the Body are put into Motion; ſo that Apoplexies, Palſies, and the like nervous Diſtempers, have proceeded from a Miſconduct in this Particular. To conclude with a wholeſome Admonition: Infirm Perſons ſhould not raſhly venture upon a Courſe of Drinking or Bathing, eſpecially without the Obſervance of a proper Regimen. *Hoffman.*

I ſhall conclude Hoffman's Account of Mineral Waters with his Method of imitating them; but I cannot much recommend it, being unacquainted with the Efficacies of Waters thus counterfeited. I ſhould ſuſpect their Virtues to be in no Degree equal to thoſe of the genuine Springs. Experience may determine their Effects, and Experiments in this Caſe are more excuſable, as Waters thus imitated can do no great Miſchief, if applied judiciouſly.

I. As it is evident by the preceding Sections, that Mineral Waters, for the Prevention and Cure of Diſeaſes, have no known Remedy comparable to them, as all Perſons cannot have the Opportunity of frequenting the Wells, and as the Springs themſelves are ſometimes, though rarely, ſubject to Decay, it becomes a Queſtion of Importance, whether, from a Knowledge of the Principles and Ingredients of theſe Waters, they may not be imitated by Art, or the more common Waters of every Place be impregnated ſo as to produce the ſame Effects? Many Chymiſts of the laſt Age held the affirmative; and in particular imagined, that cold Mineral Springs were eaſy to be imitated. But they certainly went upon a falſe Notion, which with many prevails to this Day, that theſe Waters owed their principal Virtue to a vitriolic Subſtance, and hence imagined that they needed but diſſolve ſuch a Subſtance in pure Spring-water, and the thing was done. But upon Trial they found their Error; for there is no ſolid Vitriol contained in theſe Waters. Nor is there a ſingle Inſtance of a Spring, that we know of, holding a Salt ſo far like that of common Vitriol, as when diſſolved in Water to turn inky with Galls, make a neutral Salt, or Tartarus Vitriolatus, with Oil of Tartar, and, upon evaporating, leave behind a Concretion, that, when ground with Nitre, yields the Fumes of Aqua-fortis.

II. To lay a Foundation for a more ſucceſsful Imitation of Mineral Springs we muſt obſerve that there are ſome, both of the hot and cold Kind, which contain no ſaline or mineral Principle at all, and are nothing but a very pure, ſubtile and light Water; which, however, has very conſiderable medicinal Virtues. If ſuch Spring-water as this be not procurable, we may perhaps to as good Advantage uſe in its ſtead the pureſt Rain-water.

III. There are certain Springs of a very light and ſubtile Water, containing no earthy or ſaline Principle, and only a ſmall Quantity of an irony Subſtance; and theſe may properly be called Iron Waters; for they exhibit no Change to the Eye upon the Admixture of Acids or Alcalies; but, by ſtanding or being heated, depoſite a yellow okery Sediment. It is, therefore, no Difficulty to imitate this kind of Water by Art, where a ſufficient Quantity of a pure, light and ſimple Water is at hand. The Method is only to boil it in a Glaſs Veſſel, with a little of the more curious and ſubtile Oker ſold in the Shops; by which means the Water will acquire a like Virtue, when uſed both internally and externally, as thoſe of the natural Iron Springs.

IV. There are other Springs remarkable for the Lightneſs and Subtilty of their Water, which, beſides a ſmall Proportion of Iron Oker, hold a conſiderable Quantity of common Salt, whence they derive their principal Virtue. Theſe Waters are ſomewhat purgative, and advantageouſly uſed in the way of Bath. They ſuffer no apparent Change upon mixing with Acids or Alcalies, and do not abound with a mineral elaſtic Spirit. Such Waters therefore may commodiouſly be imitated, by diſſolving a little Sal Gem in the above mentioned natural or artificial Iron Water.

V. The Imitation of the cold and briſk mineral Springs is attended with greater Difficulty, if we would prepare them in ſuch a manner as to have the natural, quick and pungent Taſte, Smell, and copious elaſtic Spirit. I have, however, attempted to imitate them, by adding to the fineſt ſimple Water I could procure, contained in an earthen Veſſel with a narrow Neck, firſt a little highly calcined and diſſolved Salt of Tartar, next a little Spirit of Vitriol, ſo as to make an Ebullition, yet ſuffer the alcaline Principle to predominate; then ſhaking the Veſſel whilſt it remained cloſe ſtopped. By this means I obtained a Water reſembling the natural in Taſte, and that threw up numerous Bubbles in pouring out. It likewiſe anſwered the natural Water in its Virtue and Effects; ſo that I have given it with great Advantage in ſuch Diſtempers as required the drinking of the moderate, briſk, and cold Mineral Waters, where the natural ones could not be procured. But if the Deſign be to imitate the Pyrmont Steel Waters, which abound with an Iron Oker, either the natural or artificial Iron Waters ſhould be choſe for the Purpoſe, and a ſomewhat larger Proportion of Salt of Tartar, and Spirit of Vitriol be uſed; but ſo that the Alcali may ſtill prevail.

There are Reaſons to apprehend, that either this Expedient, or a worſe, is practiſed at London and elſewhere, ſo as to imitate the Spaw, the Pyrmont, and other foreign and domeſtic Waters, in ſuch a manner as to paſs undiſcovered upon ordinary Judges. If theſe Dealers had Art enough to make their Imitations perfect, the Deceit were the more tolerable; but as they commonly manage it, every Drinker, who cannot procure the genuine, had better make the artificial himſelf freſh as he wants it, which he may do by the Help of theſe Directions. And to thoſe who are curious in this Particular, we recommend the pureſt Rain-water, and, inſtead of Spirit of Vitriol, the true Spirit of Sulphur. But for a Method of imitating theſe Waters, which comes ſtill nearer to that of Nature, we think proper to intimate, that many Experiments and Obſervations ſhew the mineral Spirit, the ſpecific Virtues, and irony Principle of Steel Waters to proceed from the Pyrites diſſolved by ſuch Waters under Ground. Whence perhaps Beds of theſe Stones might be laid on the Courſe of a pure Spring, ſo as to grow hot, ſteam, and richly impregnate the Water that runs near them, without turning to Vitriol. The Experiment is recommended to the Skilful in Chymiſtry and Natural Hiſtory. *Shaw's Notes.*

VI. There are, beſides theſe, certain purgative Mineral Waters, which, though they make an Ebullition with Acids, yet leave a bitter neutral Salt upon Evaporation. Theſe Waters are to be imitated, in the ſame manner, by the means of Oil of Tartar, Spirit of Vitriol, and Epſom Salt, or that prepared from white Manganeſe and Spirit of Vitriol. And much after the ſame way may be artificially prepared a Water abounding with an exquiſite neutral Salt, and capable of purging very effectually. The way is to diſſolve, in the pureſt and lighteſt ſimple Water, a ſuitable Proportion of Glauber's Salt; or a ſtill better Method is by mixing Oil of Vitriol with the white Manganeſe, ſo as to obtain from that calcarious Earth, and the vitriolic Acid, a Salt after the ſame manner as it is prepared by Nature, and then diſſolve this Salt in the pure Water, ſo as to equal the Proportions of that propoſed to be imitated; for Example, in the Quantity of about two Drams to twelve Ounces.

VII. Laſtly, If any one deſires to imitate the Caroline Waters, which are extremely alcaline, and ſomewhat purgative, he ſhould endeavour to procure not a light and ſubtile Water, but ſuch as is loaded with a calcarious Earth; and drop into this, firſt the Spirit of Vitriol, and afterwards the Solution of Salt of Tartar, till the Alcali manifeſtly predominates. The Spirit of Vitriol ſhould be firſt poured in, that it may lay hold of the calcarious Earth, and therewith turn into a neutral and ſomewhat purgative Salt.

VIII. Theſe are the ways, I have myſelf tried, to imitate the natural Mineral Waters for internal Uſe. And upon examining the Principles and Contents of theſe artificial Waters, they appear to hold not only the groſſer, earthy and ſaline Subſtances, but alſo ſomething extremely like the curious, elaſtic, mineral Principle of the natural Waters, proceeding from the Action and Re-action attending a State of Effervеſcence.

They likewiſe, upon Trial, appear to have great medicinal Virtues, ſo as to be, with deſirable Advantage, exhibited for cleanſing the Blood, and curing numerous Diſeaſes, according to their ſeveral Intentions; though I cannot poſitively ſay, nor will pretend, that they come up to the Excellence of the natural Waters.

IX. It remains that we ſhew a Method of preparing Simple Waters for external Uſe, ſo as to ſupply the Want of Mineral Springs. We formerly intimated how, by the Addition of Salt of Tartar, Pot-aſh and Herbs, wholeſome Baths may be commodiouſly prepared; and ſhall therefore, in this Place, touch upon ſuch as may be made by the means of Metalline Scoriæ. The moſt common and uſeful of this kind are thoſe prepared with the Scoria of Iron, which abounds with the earthy, ſaline and ſulphurous Subſtance of the Metal. And theſe are of excellent Service for ſtrengthening and bracing up the Parts, and recovering weak and decayed Limbs, ſtopping various kinds of Bleeding, and reſtoring the menſtrual and hæmorrhoidal Flux, where obſtructed; inſomuch that they may well be ſubſtituted for the natural Iron Baths.

X. Adjacent to the Smelting-Huts, where Metals are run from their Ore, are to be found large Quantities of the Slags of Copper, Antimony and Cobalt, which abounding with Sulphur, vitriolic Salt, and an earthy Principle, make ſerviceable Baths for ſtrengthening the loſt Tone of the Fibres, and relaxing them when they are too criſp. Theſe Baths have likewiſe a detersive and cleanſing Virtue; ſo that, with Prudence, and a due Regard to Circumſtances, they may be uſed on many Occaſions. The way of making theſe artificial Baths, is either to take the Slags as they come hot from the Furnace, or elſe to heat them afreſh, and throw them into hot Water, contained in a cloſe covered Veſſel, that they may communicate their Virtue to the Water, which is afterwards to be uſed either in the way of Bath or Fomentation occaſionally.

To conclude, there are other artificial Baths prepared of Alum and Quick Lime, by boiling them together in fine Rain-water; and ſuch Baths are highly ſerviceable in paralytic Diſorders, and Weakneſs of the Limbs. *Hoffman by Shaw.*

Dr. Shaw has been more particular and intelligible in his Method of examining Mineral Waters than any former Author on this Subject. As I would enable every Body concerned in the Practice of any Branch of Phyſic, and all curious Gentlemen, to make ſucceſsful Reſearches into the Nature of particular Mineral Waters, I ſhall inſert the Method of doing it from the above mentioned ingenious and indefatigable Gentleman, without the idle Affectation of unneceſſary Variations. And I preſume the Importance of the Subject, to the Health and Welfare of Mankind, will render any Apology for the Prolixity of theſe Accounts of Mineral Waters ſuperfluous.

I. Before we enter upon the Enquiry itſelf, it will be neceſſary to collect together the principal Inſtruments and Apparatus propoſed to be uſed therein, that the Work may afterwards proceed with leſs Interruption.

II. And, firſt, the Mariner's Compaſs may be uſeful, in determining the Situation of the Well, and the Courſe of the Water to the Receptacle; becauſe the Needle of this Compaſs pointing North and South (excepting for the Variation) the Enquirer may thence be enabled to lay down with Exactneſs the Courſe or Windings of the Streams, and the reſpective Situation of the adjacent Towns or Country.

III. For examining the Water itſelf, its Contents, and the mineral Subſtances found near the Confines of the Well, or Courſe of the Water, there will be required,

1. Exact Scales and Weights.
2. An hydroſtatical Balance.
3. Variety of Glaſſes, common and chymical.
4. Cements.
5. A Thermometer.
6. A Hand-Pump.
7. An Air-Pump.
8. Microſcopes.
9. An armed Loadſtone, or touched Plate of Iron.
10. Diſtilled Water.
11. Crucibles.
12. A Melting-Furnace.
13. Fluxes, or Flux-powders.
14. Various Vegetables.
15. Animal Matters.
16. Minerals.
17. Artificial Subſtances.

IV. (1) The Scales ſhould be of three Sizes, all of them well made, for weighing Grains, Drams and Ounces, or even a few Pounds; and the Weights employed ſhould be Troy, hich is the medicinal, or Apothecaries Weight; the Pound hereof is twelve Ounces, the Ounce divided into eight Drams, e Dram into three Scruples, and the Scruple into twenty rains.

V. (2) The hydroſtatical Balance is an Inſtrument, or a rtain Species of Scales, contrived to weigh Bodies in Water, as to determine their ſpecific Gravity, as it alſo will do that any Mineral Water, by weighing a certain Glaſs Bubble erein, the Weight of the Bubble in the Air and in common ater being known beforehand.

VI. (3) The Glaſſes to be procured are, 1. Such as may com- odiouſly exhibit the Water to the Eye and the Senſes, and ould therefore be cryſtalline, and ſome of them cylindri- l. 2. Such as may bear Heat, and ſerve for Evaporation; ſe ſhould therefore be ſhallow, and widen upwards. 3. Such may confine the Water, as common Phials, Bottles, Glaſs- ggs, and Bolt-heads. And 4. Such as may ſerve for Diſtil- ion, as Glaſs-bodies, with Alembick-heads, or Retorts and eceivers.

VII. (4) By Cements are here meant thoſe Matters, or arti- ial Compoſitions, which being applied to the Mouths of laſſes, tend to preſerve the contained Water in a ſound State, keeping it from all Communication with the external Air, h as melted Roſin, Sealing-wax, or rather proper Mixtures of ax, Turpentine, *&c.*

VIII. (5) A Thermometer is of Uſe to determine the De- e of Warmth or Coldneſs of the Water; being an Inſtru- nt conſiſting of a hollow Glaſs-ball, with a long and Slender ck or Stem, filled to a certain Height with tinged Spirit of ine, and divided into Degrees along the Stem, ſo as by the riſing falling of the Spirit of Wine therein, to ſhew the Degree of armth or Coolneſs of any Fluid wherein the Ball is placed.

IX. (6) A ſmall Hand-Pump, made either of Wood or n, with its proper Embolus, or Sucker, is neceſſary to raiſe Water immediately from near the Bottom of the Well, to w whether this differs from that taken up near the upper rface; though other Contrivances may alſo be uſed for this rpoſe.

X. (7) The Air-Pump, with its Glaſs Receivers, is a pro- Inſtrument in helping to diſcover the Proportion of Air, or atile, fugitive Spirit contained in the Water; for ſpirituous aters are found to throw up, and diſcharge a large Quantity Bubbles, when placed under the exhauſted Receiver of the r-Pump; and according to the greater or leſs Number and e of the Bubbles thus diſcharged, the Water is judged to be re or leſs aerial or ſpiritous.

XI. (8) Microſcopes, or Magnifying-Glaſſes, may be uſed examining whether any viſible component Particles can be nd in a ſingle Drop of the Water; but more ſucceſsfully haps in determining the Figures of the Cryſtals, or Salts of Water, after Evaporation, or during the time of Cryſtal- ation. It might alſo be proper to examine all the other ſolid viſible Contents of the Water by the Microſcope, both in a te of Mixture, and after they are ſeparated from each other.

XII. (9) The armed Loadſtone, or touched Plate of Iron, of uſe to diſcover whether any of the mineral Matters found r the Confines of the Well, or among the dry Contents of Water, are of an irony Nature; for whatever the armed adſtone, or a touched Iron Plate attracts, is generally allowed be Iron. Though other Proofs of this ſhould alſo be procured. d perhaps the Loadſtone will not attract Iron in all States and rcumſtances; as unleſs it be pure and perfect, or have all the rts eſſential to malleable Iron; ſo that a mineral Subſtance y poſſibly be irony, though the Loadſtone ſhould not at- ct it.

XIII. (10) Diſtilled Water, or Water freed as much as ſſible from all mineral, ſaline, terreſtrial, or other foreign atters, is of uſe to diſcover the ſaline or ſoluble Contents of y mineral Subſtance, or dry Matter of a mineral Water, by ſolving them from the leſs ſoluble Parts, and giving them ain in a ſolid Form, by Evaporation, or Cryſtallization. The ater ſhould be pure for this Purpoſe; otherwiſe it might mix own mineral or ſaline Matters along with thoſe of the Mat- propoſed to be examined, and ſo render the Experiment lacious or uncertain. Now there is ſcarce a better way own of procuring Water in purity, than by gentle Diſtillation clean Glaſs Veſſels.

XIV. (11) Crucibles, or Melting-pots, made of an earthy, ſtony Matter, are uſeful in trying whether the dry Contents a Water, or other Mineral Subſtances, are metallic, or hold y conſiderable Proportion of Metal; for if they do, the Me- may uſually be got out of them, by powdering the Sub- nce, and, if neceſſary, mixing it with a proper Flux, then lting them together in a ſtrong Fire.

XV. (12) A ſtrong Fire is required to melt moſt metallic Sub- nces, ſo as to ſeparate the Metal from them; though, in me Caſes, a Wind Furnace, that is, a Melting Furnace, or re animated barely with a Current of Air, which it ſpon- neouſly draws to itſelf, is ſufficient for this Purpoſe. But here the Matter proves ſtubborn, or hard to melt, a Fire briſkly agitated, or blown with a Pair of double Bellows, like thoſe of the Silverſmith, or Blackſmith, are uſually required.

XVI. (13) Fluxes, or Flux-powders, are any kind of Subſtance, which being added to a Mineral, or Ore, and melted therewith, cauſes it to run eaſier, and yield its Metal ſooner, or in greater Plenty, than it would do when melted without Addition. Thus Tartar, or Argol, Nitre, or Salt-petre, Borax, Glaſs of Lead, Iron-filings, *&c.* are Fluxes, and ſhould be ready at hand, in order to the Examination of the Mineral Subſtances that may occur in the preſent Enquiry.

XVII. (14) Certain vegetable Matters are found to ſtrike different Colours with different Liquors; and according to the Colour produced, an Indication is obtained of one or more particular Subſtances contained in a Liquor. Thus if freſh Violets be ſuffered to ſtand for ſome time in a pellucid Mineral Water, and the Water ſhould now appear of a red Colour, hence an Indication would be gained that an Acid is predominant in the Water; but if a green Colour ſhould thus be produced, this denotes that an Alcali prevails in the Water; but if the Water retains the native blue Colour of the Violets, this ſhews that the Water is neutral, or that neither an Acid nor Alcali prevails therein. The Principal therefore of thoſe vegetable Subſtances, which have the Faculty of indicating, by a Change of Colour, the Contents of a Mineral Water, or other Liquor, ſhould be procured, and kept in Readineſs for our Purpoſe.

XVIII. Theſe Vegetable Subjects ſeem reducible to four Claſſes, *viz.*

1. Such as are aſtringent.
2. Of a fine Texture.
3. Purgative.
4. Alterative.

XIX. (1) Among Aſtringents may be reckoned Green-tea, Oak-leaves, Oak-bark, Pomegranate-bark, Balauſtian-flowers, Sumach, but more particularly Galls; all which are adapted to diſcover whether the Water be of an irony Nature, or contain any Particles of Iron, or the Vitriol of Iron. And this they do by turning ſuch Water purple, black, or duſky; and, with time, precipitating a light, duſky Cloud, or inky Subſtance to the Bottom. The Galls for this Purpoſe ſhould be of the blue, or ſtrongeſt kind, ſound, and newly reduced to Powder, which may be kept in a Glaſs cloſe ſtopped. This Powder is uſed with greater Diſpatch, Convenience and Exactneſs than a Tincture of Galls made in Water, which weakens their Virtue. The Tincture beſides loſes of its tinging Faculty by keeping, and at the ſame time acquires a deep Colour, which may diſturb the Experiments.

XX. [2) Under Vegetables of a fine Tincture come the coloured or colouring ones, which have their Colours eaſily altered by ſimple Mixture; ſuch as the Flowers of red Roſes, Mallows, Violets, Bluebottles, Clove-Julyflowers, Lignum Nephriticum, *&c.* which ſerve to indicate, by the Change of Colour they produce in the Water, what kind of ſaline, or earthy Matters predominate therein. Thus, as was before obſerved, Violets turn a Water red where an Acid preſides, and green where an Alcali; but communicate their own blue Colour where the Water is neither acid nor alcaline. And thus pure common Water being neither acid nor alcaline, an Infuſion of theſe Flowers therein exhibits a beautiful blue Colour. And as pure cryſtalline Sugar alſo is neither acid nor alcaline, the Addition thereof to the Infuſion of theſe Flowers introduces no Change of Colour; whence the Syrup of Violets may be commodiouſly ſubſtituted for the Flowers, in the making of our Experiments.

XXI. (3) The purgative Vegetables of Uſe in our Enquiry, are chiefly Sena, Rhubarb, Hermodactyls, Mechoacan, Jalap, *&c.* and this by the way of ſimple Infuſion, Tincture, or Decoction, to diſcover ſome certain Contents, or ſolutive Powers of the Waters, but more particularly the Salts thereof; for alcaline Salts are found, in all Trials, to heighten the Tinctures, or Virtues of theſe purgative Ingredients, or make the Water take up more of their Parts, eſpecially if they be unctuous, or reſinous. Neutral Salts are alſo found to have the like Effect, in a leſs Degree, whilſt acid ones are little diſpoſed to open the Bodies of theſe Drugs, or make them yield ſtrong Tinctures.

XXII. (4) Thoſe commonly called the alterative, or drying Woods, as Guaiacum, Saſſafras, Saunders, *&c.* may be likewiſe ſerviceable in this Enquiry, and help to diſcover the Contents of the Water, as they will yield their Virtues to ſome Waters better than to others; particularly to ſuch as abound with a Salt capable of diſſolving their reſinous or unctuous Parts, wherein their medicinal Virtue principally appears to conſiſt. And by this means alſo ſome new Uſes of the Water may probably be diſcovered, *viz.* by applying it to the making of Infuſions, Decoctions, or Extracts of various Drugs or Simples.

XXIII. (15) It is of Importance in the Enquiry to know how the Water affects the animal Fluids, or other animal Subſtances, as this may not only give Light into the Contents of the Water, but alſo afford Directions for its prudent Uſe, and ſhew what Effects may be rationally expected from drinking. And here we ſhould principally regard the Changes it produces in the freſh extravaſated Blood of a healthy Perſon; in coagulated or dry healthy human Blood; in the Serum of ſound Blood; in morbid Blood of various kinds, as that of rheumatic, ſcorbutic, pleuritic, conſumptive, hypochondriacal, and maniacal Perſons; upon the Calculus humanus, or Stone of the Bladder; upon Gall-ſtones; upon the Chalk-ſtones of gouty Perſons; upon Matter, or Pus; upon Urine, recent, ſtale, and gravelly, *&c.* upon viſcid Phlegm, gellied Lympha, and other ſound and morbid animal Subſtances; eſpecially as aſſiſted with a Degree of Heat equal to that of the human Body.

XXIV. (16) It may be proper to mix different kinds of Minerals with the Water, to try if any remarkable Changes can be thereby produced, or the Virtues of the Water increaſed, or its Contents the better diſcovered. And in this View ſeveral Ores, eſpecially the ſofter, or more ſoluble ſorts might be uſed; eſpecially Iron-ore, Mundic, Marcaſites, or the Pyrites, as alſo Lime-ſtone, Alum-ſtone, Vitriol, Sulphur, and the Mineral Salts. Any of theſe Matters, if made to diſſolve in the Water, might produce conſiderable Changes therein, or increaſe its Virtues, if they depended upon Contents of the ſame kind. Thus, for Example, if any Part of the Virtue of the Water ſhould depend upon Iron, the artificial Introduction of more Iron might heighten the Virtue of the Water. And ſo again, if Vitriol, Alum, or Sulphur, be naturally contained in the Water, theſe Minerals might be added to it in a proper manner. So again it may be proper to try whether pure Silver will change its Colour, or turn black in the Water; or whether Lead, Quickſilver, *&c.* will any way diſſolve therein, whereby a Knowledge may be gained of certain Contents, or Properties of the Water.

XXV. (17) The Head of the artificial Subſtances might admit of great Variety; but we will here ſingle out the more neceſſary Particulars, under the Claſſes of,

1. Alcalies.
2. Acids.
3. Metallic Preparations, and Solutions.

XXVI. (1) By Alcalies are here meant what the Chymiſts called fixed and volatile alcaline Salts and Spirits. Fixed alcaline Salts are made, by boiling the white Aſhes of proper vegetable Subjects, ſuch as common Billet Wood, Bean-ſtalks, Vine-cuttings, Tartar, *&c.* in Water, to diſſolve the Salt out of the Aſhes, then evaporating the clear Solution till a dry Salt be left behind. Salt of Tartar is a principal Salt of this kind, and has conſiderable Uſes in the Examination of Mineral Waters; for as it diſſolves more readily and fully in Water than any earthy Subſtance, in proportion as it diſſolves, the earthy Subſtance contained in the Water will fall to the Bottom; ſo that, by this Expedient, a large Quantity of the Earth of a Mineral Water may be ſeparated, and made to aſſume a dry Form. And as this Salt is alcaline, if the Water be acid, ſome Conflict or Ebullition may be expected upon mixing them together; for this is commonly the Caſe when an Acid and Alcali are mixed. Or, by a prudent Addition of this Salt, ſo as juſt to take off the Acidity of the Water, a neutral Salt may be made, and, by a proper Treatment, rendered ſenſible, ſo as to afford a ſatisfactory Proof that the Water was acid. Salt of Tartar alſo readily runs, by the Moiſture of the Air, into a ponderous Liquid, called Oil of Tartar per Deliquium, which may often be uſed with greater Convenience than the Salt itſelf, as it is purer, more eaſily unites with Water, and may be more commodiouſly dropped into it. But if either the Earth, or Acid of a Water, ſhould be light, fine, or almoſt imperceptible, ſo as not to manifeſt themſelves upon the Addition of a ſtrong Alcali, a milder ſort may be required, ſuch as thoſe called volatile alcaline Salts, or urinous Spirits, *viz.* the Salts or Spirits of Hartſhorn, Blood, Urine, *&c.*

XXVII. (2) We muſt likewiſe be provided of thoſe called Mineral Acids, or artificial acid Spirits; ſuch as the Spirit and Oil of Vitriol, Spirit of Sulphur made by the Bell, Spirit of Salt, Spirit of Nitre, *&c.* for theſe Acids ſerve to diſcover whether the Water be alcaline. Thus for Example, as Oil of Vitriol is a very ſtrong Acid, a Drop or two whereof will communicate a perceptible Acidity to four or five Ounces of common Water, if a Drop or two of this Acid give no perceptible Acidity to four or five Ounces of a Mineral Water, it will hence appear, that the Mineral Water is alcaline, or impregnated with ſomething that has a Power to blunt Acids, or deſtroy their acid Nature, and turn them neutral. But where only a light, or ſubtile Alcali is contained in a Mineral Water, lighter Acids may be uſed for the Purpoſe, ſuch as Lemon-Juice, diſtilled Vinegar, Rheniſh Wine, *&c.*

XXVIII. (3) The Metallic Solutions, or Preparations, uſually made by Chymiſts, will be of conſiderable Service, not only as they may confirm the Concluſions drawn from other Experiments; but alſo diſcover ſtill more of the Contents and Properties of the Water. Some of the moſt neceſſary ones are the following, *viz.*

1. A Solution of corroſive Sublimate in diſtilled Water.
2. A Solution of pure Silver in Aqua fortis.
3. A Solution of Quickſilver in Aqua fortis.
4. A Solution of Saccharum Saturni, or Sugar of Lead, in Water.
5. A Solution of Gold in Aqua regia.
6. A Solution of Copper, in Aqua fortis; and another of the ſame Metal, in Spirit of Sal-Ammoniac.
7. A Solution of Iron, in Aqua fortis; and another of the ſame Metal, in diſtilled Vinegar, or any tart Wine; the Uſes of all which will appear in the Courſe of the Enquiry.

I. My preſent Deſign is to ſhew the Poſſibility of making an exact and ſatisfactory Enquiry into the Contents of a Mineral Water; for till this alſo is ſhewn, we ſhall not be prepared to enter upon the Enquiry itſelf; as the Buſineſs of examining Mineral Waters has not hitherto, that we know of, been reduced to the Form of an Art, or brought under the Laws of phyſical Demonſtration. Some Attempts, indeed, have been made in this Way; but they are ſo imperfect as to leave many ſtrong Objections upon the Minds of the major Part of Naturaliſts, Phyſicians, and Chymiſts. The Reaſon appears to have been this, that the Experiments hitherto offered, for determining the Contents of Mineral Waters, are generally ſlight and ſuperficial, or by no means verified, and carried on in the Form of Induction.

II. By Induction we mean the Art of Enquiry, originally invented by the Lord Chancellor Bacon; and, in good meaſure, delivered by him (though never perfected) in the ſecond Book of his *Novum Organum.* This Art is no more than a rational or ſcientifical Method of inveſtigating or tracing out the Natures of Things, ſo as to manifeſt by what Laws, Means, or Actions they phyſically exiſt, and produce their Effects. It appears in all Reſpects to be the beſt, or moſt certain, if not the only true Art hitherto known, of promoting phyſical Knowledge, provided it be practiſed with that Caution, and according to thoſe Rules which itſelf delivers. The principal Uſes of it are to ſhew what Method ſhould be obſerved, and what Experiments or Obſervations are to be made in every Subject; how they are to be applied, what Particulars they bring to Light, or what Diſcoveries they afford; nor does this Art obtain its End, till certain Axioms, or general Concluſions are formed by its means, comprehending the Nature of the Subject, and directing to an extenſive Practice upon it. This Art, therefore, conſiſts in a prudent and ſuitable Uſe of the Invention, the Memory, Reaſoning, and Experiment, all improved and aſſiſted to the utmoſt; where Invention directs the Articles of Enquiring, Reaſoning directs the Experiments, and the Experiments, when made, inform and farther direct the Invention and the Reaſon, ſo as to point out other Experiments, till the Nature of the Subject is fully diſcovered. Thus, in the preſent Undertaking, this Art has directed the Invention, the Reaſon and the Memory, to caſt about, and ſuggeſt, the firſt Heads of Enquiry, and the Experiments to be made; but can proceed no farther till the Experiments themſelves are made, or the Anſwers gained from Nature to the Queſtions propoſed; after which, the Reaſon, from the new Light acquired, may direct farther Experiments, till the the Enquiry is brought to a Concluſion.

III. The preſent Buſineſs is, therefore, to explain the Nature of the neceſſary Experiments, with the way of conducting them, according to the Art above mentioned, that they may give a clear and juſt Information, and not lead us into Error and Confuſion; but to do this in the ampleſt and moſt ſatisfactory manner, would require an Exactneſs, or Scrupulouſneſs of Procedure, which might diſguſt any but mathematical Readers, and draw us into a Length unſuitable to the preſent Deſign. Though, as the thing is of the utmoſt Importance, not only to the preſent Enquiry, but likewiſe to all others of the like kind, it may be proper to dwell a little upon it, with a View to ſhew, by way of Example, what Rigour is required, and what Evidence, or Proofs may be had in phyſical Enquiries, and the Examination of Mineral Waters.

IV. The End of our preſent Enquiry is, to diſcover the Contents, Virtues and Uſes of a certain Mineral Water; but as the Virtues and Uſes of this Water muſt neceſſarily depend upon its Contents, Ingredients, or the Parts whereof it conſiſts, the principal Drift and Scope of the Enquiry muſt be to diſcover, or, as far as poſſible, to manifeſt theſe Contents, and bring them under the Cognizance of the Senſes or Reaſon.

V. And here it comes firſt to be conſidered, from the apparent Nature of the Thing, and from ſome Knowledge of the Properties of common Water, and the Subſtances capable of diſſolving therein, with what kinds of Matters the preſent Mineral Water is likely to be impregnated. Now it is ſelf-evident, that the Contents of every Water muſt be ſuch as are capable of lodging therein, without hindering its Tranſparency, and without giving it Properties different from thoſe found in it by the Senſes, or particular Experiments, otherwiſe it would not be the Water it is.

VI. Mineral Waters are generally underſtood to be thoſe running Waters, which receive any remarkable Quality or Property in the Earth, whereby they differ from common Water, and thence become either more beneficial than that, in the Cure or Relief of certain Diſeaſes, or elſe more noxious or prejudicial to the Body. By which Definition, the Contents of Mineral Waters ſeem, as the Name imports, limited to Subjects of the Mineral Kingdom. But as juſt Definitions can never be given, till the Natures of Things are diſcovered, we ſhall make no farther Uſe of the preſent one, than to direct our Enquiry more particularly to the Diſcovery of Mineral Matters in the Water; though without neglecting ſuch as may be of a vegetable or animal Nature: For as vegetable and animal Matters plentifully abound in the Earth, and may lie in the Courſe or Confines of a Spring, it is not impoſſible that certain Parts thereof ſhould, at ſome Times, or in ſome Places, mix with the Water.

VII. But, to ſhorten our preſent Labour, it may be proper to contract our View, and here limit ourſelves to ſuch things only, as Water is commonly known to diſſolve, and ſuch as have been found, by competent Trials, to exiſt in Mineral Waters; for we do not here undertake to write a Syſtem of Natural and Chymical Philoſophy, but to ſhew the way of purſuing a particular Enquiry into Mineral Waters, by means of ſuitable Experiments.

VIII. The Bodies capable of permanently diſſolving in Water, without hindering its Tranſparency, and ſuch as have been found to exiſt in Mineral Waters, ſeem reducible to four Claſſes, *viz.*

1. Salts.
2. Earths.
3. Sulphurs.
4. Fumes, or Spirits.

Now the Queſtion here is, whether Natural Philoſophy and Chymiſtry, even in their preſent States, may not ſupply ways of diſcovering, with phyſical Certainty, if any of theſe are or re not contained in a Mineral Water. From ſeveral Obſervations and Experiments, which we have ourſelves made, and ſome alſo that we have read, we incline to think this poſſible, nd now proceed to lay down the ways wherein we judge it may be effected.

(1) SALTS.

IX. All true Salts diſſolve in Water, this being one of their ſſential Properties, or Characteriſtics; and as there are few Mineral Waters but what, upon a common Analyſis, are found o contain a ſaline Subſtance; and as the principal Virtue of heſe Waters is ſometimes found to reſide therein, a primary Regard ſhould be had to diſcover, whether a propoſed Mineral Water contains any Salt, to determine the Species thereof, if known, aſſign its Proportion to the Water, or to the other Ingredients, deſcribe its particular Properties, Virtues, and Uſes, nd produce or exhibit ſuch Salt, or Salts, in their natural or rue Form and Appearance.

X. The natural Mineral Salts, or Salts ſuppoſed to be Minel are,

1. Sea Salt, or common Salt.
2. Nitre.
3. Alum.
4. Borax.
5. Sal Ammoniac.
6. Epſom Salt, or the Sal Catharticum amarum.
7. Dr. Liſter's Nitrum Murale, or Calcarious Nitre.
8. The univerſal Acid.
9. The mineral alcaline Salt.

(1) SEA SALT.

XI. In order to diſcover whether Sea Salt, or any other nown Salt be naturally contained in a Mineral Water, it is reviouſly neceſſary to be acquainted with the Natures and Proerties of theſe Salts, otherwiſe we might be at a Loſs to know em, when they come in our way.

XII. Some of the chief Properties of Sea Salt, as diſtinguiſhd from all other known Salts, ſeem to be theſe, *viz.*

1. Its particular Appearance, its ſaline Taſte, and its Form ing either that of Grains, or cubical Cryſtals, when true ot.
2. Its preſerving Quality, eſpecially with regard to animal leſh.
3. Its manner of decrepitating, or crackling, in, or over e Fire; and increaſing the Strength thereof, when ſprinkled er live Coals.
4. The particular Odour it yields in this Decrepitation, being at of the Spirit of Salt.
5. Its affording the true Spirit of Salt, in a denſe, white, ngent Vapour by Diſtillation; which Spirit, as well as the lt in Subſtance, turns Aqua fortis into Aqua regia, and thus kes a Solvent for Gold.
6. Its melting with Difficulty in a ſtrong Fire, and at length lling through the Pores of the Crucible.
7. Its being recoverable from its own Spirit by the Addition any pure and fixed alcaline Salt.
8. Its Spirit conſtituting Sal Ammoniac with any volatile Alcali; or the Salt itſelf affording Sal Ammoniac by Sublimation, after being digeſted with Urine.
9. Its remaining diſſolved by common Water, in the Proportion of about ſix Ounces to a Pint.
10. Its Faculty of precipitating Silver diſſolved in Aqua fortis, ſo as to increaſe the Weight of the Silver, and render it volatile in a ſtrong Fire. A previous Knowledge of theſe Properties of Sea Salt may ſufficiently enable us to diſcover it in a Mineral Water, or under whatever Form or Diſguiſe it may happen to be met with.

XIII. The known ways of diſcovering whether Sea Salt be contained in a Water, ſeem reducible to theſe three, *viz.*

1. Addition to the Water.
2. Evaporation, and Addition to the dry Matter.
3. Cryſtallization.

(1) By ADDITION to the WATERS.

XIV. Caſe 1. To two Ounces of pure diſtilled common Water, contained in a white, cryſtalline, cylindrical Glaſs, add, Drop by Drop, four Grains of a pellucid Solution of Silver, made in Aqua fortis, with one Ounce of refined Silver to four Ounces of proof Aqua fortis, and no Milkineſs, Cloudineſs, Change of Colour, or Tranſparency will appear in the Water.

XV. Caſe 2. To two Ounces of the ſame diſtilled Water add a ſingle Grain of Sea Salt, let it perfectly diſſolve therein, by ſtirring the whole together with a clean Glaſs Rod; and now dropping in four Grains of the ſame Solution of Silver, a manifeſt Milkineſs, or white Cloudineſs will appear in the Water, or a white Precipitate fall to the Bottom of the Glaſs.

XVI. Now, as nothing was added in the ſecond Caſe, more than in the firſt, beſides a ſingle Grain of Sea Salt, it is manifeſt that the Solution of Silver, by cauſing a Milkineſs, or white Precipitate, gives an Indication of the Sea Salt added to the Water in the ſecond Caſe. Therefore, when ſuch a Solution of Silver cauſes no Change in a ſuitable Proportion of a Water, it may hence be ſuſpected that the Water contains extremely little, or no Sea Salt; but if a Milkineſs, or white Precipitate enſues, that ſome Proportion of Sea Salt is lodged therein.

XVII. The chymical Reaſon of the Experiment is this; that Silver remains permanently diſſolved in its proper Menſtrum Aqua fortis; and by no means ſo in the Solvent of Gold, or Aqua regia, which will not touch Silver, but conſtantly precipitates it from its own Solvent Aqua fortis, on account of Sea Salt, or Spirit of Sea Salt, contained in Aqua regia, which conſtitutes the ſole Difference betwixt the two Menſtruums. And therefore, when a Solution of Silver, made in Aqua fortis, is added to pure diſtilled Water, which contains no Sea Salt, it mixes intimately therewith, the Silver here alſo remaining tranſparently diſſolved, and equally ſuſpended, and diſperſed through the whole; but upon the Addition of Sea Salt, which turns the Liquor into an Aqua regia, the Silver is immediately let looſe, the Mixture grows white, or milky, and lets the Silver fall, according to its Nature, in a white Powder or Precipitate, to the Bottom.

XVIII. Caſe 3. To the like Quantities of the ſame Water, contained in ſeveral Glaſſes, ſeparately add a Grain of pure Nitre, pure Alum, and pure Borax, in all which there is no Mixture of Sea Salt, and into each Glaſs let fall the Solution of Silver as before, upon which no Change of Colour, or Tranſparency will enſue, nor any Precipitation be made. And this appears to hold of all the Salts wherein no Sea Salt is contained.

XIX. Caſe 4. Mix together, in a clean Glaſs Mortar, equal or unequal Parts of pure Nitre, pure Borax, and pure Alum, wherein there is no Sea Salt lodged; put four Grains of this Mixture into two Ounces of the diſtilled Water, let the whole intirely diſſolve therein; then add the Solution of Silver, as before, and ſtill no Milkineſs or Precipitation, like that in the ſecond Caſe, will appear. And this alſo ſeems to hold of any Mixture of Salts, provided there be no Sea Salt among them.

XX. Theſe four Caſes, when duly conſidered and compared, will ſhew that a Solution of Silver in Aqua fortis is a ready, an exact, and commodious thing for intimating whether there be or be not any conſiderable, or even minute Proportion of Sea-Salt contained in a Water. The ſame may likewiſe be done by a Solution of Quickſilver in Aqua fortis, or an aqueous Solution of Sugar of Lead, though not in ſo exquiſite and perfect a manner. This kind of Proof may ſometimes, indeed, happen to be fallacious, incompetent, or inſufficient, becauſe other Salts, or Subſtances, whoſe Natures and Properties are not hitherto known, may poſſibly be able to precipitate Silver in Solution, as well as Sea Salt does; whence ſuch kind of Trials ſhould not be propoſed as demonſtrative, but only as probable. All the Inference, therefore, to be juſtly made from them, before they are otherwiſe verified, or confirmed, is, that ſince it muſt with regard to the Truth of the Experiment, be the ſame thing whether Sea Salt is added to a Water by Nature, by Accident, or the Hand of Man, provided it be in the Water, we may hence be furniſhed with a probable Indication whether any Sea Salt, even in a ſmall Proportion, be contained in a Water or not. We now proceed to more direct and infallible Proofs.

(2) By Evaporation and Addition to the dry Matter.

XXI. Caſe 1. To half a Pint of diſtilled common Water add a Dram or two of Sea Salt, which being totally diſſolved therein, evaporate the Solution, over a clear Fire, till a dry Matter remains at the Bottom. This dry Matter will, upon all Trials, be found to be Salt. Thus, for Example, lay a Part of it upon a Piece of clean Glaſs, and add to it a few Drops of well rectified Oil of Vitriol, and a conſiderable Heat and Ebullition will enſue, and a particular white, pungent Vapour, or Steam, ariſe, having the exact Smell of Glauber's ſtrong Spirit of Sea Salt. Now, as no other Salt, unleſs it contains Sea Salt, or the Spirit of Sea Salt, is found, upon the like Experiment, to afford this particular Vapour and Odour, we have hence a clear Indication that Sea Salt was contained in the dry Matter, and by adding a ſufficient Proportion of diſtilled Water to this Matter, then evaporating the Solution, the Salt may be eaſily recovered in its own priſtine Form.

XXII. Caſe 2. As Nitre and Sea Salt may happen to be mixed in a Water, and as both of them afford their reſpective Vapours, or Spirits, upon Contact of Oil of Vitriol, diſſolve equal Parts of theſe two Salts in diſtilled Water, and exhaling the ſuperfluous Moiſture, put the dry Matter into a Retort, and adding Oil of Vitriol to it, diſtil in a Sand Heat, whereby a true Aqua regia will be obtained; that is, a Mixture of Spirit of Nitre, and the Spirit of Sea Salt, both which Spirits are thus made to riſe in Vapour, and come over mixed into the Receiver; whence we have a clear Indication that both Sea Salt and Nitre were contained in the Mixture; ſince no other Matters beſides theſe two in Conjunction are found to afford the true Aqua regia.

XXIII. Caſe 3. Mix together equal or unequal Quantities of Sea Salt, Salt of Tartar, Epſom Salt, Borax and Alum; add a proper Proportion of Oil of Vitriol thereto, and the peculiar, white, pungent Vapour of Sea Salt will immediately ariſe, and give a plain Indication that Sea Salt was contained in the Mixture. And this appears to hold of any other Mixture of different Salts with Sea Salt, excepting Nitre, whoſe Mixture with Sea Salt was conſidered under the ſecond Caſe; for Nitre, upon Contact with Oil of Vitriol, yields its own peculiar Vapour, or the Fume of Spirit of Nitre, eaſily diſtinguiſhable from all others.

XXIV. Caſe 4. Mix together equal or unequal Parts of Sea Salt, Bole Armoniac, Chalk and Brickduſt; then pouring Oil of Vitriol thereto, the peculiar Vapour and Odour of the Spirit of Sea Salt may ſtill be remarkably obſerved and diſtinguiſhed; and this Experiment alſo appears to hold of the Mixture of Sea Salt with any other ſtony, earthy, or mineral Subſtances.

XXV. If this kind of Proof, depending upon the Knowledge of the Smell, and Appearance of a certain Fume or Vapour, ſhould be thought precarious or inconcluſive, as it may be by thoſe who are unacquainted with the peculiar Senſation conſtantly impreſſed by the Fume or Spirit of Sea Salt ſtriking the Noſtrils of any Perſon who has his Smell, the Experiment may be farther proſecuted, and rendered more ſatisfactory and concluſive; for if the Mixtures affording this Odour be diſtilled in a Glaſs Retort and Receiver, with a ſufficient Quantity of Oil of Vitriol, they will afford the true Spirit of Sea Salt, according to all Trials, and particularly by this, that it is convertible into Sea Salt again, by the proper Addition of any fixed alcaline Salt.

XXVI. The chymical Foundation whereon the Succeſs of theſe Experiments with Oil of Vitriol depends, is this, that Oil of Vitriol being a ſtrong Acid, and powerfully diſpoſed to act upon Sea Salt and Nitre, ſo as to enter forcibly into their more fixed or groſs Parts; at the ſame time that this is done, their lighter or more volatile Parts are looſed from their Connection with the groſſer, and left free to riſe according to their lighter Nature; and thus, in proper diſtilling Veſſels, come totally over the Helm, with the Aſſiſtance of Heat, leaving the more ponderous and terreſtrial Matter behind, cloſely united with the Oil of Vitriol, as we ſee in the Diſtillations of Glaubers's ſtrong Spirit of Sea Salt, and Spirit of Nitre.

(3) By Crystallization.

XXVII. Caſe 1. Diſſolve any Proportion of Sea Salt in diſtilled Water, evaporate the Solution till a Film or Skin appears on the Surface; then put the Liquor into a clean earthen Veſſel, ſet it to ſhoot in a cool Place, and, in a few Days time, great Part of the Salt will be found grained; or if the Solution was not too high boiled, and a ſufficient time was afforded, ſhot into Cryſtals of a cubical Figure.

XXVIII. Caſe 2. Mix equal or unequal Parts of Sea Salt, Nitre, and Epſom Salt, by grinding them together in a clean Mortar; diſſolve the whole in diſtilled Water; evaporate the Solution over a clear Fire, till a Film appears on the Surface; then ſet the Liquor in a cool Place for ſome Days, and the Nitre will be found to ſhoot firſt in its natural Cryſtals; which being taken out, and the remaining Liquor again boiled to a proper Height, and expoſed to ſhoot as before, the Sea Salt will be next obtained in its own peculiar Grains or Cryſtals. And if the Experiment be carried farther, by boiling the Liquor again, and ſetting it to ſhoot, the Epſom Salt will likewiſe be obtained. In the ſame Manner may any Mixture of different Salts be ſeparated each in its own particular Form or Cryſtals. The Rule in Cryſtallization is this, that the Salt which diſſolves moſt copiouſly in Water, ſhoots laſt out of the Mixture; and that which diſſolves the moſt ſparingly, firſt; whence Nitre ſhoots before Sea Salt, and Sea Salt before Epſom Salt.

XXIX. This laſt Method of Trial, by Cryſtallization, may of itſelf be eſteemed certain or ſatisfactory; but joined with the two former, by Addition to the Water, and by Evaporation and Addition to the dry Matter, it amounts to a phyſical Demonſtration: So that where they all agree, there can be no doubt that Sea Salt is contained in a Mineral Water, treated after the ſame Manner: For the firſt affords an Intimation, that this Salt is naturally contained in the Water; the ſecond ſhews, that it remains after Evaporation; and the third, that it is actually ſeparable in its own proper Form from the Water, and may in this State be fairly examined, to try whether it has or has not the known Properties of Sea Salt. If any Scruple or Suſpicion ſhould remain, as to its being Sea Salt, let it be ſtrictly compared with a Parcel allowed to be Sea Salt, in all Reſpects, according to the Characteriſtics above given of this Salt; and if no Difference appears betwixt the two, they muſt at leaſt be acknowledged of the ſame kind.

XXX. It might indeed be here objected, that though Sea Salt ſhould be contained in a Water, yet Nature may have ſo intimately, or, as it were, undiſtinguiſhably and inſeparably blended or mixed it in with the Water, or other Contents, as not to manifeſt itſelf upon the ſevereſt Trials; as fixed alcaline Salt is concealed in Glaſs, Acid in Flint, or Sulphur and Mercury in Metals; or as other Principles are in thoſe emphatically called Mixts, to diſtinguiſh them from Aggregates or Compounds, where the Texture is looſe, and the Parts much more eaſily ſeparated. And this Objection muſt be allowed of Force, in ſome Caſes, till we can ſhew that even theſe Mixts can be ſeparated by Art, or have their Ingredients rendered cognizable by the Senſes or the Reaſon. This indeed belongs to a higher Chymiſtry than we are at preſent concerned with; otherwiſe, it might be made appear, that Mixts, with regard to their Analyſis, differ not from Compounds, provided we were furniſhed with ſuitable analyſing Powers, Inſtruments, and Menſtruums. Thus Glaſs may be, without much Difficulty, ſeparated into the Sand, and fixed Salt that compoſe it; and Flints have their Acid ſeparated from them in the making of Glaſs, as we ſee in that Subſtance called, at the Glaſs-houſes, Sandiver; and even the purer Metals may be analyſed by the Burning-glaſs, and otherwiſe. But there is no Occaſion to go thus far for an Anſwer to the preſent Objection, in the Caſe of Mineral Waters, till it can be ſhewn that Nature has made any ſuch firm Mixtures as thoſe above mentioned in Mineral Waters. On the contrary, numerous Experiments ſhew that the Principles here lie looſe, and may be ſeparated, by ordinary Means, to ſuch a Degree of Simplicity, as clearly to manifeſt their phyſical and medicinal Effects, Virtues, and Uſes, wherein our preſent Enquiry centers. We therefore preſume, that the preceding Experiments, duly applied and conſidered, furniſh us with a ſure Method to diſcover whether any Mineral Water contains Sea Salt; and if it does, to ſeparate it from all other Things, render it ſenſible, and determine its Proportion.

XXXI. We have been the fuller upon this firſt Article of Sea Salt, to ſhew an Example of the inductive Method, which we would recommend in Experiments, and particularly in proſecuting Enquiries of this kind, where the Foundations of phyſical Certainty have ſcarce hitherto been laid. And hoping there may be enough done in this ſtrict Way, to ſhew the Nature of the Procedure intended, we ſhall, for fear of being thought too minute and tedious, by frequently and circumſtantially repeating the ſame kind of Experiments, endeavour to diſpatch the remaining Part in a more conciſe and ſummary Manner.

(2) Nitre.

XXXII. The Characteriſtics of pure Nitre, or Salt-petre, ſeem to be chiefly theſe, *viz.*

1. Its peculiar Form, or hexagonal, priſmatic Cryſtals, pyramidical at one End, when the Shoots are true and perfect.

2. Its particular ſharp, or penetrating, cool, and lightly bitteriſh Taſte.

3. Its preſerving Fleſh, and at the ſame time giving it a particular florid or roſy Colour; whereto may be added its im-

proving

ying the red Colour of the Blood, eſpecially when inclined e white, black, or ſizy.

. Its cooling the Body, and lowering the Pulſe; more re- kably in Fevers and Pleuriſies.

. Its yielding a red ſuffocating Fume, or Vapour, in Diſtil- on, and thus affording a true Aqua fortis, or Spirit of Nitre, ch is a Solvent for Silver, but not of itſelf for Gold.

. Its manner of flowing, or melting, in a Crucible in the , which is quick and igneous; though this Salt does not of f take flame in the ſtrongeſt Heat.

. Its fulminating, and turning to a fixed alcaline Salt in Fu- , upon the Addition of Charcoal, Tartar, &c. with a con- rable Loſs of Weight.

. Its compoſing Gunpowder with common Brimſtone and arcoal.

. Its being recoverable from its own acid Spirit, by the pro- Addition of any fixed alcaline Salt.

XXXIII. Theſe Properties of Nitre being laid down, it is to try if any Salt, ſuppoſed to be nitrous, whether found in Mineral Water or otherwiſe, be real Nitre or not. And ce it is manifeſt, that by Nitre, or Salt Petre, we do not n the Nitrum Murale, or calcarious Nitre of Dr. Liſter, ſe Properties will hereafter be delivered; nor the Nitre of Ancients, which appears to have been a very different thing, n alcaline Nature; but our common refined Salt-petre, uſed Medicine, Chymiſtry, and the making of Gunpowder; be- a neutral Salt, with regard to Alcali and Acid, though re- able by Fire and proper Additions into a ſtrong Alcali and ong Acid.

XXXIV. The Ways of diſcovering whether this Nitre be tained in a Water ſeem reducible to four, *viz.*

. By Immerſion, or ſteeping certain Bodies in the Water.
. By Evaporation, and Addition to the dry Matter.
. By Diſtillation with Additions.
. By Cryſtallization.

(1) By IMMERSION, or STEEPING.

XXXV. If a little Nitre be diſſolved in diſtilled Water, and er be ſteeped a while in the Solution, then dried before the ; and, if there be Occaſion, dipped and dried again; the er being now applied to a lighted Candle, or a glowing Coal, immediately take fire, though not flame, and burn like ick-match in a certain ſparkling manner, ſo as to give a nifeſt Sign that it received this Property from Salt-petre; for er ſteeped in the like Solutions of Alum, Epſom Salt, fixed line Salts, Vitriol, Borax, Nitrum Murale, Sea Salt, or other of the known Salts, will not produce the ſame Phæ- nenon. Whence, if Paper ſeveral times ſteeped in a Mine- Water ſhould produce this Effect, or burn after the ſame ticular manner, this would be an Indication that the Water tained Nitre.

XXXVI. The Reaſon of the Experiment ſcarce needs to be ntioned, as it is obvious that the Paper, by being ſoaked in Solution, becomes impregnated with the Water, and of rſe with Particles of the Salt; and being afterwards dried, aqueous Parts thus exhale, and leave the Particles of the t ſticking in the Pores of the Paper, which being now applied the Candle, it takes fire, and burns, or makes little fiery ploſions, according to the well known Property of Nitre, en mixed and fulminated with any inflammable Subſtance. t as this Effect may poſſibly be prevented, or not ſo remarkably ow, if other Salts ſhould happen to be mixed in too large a portion along with the Nitre, the following Caſe may help to diſcover Nitre where it is blended with other Salts.

XXVII. If equal or unequal Quantities of Nitre, Sea Salt, Epſom Salt and Borax be diſſolved in diſtilled Water, and a Piece of raw Fleſh be ſteeped in the Solution for ſome Hours, when it is taken out and examined, or compared with a Piece of the ſame raw Fleſh which has not undergone the ſame Operation, the former will be found redder than the latter, or than another Piece of the ſame Fleſh ſet to ſteep for the ſame time in a Solution of the ſeveral Salts above mentioned, except the Nitre; whence it follows, that Nitre, according to its known Property, was the Cauſe of this additional Redneſs. If, therefore, Mineral Water ſhould have the ſame Effect upon raw Fleſh ſteeped therein, we may preſume that the Water contains Nitre.

XXXVIII. It ſhould ſeem that Nitre gives this particular l or roſy Colour to raw Fleſh, on account of ſome of the ood ſtill remaining therein; for Nitre acts powerfully upon ood, ſo as to heighten its Colour, and long preſerve it freſh d ſound, even when ſtagnant or extravaſated. But, to de- mine this matter, it might be proper to try, whether a uſcle ſo well waſhed and cleanſed from its Blood (by ſoaking fair Water, by Injections into the Blood-veſſels, or other- ſe) as to appear white, could have any Degree of Redneſs tored to it by Nitre; or whether it will turn a Tendon or er white animal Subſtance red.

(2) BY EVAPORATION and ADDITION to the DRY MATTER.

XXXIX. If Nitre be diſſolved in Water, and the Solution evaporared to Dryneſs, the Nitre will remain behind, and may be proved to be Nitre by mixing it with powdered Charcoal, and trying if it will fulminate and turn to an alcaline Salt in the Fire; if it will make Gunpowder with Brimſtone and Willow-coal; or if it will afford the peculiar red Fume of a particular, nauſeous, ſuffocating Odour, like that of Aqua fortis, by pouring Oil of Vitriol to it. And in the ſame manner, though Nitre ſhould be mixed with ſeveral other Salts in a Water, after Evaporation, to a dry Subſtance, Indications may be gained of its being among them; but particularly by adding Oil of Vitriol to the compound Maſs, and obſerving and examining the Fume and Odour thence ariſing.

(3) By DISTILLATION.

XL. So again, if Nitre, after the full Evaporation of any Water, remains mixed among the dry Matter, it may be diſcovered by adding either Oil of Vitriol, calcined Vitriol, or Brickduſt thereto, and diſtilling in a naked Fire; for thus the Nitre parting eaſily with its Spirit, this Spirit will ſoon riſe, and come over in red Fumes into the Receiver; only if Sea Salt happens to be in the Mixture, there may thus be obtained an Aqua regia, inſtead of a pure Spirit of Nitre; though this alſo gives a ſufficient Indication of the Nitre, as Aqua regia cannot be made without the Spirit of Nitre. To carry the Proof farther, let Trial be made whether, by adding a ſufficient Proportion of any fixed alcaline Salt to the Spirit thus procured, true Nitre may not be recovered; and whether this Nitre in particular will not ſerve in the making of Gunpowder, becauſe it has been ſuſpected that regenerated Nitre will not.

(4) By CRYSTALLIZATION.

XLI. It need not be mentioned, after what has been ſaid before of Cryſtallization, that a ſimple Solution of Nitre in Water being brought to a due Height, and ſet in a cool Place, will in a few Days ſhoot into hexagonal, priſmatic Cryſtals of pure Nitre; ſo that if any Mineral Water ſhould contain no Salt but Nitre, this may eaſily be obtained from it, by a proper Evaporation, and ſubſequent Cryſtallization. Again, though ſeveral other Salts beſides Nitre ſhould be contained in a Water, they may, by repeated Evaporations and Cryſtallizations, be made to ſhoot ſeparate, and thus be obtained pure, each in the Shoots or Cryſtals peculiar to itſelf, according to what was above delivered, under the Article CRYSTALLIZATION, with regard to Sea Salt. And in this manner, therefore, Nitre may be obtained pure, and free from the Admixture of any other Salts which happen to be contained in a Mineral Water.

XLII. It will here be proper to remember, that nitrous or other ſaline Matters may poſſibly be contained in Mineral Waters, and yet not be brought to appear in a ſolid or true cryſtalline Form, without ſome particular Encheireſis, or Expedient ſuited to the Purpoſe. Thus it is a conſtant Practice, at the Salt-petre Works, to uſe a fixed alcaline Salt, in order to conſolidate or embody the Nitre, and make it ſhort, firm, ſtrong and regular. The Cauſe appears to be this; that the Matters capable of affording ſuch firm and ſolid Salts are uſually of themſelves too acid; for many acid Matters are little diſpoſed to ſhoot and form themſelves into ſolid and hard Cryſtals; but, to fit them for this Purpoſe, require to have their prevailing Acidity deſtroyed, and the whole Subſtance brought to a neutral State, by means of fixed alcaline Salts, or terreſtrial Alcalies, as we ſee in the making not only of Salt, but alſo of Loaf-Sugar, Alum, the artificial neutral Salts, &c. And theſe ſeveral Experiments and Obſervations properly applied, extended and varied, may afford us a Method of diſcovering with phyſical Certainty whether Nitre be contained in a Mineral Water or not.

(3) ALUM.

XLIII. The more eſſential Properties of Alum, ſo far as they are hitherto known, ſeem to be principally theſe, *viz.*

1. Its peculiar Figure, or the Form of its Cryſtals, which conſiſt of eleven plain Sides, five of them ſexangular, and ſix quadrangular.

2. Its peculiar, ſharp, rough, ſtyptic, or aſtringent Taſte.

3. Its melting aqueous over a ſoft Fire, and riſing in a Bliſter; but at length to a white, light, ſpungy Subſtance, called Burnt-Alum.

4. Its affording, when burnt, an acid Spirit, ſomewhat like Oil of Vitriol, by being diſtilled in a ſtrong Fire, even without Addition.

5. This Spirit conſtituting Alum again, by being properly united with any fixed alcaline Salt.

6. Its particular Uſes in ſtriking and fixing certain Colours along with other Ingredients, as we ſee in the Art of Dying, Leather-dreſſing, the making of red Inks, &c.

7. Its being the only Salt, that, with ſuitable animal, or vegetable Subſtances, will make the black Phoſphorus, or Pyrophorus.

The black Phoſphorus is a black Powder, now uſually made with Wheat Flower and Alum mixed together in a certain Proportion, and calcined to a certain Degree, till it acquires the Property of taking fire ſpontaneouſly in the open Air, and appearing like a glowing Coal.

8. Its near Affinity with Vitriol freed from the metallic Part it contains.

9. Its ſerving like Vitriol in obtaining the common Kinds of Aqua fortis from Nitre.

XLIV. The more ſatisfactory Ways of diſcovering whether Alum be contained in a Mineral Water ſeem reducible to three, *viz.*

1. By the Taſte.
2. By Evaporation, and treating the dry Matter.
3. By Cryſtallization.

(1) By the Taste.

XLV. It is eaſy to diſtinguiſh, by the Taſte, any conſiderable Proportion of Alum diſſolved in Water; but if the Proportion ſhould be very minute, Part of the Water may be exhaled, and the Remainder taſted; for Alum will not evaporate by being boiled in Water; ſo that thus the Proportion may be greatly increaſed, till at length, if there be any of this Salt in the Water, it will come to be perceived by the Taſte. And this Caſe may often hold, though other Salts beſides Alum ſhould happen to be lodged in the Water, ſuch as Epſom Salt, Nitre, fixed alcaline Salt, *&c.* But the Salts, or other Subſtances which mixed with Alum in a Mineral Water ſeem the moſt likely to confound the Taſte, or prevent its perceiving the Alum, are Sea Salt, Acid, Vitriol, ſtyptic irony Earths, Chalk or Limeſtone corroded and diſſolved by an Acid or otherwiſe; ſo that, though a Water actually contains Alum, yet the Taſte ſhall not with Certainty diſcover it; whence Recourſe muſt be had to particular Experiments, more ſubtile and exquiſite than the Taſte. We cannot at preſent ſuggeſt or recollect any ſatisfactory Experiment for determining, by Addition to the Water, whether Alum, either alone, or mixed with other Salts, be contained in a Mineral Water; though the Plant called Ragged Robert is ſaid peculiarly to turn any Water red wherein Alum is diſſolved.

(2) By Evaporation, and treating the dry Matter.

XLVI. When Alum is the only Salt contained in a Water, it may eaſily be diſcovered and rendered ſenſible by Evaporation, and trying whether the dry Matter, upon Examination by the Senſes and particular Experiments, does not manifeſt all the known Signs of Alum. But when this Salt happens to be mixed with others, let the dry mixed Maſs be laid upon a hot Iron Plate, where the Alum riſing in a Bliſter, and ſeparating from the reſt in the Form of Burnt Alum, may be afterwards diſſolved in diſtilled Water, and brought by Cryſtallization to the true Form and Appearance of Alum. This Method, indeed, may prove imperfect, eſpecially when other Salts that ſwell and riſe in Bliſters upon a hot Iron as well as Alum happen to be mixed therewith, as Borax, and the calcarious Nitre do, though in a ſomewhat different manner; ſo that, in this Caſe, a farther Illuſtration and Confirmation muſt be had from the ſurer Method of Cryſtallization.

(3) By Crystallization.

XLVII. Although a Water ſhould be truly aluminous, yet it may not be practicable, as was alſo obſerved under Nitre, to make the aluminous Matter cryſtallize without the Aſſiſtance of a proper Expedient for the Purpoſe. Hence, even at the Alum Works, the Alum does not appear in its true rocky Form at the firſt Operation, without the Addition of Kelp and putrefied Urine, whereby we are directed to uſe the ſame Expedient occaſionally. And thus if a Water ſhould contain any Number of Salts, beſides an aluminous one, this may, by Cryſtallization properly repeated, be ſeparated from the reſt, and rendered ſenſible in its own natural Form.

(4) Borax.

XLVIII. Borax is a Salt not hitherto allowed to be found native in England, for which Reaſon we ſhall, in this Place, treat more lightly of it; though its natural Hiſtory is of Conſequence in Chymiſtry and Phyſics, as being a Salt of a very extraordinary Nature. Its diſcriminating Properties are chiefly theſe, *viz.*

1. Its Form and Appearance, as brought to us from the Eaſt Indies, which is that of dirty Lumps, or a coarſe, ſaline and particularly fœtid Subſtance, mixed with much unctuous, earthy and ſtony Matter; and in this State it is commonly called Tincal, or Tincar.

2. Its pure and intire Cryſtals, when refined, being octagonal Priſms very finely cut, though ſeldom obtained perfect in the ordinary way of refining it.

3. Its particular Taſte, not eaſy to be deſcribed, as being ſweetiſh, ſharpiſh, and ſomewhat urinous or lixivious.

4. Its Property of ſoldering Metals, or making them eaſily unite, or take hold of each other; more particularly the Pa of Gold.

5. Its making an excellent Flux for Metals and certain Or and, by being melted with a proper Proportion of Sand o Flint, turning, in a very ſhort time, to a hard Glaſs, capable cutting common Glaſs almoſt like a Diamond.

6. Its extremely vitreſcible Nature, ſo as by itſelf, with moderate Heat, and in a few Minutes time, to become tr and permanent Glaſs.

XLIX. The Ways of diſcovering whether Borax be contai in a Mineral Water are principally two, *viz.*

1. By Evaporation.
2. By Cryſtallization.

(1) Since this Salt does not exhale by boiling in Water, (appears in the refining of it, which requires long boiling) if a of it be diſſolved in Water, it will be left behind among t dry Subſtance gained by a total Evaporation, which dry S ſtance being laid upon a hot Iron held over a common c Fire, if any Part thus melts aqueous, and riſes high into a wh ſpungy Maſs, this may be collected ſeparate, and examined b the Senſes and particular Experiments, according to the Prope ties above laid down, whether it be Borax, Alum, or the calc rious Nitre; for all theſe riſe at firſt ſomewhat in the ſa manner; but if the Fire be continued, or raiſed to a prop Height, the Borax ſoon melts a ſecond time, and turns Glaſs, which Alum and the calcarious Nitre will not d whereby it may be readily diſtinguiſhed from them. And t Glaſs has the ſame Properties as Borax itſelf, with regard Soldering, fluxing Metals, *&c.*

L. (2) But to gain Borax in its natural Form and Appe ance, ſeparate from all other Salts or foreign Mixtures, muſt have recourſe to Cryſtallization. And to obtain it perfect or intire Cryſtals, certain Additions, Cautions, and E cheireſes are required, wherein conſiſts the Secret of refin this Salt. Thus, in Particular, it is neceſſary,

1. To uſe a ſtrong alcaline Salt, and Lime-water.
2. To make the Solution perfectly pure.
3. To cover this Solution whilſt it remains hot, and ſuffer to cool ſlowly.
4. To uſe proper metalline Strings for the Salt to adhere to
5. Not to open the Veſſel till the Liquor has been for ſo time cold. And thus it may be diſcovered whether Borax, pe fect or imperfect, be contained in a Mineral Water.

(5) Sal Ammoniac.

LI. Sal Ammoniac has the following Properties, which m ſufficiently diſtinguiſh it from any other known Salt, *viz.*

1. Its Taſte is much more penetrating and quick than t of Sea Salt, and ſomewhat urinous.

2. It renders Water intenſely cold, whilſt continuing diſſolve therein.

3. By Cryſtallization it ſhoots into a kind of light, feathery or ſnowy Subſtance.

4. When mixed with any fixed alcaline Salt, it yields a pu gent volatile Vapour, that ſtrikes the Noſtrils like Salt of Har horn; and if the Mixture be ſublimed, a dry, volatile, alcali Salt is thus obtained.

5. It has the Property of ſoldering or joining Tin and Co per together.

6. It will, by itſelf, with a proper Degree of Heat, tota ſublime, unaltered in its Nature.

7. It cauſes certain Mineral Waters, and even Metals, ſublime along with it.

8. It turns Aqua fortis into Aqua regia, on account of t Spirit of Sea Salt which it contains.

LII. A Knowledge of theſe Properties, and of the Doctri already delivered, will enable us to diſcover whether this S be contained in a Mineral Water, *viz.*

1. By the Taſte, eſpecially after a large Proportion of t aqueous Moiſture is evaporated.

2. By trying whether the Water, after a large Evaporatio will promote the Union of Tin with Braſs or Copper in t way of Soldering.

3. By exhaling the Water to a dry Remainder, and putti this Remainder to common Water, to try if it will increaſe t Coldneſs thereof.

4. By diſſolving with Water the Salts contained in the d Remainder, and cryſtallizing the Solution, to try if any t Sal Ammoniac may be thus obtained.

(6) Epsom Salt, or Sal Catharticum amarum.

LIII. Some of the principal Properties of the Sal Cathar cum amarum, when perfectly pure, are the following, *viz.*

1. The Form of its Cryſtals, which appear like ſmall Plates, all of them tranſparent, when ſingly viewed againſt Light, but white when lying in a Heap, and viewed by R flection; though Glauber's Sal Mirabile alſo will ſometi ſhoot in the like ſmall, icy Plates, ſomewhat reſembling Sperma Ceti in the Parcel.

2. The conſiderable Bitterneſs and penetrating Nature of its Taſte, whereby it ſeems to ſink deep into the Tongue, whilſt it diſſolves quick in the Mouth.

3. Its diſſolving totally and readily in its own Weight of common Water, leaving the Solution coagulable into a white and almoſt ſolid Subſtance, by the Addition of rectified Spirit of Wine.

4. When perfectly pure, and totally ſeparated from Sea Salt, it neither grows hot, nor makes any Ebullition upon the Addition of Oil of Vitriol.

5. Its Solution in Water does not turn white, or milky, with the Solution of Silver in Aqua fortis, provided the Salt be perfectly pure, whence we may have a Teſt of its Purity, and ntire Separation from Sea Salt.

6. It has a quick and ſtrong purgative Virtue; but ſo likewiſe has that artificial Salt, called Glauber's Sal Mirabile.

7. When mixed with powdered Charcoal, and ſet in a ſtrong Heat, it totally exhales, and yields a copious ſulphurous Fume.

LIV. By theſe Properties we may be enabled to diſcover with Certainty whether the Sal Catharticum amarum be con-ained in a Mineral Water, *viz.*

1. By a remarkable and particularly nauſeous penetrating Bitterneſs found upon taſting the Water, eſpecially after ſome conſiderable Evaporation of its aqueous Part; for this Salt will ot fly off in the Evaporation, as we know from the manner f preparing it, after long boiling at the Salt-works, where it made from Sea Salt, after all the Sea Salt is ſhot, when the emaining Liquor, called Bittern, by a farther Evaporation and Cryſtallization, affords the Sal Catharticum amarum.

2. As this Salt appears to be the moſt ſoluble in Water of ny Salt, except Sugar, we are not, by the Law of Cryſtal-zation, to expect it ſhould appear till the other Salts are firſt ſe-arated from the Mineral Waters that hold it; after which, by freſh Evaporation and Cryſtallization, it may be gained in its ue Figure, and be proved to be pure and perfect, by its hav-g the ſeveral Properties above enumerated.

(7) NITRUM MURALE, or the CALCARIOUS NITRE.

LV. This Salt is not only ſaid to be found in Mineral Wa-rs, but alſo to be procurable by powdering and boiling the Mortar of old Walls, and cryſtallizing the clear Solution or ixivium. The Properties of it, ſo far as hitherto known, are hiefly theſe, *viz.*

1. Its Cryſtals, when perfect, are long and ſlender, conſiſt-g of four, and ſometimes of five unequal parallelogram Sides; t one of the Points of two plain Triangles, and the other of o flat Squares.

2. It is lightly bitter to the Taſte, and does not readily diſ-lve in the Mouth, nor with the Senſation of Coolneſs, as ue Nitre does.

3. It is a neutral Salt, or neither acid nor alcaline, though very ifferent from Salt-petre, with which it has been confounded, not being diſpoſed to make Gunpowder, nor Aqua fortis, r to fulminate with Charcoal in the Fire, nor to turn to a ed alcaline Salt.

4. When kept upon a hot Iron Plate over the Fire, it riſes Bliſters, and turns to a light, ſpungy, white Subſtance, hich, when farther urged by Heat, does not vitrify, but re-ains looſe like Lime. The ſure Way, therefore, of diſcover-g whether this Salt be contained in a Mineral Water, is by Eva-ration and Cryſtallization carried to their due Length, and amining the Salts ſeparately obtained, to ſee if any one of em anſwers to the Characters here laid down.

(8) MINERAL ACIDS.

LVI. Acids are of various Kinds, or vegetable, animal, and ineral, with their reſpective Subdiviſions as Lemon-juice, ennet, Spirit of Sulphur, or Oil of Vitriol, *&c.* But what e are here more particularly concerned with is, the Mineral pecies, or ſuch as being naturally contained in the Earth may me to mix with a Mineral Water. And that ſomething of is kind happens in certain Waters, appears to have been nerally believed, as all the briſk or ſpiritous Mineral Waters to this Day called by the Name of Acidulæ. This Opi-on ſeems to have ariſen firſt from the Taſte of theſe Waters, hich is ſharp, quick, briſk and pungent, whilſt the Waters freſh; and, ſecondly, from a Suppoſition that there is one eral or univerſal Acid contained in the Earth; which Acid, corroding or diſſolving a ſuitable Earth, makes Alum; or ſaturating itſelf with Copper, or Iron, makes the reſpective riols of thoſe Metals, *&c.*

LVII. Now, in order to determine whether this, or any er Acid, be contained looſe or unmortified in a Mineral ater, we ſhould, as in the former Caſes, be previouſly ac-inted with the Properties of Acids as Acids. And theſe Pro-ties ſeem reducible to the three following, *viz.*

1. The Taſte, when rightly informed and prepared, and the Sub-properly applied, or in a ſufficient Degree of Strength to cognizable. Thus, though the Juice of Lemons, and Spirit of Sulphur are acid, yet they may be ſo largely diluted with Water, as not to be diſtinguiſhable by the exacteſt Taſte. And that the Taſte may be ill inſtructed, or, to ſpeak more properly, that the Judgment may form a wrong Concluſion from the Senſation called Taſte, is certain, becauſe the Taſte, which ſome call briſk, quick, or alcaline, has by others been called tart, ſour, or acid, which has been the Caſe in ſeveral Mineral Waters. A proper Habit of Judging, or a kind of learned and exerciſed Taſte, ſeems therefore requiſite in this Affair.

2. The Change of Colour which Acids (or Liquors wherein any Acid preſides) produce with certain vegetable Subjects, or artificial Preparations, is a more exquiſite way of Trial than the Taſte, and diſcovers a much more minute Proportion of an Acid than is cognizable by the direct Senſes, unaſſiſted by this Expedient. Theſe Experiments are various; thus though a Water be but lightly acid, a few dried red Roſes, or freſh Violets, will give it a fine red Colour, as may eaſily be tried by adding a few Drops of Spirit of Sulphur, Oil of Vitriol, *&c*, to diſtilled Water, and then putting in the Roſes, Violets, or their reſpective Syrups. So again, if a Water be acid, the Addition of a little Oil of Tartar per deliquium will remarkably alter the Taſte of the Water, and give it, for ſome ſmall time, a Degree of Briſkneſs, Quickneſs, or Pungency upon the Tongue, which it had not before, and take off the Acidity either totally, or in part, according to the Proportion of the Oil of Tartar added.

3. The third, and moſt eſſential or diſtinguiſhing Property of Acids, is that of becoming neutral with Alcalies, and thus forming a new thing, intirely different in its Properties and Effects from both. This may eaſily be tried in Juice of Lemons, and Salt of Tartar, a due Proportion of which makes the famous antiemetic, neutral Mixture of Riverius; in diſtilled Vinegar, and Salt of Tartar, which make that extraordinary neutral Menſtruum and Medicine, called Regenerated Tartar; in Oil of Vitriol, and Salt of Tartar, which make the true Tartarum Vitriolatum, *&c.* And hence we are furniſhed with three principal, and, if taken together, three ſure Ways of determining whether a Mineral Water contains any Acid in the Form of an Acid.

LVIII. The Particulars that may tend to invalidate or elude theſe Trials, are the Volatility, the Paucity, and the Mixture of the Acid with other things. If the Acid of a Mineral Water ſhould be volatile, and, at the ſame time, little in Quantity, we may endeavour, by a careful Diſtillation, to ſeparate, concentrate, or reduce it to a ſmall Bulk, wherein it may bear a large Proportion to the aqueous Vehicle that contains it, and, in this State, make our Experiments upon it, if they ſhould not be capable of diſcovering it in the natural Water itſelf. Again, if the Acid be ſmall in Quantity, but of a more fixed Nature, ſo as to ſuſtain a boiling Heat, without flying off, Evaporation will eaſily concentrate, or bring it into a leſs Compaſs, and fit it the better for our Trials. But if it ſhould be mixed, or intimately united with an alcaline ſalt Earth, or metallic Subſtance, it is not to be expected that in this State it ſhould directly manifeſt itſelf upon theſe Trials; as not being the thing we here intend, or are concerned with, as now making an Ingredient in a mixed Body, where its own particular Nature is deſtroyed or aboliſhed; though more powerful Agents, as for Inſtance, a violent Fire, or a proper Diſtillation, with ſuitable Additions, might here break the Connexion, and recover the Acid, as we ſee in the Diſtillation of Nitre, Sea Salt, Alum, Vitriol, *&c.* where the Acid is ſeparated from the earthy or metallic Matters, wherewith it was before intimately and ſtrongly united.

(9) MINERAL ALCALIES.

LIX. Alcalies are of two general Kinds, earthy and ſaline; we are concerned with both of them in the preſent Enquiry. By earthy Alcalies are meant all thoſe earthy Matters, which of themſelves ſcarce diſſolve in pure Water, but being added in a ſufficient Proportion to Acids deſtroy or aboliſh the Acidity thereof, and form a new thing, of a neutral Nature, that in this new or compound State manifeſts no Signs of a prevailing Acid or Alcali. And of this kind are Chalk, Lime-ſtone, Crabs-eyes, Oiſter-ſhells, Egg-ſhells, *&c.* Thus if common Water be acidulated with Oil of Vitriol, and a little Chalk be ſcraped into it, an Ebullition or Conflict will preſently ariſe, during which the Water has a briſk or quick lively Taſte; and at length, when the Point of Saturation is hit, all the Acidity will be aboliſhed, not only to the Taſte, but ſo far, that the exacteſt Experiments commonly uſed to determine Alcalies and Acids will here manifeſt no Signs of either. And this is a certain Characteriſtic, or the proper Meaning of an Alcali.

LX. Saline Alcalies are of two Sorts, fixed and volatile. How fixed Alcalies are obtainable by Art has been ſhewn above: And ſome of their principal Properties are the following, *viz.*

1. They have a fiery or extremely acrimonious Taſte, but no Odour.

2. They are cauſtic, and, if ſtrong, eat or conſume the Fleſh, when applied thereto.

3. Being long boiled with Oil and Water, they make Soap.

4. Of themſelves they are fixed in the Fire, ſo as not to loſe conſiderably of their Weight therein.

5. They readily grow moiſt, and run into a Liquor, by attracting Water out of the Air.

6. Melted with Sand, or any vitreſcible earthy Matter, they make Glaſs.

7. Added to Spirit of Nitre, or Spirit of Sea Salt, they bring theſe Spirits back to their own Salts reſpectively.

8. They turn a Solution of Sublimate in Water yellow or red; Syrup of Violets or red Roſes green, *&c.*

LXI. Volatile alcaline Salts appear to differ but little from the fixed, except in thoſe Properties which depend upon their Volatility; for theſe alſo are cauſtic and fiery to the Taſte; but, on account of their Volatility, briſkly ſtrike and ſhake the Nerves of the Noſe, being ſpontaneouſly volatile, and flying away in the open Air, and, in Diſtillation, riſing ſooner than Spirit of Wine. Theſe alſo regenerate Nitre and Sea Salt from their Spirits; though the Salts thus regenerated are ſemi-volatile, or much more volatile than the natural, being in this reſpect like Sal Ammoniac. And, laſtly, they produce the ſame Changes of Colour, upon Mixture with other things, as the fixed.

LXII. Under this Head of Alcalies, therefore, our Experiments muſt be directed to diſcover whether an earthy, a fixed, ſaline, or volatile Alcali be contained in a Mineral Water. And, firſt, if a volatile Alcali ſhould be contained therein, we ſee it may be reaſonably expected that this ſhould manifeſt itſelf by its Odour, by Additions, or by Diſtillation. The Odour of a volatile alcaline Salt, if any ſuch be contained in a Water, may be perceived by immediately applying the Noſtrils thereto, eſpecially as freſh taken up from the Well; for if a very few Grains of the volatile Salt of Hartſhorn, or a few Drops of the Spirit of Hartſhorn, or Spirit of Sal Ammoniac be mixed with a Glaſs of fair Water, the Odour of them is very diſtinguiſhable. Again, if any volatile alcaline Salt reſide or be a looſe Ingredient in the Water, it will give Signs of itſelf, by changing Syrup of Violets green; or the like Experiments by Addition; though theſe Experiments will not of themſelves determine whether it be a fixed or a volatile alcaline Salt, becauſe they both act alike, with regard to ſuch Experiments; ſo that here the Aſſiſtance of Evaporation or Diſtillation may be uſed to ſhew whether the Salt will riſe by Heat, or remain among the dry Matter, after a total Exhalation of the aqueous Parts. And if any conſiderable Proportion of a volatile alcaline Salt ſhould be lodged in Water, a gentle Diſtillation would eaſily ſeparate it from the Bulk of the Water, and bring it over firſt in the Form of a volatile or urinous Spirit or Salt, as we conſtantly find in the Rectification of volatile urinous Spirit, or Salt, with Water.

LXIII. If a fixed alcaline Salt be contained in a Mineral Water, it is eaſily diſcoverable by the Addition of ſuch things as are known to produce a Change of Colour therewith, though theſe will not diſtinguiſh it from a volatile alcaline Salt; but then Evaporation is a ready Expedient, whereby a dry Matter being procured from the Water, the fixed Salt may be diſſolved or taken up by diſtilled Water from the reſt, and thus be rendered ſenſible in its own Form; at leaſt this may be done after the other Salts, if there are any, ſhall have been ſeparated from it by repeated Cryſtallization; for fixed alcaline Salt will not eaſily cryſtallize, or perhaps not at all, unleſs it ſome way or other unites with an Acid.

LXIV. If earthy Alcalies, or alcaline Earths, be contained in a Mineral Water, theſe alſo are eaſily ſeparable from it, and rendered ſenſible by Evaporation, and afterwards taking up the ſaline Part of the dry Matter by diſtilled Water; for thus all the groſſer earthy Subſtance will be left behind. But how different earthy Subſtances may be ſeparated from each other, we ſhall preſently ſhew; for we are not here concerned with groſſer metallic Earths, but thoſe of the finer alcaline kind, which in ſome Degree approach to the Nature of fixed alcaline Salts, and may therefore in part remain permanently mixed or diſſolved in a Mineral Water, without hindering its Tranſparency, or even paſs the Filtre along with the ſaline Matter; for ſuch a kind of Earth is found to adhere or unite to fixed alcaline Salts, and may be ſeparated from them by repeated Solutions and Filtrations, ſome of this Earth each time remaining in the Filtre. And ſo much for the general Head of Salts.

(2) EARTHS.

LXV. By Earths we here mean all thoſe more fixed Parts of a Mineral Water, which remain behind after a perfect Elixation or Separation of the ſaline Matters by means of a boiling Water, whether theſe fixed earthy Parts be calcarious, metallic, ſandy, ſtony, marly, okery, *&c.* And though poſſibly all the Species of Earths, when reduced to a ſufficient Degree of Tenuity, or Fineneſs of Parts, may lodge in the Pores of Water, without hindering its Tranſparency; yet thoſe that have, by a propet Analyſis, been found in Mineral Waters, ſeem chiefly reducible to three, *viz.* The calcarious, ſtony, and okery; but if any others ſhould be contained in a Water, they likewiſe may be diſcovered, ſeparated, and rendered ſenſible. For as Earths do not evaporate by Heat, eſpecially not by the Heat of boiling Water, whatever of this kind is naturally contained in a Water, will, after a total Exhalation of the aqueous Parts, remain among the dry Matter left at the Bottom; which dry Matter being once or twice boiled in diſtilled Water, and the Liquor each time filtred, all the more groſs terreſtrial Matter will thus remain behind in the Filtre. So that if only one Species of Earth be contained in a Mineral Water, it is thus eaſily obtained, and made to appear in its natural Form.

LXVI. But if two or more Earths are ſuſpected in a Water, let Care be taken, from the Beginning of the Evaporation, to obſerve whether any terreſtrial Particles concrete or unite into ſmall Grains almoſt like Duſt or fine Sand upon the Surface of the Water; for theſe being carefully taken off and dried, may prove a different Sort of Earth from that which falls to the Bottom in the Boiling, as there thus ſeems to be a Difference in their ſpecific Gravity, or Fineneſs of Parts. So likewiſe two different Earths may be obtained ſeparate, by permitting the Water to ſtand for ſome conſiderable time in a wide-mouthed Glaſs, looſely covered to keep out the Duſt; for thus an earthy Skin will often gather on the Surface, and an okery Subſtance, or metallic Earth, fall to the Bottom, or line the Inſide of the Glaſs.

LXVII. Precipitation is another Method of ſeparating the earthy Contents of a Water, as particularly by adding a fixed alcaline Salt thereto, which cauſes the earthy Matter to fall to the Bottom, ſo as that it may be eaſily ſeparated by the Filtre, and by being well waſhed and dried appear in its proper Form; and thus be ſubmitted to a farther Examination, by means of Lotion in pure Water, and a proper Degree of Fire, whereby its ſimple and compound Nature may be diſcovered.

LXVIII. The diſtinguiſhing Properties of a calcarious Earth are chiefly theſe, *viz.*

1. Partly to diſſolve without much Difficulty in the Mouth, as if it approached the Nature of fixed alcaline Salts.

2. To make an Efferveſcence with Acids, and take off their Acidity.

3. To become highly ſharp, corroſive, or cauſtic, like Lime, by being burned, or long detained in the Fire.

4. Not to melt, or vitrify, with a ſtrong Heat.

LXIX. Stony Earths, as found in Mineral Waters, are known,

1. By their quick falling to the Bottom of the Water in boiling, and being uſually the laſt that remain after a perfect waſhing and Separation of the Salts and other Earths by repeated Affuſions of fair Water.

2. By appearing like true Sand, and melting into Glaſs in a ſtrong Fire with fixed Alcali.

LXX. Okery Earths are diſtinguiſhable,

1. By their natural yellow, reddiſh, or red Colour.

2. By growing redder after Calcination.

3. By their rough, ſtyptic, or aſtringent Taſte.

4. By their yielding ſome Proportion of Iron upon Fuſion.

LXXI. In like manner all the Earths, whether metallic, ſulphurous, or ſaline, as Ores, Semimetals, Marcaſites, Vitriols, *&c.* have their peculiar Properties, and may be diſcovered or brought under the direct Cognizance of the Senſes, if lodged in a Mineral Water; eſpecially by means of Lotion, Elixation and Fuſion, either alone, or with the Addition of proper Fluxes, according to the Rules of Metallurgy.

(3) SULPHURS.

LXXII. Several Mineral Bodies go under the general Denomination of Sulphurs; as Brimſtone, Orpiment, Petroleum, Bitumen, *&c.* But we are only concerned with thoſe at preſent that may lie concealed, undiſtinguiſhable to the Eye, in Mineral Waters; and ſuch are chiefly ſuppoſed to be Brimſtone and Orpiment: But as Orpiment is not allowed to be found native in England, we need not here be ſollicitous about it, any farther than to rectify ſome Miſtakes which have crep abroad to its Diſadvantage, as if it were, what it is not, a poiſonous Mineral. The true native Orpiment, or Auripigmentum, is a yellow, ſulphurous, ſhining, or ſpangly Mineral consiſting of little Flakes or Scales, like Talc, and comes to u from Greece, where it is dug out of certain Mountains. It i a very different thing from all the Species of Arſenic, whic are artificial Preparations of Cobalt, a poiſonous Mineral fou in Miſnia, where the ſeveral kinds of Arſenic are prepare Orpiment being reduced to Powder, and ſet in the Fire, wi flame, and emit a white or yellowiſh Fume, yielding th Odour of common Brimſtone; and thus changing the Surface of polished Iron Plate held in it of a white, yellow and reddiſh C lour, leaving a Proportion of ſandy Earth behind. It is uſed Painters as a Gold Colour, and for making ſympathetic Ink, & It is ſold common at the Colour-ſhops, without the Suſpici of its being poiſonous any more than Antimony, or Brimſton

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and ſome have uſed it medicinally, by the Way of Fumigation, nd for venereal Ulcers; and others internally, for the Aſthma, without finding it prejudicial. Upon the Whole, Orpiment appears related to Antimony; which is alſo a ſulphureous Mineral, that remains innocent ſo long as it is joined with its Sulphur, but proves emetic, or deleterious, when ſeparated from t; and, in like Manner, not to mention other Correſpondencies, does Orpiment. We have been the more particular in this Account, becauſe ſome eminent Perſons, not diſtinguiſhing betwixt Orpiment and Arſenic, have erroneouſly imagined, that poſſibly mineral Waters might be poiſonous, on Account of their containing Orpiment; and again, to give the Characteriſtics of t, whereby it may be known and diſtinguiſhed; though, as was before obſerved, it is not native in England. But, if it were, and though any mineral Water ſhould be impregnated with it (of which no Inſtance has hitherto appeared) yet, the ſame Experiments, that ſerve to diſcover Brimſtone in a mineral Water, may alſo ſerve to diſcover Orpiment.

LXXIII. Some of the principal Characteriſtics of Sulphur or Brimſtone are theſe, viz.

1. It melts readily over a ſoft Fire, and ſoon grows hard again in the Cold.

2. It is very inflammable, and burns with a livid or blue Flame; at the ſame Time diffuſing, from a very ſmall Quantity, a copious and peculiarly offenſive ſuffocating Vapour or Fume.

3. Being thus burned under a glaſs Bell, this Fume condenſes into a highly acid Liquor, called *Oleum Sulphuris per Campa- am.*

4. It is abſolutely neceſſary in the making of Gun-powder, as ulminating and having its Nature intirely deſtroyed by Nitre in he Deflagration.

5. It readily unites in the Fire with fixed Alcali, and thus akes a duſky red or liver-coloured Maſs, which, being diſſolved Water and precipitated, affords an extremely fœtid Odor, like at of a rotten Egg.

6. Being diſtilled with Quick-lime and Sal Ammoniac, it af- rds a yellow, ſmoking, and highly fœtid Spirit; ſo likewiſe do heſe two ſulphureous Minerals, Orpiment and Antimony.

7. Its Solution, in a Lixivium of fixed Alcali, changes Silver ack.

8. Being melted and mixed with Quick-ſilver, the whole turns reſently to a black Maſs.

9. It diſſolves into a Balſam by being boiled with Oil.

10. It demetallizes Iron, applied thereto when red hot; and as other ſurpriſing Effects upon Metals.

LXXIV. Theſe Properties of Sulphur may ſufficiently enable to diſcover, whether it be contained in a mineral Water; the Ways of doing which ſeem reducible to two, viz.

1. By Additions to the Water.

2. By treating the dry Matter left after Evaporation. But e are to obſerve, that Sulphur, in an unmixed State, does ot eaſily, or perhaps not at all, diſſolve in pure Water, nor in cid Liquors; though it does in ſuch as are alcaline; whence it chiefly to be expected in mineral Waters of an alcaline Na- re. And here it may be eaſily diſcovered, by laying Pieces pure Silver in the Water, to try, if they will be diſcolour- d or turned black therein; or by adding a Solution of Silver to e Water, to try if any Blackneſs enſues. The Odor alſo ing like that of rotten Eggs, or a foul Gun-barrel, will uſual- diſcover ſuch a Mixture of Sulphur. But (2) a more gene- l and ſatisfactory Way is, to evaporate the Water, and examine e dry Remainder, by laying Part of it upon a hot Iron, to ſee thus any Thing melts eaſily, takes Fire, or burns blue, with e peculiar Odor of fired Brimſtone; or if by burning, un- er a glaſs Bell, it will yield the Oleum Sulphuris. And, laſt- , let Spirit of Vitriol and Water be added in a ſufficient Quantity, to a Part of the dry Remainder, whereby a Precipi- tion of the Sulphur, if there is any, will be made; which ow falling, in the Form of a Powder, to the Bottom, may e collected ſeparate, ſublimed into Flowers, or melted, and us reduced to a ſolid Lump of Brimſtone, like the common.

(4) Fumes or Spirits.

LXXV. By Fumes or Spirits we here mean, in a general nſe, thoſe fugitive or volatile Parts of a mineral Water, hich ſpontaneouſly fly off from it in the open Air, or quit the ody of the Water with a leſs Degree of Heat than ſerves to iſe the mere aqueous Parts thereof in Vapour, or by common Diſtillation.

LXXVI. The Fumes or Spirits of this Kind, having never itherto been collected ſeparate and examined, it cannot be pected, that we ſhould here deſcribe their Properties or Ef- cts; but as there is ſufficient Evidence to ſhew, that ſuch pirits or ſubtile fugitive Matters do lodge in certain mineral Waters, more eſpecially in thoſe of the briſk, alcaline, and cold rt; and that they very readily deſert the Body of the Water, on ſtanding open, or feeling a ſmall Degree of Heat; (thus aving the Water more ſpiritleſs and vapid) our beſt Endeavours uld be uſed to manifeſt, or render ſenſible, to ſeparate, collect, examine theſe Spirits, in order to determine their Natures, Properties, and Uſes. And the Ways of doing this ſeem reducible to the following ten, viz.

1. The Smell.
2. The Taſte.
3. The Sight.
4. The ſpecific Gravity.
5. Expanſion.
6. The exhauſted Receiver of the Air-pump.
7. Diſtillation.
8. Effects upon Drinking.
9. Additions.
10. Direct Collection and Weight.

LXXVII. (1) If a mineral Water, when a Glaſs of it is freſh taken up at the Well-head, and applied near the Noſtrils, ſhall prove to have a briſk, quick, or pungent Odor; but loſes this Odor after ſtanding for ſome Time in the open Air, or feeling a ſmall Degree of Heat, it may be preſumed, that ſuch a Water naturally contains what may be called a Spirit; at leaſt it will hence be certain, that the Water by ſtanding open, or feeling a ſmall Degree of Heat, loſes the Property which it had, when freſh, of ſtriking the olfactory Nerves, in a particular Manner, ſo as to cauſe a certain Senſation denominated by that particular Odor.

LXXVIII. (2) So likewiſe, if a mineral Water ſhould have a briſk, pungent Taſte, when freſh taken up, but loſe it ſoon after, by ſtanding in the open Air, or by being expoſed to a moderate Warmth, this alſo would afford a Preſumption that the Water naturally contained a Spirit.

LXXIX. (3) Again, if a Glaſs of the Water, when freſh taken up, ſhould manifeſtly ſparkle and throw numerous Bubbles to its Surface; or, when ſhook in a Glaſs cloſe ſtopped at the Mouth, and then immediately opened, ſhould appear to diſplode or throw off a large Miſt or Vapour, and appear to bubble, or ſuſtain a ſtrong internal Conflict, or Commotion in its minute Parts, but not do the ſame, or in a much leſs Degree, after ſtanding in the open Air, it would hence at leaſt be probable, that the Water naturally contained a Spirit, or ſubtile, active Part, which readily quits the leſs active, and flies off into the open Air.

LXXX. (4) If the ſpecific Gravity of the Water be taken in the Well, or immediately after it is brought up in a proper Glaſs for the Purpoſe, and if, upon repeating the Experiment ſome Time after the Water has ſtood expoſed to the open Air, in the ſame Glaſs, it ſhould now prove to have a conſiderable greater Degree of ſpecific Gravity than before, that is, if its Parts ſhould thus appear to have come cloſer together, or the Body of the Water to be grown denſer, this alſo would plainly intimate, that the Water naturally contains a light or volatile Subſtance, which keeps its Particles at a greater Diſtance, whilſt that volatile Subſtance remains therein; but ſuffers them to come cloſer together, after it has deſerted the Water.

LXXXI. (5) If thin glaſs Vials, or common Bladders, filled or half filled with a mineral Water, and well ſecured at the Orifices, be brought before the Fire, or ſet in a dry hot Copper; and if other the like Glaſſes or Bladders be alſo filled or half filled with the ſame Water (after having ſtood in the open Air) and ſecured in the ſame Manner; and the Bladders, containing the firſt Water, ſhould diſtend or burſt ſooner than thoſe contained in the ſecond; or, if the Vials containing the former ſhould break ſooner (with the ſame Degree of Heat) than thoſe containing the latter; this would ſhew that the firſt Water held ſomething more elaſtic, ſpiritous, or expanſive than the other. The Experiment with the glaſs Vials might be made by ſetting them in a Copper of Water, with their Necks coming out at Holes made in the Cover, ſo as to prevent any Danger from their Burſting; for thus the Heat would be applied equally, and might be exactly meaſured by a Thermometer, made with Oil or Quickſilver; though there may be ſome Difficulty in procuring Vials, or Bladders, of the ſame Degree of Strength; but then it may be tried, whether the mineral Water, freſh taken up, will not break a Glaſs which could not be broke by a Parcel of the ſame Water which had ſtood open for ſome Time.

LXXXII. (6) If a Glaſs of the Water, freſh taken up, be ſet under the Receiver of an Air-pump, along with another ſimilar and equal Glaſs of the ſame Water, after it had ſtood expoſed to the open Air, or a moderate Heat; and if, when Air is drawn out of the Receiver, the former ſhould ſparkle more, or throw up a much greater Number of Bubbles than the latter; it would hence appear, that the former contained more Air, or more of an exploſive Subſtance, or Spirit, than the latter.

LXXXIII. (7) If a mineral Water be, at the Well-head, directly put into a clean Retort, and a Receiver be immediately luted on, with a Piece of wet Bladder, tied tight with a waxed Thread; and now the Retort be directly placed in a Balneum Mariæ, or proper diſtilling Furnace; if any Thing, like Air, or Wind, ſhall appear to puff through the Luting, or covered Joint, at the very Beginning of the Operation, or, as ſoon as the Retort grows moderately warm; or if either the Retort, or Receiver, ſhould burſt, without any manifeſt external Violence, or imprudent Management of the Fire; this would ſhew that an exploſive Vapour, or Spirit, thus came from the Water. And if the ſame Effect did not follow upon the like Diſtillation of a Parcel of the ſame Water, that had been heated before, or expoſed to the open Air, the former Concluſion would be conſiderably verified.

LXXXIV. (8) If a mineral Water, when drank freſh, at the Well-head, ſhould have a Kind of intoxicating Effect, or give a conſiderable Degree of Alacrity, or occaſion the Head-ach, a Drowſineſs, &c. but have no ſuch Effects, when drank in the ſame Quantity, by the ſame Perſons, after having been warmed, or after having ſtood for ſome Time open; this alſo may ſhew, that the Water, when freſh, naturally contains a Spirit.

LXXXV. (9) If a Glaſs of any mineral Water, freſh taken up at the Well-head, being mixed with a light Acid, or particularly with Rheniſh Wine, and Sugar, ſhould make a ſtrong Ebullition, with a large white Froth, or Foam, and diſcharge a viſible Miſt, or Vapour, to a conſiderable Height; and, during this Conflict, taſte extremely keen, briſk, or pungent, but do thus in a much leſs Degree, upon the ſame Experiment, after having ſtood, for ſome Time, open to the Air; it will hence alſo appear that the Water naturally contains a light, ſubtile, active Matter, or Spirit, which it loſes by ſtanding in the Air. So again, if a mineral Water ſhould, when freſh, or perfect, change its Colour remarkably upon the Addition of the firſt Powder of Galls, and turn with it either purple, duſky, or inky; but not do this at all, after the Water has been taken up, and ſuffered to ſtand in the Air for a few Hours; it would hence alſo follow, that the Water naturally contains a Spirit, in our Senſe of the Word; and that this Spirit is, at leaſt in Part, an actual volatile Iron, or volatile Vitriol of Iron, as no other Thing is found to have this Property.

LXXXVI. We come, in the laſt Place, to an Experiment, which may, if it ſucceed, be of itſelf eſteemed concluſive, but joined with all, or ſome of the foregoing, will amount to a phyſical Demonſtration. The Experiment is this: Take a Vial, a Bolthead with a proper Neck, or a common Quart Bottle, and nearly fill it with a mineral Water, at the Well-head; have in Readineſs a fine limber Bladder, well rubbed, and made thoroughly ſupple, or pliable, by oiling it on the Outſide, and rubbing it betwixt the Hands, with Care to ſqueeze all the Air out, in which State it ſhould be carefully weighed, in an exact Pair of Scales; immediately tie the Neck-part of this Bladder over the Mouth of the Glaſs, with a waxed Thread, as tight as poſſible; then remove the Glaſs to a proper Furnace, or gentle Heat of Sand, or Water, where, if upon ſtanding a while to grow warm, the Bladder appears diſtended, as if it were blown up, ſqueeze the Neck-part of it, to gain a Vacuity, and there again carefully paſs a waxed Thread (which alſo ſhould be weighed before-hand, or along with the Bladder) and now, taking off the former Ligature, the Bladder may be removed, and weighed again, to ſee what additional Weight it has gained by the Matter, or Spirit, wherewith it is diſtended, allowing (if weighed in the Air, and not in Vacuo) for the Difference of ſpecific Gravity betwixt the Bladder flaccid and diſtended, or ſo full blown and empty: And, if any abſolute Weight be gained, this is the Weight of the Spirit contained in the Quantity of Water made Uſe of, provided the Experiment was perfect. And thus the Spirit of a mineral Water may, perhaps, not only be made ſenſible, as Air in a blown Bladder, to the Eye, the Touch, &c. but alſo be ſubmitted to a Variety of other Experiments, in order to diſcover its Nature, Properties, and Uſes. And here it ſhould be particularly examined, whether the Spirit be a Simple or a Compound; if a Compound, how it may be reſolved, how imitated, how introduced, artificially, into Water, how it is naturally made, or whence it proceeds, &c.

LXXXVII. We have now, in our Manner, gone through the four general Claſſes, under which the principal Contents, or Ingredients, of mineral Waters, ſeem to be reducible; viz. Salts, Earths, Sulphurs, and Spirits; for the mere aqueous Part, which is the Vehicle, or Menſtruum, of the Whole, we have here no particular Regard to, as being not, ſtrictly, an Ingredient in mineral Waters, but a Kind of general Inſtrument, or Agent, whoſe Properties, Office, and Uſe belong to another Enquiry.

LXXXVIII. But it will recur, to the Imagination, that there may ſtill, poſſibly, be Salts, Earths, Sulphurs, Fumes, Spirits, or many other Things of an unknown Nature, that, either in a ſmaller or larger Proportion, entering the natural Compoſition, or Mixture, of mineral Waters, are ſuch, as no Experiments, hitherto deviſed, can any Way diſcover, or render ſenſible. This Objection, indeed, is readily ſuggeſted by the Imagination, but how far the Reaſon approves of it, remains to be conſidered.

LXXXIX. No one, tolerably acquainted with the preſent State of Chymiſtry and natural Philoſophy, will pretend, that either of them is arrived near to Perfection; or, that the Ways of making a true and proper Analyſis of all natural and artificial Bodies are hitherto known. On the other Hand it muſt be allowed, that many uſeful Separations, Compoſitions, and Recompoſitions of Bodies have already been made; and that many more might ſtill be made, if natural Philoſophy, and Chymiſtry, were farther improved. But with Regard to mineral Waters, when the Affair is fully examined, it ſhould ſeem that the Means of diſcovering their Contents, Virtues, and Uſes, are already in the Hands of Man, and that nothing more is wanting to compleat the Work, than a prudent, ſcientifical, and guarded Manner of uſing theſe Means; or, to ſpeak plainly, the principal Thing required is the Art of Induction. For, even the preſent, common, and very imperfect Chymiſtry ſupplies us with numerous Experiments, and ſure Ways of diſcovering the Contents of Liquors, and bringing them under the direct Cognizance of the Senſes; and a higher or more philoſophical Chymiſtry, as now practiſed by many ſkilful Philoſophers, will here penetrate farther; ſo that, if Chymiſtry ſhould continue to improve, ſcarce any Analyſis, of this Kind, would, at length, prove too hard for it.

XC. But, to come cloſer to the preſent Objection, What are thoſe Things, ſuggeſted by the Imagination, to be contained in mineral Waters, which no Experiments, hitherto known, can diſcover? Let us conſider, whether theſe Things are not Creatures of the Imagination; for ſo they muſt be allowed, by Men, to be, if they are not diſcoverable by Senſe, Experiment, or Reaſon. But if at preſent diſcoverable by Senſe, or Experiment, the Objection vaniſhes, as depending upon a Suppoſition that they are not thus diſcoverable at preſent. The Strength of the Objection, therefore, ſeems to be this, that the Imagination, by caſting about, ſuggeſts to the Reaſon, that there are many compound, or mixed Bodies, which cannot, by any Experiments hitherto known, be reſolved into their conſtituent Parts, ſo as fairly to exhibit theſe Parts, in their ſimple State, ſeparated from each other, and unaltered in their Properties; but that either ſome will be ſo changed, or fly off, in the Operation, as not, by a Re-union, to exhibit the ſame Subject again; or, with Regard to mineral Waters, that theſe may naturally contain various Parts, ſo ſubtile, ſo intimately united, or of a Nature ſo utterly unknown, as not to be reached by any Artillery of chymical Experiments; and yet, that theſe Waters may manifeſt particular Virtues, or perhaps have pernicious Effects, in the Body, on Account of ſome latent Properties in them, which no dead, languid, or incompetent Trials, made out of the Body, are ſubtile or exquiſite enough to diſcover.

XCI. We have endeavoured to obviate this Objection, in the Courſe of our Procedure; but to clear it up more expreſly, and anſwer it fully, with particular Inſtances, and Examples, it would lead us too far from our Purpoſe, and engage us deeper in Chymiſtry than is at preſent neceſſary. Thoſe, therefore, who require more Satisfaction, in this Point, than they can derive from the preſent Enquiry (though we hope that will be ſufficient) may pleaſe to conſult the chymical Lectures, already more than once referred to, particularly thoſe which treat of Water, and of ſynthetical and analytical Chymiſtry. We ſhall, however, here add, as a Supplement to the Way, already laid down, for diſcovering the Contents of mineral Waters, the general Method of making an Analyſis thereof, whereby whatever known or unknown Subſtances, eſpecially thoſe of a fixed Nature, contained in a Water, may be rendered ſenſible, or brought to their true Form and Appearance, ſo as to be farther examined, or have their reſpective Natures and particular Properties diſcloſed.

A general Method of analyſing mineral Waters.

I. Let the firſt Intention be to make a natural Analyſis of the Water, or to ſee what Changes it will ſpontaneouſly undergo, or what Parts, or Matters, it will ſeparate into, by ſtanding in open and cloſe Glaſſes. Thus, low, cylindrical, open Glaſſes, being filled with the Water at the Well, let them be directly examined by Eye, the Smell, and the Taſte; and again, after ſtanding for an Hour, two Hours, four Hours, a Day, or ſeveral Days, to diſcover the ſenſible Alterations occaſioned by this Standing, as compared with more of the Water, freſh taken up; and particularly to find, whether any viſible Separation of Parts enſues, and if a Scum appears on the Top, or a Sediment at the Bottom, let them be carefully collected and preſerved, for farther Examination; obſerving to keep a Diary, or Regiſter, of all the Phænomena, and the whole Procedure. And let the like Experiment, or Obſervation, be made in Glaſſes exactly cloſed, to diſcover the Changes which the Water will then undergo, in its ſenſible Properties, and the Matters it thus ſeparates, or throws off to the Top, Sides, or Bottom of the Glaſſes.

II. Let the Experiment, in ſome of the open cylindrical Glaſſes be proſecuted, by keeping them in a warm Place, till the aqueous Part is totally exhaled, and only a dry Subſtance left behind; which, being reſerved, may be compared with the dry Subſtance gained from the ſame Water, by Evaporation over the Fire, in order to ſhew, whether there be any remarkable Difference betwixt the two dry Subſtances, thus procured.

III. Let the next Intention be to make an exact chymical Analyſis of the Water, and to compare it with the former.

In order to this, let a certain Quantity of the Water, ſuppoſe five or ſix Pounds Troy, be, at the Well-head, put into a glaſs Retort with a wide Neck, and a clean glaſs Receiver be immediately luted on, in an exact Manner; let the Retort now be directly placed in a proper Furnace, and worked with a moderate Heat, ſo as barely to make the Water ſimmer; and proceed, with this Degree of Heat, till all the aqueous Part is come over, and only a dry Subſtance left at the Bottom of the Retort; then, letting the Veſſels cool, take away the Receiver, carefully weigh the aqueous Liquor, and keep it a-part in a clean well-ſtopped Glaſs; and, laſtly, ſeparate the dry Matter from the Bottom of the Retort; weigh it, whilſt thoroughly dry, and put this alſo into a clean dry Glaſs, to be kept well ſtopped.

IV. At the Beginning of this Operation, as ſoon as the Retort grows warm, let Care be taken to obſerve, whether any volatile or exploſive Vapour comes out at the Joint, where the Luting was applied; for, if there does, this ſhews that there is a Spirit, or light ſubtile Matter, ſeparable from the Water, tho' not capable of being thus collected; whence we are admoniſhed to uſe another Method, in order to render it ſtill more ſenſible, and ſubject it to particular Experiments, according to the Directions of the preceding Section.

V. The aqueous Part, obtained by the Diſtillation, may be examined with various Additions, or by applying it various Ways, in order to diſcover, if in any Reſpect it differs from pure diſtilled common Water, or whether it be impregnated with any ſaline or mineral Particles, like thoſe found by the ſame Trials, in the natural mineral Water. Thus, as was formerly obſerved, if it contains any Sea-ſalt, it will be apt to turn white with a Solution of Silver; if any Vitriol of Iron, it will turn black with powdered Galls; or, if any Sulphur, united to an alcaline Salt, it will turn black, in Time, with almoſt any metallic Solution. And thus its Difference from common Water, or the mineral Water, that afforded it, may be aſſigned by a proper Variety of Experiments.

VI. Let Part of the dry Matter, left behind upon the Diſtillation, be put to, or gently boiled with five or ſix Times its own Weight of the pureſt diſtilled common Water, thus freed and before-hand proved, by particular Experiments, to be freed from any ſenſible known mineral Particles; for by this Means all the ſaline Part of the Matter will be taken up by the pure Water, in the Form of a Solution; which being filtred, evaporated to a proper Height, and ſet to cryſtallize, will thus give out its Salt, in the Figure or Form peculiar to itſelf. And tho' ſeveral Salts ſhould be lodged in the ſame Solution, they may all, by repeated Evaporations, and Cryſtallizations, be obtained ſeparate (according to what has, more than once, been obſerved before) and examined to try whether they are of a known or unknown Kind: And though the Kind of any Matter, thus procured, ſhould happen to be utterly unknown; yet certain chymical and philoſophical Experiments might be contrived to diſcover its Properties and Uſes, according to the common Rules of Chymiſtry, and experimental Philoſophy. Thus, for Example, it is eaſy to determine whether any Salt, thus obtained, be of an acid or alcaline Nature, by knowing the Properties of each Kind, as they are above laid down; for acid Salts turn red with Syrup of Violets, and become neutral with Alcalies, &c. And alcaline Salts turn green with the ſame Syrup, become neutral with Acids; cauſe Sal Ammoniac to emit a volatile urinous Vapour; turn a Solution of ſublimate yellow, &c.

VII. But the Difficulty may ſeem greater to determine the neutral Species of Salts. And here we learn, from natural Hiſtory, and Chymiſtry, that the neutral Salts diſſolved, or waſhed out of the Bowels of the Earth, by Water, are chiefly Sea-ſalt, and ſuch as conſiſt of a ſulphurous, or vitriolic Acid (that is, an Acid like the Acid of Brimſtone or Vitriol) and a Salt, or Earth, of an alcaline Nature. But Sea-ſalt is eaſily diſcovered by its Taſte, cubical Figure in Cryſtallization, and the particular white Vapour which it largely affords upon mixing it with Oil of Vitriol. The other Kind of neutral Salts may be diſtinguiſhed from all others by the Property they have of producing or regenerating Sulphur, upon being mixed, and melted with Salt of Tartar, and powdered Charcoal. Thus, for Inſtance, if two Ounces of ſuch Salt be mixed with an Ounce of Salt of Tartar, and an Ounce of powdered Charcoal; and the Mixture be melted in a Crucible, there will thus be produced a reddiſh-coloured Maſs, of a ſulphurous alcaline Taſte, that gives a high yellow or golden Tincture to rectified Spirit of Wine; which Tincture will diſcolour Silver, or turn it black; and, being precipitated by an Acid, affords a true Lac Sulphuris, that may be ſublimed, and melted into Brimſtone, like the common.

VIII. What remains behind, after a perfect Elixation, or total Diſſolution of the ſaline Matter, by Means of boiling Water, comes under the general Name of Earth; which by repeated Waſhings in pure diſtilled Water, and each Time pouring off the Water, may happen to be ſeparable into terreſtrial Matters of different Kinds, according to their different Natures, or ſpecific Gravities; as, for Example, into bolar Earth, or Oker, calcarious Earth, and Sand, or other Species of Earths; which, if thus ſeparable, may be examined by particular Additions, or by the Fire, in order to determine their Kinds and Natures; as, whether they are vitreſcible, or convertible into Glaſs, by a ſtrong Fire of Fuſion; or, whether they will calcine, and turn into a Kind of Lime; or, whether they will yield any known or unknown metallic Subſtance or Regulus. But, if the terreſtrial Matter be not thus ſeparable by Waſhing, let the Whole be examined in the Fire, to try, if it will here ſeparate into Parts of different Kinds, as it may, if a Compound, into a calcarious, a metallic, and a glaſſy Part, being either aſſayed alone, or with the Aſſiſtance of Borax, Glaſs of Lead, or other ſuitable Fluxes. And if the metallic Portion ſhould be ſmall, ſo as not to be collected ſeparate, let it be fuſed with the Powder of pure cryſtalline Glaſs; to ſee if it will thus tinge the Glaſs of any particular Colour, whereby a Conjecture may be formed of the Species of the Metal it contained; as, whether Iron, Copper, Silver, &c. which, reduced to a Calx, are found to give ſpecific or reſpectively different Colours to cryſtalline Glaſs in Fuſion.

IX. And after this Manner we apprehend that a tolerable exact and inſtructive Analyſis may be made, and an uſeful, if not ſatisfactory Account given of the Contents and Virtues of any mineral Water.

X. It is but juſt, at the Concluſion of this firſt Part of our Undertaking, that we ask Pardon of the Reader (who may be much better acquainted than ourſelves with the Ways of examining mineral Waters) for having dwelt ſo long upon the Method of doing it, and inculcated ſome Particulars ſeveral Times over: But, to ſay the Truth, as the Treatiſes, which we have read upon this Subject, appear to us far from laying the juſt Foundations of the Thing, or from obſerving a proper Form of Induction; and as many have objected to the Thing itſelf, on a Suppoſition of its being precarious and uncertain, we found ourſelves in ſome Meaſure obliged, for the Sake of the Many, to treſpaſs upon the Patience of a Few, and endeavour, even by ſome Degree of Repetition, to ſet this Matter in a fair Light, that every one might be able to exerciſe a free Judgment upon it. And in this Reſpect, it is to be feared, we have rather fallen ſhort than exceeded. *Shaw.*

Thus much I thought proper to ſpecify with Reſpect to mineral Waters in general, and of ſome few in particular, by Way of Example. The Virtues and Uſes of the Britiſh mineral Waters will be farther taken Notice of, as their Names occur.

ACIES. Becauſe *Acies* ſignifies the ſharp Edge or Point of Inſtruments, which are generally made of Steel, ſome Authors, of the middle and lower Ages, have called Steel itſelf *Acies*, and thus Rulandus interprets it. But the Name is arbitrary, and has the Authority of no Author of Credit, that I know of, to ſupport it.

Oculorum Acies alſo ſignifies the Sight, but I think *Acies* alone, without mentioning the Eyes, is never uſed in this Senſe.

ACINESIA. From α Negative, and κινέω, to move. Immobility in general. But it is uſed by Galen to expreſs the State of Reſt of the Pulſe, or the ſmall Space of Time which paſſes betwixt the Contraction and Dilatation of the Artery. *Galen*, de Differentia Pulſuum, L. 1. C. 7.

ACINIFORMIS, or ACINOSA *Tunica*. A Coat of the Eye, called alſo *Tunica Uvea*. See UVEA.

ACINOS, Stone or Wild Baſil.

The CHARACTERS *are*,

It hath Leaves like thoſe of the leſſer Baſil. The Cup of the Flower is oblong and furrowed. The Flowers are produced in Bunches, on the Top of little Foot-ſtalks, which ariſe from between the Foot-ſtalk of the Leaf and the Stalk of the Plant, in which it differs from Serpyllum. *Miller.*

It is the ἄκινος Dioſc. the *Acinos*, Offic. Dill. Cat. Giſſ. 125. Rivin. Irr. Mon. *Acinos Rivini*, Rupp. Flor. Jen. 188. *Acinos Anglica*, Merc. Bot. 1. 16. Phyt. Brit. 2. *Acinos multis*, J. B. 3. 259. Raii Hiſt. 1. 553. Synop. 3. 238. Chab. 411. Buxb. 5. Boerh. Ind. A. 176. *Acinos ſive Ocymum Sylveſtre*, Hiſt. Oxon. 3. 404. *Acinos Ocymum Sylveſtre*, Ger. 548. Emac. 675. *Acinos Clinopodium arvenſe Ocymi facie*, C. B. Pin. 225. Tourn. Inſt. 195. Elem. Bot. 163. *Acinos minus ſeu vulgare*, Park. Theat. 21. WILD BASIL.

It grows on chalky Hills, and flowers in June. The Herb is uſed, and checks the Overflowing of the Menſes, and a Diarrhœa. It cures Boiles, and St. Anthony's Fire, being waſhed with the Decoction. *Dioſcorides.*

Its Virtues are much the ſame with thoſe of Calamint, but a little weaker. *Baerhaave.*

The London Herb-women ſell it inſtead of Mountain Poley. *Dale.*

Miller mentions another Species of this Plant, called,

Acini pulchra Species. J. B. Broad-leaved Auſtrian Wild Baſil. This is preſerved only in botanic Gardens.

ACINUS. It ſignifies, ſtrictly, a Grape, but is applied to many other Fruits, or Berries, that grow in Cluſters, as thoſe of Elder and Ivy; theſe are diſtinguiſhed from Baccæ, a Sort of

Berries that grow ſingle, as thoſe of the Olive, or Laurel. But *Acinus*, in the common Signification, as now uſed, is the Stone of a Grape; hence *Uvæ exacinatæ*, Grapes that have the Stones taken out. *Raii* Hiſt. Plant. *Dale* from *Galen*, de Alimentorum Facultatibus.

Hence ſome Anatomiſts have called Glands, that grow together in Cluſters, *Acini Glanduloſi*, as thoſe in the Liver. *Blancard.*

ACIS. Ἄκις. It ſignifies in Hippocrates the Iron Head of a Spear, or Dart, or any wounding Inſtrument.

ACMASTICOS. Ἀκμάστικος. The Name of a particular Sort of continual Fever, of which Actuarius gives this Account: Of Fevers ariſing from Putrefaction, ſome are called continual, or continent (συνέχεις τε καὶ σύνοχοι) others, intermittent (διαλείποντες). Of the former, thoſe are called Iſotoni, or *Acmaſtici* (ἰσότονοι τε καὶ ἀκμάστικοι) which, during the whole Courſe, maintain themſelves at the ſame Pitch, or Vigour, without either increaſing or diminiſhing in Point of Violence. Others are called *Epacmaſtici* (ἐπακμάστικοι) and theſe make a Progreſs and Increaſe, in Force and Violence, to the Time of their Solution. The third Sort are called *Paracmaſtici* (παρακμάστικοι) which diminiſh by Degrees, till they at laſt intirely ceaſe.

ACME. Ἀκμή. This in general ſignifies that State of any Thing, wherein it is in the utmoſt Perfection, and thus Hippocrates ſeems to explain it in his Treatiſe *de Priſca Medicina*.

The Word uſually ſignifies the State of an animal Body, arrived to its full Vigour, and before it begins to decline. Hence the medicinal Writers have applied it to that State of a Diſtemper wherein it is increaſed to its utmoſt Degree of Violence. In this Senſe Hippocrates uſes it *Aph.* 9. and 10. *L.* 1. and in many other Places.

Acme alſo is a Term in Gymnaſtics, uſed to expreſs the higheſt Pitch of Exerciſe, and in this Sgnification it is uſed by *Galen.*

Foeſius is of Opinion, that ἄκμας ſhould be read inſtead of ἄκνας, in Aetius, *Tetrabib. L.* 4. *C.* 13. and that here it ſignifies a ſmall Puſtule, or Pimple, ſo called, becauſe it generally ariſes about the Time (τῆς ἀκμῆς) that the Body is in full Vigour; and, in Confirmation of this, he quotes a Paſſage from Caſſius, who thus interprets Ἄκμας.

Quincy makes a Miſtake, when he derives ἄκμη from ἀκμάζω, to grow ſtrong, or to be in full Vigour, for ἀκμάζω is derived from ἄκμη. Others derive it from α Negative, and κάμνω, to be weary; but this ſeems far fetched, and not much to the Purpoſe. And indeed ἄκμη ſeems to be itſelf a Radix, from whence ſome other Words are derived.

Acme alſo ſignifies a ſharp Point or Edge.

ACMELLA. This is called *Acmella*, Offic. *Akmella*, *Abamella*, Herm. Muſ. Zeyl. 17. *Chryſanthemum bidens Zeylanicum Amella dictum*, Breyn. Diſſert. Bot. 12. *Chryſanthemum Bidens, ſeu Bidens Zeylanicum, flore luteo, Lamii folio, Acmella dictum*, Ejuſd. 20. *Cannabina aut Bidens Urticæ folia Indica lithontriptica*, D. Hotton. Act. Philoſ. Lond. N. 257. p. 365. *Senecio Indiæ Orientalis Ocymi majoris folio profunde crenato*, Pluk. Almag. 343. Phytog. 315. *Ceratocephalus Ballotes foliis Acmella dictus*, Act. Reg. Par. A. 1720. p. 326. ACMELLA, ACHMELLA, and ADMELLA. *Dale.*

It grows plentifuily in the Iſland of Ceylon, and is brought from thence into Europe.

Ray gives the following Account of the *Acmella* from P. Hotton, Profeſſor of Botany at Leyden.

The Flower of this Plant grows on the Top of the Stalks, and conſiſts of a great many tubulous yellow Floſcules, which by their Union form a Head ſuſtained by a Perianthium of ſix Leaves. When theſe Floſcules fall off, the Seeds appear, which are of a dark Grey, long, and ſmooth, except that at the Top, immediately under the Floſcules, they are furniſhed with a double Beard, which makes them forked or horned. The Stalk is ſquare, and cloathed with Leaves that grow by Pairs, like thoſe of the Lamium, or Nettle, but longer, and more pointed.

It has obtained great Reputation for its Virtues in diſſolving the Stone. An Officer, in the Year 1690, affirmed to the Dutch Eaſt-India Company, that he had cured above a hundred of the Stone, and nephritic Complaints, by this Plant. And the Governor and ſupreme Council, in the Iſland of Ceylon, gave the ſame Year two Inſtances of Patients, who had been cured of the Stone by this Plant, in whom a great Number of ſmall Stones, and a great Quantity of Sand, had been expelled, with very little Pain.

In the Year 1699, the firſt Surgeon of the Hoſpital in the City Colombo, in Ceylon, confirmed the Efficacy of the *Acmella* in the Stone, and nephritic Diſorders, by Letters to P. Hotton. This Surgeon ſays, he obſerved three Sorts of the *Acmella*. The firſt with a pale green Leaf, and yellow Seed; the ſecond with a Leaf of a deep Green, and yellow Seed; the third with a black Seed, and much larger Leaves than the other two; which laſt, he ſays, are of the greateſt Virtues. He adds, that each Plant produces above ten thouſand Seeds. He farther ſays, the Leaves and Seeds are the moſt effectual, but that the Root, Stalk, and Branches are uſed.

The Leaves are gathered before the Flowers appear, and are dried in the Sun. Theſe are either taken in Powder, mixed with ſome convenient Vehicle, or in Infuſion like Tea.

A Spirit is alſo, prepared by Diſtillation from the Root, Stalk, and Branches, infuſed in Spirit of Wine.

Another Surgeon of the above-mentioned Hoſpital ſays, he uſed the Flowers, the Extract of the Root, and the Salt, with Succeſs, in Pleuriſies, Colics, and Fevers.

To the Deſcription of this Plant given above from Hotton, may be added, from Johannes Philippus Breyneus, that the Root is white and fibrous; the Stalk almoſt four-ſquare, about a Foot high, and divided into Branches; the Leaves oblong, mucronated, ſomewhat rough, and ſeparated on the Edges. The Flowers grow on the Extremity of each Branch.

Breyneus ſays, this Plant is diuretic, that it cures nephritic Pains, expels the Stone from the Kidnies, relieves in Iſchuries, Stranguries, and Dyſuries, and that it reſtores the Menſes, when ſuppreſſed. The Leaves are endued with the greateſt Virtues, which conſiſt in the Fineneſs, Volatility, and Penetrability of their Particles, whence they provoke Urine and Sweat, open Obſtructions, ſtimulate to Excretion, expel the Stones from the urinary Paſſages, and, if not very hard, diſſolve them. For theſe Purpoſes it muſt be given by Way of Infuſion, like Tea, in pretty large Quantities, and repeated two or three Times a Day, always warm. But at the ſame Time a great deal of diluting Liquor muſt be taken; and alſo Liquorice, Syrup of Marſh Mallows, or ſomething of a ſoft relaxing Quality, ſhould be given with it.

Or Arack, impregnated with this Spirit, may be taken twice or three Times a Day, in a Glaſs of Rheniſh or French Wine, or ſome Anti-nephritic Decoction, always adding to it Syrup of Marſh Mallows, for then Gravel, or Stones, are expelled with very little Pain.

ACNE. Ἄκνη. Gorræus interprets this a ſmall hard Tubercle ariſing on the Face. Foeſius thinks it ſhould be read in Aetius, from whence Gorræus quotes it, Ἄκμας, inſtead of Ἄκνας. See ACME.

ACNESTIS. Ἄκνηστις. That Part of the Spine of the Back, which reaches from the μετάφρενον, which is the Part betwixt the Shoulder-blades, to the Loins. This Part ſeems to have been originally called ſo in Quadrupeds only, becauſe they cannot reach it to ſcratch, from α Negative, and κνάειν to ſcratch.

It is alſo the Name of an Herb, mentioned by Nicander, which ſome take for a Nettle, others for a Squill. *Gorræus.*

ACO. A Fiſh, called alſo Sarachus, and Sarachinus, and Aquo. It is mentioned by Aldrovandus, and is ſaid to be very good Food. It is common in Epirus, and Lombardy, and in the Lake Como in the Dutchy of Milan.

ACOE. Ἀκοή. The Senſe of Hearing.

ACOELIOS. Ἀκοίλιος, from α Negative, and κοιλία, the Belly. Without Belly. It is applied to thoſe who are ſo waſted and extenuated, as to appear as if they had no Belly. *Caſtellus* from *Galen.*

ACOITUS. Ἄκοιτος. An Epithet for Honey, mentioned by Pliny, becauſe it has no Sediment, which is called κοίτη. *Conſtantine.*

ACOLASTOS. Ἀκόλαστος, from α Negative, and κολάζειν, to reſtrain. It ſignifies lewd, or obſcene. Hippocrates, *Epid. L.* 4. *S.* 7. ſpeaking of a young Man in a Fever, ſays, he began to talk idly, as he thinks, on the eighth Day (τρόπον τὶν ἀκόλαστον) in a very obſcene Manner.

ACON. A miſſive Inſtrument, made Uſe of by the Antients in their Exerciſes. Schulzius thinks it was not much different from the Diſcus. See DISCUS.

ACONE. Ἀκόνη. A Mortar. Thus Foeſius and Gorræus explain the Word which is uſed by Hippocrates, in the latter Part of his Treatiſe *de Ratione Victus in Acutis*; ἐπ' ἀκόνης τρίβων, beating the Ingredients, mentioned before, in a Mortar. Hippocrates alſo mentions it in his little Piece, *de videndi Acie*, where he directs a Piece of the Flos Æris (ἄνθος χαλκοῦ) to be levigated (πρὸς ἀκόνην) againſt a hard Stone, or Whetſtone, as Foeſius ſeems to underſtand it. But I do not ſee the leaſt Reaſon to believe, the Author means two different Things in theſe two Paſſages. In both Places, the Ingredients to be powdered are very hard, and ſcarce reducible to a Powder in a Mortar. In the Firſt, Ebony and burnt Copper; in the Second, the Flos Æris, which ſeems to be a Sort of Scoria of Copper. It is therefore more probable, that the Author in both Places means by Ἀκόνη, a Stone to levigate upon, ſuch as the Apothecaries now make Uſe of for the ſame Purpoſe. And this is the more likely, becauſe the Word, in its moſt general Senſe, ſignifies a hard Stone, or Whetſtone; and becauſe Dioſcorides, *L.* 1. *C.* 129, mentioning Ebony, ſays, it acquires a reddiſh Colour, τριφθεῖσα ἐπ' ἀκόνης, which I ſhould tranſlate, *levigated on a Stone.*

ACONION. Ἀκόνιον. This was a particular Form of a Medicine amongſt the ancient Phyſicians, made of Powders levigated on a Stone, and probably, like Collyria, uſed for Diſ- ders of the Eyes, as may be inferred from Dioſcorides, *L.* 1. . 129, who, ſpeaking of the Effects of Ebony on the Eyes, ys, it operates better εἴ τις ποιήσας ἐξ αὐτῆς ἀκόνιον, if it is duced to the Form of an *Aconion*: And *L.* 5. *P.* 344, ſpeak- g of the Lapis Hæmatites, he ſays, of it are made Collyria, d ('Ακόνια) *Aconia*.

ACONITIFOLIA. A Name of the Anapodophyllon Ca- adenſe Morini, mentioned in Boerhaave's *Index*.

ACONITON. 'Ακόνιτον, or 'Ακονίατον, from α Negative, d Κονία, Lime or Plaiſter. It ſignifies Not plaiſtered, and is plied to Veſſels not lined within Side. Thus Dioſcorides, *L.* *C.* 65, directs Cantharides to be put into a Veſſel ('Ακόνι- ν) *non picatum*. The Interpreters tranſlate it, *not pitched.* ence we may infer, that it ſignifies, in general, not lined with ny Thing.

ACONITUM. Wolfs-bane. ['Ακόνιτον, which ſome de- ve of 'Ακόνη, a Whetſtone, or Rock, becauſe it grows on are, rocky, or ſtony Places; according to Pliny, which Ety- ology Ovid follows, where he ſays:

Quæ, quia naſcuntur dura vivacia caute,
Agreſtes Aconita *vocant* ———

Others of α Negative, and Κονίς, Duſt, becauſe it grows with- t Earth; others of Ἄκων, 'Ακή, Dart, becauſe the Barbarians ſed to poiſon their Darts therewith; others of 'Ακονίζομαι, to ccelerate, becauſe it haſtens Death.] The Engliſh call it Wolfs-bane, of the Anglo-Saxon, Wulfes-Bane.

The CHARACTERS *are,*

It hath circumſcribed, roundiſh, divided Leaves. The Flowers onſiſt of four Leaves, which are ſhaped like a Monk's Hood. ach of theſe Flowers is ſucceeded by three or more Pods, hich contain ſeveral rough Seeds. *Miller*.

There are many Sorts of the *Aconitum*.

1. *Napellus*, Offic. *Napellus vetus cæruleus*, Ger. 823. Emac. 72. *Napellus vetus*, Park. Theat. 318. *Napellus vetus flore æruleo*, Park. Parad. 215. Buxb. 233. *Napellus flore cæruleo*. Rivin. Rupp. Flor. Jen. 234. *Aconitum cæruleum ſeu Napellus rimus*, C. B. Pin. 183. Tourn. Inſt. 425. Elem. Bot. 337. Boerh. Ind. A. 300. Hiſt. Oxon. 3. 463. *Aconitum magnum Napellus*, Chab. 531. *Aconitum magnum purpureo flore, vulgo Napellus*, J. B. 3. 655. Raii Hiſt. 1. 702. MONKS HOOD.

2. *Aconitum Ponticum*, Offic. *Aconitum luteum Ponticum*, Ger. 21. Emac. 970. *Aconitum Lycoctonum*, Chab. 531. *Aconi- um Lycoctonum luteum*, C. B. Pin. 183. Hiſt. Oxon. 3. 462. Tourn. Inſt. 425. Elem. Bot. 337. Boerh. Ind. A. 300. *Aco- itum luteum Ponticum ſerotinum flore albido*, Park. Theat. 310. *Aconitum flore Platani, flore luteo palleſcente*, J. B. 3. 652. Raii Hiſt. 1. 704. Dill. Cat. Giſſ. 97. *Napellus flore luteo*, Rivin. Irr. P. Buxb. 233. Rupp. Flor. Jen. 234. WOLFS-BANE. *Dale*.

Both theſe Sorts are cultivated in Gardens, flower in July, and are alike endued with a pernicious Quality to Man and Beaſt. The latter is called by Dioſcorides *Lycoctonum*, and *Cynoctonum*, that is, Wolfs-bane, and Dogs-bane, and is deſcribed to have a Leaf like a Plane, only longer, blacker, and thicker indented, to have a Stalk like the Pedicle of Fern, bare and about a Foot high, to contain its Seed in oblong Pods, and to have a blackiſh Root like the Sea-onion.

3. *Anthera, Antithora*, Offic. *Anthora*, Park. Parad. 215. *Anthora, ſive Antithora*, Chab. 530. *Anthora, ſive Aconitum ſalutiferum*, Ger. 820. Emac. 969. *Antithora flore luteo Aconiti*, J. B. 3. 660. Raii Hiſt. 1. 705. *Aconitum ſalutiferum, ſive Anthora*, C. B. Pin. 184. Tourn. Inſt. 425. Elem. Bot. 338. Boerh. Ind. A. 300. *Aconitum ſalutiferum luteum tenuifolium, ſive Anthora*, Hiſt. Oxon. 3. 463. HEALTHFUL WOLFS-BANE.

This is cultivated in botanic Gardens, and flowers in June. Its Root is uſed, which is ſmall, thick, and branched, of a dark brown Colour without, but of a pale white within, of an acrid Taſte, and unpleaſant Smell. *Dale*.

The *Anthora*, according to Monſieur Tournefort, is a Plant ſomething ſcarcer than Gentian, and is a Species of the *Aconite*, though this is a Counterpoiſon to ſuch as eat the Root of the *Aconite*, or deadly Wolfs-bane. It is for this Reaſon Bauhine calls it *Aconitum ſalutiferum*, the healing *Aconite*, or *Anthora*. This is compoſed of two ſhort wedge-like Roots, very bitter, white, and fleſhy within, but brown on the Outſide, and decked with Abundance of Fibres. The Stalk ariſes about two Feet high, ſurrounded with many long Leaves; the Flowers grow about the Stalk like an Ear of Corn, are yellowiſh, and like a Head covered with a Helmet; the Seeds are black, wrinkled, and grow in Sheaths, or membranous Cells, five or ſix of them joined together. The Root of this is a good Antidote. The Peaſants who gather this on the Alps, and Pyrenees, uſe it with Succeſs againſt the Biting of mad Dogs, and to cure the Colic; they take it for a ſovereign Remedy for thoſe who have eat the *Thora*, or deadly *Aconite*. *Pomet*.

The *Aconitum ſalutiferum*, or *Anthora*, *quaſi Antithora*, becauſe this is reckoned a Counter-poiſon to that called the *Thora*, which is a Sort of Ranunculus, or Crow-foot, and of the Species of the *Aconite*, or Deadly Wolfs-bane. The Root is uſeful in Phyſic, as being alexipharmic, cardiac, ſtomachic, and good againſt the Wind Colic. It contains a great deal of volatile Salt, and eſſential Oil. *Lemery*.

To theſe three Species Miller adds the following:

Aconitum luteum majus, ampliore caule, amplioribuſque foliis. Dod. The largeſt yellow Wolfs-bane.

Aconitum Pyramidale multiflorum. H. R. Par. Pyramidal Wolfs-bane with many Flowers.

Aconitum Lycoctonum humili caule ac minoribus foliis. Dwarf Wolfs-bane with leſſer Leaves.

Aconitum Pyrenaicum, ampliore folio tenuius laciniato. Tourn. Wolfs-bane of the Pyrenees, with larger Leaves, cut into narrow Segments.

Aconitum cæruleum napelli flore, C. B. P. Autumnal Wolfſbane, with a blue Flower.

Aconitum coma inflexa, foliis anguſtioribus, C. B. P. 283. Narrow-leaved Wolfs-bane, with inflexed Heads.

Aconitum coma inflexa, foliis latioribus, Tourn. Broad-leaved Wolfs-bane, with inflexed Heads.

Aconitum inflexa coma maximum, C. B. P. Wolfs-bane, with the largeſt inflexed Heads.

Aconitum, ſeu Napellus 1. *flore roſeo*, C. B. P. Wolfs-bane, with a Roſe-coloured Flower.

Aconitum, ſeu Napellus 1. *flore albo*, C. B. P. Wolfs-bane, with a white Flower.

Aconitum, ſeu Napellus 1. *flore ex cæruleo & albo variegato*, C. B. P. Wolfs-bane, with a Flower variegated from blue to white.

Aconitum violaceum, ſeu Napellus 2. C. B. P. Wolfs-bane, with a Violet-coloured Flower.

Aconitum purpureum, ſeu Napellus 3. C. B. P. Wolfs-bane, with a Purple-coloured Flower.

Aconitum cæruleum minus, ſive Napellus minor, C. B. P. Leſſer blue Aconite, or Wolfs-bane.

Aconitum cæruleo-purpureum, flore maximo, ſive Napellus 4. C. B. P. Wolfs-bane, with a very large Purple-blue Flower.

Aconitum lycoctonum orientale, flore magno albo, T. Cor. Eaſtern Wolfs-bane, with a white Flower. *Miller*.

Some of theſe are called *Lycoctonum* [in Engliſh Wolfs-bane] becauſe the Wolf-hunters uſed to mix them amongſt Fleſh, and lay it for the Wolves, who, eating the ſame, were poiſoned.

All theſe Plants are poiſonous on Account of their cauſtic and ſuffocating Quality, by which ſuch Animals, as eat of them, have their Deglutition ſtopped, while their internal Parts are corroded.

The third Sort is ſaid to be an Antidote, but Matthiolus was the firſt who diſcovered this, and all the reſt have no more than tranſcribed him. Therefore Bauhinus does well in adviſing us not to truſt to him, becauſe he himſelf tranſcribed them from others. *Boerhaave*.

Galen adviſes, as an Antidote againſt the Poiſon of *Aconitum*, a Handful of Rue bruiſed, to be drank in Wine unmixed with Water, and ſays, in this Caſe alſo, the fat Broth of a Hen may be of Service.

ACONITUM HYEMALE. Winter Wolfs-bane.

This has Leaves like thoſe of the Wolfs-bane; the Flowers (which are produced in the Center of the Leaves) are like thoſe of the Ranunculus, with many Stamina, or Threads in the Center, and in all other Reſpects agree with the Hellebore, to which Boerhaave has made it a Congener.

It is one of the earlieſt Flowers in the Spring, often appearing in the Middle of January, and therefore deſerves a Place in every curious Garden.

ACONTIAS. 'Ακοντίας. The Name of a very poiſonous Serpent, mentioned by Ætius, Paulus, Lucian, Aldrovandus, and others. It is alſo called Cenchreas, and Jaculus. See CENCHREAS. *Caſtellus. Conſtantine*.

ACOPIS. Ἄκοπις. The Name of a precious Stone, like Glaſs, marked with Spots of a gold Colour, thus named, becauſe Oil, wherein it has been boiled, is ſaid to be a Remedy againſt Wearineſs. *Pliny. Conſtantine*.

It is derived from α Negative, and Κόπος, Wearineſs.

ACOPON. Ἄκοπον, from α Negative and Κόπος, Wearineſs. It ſignifies originally whatever is a Remedy againſt Wearineſs, and is uſed in this Senſe by Hippocrates, *Aph.* 8. *L.* 2. But, in Time, the Word was applied to a Sort of Ointment of a particular Conſiſtence, of which Celſus gives ſome Examples, *L.* 5. *C.* 24. And the Forms of many more are to be found in the Works of Galen and other medicinal Writers.

ACOPA. (Ἄκοπα) alſo ſignifies, not eaten by Moths. Thus Theophraſtus, ſpeaking of the Citron, ſays, it preſerves Garments Ἄκοπα (which Pliny explains by *Arcetque Animalium noxiâ*) from being eaten by Moths.

In Regard to the Medicines, called *Acopa*, the following Paſſages from Galen and Paulus will ſuffice to give an Idea of them.

The End and Intent of the *Acopa Pharmaea* are known by the very Name; for Indiſpoſitions of Body which are cauſed by long or vehement Motion, whether they affect the whole Syſtem, or the Parts principally exerciſed, are called Κόποι, *Laſſitudes*. Now ſuch Indiſpoſitions are moſtly troubleſome and incommodious to Perſons, while they are in Action or Motion, but, if arrived at a more than ordinary Pitch, are ſubject to diſturb their Repoſe after their Toil. [But though Phyſicians preſcribed no Remedy againſt Laſſitudes, but only for an inveterate Pain, that lay deep in the Body, or for Difficulty of Motion, or for the Hardneſs, Tenſion, or ſcirrhous Tumor of any Part, they accuſtomed themſelves, at length, to call ſuch Medicines, as were adapted to the foreſaid Caſes, by the common Name of *Acopa*; and likewiſe all of that Kind, provided they were of a liquid Conſiſtence, like the *Acopa*, which are much like the Cerates uſed for Luxations and Fractures.] For the moſt liquid of that Kind of Compoſition is what the modern Phyſicians call a Cerelaium, the next are the Acopous Ointments, and then comes the liquid Cerates, of a thicker Conſiſtence than the two former. After theſe follows the Cerate of tender and ſoft Ingredients, as it is called, and laſt of all, the Amolynta [Things that will not foul] much like what are properly called Epithems. Next after this Claſs follows the Compoſition of Plaiſters, which alſo admits of no ſmall Difference in Degrees of Conſiſtence. Wherefore ſome Phyſicians have called a certain Compoſition Ceratomalagmata, giving it that Name merely for its Conſiſtence, which is not ſo liquid as that of Epithems, nor yet ſo hard as what belongs to Plaiſters.

As all theſe Differences do not expreſs the Virtues of the Remedies, but only give an Idea of their Conſiſtence, ſo the Appellation of *Acopa* formerly ſignified the Qualities of the Medicines, but afterwards denoted only their Degree of Conſiſtence. For this Reaſon they were obliged to name them with Diſtinctions; as, for Example, this was a laxative *Acopum*, that an emollient or warming one; this an Anodyne, another a Drawer; or, as they were ſuited to particular Diſorders, as, for Inſtance, the Palſy, the Sciatica, or Pleuriſy, or all Pains in general. *Gal. de Comp. Med. L. 7. C.* 21.

Thoſe Remedies, which at firſt were called *Acopa* [relieving Laſſitude] extended their Name, by Degrees, to other Medicines of a like Conſiſtence, even though intended to raiſe a great Heat in the Body. *Idem de Comp. Pharm. ſecundum Loc.*

Acopa took that Name, becauſe they were Remedies at firſt provided againſt the Evils and Infirmities proceeding from Laſſitude, ſuch as Tenſions, Pains in the Bones, &c. They are alſo proper on many other Occaſions, for ſome of them are warming, others mollifying. *Ægin. L. 7. C.* 19.

ACOPOS. A Plant, mentioned by Pliny, ſaid to be the ſame as the Anagyris ('Ανάγυρις) of Dioſcorides, which, Gerard ſays, is the Bean Trefoil.

ACOR. Sourneſs. In a medicinal Senſe it generally ſignifies what, under the Article ACIDUM, I have called Acidity, or an acid Acrimony in the Stomach. Helmont ſays, the vital Ferment of the Stomach, which digeſts the Aliment, is endued with a ſpecific *Acor*, but that this *Acor* is not the Ferment itſelf, but only its Organ. Later Diſcoveries have proved all this Doctrine Chimerical.

ACORDINA. Indian Tutty. *Rulandus.*

ACORIA. 'Ακορία, from α Negative, and Κορέω, to ſatiate. It ſignifies, according to the Derivation, Inſatiability. But in Hippocrates, *Epid. L. 6. Sect.* 4. *Aphor.* 20. it means nothing more than a good Appetite and Digeſtion.

ACORITES VINUM. A Wine, mentioned by Dioſcorides, made by infuſing eight Ounces of Acorus and as much Liquorice, for three Months, in ſix Gallons of Wine. It is good in Diſorders of the Pleura and Breaſt, and provokes Urine. *Dioſcorides, L. 5. C.* 73.

ACORNA. Ἄκορνα. A Plant, mentioned by Theophraſtus, of the Thiſtle Kind. It is deſcribed as having a Stalk and Leaf covered with a prickly Down and acute prickly Leaves, like the Atractylis, or Diſtaff-thiſtle.

Pliny ſeems to take it for a Tree of the Ilex Kind, like the Holly, or Juniper.

ACORTINUS. A Lupin. *Rulandus.*

ACORUS. Ἄκορον.

This is the *Acorus verus, Calamus aromaticus*, Offic. *Acorus verus, ſive Calamus Officinarum*, Park. Theat. 140. Raii Hiſt. 2. 1313. Synop. 3. 437. Mer. Pin. 2. *Acorus verus, ſive Calamus aromaticus Officinarum*, C. B. Pin. 34. Theat. 626. Boerh. Ind. A. 2. 167. Dill. Cat. Giſſ. 110. Buxb. 5. *Acorus verus, ſive Calamus aromaticus*, C. Commel. Plant. Uſu 18. *Acorus verus, Officinis falſo Calamus*, Ger. Emac. 62. *Acorum legitimum*, Rupp. Flor. Jen. 261. *Acorus vel Acorum, Calamus aromaticus*, Chab. 244. *Typha aromatica clavâ rugoſâ*, Hiſt. Oxon. 3. 246. SWEET FLAG OR CALAMUS. *Dale.*

This Plant is diſtinguiſhed from all others, in that among its Leaves, which are much longer and narrower than the Iris, or Flower-de-Luce, there ariſes one or two like the reſt, only ſomwhat narrower, thicker, and rounder towards the Top, near to which come forth ſingle Juli, rarely two, in Shape like the Catkin of the Haſel, or like long Pepper, but ending more taper, and ſtanding up obliquely from the Leaf.

The Root is thick, full of Joints, and ſpreads itſelf on the upper Part of the Earth, tranſverſely, and not ſinking deep in it, being full of large white Fibres, increaſing much, and ſoon taking a great deal of Ground. It has a ſtrong Smell, not ſo pleaſant while green, but growing more grateful and aromatic as it dries. It grows in ſeveral Rivulets and watery Places in England, as about Norwich, and in Cheſhire, and Surrey, according to Mr. Ray; but what is uſed in the Shops, is moſtly imported from abroad. It produces its Catkins in July and Auguſt.

The Roots, which only are uſed, are hot and dry, opening and attenuating, and good for the Obſtructions of the Liver and Spleen, provoke Urine, and the Menſes, help the Colic, reſiſt Putrefaction, are uſeful againſt peſtilential Contagions, and corrupt noxious Air, are an Ingredient in the Theriaca and Mithridate, and are outwardly uſed in ſweet Bags and Perfumes. *Miller.*

It is a Stomachic, warms and dries, conſiſts of fine Particles, attenuates and opens. Its principal Uſe is in Obſtructions of the Menſes, Spleen, and Liver, in the Colic, &c. *Schroder. Dale.*

It is a Cardiac and Stomachic. The Root is good in acid Crudities of the Stomach, and Gripings of the Belly thence proceeding; in Obſtructions of the Menſes owing to the Stomach; in the Dropſy and Scurvy as a Cardiac; in the Aſthma it provokes Spitting. The *Acorus* is ſeldom exhibited in Subſtance, but moſtly prepared; the Root is an Ingredient in many Compoſitions. *Boerhaave.*

Chuſe your *Acorus* new, well grown, cleaned from the Fibres, hard to break, of an acid Taſte, accompanied with an agreeable Bitterneſs, of a ſweet Smell, and very aromatic; it is for this Reaſon it is more known by the Name of *Calamus aromaticus*, though altogether improper, than that of the *Acorus*. This Root, which is commonly of the Thickneſs of a little Finger, and about half a Foot long, is brought to us from ſeveral Parts of Poland and of Tartary, and likewiſe from the Iſle of Java, where it is called Diringo. *Pomet.*

This is different from the true *Calamus aromaticus. Lemery.*

The Deſcription of this Plant, given by Miller, anſwers pretty exactly that of Dioſcorides, who ſays, the Root of the *Acorus* has a warming Faculty, that the Decoction of it is diuretic, and good in Pains of the Pleura, Thorax, and Liver, Colics, Ruptures of the Veſſels, and Convulſions. It conſumes the Spleen, cures the Strangury, and is effectual in the Bites of venomous Animals. It is an excellent Ingredient in warm Baths for uterine Diſorders. The Juice of the Root clears a dim Sight. It is a good Ingredient in Antidotes. *Dioſcorides, L. 1. C.* 2.

Acorus adulterinus, Pſeudo-acorus, Gladiolus luteus, Offic. *Acorus adulterinus*, C. B. Pin. 34. *Acorus paluſtris, ſive Pſeudoiris, & Iris lutea paluſtris*, Park. Theat. 1219. *Acorus noſtras paluſtris*, Merc. Bot 1. 16. Phyt. Brit. 2. *Iris lutea paluſtris*, Ger. 46. Emac. 50. Raii Hiſt. 2. 1186. Synop. 3. 374. Rupp. Flor. Jen. 26. Tourn. Inſt. 360. Elem. Bot. 192. *Iris paluſtris lutea, ſive Acorus adulterinus*, J. B. 2. 732. Chab. 244. Dill. Cat. Giſſ. 79. Buxb. 168. BASTARD ACORUS. *Dale.*

This *Iris*, that grows ſo common in Ditches and watery Places, bears Leaves like the common Flower-de-Luce, only ſomewhat longer and narrower; the Stalk ariſes higher, on the Top of which grow three or four Flowers, one above another, flowering gradually, in Shape like an ordinary Flower-de-Luce, only that it wants the upright Leaves, inſtead of which it has only two ſmall Pieces of Leaves in their Places. The Flowers are ſucceeded by large triangular Seed-Veſſels, containing three Rows of flat Seed. The Root is long and ſlender, not running deep in the Earth, but a-ſlant. It flowers in Summer.

The Roots of the *Pſeudo-acorus* are reſtringent, drying, and binding, and uſeful in Fluxes of all Sorts; ſome commend it as a Strengthener of the Brain and Nerves. It is but ſeldom uſed. *Miller. Dale.*

Acorus Aſiaticus, Offic. *Acorus verus, ſive Calamus aromaticus Aſiaticus, radice tenuiore*, Herm. Cat. Hort. Lugd. Bat. *9.* C. Commel. Flor. Mal. 3. Boerh. Ind. A. 2. 169. *Acorus Aſiaticus radice tenuiore Hermanni*, Raii Hiſt. 2. 1910. Hiſt. Oxon. 3. 246. *Acorus Braſilienſis aromaticus minor, Capitatinga, aliis Jacarecatinga Piſonis, ejuſdem. Acorus verus Aſiaticus, radice tenuiore, vel Calamus aromaticus Garziæ*, Pluk. Almag. *Calamus aromaticus*, Garz. ab Hort. 200. *Calamus aromaticus Orientalis, folio & radice tenuiore*, Act. Philoſoph. Lond. Nº. 274. P. 943. *Capicatinga, aliis Jacarecatinga Acori ſpecies*, Piſ. 241. Va embu, Hort. Mal. 11. 99. Tab. Vazabu, Vazum 60. Herm. Muſ. Zelan. 56. ASIATIC SWEET FLAG.

It grows in both Indies, the Root is in Uſe, and its Virtues are the ſame with thoſe of the *Acorus verus*, or common Sweet Flag. *Dale.*

Salmaſius makes the following Obſervations on the *Acorum.*

It is now certain, that the Root of the *Acorum*, which is ſold at the Shops, and preſcribed by moſt Phyſicians, is vaſtly different from the *Acorum* of the Antients, and even endued with contrary Qualities. Some think the *Acorum* of the Moderns to have been the old Butomus; but I cannot agree with them. The Antients give the Butomus a Leaf like that of a Lilly. Democritus, *in Excerptis Geoponicis, Lib.* 11. *Cap.* περὶ ὑδροφαντικῆς, thus writes of it: "The Butomus grows in "Marſhes; it has Leaves like thoſe of Lillies, which Cattle "greedily eat, and ſends forth many Shoots from one Root." The common *Acorum* has the Leaves of Iris rather than Lilly.

They who would have the greater Galangal to be the true *Acorum*, are ſtill wider from the Truth. The greater Galangal grows only in India, and was quite unknown to the Antients, who had their *Acorum* from Pontus, Galatia, Colchis, and Crete. But the Deſcription of the greater Galangal does in no Point agree with the Figure of the *Acorum*. I do not know how far we ought to believe the modern Greeks, who interpret Ἄκορον by Κάλαμος ἀρωματικός. Hence, however, many have ſuſpected what is commonly uſed for the *Calamus aromaticus* to be the true *Acorum*. By the ſame Argument might any one pretend that Schœnus odoratus was the ſame as Sium, becauſe τὸ σίον is in like Manner called σχοῖνος ἀρωματικός. The Arabians call he *Acorum*, Ugi, or Vegi; but they do not ſeem to know the Plant. Serapio deſcribes it in the Words of Dioſcorides, nor does e cite any Arabian Authors who had deſcribed it. Aviſena ſays that the *Acorum* was the Root of a Plant like the Papyrus, that s, Alburdi; ſo the Arabians call the Niloticus Juncus, which was he Papyrus of the Antients. But the *Acorum* of the Antients has o Reſemblance to the Papyrus. They have indeed both pointed Leaves, but of a different Figure; and they diſagree in many ther Reſpects. And yet in the Granada Lexicon *Burdo Acorus* explained *Gladiolus*. They ſeem to have called it ſo, becauſe he *Acorum* is an aquatic Plant; for the Greeks did not only all the Egyptian Plant, but alſo φλοῦν, the common Ruſh, by the Name of πάπυρος. And the Author of an antient Arabic Lexi- on interprets the Word, which ſignifies a Ruſh, Biblon.

Aviſena writes that this *Acorum* of his grows in Waters and treams. In Neophytus, and the ſpurious Works of Dioſco- ides, I find it called Πεπυράκιον; which, perhaps, was written r Παπυράκιον, as the Latins called this *Acorum*, from its Like- eſs to the Papyrus, Papyraceum. From ſuch an Author, and ch a Name, does Aviſena ſeem to derive his Information, when e wrote that the *Acorum* was a Plant like Papyrus. In a very ntient Copy of Apuleius, *de Herbis*, it is read Piperapium, in ne Word, which, it is pretended, ſhould be written ſeparately, iper Apium; becauſe ſoon after he relates, that the Herba Ve- erea (ſo he calls the *Acorum*) was hung in the Bee-hives, to pre- ent the Bees from ſwarming and flying away. But I do not ke this to be a good Reaſon for the Name; and am thorough- of Opinion that Piperapium was written inſtead of Pipera- um, as it is in Neophytus. It is very common, in antient ooks, to change P for C. So the barbarous People at this ay pronounce Diptamnus for Dictamnus; and in Tyro's Notes, d a very antient Copy of Seneca, we find Cercopithepus for ercopithecus. Nor do I queſtion but *Acorum* was called *Pi- racium*, inſtead of *Papyraceum*, from its Likeneſs to the Pa- rus, as Aviſena would have it, who alſo affirms the *Acorum* have a rank and noiſome Smell. On the Contrary, all the ntients write that its Smell was no Way diſagreeable. Thus ioſcorides ſays of the Root of *Acorum*: “That it had a biting Taſte, and no ungrateful Smell.” The ſame ſay Pliny, alen, and all the reſt. That Author then ſeems to have ken another Plant for the *Acorum*, perhaps, the common athula fœtida, for that, as well as the *Acorum*, has the Leaves the Iris, only leſſer and narrower. The Interpreter alſo of rapio renders *Acorum* by Spathella, which is the ſame as Spa- ula, and has the Signification of Gladiolus, by which Name *orum* is tranſlated in the Granada Lexicon. And the Gladio- Aquæ is commonly called the *Acorum*, but the Spathula fœ- da does not grow in Waters, but under Hedges and Buſhes. he Pſeudo-Apuleius ſays, that the *Acorum* grows in Gardens, d cultivated Places, and Meadows; it differs therefore from e true *Acorum*, which delights in watery and marſhy Places. deed, the Antients themſelves did not call barely one Thing the Name of *Acorum*. Pliny relates, that the Root of Oxy- yrſine was, by ſome, called *Acorum*, *Lib.* 25. *Cap.* 13. *Nec n inveniuntur qui Oxymyrſines Radicem Acoron vocant, ideoque idem hanc Acorion vocare malunt:* So the Place muſt be read. r the Sake of Diſtinction, and to avoid confounding them, me called one of them *Acorion*, and the other *Acoron*. In e Index it is written, *Acoron ſive Acrion*, read *Acoron ſive orion*. It is certain then, that the *Acorum* of Apuleius is not e true one, which grows in watery Places, as Pliny alſo at- ts, though he differs from Dioſcorides as to the Colour of e Root. Dioſcorides makes it whitiſh, Pliny black: “The *Acoron*, ſays he, has the Leaves of the Iris, but narrower, and with a longer Pedicle, a black Root, and not ſo full of Veins.” The true *Acorum* is ſhewn and deſcribed by Clu- s, *Hiſtor. Lib.* 2. which he makes to have white Roots. he Bottom of its Stalk is, as it were, triangular, like the Pa- rus; inſtead of a Flower, it bears a Panicle, or Catkin, at firſt Appearance, like the young Catkin of the Haſle. delights in watery Places. Conſult this Author by all Means. uleius ſays that his *Acorum* is hard to be found, nor can be own, before it is in Flower. Dioſcorides tells us that the t was found in Colchis and Galatia, which was called Sple- um, from the Effect it had of diminiſhing the Spleen. Neo- ytus has the ſame. It was called Splenium, from curing Diſ- ders of the Spleen, as Thapſia was called ὑπώπιον, from cur- Lividneſs in the Face ariſing from Blows. Pliny agrees th Dioſcorides, as to the Countries where the beſt may be had.

ACOS. Ἄκος. Medela. A Remedy.

ACOSMIA, Ἀκοσμία. From α Negative, and Κόσμος, Order. Irregularity, principally in Fevers, with Reſpect to the Criſis and critical Days.

Caſtellus, from Pollux, ſays, they, who were bald, uſed to be called Acoſmoi (Ἄκοσμοι), becauſe they had loſt the great Ornament, the Hair; for Κόσμος ſignifies Ornament, as well as Order.

ACOUSA. Ἄκουσα, from α Negative, and ἑκὼν, voluntary. Galen explains ἄκουσαι by πεπληρωμέναι, *full*, and is followed by ſome of the Commentators on Hippocrates, as Cordæus and Foeſius; but there does not ſeem to be the leaſt Foundation for this Interpretation. The only Paſſage, where there is any Poſſibility that it ſhould ſignify *full*, is in the firſt Book *de Morbis Mulierum*, where Hippocrates, in delivering the Cauſes of Miſcarriages, ſays, Women miſcarry of Children which are very ſmall, becauſe ſuch Children are uſually very weak; and they alſo miſcarry of Children that are very large: Hence it is no Wonder that Women miſcarry, ἄκουσαι, involuntarily, or without manifeſt Cauſe. That this is the true Meaning of this Paſſage, appears by others in the ſame Author, where he ſays, that one frequent Reaſon why a Woman miſcarries, without evident Cauſe, is, becauſe the Womb is too rigid to be extended in Proportion to the Bulk of the Child. And it is for the ſame Reaſon, that Women who go through their Time very well, when big with only one Child, yet miſcarry frequently, when they are with Child of two. See the Article ABORTUS.

ACOUSIA. Involuntary. This is often applied by Hippocrates to Tears, which, in Diſtempers, flow involuntarily; from whence Preſages are to be drawn. See LACHRYMÆ.

ACOUSTICA, from Ἀκούειν, to hear. Remedies againſt Deafneſs are thus called.

ACRAI. An Arabic Word. It ſeems to mean that Diſorder which in Men is called a *Satyriaſis*, and in Women a *Furor uterinus*. *Caſtellus* from *Aviſena*.

ACRAIPALA, Ἀκραίπαλα. From α Negative, and κραιπάλη, Crapula. A Surfeit, Drunkenneſs. Medicines are thus called, which either prevent or cure Surfeits or Drunkenneſs.

ACRALEA. Ἀκραλέα. This is explained by Galen Ἄκρα. The Extremities, I ſuppoſe, he means.

ACRAS. Ἀκράς. Thus the Pyrum Sylveſtre is called by Ray, by Miſtake, for Ἀχρὰς, Achras, the wild Pear. It is reſtringent and drying. When cut into Slices and dried, Pliny recommends a Decoction of it for a Looſeneſs. The Decoction of the Leaves and Fruit is alſo of Uſe in the ſame Caſe. *Raii Hiſt. Plant.*

ACRASIA. Ἀκρασία or Ἀκρησία, from α Negative, and κεράννυμι, to mix. Intemperance. The Temperance of the Antients was very great, with Reſpect to Drinking. They uſed to mix four or five Parts of Water with one of Wine. This we may gather from a Paſſage in Cælius Aurelianus, who informs us, that, in a Catarrh, Aſclepiades directed his Patients to augment the Quantity of their Wine to double or treble what they uſed to drink in Health, inſomuch that he made them drink half Wine and half Water. Hence the Drinking Wine unmixed was called Ἀκρασία, by a Derivation which is retained in Latin and Engliſh, for *Tempero* is the ſame as κεράννυμι, to mix. Hence the Word was applied to Exceſs of any Sort, as in Eating, Drinking, Sleeping, and Venery. And it is uſed in this Senſe frequently by Hippocrates, and the Greek medicinal Writers from him.

But (Ἀκρασία) ACRASIA is alſo uſed in a very different Senſe by Hippocrates, and in many Places ſignifies the ſame as *Acratia* (Ἀκράτεια), Weakneſs, Impotence, or Inability for Motion. Ἀκρασία, in this Senſe, ſhould have the ſame Derivation as Ἀκράτεια.

ACRATIA. Ἀκράτεια, from α Negative, and κράτος, Strength. Imbecillity, or Inability for Motion. This, and the Adjective Ἀκρατὴς, is very common in Hippocrates, Galen, and the other medicinal Writers. It is either applied to the whole Body, deprived of Motion, or any particular Part, as the Tongue, when by Diſtemper rendered incapable of articulating the Voice. They are alſo applied to the Stomach and Inteſtines, which, through Weakneſs, cannot retain the Aliment received, but too ſoon diſcharge it, either by Vomit, or by Way of Diarrhœa.

Ἀκρατὴς is uſed in a Senſe ſomewhat different by Hippocrates, *Epidem. L. 6. Sect.* 8. *Aphoriſm.* 45. in the Opinion of his Interpreters. The Paſſage is thus, ἐν οἷσιν ἀκρατὴς φοβερός. This, they ſay, means that a Phyſician ſhould diſtinguiſh when it is proper to terrify a Patient that is unruly, and cannot contain himſelf. If this Interpretation is right, Ἀκρατὴς in this Place ſignifies unruly, or incapable of reſtraining themſelves to a proper Conduct.

ACRATISMA. Ἀκράτισμα. A Breakfaſt amongſt the old Greeks, conſiſting of a Morſel of Bread ſoaked in pure unmixed Wine. *Conſtantine*, *Caſtellus*.

The Derivation of this Word is the ſame as that of *Acraſia*, becauſe the Wine, uſed on this Occaſion, was not mixed with Water.

ACRATOMELI. 'Ακρατόμελι. The ſame as Mulſum. Wine mixed with Honey. See MULSUM.

ACRATOS. "Ακρατος or "Ακρητος, from α Negative, and κεράννυμι, to mix. Pure, ſimple, unmixed. This is very often uſed by Hippocrates, and applied to the Excretions of different Sorts, and is always of very bad Preſage. Thus, in his *Prænotiones*, he obſerves, that, in all painful Diſorders of the Pleura and Lungs, the Spit ſhould appear mixed with yellow, and that 'tis a dangerous Symptom if it is all yellow without any Mixture (ξάνθον ἄκρητον). And immediately after, he tells us, that, if the Spit is ſo unmixed as to appear black, it is a very bad Circumſtance.

This is again repeated, *Coac. Prænot.* 390. in almoſt the ſame Words.

With Reſpect to what is diſcharged by Vomit, he obſerves, (*Prænot.*) that a Mixture of Phlegm and Bile is beſt, but that what is more unmixed (ἀκρητέστεραι) is much worſe. And (*Coac. Prænot.* 560.) he ſays, what is diſcharged by Vomit in ſmall Quantities, and by a little at a Time, if bilious, and unmixed, ("Ακρηται) is of bad Preſage, in too copious Purging, and Pains of the Loins. And again, (*Prædict. L.* 1. 62.) he ſays, unmixed ("Ακρητα) Vomits, attended with Anxiety, and Reſtleſneſs ('Ασώδεα), are very bad. And (*Epidem. L.* 2. *Sect.* 2.) he obſerves, that in Vomits that are taken on Account of a Fever, if what is diſcharged, at the End of the Operation, begins to appear unmixed (ακρητέστερα) 'tis a Sign of Putrefaction.

The ſame Author alſo condemns ſincere and unmixed Stools. As in *Aphor.* 6. *L.* 7. where he ſays that, in chronical Diſorders, Loſs of Appetite, ſincere or unmixed Stools are bad. The Reading here, in Foeſius, differs from that of Heurnius. In the firſt, the Stools are called "Ακρηται; in the laſt χωλώδεις; but the Senſe ſeems pretty much the ſame either Way, what is meant being probably bilious Stools without any Mixture. Perhaps, it would be right to inſert both Words. In the ſame Section, *Aph.* 23. theſe Sorts of Stools are again taken Notice of, as of bad Preſage.

Galen ſays, Hippocrates means, by theſe Stools, ſuch as are not mixed with any watery Moiſture, but are all of one Colour, either yellow, black, æruginous, or porraceous.

Hippocrates alſo applies "Ακρητος to Blood diſcharged from the Noſe, and this is always mentioned as a bad Symptom. Galen explains it of Blood that is black and thick. In the Caſe of Philiſcus, which is the firſt of the firſt Book of *Epidemics*, it is ſaid that, on the fifth Day about Noon, this Sort of Blood ("Ακρητον) diſtilled from the Noſe. The next Day about Noon he died. Phyſicians, who have obſerved ſome few Drops of thick black Blood diſcharged from the Noſe of Patients under much the ſame Circumſtances as Philiſcus, will know what Hippocrates means by "Ακρητον, better than it can be explained by Words, and will be ſenſible that Galen's Interpretation is right. Hæmorrhages of the Noſe in Fevers are critical and ſalutary, when the Blood is in ſuch a State of Fluidity, as to admit of its being diſcharged in ſufficient Quantities. But when the Blood is thick and black, as in the Caſe of Philiſcus, for that Reaſon a Criſis by the Blood-veſſels is prevented, and the Patient, after ſuch an Effort, generally periſhes.

"Ακρητον alſo ſignifies Wine unmixed, as *Merum* is in like Manner uſed in Latin.

But "Ακρητον is alſo uſed by Hippocrates, to ſignify vehement, exceſſive, intemperate, and is applied by him to the Symptoms of Diſeaſes, to the Catamenia, to Paleneſs, to exceſſive ſtrong Aliment. And by other Authors to a Diarrhœa, to Anger, to Heat, or any Thing in Exceſs.

ACRE. "Ακρη. It ſignifies the End or Extremity of the Noſe.

ACREA. "Ακρεα. The Extremities, among which are reckoned the Arms, Legs, Noſe, and Ears. From theſe ſome Preſages are drawn in Diſtempers. Thus Hippocrates, *Prædict. L.* 1. 43. obſerves, that ſudden Changes of the Extremities, with Reſpect to Heat and Cold, are bad Symptoms. This is repeated, *Coac. Prænot.* 50. and in the very ſame Words. Coldneſs of the Extremities is alſo mentioned in many Places of the *Epidemics*, as attending Fevers of an ill Sort, which is repreſented as a very bad Symptom, if they don't grow warm again without Difficulty.

"Ακρεα is alſo applied to the Extremities of Animals uſed by Way of Food. Thus, *Epidem. L.* 7. a Part of Alcman's Diet is ſaid to be κώληνας ὑὸς ἀκρέων ἔφθων, which Celſus calls *Trunculi ſuum*, *L.* 2. *C.* 20. and places amongſt Aliments of good Nouriſhment. They ſeem to be what we call Petty-Toes.

ACRESPERON, 'Ακρέσπερον, from "Ακρος, extreme, and "Εσπερος, the Evening. The Beginning of the Evening, or Night, in the Senſe of Hippocrates. *Foeſius. Gorræus. Conſtantine. Galen.*

ACRETOPOSIA, 'Ακρητοποσία, from "Ακρητον, Wine unmixed with Water, and Πόσις, Drink. It ſignifies the Drinking of Wine without any Mixture of Water. *Caſtellus.*

ACRIBES. 'Ακριβής. The Meaning of this Word is explained by Galen in his Treatiſe *de Simpl. Med. L.* 4. *C.* 22. When, ſays he, I ſay, a Thing is exactly ('Ακριβῶς) thus, or thus, I mean, that it is purely ſo, and, as much as is poſſible, void of all other Qualities.

A Tertian, which ceaſes within twelve Hours, is called, an exact ('Ακριβὴς) Tertian. But, if the Fit exceeds that Time, it is not an exact Tertian (οὐκ ἀκριβής). *Oribaſius.*

ACRIMONIA. Acrimony. The different Species of Acrimony are taken Notice of under the reſpective Articles. Any Thing is ſaid to be acrimonious, that is pungent, ſtimulating, and corroding, as Bodies which are alcaline, acid, and muriatic.

ACRIFOLIUM. Amongſt the old Botaniſts, it is applied to any Plant with a prickly Leaf.

ACRIS. "Ακρις. This properly ſignifies the Top of a Mountain, and hence is applied to the ſharp Extremities of fractured Bones, as in Hippocrates, *de Articulis.* But Foeſius thinks "Οκρις ſhould be read in this Place inſtead of "Ακρις. "Οκρις ſignifies much the ſame.

ACRIS, 'Ακρὶς, alſo ſignifies a Locuſt, an Inſect, which the Parthians and Indians eat, and which was St. John's Food in the Wilderneſs, as is ſuppoſed.

ACRISIA. 'Ακρισία, from α Negative, and Κρίνω, to judge, or ſeparate. It ſignifies that State of Crudity and Inconcoction of the Juices, which prevents a Separation of the morbific Matter, and the conſequent Expulſion of it out of the Body, and is directly the Reverſe to a Criſis.

Galen explains it, by either no Criſis at all, or one that is made with much Difficulty, or which is ineffectual for the Relief of the Patient, who, after it, does not grow better, but rather worſe than he was before. See CRISIS.

ACRITON. "Ακριτον. This is explained by Galen by 'Αδιάκριτον, not ſeparable, not diſtinct, confuſed, or of which we can form no Idea.

Gorræus ſays, it ſignifies immenſe or infinite.

ACRIVIOLA, [of *Acer*, ſharp, and *Viola*, Violet, i. e. Sharp Violet] commonly called *Naſturtium Indicum*, or Indian Creſs.

The CHARACTERS *are,*

The Leaves are round, umbilicated, and placed alternately; the Stalks are trailing; the Cup of the Flower is quinquefid; the Flowers conſiſt of five Leaves, which are in Form of a Violet; the Seeds are roundiſh and rough, three of them ſucceeding each Flower.

There are five Varieties of this Plant in the Engliſh Gardens, viz.

1. *Acriviola*, Frid. Cæſ. T. 935. The leſſer Indian Creſs.
2. *Acriviola, flore ſulphureo*, Boerh. The leſſer yellow Indian Creſs.
3. *Acriviola, maxima odorata*, Boerh. The great Indian Creſs.
4. *Acriviola, maxima odorata, flore ſulphureo*, Boerh. The great yellow Indian Creſs.
5. *Acriviola, maxima odorata, flore pleno.* The great double Naſturtium, or Indian Creſs. *Miller.*

This is eſteemed a good Antiſcorbutic. The young Shoots and Fruit are uſed in Pickles. It abounds with a volatile, oily, acrid Salt.

ACROASIS, 'Ακρόασις, or 'Ακρόησις. It ſignifies an Audience, Harangue, Lecture, or what in foreign Univerſities they call a College.

Hippocrates, in his *Oath*, diſtinguiſhes Παραγγελία from 'Ακρόασις; by the firſt probably meaning a Precept, or Aphoriſm; by the ſecond, Lectures upon it, in order to explain it, o Doctrine delivered in Words. This Meaning is confirmed by the Uſe the ſame Author makes of 'Ακρόασις in his Treatiſe, intitled Παραγγελίαι, where he ſays, *If you have a Mind to make an Harangue* ('Ακρόασιν) *for the Sake of the Populace, o before a Populace, do it without Oſtentation.*

ACROBYSTIA, 'Ακροβυστία, the Extremity of the Prepuce, from "Ακρος, extreme, and Βύω, to cover. See ACROPOSTHIA.

ACROCHEIRIA, 'Ακροχειρίη. ACROCHEIRESIS, 'Ακροχείρησις. ACROCHEIRISMOS, 'Ακροχειρισμός. From "Ακρος extreme, and χεὶρ, a Hand. An Exerciſe amongſt the Antients. It ſeems to be a Species of Wreſtling, where they o hold by the Hands, as the Derivation imports. Dacier ſays the Combatants only ſqueezed each other by the Hands, t one yielded to the other. It is mentioned in the ſecond a third Book of Hippocrates, *de Victus Ratione.*

ACROCHEIRIS. 'Ακροχειρίς. This has the ſame Deriva on as the preceding.

Gorræus ſays, it ſignifies the Arm from the Elbow to the Ends of the Fingers, χεὶρ ſignifying the Arm from the Sc pula to the Fingers Ends.

ACROCHLIARON, 'Ακροχλιαρόν. From "Ακρος extr and χλιαρὸς, warm. It ſignifies very warm, lukewarm, or warm as a Liquid can conveniently be drank.

ACROCHOLIA, 'Ακροχολία. From "Ακρος, extreme, χολὴ, Anger. Violent Anger.

ACROCHORDON, 'Ακροχορδών. From "Ακρος, extreme, χορδὴ, a String.

Galen ſays, the Antients impoſe Names upon Things from ry odd Analogies, particularly in the Inſtances of Epinyctis, crochordon, and Nyctalops. The Firſt they called ſo, be- uſe it breaks out in the Night; the Second, becauſe of its Si- ation on the Surface of the Skin; the Third, becauſe they ho are affected with it cannot ſee in the Night. *De Methodo edendi.*

An *Acrochordon* is a round Excreſcence on the Skin, with a nder Baſe. *Galen, Def. Medic.*

The Greeks call that Excreſcence an *Acrochordon*, where mething hard concretes under the Skin, which is ſomething ugh, of the ſame Colour as the Skin, ſlender at the Baſe, d broader above. It is ſmall in Size, ſeldom exceeding that a Bean. One ſeldom appears alone, but generally a great any at a Time, principally in Children. Sometimes they ſappear ſuddenly, ſometimes they excite a ſlight Inflamma- on, and ſometimes ſuppurate.

If an *Acrochordon* is cut out, it leaves no Root behind, and erefore is not ſubject to grow again. *Celſus, L. 5. C. 28.*

By this Account we find the *Acrochordon* is that Species of art, which Wiſeman calls Penſile. It is generally extirpated, hen it becomes troubleſome, either by Ligature or Exciſion. e VERRUCA.

ACROCHORISMUS, Ἀκροχορισμός. From Ἄκρος, extreme, d Κορεύω, to dance. An Exerciſe which conſiſted in Dancing, tended with violent Agitations of the Arms and Legs.

Schulzius ſays, in the *Acrochoriſmus*, they joined Hands to ands, or Forehead to Forehead, and endeavoured to puſh each her out of the Place they ſtood in.

ACROCOLIA, Ἀκροκώλια. From Ἄκρος, extreme, and ῶλον, a Limb. Theſe are the Extremities of Animals, which e uſed in Food, as the Feet of Calves, Swine, Sheep, Oxen, Lambs, and of the Broths of which, Jellies are frequently ade. Caſtellus from Budæus adds, that the internal Parts Animals are alſo called by this Name, in Engliſh Giblets.

They are recommended by Hippocrates (*de Mulierum Morbis,* 2.) as a proper Food, when there is a Tendency towards a ropſy. And they are, in other Places, recommended as Food eaſy Digeſtion, and proper for weak Stomachs.

ACRODRYA, Ἀκρόδρυα. From Ἄκρος, extreme, and Δρῦς, operly an Oak, but taken for any Sort of Wood. All rts of autumnal Fruits, produced by Trees, whether of the ut, Apple, or Plum Kind. Strictly it is ſaid to ſignify only oſe Sorts of Fruits, that are covered with a Shell, or Huſk. ut the Uſe made of it by Hippocrates, and the other medici- l Writers, gives no Grounds for this Diſtinction.

ACROLENION, Ἀκρωλήνιον. Caſtellus ſays, this is the me as Olecranon, the great Proceſs of the Ulna. I have et with the Word in no other Author.

ACROMION, Ἀκρώμιον. From Ἄκρος, extreme, and Ὦμος, e Shoulder. That Part of the Spine of the Scapula that re- ives the Extremity of the Clavicula. See SCAPULA.

ACROMPHALION, Ἀκρομφάλιον. From Ἄκρος, extreme, d Ὄμφαλος, the Navel. The Tip of the Navel. *Gorræus.*

ACRON, Ἄκρον. It ſignifies, in a medicinal Senſe, that hich is moſt excellent in its Kind. Thus Ἄκρον Ἴρινον, men- oned by Hippocrates *de Morb. Mulierum*, ſignifies the moſt cellent Sort of Unguentum Irinum. *Foeſ.*

ACRON, amongſt the antient Botaniſts, was uſed to ſignify e Capitulum, Top, or Flower of Plants of the Thiſtle Kind. *almaſius Hyl. Iatric.*

ACRON. A Phyſician of Agrigentum, a Contemporary of mpedocles, who lived ſome little Time before Hippocrates. liny repreſents him as living in Friendſhip with Empedocles; ut, the Learned believe, from ſome Paſſages in Diogenes Laer- ius, and Suidas, that Pliny was deceived into this Opinion, by n Epigram, made by Empedocles, as an Epithaph for *Acron*, hich Pliny underſtood as a Compliment, but which in Rea- ty was intended as a Ridicule. And, indeed, it is not very robable, that they ſhould agree, their Sentiments, with Reſpect o Medicine, being directly oppoſite. Empedocles probably ac- ounted for the Appearances in Diſeaſes, and the Effects of Medi- ines, from the Principles of the Philoſophy he profeſſed; where- s *Acron*, though remarkably ſucceſsful in his Practice, thought ll Manner of Reaſoning, in Matters relating to Medicine, ſu- erfluous, and therefore he is claimed by the Phyſicians of the mpiric Sect as their Patron.

What we learn farther of *Acron* is, that he was not without a ufficient Share of Vanity, affecting to be thought and called the hief of the Phyſicians, by a ridiculous Alluſion to his Name, hich bears the Signification of Supreme.

Plutarch tells us, that *Acron* was at Athens in the Time of he great Plague, which happened in the Beginning of the eloponneſſian War, and that he adviſed the Athenians to light reat Fires in the Streets, near the Sick, probably with a iew of purifying the Air. This is by others related of Hip- ocrates. It was very common for the Antients to attribute he remarkable Cures, and the extraordinary Methods of Prac- ice of one Phyſician, to many others of Eminence; and the oderns have carried this Weakneſs to ſuch a Degree of Ex- travagance and Folly, that even Reparties, made by Phyſicians who have been dead ſome Centuries, are related of Phyſicians that arrive at any Degree of Eminence in every Age and Country.

Suidas ſays, *Acron* exerciſed the Profeſſion of Sophiſt at Athens, but Le Clerc thinks it a Miſtake.

Le Clerc remarks, that the Vanity of *Acron* is a full Confutation of Celſus, who repreſents the Art of Phyſic as the Invention of the Philoſophers. Becauſe, if it had been ſo, *Acron*, who lived after Pythagoras, and at the ſame Time with Empedocles, and depended on Experience only, could not have had the Inſolence to arrogate to himſelf the ſupreme Place amongſt the Phyſicians, in Prejudice of the Inventors of the Art.

ACROPATHOS, Ἀκρόπαθος. From Ἄκρος, extreme, and Πάθος, a Diſeaſe. It ſignifies literally a Diſeaſe at the Top or ſuperior Part. Hippocrates, in his Treatiſe, *de Superfœtatione*, applies it to the internal Orifice of the Uterus; and (*Prædict. L.* 2.) to Cancers, which appear on the Surface of the Body. Theſe he calls Ἀκρόπαθοι, by Way of Diſtinction from thoſe, which are Κρύπτοι, hid or concealed in the internal Parts; unleſs by Ἀκρόπαθοι he means thoſe that are ulcerated, and by Κρύπτοι, thoſe which are not yet broke.

ACROPIS, Ἄκροπις. From Ἄκρος, extreme, and Ὤψ, the Voice. It is uſed by Hippocrates ſeveral Times in the ſeventh Book of *Epidemics*, as an Epithet for the Tongue, which, either by Reaſon of Dryneſs, or ſome Imperfection in the Muſcles, cannot articulate the Voice. And is alſo applied to the Patient labouring under ſuch a Diſorder.

ACROPLOA, Ἀκρόπλοα. From Ἄκρος, extreme, and Πλέω, to ſail. Superficial. Hippocrates (*Lib.* 1. *de Morbis*) having given an Account of the Diſorders to which the Veins in the Lungs are ſubject, adds, that the ſuperficial (Ἀκρόπλοα) Veins on the Inſide of the Pleura, or Side, are affected in the ſame Manner.

ACROPOSTHIA, Ἀκροποσθίη, or Ἀκροποσθία. From ἄκρος, extreme, and Πόσθη, the Prepuce, or the Skin which covers the Glans of the Penis. The Extremity of the Prepuce. That Part which is cut off in Circumciſion.

Hippocrates *Aphor.* 19. *L.* 6. and *Coac. Prænot.* 504. repreſents the *Acropoſthia* as a Part incapable of Re-union, if cut or divided. And the ſame Author (*de Morbis, L.* 4.) tells us, that this Part will diſcover a Stone in the Bladder, though other Signs of it, which he mentions before, do not appear. But he does not inform us in what Manner. However, Celſus and Aretæus explain this, by telling us, that a Patient, who has a Stone in the Bladder, endeavours frequently to relieve his Pain, by ſtretching or extending the Penis, Aretæus ſays, as if they would pull out the Bladder together with the Stone; for this Purpoſe they lay hold of the *Acropoſthia*, in which and the Glans there is an uneaſy Senſation. They who have been racked by a Stone in the Bladder are very well acquainted with this Symptom.

ACROPSILON, Ἀκρόψιλον. From ἄκρος, extreme, and ψίλος, bare. It ſignifies bare at the Top. Hippocrates (*Epidem. L.* 4.) applies it to the Pudendum of a Boy, who was affected with a Tumour of both Hypochondria, and Exulceration of the Navel.

ACROS. Ἄκρος. Extreme, uppermoſt. It is alſo uſed to ſignify the very beſt of the Kind. See ACRON.

ACROSAPES, Ἀκροσαπής. From ἄκρος, extreme, and σήπω, to putrefy. Galen explains this, ſoon changed in the Superficies (Ἐπιπολῆς) but Foeſius ſays, ſome Copies ſubſtitute βραχὺ for Ἐπιπολῆς, which is moſt likely to be right, for then it will ſignify, ſoon changed, or in a ſhort Time. The Word is uſed by Hippocrates in his Treatiſe, *de Alimento*. The Paſſage is, Σίτιον νέοισιν ἀκροσαπές. Foeſius, if I underſtand his Meaning, interprets this Paſſage thus: *Aliment gently boiled* (leviter coctum) *agrees with young People.* But the Explanation of Ἀκροσαπὴς, given by Caſtellus, from Valeſius, ſeems more to the Purpoſe. According to this, Ἀκροσαπὴς ſignifies, *eaſy of Digeſtion*; and then the Paſſage will run thus: *Aliments are eaſily digeſted by young Men.* Or, *Aliments are eaſy of Digeſtion in the Stomachs of young Men.* And this we find true in Fact.

ACROSPELOS. Ἀκρόσπελος. A Name of the Bromus Dioſcoridis, or Wild-Oat-Graſs. *Gorræus.*

ACROTERIA. Ἀκρωτήρια. The Extremities, or extreme Parts of the Body, as the Hands and Feet. Caſtellus adds the Head, and Galen the Head, Noſe, and Ears.

Hippocrates, *Aphor.* 1. *Sect.* 7. marks a Refrigeration of the Extremities in acute Diſeaſes, as a bad Symptom. And, in *Aph.* 26. of the ſame Section, he pronounces a Refrigeration of the Extremities, in painful Diſorders of the Belly, of bad Preſage. In the Geneva Edition of Foeſius of 1657, Ἀκωτηρίων is printed, by Miſtake, for Ἀκροτηρίων. It is taken Notice of in the Treatiſe, *de Ratione Victus in Acutis*, amongſt other bad Symptoms attending acute Diſorders. It is a little after mentioned as an Effect of Oxymel, given improperly in acute Caſes. And again, as a Symptom attending a Cauſus, or Burning Fever. In the ſame Treatiſe it is alſo mentioned as a Symptom of a Sort of Fit, there deſcribed, when a Patient in Health is ſuddenly ſeized with an Interception, or Loſs of Voice, without any evident Cauſe.

It is univerſally the Doctrine of Hippocrates, and, from him, of all other medicinal Writers, that, in acute Diſorders, it is a good Sign to have all Parts of the Body equally hot. And that it is a very bad Symptom, to have the Arms and Legs cold, whilſt the Belly and Sides are hot; and this is confirmed by common Obſervation.

Galen ſays, a Refrigeration of the Extremities is often cauſed by Affections of the Cardia, or left Orifice of the Stomach; and that it is a moſt pernicious Symptom, when it happens in Inflammations of the Viſcera. Phyſicians meet with frequent Confirmations of all this Doctrine, in Practice.

ACROTERIASMUS. 'Ακρωτηριασμός. An Amputation of any of the Extremities. See AMPUTATIO.

ACROTHOREX, 'Ακροθώρηξ. From ἄκρος, extreme, and θωρήσσω, to get drunk. By the Etymology, it ſhould ſeem to ſignify one that is exceſſively drunk; and thus, Conſtantine ſays, ſome interpret it. But it is more generally taken to ſignify one that has drank till he has juſt attained the firſt Stage of Drunkenneſs, or, as we expreſs it in Engliſh, is fuddled.

ACROTHYMION, 'Ακροθύμιον. From ἄκρος, extreme, and θύμος, Thyme.

A Species of Wart deſcribed by Celſus. It is broad at the Baſis, but narrow at the Top, hard, and rough. The Top of it reſembles the Flower of Thyme in Colour, whence it derives the Name. The Top eaſily ſplits, and bleeds. It is uſually about the Size of an Egyptian Bean, ſeldom bigger, ſometimes very ſmall. Sometimes a ſingle one grows on the Palms of the Hands, or inferior Parts of the Feet, but ſometimes there are more. Thoſe are moſt troubleſome, which grow on the obſcene Parts, and moſt ſubject to bleed. *Celſus, L.* 5. *C.* 28. *S.* 14.

ACMO. Red Coral. *Rulandus. Johnſon.*

ACTÆA. An Herb, mentioned by Pliny, *L.* 27. *C.* 7. Ray thinks it the *Aconitum Racemoſum*, called alſo *Chriſtophoriana, Herb Chriſtopher*, or *Bane-berry*. This is, in the Opinion of all Botaniſts, a very poiſonous Plant. But Pliny ſays, the *Actæa* may be given in the Quantity of an Acetabulum, that is, half a Quarter of a Pint, in internal Diſorders of Women. Either therefore Ray, or Pliny, or the Botaniſts, who repreſent the *Aconitum Racemoſum* as poiſonous, muſt be miſtaken.

ACTE. 'Ακτὴ. The Elder. See SAMBUCUS.

ACTIN. 'Ακτὶν, or 'Ακτίς. A Ray of the Sun, or of Lightening.

ACTINE. 'Ακτίνη. A Name of the Herb Bunias or Napus. *Gorræus.* See NAPUS.

ACTINOBOLISMUS. 'Ακτινοβολισμός, 'Ακτινοβολία. Irradiation. It is applied to that inſtantaneous Action of the animal Spirits, by which they convey the Inclinations of the Mind to the Organs of voluntary Motion. It is alſo called DIRADIATIO.

ACTIO. ACTION. The Actions or Functions of the Body are divided, by the Writers of Inſtitutes, into the Vital, Animal, and Natural. The Vital are ſuch as are ſo neceſſary, that the Individual cannot ſubſiſt a few Minutes without their Exerciſe. Such is the Motion of the Heart and Lungs; the Secretion of Spirits in the Cerebellum, upon which the Motion of the Heart and Lungs depends; the Circulation of the Blood and Spirits in their proper Veſſels.

The Natural Actions are ſuch as are neceſſary for the Continuance of the Animal, but not ſo immediately, but that it may ſubſiſt a conſiderable Time without them, as the Digeſtion of the Aliment, and its Converſion into Blood.

Under Animal Actions are comprehended thoſe which conſtitute the Senſes of Touch, Taſte, Smell, Viſion, Hearing, Perception, Imagination, Memory, Judgment, Ratiocination, Affections of the Mind, and voluntary Motion, without any or all of which an Animal may live, but not very comfortably. *Boerhaave.*

The Writers of Inſtitutes alſo mention other Actions, which they call Peculiar to the Sex, Private, or Public. Thoſe Peculiar to the Sex, are of the Organs of Generation in each Sex; Private Actions are ſuch as regard particular Parts; Public Actions are thoſe which are performed for the Sake of the whole Body, as, the Action of the Stomach in digeſting the Aliment.

Theſe are alſo called Functions.

But all Parts of the Body have an *Action* peculiar to themſelves. Thus, the Offices, performed by the Muſcles, Veſſels, Glands, and Viſcera, are called their reſpective Actions, which will be explained under the Names of each particular Part.

ACTIVUS. ACTIVE. It is applied to Medicines whoſe Operations are quick and briſk, and ſuch whoſe Effects are ſudden and great.

ACTON. A Town about five Miles from London, famous for a purging mineral Water, of which Dr. Allen gives the following Account:

Much nitrous Efflorеſcence appears in the Clay about the Well.

The Spring opens northerly; it is reputed one of the ſtrongeſt Purgers about London: It is noted to occaſion a great Soreneſs of the Inteſtines and Fundament, which is reaſonably referred to the Quantity of Salt they waſh from the Body, but the Penetration of the Salt of the Water may make it more pungent and keen. The Water was whitiſh, not ſo clear as Epſom, not ſaltiſh, but rather to me ſeemed ſweet, with a little of the Bitterneſs of Epſom: It curdles with Soap, as do all.

The Salt of this Water is ſoft, and not cryſtallized, wherein it agrees with Epſom Salt, though I thought ſcarce ſo ſoft. The diſtinct Nature of this Water, or Salt of this Water, conſiſts in that this Salt is more calcarious, or of the Nature of Salt of Lime; for the Water, boiled high, diſturbed a Solution of Sublimate in fair Water, whence it precipitated a yellowiſh Sediment, a little more yellow than the Water, which it left white. And this Salt is likewiſe more nitrous, or hath more of the Nature of the Salt of the upper Soil, as appears in that it takes a pale Yellow from Gall, but duſky and diſturbed, as common Salt doth effect; not ſo dirty, nor ſo apt to precipitate as Sal Calcarium. With Syrup of Violets it took a Green, with Tincture of Logwood, made with Brandy, a deep Red and Purpliſh, as nitrous Salts do with cold Tincture of Logwood, which hot would give a full Purple. The Salt did not precipitate fine Silver, out of Spirit of Nitre, which common Salt would. A Pint and a half of the Water yielded forty-eight Grains of Salt, in which were ſix Grains and a half of reddiſh Earth, on which acid Spirits wrought. The Earth precipitated in Boiling. *Allen's Hiſtory of purging Waters.*

ACTUALIS. ACTUAL. This is applied to Things which are endued with any Virtue, Faculty, or Property, which acts by an immediate Power inherent in it. It is the Reverſe of Potential, which ſignifies *endued with the Power of producing particular Effects.*

Thus a red-hot Iron, or Fire, is called the *actual* Cautery, to diſtinguiſh it from Cauteries, or Cauſtics, that have the Power of producing the ſame Effect upon the animal Solids and Fluids, as *actual* Fire; theſe laſt are called *potential Cauteries.* Thus alſo heated Liquors are ſaid to be actually hot, *Actu calida*; but Liquors, which are capable of producing Heat in the Body, though themſelves cold, are ſaid to be potentially hot.

Hence the Words, *Actus* and *Actu*, may be underſtood.

The Logicians and Metaphyſicians make Uſe of this Word in Senſes ſomewhat different from this, but it is ſufficient for the preſent Purpoſe to explain the medicinal Senſe.

David Lagneus, in his *Harmonia Chymica*, printed in the *Theatrum Chymicum*, Vol. 4. quotes from Ægidius a Definition of the *Actus Activorum*, in theſe Words: *Actus Activorum ſunt in Patiente diſpoſito: id eſt, Forma agit ſecundum Materiæ Diſpoſitionem.* Caſtellus, inſtead of *diſpoſito*, quotes it by Miſtake, *Diſpoſitio.* The Reader, that does not underſtand Latin, will not ſuffer much, becauſe I do not tranſlate it, for it is equally Nonſenſe in Engliſh and Latin.

ACTUARIUS was not the Name, but the Title of John, the Son of Zacharias, a Greek Writer of the latter Ages; a Title, which, though commonly beſtowed on the Phyſicians of the Conſtantinopolitan Court, has by ſome Accident, of which it is not now poſſible to diſcover the Original, been appropriated to this Writer, who is now ſcarcely known by any other Appellation.

That he obtained the Honour of this Title, is almoſt the only Incident of his Life, of which any Knowledge has deſcended to our Times; but his Works, which remain, afford ſufficient Teſtimony, that he was not exalted beyond his Merit, and his Dignity was not the Veil of Ignorance, but the Diſtinction of Knowledge.

His ſix Books of *Therapeutics*, which he compoſed for the Uſe of the Lord Chamberlain, who went on an Ambaſſy into the North, tho' written, as he informs us, with very little Study, and deſigned only for the private Uſe of the Ambaſſador, contain, as Dr. Friend obſerves, not only a judicious Compilation of the Writings of his Predeceſſors, but ſome Obſervations not to be found in the earlier Authors, as in his Section on the *Palpitation of the Heart*, of which he mentions two Kinds, one proceedin from Plenitude or Heat of Blood, which is the moſt frequen Kind; and the other from Vapours; and directs, how th may be diſtinguiſhed, by remarking that an Inequality of th Pulſe always attends that which is the Conſequence of Plenitude, but not that which is produced by Vapours. For th Diſtemper he directs to purge and bleed, in which he has bee followed by many of the greateſt Phyſicians of later Times.

His two Books, concerning the *Spirits*, are obſerved by D Friend, to be abſtracted from Galen, and to be of little Uſe i the Practice of Phyſic.

The Doctrine, relating to *Urine*, is very amply laid down b him in ſeven Treatiſes, in which at leaſt, if we believe his o Teſtimony, he has made large Additions to the Obſervations former Writers.

He is placed by Fabricius in the Time of Andronicus Pal ologus, about the Year 1300, or, according to others, 110 But, as he is not mentioned by any Writer of thoſe Times, t Age, in which he lived, cannot be aſcertained; nor have we a other Knowledge of his Education, Studies, or Morals, th that with which we are ſupplied by his own Writings, fro

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which we may, with great Certainty, learn his Sentiments at leaſt, though we cannot tell how far they influenced his Conduct.

In the Concluſion of his Diſcourſe upon *Urines*, he ſpeaks with a juſt Severity of thoſe that engroſs Truth and Science, and are diſpleaſed with any Improvements made public for the Benefit of Mankind. The Slanders of theſe Men, ſays he, are Infections, againſt which it would be more for the Intereſt of the World to find an Antidote, than againſt any Contagion or Diſeaſe; and perhaps a Remedy, of reſiſtleſs and never failing Efficacy, may always be found in a generous Confidence in God, a ſteady Conduct, with Reſpect to thoſe with whom we converſe, and a vigilant Attention to our Words and Actions.

His Diſcourſe, upon the *animal Spirits*, is perhaps neither more nor leſs intelligible than modern Treatiſes on the ſame Subject; he conſiders it as the Miniſter of the Soul, and the Deſign of his Book is, to preſcribe the Methods by which it may be enabled moſt vigorouſly to execute the Commands of the ſuperior and preſiding Power.

He had a great Propenſion to Theory and Ratiocination, but was not contented to form Syſtems in his Cloſet, but extended his Speculations to Diſtempers and Symptoms with which he was only acquainted by the Means of Books, which have always been found fallacious and uncertain Guides. For he informs us in his laſt Chapter on *Urines*, that, having ſpent ſome Time in the Study of Nature, he found himſelf ſtrongly inclined to that of Medicine, and applied himſelf to the Theoretic Part, as moſt cloſely connected with natural Philoſophy; but that he ſhould have been totally diſcouraged from the Practice, by the Diſguſt and Labour with which it is attended, had he not diſcovered, that a juſt and ſolid Theory of the Pathology was abſolutely neceſſary to the Science of Phyſic. It was my Opinion, ſays he, that Methods of Cure, not founded upon Reaſoning, never could be relied on; and that a juſt Theory would make Phyſic not only a more eaſy Study, but a more ſucceſsful Profeſſion.

As the Authority of *Actuarius* is not ſufficiently eſtabliſhed, to miſlead any of our Readers, it is not neceſſary to ſeparate with great Accuracy his Errors from his juſt Notions. I ſhall only obſerve, that Theory may make Phyſic eaſy, but its Succeſs muſt ariſe from Experience.

The Works of ACTUARIUS *are*,

Seven Books upon URINES, never publiſhed in Greek, but tranſlated into Latin, by Ambroſius Leo Nolanus, whoſe Verſion was reviſed by Goupilus, and is printed both in Octavo and in Hen. Stephen's *Artis Medicæ Principes*.

Six Books of THERAPEUTICS, not yet printed in Greek, of which the Fifth and Sixth were tranſlated into Latin by Ruellius, whoſe Verſion was publiſhed at Paris. Henricus Mathiſius tranſlated the whole Work: His Verſion is extant, in the *Artis Medicæ Principes*.

One Book of the Actions or Affections, and a ſecond of the Nutrition of the ANIMAL SPIRITS, publiſhed in Greek at Paris, by Goupilus, with the Title: Περὶ Ἐνεργειῶν ϗ Παθῶν τοῦ ψυχικοῦ Πνεύματος, ϗ τῆς κατ᾽ αὐτὸν Διαίτης.

A Latin Tranſlation of this Treatiſe, written by Julius Alexandrinus Tridentinus, is printed both ſingly and in the *Artis Medicæ Principes*.

His Treatiſe, *De Venæ Sectione*, *De Diæta*, his *Regales* and *Commentarii in Hippocratis Aphoriſmos*, are ſaid to be remaining in Manuſcript.

ACTUATIO. That Change wrought on a Medicine, or any Thing elſe, taken into the Body, by the vital Heat, which is neceſſary, in order to make it act and have its Effect, is called its *Actuation*. *Caſtellus*.

ACUITAS. The ſame as Acrimony. *Caſtellus*.

ACUITIO. This ſignifies the Sharpening an acid Medicine by an Addition of ſomething more acid; or, in general, the Increaſing the Force of any Medicine, by an Addition of ſomething that has the ſame Sort of Operation in a greater Degree.

ACULEI. The Prickles, or Thorns, of Vegetables. *Blancard*.

ACULEOSA. A Name of the *Carduus Polyacanthos*. Thiſtle upon Thiſtle. *Ray*, *Hiſt. Plant*.

ACULOS. Ἄκυλος. The Fruit or Acorn of the Ilex, or Scarlet Oak. It is ſometimes wrote (Ἄκυλον) ACULON, in the neuter Gender. *Gorræus*. *Foeſius*. *Theophraſtus*. *Heſychius*.

Hippocrates (*de Victus Ratione*, *Lib.* 2.) ſays, theſe incline to Coſtiveneſs, but operate moſt this Way, when roaſted.

ACUMEN. This is a Term lately introduced into Anatomy by Henricus a Deventer, in his *Ars Obſtetricandi*. In Page 17, of the Edition of 1725, he calls the Protuberances of the Oſſa Innominata, on which we ſit, the Oſſa Sedentaria, which, he ſays, are the Acumina of the Oſſa Pubis. And, in Page 6, he calls the Os Coccygis the Acumen Oſſis Sacri, the pointed Part of the Os Sacrum.

ACUMENUS. An Athenian Phyſician, mentioned by Plato. He was Father to Euriximachus, and a Friend to Socrates. All that we know of his Sentiments, in Regard to Phyſic, is, that he preferred Walking in the Air, as an Exerciſe, to Walking under Portico's, in which he was undoubtedly right.

ACUPUNCTURA. *Acupuncture*. It ſignifies a particular Way of Bleeding, by making a great many ſmall Punctures with a ſharp Inſtrument, made of Gold or Silver. It is much practiſed in Siam, Japan, and other Oriental Nations, in all Parts of the Body, even on the Bellies of Women with Child. *Heiſter*.

ACUREB. Lead. *Rulandus*. *Johnſon*.

ACURON. A Name of the Aliſma. See ALISMA. *Dioſcorides*.

ACUS. A Needle.

There are many chirurgical Caſes, where the Uſe of Needles is highly neceſſary; in ſome of which a Cure cannot be compleated without them, as, in penetrating Wounds of the Belly, and in divided Tendons, particularly that great one on the Heel, called the Tendo Achillis, where an incurable Lameneſs muſt be the Conſequence, if the extreme Parts are not joined together again by the Needle; and in others, where, although the wounded Parts have been healed without them, yet the Length of Time, taken in the Cure, and the unſeemly Cicatrices left behind, eſpecially upon the Face, and other expoſed Parts, ſufficiently demonſtrate the Uſefulneſs of theſe Inſtruments, and the Folly and Unſkilfulneſs of thoſe Surgeons, who attempt to work without them.

In Amputations they are found to be much preferable to the actual Cautery, or any reſtringent Applications for ſecuring the Blood-veſſels, and preventing an Hæmorrhage.

In the Operations of the Aneuriſm, Bubonocele, Lithotomy, and in all others, where either large Blood-veſſels are divided, or the Lips of the Wound require to be brought nearer together, they are very uſeful and much forward the Cure: And in ſome Caſes, as, in the Operation for ſuppreſſing a Cataract, and in the Hare-lip, the Cure is wholly performed by them.

Theſe Needles are of different Figures and Sizes, ſtrait, crooked, and flat, all very ſharp, and made of well tempered Metal. *Vauguion*.

But thoſe, uſed in the Hare-lip, ought to be three Fourths of their Length of Silver, and the other Part towards the Point of Steel, the ſilver Pin being not ſo offenſive to a Wound as a braſs or ſteel one. *Sharp*.

Thoſe uſed in the Cataract, the Hare-lip, for making Setons, and generally for the Suture of the Tendons, and for ſewing up dead Bodies, muſt be ſtrait.

In Amputations, and in moſt if not all other Wounds, the crooked Sort are uſed, which, Dionis ſays, are preferable to the others, becauſe there are no Parts of the Body to which they cannot be uſed more conveniently, than thoſe which are ſtrait.

The different Figures, of moſt Sorts, uſed in the ſeveral Operations, ſee in *Tab.* II.

Fig. 1. A crooked Needle, with its convex and concave Sides ſharp. This is uſed only in the Suture of the Tendon, and is made thin, that but few of the Fibres of ſo ſlender a Body as a Tendon, may be injured in the paſſing of it. This Needle is large enough for the ſtitching the *Tendo Achillis*.

Fig. 2. The largeſt crooked Needle neceſſary for the tying of any Veſſels, and ſhould be uſed with a Ligature of the Size of that it is threaded with, it taking up the ſpermatic Veſſels in Caſtration, or the crural and humeral Arteries in Amputation. This Needle may alſo be uſed in ſewing up deep Wounds.

Fig. 3. A crooked Needle and Ligature of the moſt uſeful Size, being not much too little for the largeſt Veſſels, nor a great deal too big for the ſmalleſt; and therefore, in the taking up of the greateſt Number of Veſſels in an Amputation, is the proper Needle to be employed. This Needle is of a convenient Size for ſewing up moſt Wounds.

Fig. 4. A ſmall crooked Needle and Ligature, for taking up the leſſer Arteries, ſuch as thoſe of the Scalp, and thoſe of the Skin, that are wounded in opening Abſceſſes.

Fig. 5. A ſtrait Needle, ſuch as Glovers uſe, with a three-edged Point, uſed in the uninterrupted Suture, in the Suture of Tendons, where the crooked one, *Fig.* 1. is not preferred, and in ſewing up dead Bodies. *Sharp*.

Great Care ſhould be taken by the Makers of theſe Needles, to give them a due Temper, for, if they are too ſoft, the Force, ſometimes exerted to carry them through the Fleſh, will bend them; if they are too brittle, they ſnap; both which Accidents may happen to be terrible Inconveniencies, if the Surgeon is not provided with a ſufficient Number of them.

It is of great Importance alſo to give them the Form of a Circle, which makes them paſs much more readily round any Veſſel, than if they were made partly of a Circle, and partly of a ſtrait Line; and, in taking up Veſſels at the Bottom of a deep Wound, is abſolutely neceſſary, it being impracticable to turn the Needle with a ſtrait Handle, and bring it round the Veſſel, when in that Situation. The convex Surface of the

Needle is flat, and its Edges are ſharp; its concave Side is compoſed of two Surfaces, riſing from the Edges of the Needle, and meeting in a Ridge or Eminence, ſo that the Needle has three Sides. This Eminence of the Subſtance of the Needle on its Inſide ſtrengthens it very much, but is not continued the whole Length of the Needle, which is flat towards the Eye: ſome are made round in this Part, but they cannot be held ſteady between the Finger and Thumb, and are therefore unfit for Uſe. There have been Needles made with the Eminence on the convex Side, and a flat Surface on the concave Side, but I do not ſee any particular Advantage in that Structure. *Sharp.*

Fig. 6. A Needle frequently of Uſe in tying up bleeding Arteries. From *Heiſter*.
A. The Point of the Needle which is blunt.
B. The Eye.
C. The Head.

Fig. 7. A Needle ſomewhat crooked, invented by Fabricius ab Aquapendente, for perforating Fiſtula's of the Thorax. This is drawn ſomewhat too ſhort.

Fig. 8. A Silver Cannula, which, when introduced to the Bottom of a Fiſtula, ſerves as a Director for the Needle *Fig.* 7.

Fig. 9. A Needle for making a Seton. It is to be heated red-hot when uſed. From *Scultetus*.

Fig. 10. A Needle for cutting a Seton.
Heiſter ſays, this may alſo be conveniently uſed for cutting the Cornea in a Hypopyon. But when thus uſed, a Slip of Plaiſter muſt be wound round it, at the Mark A, which ſerves inſtead of an Eminence, to prevent it from going too far.

Fig. 11. A Needle for perforating the Lobe of the Ear. At the blunt Extremity it is hollow, and ſlit like a Larding-pin, for the Conveniency of incloſing a thin Piece of Lead, which is to be left in the Perforation.

Fig. 12. A Needle, which, Scultetus informs us, is uſed by the Italian Surgeons in Caſtration. But he recommends it for perforating Fiſtula's at the depending Part. The concave Edge is ſharp, the convex blunt. When it is paſſed into a Fiſtula, the ſharp Edge is to be guarded by a Piece of Wax.

Fig. 13. A Needle with a triangular Point for the Hare-Lip.

Fig. 14. A Needle with a flat Point for the ſame.

Fig. 15. Another Sort of Needle for the ſame Uſe.

Fig. 16, repreſents the Manner of paſſing the Needles, and winding the Thread round them, in the Operation for the Hare-lip.

Fig. 17. A large crooked Needle, uſed in making a Seton in the Neck lengthways. *Heiſter*.

Fig. 18. A large Needle, very ſharp at the Point, to be paſſed through the Baſis of the Breaſt before Amputation. *Scultetus.*

Fig. 19. Repreſents the Form of the Needle uſed by the Antients for depreſſing a Cataract. This Inſtrument was of Silver. The Point was thin and round like a common Needle.

Fig. 20. Repreſents another of the ſame Sort, with a triangular Point.

Fig. 21. Another Sort of Needle for the ſame Uſe. The Letter A repreſents a long ſlender Steel Needle. The Letter B one that is larger. C is the Handle, made either of Silver, Braſs, Ivory, or Wood.

Fig. 22. Another Needle uſed in Couching, with a Point ſomewhat broader.

Fig. 23. Another, recommended by Briſſeau, little different from the former, except that it has a Sulcus near the Point.

Fig. 24 and 25, Repreſent two Needles, made Uſe of in the ſame Operation of Couching. *Fig.* 24, has a Sulcus at the Point like the preceding, and is deſtined for cutting the Coats of the Eye; when that is done, the Needle *Fig.* 25, which is more blunt, and more proper to depreſs the Cataract, muſt be introduced through the Sulcus, and then that, *Fig.* 24, is to be withdrawn.

Fig. 26 and 27. Two Needles to be uſed like thoſe repreſented *Fig.* 24 and 25. From *Albini.*

Fig. 28. Another Needle, propoſed by Albini. The Point A is to be introduced into the Eye; and, if the Cataract is membranous, it is to be laid hold of above the Part C, by depreſſing the Handle B. Heiſter thinks this not reducible to Practice with any Advantage.

Fig. 29 and 30. The preceding Inſtrument taken in Pieces. *Fig.* 29, A is the Point with a Sulcus in it. B is a Foramen, which receives the Eminence D, *Fig.* 30, which is faſtened by a very ſmall Pin at C, *Fig.* 28. E, *Fig.* 30, is a thin Plate of Steel, which, by its Elaſticity, keeps the Point C, *Fig.* 30, cloſe in the Sulcus at A, *Fig.* 29. But when the Part, marked B, *Fig.* 28 and 30, is depreſſed, the Point C, *Fig.* 30, ſeparates from the Sulcus A, *Fig.* 29, and ſo lays hold of the membranous Cataract.

Fig. 31. A Needle, contrived for couching the right Eye, with the right Hand of the Operator, by Means of a Bend at C, wherein the Noſe is received, during the Operation.

Fig. 32. A Caſe to be ſcrewed upon the Needle, *Fig.* 31, in order to preſerve the Point when not in Uſe.

Fig. 33. A Needle uſed in making a tranſverſe Seton, with a Foramen at A.

Fig. 34. A Needle uſed in joining the Tendo Achillis by Suture, when divided. *Heiſter*.

Fig. 35. A Needle, proper for the Gaſtroraphy.

Fig. 36. The Acutenaculum, or, as the French call it, Portaiguille.

Fig. 37. Garengeot's Acutenaculum.

ACUS PASTORIS, is a Name given to the Scandix, Shepherd's Needle, or Venus's Comb. See SCANDIX.

ACUS MOSCHATA, is the Geranium Moſchatum. See GERANIUM.

ACUS is alſo a Fiſh thus diſtinguiſhed:

ACUS. ARISTOT. *Acus ſecunda ſpecies*, Rondel, de Piſc. 1. 229. *Acus ſecunda ſpecies Rondeletii*, Geſn. de Aquat. 9. *Acus Ariſtotelis*, Aldrov. de Piſc. 103. Jonſ. de Piſc. 36. *Acus* 7. Salv. 68. *Acus Ariſtotelis, ſeu Acus ſecunda ſpecies Rondeletii*, Raii Ichth. 158. Ejuſd. Synop. Piſc. 46. *Acus altera ſpecies, ſive Acus Ariſtotelis, Blennus aliquibus dicta*, Schonf. Ichth. 11. *Typhle marina*, Bellon. de Aquat. 446. *Petimbuaba*, Charlt. Piſc. 16. The TOBACCO-PIPE FISH. It is found in the Adriatic Sea, or Gulf of Venice. Galen recommends the Aſhes of this Fiſh, drank in ſome convenient Vehicle, for the Strangury. *Dale.*

There is another Fiſh alſo called *Acus*. Both Sorts are eſteemed very indifferent Food, being juiceleſs, and affording very little Nouriſhment. *Caſtellus.*

ACUS alſo ſignifies Chaff.

ACUSTICUS. Ἀκουστικός. Belonging to Hearing. It is applied to the auditory Nerves, and to Medicines, or Inſtruments, uſed to preſerve, or reſtore the Senſe of Hearing. *Caſtell.*

ACUSTO Nitre. *Rulandus.*

ACUTENACULUM. This Name is given, by Heiſter, to a chirurgical Inſtrument, which the French Surgeons call Portaiguille. It is a Manubrium or Handle for a Needle, contrived for the more commodious Management of it in Operations, where ſome Force is required to make it penetrate. See *Plate* II. *Fig.* 36 and 37.

ACUTUS. ACUTE. Galen explains the Meaning of this Word thus:

Many Phyſicians think, a Diſeaſe ſhould be called *acute*, which ſoon comes to a Criſis; and the Contrary to this, reputed chronic. But this is an Error; for there is a Diſeaſe of a ſhort Date [βραχυχρόνιον] not altogether *acute*, and yet contrary to a Chronic, Poly-chronic, or whatever other Name you will pleaſe to call it. This Diſeaſe, which has no Name, is of a Nature oppoſite to *acute*, and not without Reaſon. It is the Property of an *acute* Diſeaſe, which Archigemes deſcribed to be ſuch a one as is dangerous for its Velocity, and Hippocrates by its being attended with a continual Fever, to haſten to a Criſis, for it takes the Name of *acute* from a particular Species of Motion: But it muſt ſoon ceaſe, of Neceſſity, becauſe it hurries to its proper End; for to move ſwiftly, is the ſame Thing as to haſten to the End of that Motion. The Diſeaſe, indeed, will be ſhort on all Accounts, but called *ſhort* and *acute* in different Reſpects. For the Celerity of its Motion, it will be called *acute*; and, becauſe it is impoſſible to endure long under ſuch Motion, it will alſo be ſtiled *ſhort*. But it participates of the Nature of another Diſtemper; for many diary Fevers, that owe their Riſe to external Heats or Colds, Fatigue, Waking, Sorrow, Drunkenneſs, Anger, and the like, are both ſhort and inconſiderable, and quite void of Danger. None, whether Phyſicians or otherwiſe, uſe to call theſe Diſtempers *acute*; and therefore *ſhort* and *acute* are manifeſtly diſtinguiſhed in theſe very Inſtances.

Slow is alſo confounded with *long*; though they convey different Ideas; for *acute* is the proper Oppoſite to *ſlow*, as *ſhort* is to *long*. To conclude, whatever Diſeaſe is *acute*, is of ſhort Duration, and whatever Diſeaſe is chronical muſt, of Neceſſity, be ſlow. But it does not follow, that whatever is ſhort muſt be *acute*, or whatever is ſlow muſt, for that Reaſon, be chronical.

Galen is, in this Place, ſomewhat obſcure. His Meaning ſeems to be, that a Diſeaſe muſt move with Velocity to a Criſis, and muſt be attended with Danger, in order to render it, properly ſpeaking, an *acute* Diſtemper. This Idea of an *acute* Diſtemper is conformable to the Account given of it by other Authors, and Galen himſelf in other Places.

Febrile Diſtempers, or Diſeaſes attended with a conſiderable Degree of Motion in the Blood, and conſequent Heat, and which terminate ſoon, are uſually called amongſt us *acute Diſeaſes*, to diſtinguiſh them from chronical Diſtempers, which are longer in coming to a Period, and proceed with leſs Velocity.

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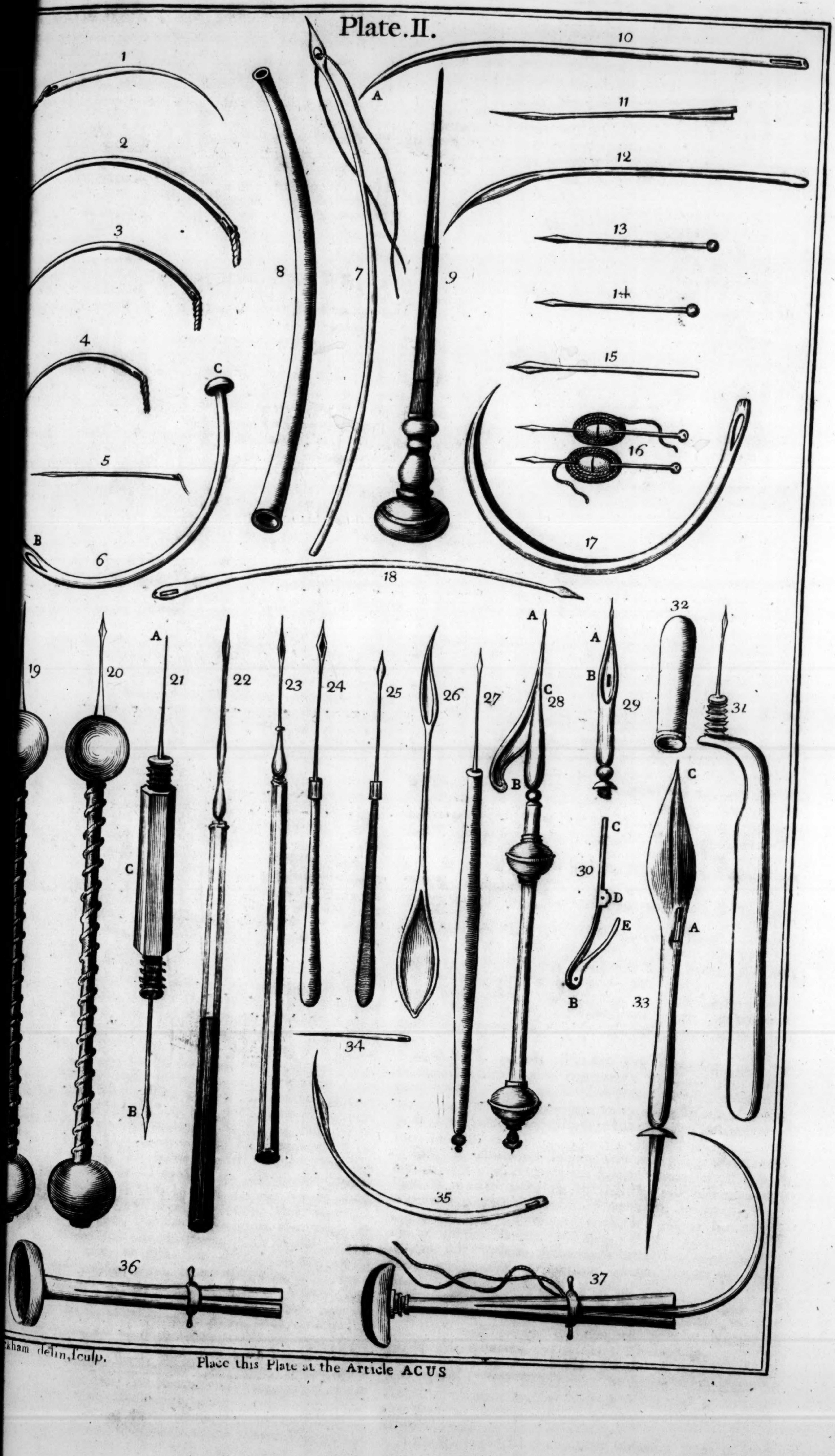

Plate. II.
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Acutus in general ſignifies ſharp, or inciding, or pointed, whether it is applied to Medicines, Aliments, Inſtruments, Parts of the Body, or any Thing elſe.

ADAL. In the Senſe of Paracelſus it ſignifies that Part of Plants, in which their medicinal Virtue conſiſts: Or the pure and active Part of Plants, ſeparated from the impure and inert.

ADAMAS. A *Diamond*, from α Negative, and Δαμάω, to conquer, becauſe it cannot be broken.

Adamas. Offic. Worm. 102. Calc. Muſ. 202. Kentm. 47. Schw. 358. Aldrov. Muſ. Metal. 945. Charlt. Foſſ. 36. Boet. 115. De Laet. 1. Geoff. Prælect. 83. The Diamond. A precious Stone, exceeding hard, and of the greateſt Value, colourleſs, and diaphanous like Water. The beſt come from the Eaſt-Indies.

As to its Virtues, and thoſe of other precious Stones, we chuſe to entertain the Reader once for all, with the Opinion of Paulus Ammannus. We differ greatly about the Names of precious Stones, while we are ignorant of ſome, which were known to the Antients, or call them by other Names. We re ſtill more divided about their Value, which is merely rbitrary. But the greateſt Difference of all is about their Operations, of which we have Accounts ſtuffed with infinite Falſities, Superſtitions, and Fables. It is not our preſent Buſineſs to conſider their Names and Value, we ſhall there- ore be the more careful about their Virtues; and, becauſe theſe Stones are taken inwardly, they ought not to be counterfeit, nd they are alſo to produce ſome certain, determinate, and atural Effect. But who knows all the Cheats, and Ways of Counterfeiting, put in Practice among the Jews, Portugueſe, and ther Impoſtors? In two Reſpects eſpecially they impoſe upon s; firſt, as they put off Occidental for Oriental ones; for I reſuppoſe, according to the common Opinion, that the beſt Stones ome from the Eaſt-Indies, which is plain alſo from their ivid and ſparkling Light; for, who does not know the Dif- rence between an Indian Diamond, and the others? Second- , paſſing upon us Fluors for precious Stones: In a Word, Glaſs for Diamonds. *Worm. p.* 101. The Effect of preci- us Stones ought to be natural, from ſomething really in them, me inherent Virtue, which, according to Faber, *Panchym.* . 4. *S.* 4. *p.* 521. they are endued with, though, perhaps, not little clogged by corporeal Obſtacles. By this very Propoſi- on, I cut off all ſuperſtitious and fabulous Operations and owers, which Authors have aſſigned to precious Stones, in- ead of a determinate and natural Effect, of which you have xamples in Wierus, *de Cur. Malef. p.* 411, &c. This Load Lyes and Vanities being then diſcharged, I doubt, we ſhall d but little Reaſon, in our Way of Practice, to boaſt of r Performances by the Force of Gems. To inſtance in the *iamond*, the moſt precious of them all, how much is our ofeſſion obliged to its prevailing Virtue and Efficacy? Why, tle or nothing: For it is falſe and fabulous:

1. That it reſiſts the Anvil and Hammer without Damage.
2. That it is a Jewel of Reconciliation, extinguiſhing ma- monial Jarrs.
3. That, laid under the Pillow, it diſcovers Adultery.
4. That, to look upon a *Diamond*, hereditary in the Fa- ly, at ſet Times, produces the Birth of a new Member in t Family.

Away with that dark Veil of Fables, and let us ſee what erit it has in Medicine. You ſay, it cures the Dyſentery: w can that be true, when it is commonly ſaid to exulcerate Inteſtines? But, ſuppoſe it were ſo, who ſhall fix a Price this Remedy; for leſs than a Dram will hardly operate? d a *Diamond* above that Weight is, to us, ineſtimable. e like is to be ſaid for the Amethyſt, which is thought to ſt Drunkenneſs, if taken inwardly; for, barely worn, it can er have that Effect. This is in the Number of precious nes, and is too dear for any Body but Princes to purchaſe, ecially when it is the Humour of moſt Perſons, rather to get nk, than ſtudy how to avoid it? The Fragments of the precious Stones, that is, the Saphire, Granate, Emerald, cinth, and Cornelian, I confeſs, are kept in the Shops; , if you examine into their Uſe and Virtues, you will find, t *Fancy had the greateſt Share in bringing theſe Stones in- he Practice of Phyſic*, that Princes and great Men might be ght to believe, that ſomething wonderfully cordial lies hid hin them, which, to ſpeak the Truth, you may ſooner d in the moſt common Flint, or any other Simple. I ſpeak own Thoughts: He, who maintains the contrary, is to ve his Aſſertion; and, *a Man of Practice will ſcorn to k without Reaſon or Experience.* Now, why theſe preci- Stones ſhould contain ſuch a comfortable and cordial Vir- we are to ſeek for a Reaſon, and Experience gives us no ormation; therefore, I conclude, that, with Reſpect to their dicinal Virtues, the Characters, they have acquired, are more ng to Imagination than Reality. *Dale*.

Diamond, the hardeſt, moſt tranſparent, and moſt brilliant all Gems. It is of the Colour of the cleareſt Water; but Colour is ſometimes mixed with white, yellow, or black, which are reckoned Blemiſhes. *Diamonds* conſiſt of cryſtal Laminæ, or Strata, laid upon each other, and the Joinings of theſe Tables may be diſcovered by ſkilful Lapidaries, and then they are eaſily ſeparated with the Edge of a Knife. *Diamonds* are not calcinable by Fire, nor changeable by the Sun's Rays, if the plain Surfaces of the Plates be expoſed to them; but the Edges, or Extremities, eaſily admit the ſolar Fire, and then they are ſeparated as before, and afterwards melted into a Maſs of Glaſs, which retains nothing of the Splendor of the *Diamond*. They are found only in the Eaſt-Indies, and in Brazil, but are not uſed in Phyſic. *Geoffroy*.

The *Diamond*, by ſome, is reckoned poiſonous: Others will not admit it into the Liſt of Poiſons. The Accounts, in Favour of *Diamonds*, are more numerous, as well as more credible, than thoſe which would make us believe they are of a poiſonous Nature. Bembus tells a Story of one Triſtan Cibelet, a Cypriot, Ambaſſador of Ferdinand, King of Naples, who killed himſelf by ſwallowing a *Diamond* that he wore in a Ring; but, when he adds that he alſo drank Aqua Fortis, it remains a Doubt, whether the *Diamond* or the Aqua Fortis was the Cauſe of his Death. Again we are told from Aventine, that the Poiſon with which a Monk of the Order of Prædicants killed Henry VII. of Luxemburgh, Emperor of the Romans, in the Euchariſt, was made of a *Diamond*. But, it is hardly credible, that ſo ſmall a Quantity of Duſt of *Diamonds*, as was capable of being mixed with one Hoſt, as they call it, ſhould work ſo great an Effect; but it was, doubtleſs, a Poiſon of far greater Force and Efficacy.

However, that we may not be charged with omitting what Authors have written, concerning the Symptoms and Cure of thoſe who have taken a *Diamond*, we ſhall relate what we find in them, as follows:

The Symptoms, conſequent on ſwallowing a *Diamond* reduced into Powder, are, a moſt tormenting Pain of the Stomach and Inteſtines, which it excites by diſſolving the Continuity of the Parts; this is followed by a Syncope, and ends in Death.

The Cure conſiſts, firſt, in trying all Manner of Ways to expel the Matter of the Stone out of the Body. Here 'tis proper to begin with a Vomit, which we are to provoke with Butter, ſweet Oil, fat Hen or Capon Broth, and the like.

If the Poiſon be got down to the Inteſtines, we are directed to the Uſe of lubricating Clyſters, prepared of Mallows, Marſh-Mallows, Linſeed, fat Fleſh-Broths, Oil, Butter, and ſuch like, in order to ſcour it off. After this, they preſcribe the Blood of a Goat, either freſh or dried, with fat Fleſh-Broth, which, except it be done with an Intent to provoke Urine, is certainly ordered in Compliance with the vulgar Opinion, That the Blood of a Goat breaks a Diamond. Some preſcribe the true Balſam, to the Quantity of a Scruple, or two; and the Patient is to drink clear diuretic Wine. If all theſe have no Effect, Recourſe is to be had to general Antidotes, and Remedies which are effectual in Corroſions and Ulcers of the Inteſtines, which may happen from the Nature of the Poiſon acting on thoſe Parts. *Sennertus*.

Adamas is alſo a Name given by Aſtrologers to the Moon. *Johnſon*.

ADAMANTIS. The Name of a Plant, which, according to Pliny, grows in Cappadocia and Armenia. The Fable he relates of it is, that it will make Lions fall down, and diſarm them of their Fierceneſs. *L.* 24. *C.* 17.

ADAMITUM, or Adamita. The hardeſt white Stones, which, Paracelſus ſays, are a Species of Tartar. *Adamitum* he calls theſe Stones; and *Adamita* the Stone in the Bladder. *De Tartaro*, *L.* 1.

ADAMUS. Adam. The firſt Man. Profeſſions have, by an unaccountable Vanity, endeavoured to extend their Antiquity beyond all Bounds of Credibility. Phyſic, or at leaſt, ſome of its Profeſſors, have been guilty of this Weakneſs; but, to do them Juſtice, the Hint is in the following Inſtance taken from the Divines.

They ſay, Adam was inſpired with a Sagacity, which made him capable of diſcovering the ſpecific Nature of all natural Productions at the firſt Sight, and that this made him acquainted with the medicinal Virtues of all Simples. This Sagacity, they ſay, was neceſſary, in order to enable him to give Names ſignificant of the Natures of Things. This makes Adam not only the firſt Phyſician, but a much better than any of his Poſterity could poſſibly be, without an equal Degree of Inſpiration.

It is added, that as Adam lived to a very great Age, and muſt have ſeen many medicinal and chirurgical Caſes, his own good Senſe muſt have furniſhed him with a great Number of phyſiological Remarks, and medicinal Obſervations.

ADAMUS. Adam. This is uſed, in an alchemiſtical Senſe, to ſignify the Philoſophers Stone, which they call an Animal, and ſay it has carried its inviſible Eve in its Body, ever ſince the Moment they were united by the Creator. *Theatr. Chym. P.* 509.

They alſo tell us, that this ſacred Adamical Stone is formed of the Adamical Mercury of the wiſe Men, which by its

Marriage and Union with the Female Eve, forms a third Subſtance, which is, I ſuppoſe, their celebrated Stone. *Theatr. Chym. P.* 520.

ADARCES. What they call *Adarces*, is produced in Galatia, and is a Sort of Concretion of a ſaltiſh Humour, which is bred in moiſt and marſhy Places by Drought, and concretes about the Reeds and Graſs. Its Colour is like that of the fine Powder of the Aſſian Stone, or Sarcophagus, and its Subſtance all lax and porous, much like the Baſtard Sponge; ſo that it might be called the *Baſtard Sponge of the Marſhes.*

It is a Topic adapted to rub and ſcour the Skin in a Leproſy, Sun-burning, Tetters, Freckles, and ſuch like Blemiſhes, being in the Whole of an acrimonious Quality. It is alſo a Drawer, and therefore good for the Sciatica. *Dioſcorides, Lib.* 5. *Cap.* 137.

Adarces, Offic. Boet. 402. Matth. 1377. Aldrov. Muſ. Metall. 213. *Adarce*, J. B. 3. 804. Chab. 575.

Whether the *Adarces* of Dioſcorides be the ſame with Dr. Plott's, in his Natural Hiſtory of Oxfordſhire, I cannot determine; nor whether their Virtues be the ſame, has any one, that I know of, been at the Pains to try. The *Adarces* of Plotius is nothing but a Concretion of ſtony Particles, of a white Colour, which one Water at its Meeting with another Water, ſuppoſe a Chalybeate, precipitates, and ſo incruſtates Graſs, Twigs, and other Bodies floating by it.

Many learned Authors have obſerved ſuch an Incruſtation; Pancirollus, for Example, four Miles from Rome, without the Gate of Oſtia, commonly called St. Paul's; and Doctor Martin Liſter, in the Conduit d'Arcueil at Paris, whence he conceived a bad Opinion of it, the learned and worthy Gentleman concluding, that whatever lined the Cavities of the Pipes of an Aqueduct with a ſtrong Cruſt, would probably work the ſame Effect in the Reins and Bladder, eſpecially if thoſe Parts were infirm and tender. See his *Journey to Paris*, and *Eſſay on the Stone*. If you would know more of the *Adarces*, read Boetius, p. 405. *Dale.*

It is called alſo *Calomochnus*, or *Calomochanus*. *Salmaſius.*

ADARNECH. The ſame as *Auripigmentum*. Orpiment. *Rulandus.*

ADARIGO. Caſtellus quotes this Word from Rulandus and Johnſon, and explains it *Orpiment*. But neither of theſe Authors mention the Word. Johnſon has ADARIGES, which he ſays is *Armoniacum*, which he tranſcribes from Rulandus, by Miſtake, for *Adirige*. I am inclinable to believe he means the Salt, not the Gum, for both have been wrote thus, inſtead of *Ammoniacum*.

ADARRIS. Rulandus explains this by Flos Maris, which ſhould mean the Spuma or Foam of the Sea. But according to the German Word, by which he tranſlates it, it ſeems to be ſome Flower. However, I am rather inclined to believe it means the former.

ADARTICURATIO. A Species of Articulation of the Bones, the ſame as ARTHRODIA. See ARTHRODIA.

ADAXOMÆ. Caſtellus has latinized this Word, and made it an Article in his Lexicon. The Word is from a Greek Verb ἀδάξασθαι, to be affected with a painful Itching. *Galen.*

ADDEPHAGIA, or ADEPHAGIA. Ἀδηφαγία, or Ἀδδηφαγία. From ἄδην, abundantly, and φάγειν, to eat. Inſatiability. A voracious Appetite. *Conſtantine. Caſtellus.*

ADDITAMENTUM. The ſame as EPIPHYSIS. The large Epiphyſis of the Ulna, at the Elbow, is called ADDITAMENTUM NECATUM. *Caſtellus.*

ADDITIO. ADDITION. When any Thing that is deficient is ſupplied by Surgery, it is called *Addition*, Πρόσθεσις, to diſtinguiſh it from another Part of Surgery, which conſiſts in removing what is redundant, and ſuperfluous, which is called Ἀφαίρεσις, *Subtraction.* And of theſe two the whole Art of Surgery conſiſts.

ADDUCTOR. Many Muſcles are called by this Name, as

ADDUCTOR MINIMI DIGITI PEDIS, or TRANSVERSALIS PEDIS PLACENTINI, ariſes tendinous from the external *Os Seſamoidæum* of the great Toe, firmly adhering to the tendinous Part of the *Adductor Pollicis*, ſoon growing fleſhy, it paſſes over the Extremity of two of the *Metacarpal* Bones, between them and the *Flexores Digitorum*, and then, growing broader, is inſerted into a Tendon that proceeds from the *Expanſio Tendinoſa* in the Sole of the Foot, and partly into that cartilaginous Ligament that covers the Articulation of the firſt Joint of the third leſſer Toe, with its *Os Metatarſi*, ſome of its fleſhy Fibres being contained upon the ſame Part of the little Toe.

Its Uſe is to bring the third and fourth leſſer Toes nearer the other two and the great one. *Douglas.*

ADDUCTOR OCULI, ariſes tendinous and fleſhy, from the Edge of the Hole in the *ſphenoidal Bone*, that tranſmits the *Optic Nerve* between the *Obliquus Major* and the *Humilis*.

Is inſerted by a thin Tendon into the *Tunica Selerotica*, where it reſpects the great *Canthus*.

Its Uſe is to bring the Eye toward the Noſe. *Douglas.*

ADDUCTOR POLLICIS MANUS AD INDICEM, ANTITHENAR RIOL. Ariſes from the Outſide of the upper Part of the *Os Metacarpi Indicis*.

Is inſerted into the firſt Joint of the Thumb, ſending off a thin Tendon, which runs along with the *Extenſor Pollicis Longus*.

Its Uſe is to draw the Thumb nearer the Fore-Finger. *Douglas.*

ADDUCTOR AD MINIMUM DIGITUM. Ariſes a little tendinous, but chiefly fleſhy, from the whole Length of the *Metacarpal* Bone, that ſuſtains the Middle-Finger, from whence its Fibers, contracting equally on both Sides, run up to the Thumb.

Is inſerted into its ſecond Joint, a little below one of its Seed-like Bones.

Its Uſe is to bring the Thumb towards the Ring and Little-Finger. *Douglas.*

ADDUCTOR POLLICIS PEDIS. Ariſes by a long, thin, diſgregated Tendon, from the *Os Calcis*, under the tendinous Part of the *Maſſa Carnea*, from the *Os Cuboides*, from the *Os Cuneiforme Medium*, near the Inſertion of the *Peronæus Primus*, and from the upper Part of the *Os Metatarſi* of the ſecond Toe: It is ſoon dilated in a pretty large Belly.

Is inſerted into the external *Os Seſamoidæum* of the Great-Toe.

Its Uſe is to bring this Toe nearer the reſt. *Douglas.*

ADEC. Sour Milk. Or Butter-Milk. *Rulandus. Johnſon.*

ADECH. Paracelſus ſays, *Spiritum interius agentem Diſtrictionis Cauſa Adech vocare ſoleo.* The Author of the Explications of the Words uſed by Paracelſus defines ADECH, *the inviſible internal Man* (or Part of Man) which impreſſes the Ideas or Forms of thoſe Things on the Mind, which are viſible or tangible by the external Man. Rulandus ſays it is *the internal and inviſible Man*, which concerts, or lays the Plan of whatever the external and viſible Man afterwards executes or imitates with the Hands.

This any one in his Senſes would probably call the *Soul*, but Enthuſiaſts, Alchymiſts, and Madmen, think it a Derogation from their Honour to make Uſe of the intelligible Dialect of the Vulgar.

ADECTOS, Ἀδεκτός. From α Negative, and δάκνω, to bite. It is an Epithet of thoſe Medicines which relieve from Pain, by removing the uneaſy Senſation cauſed by the Stimulation of acrimonious Juices, or Medicines. *Caſtellus* from *Tiraquellus*.

ADEDENTES. *Phagedænic*, or eating. See PHAGEDÆNA. It is applied to Ulcers. *Caſtellus.*

ADEHEMEST, AIOHONEC, or ALHOHONEC. Rulandus explains it by *Lamina*, a thin Piece of Metal, a Blade.

ADELOS, Ἄδηλος. From α Negative, and δῆλος, manifeſt. Not manifeſt, inſenſible. Ἄδηλα πρόσκαιρα, are Things which are the Subjects of the Senſes when they appear, but which at the preſent Time do not appear; their being inſenſible therefore is only temporary, which the Word πρόσκαιρα implies. This is a Term of the Phyſicians of the Empiric Sect. *Gorræus* from *Galen.*

ADELPHIA. From Ἀδελφὸς, a Relation. Thus Diſtempers are called by Hippocrates, which are like, bear Relation, or Analogy to each other.

ADELPHIXIS. Ἀδέλφιξις, of the ſame Derivation as *Adelphia*. The Analogy, Relation, or Similitude, which ſome Parts of the Body, and ſome Diſtempers have with others. Or the Communication, Conſent, or Sympathy of ſome Parts with others. *Hippocrates. Foeſius.*

ADEMONIA, Ἀδημονία. From α Negative, and δαίμων, a Genius, Divinity, or Fortune. This is a Word uſed ſometimes by Hippocrates, to expreſs that great Uneaſineſs, Reſtleſneſs, and Anxiety, which Patients frequently complain of, in acute Diſeaſes more eſpecially, and is remarkable in ſome Kinds of hyſteric Fits, of which it is mentioned as a Symptom by Hippocrates in his ſhort Treatiſe, *De his quæ ad Virginem ſpectant*.

ADEN. Ἀδὴν. A Gland. See GLANDULA.

ADENIΩS, Ἀδηνιῶς. From α Negative, and δῆνος, Council. It ſignifies inadvertently, careleſsly, done without Care, or Forecaſt. *Foeſius* from *Galen* and *Heſychius*.

ADENOIDES, Ἀδενοειδής. From ἀδὴν, a Gland, and εἶδος, a Form. It ſignifies Glandiform, or like a Gland, and is uſed as an Epithet for the *Proſtatæ*. See PROSTATÆ. *Caſtellus.*

ADENOSUS ABSCESSUS, is a hard, crude Tubercle, reſembling a Gland, very difficult to be reſolved. *Caſtellus* from *Marcus Aurelius Severinus*.

ADEPHAGIA. See ADDEPHAGIA.

ADEPS. *Fat.* This is an Animal Oil, contained in the *Membrana Adipoſa*, or, as Boerhaave calls it, the *Membrana Celluloſa*, which is not a ſingle Membrane, but a Congeries of a great Number of membranous Laminæ, joined irregularly to each other at different Diſtances, ſo as to form numerous Interſtices of different Capacities, which communicate with each other. Theſe Interſtices have been named *Cellulæ*, and the Subſtance made up of them, the *cellulous Subſtance*.

The Thickneſs of the *Membrana Adipoſa* is not the ſame all over the Body, and depends on the Number of Laminæ, of which it is made up. It adheres very cloſely to the Skin, runs in between the Muſcles in general, and between their ſeveral Fibres in particular, and communicates with the Membrane which lines the Inſide of the Thorax and Abdomen.

This Structure is demonſtrated every Day by Butchers, in blowing up their Meat, when newly killed, in doing which, they not only ſwell the Membrana Adipoſa, but the Air inſinuates itſelf likewiſe in the Interſtices of the Muſcles, and penetrates even to the Viſcera, producing a Kind of artificial Emphyſema.

Theſe cellular Interſtices are ſo many little Bags or Satchels, filled with an unctuous or oily Juice, more or leſs liquid, which is called *Fat*, the different Conſiſtence of which depends not only on that of the oily Subſtance, but on the Size, Extent, and Subdiviſion of the Cells.

It is generally known, that the illuſtrious Malphigi took a great deal of Pains about this Subſtance; that in Birds and Frogs, the Viſcera and Veſſels of which are tranſparent, he thought he ſaw a Kind of Ductus Adipoſi; and that, by preſſing theſe Ducts, he obſerved oily Drops to run diſtinctly into the ſmall Ramifications of the Vena Portæ.

The Manufacture of Soap, the Compoſition of Unguentum Nutritum, and the different Mixtures of Oils with ſaline and acid Liquors, give us ſome Idea, at leaſt, of the Formation of Fat in the human Body; but the Organ which ſeparates it from the Maſs of Blood, which ought to be the Subject of our preſent Inquiry, is not as yet ſufficiently known.

Fat is more fluid in living than in dead Bodies. It melts with the Heat of the Fingers in handling it, and its Fluidity is in Part obſtructed by the Sacculi, which contain it. To take it intirely out of theſe Bags, the Method is to ſet the Whole over the Fire in a proper Veſſel; for then the Bags burſt, and ſwim in Cluſters in the true oily Fluid.

This Subſtance increaſes in Quantity in the Body, by Reſt and good Living, and, on the contrary, diminiſhes by hard Labour and a ſpare Diet. Why Nouriſhment ſhould have this Effect, is eaſily conceived, and it is likewiſe eaſy to ſee, that an idle ſedentary Life muſt render the Fat leſs fluid, and conſequently more capable of blocking up the Paſſages of inſenſible Tranſpiration, through which it would otherwiſe run off.

Hard Labour diſſolves it, and conſequently fits it for paſſing out of the Body, with the other Matter of inſenſible Tranſpiration. Some are of Opinion, that it returns into the Maſs of Blood, by the capillary Veins, and that it can, for ſome certain Time, ſupply the Want of Nouriſhment.

By this, they think, the long Abſtinence of ſome Animals may be explained; but, I am apt to believe, the mere Decreaſe of cutaneous Tranſpiration, occaſioned by the continual Reſt and Inaction of theſe Animals, has a great Share in this Effect.

The proportional Differences, in the Thickneſs of this Membrana Adipoſa, are determined, and may be obſerved to be regular in ſome Parts of the Body, where either Beauty or Uſe required it.

Thus we find it in great Quantities, where the Interſtices of the Muſcles would otherwiſe have left diſagreeable hollow or void Places; but, being filled, and as it were padded with Fat, the Skin is raiſed, and an agreeable Form given to the Part.

The Appearance of a Perſon moderately fat, of a Perſon extremely lean, and of a dead Carcaſs, from which all the Fat has been removed, proves ſufficiently what I have ſaid.

In ſome Parts of the Body the Fat ſerves for a Cuſhion, Pillow, or Mattreſs, as on the Buttocks, where the Laminæ and Cells are very numerous. In other Parts this Membrane has few or no Laminæ, and conſequently little or no Fat, as on the Forehead, Elbows, &c.

In ſome Places it ſeems to be braced down by a Kind of natural Contraction in Form of a Fold; as in that Fold which ſeparates the Baſis of the Chin from the Neck; and in that which diſtinguiſhes the Buttocks from the reſt of the Thigh. We obſerve it likewiſe to be intirely ſunk, or, as it were, perforated by a Kind of Dimple or Foſſula, as in the Navel of fat Perſons.

Theſe Depreſſions and Folds are never obliterated, let the Perſon be ever ſo fat, becauſe they are natural, and depend on the particular Conformation of the Membrana Adipoſa, the Laminæ of which are wanting at theſe Places.

The Fat is likewiſe of great Uſe to the Muſcles in preſerving the Flexibility neceſſary for their Actions, and in preventing or leſſening their mutual Frictions. This Uſe is of the ſame Kind with that of the unctuous Matter found in the Joints.

Laſtly, the Fat is a fine oily Subſtance in its natural State, and may be ſome Defence againſt the Cold, which we find makes more Impreſſion on lean than on fat Perſons. It is for this Reaſon, that to guard themſelves againſt the exceſſive Colds of hard Winters, and to prevent Chilblains, Travellers rub the Extremities of their Bodies, and eſpecially their Feet, with ſpiritous Oils, ſuch as that of Turpentine, &c.

This Maſs of Fat, which makes an univerſal Integument of the Body, is different from that which is found in the Abdomen, Thorax, Canal of the Spina Dorſi, Articulations of the Bones, and in the Bones themſelves.

But the Differences of all theſe particular Maſſes of Fat conſiſts chiefly, as I have ſaid, in the Thickneſs or Firmneſs of the Pellicles, in the Largeneſs or Smallneſs of the Cells, and in the Conſiſtence, Fluidity, and Subtilty of the oily Matter. *Winſlow's Anatomy.*

To this Account of the Fat I ſhall add that of the celebrated Leeuwenhoek.

After the Diſcoveries that I had made concerning the Circulation of the Blood, particularly that the Blood-veſſels had no Endings, I began to conſider how the fat Particles could be formed, ſince I did not think that they were ſeparated from the Blood, and came out of the Blood-veſſels. But having now plainly diſcovered, that the ſo called Membranes were nothing but very ſmall Veſſels, and believing that they were created for no other End but to tranſport Nutriment, as alſo that there was no Circulation in theſe Veſſels, I imagined, that the Matter, which we call Fat, was brought into them, which, when there was too great a Supply of Nutriment, ſo that it could not be forced farther on, muſt be driven out of theſe Veſſels; for all the Particles of Fat, that I have as yet obſerved, are incloſed in ſmall Films.

This Original of the Fat is to me much more credible, than that it ſhould be forced out of the Blood-veſſels; and yet how theſe fatty Particles, which conſiſt of large Globules, and thoſe of ſtill ſmaller Globules (as it appears to me) are made and formed, I cannot as yet determine: As alſo where theſe Veſſels, which conſtitute what we call Membranes, have their Beginning, and how this Fat is brought into them.

I had in my Drawer a Piece of Ox's Fleſh, that I believe had lain there about four Years, wrapped up in a Paper, which Piece I found in ſome Places to be covered with a Membrane; from this I cut off ſeveral ſmall Slices along with the Membrane, and I found that, near the Membrane, there lay about ſixteen or eighteen nervous Fibrils, which, in the drying of the Fleſh, were ſo ſqueezed together, that they were almoſt twice as long as they were broad. In ſome of which I ſaw very diſtinctly thoſe Veſſels which are in the Nerves.

Theſe nervous Fibrillæ were incloſed by a Sort of Half-round, ſeparating them from their muſcular Fibres, which Half-round conſiſted of a Row of ſmall tendinous Fibrillæ, each of which was about twice as thick as a Hair of a Man's Beard. Without theſe tendinous Fibrillæ lay the muſcular Fibres, that had been cut through tranſverſly, and in this Part of the Half-round there were ſeveral Apertures, which ſeemed in the Microſcope to be big enough for Hemp-ſeed to paſs through them, which might well be taken for Veſſels, but that there lay ſo many of them together. But, conſidering that the Nerves are commonly covered with fatty Particles, I concluded, that theſe Apertures were no Veſſels, but mere fatty Particles, which I found to be true when I had cut through them, and diſcovered that the inward Fat was eaten out by the Mites, which had left only the Huſks, or Cortices, of the fat Globules behind, which Cortices I never had as yet been able to diſcover, becauſe the Cortices of the fat Globules would, upon any Heat, melt away as faſt as the inward Fat.

I have formerly ſaid, that the Matter which we call Meal, or Flour, in Wheat, Rye, Barley, Oats, and in all Sorts of Beans, is ſhut up, as it were, in little Cells, or Chambers, and that thoſe little Cells are ſeparated from each other by thin Membranes, which are thinneſt in Wheat: And as in the Enquiry into what is called the Perioſteum of an Ox or Sheep, I have often broke in Pieces the fat Particles thereof, and as often viewed them through a Microſcope; ſo have I likewiſe placed a few of the fat Globules upon a clean glaſs Plate, and held it over a Coal-fire, or the Flame of a Candle, till they were all melted and reduced into a liquid Matter; ſo that not only the Fat, which was ſhut up in the Skin of the fat Globules, but likewiſe the Skin itſelf was reduced to a fluid Matter; and thereupon I immediately brought it before my Sight, and, viewing it with Attention, perceived, when the melted Fat was cold, that there were different Matters incloſed in the ſaid fat Globules; for there appeared an inconceivable great Number of exceeding ſmall coagulated Particles, and the reſt of the Parts, of which the Fat was compoſed, lay in one ſmooth and even Subſtance, and I have conſidered, whether there might not be incloſed, in ſuch a Globule of Fat, ſo many little Cells and Partitions, as we ſee in a little Grain or Seed, but, if it be ſo, it will remain concealed from our Eyes.

But having now again carefully contemplated theſe coagulated Globules of Fat, many of which go to the making of one little Bubble, I did often fancy, that I ſaw, that each of the ſaid ſmall Particles was provided with ſuch a tranſparent Dent, as I have before ſaid, that the Meal Globules of Wheat, &c. are furniſhed with.

Nay, I have fancied to myſelf, though it did not appear to my Sight, that each fat Particle is furniſhed with little Cells within, like the Seeds or Fruits of Plants.

Since I wrote this, I was informed my Butcher had killed a Sheep of an uncommon Bigneſs, and that it weighed 140 Pounds, without the Fat that they took out of it, after it was killed, which weighed 51 Pounds, ſo that the whole Sheep weighed above 190 Pounds.

I cauſed a Piece of the Fat that grew about the Kidnies to be brought to me, imagining, that its fat Particles would be of a coarſer Grain than thoſe of ordinary Sheep; for I have obſerved ſeveral Times, that the bigger an Ox was, the larger were the fat Particles thereof; and ſince not one Man in a Thouſand has any Knowledge of the Contexture of theſe fat Particles, for we find that there are not any two of one and the ſame Figure, they being compreſſed by other Particles with which they are ſurrounded, I have cauſed ſome few of theſe fat Particles to be drawn, as between A. B. C. D. *Plate* III. *Fig.* 1.

Now when we meet with one of theſe little Bundles of fat Particles, as has frequently occurred to us, in which the fat Particles were four Times this Thickneſs, I imagine, that ſuch fat Particles cannot be produced out of one ſingle adipoſe Veſſel, but that out of ſuch a Veſſel ſeveral ſmall Springs iſſue forth, and out of each of thoſe ſmall Springs proceed others ſtill ſmaller, and that out of theſe Particles one larger fat Particle is formed like a Bunch of Grapes.

Now I cut off with a Razor the Fat in ſeveral Places of a greater Piece, as thin as I could, laying the thin Pieces upon ſeveral glaſs Plates, and put them upon a Coal-fire, ſo as to cauſe them to melt; and, being melted, immediately viewed them with a magnifying Glaſs, when I obſerved the Skins, or membraneous Coats of the fat Globules lying among the melting Particles, and in the ſaid melting Particles there was nothing to be perceived but a limpid Matter, ſurrounded with ſmall Air-bubbles; but, when the Fat was congealed, we could obſerve but very little of the Membranes, becauſe they were covered with the Particles of Fat, with which theſe Membranes or Skins had before been filled.

I cauſed a few of theſe Skins of the fat Globules to be drawn, between E. F. G. H. *Plate* III. *Fig.* 1. During the ſaid Obſervation, I fixed my Eye with Attention upon the fat Particles of the Sheep which had been melted, and were again coagulated; and I could not but judge, that theſe fat Particles, which were exceeding ſmall, were analogous to that internal Matter, wherewith ſome of the ſmalleſt little Seeds are furniſhed, and, in a great many of theſe exceeding ſmall Particles, I could in clear Weather diſcover ſome Tranſparency.

Moreover, I cut as thin Slices as it was poſſible of the Fat, yea, ſo thin, that five or ſix of them did not weigh a Grain, and put them into a little Water, in order to try whether I could make any farther Diſcoveries thereby, with Reſpect to the ſmall Particles of Fat, but it was in vain; only I ſaw floating upon the Water very ſmall Particles of Fat, which were coagulated in a ſpherical Figure, and the very biggeſt of thoſe fat Particles was no bigger than a Grain of Sand. I placed theſe Particles upon a glaſs Plate, and viewing them with a Microſcope, I obſerved the Figure, which I mentioned above, as plain as before, and other fat Particles ſeemed to be of a different Figure; I put one of theſe into the Hands of my Painter, or Deſigner, bidding him to draw what he had obſerved, it being the Figure of one of the ſaid fat Particles, which was coagulated on the Water, as it is repreſented between I. K. L. M. *Plate* III. *Fig.* 1. which was not very conformable with the other melted fat Particles; for, in the doing it, all the Particles did not melt, for the fat Particles are not all extracted by the Water, and coagulated upon the Water in ſmaller and greater globular Particles; and when we take out of it the Remainder of the thin Slices of Fat, which float upon the Water, and view them with a Microſcope, we find, that many of the fat Particles appear intire to the Eye; and whereas they were before very ſmooth and even in their Sides, they were now changed into rough and uneven Particles; ſo that one ſhould be apt to think, that there were two different Sorts of Particles in the Fat, and that one Sort melted more eaſily than the other.

Now in order to get theſe melted Particles of Fat out of the Water, without altering them, I made Uſe of a round Glaſs, and with it ſkimmed the Superficies of the Water, by which Means ſome of the coagulated Particles ſtuck to the Glaſs. Moreover, I did again melt ſome of the fat Particles, which had been coagulated upon the Water, over a Coal-fire, as they lay in the Water; and, when they were again coagulated, viewing them with a Microſcope, I found the ſmall fat Particles to be yet ſmaller than thoſe that were melted out of the Water.

In this laſt Obſervation I obſerved, with Aſtoniſhment, the inconceivable Number of Veins and Membranes, which were diffuſed through the Fat, and the Multitude of ſeparated fat Particles, that were involved in their ſeveral Membranes.

After this there was laid before me the Hind-quarter of a ſucking Lamb, over which was ſpread what we call the Net, or Caul; and having cut off ſome Pieces of the ſaid Net, or Caul, upon which there was little or no Fat, with a pair of Sciſſars, and placing them before a Microſcope, I obſerved again, that the fat Particles, where there were very few of them included between the Membranes, were of a more globular Figure than in other Parts, where a good many lay together, and that in other Places they were preſſed and bruiſed, which I fancy was occaſioned by the Butcher's ſqueezing the Caul in that Place with his Fingers; and in another Place the fat Particles had been ſo torn in Pieces, that I could ſee nothing remaining but the Skins of the fat Globules.

Moreover, I ſaw that the fat Particles had ſuch a Pinch, or Dent, in them, as I have ſhewn, that there were in the Globules of Flour of Wheat; from which Spectacle, I am confirmed, more than before, in my Opinion, that the fat Globules might be ſeparated intirely, or in Part, from the Skin with which they are ſurrounded, by opening the Dents, without breaking the Skin.

Then I took off the thin Membranes, which encompaſſed the fat Particles, and viewing them with a Microſcope, obſerved, that the fat Particles had imprinted a roundiſh Figure on the Membranes inclining to a hexangular Shape, that it was a Pleaſure to look on them; but in other Parts they were of an oval Figure.

Moreover, I took a flat Fiſh, which we call *Plaiſe*, and took off the Fat which adhered to the Veſſels, or Bones, and viewed it with a Microſcope, and obſerved, that the fat Particles were of ſeveral Sizes; and ſome were ſo ſmall, that I judged that fifty of the leaſt were no bigger than one great fat Globule; and moreover, I ſaw that many of the fat Globules had ſuch a Dent in them, as we find in the Meal or Flour of thoſe little white Beans, which we call French or Kidney-beans.

Afterwards my Servant brought to me the Fat of a Pearch, which was nine or ten Inches long, and taking a little of it, I viewed it with a Microſcope, but could not diſcover any ſmall Particles in it, nor any internal Dent, as I had obſerved in the Fat of a ſmall Plaiſe.

After that the Fat of the Pearch had lain an Hour or two upon the Glaſs, I viewed it again, and obſerved, that the Particles were become ſmaller, and that the Skin of the fat Particles, which as yet was beſet with ſome fat Particles, was, as it were, ſhrunk or wrinkled, and the Fat, that was burſt out, lay about the fat Particles, and was ſo fluid and tranſparent, that we could not diſcover any Parts in it.

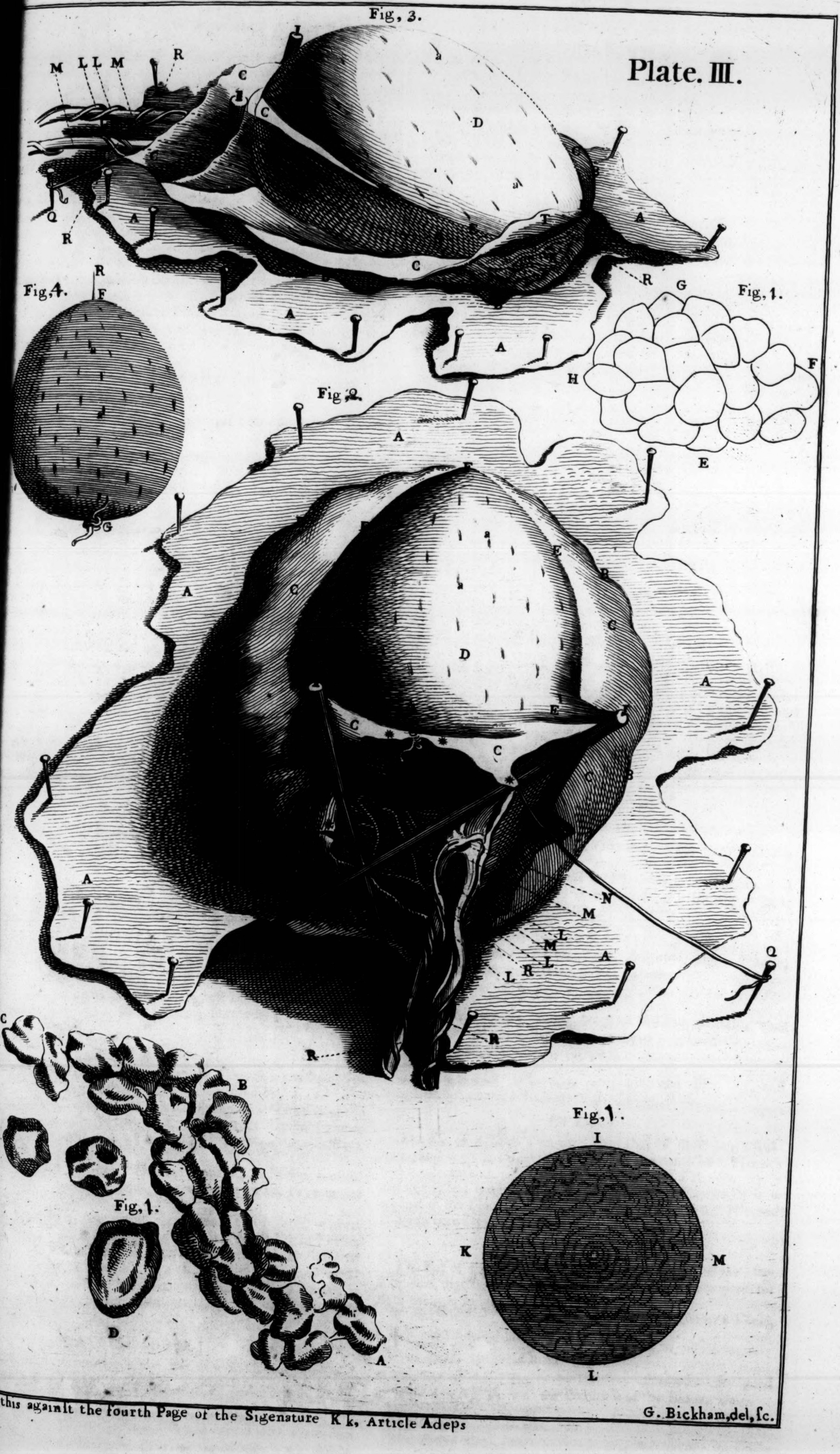
From this Obſervation I began to think, whether each of theſe fat Particles was not provided with an Orifice, or Hole, out of which the Fat might be protruded at all Times, as often as the Parts of the Fiſh ſtood in Need of Nouriſhment, without an intire Laying open the Skin of the fat Globules; for, we conſtantly find, that when the Eggs of the Pearch, which we call the Roe, increaſe in Bigneſs, its Fat decreaſes, and that in ſuch a Manner, that when the ſaid Eggs, or Roe, are arrived at their utmoſt Bigneſs, there is ſeldom or never any Fat to be ſeen upon the Inteſtines of the Fiſh.

As to the Compoſition of Fat, it is formed by a ſmall Portion of Earth, joined with elementary Fire, acid Salt, and Water, according to the Account Geoffroy gives of it, who adds, that if Oil of Olives and Spirit of Nitre be mixed together, and digeſted, a Subſtance will be found in every Reſpect reſembling the Fat of Animals.

This confirms what I ſaid under the Article of ACID, in Regard to the Inflammability of animal Oils, which ſee.

As to the medicinal Uſe of Fat, Quincy having mentioned that of the Gooſe, Dog, Man, Viper, and Bear, ſays, theſe are to be met with in the Intention of Ripening and Drawing, becauſe they are reckoned to be of a penetrating Nature, and therefore ſuited to diſſolve and rarefy the Humours incloſed in Tumors, and bring them, as it is called, to Maturity. There are ſome ſpecific Virtues aſcribed to theſe in particular Caſes, but they have not been ſupported by Reaſon or Experience. And they ſeem not poſſeſſed of any Properties different from other Subſtances of like Kind, unleſs what may ariſe out of their different Conſiſtencies and Degrees of Volatility.

I apprehend by this, that the Author means, there is little or no Difference with Reſpect to Medicine, betwixt the Fat of one Animal and another. But if we conſider, that Fat is not an homogeneous Subſtance, but compoſed of Principles greatly different from each other, as are Earth, Fire, Water, and acid Salts; and again, that animal Fats have always a ſmall Portion of alcaline volatile Salts mixed with them, we ſhall find Reaſon to believe, that the Fat of one Animal may have medicinal Effects, very different from that of another, as the Proportions, and Combinations of the component Principles vary, and as the volatile Salts are more or leſs volatilized, by circulating in the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e animal Juices. I ſhould ſuſpect the Fat of Animals who uſe ttle Exerciſe, and live on Vegetables, to be the moſt lenient and ollifying; and that of Animals which move a great deal, or ed on other Animals, to be more penetrating, warming, and re- lvent, becauſe, in theſe, the Juices in general are more exalted d attenuated than in others.

Thus we ſee the ſpecific Virtues, aſcribed to ſome animal Fats particular Caſes, are ſupported by Reaſon; and as for Ex- rience, we have that of all Mankind to warrant them, who ve mentioned them from the Infancy of Phyſic to this Day, leſs a few, who have of late affected to determine the Effica- of Medicines by particular Theories, without conſulting Ex- rience, the only ſure Guide, which in the preſent Caſe, if refully attended to, would have convinced Dr. Quincy, as it s me, that the Fats of different Animals are actually endued ith different medicinal Virtues.

In the Courſe of this Work, I ſhall have frequent Occaſi- s of making Remarks upon this Folly of contradicting actual atters of Fact, only becauſe their Cauſes are not obvious and anifeſt. Mean Time I will give ſome Account of the me- cinal Virtues of the Fats found in different Animals.

FATS OF BEASTS.

Of the Horse.

The Fat of the Horſe is proper for anointing luxated Limbs. *Dale.*

Of Cows, or Oxen.

All Sorts of Fats are endued with the Virtues of Warming, ſtening, and Rarefying.

But that of Bulls, Cows, and Calves, is in ſome little De- ee reſtringent. *Dioſcorides.*

Beef's Fat, or Suet, is particularly recommended in Mortifica- ns of the Inteſtines, a Teneſmus, for Ulcers, and Chaps of Lips, and gouty, or ſcirrhous Diſorders. The Fat of the Buf- oe is in Virtue like the Preceding. *Dale.*

The Fat is emollient, and is uſed in Balſams, Ointments, d Plaiſters. It eaſes Pains proceeding from Colds; cures bes and Chilblains, and heals the Chapping of the Hands, Lips, pples, Fundament, &c. *Pomet.*

Of Lions.

The Fat of Lions is in Virtue like thoſe of Cows. *Dioſco- s.*

The Fat of Lions, waſhed, according to the Directions of oſcorides, and dropped into the Ear, eaſes Pains thereof; it good Application for Limbs in Danger of a Mortification m Cold. It is uſeful in ſcirrhous Tumors, and Kibes. *Dale.*

Of Elephants.

The Fat of Elephants keeps Serpents and venomous Reptiles y from thoſe that are anointed with it. *Dioſcorides.*

Of Stags.

The Fat of Stags has alſo the ſame good Effects as that of Ele- nts, in preſerving from venomous Reptiles. *Dioſcorides.*

Hippocrates recommends the Fat of a Stag as a mollifying In- dient in a Peſſary. *De Natura Muliebri, L.* 1.

The Fat of Stags is ſaid to be good for mollifying Tumors, Kibes, and for eaſing Pains. *Dale.*

The Fat, or Suet, is equal to the beſt Emollient. It lenifies ſoftens Calloſities, Contractions, ſcirrhous and cancerous mors. *Pomet.*

Of the Goat.

Hippocrates recommends the Fat of a Goat as a good mollify- Ingredient in a Peſſary. *De Natura Muliebri, L.* 1.

The Fat of Goats is ſomewhat aſtringent. The Fat of the -goat is a powerful Diſcutient, and for that Reaſon a proper pic in the Gout, beat with Trickles of Goats, and Saffron. *oſcorides.*

The Suet, or Fat, of the He-goat powerfully diſcuſſes, is uſeful the Gout, cures the Strangury, and relieves the Pains cauſed the Piles. *Dale.*

We bring from Auvergne, near Lyons, and Nevers, a great l of Goats-ſuet, it being not only of ſome ſmall Uſe in Phyſic, ecially that of the He-goat, but is alſo uſed to many different rpoſes. It ought to be dry, of a clear White within and with- , and take Care it be not mixed with Mutton Suet, which it not eaſy to diſtinguiſh; therefore do not deal with Merchants cannot truſt.

Of Sheep.

Hippocrates recommends the Fat of a Sheep as a mollifying gredient in a Peſſary. *De Natura Muliebri, L.* 1. and, *De rbis Mulierum, L.* 2.

The ſame Author adviſes the Fat taken from the Kidney of a ep, as preferable to any other, to be mixed with Elaterium the forming a Peſſary, to promote the Menſes. *De Morbis lierum, L.* 1.

Hippocrates adviſes the Fat of Sheep boiled with Lentiles and Wine, for waſhing painful Exulcerations of the Uterus. *De Morb. Mul. L.* 1.

And in many other Places he adviſes Peſſaries of Sheep's Fat made up in Wool, as being very mollifying.

Hippocrates directs the Fat of a Sheep to be taken internally, to prevent a Miſcarriage. *De his quæ Uterum non gerunt.*

Sheep's Fat is a proper Topic in the Gout. *Dioſcorides.*

The Suet, or Fat, of Sheep, given in red Wine, checks Hæmorrhages, ſtops Diarrhœas, Dyſenteries, and cures the Gripes. *Dale.*

Of Swine.

Hippocrates adviſes the Fat of Swine, boiled with Lentiles and Wine, as proper to waſh painful Exulcerations of the Womb. *De Morb. Mul. L.* 1.

Swine's Fat, or Lard, is accommodated to Diſorders of the Uterus, and Anus, and for Burns. *Dioſcorides.*

The Fat of Swine is ſaid to heat leſs than that of other Animals, and therefore it is more proper in refrigerating Ointments. It eaſes inveterate Pains in the Loins and Joints.

The Fat of the Wild Boar has the ſame Virtues in a greater Degree. *Dale.*

Of Asses.

The Fat of Aſſes is reported to make Scars of the ſame Colour with the reſt of the Skin. *Dioſcorides.*

Of Bears.

Bears Fat is excellent for making the Hair grow, and a good Application for Kibes. *Dioſcorides.*

The Fat of a Bear warms, mollifies, and diſcuſſes. It cures Baldneſs, is good for the arthritic Pains, and cures Swellings of the Parotid Glands, and other Tumors, as alſo Ulcers in the Legs. *Dale.*

Bears Greaſe and Tallow are brought from the Mountains of Switzerland, Savoy, and Canada. The Greaſe, if it be good, ought to be freſh, or new melted, greyiſh, gluey, and of a ſtrong ill Smell, of a middle Conſiſtence, that is to ſay, betwixt hard and ſoft; and meddle not with that which is white and hard, being mixed with Suet. This Fat, or Greaſe, is a ſovereign Remedy for curing cold rheumatic Humours. It is alſo much valued for eaſing Pains of the Gout, by rubbing the afflicted Part, and to make the Hair grow; it being eſteemed admirable againſt Baldneſs, eſpecially when incorporated with Bees in Powder and Nut-oil. As for the Bears-tallow, there is but very little of it brought into France, it being little uſed, and that only by thoſe who will not come up to the Price of the Greaſe. *Pomet.*

Of Foxes.

The Fat of Foxes is good in Diſorders of the Ears. *Dioſcorides.*

The Fat of the Fox is good for Convulſions, Tremors, and Contractions of the Limbs; it is uſeful in Pains of the Ears, Wounds of the Head, and Baldneſs. *Dale.*

Of the Camel.

The Greaſe, or Fat, is emollient, ſoftening, and reſolutive, proper for the Piles or Hemorrhoids. *Lemery.*

Of the Mouse.

At Venice they ſell a Pomatum at an extravagant Rate, made of the Fat of Mice, which is famous for curing Baldneſs.

Of the Cat.

The Fat of a Cat is heating, emollient, and diſcutient, and wonderfully relieves Affections of the Joints. *Dale.*

Of Dogs.

The Fat of a Dog is warmer than that of moſt other Animals, and is given internally, to deterge and conſolidate Wounds and Exulcerations, and therefore it is proper in a Phthiſis, or to diſſolve Blood coagulated by Falls or Bruiſes. Externally it is applied in the Gout, to eaſe Pains of the Ears, to kill Nits and Lice, to cure Deafneſs, and in the Itch. *Dale.*

Of Wolves.

The Fat of the Wolf is equal in Virtues to that of the Dog. Ir warms, digeſts, cures Diſorders of the Joints, and is good for Eyes that are inflamed. *Dale.*

If the Bridle of a Horſe is anointed with the Fat of a Wolf, it is ſaid the Animal will not move forwards.

Of the Otter.

The Fat of the Otter is by Hollerus eſteemed a very good Ingredient in Applications for Diſorders of the Joints. *Dale.*

Of the Hedge-Hog.

The Fat of the Urchin or Hedge-hog is reckoned by Hartman a Specific in Ruptures. *Dale.*

Of the HIPPOPOTAMUS, or SEA-HORSE.

The Fat of the Hippopotamus, or Sea-horſe, applied to the Pulſe, or Stomach, relieves againſt Fits of the Ague, and is emollient and nervous. *Pomet.*

Of the CHAMOIS.

The Fat of the Chamois, or Gems (Capra Alpina) is recommended in a Conſumption, and Exulcerations of the Lungs. *Dale.*

Of the HARE.

The Fat of a Hare, applied externally, has ſuch a drawing Quality, eſpecially when old, that it is ſaid to bring away Thorns accidentally fixed in the Skin, or Fleſh. It breaks Abſceſſes, and cures Pains of the Teeth. *Dale.*

Of the RABBET.

The Fat of a Rabbet is uſeful for Indurations of the Joints and Nerves: *(I ſuppoſe he means the Tendons). Dale.*

Of the BEAVER.

The Fat of the Beaver is peculiarly adapted to Diſorders of the Uterus, and nervous Syſtem, and therefore is uſeful in Epilepſies, Palſies, Convulſions, and Apoplexies. *Dale.*

The Fat of a Beaver is uſed as an Ointment againſt the Palſy, Convulſions, hyſterical Fits, Apoplexy, and falling Sickneſs. Take half a Pound of Beavers Fat, Oils of Roſemary, Nutmegs, Amber, and Mace, of each one Dram. *Pomet.*

Of the TIGER.

The Fat of a Tiger agrees in Virtues with that of a Dog. *Dale.*

Of the LEOPARD.

The Fat of a Leopard is reported to be an excellent Coſmetic. *Dale.*

Of the LYNX.

The Fat of the Lynx, or Ounce, is recommended for Limbs that are paralytic, convulſed, or luxated. *Dale.*

Of the CROCODILE.

The Fat of the Crocodile is recommended in Wounds and Cancers. *Dale.*

Of VIPERS.

The Fat of the Viper is ſudorific, reſolutive, and anodyne, taken internally or externally, the Doſe from one Drop to ſix. *Lemery.*

Of HUMAN FAT.

Human Fat is ſaid to ſtrengthen and diſcuſs, to relieve Pains, and cure Contractions, to mollify the Hardneſs of Scars, and to take away unſeemly Marks left by the ſmall Pox. *Dale.*

Human Fat or Greaſe is brought us from ſeveral Parts, as every Body knows in Paris; the public Executioner ſells it to thoſe that want it; ſo that the Druggiſts and Apothecaries ſell very little. Nevertheleſs, they vend a Sort that is prepared with aromatical Herbs, and which is without Compariſon much better than that which comes from the Hands of the Hang-man. This Adeps, or Axungia, is reckoned very good for Rheumatiſms, and other Diſeaſes, proceeding from a cold Cauſe.

Man's Greaſe is emollient, diſcuſſive, anodyne, and antiparalytic. It is good againſt the Gout and contracted Nerves, made into an Ointment, as follows: Man's Greaſe two Pounds; Gum Elemi half a Pound; Bees-wax and Turpentine, of each one Pound; Balm of Gilead or Peru, four Ounces; mix and make an Ointment by melting all together. *Pomet.*

OF THE FAT OF BIRDS.

Of GEESE.

Hippocrates recommends the Fat of a Gooſe as a mollifying Ingredient in a Peſſary. *De Natura Muliebri, L. 1.*

The ſame Author adviſes the Fat of a Gooſe, as a proper Ointment for painful Exulcerations of the Uterus. *De Morbis Mulierum, L. 1.*

Hippocrates ſays, the Fat of Geeſe is the beſt for Peſſaries. *De Morbis Mulierum, L. 2.* And he adviſes Peſſaries of Gooſe Greaſe in ſeveral other Places.

Hippocrates adviſes to take the Fat of Geeſe internally to prevent a Miſcarriage. *De his quæ Uterum non gerunt.*

The Fat of Geeſe is proper in the Diſorders of Women; and is uſeful in Chaps of the Lips, to ſmooth the Skin, and to eaſe Pains in the Ears. *Dioſcorides.*

The Fat of the Gooſe is more hot than that of the Swine, and, becauſe of its Subtilty, ſooner penetrates and reſolves, it is therefore uſed as a Clyſter in Eroſions of the Inteſtines. It makes the Hair grow in an Alopecia, heals Chaps of the Lips, removes Noiſes in the Ears, cures Spaſms and Rigidity of the Nerves, *(Tendons I ſuppoſe he means)* and prevents Coſtiveneſs, eſpecially in Children. *Dale.*

The Virtues of the Fat of Wild Geeſe are the ſame, but in a greater Degree.

Of HENS.

The Fat of Hens is recommended by Dioſcorides in the Diſorders of Women, and is uſeful in Chaps of the Lips to ſmoothe the Skin, and to eaſe Pains in the Ears. *Dioſcorides.*

The Fat of Hens and Capons warms and moiſtens, is emollient and lenient, and is ſaid to be of a middle Nature betwixt that of Swine and Geeſe, whoſe Acrimony it corrects. It is good for Chaps of the Lips, Pains of the Ears, and Puſtules on the Eyes. *Dale.*

Of the OSTRICH.

The Fat of the Oſtrich is a proper Application for the nervous Parts, by Inunction it mollifies an indurated Spleen, and relieves nephritic Pains. *Dale* from *Schroder.*

The Fat is hotter than Gooſe Greaſe, and may be uſed with great Advantage to diſſolve hard Swellings, relax contracted Nerves, and eaſe Pains. *Pomet.*

Of the SWAN.

The Fat of a Swan is emollient, lenient, attenuant, and therefore uſeful in the Piles, and Indurations of the Womb; it clears the Eyes, and, mixed with Wine, takes off Freckles, or Pimples from the Skin. *Dale.*

Of the FRIGATE.

The Oil or Fat of theſe Creatures is a ſovereign Remedy for ſciatic Pains, and for all others, proceeding from a cold Cauſe. It is held in great Eſteem throughout all the Indies as a precious Medicine. *Pomet.*

Of the SHELL-DRAKE.

The Fat of the Vulpanſer, or Shell-drake, is recommended in an Herpes, and Tumors of the Face. *Dale.*

Of the RAVEN.

The Fat of the Raven is ſaid to render the Hair black. *Dale.*

Of the PEACOCK.

The Fat of the Peacock, mixed with the Juice of Rue and Honey, is excellent in the Cure of a Colic. *Dale.*

Of the QUAIL.

The Fat of the Quail is ſaid to be effectual in taking Spots off the Eyes. *Dale.*

Of the TURTLE-DOVE.

The Fat of the Turtle-dove is recommended as an Ointment proper for the Kidnies, Belly, Breaſt, and Groins. *Dale* from *Schroder.*

Of the VULTURE.

The Fat of the Vulture is peculiarly adapted to Diſorders of the Nerves. *Dale.*

The Fat is the only Thing belonging to the Vulture Kind that is ſold in the Shops, and uſed to anoint withal in Palſies and other nervous Caſes. *Pomet.*

Of the KITE.

The Fat of the Kite is applied in Pains of the Joints. *Dale.*

Of the SPARROW-HAWK.

The Fat of the Sparrow-hawk is good in Diſorders of the Eyes, and all Diſeaſes of the Skin. *Dale.*

Of the OWL.

The Fat of the Owl, either white or gray, ſharpens the Sight. *Dale.*

Of the CRANE.

The Fat of the Crane, inſtilled into the Ears, cures Deafneſs. It mollifies hard Tumors of the Spleen, and other Parts of the Body. It alſo immediately relieves Stiffneſs of the Neck. *Dale.*

Of the STORK.

The Fat of the Stork is good in gouty Complaints, and for Limbs that tremble and are unſteady. *Dale.*

OF THE FAT OF FISH.

The Fat of River-fiſh melted in the Sun, and mixed with Honey, clears the Sight, if the Eyes are anointed with it. *Dioſcorides.*

Of the PIKE.

The Fat of the Pike is uſed as an Ointment to the Soles of the Feet, Foot, and Breaſts of Children, in order to cure their Catarrhs and Coughs. *Dale.*

The CARP.

The Fat of a Carp is of Service in hot Diſorders of the Nerves or Tendons. *Dale.*

Of the DARE.

The Fat of the Dare is good for Pains in the Ears, and Dimneſs of Sight, mixed with the Gall of the ſame Fiſh. *Dale.*

Of the GRAYLING.

The Fat of the Grayling wears away Specks and Films from the Eyes. Melted in the Sun and mixed with Honey it takes away Spots of the Skin, and Marks left by the ſmall Pox. *Dale.*

Of the TROUT.

The Fat of the Trout is good for the Piles, and Fiſſures of the Anus. *Dale.*

Of the DOLPHIN.

The Fat of the Dolphin, melted and drank with Wine, cures the Dropſy. *Pliny. Dale.*

The Method of preparing Fat for Uſe is thus laid down by the Compiler of the *Edinburgh Diſpenſatory*:

The Fat, being firſt purged of its Membranes, Blood-veſſels, and Strings, is to be waſhed in freſh Parcels of Water, till it will no longer tinge the ſame red; then let it be melted, ſtrained, and preſerved from the Injuries of the Air.

The Antients were more curious, and took greater Pains in preparing their Fat, as may be ſeen by the following Directions from *Dioſcorides*.

Of the Fat of HENS or GEESE.

The Fat of a Hen or Gooſe, either new, or kept without Salt, is good in Diſeaſes of the Womb; but ſalted, or grown acrimonious with keeping, is hurtful to that Part. Take the freſh Fat of either of theſe Kinds, and, ſtripping it of the Membranes, put it into a new earthen Pot, that will hold double the Quantity you deſign to preſerve. Expoſe the Pot carefully cloſed to the burning Sun, and let the Fat, as it melts, fall through a Strainer into another earthen Pot, till all be run off. Then remove it into a very cool Place, and let it ſtand for Uſe. Some, inſtead of the Sun, place the Pot over hot Water, or Coals that give a very gentle Heat. There is yet another Way of curing it. They take the Fat, and, clearing it from the Membranes, beat it, and put it into a Pot, where it is melted, with a little fine Salt caſt therein. Then they ſtrain it thro' a Linnen Rag, and place it aſide. This Sort is an uſeful Ingredient in Remedies provided againſt Laſſitudes. *Dioſcorides, L.* 2. *C.* 86.

Of the Fat of BEARS and SWINE.

The Fat of Bears and Swine is prepared after this Manner: Take the neweſt and groſſeſt, ſuch as grows about the Kidnies, and, ſtripping it of the Membranes, throw it into a good Quantity of Rain-water, perfectly cool; then break it, and rub it carefully with your Hands, as though you would reduce it all to Crumbles. Then waſh it in ſeveral freſh Waters, and afterwards put it into an earthen Pot, that will hold double the Quantity. Pour in as much Water as will cover the Fat, and ſet it over a gentle Fire, and ſtir it with a Spatula. When it is thoroughly melted, paſs it through a Strainer into Water, and let it cool. Let the Water drop clean away, and then ſhift it into another Pot, firſt waſhed, and, pouring in ſome Water, give it a gentle Melting. This done, take it off, and, having let it ſtand a little for the Dregs to ſubſide, pour it into a Mortar firſt wiped with a Sponge. When it is congealed, take it out, and, firſt cleaning it from the Dregs reſiding at the Bottom, give it a third Melting without Water. Then pour it back into the Mortar, from whence, being well purged of all Feculencies, remove it into an earthen Pot, and place it aſide well covered in a cool Place for Uſe. *Dioſcorides, L.* 2. *C.* 87.

Of the Fat of GOATS, SHEEP, and DEER.

The Fat of theſe Animals is thus prepared: Take either of them, waſh it, clear it of the Membranes, and put it into a Mortar to be ſoftened. Beat it, pouring in now and then a little Water, till nothing bloody riſes to the Surface, or Greaſineſs ſwims at the Top, but all looks clear and ſhining. Then put it into an earthen Pot, with Water juſt enough to cover it, and ſet it over a gentle Fire, ſtirring it. When it is thoroughly melted, pour it into Water, and, after it is congealed, melt it over again in an earthen Pot firſt waſhed, and proceed as in the former Chapter. After the third Melting, which is without Water, ſtrain it into the Mortar firſt moiſtened, and, when it is congealed, remove it into your Pot, and lodge it as was directed for Swines Fat. *Dioſcorides, L.* 2. *C.* 88.

Of the Fat of OXEN.

This Fat is alſo to be choſen from the Kidnies, ſtripped of its Membranes, and then waſhed in Sea-water. After this, it muſt be put into a Mortar, and carefully beaten with Sea-water. When all is diſſolved, pour it into an earthen Pot, with Sea-water enough to riſe a Span above it, and boil it till it has loſt its proper Smell. Then for every Pound of Fat caſt in four Drams of Tyrrhene Wax, and ſtrain it off. Next (after it is congealed) take away the Dregs that ſettled at the Bottom, and put it in a new earthen Pot, which is to ſtand covered every Day in the Sun, till the Fat has loſt its rank Smell, and acquired a Whiteneſs. *Dioſcorides, Lib.* 2. *C.* 89.

Of the Fat of BULLS, PANTHERS, and LIONS.

The Fat of Bulls is thus prepared: Taken freſh from the Kidnies, it is waſhed in running Water, then ſtripped from the Membranes, put in an earthen Pot, and melted with a little Salt caſt therein. After this they ſtrain it off into fair Water, and, when it begins to congeal, they take and rub it well with their Hands in ſeveral freſh Waters till it be thoroughly waſhed. Then they clap it into the Pot again, and boil it with an equal Meaſure of ſweet-ſcented Wine. After it has boiled up twice, the Pot is taken off the Fire, and left to ſtand all Night. The next Day, if any Rankneſs of Smell remains, it is removed into a new Pot, has more ſweet-ſcented Wine poured upon it, and is treated as before, till all the ill Savour be vaniſhed. Some melt it without Salt, eſpecially for ſome Diſeaſes, in which Salt is accounted hurtful; but, thus prepared, it will acquire no conſiderable Whiteneſs. After the ſame Manner is prepared the Fat of Panthers, Lions, Wild Boars, Camels, Horſes, and the like. *Dioſcorides, L.* 2. *C.* 90.

ADEPTA PHILOSOPHIA. *Adept Philoſophy.* It is generally underſtood of that Philoſophy, whoſe End is the Tranſmutation of Metals, and the univerſal Remedy. The *Adept Philoſophy* is repreſented by Paracelſus as one taught by Inſpiration from Heaven, and which cannot be communicated from Man to Man, though in other Places he tells it may be learned from thoſe who are *Adepts.* Both he and Helmont have taken much Pains to inform us what it is not, but have not been ſo obliging as to explain what it is. The Profeſſors of this Philoſophy in the Clouds are called ADEPTI, *Adepts.*

Paracelſus calls that *Adept Medicine*, MEDICINA ADEPTA, which treats of thoſe Diſeaſes only, which are contracted by celeſtial Operations, or communicated from Heaven.

Thoſe, whoſe Curioſity may incite them to know more of this Philoſophy, may conſult Paracelſus's Treatiſe, *de Occulta Philoſophia, L.* 1. *C.* 8. But I will not be anſwerable that they ſhall meet with ſatisfactory Information.

ADER. Rulandus explains this by *Lac recens ſine Butyro.* I ſuppoſe he means either new Milk before it is creamed over, or elſe freſh Butter-milk.

ADHÆRENTIA. ADHERENCE, growing together. *Caſtellus.*

ADHATODA. The Malabar Nut.

The CHARACTERS *are,*

The Leaves grow oppoſite; the Cup of the Flower is oblong, and conſiſts of one Leaf; the Flower is monopetalous, of an anomalous Figure, and conſiſts of two Lips; the uppermoſt is crooked, and is raiſed in Form of an Arch; the under Lip is divided into three Segments, and hangs downward; the Ovarium becomes the Fruit, which is in Form of a Club, and is divided into two Cells, in which are contained flat Heart-ſhaped Seeds.

There are but two Species of this Plant known at preſent, which are:

1. *Adhatoda Zeylanenſium*, H. L. The common Malabar Nut.
2. *Adhatoda Indica*; *folio ſaligno, flore albo*, Boerh. The Willow-leaved Malabar Nut, commonly called, *The Snap-tree. Miller's Dictionary.*

Its Virtue is to expel the dead Fœtus, that being the Meaning of *Adhatoda* in the Zeylanic Language.

ADHEHE. Sour Milk. Butter-milk. *Rulandus.*

ADHO, or ADOC. Milk. *Rulandus.*

ADIACHYTOS, 'Αδιάχυτος. From ἀ Negative, and διαχύω, to diffuſe, ſcatter, or be profuſe. Decent in Point of Dreſs, or Habit. Hippocrates makes Uſe of this Word in his Treatiſe, *de decenti Habitu.* This great Man eſteemed the Dreſs of a Phyſician of Importance enough, to take the Trouble of giving ſome Advice upon this Head. He thinks the Character of a Fop derogatory from the Honour of a real Phyſician; and deſcribes a Set of Practitioners in his Days, who attempted to ſupply the Defects of Knowledge in their Profeſſion, by Ornaments of Dreſs. Theſe, he ſays, frequented the public Places, in order to deceive People by their Appearance into a good Opinion of them, and this for the Sake of Gain. He adds, that they may be known by their Dreſs, and that the greater their Extravagance is in this Reſpect, the more they are to be avoided, and deſpiſed, by thoſe that ſee them.

ADIANTHUM. Maiden-hair.

The Account Dioſcorides gives of it is as follows:

Adiantum, by ſome called *Polytrichon*, has Leaves like the Coriander, indented at the Top, and growing on very ſlender, black, ſhining Stalks, a Span high.

The Decoction of the Herb, drank, helps Difficulty of Breathing, and the Aſthma, Diſorders of the Spleen, Difficulty of Urine, and the yellow Jaundice. It breaks the Stone, binds the Belly, and relieves thoſe who are bitten by venomous Creatures. It is drank in Wine for Weakneſs of the Stomach. It provokes the Menſes, and the Lochia, but ſtops Vomiting or Caſting up of Blood. It is applied in a Cataplaſm againſt venomous Bites, to make Hair grow where loſt, and to diſcuſs ſcrophulous Tumors. A Lye made thereof cleanſes ſcald and ſcabby Heads. Applied with Ladanum, Myrſininum, and Oil of Lillies, or, with greaſy Wool and Wine, it puts a Stop to the Shedding of Hair, and ſtrengthens what is left. The Decoction thereof, with the Lyes and Wine, produceth the ſame Effect. Given to Cocks and Quails among their Food, it incites them to fight. It is planted about Sheep-folds for the Benefit of the Sheep; and grows alſo in ſhady and marſhy Places, on old mouldering Walls, and near Springs. *L.* 4. *C.* 136.

The Moderns have given the Name of *Adianthum* to many capillary Plants. The firſt is thus diſtinguiſhed by Authors:

1. *Adianthum vulgare, Capillus Veneris*, Offic. *Adiantum*, Cod. Med. 1111. *Adiantum, ſive Capillus Veneris*, J. B. 3. 751. Raii Hiſt. 1. 147. *Adiantum, Capillus Veneris*, Chab. 555. *Adianthum verum, ſive Capillus Veneris verus*, Park. 1049. *Adiantum foliis Coriandri*, C. B. 355. Tourn. Inſt. 543. Elem. Bot. 433. Hiſt. Oxon. 3. 587. *Capillus Veneris verus*, Ger. 982. Emac. 1143. TRUE MAIDEN-HAIR.

ADIANTHUM VULGARE. This is a capillary Plant, which, from a browniſh, ſtringy Root, ſends forth black ſhining ſlender Stalks, near a Foot high, divided into ſeveral very fine Branches, on which grow ſmall, very thin Leaves, roundiſh, in Shape of Coriander-leaves, ſet on alternately on the Stalks; on the Edges of the Leaves, when the Plant is come to its full Growth, are ſeveral ſmall Folds, under which is contained a ſmall Duſt, which is the Seed.

This Maiden-hair is brought to us from the Southern Parts of France, though it is ſaid to grow plentifully in the County of Cornwall.

This being the true *Capillus Veneris*, is what ought to be uſed in making the Syrup of Maiden-hair, and every where elſe, where the true is preſcribed. But for Want of it, it not being to be had in any Quantity, we generally uſe the *Trichomanes*.

This Maiden-hair is opening and attenuating, good for Diſtempers of the Lungs and Breaſt, as Coughs, Shortneſs of Breath, Hoarſeneſs, and the like; it is alſo accounted ſerviceable againſt the Stone and Gravel, Heat and Difficulty of Urine. The only officinal Preparation is the Syrup. *Miller*.

Adianthum, or the true Maiden-hair of the Shops, is a Plant that bears ſeveral ſlender, blackiſh Stalks, of about half a Foot or a Foot high, divided into fine delicate Branches, which are adorned with little Leaves, like thoſe of Coriander, almoſt triangular, fragrant, and of an agreeable Taſte: This Plant bears no Flowers; its Fruit, according to Mr. Tournefort's Obſervations, is produced in a Folding of the End of one of the Leaves, which, after it is ſtretched out, incloſes ſeveral ſpherical Coverings, which are caked to the ſaid Foldings, and cannot be diſcovered but by the Aſſiſtance of a Microſcope. Theſe Capſulæ, or Coverings, are furniſhed with, as it were, a Purſe-ſtring, which, by its Contraction, opens it; they contain ſome little Seeds in them that are almoſt round: The Root is fibrous and black; it grows in ſhady, moiſt, or ſtony Places, againſt Walls, or Sides of Wells and Ditches: The beſt they have in France, grows about Montpellier in Languedoc. *Lemery*.

The Leaves of the true Maiden-hair are much uſed. They are ſaid to purify the Blood, by reducing the Humours mixed in the Maſs thereof to a juſt Temper. It prepares and purges Phlegm, and the Bile of both Sorts, that is, the Bile, properly ſo called, and what the Antients called the *Atra Bilis*. It diſſipates Superfluities, reſolves ſerous Humours, and carries them off by Tranſpiration. It provokes Urine and Sweat, and powerfully reſiſts Putrefaction; hence it is given with Succeſs in all Sorts of Fevers.

It is ſpecifically adapted to cure all Diſorders to which the Hair is ſubject. Thus it is a Remedy againſt Baldneſs, clears the Hair of Scurf and Filth, reſtores that which is decayed to its former Luſtre and Beauty, prevents its falling off, and preſerves it from growing grey.

It excites all the Faculties of the Brain, tempers any Exceſs in the Humours depoſited upon it, and corrects in them what is amiſs. It therefore depurates the animal Spirits, reſtrains hot and bilious Vapours, and renders thoſe mild, which are inclinable to be acrid, acid, or narcotic. It is on theſe Accounts admirable in Want of Reſt, comatous Diſorders, Epilepſies, Phrenſies, Madneſs, Melancholy, Head-ach, and all Diſorders, and Tumors, which happen to any Part of the Head. It ſharpens the Sight, and reſtrains and diſſipates all habitual Fluxes of Humours upon the Teeth, Ears, and Glands of the Neck and Fauces. By its agreeable Odour it exhilarates the Heart, and ſtrengthens the vital Faculties. It is good in Diſorders of the Breaſt, purges the Lungs, inciding and evacuating thick and viſcid Humours, which ſtick to the Sides of the Branches of the Aſpera Arteria. Hence it becomes an effectual Remedy againſt a Cough, Difficulty of breathing, Aſthma, Peripneumony, Pleuriſy, Spitting of Blood, fainting Fits, and Heart-burn.

It braces up, and reſtores a proper Tone to the relaxed Fibres of the Œſophagus and Stomach. It purges off Collections of the Excrements, which cauſe Nauſeas, or Inclinations to Vomit. It quenches Thirſt, and penetrates, moiſtens, and purges very gently the Stomach and Inteſtines. It cools the Liver and Spleen, and opens Obſtructions formed therein, let them be never ſo inveterate. It wears away the Stone in the Kidnies or Bladder, and opens the urinary Paſſages. It is both a Preſervative againſt, and a Cure for the Jaundice and Green-Sickneſs. It is particularly uſeful to the Parts of Generation. Thus it prevents Sterility, expels Immundities, and the Secundines out of the Womb, promotes the Menſes, if deficient, and reſtrains them, if immoderate, as it does the Fluor Albus. It is of Service in Diſorders of the Joints, and nervous Syſtem, and cures Stupors, Spaſms, and Pandiculations, and windy Affections of the Muſcles. It ſoftens and reſolves hard Concretions formed upon the Ligaments of the Joints, and, for this Reaſon, is ſerviceable in iſchiadic Pains, and the Gout. It is alſo good againſt Tumors of all Sorts, whether hot or cold, oedematous, ſcirrhous, inflammatory, or eryſipelatous. It is alſo good in Wounds, Ulcers, Fractures, Luxations, and all Diſorders of the Skin. *Ray* from *Petrus Formius*.

This is a very great Character of a Plant, and perhaps ſtretched a little too far; but we may learn from hence, that it has been eſteemed as a great Deobſtruent, and excellent Alterative. And if we conſider that moſt of the capillary Plants abound with a neutral, ſaponaceous Salt, which approaches to the Nature of Nitre, we may the eaſier believe that the ADIANTHUM may be poſſeſſed of great Virtues, in all Diſorders where Obſtructions are either the Cauſe, or the Effect. But then it muſt be taken in conſiderable Quantities, and thoſe frequently repeated, and the Courſe muſt be perſiſted in for a long Time.

The beſt Way of taking it is in very ſtrong Decoctions, or Infuſions.

Mr. *Ray* obſerves, that becauſe this Plant is temperate, in regard to all its Qualities, he is inclinable to believe the Virtues of it weak and inconſiderable. But we now know that the alterative and deobſtruent Virtues of Simples, by no Means, depend on the Exceſs of any of their ſenſible Qualities, and therefore nothing can be concluded from this.

Somewhat like this, in Figure and Virtues, is the ADIANTHUM CANADENSE, Maidenhair of Canada, much uſed by the French, and thus diſtinguiſhed:

Adiantum Canadenſe, vel Capillus Veneris Canadenſis, Cod. Med. 4. *Adiantum Americanum*, Corn. 7. Raii Hiſt. 1. 148. Fill. Hort. Piſ. 3. Tourn. Inſt. 543. Elem. Bot. 433. Boerh. Ind. A. 26. *Adiantum fruticoſum Americanum*, Park. Theat. 1049. *Adiantum fruticoſum Braſilianum*, C. B. Prod. 150. Pin. 355. Chomel. 83. *Adianthum fruticoſum Americanum, ſummis ramulis reflexis, & in orbem expanſis*, Pluk. Phytog. 124. Almag. 10. Hiſt. Oxon. 3. 588. CANADA, or AMERICAN MAIDEN-HAIR. *Dale*.

The Capillaries, or Maiden-hair, are little Plants that are brought intirely whole to us from ſeveral Parts; the chief and moſt eſteemed are thoſe which come from Canada, and are called *Maiden-hair of Canada*, and by the Botaniſts, *Adianthum album Canadenſe*, or the white Canada Maiden-hair. This grows about a Foot high, with a very ſlender Stalk, hard and blackiſh; from whence there ariſe ſmall Branches, bearing green Leaves, pretty deep indented, as may be ſeen by the Figure. It grows likewiſe in Braſil. This is cultivated with great Care in the King's Garden at Paris, as well as other Sorts of exotic Plants, which are brought from ſeveral Parts of the World, by Meſſieurs Fagon and Tournefort, the King of France's principal Phyſicians.

The other Capillaries that are brought from Canada, are made Uſe of for Syrups, which are boiled to a good Conſiſtence, and have Ambergreeſe added to them. There are many Virtues attributed to this Syrup, eſpecially for Coughs, Catarrhs, Diſeaſes of the Breaſt, and to adminiſter to Infants new born, with a little Oil of ſweet Almonds. As to the Choice of Maiden-hair, you muſt take ſuch as is neweſt, very green, and the leaſt broke that you can get. *Pomet*.

In Canada, Braſil, and ſeveral other Parts of America, there is a Sort of the dried Maidenhair, a great Deal larger than ours, called by C. Bauhine, *Adianthum fruticoſum Braſilianum*, and is the ſame with the Maidenhair of Canada: The Stalk is ſlender, hard, and of a browniſh Red, or purple Colour, tending to black, divided into many Branches, which bear little Leaves, almoſt like the common Sort, long, and indented on one Side, t whole on the other, ſoft, tender and fragrant; this what is moſt valued, as being the beſt ſcented of all e Maiden-hairs. It is common in ſeveral Parts of Ame-a, and eſpecially in Canada; ſo that the Traders pack up eir Goods with it, inſtead of Hay, when they would ſend em to a diſtant Country. It is by this Means we have ſuch uantities of it; but it would be much better if they would ck it up in Papers or Bags, that would preſerve the Scent d Virtue of it. Chuſe ſuch as is freſh, green, well ſcented, hole and ſoft to the Touch. This Plant contains little legm, a good deal of Oil, but not much Salt; it is ctoral, aperitive, and promotes Expectoration, ſweetens the ood, and provokes the Menſes. *Lemery.*

The next Plant, called *Adianthum* by Botaniſts, is the all-Rue, thus diſtinguiſhed.

ADIANTHUM. Maiden-hair.

ADIANTHUM ALBUM, *Ruta muraria*, *Salvia vitæ*, Offic. *lianthum album*, Raii Hiſt. I. 146. Synop. 48. *Adianthum um montanum*, Herm. Hort. Lugd. Bat. 10. *Ruta muraria*, B. 356. Tourn. Inſt. 541. Elem. Bot. 433. J. B. III. 753. hab. 555. Boerh. Ind. A. 26. *Ruta muraria ſive Salvia Vitæ*, rk. 1050. Ger. 983. Emac. 1144. WALL RUE, or RUE AIDEN-HAIR. *Filicula petræa Rutæ facie*, Hiſt. Oxon. iii. 5. *Muraria ſemper virens vulgaris*, Dill. Cat. 73. TRUE HITE MAIDEN-HAIR. *Dale.*

This is a ſmall low Plant, growing ſeldom above two or ee Inches high, its ſlender Stalks being of a whitiſh Colour, hereon grow a few ſmall roundiſh, ſtiff Leaves, reſembling ſe of Rue, crenated a little about the Edges, of a whitiſh een Colour above, covered underneath, when come to its l Growth, with brown duſty Seed. It grows on old Stone alls and Buildings, its little fibrous Root abiding ſeveral ears.

This is one of the five Capillary Herbs mentioned in the *ſpenſatory*, and has the ſame Virtues with the reſt of the aiden-hairs, and is ſometimes uſed in pectoral Decoctions, d diuretic Apozems.

This is the Herb that has been taken for the Hyſſop of Soon. It grows on Walls in hot Countries, and is of wonful Virtue in curing Diſorders of the Breaſt. It taſtes like eet Oil, and cures a ſtinking Breath. Bruiſed with warm ater and Honey, it helps the Aſthma and other Diſtempers the Breaſt; it provokes Urine, expels Gravel, and is good the Aſthma and Pleuriſy. *Boerhaave.*

The third is the *Adianthum nigrum*, Offic. *Adianthum nigrum cinarum*, J. B. iii. 742. Raii Hiſt. i. 152. Synop. 50. *Adihum nigrum vulgare*, Park. 1049. *Adiantum foliis longioribus verulentis, pediculo nigro*, C. B. 355. Hiſt. Oxon. iii. 588. erh. Ind. A. 26. *Onopteris mas*, Ger. 975. Emac. 1137. *icula quæ Adiantum nigrum Officinarum*, El. Bot. 432. *Filicula Adiantum nigrum Officinarum, pinnulis obtuſioribus & acutibus*, T. Inſt. 542. Buxb. 113. COMMON BLACK MAIDEN-IR.

This Maiden-hair grows about a Span high, its ſlender Stalks ng ſmooth and black, divided into many Segments, of ſmall, n, ſhining, green Leaves, notched pretty deep, and ſharp nted, growing on little Branches, ſometimes two oppoſite ether, and ſometimes alternately to the Number of twelve fourteen Pair, the Top ending like a Fern; the Backs of the aves have the Margin covered with a brown duſty Seed. e Root is pretty large and fibrous.

It grows in ſhady Lanes, and at the Roots of Trees.

This alſo is one of the five capillary Herbs, and its Virtues ſame wirh common Maiden-hair; and is accordingly uſed Coughs, and all Affections of the Lungs, and Diſeaſes of Kidneys; ſome commend it for the Jaundice.

The fourth is the *Adianthum aureum*, & *Polytrichum aureum*, fic. *Adianthum aureum majus*, Raii Hiſt. i. 123. Synop. 28. t. Angl. vii. 123. *Polytrichum aureum majus*, C. B. 356. k. 1051. *Polyt. Apuleü*, & *majus quibuſdam*, J. B. iii. 760, *lytrichum Apuleü majus*, Chab. 558. *Polytrichum vulgare & jus capſula quadrangulari*, Dill. Cat. 221. *Muſcus ſaxatilis*, *ſylveſtris Trago*, El. Bot. 439. *Muſcus capillaceus major*, *iculo & capitulo craſſioribus*, T. Inſt. 550. Bux. 219. *Aureus illaris medius*, Herm. Hort. Lugd. Bat. 431. *Muſcus corona-major pileolo villoſo aureo*, Hiſt. Oxon. iii. 630. Boerh. Ind. 21. *Muſcus capillaris, ſeu Adianthum aureum*, Ger. 1371. *uſcus capillaris, ſeu Adianthum aureum majus*, Ger. Emac. 59. GOLDEN MAIDEN-HAIR. *Dale.*

This is a large kind of Moſs, with a Stalk three or four hes high, whoſe lower Part is wholly covered with ſmall, rt, hard and ſtiff brown Leaves; the upper Part is quite e to the Top, on which grows a long roundiſh Head, or d-veſſel, covered with a woolly, ſharp-pointed, reddiſh low Cap, which falls off as the Head grows ripe; the Root mall and ſtringy. It grows in heathy, barren and boggy ound, and frequently on old Ant-hills.

This is one of the five capillary Herbs, though it is but ely uſed. Some Authors attribute as much Virtue to this, to the former Maiden-hairs; beſides which, it is ſaid to be very good to prevent the falling of the Hair, and to make it grow thick, being boiled in Water or Lye, and the Head waſhed with it. Dale ſays the Decoction is commended for the Pleuriſy. *Miller.*

ADIAPHOROS. Ἀδιάφορος. From α Negative, and διαφέρω, to differ. Indifferent, or without Difference. *Conſtantine.*

It is ſometimes applied to Foods.

ADIAPNEUSTIA. Ἀδιαπνευστία. From α Negative, and διαπνέω, to perſpire. It is a Symptom ariſing from the Denſity of the Pores, when Perſpiration is deficient. It is mentioned by Galen. *lib.* xi. *Meth. Med. Gorræus.*

It ſignifies nothing more than a Stoppage of Perſpiration, the Cauſe or Conſequence of all Diſtempers, whether acute or chronical.

ADIAPTOTOS. Ἀδιάπτωτος. From α Negative, and διαπίπτω, to ſtumble, or ſlide. The Word ſignifies firm; but in Medicine it is the Name of a Remedy againſt the Colic, which Galen, *lib.* ix. τῶν κατὰ τόπους, ſays conſiſts of theſe Ingredients, *viz.* Stone Parſley, the Seed of Henbane, white Pepper, of each forty Drams; Juice of Poppies twenty Drams; Saffron ſix Drams; Opobalſamum three Drams; made into an Electuary. It ſeems to take its Name from its prevailing Virtue in all Inflammations. *Gorræus.*

ADIARRHŒA. Ἀδιαῤῥοία. From α Negative, and διαῤῥέω, *perfluo*, to flow out, or through. It ſignifies an intire Suppreſſion of all the neceſſary Evacuations of the Body, and Retention of the Humours which ought to be diſcharged. *Foeſius.*

ADIB. A Beaſt mentioned by Avicenna, which Caſtellus takes for the Wolf.

ADIBAT. Mercury, in the Alchymiſtical Jargon. *Rulandus. Johnſon.*

ADIBISI, or ADIBIZI. *Teſtudo*, a Tortoiſe. The German Word which Rulandus explains it by, ſignifies a *Snail. Rulandus.*

ADIDACUS. Rulandus calls this ADIDE ALARCHOS; ADIDA LARCHOS, *id eſt*, CALCECUMENON. Johnſon, the literal Tranſcriber of Rulandus, and Caſtellus, have both prudently omitted taking notice of this Word, and many more of the moſt difficult, becauſe I ſuppoſe they could not explain them. As I have not met with the Word in any Author, except Rulandus, I can only explain it in his Words, which I confeſs I do not know what to make of.

ADJECTIO. The ſame as ADDITIO, the adding of any thing that is deficient. *Caſtellus.*

ADICE. Ἀδίκη. The Nettle is ſometimes called by this Name. *Gorræus.*

ADIPSATHEON. This is, according to Pliny, a thorny Shrub, growing in the Iſlands of Nigros, and Rhodes. *Pliny, l.* xxiv. *c.* 13.

ADIPOSA MEMBRANA. See CELLULOSA MEMBRANA and ADEPS.

ADIPSON. Ἄδιψον. From α Negative, and δίψα Thirſt.

Hippocrates, in his Treatiſe *de Ratione Victus in Acutis*, ſays the Ptiſſana, by its Glutinouſneſs, is (ἄδιψον) Adipſon, that is, a Preventer, or Curer of Thirſt; and in this Treatiſe he applies the ſame Word to Oxymel, meaning that it quenches Thirſt.

Medicines were ſo called, becauſe they prevented or allayed Thirſt, whether drank, or in a Linctus, or Gargariſm; and the Name may be applied even to ſuch Medicines as ſimply do not provoke Thirſt. Now becauſe Dryneſs is the principal Cauſe of Thirſt, it is plain that what quenches Thirſt muſt be moiſt; and if it be cold beſides, it is by ſo much the more effectual; for Coldneſs preſerves the Moiſture, which Heat would conſume. However many hot things are effectual in allaying Thirſt, as Liquorice and Pepper in ſome, if held in the Mouth; the firſt becauſe of its moiſt and clammy Juice, the other by its drawing Phlegm from the Head into the Mouth and Jaws. Of the ſame Virtue are cooling Potions and Eclegms, many of which are deſcribed by Galen, *lib.* τῶν κατὰ τόπους.

ADIPSOS. Ἄδιψος. The Egyptian Palm. It is a great Tree, not ſtreight but wreathed, green, ſmelling like a Quince-tree, with a Leaf like Myrtle, Fruit like Capers, not good to eat, but of a pleaſant Smell, not at all ligneous. The Fruit, a little before it is ripe, is called μυροβάλανος [a Myrobalon] when ripe and blackiſh φοινικοβάλανος. Theophraſtus calls this Tree βάλανος, that is, *Maſt*, from its Fruit; but it is called ἄδιψος, becauſe its Fruit, gathered before it is ripe, and taſted, reſtrains Thirſt; or becauſe, as Solinus relates, a Drink is made of its cool, ſour and aſtringent Juice, which quenches like what is made of our Pears, Apples, and the Fruit of the Service-tree.

ADIPSOS is alſo Liquorice; ſo called by Theophraſtus, Dioſcorides and Pliny, becauſe with the ſweet and clammy Juice of its Root it ſatisfies both Hunger and Thirſt. Wherefore it was often given to hydropical Perſons to prevent their Thirſt.

ADIPSOS is alſo the Name of a Catapotium, or Pill, compoſed by Aſclepiades as follows:

Take of the Seeds of Garden Cucumber and Purſlane, each eight Drams, Gum-Tragacanth three Drams; diſſolve the Tragacanth in the Whites of new-laid Eggs, and add it to the other Ingredients, which muſt be finely powdered, and all mixed together, and made up in the Form of Pills. Dry them in the Shade, and let the Patient hold one of them under his Tongue, and ſuck up the Liquor that comes from it. Galen mentions it, *lib.* viii. τῶν καλὰ τόπους. *Gorræus.*

ADIRIGE. Rulandus explains this by Armoniacum. I ſuppoſe he means the Salt, that being of more general chymical Uſe than the Gum Ammoniacum, is frequently called by Miſtake Armoniacum.

ADJUTORIUM. The Bone of the Arm, called uſually the Humerus. *Caſtellus, from Johannes Anglicus, and Veſalius.*

Adjutorium alſo ſometimes ſignifies a topical or external Remedy, applied to a Part affected, in Aid of internal Medicines. *Caſtellus from Theodorus Priſcianus.*

ADJUVANTIA. Medicines are ſo called, which aid and aſſiſt Nature in the Cure of Diſtempers.

ADIYLISTOS. Ἀδιύλιςος. From α Negative, and διϋλίζω, to ſtrain, or defecate. Wine not fined clear from the Dregs, or not paſſed through the Strainer, which was the uſual Method of managing ſuch Wines as were kept in order to improve their Taſte; and was ſometimes practiſed on others to lower their Strength, and make them milder and fitter for drinking. *Gorræus.*

ADMIRABILIS. An hyperbolical Epithet given by many of the Chymiſts to particular Preparations of their Invention. It is generally applied to factitious medicinal Stones, of which there are many. Lemery ſays, that which he deſcribes is by much the beſt.

Powder and mix together of white Vitriol eighteen Ounces, of fine Sugar and Nitre each nine Ounces; of Alum two Ounces; of Sal Ammoniac ſix Drams; of Camphire half an Ounce. Put this Mixture into a glazed earthen Pot, moiſten it to the Conſiſtence of Honey with the Pickle of Olives. Put the Pot over a gentle Fire, and dry the Mixture leiſurely till it acquires the Conſiſtence of a Stone. Keep it cloſe covered, becauſe it otherwiſe readily attracts Moiſture from the Air.

This Stone is deterſive, vulnerary, and aſtringent. It reſiſts Gangrenes, ſtops Hæmorrhages, either dry or diſſolved; it is uſed in Collyria for Cataracts of the Eyes, is applied to ſcorbutic Ulcers, and is an Ingredient in Injections for Gonorrhœas.

Great Care muſt be taken, during the Operation, to moderate the Fire, otherwiſe the Camphire, by Reaſon of its Volatility, exhales. But with all the Care that can be taken, a great Part of the Camphire will be diſſipated; for which Reaſon a little Camphire may be added to it when it is uſed. *Lemery Cours de Chymie.*

Caſtellus quotes a Lapis Admirabilis from Junken.

ADMISURAB. Earth. *Rulandus.*

ADNATA TUNICA. A Coat of the Eye, called alſo Conjunctiva, and Albuginea. It is that which makes the White of the Eye. It is formed by the tendinous Expanſions of the Muſcles which move the Eye. This Coat covers the whole Ball of the Eye, except the Fore-part, which is called the Sight, but is not numbered amongſt the proper Tunicks of the Eye. It is extremely ſenſible and abounds with Veins and Arteries, which are very viſible in Inflammations of the Eyes. *Winſlow, Drake, Keil.*

It covers ſo much of the Eye as is called the White, and being reflected all round, it lines the two Eye-lids; it being thus returned from the Eye to the Inſide of the Eye-lids, it effectually hinders any extraneous Bodies from getting behind the Eye into the Orbit, and ſmooths the Parts it covers, which makes the Friction leſs betwixt the Eye and the Eye-lids. *Cheſelden.*

ADNATA, or Adnascentia, are thoſe Off-ſets, which, by a new Germination under the Earth, proceed from the Lilly, Hyacinth, Narciſſus, *&c.* which afterwards grow to true Roots; which the French call *Cayeux. Miller.*

Adnata alſo ſignifies things that grow upon animal or vegetable Bodies, which are either inſeparable from them, as Wool, Hair, Horns, and Fruits; or elſe accidental, as Funguſſes, Miſleto, and Excreſcences. *Galen.*

It is ſometimes ſpelt Agnata.

Adoc. Milk. *Rulandus.*

ADOLESCENS. The Iron Bars that ſupport the Fire in a Grate, or Furnace. This is the Signification of the German Word, by which Rulandus explains it; but I do not know by what Analogy Iron Bars are ſo called. The German Word is Grender, which will bear another Signification. Paracelſus, amongſt other Extravagances, had an Inclination to produce a Man without the Aſſiſtance of a Female, probably with a View of rendering that Sex uſeleſs, for which he had no great Complaiſance. His Diſciples ſay he actually did produce ſomethi in the Shape of a little Man, by digeſting Semen Maſculinu incloſed in a Glaſs Veſſel in a Dunghil. This Production w called the Homunculus of Paracelſus, which Senſe the German Word will bear, and this anſwers better to Adolescens.

ADONION. Ἀδώνιον. Gorræus ſays this was a Species o Southernwood, which uſed to be ſet in Pots, and ſerved as a Ornament for Gardens.

ADONIS FLOS. Pheaſants-eye. Red Maithes.

The Characters are,

The Leaves are like Fennel, or Chamomile; the Flowe conſiſt of many Leaves, which are expanded in Form of a Roſe. The Seeds are collected into oblong Heads.

There are three Varieties of this Plant.

1. Adonis *hortenſis Flore minore atrorubente.* C. B. Th common red Birds-eye. *Miller.*

This, Gerard ſays, is called, by the Herb-women in Londo *Roſe a Ruby.*

The Seed is thought to be good againſt the Stone. Th Powder of the Seeds ſtamped given in Wine, wonderfully he the Colic. *Gerard.*

The Flowers infuſed in Wine and drank, are found Experience to relieve the Colic. *Ray from Parkinſon.*

2. Adonis *ſylveſtris, Flore luteo, Foliis longioribus.* Th long-leaved yellow Birds-eye. *Miller.*

This, Ray ſays, only differs from the former in the Colour the Flower.

3. Adonis *Hellebori Radice, Buphthalmi Flore.* The He lebore-rooted Pheaſants-eye, commonly called the Fenn leaved black Hellebore.

This is uſed by the Germans in Medicine as the true He lebore. *Miller.*

ADOR. A Sort of Corn called alſo Spelta, and Ze See Spelta and Zea.

ADORAT. The Weight of four Pounds. *Rulandus.*

ADOS. Water wherein Iron has been extinguiſhed. R *landus.*

ADPLUMBATUM. This is a Word uſed no where, th I know of, except by Scribonius Largus, 271. He directs Sort of Acopum, there deſcribed, to be put into a Tin Ve diligently covered, and *(adplumbato)* ſoldered with Lead. I ſup poſe he means. Cato, in giving Directions for making Olive Mill, or Preſs, uſes the Word *circumplumbato* in m the ſame Senſe.

ADRA RIZA. Blancard ſays the Root of the Ariſto chia is thus called. I meet with the Word in no oth Author.

ADRACHNE. The Strawberry Bay. It is thus diſti guiſhed by Authors.

Adrachne *Officinarum*, Park. Theat. 1490. Raii Hiſt. 1577. *Adrachne Theophraſti*, Ger. Emac. 1602. J. B. 87. *drachne Theophraſti, Arbuto, ſeu Cemaro, proxime acc* Chab 4. *Arbutus Folio non Serrato*, C. B. Pin. 460. Pluk. mag. 49. Jonſ. Dendr. 65. Tourn. Cor. 41. *Arbutus Dioſco dis vera Cometa dicta*, Wheel. Itin. 452. *The* Strawbe Bay. *Dale p.* 312.

It grows plentifully in the Iſland of Candy, on the Hills Leuce, and in other Places among the Rocks, more lik Shrub than a Tree. It is an Ever-green, and its Leaves ſo much like Bay-leaves, that they are not to be diſtingui but by holding them to your Noſe; for the Leaf of the *drachne* has no Smell at all. The Bark of the Stem and all Branches is ſo ſmooth, red, and ſhining, that they look Branches of Coral. The Bark cleaves in Summer, and off in very thin Chips; at which time it loſes its fine red ſhining Colour, and takes up with a Sort of Medium betw a pale and an Aſh Colour. It flowers and bears Fruit twice the Year, as does the Arbutus Straw-berry-tree, and th Fruits are ſo alike, that there is no Way of diſtinguiſhing th But this Tree differs from the Arbutus Strawberry-tree, in th grows only on Hills, nor has the ſerrated Leaf, nor the B of its Stem ragged. The Wood of the Tree is extremely h brittle, and inflexible.

It ſerves the Peaſants for Fuel, and the Women for Wh to their Diſtaffs.

Theophraſtus reckons this Tree among ſuch as are not ki by ſtripping them of their Bark, and are always green, pre ing the Leaves on their Tops in Winter.

This Tree, in Crete, and all over Greece, is called Ἀδ Adracla. *Bellus.*

Bellonius obſerved theſe Trees in many Places of his Tra particularly in his Journey from Aleppo to Antioch, upon Hills, but robbed of all their Fruit by his Fellow-travellers eat on the Road; for it was ripe, and of a very inviting lour. It grew in Cluſters, and was of the Bigneſs and Co of a Raſberry.

None who have read the Account of this Tree in Theoph can doubt that the Tree thus deſcribed by Bellus was the

dra

chne of that ancient Author, which is confirmed by the Name αχλὰ, *Adracla*, by which the modern Greeks call it.

Αδράχνη, *Adracne*, differs from Ανδράχνη, *Andracne*, as Pliny uld have us obſerve; for the latter is an Herb, by the Latins led *Portulaca* [Purſlane] the other a Tree.

Mr. Wheeler obſerved this Tree in Achaia, near the Pente- an Hills, and ſaw ſome of the Fruit at Smyrna. *Ray*.

ADRAM. Sal Gemmæ. *Rulandus*.

ADRARAGI. Garden Saffron. Called alſo ALFAR, AFAN. *landus*.

ADRARIGES. Green Ink. *Rulandus*.

ADRIANUS. We learn from Aurelius Victor, that the peror Adrian had ſome Knowledge in Phyſic. This Cir- nſtance is of too much Importance for the Honour of the Pro- ion to be omitted; though, upon the whole, the Art rather than got Reputation by this Prince, who died, as it is ſaid, ch out of Humour with Phyſic and Phyſicians, becauſe he ld not be cured of an habitual Hæmorrhage, which at laſt ught on a Dropſy, which occaſioned him to kill himſelf, order to avoid a lingering Death.

The Antidote which bears his Name has been ſaid to be his ention. It is thus prepared:

Take of Pepper, and Seed of white Henbane, each twenty Drams; of Opium ten Drams; of Saffron five Drams; of Spikenard, Euphorbium, Amomum, Pellitory of Spain, Cyperus, Cardamom, Malabathrum, or Indian Leaf, dried Leaves of Rue, Caſſia, Caſtor, Seeds of Daucus, Myrrh, Parſley, of each one Dram; of dried Roſes, and Seeds of Smallage, each a Dram and half; of Ginger, and Opobalſamum, each two Drams; Honey enough to make it into an Electuary.

The greateſt Doſe is the Quantity of a Haſel-nut, the leaſt of an Egyptian Bean. It is good for the Colic, taken in warm ter before Sleep; for Infirmities of the Stomach, and thoſe cannot retain their Food; it is given in Poſca, [Vinegar, Water]; for the Strangury, in warm Water; for ſpitting Blood, in Poſca; for the Dyſentery, reduce it into Pills, and the Patient take a little warm Poſca after them. To con- ptive People give it at Night in Hydromel; for a dry gh take it in a Linctus with Honey; for the Bites of Spi- and Vipers, in Mulſum [Wine boiled with Honey]. It vokes the Menſes, taken in Mulſum in which Penyroyal, or amint, or Rue hath been boiled. *Aetius Tetr.* 4. *Serm.* i. 108.

ADROP. Rulandus does not give much Information in Explication of this Word, which he calls AZAR, LAPIS E, AZANE.

Ripley calls it UZIFUR, or PLUMBUM RUBEUM. *Thea- n Chym.* Vol. ii. p. 114. By this he means the Mixture the Philoſophers-Stone, or the Subſtance whence that is to procured, as appears by a parallel Paſſage of an anonymous thor in the ſame Collection, Vol iv. p. 474. Caſtellus is taken when he explains it Lead; for Lead, in the alchymiſtical ſe, is Antimony, as the Luna Philoſophorum is the Regulus Antimony; and thus *Adrop* is to be underſtood in David gneus, *Theatrum Chymicum*, Vol. iv. p. 726, who, from Ar- dus, interprets *Adrop*, Saturnus, that is, Antimony, the trix of the Philoſophers-Stone.

ADROBOLON. Ἀδρίϐωλον. From ἁδρὸς large, and βῶλος, a ebe, Bole, or Maſs. The Indian Bdellium, which is a coarſer t than the Arabian, being impure, black, and in larger mps. *Conſtantine*, *Gorræus*.

ADROS. Ἀδρός. Plump, of a good Habit, adult; in this Senſe it is uſed by Hippocrates, *Lib. de Genitura*. Hence ς, plentifully, mentioned by the ſame Author, ſpeaking of ging melancholy Patients.

ADROS is alſo applied to the Pulſe, when it is ample and , and the Artery is greatly diſtended in all its Dimenſions. *rræus*.

ADSAMAR. Urine. *Rulandus*.

ADSELLARE. This Word is peculiar to Vegetius; for o not know that it is uſed by any other Author. It ſignifies rally to go to ſtool. He mentions it *l.* iii. *c.* 45, and in ne other Places.

Caſtellus quotes it from the *Rei Ruſticæ Scriptores*.

ADSTRICTIO. ADSTRICTION. It either ſignifies the tention of any natural Evacuation by the Rigidity of the re- ctive Emiſſaries, and is uſually in this Senſe applied to the res of the Skin, and inteſtinal Excretion, or is uſed to expreſs ſtyptic Quality of Medicines.

ADSTRINGENS. ASTRINGENT. Styptic. See STYPTICA.

ADULTERATIO. Adulteration of Medicines, or coun- feiting thoſe which are genuine by ſomething like them in pearance, though not in Efficacy. This has been complained in all Ages; but is at preſent become a Trade ſo common, t unleſs the Legiſlature finds ſome effectual Method of tting an End to it, half Mankind will be deſtroyed, and the feſſion of Phyſic rendered utterly uſeleſs; for Phyſicians may ſcribe with great Judgment, and Apothecaries may adminiſter with an equal Degree of Honeſty, and yet the Abilities of one, and Diligence of the other, will be rendered even prejudicial to the Patient, if the Medicine, deſigned as a Relief, is ſo artfully adulterated as not to be diſcovered unleſs by the Effects, which I know is too often the Caſe.

I am ſenſible that no good Effect upon thoſe who are guilty of Adulterations can be expected from any thing I may ſay; for they who can reconcile themſelves to Robbery and Murder, which is the Conſequence of Adulteration in a heinous Degree, are too abandoned to be reaſoned out of their Iniquity.

In the Courſe of this Work, I ſhall do all in my Power to diſcover theſe egregious Cheats, by laying open the uſual Methods of Adulteration, and ſpecifying the Marks of genuine Medicines, and the Ways of knowing thoſe that are counterfeit.

ADULTERIUM. Paracelſus, in his enthuſiaſtical Way, has made a figurative Marriage betwixt the ſenſitive Soul, which he treats as the Huſband, and the Body, which, in his Senſe, is the Wife. Hence he calls overloading the Body with Aliment by the Inſtigation of the Appetite, ADULTERY.

ADUSTIO. BURNING. Avicenna, in his Epiſtle to Haſen, *Theatr. Chym. p.* 869, explains *Aduſtio* with the uſual Obſcurity of the Alchymiſts. *Aduſtio autem eſt quando commiſcetur, aut aduritur, aut corrumpitur Humiditas ſubſtantialis rei.* Caſtellus has taken no Care to render it more intelligible.

ADUSTION, otherwiſe called SIRIASIS, is an Inflammation of the Parts about the Brain and its Membranes, attended with Hollowneſs of the Sinciput [Top of the Head] and Eyes, a pale Colour, and Dryneſs of the Body.

The Remedy is the Yolk of an Egg, with Oil of Roſes, laid on the Forehead, in Form of a Liniment, for the Conveniency of often changing. *Oribaſius Synop. lib.* v. *cap.* 13.

Apply the Leaves of Turnſole, called *Scorpiurus*, (becauſe it twiſts its Branches and Flowers like a Scorpion's Tail) to the Forehead; or the Paring of a Gourd, or the Skin that ſurrounds the Pulp of a Pumpion, or the Juice of Garden Nightſhade, with Oil of Roſes. *P. Ægineta, lib.* i. *cap.* 13.

ADYNAMIA. Ἀδυναμία. From α Negative, and δύναμις, Strength, or Force. Weakneſs, or Impotence from Sickneſs. See ADUNATOS.

ADYNAMON. Of the ſame Derivation as the former. A Sort of factitious Wine, made by putting to two Gallons and a half of Muſt half as much Water, and boiling it to the Conſumption of the Quantity equal to the Water. It is made for ſick Perſons, for whom pure Wine would be too ſtrong; for it is weak and of no Force, whence it takes its Name. But Dioſcorides preſcribes an equal Quantity of Wine and Water, to boil till all the Water be boiled away, and when it is cold, to tun it up in a Veſſel well pitched. *Gorræus*.

ADY. The Palm-tree of the Iſland of St. Thomas. It is a very tall Tree, exceeding even the Pine in Height, with a thick, bare, upright Stem, growing ſingle on its Root, of a thin, light Timber, and full of Juice; its Leaves like thoſe of the cocciferous Palm-tree. Its Head ſhoots forth into a vaſt Number of Branches, which being cut off, or an Inciſion made therein, they hang up a proper Veſſel to receive the Tears or Juice that diſtil from the Wound; and this ſupplies the Place of Wine among the Indians, and eaſily intoxicates. It is ſweet when new, but ſour in a few Days; nor do the reſt of the Branches which eſcape unhurt ever fail of bearing Fruit. The Inhabitants of this Iſland do not cut the Buds of this Tree, as the Indians do thoſe of the cocciferous Palm-tree.

The intire Fruit is called by the Portugueſe, *Caryoces*, and *Carioſſe*; and by the black Natives, *Abanga*. Its outer Rind is yellow, under which is a yellowiſh Pulp, and after that a hard blackiſh Stone, which contains a black Kernel, that is good to eat, and peeled of its Skin, is white. The Fruit intire is of the Size and Shape of a Lemon. They eat it roaſted, and frequently at their Tables mix the whole raw Kernels with Mandioc Meal. They believe theſe Kernels to be of wonderful Virtue in reſtoring Strength to thoſe who pine under a Diſtemper, and give their Patients three or four of them twice or thrice a Day, to comfort their Hearts. Beſides this, they make an Oil out of the Fruit, thus: They take the Pulp off the Stone, and mix it with a good Quantity of very hot Water, and afterwards ſet it over the Fire to boil a conſiderable time, carefully ſtirring it; then it is taken off, and ſuffered to ſtand till all the Dregs ſettle at the Bottom, after which, with a Ladle they take off the Oil that ſwims on the Water. This done, they repeat the Operation, by adding more hot Water. The Oil is of the Colour of Saffron, concretes with Cold, but is otherwiſe liquid, eatable, and ſerves the Inhabitants for the ſame Purpoſes that Oil of Olives, or Butter, does the Natives of our Climate; though, to ſpeak the Truth, it is inferior to either of them, both in Smell and Taſte.

This Oil is in common Uſe with the Inhabitants for anointing thoſe Parts of the Body which are ſtiff and contracted; and they ſay it is of ſingular Efficacy in relaxing rigid Tendons. They anoint the whole Body with it alſo after Exerciſe and Wearineſs

Wearineſs with Labour. By Exerciſe, ſay they, the ſimilar Parts of the Body exhale and are dried up, which ill Effects are prevented by a ſlight rubbing with this Oil. In ſhort, it is their Acopon, and a noble Remedy, they ſay, againſt Laſſitudes. *Ray's Hiſtory of Plants.*

ADYNATOS. Ἀδύνατος. Its Derivation is the ſame as ADYNAMIA, and ADYNAMON. In Hippocrates it ſignifies Weak, Feeble, or Impotent, and this Weakneſs is ſaid to be a very bad Symptom, when it occurs in Diſeaſes, where no Evacuation has happened ſufficient to account for it. When it is attended with frequent Stools, Laſſitude, Pain in the Head, Thirſt, Want of Reſt, and the Patient mutters obſcurely, ſo as not to be underſtood, it is a Sign of an approaching Delirium. *Prædict. l.* i. *Coac. Prænot.*

AEAZO. Ἀιάζω. To lament, complain, exclaim, or groan. *Foeſ. Caſtellus, from Hippocrates.*

AEDES. Ἀηδὴς. From α Negative, and ἡδὺς, Sweet. Unpleaſant, Diſagreeable. It is ſometimes applied to Aliments.

AEDOIA. Ἀιδοῖα. From αἰδὼς, Modeſty. The ſame as PUDENDA, by which is meant the Parts ſubſervient to Generation in both Sexes.

ÆGAGROPILA. From αἴγαγρος, the Rupicapra, or Rock-Goat, Chæmois, or Gems, and πῖλος, a Ball. Velſchius wrote a Treatiſe on the Virtues of this. It is a little Ball found in the Stomach of Does and Goats in Germany, which ſome have pretended to be formed by the Doronicum, or Leopards Bane, on which theſe Animals feed; but it is now certain that it conſiſts only of Hairs, which they ſwallow; and the like Balls are found in the Stomachs of Cows, Hogs, Boars, *&c.* and conſequently are of no medicinal Virtue; though, from the falſe Opinion concerning their Original, ſome have celebrated them in Looſeneſſes, Hæmorrhages, *&c.* becauſe of the Plants from whence they conceived them to be formed. They have likewiſe been recommended in a Vertigo, becauſe the Goats which produce them climb very ſteep Rocks without being giddy. *Geoffroy.*

ÆGEIRINON. Ἀιγείρινον. From αἴγειρος, a Poplar. An Ointment ſo called, becauſe the Catkins, or Fruit of the Poplar is one of the principal Ingredients in it. It is made after the following Manner:

> In the Spring Seaſon, when the Seeds of the Black Poplar have moſt Reſin about them, bruiſe them, and put four Ounces of them into a Pint of ſweet Oil; let it digeſt forty Days in the Sun, or boil three Hours in a double Veſſel *(a Circulatory I ſuppoſe)* and afterwards be ſtrained. *Paulus Ægineta, l.* vii. *c.* 20.

AEGEIROS. Ἄιγειρος. The Poplar. Hippocrates recommends nine Grains of the Cretan Poplar to be taken bruiſed in black Wine, as a Medicine to promote the Expulſion of the Fœtus. Foeſius interprets it the Black Poplar. See POPULUS.

ÆGIDES. αἰγίδης. A Diſorder of the Eyes. It is mentioned by Hippocrates, *(Prædict. l.* ii.) where, in the Opinion of Foeſius, it ſignifies ſmall white Cicatrices in the Eye, cauſed by an Afflux of corroſive Humours upon the Part. But he interprets the ſame Word in a different Manner in his Commentary on the Paſſage where it again occurs *(Coac. Prænot.* 218). Here, he ſays, it ſignifies ſmall white Concretions of Humours, which ſtick upon the Pupil, and obſcure the Sight. Caſtellus blames Foeſius for calling one of theſe Cicatrices or Concretions αἰγὸς, which, he ſays, ſhould be wrote αἰγιὰς; but it is not certain that this Correction is right; nor do I ſee any Reaſon to think the Word ſhould be taken in different Senſes in the two Paſſages quoted above. Criſpinus interprets αἰγιὰς a white Membrane or Cicatrix in the Eyes. In Inflammations of the Eyes, where there is a conſiderable Afflux of Humours to the Part, we frequently obſerve little white Specks to ariſe upon the Pupil, which ſometimes increaſe ſo much as to become a Film. Theſe always diſappear ſpontaneouſly, as the Inflammation is reſolved, and the Humours diverted another Way. But if ſharp painful Powders, or Collyria are applied, they are frequently ſo hardened and fixed, as not to be removed afterwards by any Means whatever.

Theſe ſeem to be what are meant by Ægides.

ÆGIDION. Ἀιγίδιον. From αἰγιὰς, or αἰγίς. The Name of a Collyrium deſcribed by Aetius againſt Defluxions or Inflammations of the Eyes. *Aetius.*

ÆGILOPS. Ἀιγίλωψ. The *Cerrus Mas majore Glande* (Park.) is called thus. Gerard mentions it under the Name of *Cerris majore Glande.* HOLME OAK, with GREAT ACORNS.

It is the *Quercus Calyce echinato, Glande majore αἰγίλωψ Idæorum, Aſpris Maurorum, Cerrus Latinorum* of Caſp. Bauhine. J. Bauh. thinks it the Aſpris of Theophraſtus.

We ſaw the Cups of the Acorns of this Tree at Venice, where they are called Vallonia, taking the Name from Apollonia, a City of Dalmatia, now called Vallonia, whence they are brought. They uſe them for the ſame Purpoſes as we do the Bark of Oak, namely, to dreſs Leather.

The Cup of this Acorn, which was brought from Cape d' Iſtria by Valerand Dourez, is thus deſcribed by J. Bauhine:

Its Cavity was an Inch and a half in Diameter, and ſomewhat leſs in Depth. The Cup itſelf was ſurrounded with a Multitude of thick ſtiff Prickles, ſomewhat reſembling the Fragment of a craggy Rock. It was not leſs than three Inches in Diameter, and was hairy on the Inſide; its Scales were broad, and of a white Aſh Colour. Whether the Tree was ever deſcribed I cannot tell; for thoſe found on the Road from Peſaro to Rome, deſcribed by Lobel, I ſuppoſe to be the ſame with thoſe we ſaw about the Lake of Bolſena; but theſe Corri had ſmaller, ſmoother, and leſs prickly Caps.

Nor does that ſeem to be any other, whoſe Branches were ſent to Bauhine by Dalechampius. It had the Leaves of the common Oak, only longer, and more finely and deeply jagged, the upper Face ſhining, the under of an aſh Colour. The Fruit ſticks cloſe to the Wood, and the Cups of the Acorns were prickly and thorny, an Inch in Breadth, but the Acorn was not yet ripe, and the Cups were in every Reſpect like the prickly Cup of the Oak of Burgundy.

The Leaves of the Cerrus obſerved by us about the Lake of Bolſena in Tuſcany were exactly ſuch as Bauhine here deſcribes; but the Cups of the Acorns were different from thoſe of the Cerrus, which are called Vallonia.

The Uſe of the Cups is to die Woollen Cloth black inſtead of Galls; but they give a fainter Colour, and not ſo laſting or valuable. *Ray's Hiſtory of Plants.*

There are ſome other Vegetables called by the Name of *Ægilops*, as the

Feſtuca Avenacea ſterilis elatior, C. B. *Bromos herba ſive Avena ſterilis*, Park. *Bromos ſterilis*, Ger. *Ægilops Matthioli*, J. B. GREAT WILD OAT-GRASS, or DRANK.

The Roots are full of ſmall Fibres, and entangled one with another; the Stalks riſe ſeveral from one Root, a Cubit high or more, ſlender and divided by ſeveral Joints or Knots, often five, each Stalk bears a Panicle divided many Ways, little B[illegible] of which hanging by long and ſlender Filaments, and compacted of ſeveral huſky Subſtances laid one upon another, put on the Appearance of a ſmall Ear, not much unlike the huſky Heads of Oats, with a long ſoft Beard, ſometimes of a purple Colour. The Leaves are of a moderate Breadth, rough and hairy at the Edges. When the Plant turns to Straws, the Root withers.

It grows by Hedges, Paths, and the Sides of Fields, in the Month of May.

The Root boiled in white Wine, and the Decoction drank for ſome Days together, is commended by Tragus as a ſingular Remedy for the Worms in Children. *Ray.*

Dioſcorides gives the following Account of it:

The *Ægilops* is a ſmall Plant, with Leaves like thoſe of Wheat, but ſofter, and producing its Seed at the very Top, which are two or three in Number, of a red Colour, and incloſed in bearded Huſks.

The Herb applied with Meal, by Way of Cataplaſm, cures the *Ægilops*, and diſcuſſes Hardneſſes. Meal wet with the Juice, and afterwards dried, is kept for the ſaid Purpoſe. *Dioſcorides, l.* iv. *c.* 139.

The ſecond Sort of *Ægilops* is the

Feſtuca longiſſimis ariſtis, C. B. *Ægilops bromoides*, Tab. Ger. BEARDED WILD OATS.

It ſhoots forth many ſmall, narrow, oblong Leaves, diſtinguiſhed by ſeveral fine Curls, among which ariſe three or four ſlender Stalks, a Foot high, bearing Oaten Ears, with empty Huſks, of a ſpadiceous [bright bay] Colour, and armed with a very long Beard, which proceeding from leafy Huſks, leans [illegible] on one Side.

We obſerved this Species more than once in Germany. Tabernamantanus took notice of it between Worms and Frankendale. Its ſlender Beard is often turned in the Manner of Curls.

The third Sort is the

Ægilops Narbonenſis, Lob. *Feſtuca ſive Ægilops Narbonenſis*, Park. *Feſtuca Italica*, Ger. *Gramen Feſtuca* xiv. *ſive Feſtuca altera capitulis duris*, C. B. HAVER GRASS.

It has a little white and fibrous Root, which ſhoots forth ſome ſlender Stalks, about a Foot high. It has but few Leaves, and thoſe beſt reſembling the Leaves of Wheat and Barley; but ſofter and ſmoother, and hairy round the Edges. At the Top of the Stalk come forth ſmall Ears, proceeding from two or three hard Heads, and conſiſting of ſome ſtriated Huſks, that contain the Seed, which is like Barley, only ſomewhat ſmaller and broader, and three in Number, immediately under the Covert of an inner chaffy Huſk. From the Huſks, and not from the Seed, comes forth a fine, ſharp, oblong, white Beard.

It is very common in Sicily, Italy and Languedoc, and Provence in France, in hot and ſandy Soils, and in Fields among Wheat and Barley *(Lob. C. B.)*. Cultivated in Gardens, it grows higher and bigger, the Ears conſiſting of five or [illegible] Heads. In Sicily there is a white and a black Species, [illegible] the Beard is more raiſed. *Cæſ. We obſerved no ſuch Difference.*

Ve have, more than once, had Experience of its Virtue
nſt the *Ægilops*; but it was in the Beginning of that Diſ-
per, and before it had made any conſiderable Progreſs. It
Aſtringent and a Dryer, without much heating. The
made into Malt with other Corn, communicates an in-
ating Quality to the Beer. *Lob.* *Ray* 1289, 1290.
n *Ægilops*, or *Anchilops*, is an Abſceſs in the Canthus of
Eye, next the Noſe, containing Pus, which breaking, either
odes the Bone, or diſcharges itſelf at the Canthus, or into
Noſe.. *Gal. in Iſag. vel Medico*, [illegible] 15.
etween the Bone of the Noſe and the great Canthus near
Eye, a ſmall Tubercle, like an Abſceſs, often riſes, and
lly breaking into the Corner, becomes difficult to cure, if
taken care of. *Gal. de Compoſ. Med. ſec. Loc. l.* v. *c.* 1.
n *Anchilops* is a Tumor in the great Canthus, containing
ollection of Humours, perforated or not perforated. *Galen.*
finit. Med.
n *Ægilops* is an Abſceſs near the great Canthus. It is
icult to cure, becauſe the ſubjacent Bone, from the Thin-
of its Subſtance, is corroded. *Aet. lib.* vii. *cap.* 87.
n *Ægilops* is an Abſceſs between the great Canthus and the
ſe, which, if it breaks, and is neglected, cauſes a Fiſtula
to the Bone. Before it breaks and becomes an Ulcer, it
alled an *Anchilops*. *P. Aeg. lib.* iii. *cap.* 22.
n *Ægilops* is a ſuppurated Tumor between the great Can-
and the Noſe. *P. Aeg. lib.* vi. *cap.* 22.
n *Ægilops* is an Abſceſs broken between the great Canthus
the Noſe. Before it breaks it is called an *Anchilops*; and,
eglected after it breaks, turns to a Fiſtula, and ſpreads to
Bone, being then not eaſy to be cured. *Actuarius, lib.* i.
Diagnoſ. Path. cap. 7.
n the Corner of the Eye next the Noſe, a kind of ſmall Fi-
a diſcovers itſelf, from which a Humour conſtantly diſtils.
Greeks call it *Ægilops*, and it is a perpetual Nuſance to
Eye. Sometimes it eats through the Bone into the Noſe.
netimes it turns cancerous, when the Veins appear diſtended
crooked, the Colour pale, and the Skin hard, and being
y irritated, it raiſes an Inflammation in the neighbouring
ts. It is a dangerous thing to attempt the Cure of thoſe
are cancerous, becauſe it only haſtens Death.
Vhen this Ulcer penetrates into the Noſe, all Remedies are
ain, for the Patient will never be cured; but whilſt it is
fined to the Angle of the Eye, a Cure may be attempted,
ugh even that is difficult; and the nearer the Foramen is to
Corner, the greater will be the Difficulty, becauſe of the
little Room the Hand has to act; but the Work is like to
he eaſier, whilſt the Diſtemper is recent.
he ſuperior Part of the Orifice muſt be taken hold of
h a Hook, then cut out all that is hollow, as in Fi-
a's, till you come to the Bone, the Eye and other adjoining
ts being well defended. The Bone is to be well cauterized,
if it be carious, ſome apply Cauſtics, that a larger Portion
he Bone may exfoliate, ſuch as Chalcanthum, Chalcitis, or
rdigreaſe, which laſt works more ſlowly and with leſs Effect
n the two former. The Bone, thus cauterized, is to be
led as other Bones are which are treated in the ſame Man-
. *Celſus. lib.* vii. *cap.* 7.
Ægilops, ſo called from αἶξ, a Goat, and ὤψ, an Eye, becauſe
ple who have this Dictemper are ſaid to have a Caſt of their
e, which reſembles that of a Goat, and which Virgil alludes
Tranſverſa tuentibus Hircis. Paulus Ægineta has given it
Name of *Anchilops* before it is ulcerated, which Diſtinction
been obſerved by later Writers. When the Tumor is
ſt it is called *Ægilops*. Avicenna calls it *Garab* and *Al-*
ab.
t is a Tubercle in the inner Canthus of the Eye, and is ei-
r ſcrophulous, atheromatous, or of the Nature of a Meliceris;
s very apt to turn ſinuous, and being ſo, whether it proves
lous or not, is however called a *Fiſtula Lachrymalis*. *Wiſe-*
n.
The Matter contained in this Tumor is ſo ſharp and puru-
t, that it corrodes not only the Skin, but even the Lachrymal
ucts, the Fat ſeated near the Sinuſſes of the Eyes, and ſome-
es the Bones called Oſſa Plana, and even the adjacent Bones
the Noſe, where it cauſes frequently a dangerous Caries.
metimes the inferior and ſuperior Lachrymal Ducts are ſo to-
ly eroded, that the Tears mixed with Matter continually
w into the Eye, from the Puncta Lachrymalia, and at laſt
uſe a true Fiſtula Lachrymalis. But oftentimes Tears only
ckle from the Eye, when it is properly enough called Epi-
ora. *Heiſter*.
In the Beginning of this Diſorder, a Tumor with, and
metimes without Inflammation often appears ſuperficially; and
other times ſeated ſo deep, that unleſs the Part is preſſed
th the Finger it cannot be perceived. The Matter often
kes its Way under the lower Eye-lid, from the Tubercle
ere ulcerated, where it increaſes by Degrees, till it runs over
th the Tears. *Sennertus*.
We generally find a Fiſtula Lachrymalis joined with the Æ-
ops, which is chiefly owing to its being ſeated in ſuch a

Manner, that the Tears and Matter cannot paſs to the Noſe, and ſo conſequently muſt weaken and extend by Degrees the Lachrymal Bag.

The principal Cauſe of an *Ægilops* is an Abſceſs conſequent to an Inflammation. I have ſeen it very often cauſed by an Opthalmia, and the Small-pox. *Heiſter*.

The Cauſes of an *Ægilops* are the ſame that produce the like Tumors in other Places; but in ſome Caſes it is made by Fluxion, and appears firſt as a ſmall Phlegmon. This Diſeaſe is frequently a Symptom of the Lues Venerea.

If it is made by Congeſtion, as in the Atheroma, Steatoma, and Meliceris, the Tubercle is round, without diſcolouring the Skin; but if by Fluxion, then it appears red, with Pain and Inflammation over the whole Eye. Sometimes it begins only with a weeping of that Corner, and is not diſcovered till it affects the Eye with Redneſs, and then, by Preſſure with your Finger upon that Canthus, a mixed Matter may be diſcharged, Part of which is not unlike the White of an Egg. This Matter ſometimes eats through the Bone, and diſcharges itſelf through the Noſe with a fœtid Smell. *Wiſeman*.

The *Ægilops*, if not taken in time, is difficultly cured.

It is alſo very troubleſome when ſeated deep; but is worſe if it burſts inwardly, becauſe it often corrupts the adjacent Bones.

If the Tumor is not inflammatory, as the Meliceris and Atheroma, the Cure is effected not ſo much by Medicine, as by Surgery.

If it turns cancerous, it is very dangerous to attempt a Cure, as Death is often haſtened by it. *Sennertus*.

If the Ulcer be accompanied with Eroſion, it will be apt to terminate cancerous, in which Caſe the Cure is deplorable. *Wiſeman*.

The Indication of Cure is taken from the Condition of the *Ægilops*, whether it is in its beginning with Inflammation, or Congeſtion, paſſing its Matter under the Cilium into the Eye.

In the Beginning, Bleeding and Purging are neceſſary, alſo ſuch Alteratives as are preſcribed in the general Cure of Strumas, (See STRUMA) with Regulation of Diet accordingly.

Externally we apply Repellents to the diſeaſed Part, to prevent Fluxion, of the Waters of Purſlane, Lettuce, Plantain, Horſe-tail, Night-ſhade, and Frogs Spawn, with the Whites of Eggs, and Armenian Bole. To intercept the Matter, we apply Gum Maſtic, Tacamahac, or the Rupture Plaiſter, to the Temples, and adjacent Parts.

If the Tumor increaſe with Tenſion and Pain, it will be then reaſonable to endeavour Diſcuſſion, by a Decoction of Wormwood, Elder-flowers, Rue, Lentil and Vetch-meal, either in Wine or Water. If the Tumor tend to ſuppurate, it muſt be forwarded with a Cataplaſm of white Lilly Roots, Mucilage of Marſh-mallow-Seeds, Linſeed, Fœnugreek, Wheat-flower, and Hogs-lard. When the Matter is well concocted, let it be diſcharged either by Knife, or Cauſtic. The only Caution is, that it muſt be opened at ſuch a Diſtance from the Edge of the Eye-lid, that it may not divide; for in ſo doing, a remedileſs Blemiſh will be left, and the Eye will be ſubject to Fluxion, and apt to water ever after.

If it is opened by Cauſtic, it will require the greater Care. I, for the moſt Part, open them by Inciſion; then digeſt them with a Doſſil dipt in Oil of Roſes, and the Yolk of an Egg, over which I apply Galen's Cerate, or ſuch like, with a Compreſs dipped in ſome of the before mentioned diſtilled Waters, to contemperate the Heat in the Part; and afterwards deterge with Honey of Roſes, and Syrup of Roſes, or with this:

> Take of common Honey two Ounces; Verdigreaſe a Dram; Spirits of Wine four Ounces; boil them till one third Part is conſumed.

Then diſpoſe them to cicatrize with this:

> Take of yellow Myrobolans one Dram; Frankincenſe and Myrrh each two Scruples; Tutty one Scruple; Camphire two Grains. Infuſe them in Roſe-water and white Wine, each four Ounces; then boil to a Conſumption of a third Part, and filtre for Uſe. And afterwards with Ointment of Tutty, and Lime-Water, and with good Compreſſion cicatrize them.

If the Ulcer is fiſtulous, it becomes a FISTULA LACHRYMALIS, which ſee. *Wiſeman*.

As the inflammatory *Ægilops* rather tends to Suppuration than Reſolution, it muſt be brought to Maturation as faſt as poſſible, leſt perhaps by Delay it ſhould degenerate into a troubleſome Fiſtula. The Applications proper for this Purpoſe are emollient Cataplaſms, or Plaiſters of Diachylon with the Gums. But as ſoon as Matter is known to be formed, the lower Part of the Tubercle ought immediately to be opened with a Knife or Lancet, and the Matter being preſſed out, the Abſceſs muſt be carefully deterged with the Oleum Philoſophorum, a digeſtive Ointment, or with Honey of Roſes, with a little Myrrh, Ægyptiacum, or red Precipitate, and then the Ulcer muſt be healed with ſome proper Balſam. But if the Abſceſs breaks of its own Accord, as it often does, and the Aperture is ſo ſmall that the Matter cannot diſcharge itſelf, it ought immediately to be enlarged with a Piece of prepared Spunge, or Gentian-root, or with the Knife, after which it muſt be treated as is ſaid above. If the Bone is diſcovered to be carious, it will be proper to dreſs it with Lint wet with Spirits of Vitriol, or of Sulphur; or, inſtead of them, the Powder or Eſſence of Euphorbium may be uſed, and over the Dreſſings a Compreſs dipped in Lime-Water, or ſome cooling Liquor muſt be applied, till the Caries is removed, and the Wound fit for healing. The Caries may ſometimes be ſcraped off with the Rugine. But the actual Cautery applied through a proper Cannula forwards the Cure ſurpriſingly; the Ulcer afterwards will be cured by Balſamics. *Heiſter.*

A young Gentlewoman abounding with acid Serum, was ſeized with an Inflammation and Tumor in the great Canthus or Angle of her Eye. She had been dreſſed by ſome neighbouring Friend till the Inflammation cloſed up her Eye-lid, and alarmed her by the great Diſcharge of a mixed ſerous Matter. I obſerving the Tumor perfectly ſuppurated, and the Matter ſhining under the Cuticula ready to burſt through, opened it by the Point of a Lancet, without drawing one Drop of Blood. The Matter diſcharged, I dreſſed it with a Doſſil dipped in the Yolk of an Egg, with a Plaiſter of Galen's Cerate, and Cloths dipped in red Wine over all, with convenient Bandage. The next Day I took off the Dreſſings, and fomented it with a Decoction of the Leaves of Mallows, Violets, Betony, Sage, and red Roſes, in Wine and Water, repeating the Dreſſings as before, and let her blood in the Arm. At the next Day's Dreſſing, I found the Swelling of her Eye-lid relaxed, and the external Inflammation mitigated, but the Eye itſelf inflamed. I fomented and dreſſed the Abſceſs with a Doſſil dipt in Syrup of Roſes, applying a Pledgit of Ointment of Tutty over it, with a ſoft Compreſs thereupon, leaving the Eye at Liberty to be refreſhed with the Air, and to be dreſſed with Breaſt Milk as they pleaſed. To the Forehead Frontlets were applied, to reſtrain and intercept the Influx. Lenient Purgatives and traumatic Decoctions were preſcribed. The Orifice was kept open ſufficiently for the Diſcharge of the Matter, and Convenience of Dreſſing: Externally refrigerant and exſiccant Medicines were applied, and a few Drops of Tincture of Verdigreaſe were added to the Syrup, in which I dipped my Doſſils. Yet notwithſtanding my Endeavours, the Matter having made its Way into the Eye, flowed both Ways in too great a Quantity for ſome time. Upon which I dreſſed the Ulcer with a Doſſil dipped in Precipitate, and applied over it a Pledgit with Vigo's Ointment of Tutty with Compreſs and Bandage. After I had thus digeſted it, I dreſſed it with a Doſſil dipped in Aqua viridis, which I leſſened daily, and at laſt cicatrized it firm. *Wiſeman.*

The Bandage is the ſame as for the Fiſtula Lachrymalis. See FASCIA.

ÆGIMIUS. A Phyſician who was the firſt that wrote a Treatiſe on the Pulſe, as we learn from Galen. His Country was Velia, or Elis. His Age is uncertain. Le Clerc thinks he lived before Hippocrates. Pliny mentions one of this Name who was remarkable for his great Age, *lib.* vii. *cap.* 48, having lived two hundred Years. As he ſays nothing more of him, it is not known if he was the ſame as the above mentioned, or another.

His Treatiſe on the Pulſe was entitled Περὶ Παλμῶν, *Of Palpitations*, which was the ancient Word to expreſs the Pulſe. Hence Schulzius concludes he muſt be very ancient, as having lived before the other Words afterwards uſed by medicinal Writers to expreſs the Pulſe were in Uſe.

Another Argument for the Antiquity of *Ægimius* is drawn from Galen's repreſenting him as the firſt who wrote on the Subject of Pulſe, which cannot be true unleſs he was prior to Hippocrates, becauſe the laſt named Author makes frequent Mention of the Pulſe.

Schulzius makes a ſmall Miſtake in ſaying the *Ægimius* taken notice of by Pliny was of Velia; for Pliny only mentions his great Age, without ſpecifying his Country.

ÆGINETA (PAULUS) a Phyſician of the ſeventh Century, was ſo called from Ægina, the Place of his Birth, as appears from two Lines prefixed to the firſt Edition of his Works.

Πάυλου πόνον με γνῶθι, τοῦ γῆς τὸ πλέον
Διαδραμόντος, φύντος ἐκ γῆς ᾿Αιγίνης.

This is the Work of Paulus, a Native of Ægina, who had travelled over the greateſt Part of the World.

This Circumſtance of his Life is the greateſt Part of what is known of him; and the Curioſity which the Mention of a Traveller naturally excites, muſt remain unſatisfied, and we muſt confine ourſelves to an Account of his Works.

That Reputation of every kind is capriciouſly diſtributed cannot but be frequently obſerved; nor is it leſs uſual for Authors, than for Men of every other Claſs, to be recompenſed for their Endeavours in a Manner diſproportioned to their Merit. *Paulus* is, in the Opinion of Dr. Freind, one of thoſe unfortunate Writers who have been long rated below their Value, and been deſpiſed for want of being read.

He appears, upon a careful Examination, not to be ſo implicite a Tranſcriber as he is generally repreſented; but to have conſidered the Practice of the Ancients attentively, and to have admitted or rejected it upon juſt Conſideration. He ſometimes diſſents from Galen, and once ventures to hint his Diſapprobation of the Doctrine eſtabliſhed by Hippocrates himſelf.

In his ſixth Book, in which he profeſſedly treats of chirurgical Operations, and which Freind eſteems the beſt Body of Surgery produced before the Reſtoration of Learning, there are many Practices and Operations mentioned, which no preceding Author appears to have been acquainted with.

He deſcribes the ſeveral Sorts of Hernia's with great Exactneſs; and very circumſtantially lays down the Method of making the Inciſion, when the Gut cannot be replaced without it.

The Operation of opening the Arteries behind the Ears by transverſe Section, and the Application of a Cautery afterwards are very accurately laid down by him.

He has a very exact Account of Bronchotomy, which tranſlated by Dr. Freind, and will be given under the Artic BRONCHOTOMY.

His Work in ſeven Books has been ſeveral times printed Greek.

The firſt Edition is that of Aldus 1528.

The ſecond was publiſhed at Baſil 1538, by Andreas C tander, under the Care of Hieronymus Gemuſæus, who ma ſome Emendations in the Text, and added ſome Notes.

It has been tranſlated into Latin by three different Hands, A banus Torinus, Johannes Guniterius Andernacus, and J Cornarius, to whom the World is obliged for many uſeful marks upon this Author.

The Arabians call this Phyſician *Bulos Al Agianithi.*

Herbelot ſays he lived in the time of the Emperor Herac and in the Reign of Omar, the ſecond Chalife of the Muſ mans, who died in the Year of the Hegira 23, which anſwer the Year of Chriſt 645. Honani, the Son of Iſaac, tranſlat the nine Books of *Paulus Ægineta* into Arabic. I do not kn whether he met with two more than are now extant in Gre or whether theſe ſeven were divided in a different Manner, as to make nine. Fabricius is of Opinion, that the ſixth a ſeventh Book, which are pretty long, were each divided by th Arabian into two.

It is eſteemed the peculiar Excellence of this Author to h underſtood the Diſorders to which Women are ſubject; he a quired the Name of *Al-Kavabeli*, that is, *Obſtetricius*, becauſe uſed to inſtruct Midwives in the Duties of their Office, teach them how to treat Women in Child-bed. *Fabri Herbelot.*

ÆGLE. An allegorical Daughter of Æſculapius. L Clerc thinks by *Ægle* is meant the Light of the Sun, wh purifies the Air.

AEGLIA. ᾿Αιγλία, or ᾿Αιγλίη. According to Gorræus Caſtellus the ſame as αἰγὶς, Ægis, or αἰγιὰς, Ægias. See GIDES.

ÆGOCERAS. ᾿Αιγοκέρας. From αἲξ a Goat, and Horn. Fœnugreek, ſo called from the Form of the Siliquæ Pods which it bears; theſe were imagined to reſemble Horns of a Goat. *Gorræus.*

ÆGOLETHRON. From αἲξ a Goat, and ὄλεθρος D ſtruction.

Tournefort deſcribes a Plant by the Name of *Chamærod dros Pontica, maxima, Meſpili folio, flore luteo*, which he t to be the *Ægolethron* of Pliny, and which he met with Aſia.

It is a Tree which grows higher than a tall Man, wi Trunk about the Size of the Leg. From this ariſe m Branches, ſubdivided again into ſmaller, which are une weak, brittle, white within, and covered with a greyiſh B naked except at their Extremities, where they are cloathed w Tufts of Leaves like the Medlar. Theſe Leaves are about Inches long, and an Inch broad in the Middle, pointed at b Extremities, but moſt ſo at that next the Pedicle, of a li green, ſomewhat hairy, and bordered at the Edges with H like the Eye-lids. The Rib of the Leaf is ſtrong, and divi into Nerves which are ſpread on the Surface. This Rib is a Continuation of the Pedicle, which is three or four L long, and about a Line in Thickneſs. The Flowers gro the Extremities of the Branches, eighteen or twenty toge in a Tuft, each ſuſtained by a Pedicle about an Inch hairy, and ſpringing from the Alæ of certain ſmall, memb ous, whitiſh Leaves, ſeven or eight Lines long, and as broad. Every Flower forms a Canal of two Lines and a Diameter, ſuperficially channelled, hairy and yellow, incli to red, which, at about an Inch Diſtance from the Baſis expanded, and divided into five Parts, one of which is a an Inch long, and as much broad, which bending backw the other four, forms a kind of Gothic Arch; the Colour pale yellow, but more like Gold about the Middle. The r four Diviſions are of the ſame Colour, but neither ſo long ſo broad. This Flower is perforated at the Bottom, and his Perforation articulated with the Piſtil, which is pyrami- l, channelled, and about two Lines long, of a pale green, ewhat hairy, and terminated with a crooked Filament two hes long, which ends in a pale green Knob. Round the foration of the Flower ariſe five Stamina, ſhorter than the il, uneven, bent and furniſhed with Heads full of a yellowiſh ſt; the Stamina are of this Colour, hairy from their firſt pearance as far as the Middle, and all bent to one Side, like ſe of the Fraxinella. The Piſtil becomes a Fruit of about een Lines long, and ſix or ſeven Diameter, and divided into en or eight Apartments. Mr. Tournefort never ſaw the Fruit e.

The Leaves of this Plant are ſtyptic. The Smell of the wer is like that of the Honey-ſuckle, but ſtronger and in- icating.

Mr. Tournefort goes on to tell us, that he was ſo taken h the Beauty of this Flower, that he made a Noſegay of it, ich he deſigned as a preſent for Numan Cuprogli, at that e Baſſa of Erzerum, whom he had the Honour to accom- y on the Black Sea; but he was informed by his Chaia that Smell of it was thought to cauſe Vapours, and a Vertigo; was told by the People of the Country, that it was eſteemed judicial to the Brain.

Theſe People have a Tradition, probably founded on repeated ſervations, that the Honey which the Bees get from this wer, ſtupifies thoſe who eat it, and inclines them to vomit. Dioſcorides ſpeaks of this Honey in much the ſame Terms, ii. *cap.* 103. About Heraclea in Pontus, ſays he, at certain es of the Year, the Honey makes thoſe mad who eat of it, raiſes a plentiful Sweat; this Effect is owing to the Flowers m whence they gather it. Thoſe whom it affects are re- ed by eating Rue, and ſalt Meats (ταριχὸς), and drinking ine mixed with Honey, which are to be repeated as often they are diſcharged by Vomit. *I ſuppoſe he means Honey of tter Kind.* Dioſcorides adds, that this Honey is acrid, and kes thoſe ſneeze that ſmell to it. It takes away Freckles, anointing them with it, mixed with Coſtus; and with a portion of Salt, Pliny ſays of Aloes, it cures Lividneſs from uiſes.

To this Pliny adds, that the ſame Diſorders are communi- ed to Dogs, that eat the Excrements of thoſe who have taken s Honey.

This Plant, and the *Chamærododendros Pontica*, *maxima*, *o Lauroceraſi*, *flore e cæruleo purpuraſcente*, grow about He- lea in Pontus, now called *Penderactis*, or *Elegri*, and are nd in great Plenty upon the Coaſt, and in the Woods all Way to Trebiſond and beyond.

The Account which Pliny gives of the Plants from whence Bees extract this Honey, is more plain than either that of oſcorides or Ariſtotle, which laſt believed that it was gathered m the Box-tree, and that it made thoſe mad who eat of it, they were well before; and on the contrary, cured thoſe o were mad before they took it. The Paſſage in Pliny is s. *lib.* xxi. *cap.* 13.

About Heraclea, in Pontus, ſome Years the Honey is ex- emely pernicious. Authors have not informed us what Plant is gathered from; what I have diſcovered of this I ſhall relate. here is, in thoſe Parts, a Plant called *Ægolethron*, from its ing Poiſon to Cattle, but particularly to Goats. The Flowers this, in a moiſt Spring, acquire a poiſonous Quality when ey wither. Hence it happens that the Honey is not every ear noxious. That which is poiſonous is diſtinguiſhed by re- aining more fluid than the other Honey, and not concreting; e Colour alſo is more red, the Smell is different from that good Honey, and cauſes Sneezing, and it is more ponder- s than that which is wholeſome. Thoſe who eat of it caſt emſelves on the Ground, and ſeek by all Means to cool emſelves, becauſe they ſweat immoderately.

The Antidote ſpecified by Pliny is the ſame in Dioſco- des. He adds, that Mead prepared with this is innocent when grows old, and that in the ſame Country (Pontus) amongſt e Sanni, there is another Sort of Honey, which, by reaſon the Madneſs it produces, is called Mænomenon. This ffect is ſaid to be owing to the Flower of the Rododendros, ith which the Woods abound. And that Country, though pays Tribute to the Romans in Wax, never ſell their Honey, cauſe it is Poiſon.

From this Paſſage Mr. Tournefort concludes, with very good eaſon, that the *Ægolethron* is the Species of Chamærododen- ron I have deſcribed above; and that the Rododendros, men- oned by Pliny, is the *Chamærododendros maxima folio Lauro- raſi*, *flore e cæruleo purpuraſcente*, which he ſays may be lled *Rododendros Pontica Plinii*, to diſtinguiſh it from the ommon Rododendros, Oleander, or Roſe Bay.

It is certain that the Oleander, or Roſe Bay, Rododendros, does ot grow on the Coaſts of the Euxine Sea, that Climate being too cold. Very few are to be found beyond the Dardanels; but they are very common by the Sides of the Rivulets in the Iſlands of the Archipelago. Hence it is certain that the Rododendros of Pontus, taken notice of by Pliny, cannot be the Oleander, or common Rododendros. Tournefort, in theſe Quotations, has made ſome little Miſtakes, which I have endeavoured to rectify.

Xenophon relates a very extraordinary Effect of this Honey upon the ten thouſand Men, which he commanded, in their Retreat. He tells us when they approached near Trebiſond, they found a great Number of Bee-hives, and the Soldiers eat plentifully of the Honey. Upon this they were ſeized with a Vomiting and Purging, which was ſucceeded by a Delirium, inſomuch that thoſe who were leaſt affected ſeemed to be drunk, and the reſt either mad or dying. The Camp had the Appearance of a Field of Battle, ſo many Bodies lying about, which ſeemed either dead or expiring. However nobody died by it; for the next Day the Diſorder ceaſed about the ſame time that it began the Day before; ſo that the third or fourth Day the Men recovered, but remained weak and faint, as if they had taken ſome ſtrong Medicine.

Diodorus Siculus relates this Story with the ſame Circumſtances. The Father Lamberti, a Miſſionary, relates, that the Honey which the Bees collect from a certain Shrub in Colchis or Mingrelia, is dangerous and emetic. This Shrub he calls *Oleandro giallo*, yellow Oleander, which Tournefort thinks without diſpute the ſame as the *Chamærododendros Pontica*, *Meſpili folio*, *flore luteo*, or *Ægolethron*. The ſame Lamberti deſcribes the Smell of this Flower, as betwixt that of Muſk and yellow Wax. Tournefort ſays it is not unlike that of the Honey-ſuckle, but much ſtronger. *Memoires de l'Academie Royale des Sciences*. 1704.

AEGONYCHON. Ἀιγώνυχον. Dioſcorides, *lib.* iii. *cap.* 158, ſays the Lithoſpermon, Gromwell, is ſometimes thus called. It is derived from αἲξ, a Goat, and ὄνυξ, the Hoof. Becauſe of the Solidity and Hardneſs of the Seed, in the Opinion of Gorræus.

ÆGOPROSOPON. The ſame as ÆGIDION, which ſee.

ÆGYPTIACUM UNGUENTUM. A Compoſition that is aſcribed originally to Meſue, and has been received by moſt *Diſpenſatories* that have been ſince wrote, without any material Alteration. It is thus given in the *Diſpenſatory* of our own College.

> Take of Verdigreaſe, or of the green Ruſt of Braſs finely powdered five Parts; of Honey four Parts; of the ſharpeſt Vinegar ſeven Parts; boil them altogether to a due Conſiſtence, and a duſky red Colour.

The Scum of this Ointment is called *Mel Ægyptiacum*, Ægyptian Honey.

The Compilers of the *Edinburgh Diſpenſatory* ſeem to have thought this too ſtrong of the Verdigreaſe, and have lowered it by increaſing the Proportion of Honey.

> Take of Verdigreaſe, reduced to fine Powder, five Ounces; of Honey fourteen Ounces; of Vinegar ſeven Ounces; boil them together over a gentle Fire to the Conſiſtence of an Unguent.

This is an admirable Detergent, and much recommended by chirurgical Writers to keep down fungous Excreſcences in Ulcers; but it is too corroſive, eſpecially that of the *London Diſpenſatory*, except lowered according to the Circumſtances of the Caſe. The Hint of this Compoſition is taken from Dioſcorides, who recommends Verdigreaſe boiled with Honey for deterging foul Ulcers. And Aetius, *Tetrabib.* iv. *Serm.* ii. *cap.* 3. preſcribes an Ointment very little different from this. See ABSCESSUS.

It would perhaps be ſomewhat difficult to account for the Name of this Ointment, becauſe none of the Ingredients bear any Analogy to Ægypt. Aetius however takes notice of an Application made uſe of by a certain Ægyptian in the Cure of an Achor, wherein Verdigreaſe is a conſiderable Ingredient: Perhaps the Name may owe its Original to this, which indeed is not an Ointment, but a Plaiſter. *Tetrab.* ii. *Serm.* ii. *cap.* 68.

ÆGYPTION. Ἀιγύπτιον. Very frequent Mention is made of this in Hippocrates, as a Topic in Uterine Diſorders. Galen informs us there were four things which went by this Name. Firſt, the

ÆGYPTIUM OLEUM. Ἀιγύπτιον ἔλαιον, Ægyptian Oil, alſo called Cicinum, which Dioſcorides ſays was expreſſed from the Seeds of the κίκι, (Ricinus) or, as we call it, Palma Chriſti; he repreſents it as unfit for internal Uſe (ἄβρωτον) but very proper for Lamps and Plaiſters.

Aetius informs us it was prepared in Ægypt from the Seeds of the above mentioned Ricinus, which was alſo called Croton, by Bruiſing, Expreſſion and Boiling. He recommends it in Leproſies, Foulneſſes of the Skin and Freckles, which he ſays it will take away by continual Uſe.

The Second was the ÆGYPTIUM OLEUM ALBUM, αἰγύπτιον ἔλαιον λευκὸν, White Ægyptian Oil, prepared, according to

Galen, with Lillies, and called alſo Crininon, or Suſinon Oleum. This is probably the ſimple Oil of Lillies mentioned by Dioſcorides.

The third Sort of Ægyption was the αἰγύπτιον μύρον λευκὸν, *Unguentum Ægyptium Album*, white Ægyptian Ointment, called alſo *Mendeſium*, κρινόμυρον, or σούσινον μύρον, and is probably that deſcribed thus by Dioſcorides.

> Take of Oil nine Pounds five Ounces; of Calamus five Pounds and a Quarter; of Myrrh five Ounces; mix them well with ſweet-ſcented Wine, and then boil them. Then ſtrain off the Oil, and, after infuſing in it three Pounds and a half of Cardamoms, that have been bruiſed, and macerated in Rain-water, pour it back. Let them macerate, and then preſs them. This done, take of this Oil inſpiſſated three Pounds and a half, with Lillies a thouſand in Number. Strip theſe of their Leaves, and put them in a broad but not deep Baſon, and pouring the Oil upon them, ſtir them well with your Hands anointed with Honey. Afterwards let them reſt a Day and a Night, and the next Morning remove it into your Sieve and ſtrain it, ſpeedily taking off the Oil that ſwims upon the Water that was preſſed out with it; for this will not bear Water mixed with it, like the Roſaceum; but, if they are heated together, ferment and putrefy. It may be convenient therefore to move it often from one Veſſel to another anointed with Honey, firſt ſprinkling a little fine Salt, and taking away carefully the Impurities that gather upon it. After this, take the Reſiduum out of the Sieve into the Baſon, and pour on it an equal Quantity of Oil impregnated with the ſame Aromatics as before, and caſt therein ten Drams of bruiſed Cardamoms. When you have well ſtirred it with your Hands, after a ſhort Reſt, preſs it, and remove the Impurities of the Liquor. Pour on Oil the third time, and do as before, adding the Cardamoms and Salt, and working it with your Hands anointed with Honey. The Oil that comes off by the firſt ſtraining is the beſt, the ſecond next, and the laſt in Order is the worſt. Then again take a thouſand Lillies, and plucking off the Leaves, diſpoſe them as before, and pour upon them the Oil that was firſt drawn off, and proceed with them in the ſame Manner as with the firſt thouſand, adding the Cardamoms before ſtraining. This done, pour on the ſecond Oil, and likewiſe the third, obſerving a like Proceſs for each as for the firſt. The oftener you macerate freſh Lillies, the more Virtue and Goodneſs will there be in your Ointment; but when you think you have done enough, add to every Preparation of the beſt Myrrh ſeventy-two Drams, of Saffron ten Drams, of Cinnamon ſeventy-five Drams; others put an equal Weight of Saffron and Cinnamon. Bruiſe them and put them in a Baſon of Water, and pour thereto the Ointment that was firſt drawn; a little after pour it into ſmall dry Veſſels, firſt rubbed with Gum, or Myrrh, or Honey and Saffron diluted with Water. Do the ſame by the ſecond and third Ointment. Some content themſelves with a ſimple Ointment, made of the Oil of the Ben-Nut, or any other Oil, and Lillies.

What is made in Phœnicia and Egypt ſeems to excel others, and of this the beſt is that which has the fragrant Smell of the Lillies.

It warms, ſoftens and opens Obſtructions of the Womb, and is good in Inflammations of the ſame Part; and, in general, is very beneficial in Women's Diſorders. It alſo cures ſcurfy and ſcald Heads, and ſoon removes the Blackneſs from Wounds or Blows, and makes them of the ſame Colour with the reſt of the Skin. Drank, it purges Bile downwards, and provokes Urine; but it is hurtful to the Stomach, and creates a Nauſea. *Dioſcorides, lib.* i. *cap.* 62.

The ſimple Oil of Lillies is probably that deſcribed by Paulus Ægineta, *lib.* viii. *cap.* 20.

> The Oil of Lillies he ſays (which others call Suſinum, perhaps becauſe it was invented at Suſæ) is made of two Ounces of the dried Leaves of white Lillies put into an Italic Point of Oil, and very cloſely ſtopped, ſo as nothing can tranſpire, and ſet to ſtand three Days in the Sun. Then it is ſtrained, the old Leaves caſt away, and two Ounces of freſh ones put to the Oil, which is to ſtand likewiſe another three Days, and then to be ſtrained and kept up for Uſe.

The μύρον αἰγύπτιον, Unguentum Ægyptium, without the Addition of λευκὸν, Album, was, according to Galen, made of the Flowers of the Acantha. He ſays it was called μελώπιον.

Paulus Ægineta, *lib.* vii. *cap.* 20. gives the Compoſition of the Metopium; but it cannot be the ſame that Galen means, becauſe the Flowers of the Acantha are not any Part of its Ingredients.

ÆGYPTIUM LINUM. This is mentioned by Hippocrates (*de Morbis, lib.* ii.) ſpeaking of the Cure of a Polypus in the Noſe. He adviſes to cut a Spunge round like a Ball, of a Size to fit the Noſtril, and to involve it in Ægyptian Flax, (λίνῳ αἰγυπτίῳ) for it does not ſeem to mean Thread, but rather a kind of Tow.

ALUTA ÆGYPTIA. Αἰγύπτιον σκῦτος. It is named by Hippocrates (*de Fractis*) and ſeems to be a ſoft Leather, like what we uſe to ſpread Plaiſters upon.

ΑΙΓΥΠΤΙΉ ΣΤΥΠΤΗΡΙΉ, Ægyptian Alum. See Alumen.

ÆGYPTIUM ANDROMACHI EMPLASTRUM. Aetius, *Tetrab.* iv. *Serm.* iii. *cap.* 13. introduces this Plaiſter with great Encomiums. He ſays it is famous for uniting the largeſt Sinuſſes, for healing Cuts that lay the Bone bare, for Diſtortions and Luxations of the Limbs and Joints, for Bites inflicted by Men, Quadrupeds, or Reptiles; laid on the Forehead, it ſtops Defluxions on the Eyes; it heals the largeſt and deepeſt Cuts with a Sword in three Days. It has an excellent Virtue for diſcuſſing, ſo as to diſperſe a Collection of Pus, unleſs there be a very large Quantity, without Perforation of the Skin. It mollifies and ſupples the Limbs, though never ſo ſtiff and hard, and brings malignant Ulcers to cicatriſe. It is thus prepared:

> Take of Wax, Litharge, of each one hundred and twenty four Drams; of Gum Ammoniac ſixty-two Drams; of Turpentine thirty-two Drams; of greaſy Wool, burnt, eighteen Drams; of Birthwort, Frankincenſe, Squama Æris, each eight Drams; of the Scoria of Steel eight Drams; of Myrrh three Drams; of Opoponax two Drams; of the Oil called Cicinum, or the Sicyonium, or old Oil, three Pounds. Boil the Litharge with the Oil to a Conſiſtence; then adding the Squama, let it boil till it will no longer raiſe a Spot in your Cloaths. Then add firſt the Wax, after that the Gum Ammoniac bruiſed. When theſe are melted put in the Turpentine, and taking it off the Fire, mix in with it the Frankincenſe bruiſed, and the Aſhes of the burnt Wool, and work it up with your Hands, and uſe it ſometimes pure, ſometimes diluted.

ÆGYPTIUM CROCEUM UNGUENTUM. This is an Ointment deſcribed by Aetius, *Tetrab.* ii. *Serm.* iv. *Cap.* 45. It takes the Name from *Crocus*, Saffron, that gives it the Colour.

ÆGYPTIUS PESSUS. This Peſſary is deſcribed by Paulus Ægineta, from Antylus, *lib.* vii. *cap.* 24. It conſiſts of Honey, Turpentine, Butter, Oil of Roſes, or of Lillies, and Saffron; of each equal Parts, If the Vagina is ſordid, and not inflamed, the Author ſays that Verdigreaſe may be added in a Quantity equal to half that of each of the other Ingredients. From this Addition it probably took the Name.

ÆGYPTIUM PHARMACUM AD AURES. Aetius, *Tetrab.* ii. *Serm.* ii. *cap.* 83. ſpeaks of this as excellent for deterging fœtid Ulcers of the Ears, which he ſays it cures, though the Patient was born with them.

> Take of bitter Almonds two Drams; of white Pepper two Drams; the Inſide of Ægyptian Beans two Drams; of Saffron, Myrrh, Opium, Frankincenſe, Caſtor, each two Drams; Omphacium four Drams; Vitriol four Drams; Aphronitrum two Drams. Pound them in Vinegar, in which the Bark of Pomegranates has been boiled, till they come to a Conſiſtence ſomewhat viſcid. Dilute this with Ointment of Nard, and ſo drop it into the Ears.

ÆGYPTIA ULCERA. Aretæus deſcribes a Species of malignant Ulcer of the Tonſils and Fauces, which he calls Ægyptian or Syrian Ulcers, becauſe very frequent in theſe Countries. The Paſſage is in *lib.* i. *de Cauſis & Signis Acutorum Morborum, cap.* 9.

> Of all Countries, ſays he, Ægypt is moſt ſubject to this Diſtemper, becauſe of the Dryneſs of the Air, and the Variety of Food; for the Inhabitants live upon Roots, Herbs, and Seeds, and all Sorts of Garden-ſtuff, and their Drink is the thick Water of the Nile, or a ſharp Liquor made of Barley. Syria alſo is infeſted with this Diſeaſe, eſpecially that Part of it called Cœloſyria; whence they are called Ægyptian or Syrian Ulcers.

> They who die of it make a miſerable End. The miſerable Patients labour under ſharp Pains, with a burning Heat, as in a Carbuncle. Reſpiration is quite depraved, for they breathe forth nothing but the filthy Vapour of the Ulcer, and immediately draw in the ſame again; and are ſo troubleſome to themſelves, as not to endure their own Smell. Their Fæces are pale or livid, they have an acute Fever, a Thirſt ſo violent as if they were on Fire, and yet dare not drink for fear of Pain; for they are tormented beyond Meaſure, if the Drink runs againſt their Tonſils, or back into their Noſtrils. If they lie down they are forced to riſe; nor can they bear to ſit up, for their Pain obliges them to lie down again. But for the moſt Part, they chooſe to walk about; for being incapable of Relief or Eaſe, they avoid all Reſt, and ſeek to loſe the Senſe of one Pain by introducing another. They gaſp and draw their Breath much inwards, as greedy to be refreſhed with the cool Air

t breathe forth very little, becauſe the Ulcers, which are as
t as Fire, are ſtill more inflamed by the fervent Breath; a
arſeneſs and Loſs of the Voice comes on, and theſe Symp-
ns increaſe more and more, till the Patient on a ſudden
ls to the Ground, and there expires. See Tonsillæ.

ÆGYPTIA ANTIDOTUS. The Ægyptian Antidote.
any of theſe are deſcribed by Nicolaus Myrepſus, in his firſt
ction, which treats of Antidotes. Their Deſcriptions are
tty long, and not of ſufficient Importance to be inſerted
re.

AEICHRYSON. ᾽Αειχρυσόν. From ἀεὶ, always, and χρυσὸς,
old. A Name of the *Sedum majus*. *Gorræus*. See Sedum.

AEIGLUCES. ᾽Αειγλυκής. From ἀεὶ, always, and γλυκὺς,
eet. A Sort of ſweet Wine, that went by that Name, as though
were always Muſt. It is thus prepared; as ſoon as the
uſt is tunned immediately from the Wine-preſs, they ſet the
ſſels under Water, to ſtand during Winter, that it may keep
ays cool; for it is only the Heat of the Muſt that turns it
o Wine.

AEIPATHEIA. ᾽Αειπάθεια. From ἀεὶ, always, and πάθος,
Affection or Paſſion. A never-ceaſing Affection or Paſſion.

AEITHALES. ᾽Αειθαλές. From ἀεὶ, always, and θάλλω, to
green. Another Name for the *Sedum majus*.

AEIZOON. ᾽Αείζωον. From ἀεὶ, always, and ζωὴ, Life. *Sem-
vivum*, *Sedum*, Houſeleek. An Herb, of which there
three Species in Dioſcorides, the great, the ſmall, and
hird, called by the Greeks ἀνδράχνη αγρία, by the Latins *Il-
bra*. The great Sort is deſcribed as having a Stalk above a
bit high, as big as a Man's Thumb, fat, green with In-
ons after the Manner of the *Lactaria vallaris*, called χαρακίας
μαλος, Wood Spurge, with fat carnous Leaves, of the
e of a Man's Thumb, like a Tongue at the Top, ſome
ning their convex Sides toward the Ground; others ſtanding
the Head, and ſo compacted together all around, as to re-
ſent the Figure of an Eye, whence it is called ζωοφθαλμὸς,
βυφθαλμός. The ſmall *Sempervivum* has many Stalks
uting from one Root, with ſlender, round, fat, ſharp-pointed
ves. The middle Stalk riſes a Span high, bearing an Um-
a, with a ſmall herbaceous Flower. The two firſt Kinds
Houſeleek are cooling, and are alſo moderately drying and
ingent. The third Kind has a ſmall, thick, hairy Leaf,
t like Purſlane. It is of a heating, acrimonious, exulcerat-
Nature. *Gorræus*.

ELIANUS MECCIUS. A Phyſician that lived in the
e of the Emperor Adrian. We learn from Galen that he
te well on the Diſſection of the Muſcles. It is alſo ſaid
was one of Galen's Maſters, by whom he is recorded to have
n a Phyſician of Abilities, and a very worthy Man.

ELIUS PROMOTUS. There ſeems to have been two
his Name, one a Diſciple of Oſtanes the Perſian. This
us accompanied Xerxes into Greece.

The ſecond was a Phyſician of Alexandria, who lived in the
e of Pompey. He wrote a Treatiſe περὶ ἰοβόλων ϗ δηλητηρίων
άκων, of Poiſons, and deleterious Medicines. Geſner and
aquellus ſay this Work is preſerved in ſome of the Italian
raries in Manuſcript; Mercurialis and Fabricius ſay in the
ican.

EMILIUS MACER. A Poet of Verona, who lived in
Reign of Auguſtus. He was Contemporary with, and ſome-
t older than Ovid, who ſpeaks of him thus:

Sæpe ſuas volucres legit mihi grandior ævo
Quæque nocet ſerpens, quæ juvat herba, Macer.

rom hence we learn he wrote on Birds, Serpents and Plants;
Mr. Le Clerc is of Opinion he only gave an Account of
Vegetables as were Antidotes to thoſe Poiſons as he ſpeaks
Servius ſays the ſame Author wrote a Poem on Bees.
is on Account of his Poem on Birds, Serpents and Herbs
he is numbered amongſt the medicinal Authors. His
rks are loſt; thoſe which go under his Name being, in
Opinion of all the learned, ſuppoſititious, and are ſaid to be
e by one Odobonus.

EOLIPYLÆ. Æolipiles. I do not know that this
rd has any Right to a Place in a Medicinal Dictionary,
operly belonging to experimental Philoſophy. However,
aſtellus has taken notice of it, I would not omit it. *Æo-*
s are Veſſels made either of Iron or Braſs, with a ſmall
ice; into theſe Water is put, and when they are placed
hot Fire, the Water, rarefied into Vapour, burſts out with a
t Noiſe and Force, imitating Wind.

EON. ᾽Αιών. The whole Age of a Man, from his Birth
is Death properly, but uſed frequently by Hippocrates to
fy the Remainder of a Man's Life.

alſo ſignifies the ſpinal Marrow, and it is ſaid ſhould be
e at the latter End of the ſeventh Book of the *Epidemics*
ad of κιῶνα. The Paſſage will then run thus, ὁ τὸν αἰῶνα
ας ἑβδομαῖος ἀπέθανεν, *A certain Perſon being ill of a Tabes
ſalis, died the ſeventh Day*. Erotian. Foeſius. Heſychius.
inus.

AEONION. ᾽Αιώνιον. The *Sedum majus*, or greater Houſeleek is by ſome called thus. *Gorræus*.

ÆONESIS. ᾽Αιόνησις. From αἰονάω, *perfundo*, *irrigo*, to pour upon, or to wet by pouring a Fluid upon. It ſignifies a moiſtening the external Parts by Perfuſion, or Fomentation. *Erotian. Foeſ.*

ÆORA. ᾽Αιώρα. From αἰωρέω, to lift up, ſuſpend, or hang on high. Geſtation, a Species of Exerciſe uſed by the Ancients, of which Aetius gives the following Account. *Tetrab.* i. *Serm.* iii. *cap.* 6.

Other Kinds of Exerciſe, ſays he, conſiſt in Motion of the Body; but Geſtation is compounded of Motion, and ſuch a Diſpoſition as much reſembles Reſt, in which moſt Parts of the Body ſeem to lie ſtill, while the whole is carried along the Way in which the Geſtation is directed. Hence it appears that Geſtation is at once the moſt beneficial and moſt gentle Kind of Exerciſe, ſince it procures no Laſſitude, and yet moves the Body after the manner of great Exerciſes.

All Geſtation has the Virtue of exciting and ventilating the innate Heat, of diſperſing the redundant Humours, of ſtrengthening the Habit, and raiſing the dull and languid Powers.

There are many different Species of Geſtation, ſome of which, in particular, are thoſe which follow: A Geſtation may be performed in a Bed, either made penſile *(perhaps like the modern Hammocks)* or moveable on the Fulcra, or Feet which ſupport it. A ſecond Way of Geſtation is in a Litter, which is alſo two-fold, that is, when the Perſon carried either ſits or lies along. A third Way is in a Chariot, and a fourth in a Ship or Boat. Riding alſo may be accounted a Species of Geſtation.

Geſtation in a Bed is convenient for feveriſh Perſons, and ſuch as have lain ſick a long time, who cannot well raiſe their weak and waſted Bodies. It is alſo proper for thoſe who begin to recover Strength after a Fever, and for ſuch as have taken Hellebore; it is good likewiſe in a Phrenſy, for it gently compoſes the Perturbation of the Spirits, and inclines to Sleep. Lethargies alſo, and Loſs of Appetite, are relieved by it.

Geſtation in a Litter is proper for ſuch as labour under a lethargic, or ſemitertian, or quotidian Fever; and hydropical Perſons; ſuch as are ſeized with a Stupor, the Remains of an Apoplexy, or Palſy; and for thoſe who are afflicted with the Gout or Stone. Perſons under a perfect Intermiſſion of a Fever are carried this Way in a ſitting Poſture.

As for Geſtation in a Chariot, there is ſomething ſhaking in it, which works upon chronic Diſtempers; but of this Kind ſome are more gentle and eaſy, others rougher and more vehement. The firſt, or ſofter, is to be uſed in Diſtempers of the Head, and Fluxes of the Inteſtines; the latter, or more violent, is proper for Infirmities of the Breaſt or Stomach, for lax Tumors, hydropical Perſons, and ſuch as are ſeized with a Stupor. But vertiginous Perſons, and ſuch as have half their Head affected ſhould ſit backwards, and move gently. We have known many cured this Way, who needed no other Help; but then their Seat muſt be ſo contrived, as that they may ſit in a pretty ſupine Poſture.

Laſtly, Geſtation in a Boat or Ship, if near Land, and on a calm Sea, is proper for ſuch as have a Dropſy, or Elephantiaſis, ſuch as are ſwelled, or ſtruck with a ſudden Palſy. This Geſtation at firſt turns the Stomach, but ſoon grows familiar and agreeable. But Geſtation upon the Sea is moſt violent, and cauſes many and great Changes, as it muſt happen where the Mind is diſtracted betwixt Hope and Sorrow, Fear and Danger, and the Ship's Crew ſometimes exulting with Joy and Alacrity, at other times ſunk into Deſpair. All theſe things put together are of Force ſufficient to drive any old Diſtemper out of the Body, and exclude it for ever, not to mention that a Mixture of Reſt and Motion, if any thing can do it, nouriſhes the Body.

ÆPOS. ᾽Αἶπος. It ſignifies in Hippocrates a ſteep Place, or riſing Ground, of ſomewhat difficult Aſcent.

ÆQUALIS. Equal. This, in a medicinal Senſe, is applied to any thing that is conſiſtent with itſelf, and always the ſame, or that is the ſame in all its Parts. In this laſt Senſe, Pus or Matter is ſaid to be equal, or of an equal Conſiſtence, when it has no Admixture of Ichor or Sanies, but is all alike.

A Temperament or Conſtitution is ſaid to be equal, which is not ſubject to Alteration or Exceſſes, but is always the ſame.

A Pulſe is called equal that keeps the ſame Tenor, without any Variation with reſpect to the time and manner of the Contraction and Dilatation of the Artery.

Urine is called equal, when it always preſerves the ſame Appearance in regard to its Colour, Conſiſtence, and Contents, ſo that what is made at one time ſhall be exactly the ſame as that made at any other time; and the Hypoſtaſis or Sediment in Urine is ſaid to be equal, when it is the ſame in every Part, and ſeems homogeneous.

A Diſeaſe is called equal, when it perſeveres without any Variation in the Symptoms and Circumſtances that attend it. The Greeks expreſs this by ὁμαλὸς. Hence Medicines that reduce to the Equality above mentioned are called *Æquantia* by ſome Authors, amongſt which Caſtellus quotes Jul. Cæſ. Claudinus.

ÆQUILIBRIUM. The general Signification of this Word is too well underſtood to want Explanation. In a medicinal Senſe it is uſed to expreſs a juſt Proportion betwixt the Solids and Fluids of the Body, which is neceſſary to the Performance of the animal Functions, and a perfect State of Health.

ÆQUINOCTIUM. The Equinox, of which there are two, the Vernal and Autumnal. Phyſicians have taken notice of theſe Equinoxes, as productive of certain Diſorders. Thus Ægineta, from Diocles, *lib.* i. *cap.* 100. ſays the Vernal Equinox increaſes Phlegm and ſweet Seroſities in the Blood, till the riſing of the Pleiades, which is ſix and forty Days. Therefore we are to feed on aromatic and acrid Aliments, and to uſe much Exerciſe. The Autumnal Equinox increaſes Phlegm, and thin Defluxions, till the Fall of the Pleiades, which is ſix and forty Days. During this Seaſon we are to ſtop Defluxions by the Uſe of highly aromatic and acrid Food, to avoid Emetics, to uſe much Exerciſe, and abſtain from Venery.

The Autumnal Equinox is placed about the twenty-fourth Day of September by Paulus Ægineta, *lib.* vii. *cap.* 11.

The Vernal Æquinox is placed by Aetius on the twenty-third of March, and the Autumnal on the twenty-fifth of September. *Aetius Tetrab.* i. *Serm.* iii. *cap.* 167. See Aer.

ÆQUIPOLLENS. Equal with reſpect to Strength. It has been uſed to expreſs an Equality of Force in the antagoniſt Muſcles, which move the ſame Part in different Directions.

AER. Ἀήρ. The Air. What is meant by this Word is ſo commonly known, that it would be ſuperfluous to attempt to define it. Phyſicians in all Ages have eſteemed the Air as the grand Inſtrument in producing all Changes that happen in natural Bodies, and of great Importance both in producing and curing Diſtempers, and in deſtroying and preſerving Health. In Medicine it is numbered amongſt the Non-naturals, and is more immediately neceſſary to animal and vegetable Life, than even Nutrition.

Hippocrates, in his Treatiſe *de Flatibus*, gives his Sentiments with reſpect to the Air. He ſays the Bodies of Men and all other Animals are nouriſhed by three things, which are called Meat, Drink, and Spirits (πνύματα); theſe, when within the Body, are called Wind or Flatuſſes (φῦσαι), but out of the Body, Air. As this Air bears a great Part in whatever happens in the Univerſe, the Force thereof is a Subject conſiderable enough to deſerve Examination. The Wind is nothing but a Flux, or Effuſion of Air. When therefore there is a great deal of Air, it makes a Stream or Flux ſtrong enough to tear up Trees by the Roots, and to raiſe Waves in the Sea capable of elevating Ships of immenſe Burden to a prodigious Height, ſuch is its Force. Notwithſtanding this, it is inviſible, however manifeſt to the Underſtanding by the Effects. What is there tranſacted in the Univerſe without Air? What Body is without it? Or where is it not preſent? All the Space betwixt the Heavens and the Earth is filled with Air (πνύματος). By this Winter and Summer are cauſed; in the Winter it is condenſed and cold, in the Summer mild and calm. The Sun, Moon and Stars perform their Courſes by the Aſſiſtance of the Air; for the Air is the Nouriſhment of Fire, inſomuch that Fire deprived of Air cannot ſubſiſt; the Air being itſelf perennial and thin, furniſhes the Sun with the means of continuing its perennial Courſe.

That the Sea alſo participates of Air is manifeſt; for how could Sea Animals live without it? And how could they participate of it, unleſs they drew it through the Water, or out of the Water itſelf. The Air is the Support of the Moon, and the Chariot of the Earth, and nothing in Nature is void of it. The Air therefore of all things has the greateſt Influence, as has been ſaid above.

The Air is the Support of the Life of Mortals, and the Cauſe of thoſe Diſeaſes to which Mankind is ſubject. And ſo neceſſary is the Air to our Bodies, that though a Man may live two or three Days or more without Meat or Drink; yet if the Paſſage of the Air into the Body is intercepted for a very ſmall Part of a Day, it is certain Deſtruction, ſo abſolute is the Neceſſity for it. Men ſometimes reſt from all other Actions, for Life is full of Changes, Reſpiration alone is perpetual in all Animals, who are perpetually employed either in Expiration or Inſpiration.

I have ſaid that there is a great Communion betwixt all Animals and the Air; I now proceed to ſhew that it is not probable that Diſeaſes can be cauſed by any thing but the Air, as it is received into the Body either in Quantities too ſmall or too large, if it is either too much condenſed, or infected with Contagion.

I have quoted this Paſſage with a View, firſt to ſhew that Hippocrates had taken notice of the general Influence of the Air on Animal Bodies, which will appear more abundantly in his Treatiſe of *Air, Water and Climates.* Secondly, as an Inſtance of the Precariouſneſs of Theory in Phyſic, ſince this great Man, whoſe Penetration enabled him to obſerve the Changes which happen in Diſeaſes, and deſcribe them with the greateſt Accuracy, alſo to accommodate Methods of Cure to Diſtempers, the very beſt that could poſſibly be contrived, with the tials Mankind had, in his Days, arrived to a Knowledge could not however avoid running into Puerilities and when he attempted to reaſon about things which were Subjects of his Senſes, and conſequently out of his Reach.

That great Poet and Philoſopher Virgil has been more fortunate in his Account of the Effects of the Air Animal Bodies, inſomuch that he ſeems to have been with ſome of its Properties demonſtrated ſince by means Air-Pump, and by orher Experiments, which will be under this Article.

After having given an Account of the Prognoſtics Weather, from the Changes produced in the Brute he goes on to give the Reaſon for it thus:

> *Haud equidem credo, quia ſit divinitus illis*
> *Ingenium, aut rerum fato prudentia major:*
> *Verum ubi tempeſtas, & cæli mobilis humor*
> *Mutavere vias, & Jupiter humidus Auſtris*
> *Denſat erant quæ rara modo, & quæ denſa relaxat,*
> *Vertuntur ſpecies animorum, & pectora motus*
> *Nunc alios, alios dum nubila ventus agebat*
> *Concipiunt: hinc ille avium concentus in agris,*
> *Et lætæ pecudes, & ovantes gutture corvi.*

Upon the Whole, it will appear by the Quotations give from different Authors, that the ancient Phyſicians perfectly ſenſible of the Importance of the Air, both gard to the Preſervation of Health, and Cure of Diſeaſes; that they took more care than is uſual amongſt us, not to correct the noxious Qualities which the Air may particular Times and Seaſons, and prevent the ill Effects of, but alſo to render it medicinal, and of Aſſiſtance in the of Diſeaſes.

The very Air that ſurrounds us is continually Temperament, while it changes to hot or dry, or cold beyond a juſt Degree. As to other Cauſes, we are not once obnoxious to them, nor meet with them every Day; the Air that preſſes on our Bodies is circumfuſed around and is drawn into us by Reſpiration. Hence the Bodies mals muſt of neceſſity have their Temperament affected, cording to the various Alterations it undergoes. Sometimes ambient Air acquiring an Exceſs of Heat and Moiſture pestilential Conſtitution, and becauſe the Humours of the which are bred of unwholeſome Food, are ſubject to putrefy, a dation is laid for a peſtilential Fever. *Aetius Tetr.* ii. *c.* 94.

Oribaſius, in his medicinal Collections, *lib.* ix. *cap.* 1. ſcribes from Galen the following Paſſages relating to the Air.

The beſt Air is that which is the pureſt, not charged moiſt and heavy Vapours from any ſtanding Pools or nor infected with unwholeſome Damps and Exhalations ſome neighbouring Caverns, like that of Sardes and Air that has contracted ill Qualities from the common belonging to ſome great City or Army, or from the putrefied Carcaſſes or rotten Dung of Vegetables, muſt be bad, and ſtands condemned. So likewiſe is that which and foggy from ſome neighbouring Lake or River, or on every Side with high Mountains, and never ſtirred or by the Winds; for this laſt Sort corrupts and ſuffocates, like the Air in Houſes that are uninhabited and ſhut up, contract much Filth and Mouldineſs for want of airing. theſe Kinds of Air are hurtful to all Ages, as, on the a pure Air is univerſally agreeable. Thoſe Differences of Air, which are in regard to Heat or Cold, Dryneſs or do not affect all Perſons alike. To Bodies that are in the Temperament the beſt temper'd Air is moſt agreeable; but ſuch as tranſgreſs in ſome prevailing Quality, that Air is to choſen which exceeds in the contrary. Thus Heat balances Cold, and Dryneſs Moiſture, when too Meaſure of one is compenſated by an equal Exceſs in other.

Alexander Trallianus, *ſpeaking of the Houſe in hectical Patient is to be lodged,* We are not only, ſays he, give the ſick Perſon all the Means of Refrigeration that outwardly be applied; but we ſhould ſtudy, by ſome Method, to change the Air, by producing in it a cooling lity, that may be ſerviceable to our Deſign. If therefore Summer, let the Sick lie in a ſubterraneous Room, and Floor be plentifully ſprinkled with cold Water, to cool the Let Water alſo fall from one Veſſel into another, which, ſides the forementioned Benefit, by its moderate and Murmur induces Sleep. It would be yet better, and for our Purpoſe, if we could ſo change the Air, as that it not only refrigerate, but corroborate the Body. And this be, in a great Meaſure, effected by ſtrewing the Floor Roſes, Houſleek, Brambles, Twigs of the Lentiſk-tree e-tendrils, or ſomething of like Tendency, which has a ngthening as well as cooling Virtue. An Air thus tem- ed muſt certainly be good for all hectical Perſons, but eſpe- ly for thoſe who feel their Heart and Lungs principally af- ed with a burning Heat, like Fire; for ſuch Patients do find ſo much Relief from a refrigerating Diet, as from the iration of the cool Air; as, on the contrary, they who e their Liver, Belly, or any other Part, moſt ſenſibly diſ- ered, receive more Benefit from Choice of Food than Change Air. In ſhort then, while the Summer holds, we are to r the Air by Refrigeration; but in Winter we are not to ice a Warmth therein, becauſe however cold it be, it never ts the Perſons we are ſpeaking of. The Body, for the ſame ſon, muſt be moderately cloathed, and not heated with a ltitude of Garments, which may cauſe a Faintneſs. *lib.* xii. 4.

aulus Ægineta, *for ſuch as have taken too violent Purges, ad- s, among other things*, that they may be kept from Air that eeds a moderate Degree in Cold or Heat. The firſt, ſays drives the Matter from the outer Parts inwards, and aug- nts the Flux; the other diſſolves the Body, and deſtroys the ngth. *lib.* vii. *cap.* 7.

he ſame Author, *after ſpeaking of the Alterations made on Bodies of Animals by the Changes of the Air, in the ſame Terms etius, before quoted, thus goes on:* He who knows theſe gs will not only be able to foretel what Diſtempers will lly happen from every Conſtitution; but will find out hods to prevent them, by inſtituting a Regimen quite op- e to the preſent prevailing Intemperies of the Air. What- Bodies then are ſubject, from their proper Temperament, ll into any Diſeaſe, are eaſily affected and hurt by a con- ing Diſpoſition of the Air; but ſuch as are of a Tempera- t contrary to that of the Air, not only receive no Injury, find themſelves better; the Meaſure of their Exceſs in one lity compenſating for that of the Air in the contrary. A Man, therefore, who underſtands theſe Things, will pre- his Health by oppoſing Contraries to one another, ſome- s uſing refrigerant, ſometimes heating Medicines, as need require.

o ſerve the firſt Intention, or Refrigeration, he makes fre- t Uſe of Water, indulges Reſt, eats little, and drinks plen- y; but when he has Occaſion to acquire a contrary Qua- he knows by warm Cloathing, much Exerciſe, full Eat- and ſober Drinking, to heat his Conſtitution as much as be requiſite. A cold and moiſt Air may, in a good Mea- be remedied, and converted into the oppoſite Qualities of and dry, by making large Fires, which Acron the Agri- ine is ſaid to have done, in order to deſtroy the peſtilential ction in the Air. *lib.* ii. *c.* 35.

his Chapter on Air is taken from Galen, and repeats verbatim *is before quoted from Oribaſius, as far as that Paſſage which mns Air that is pent up between high Mountains, and then on thus:* The Air on high Mountains, and in hilly Coun- when no Wind ſtirs, is more wholeſome, and good for natic and conſumptive People, and all Indiſpoſitions of the and Breaſt. But the Air of low Regions, which is pure, t for old People, and ſuch as are ſubject to Faintings. Sea Air is beneficial in hydropical and watery Diſtempers, cially ſuch as have a cold Cauſe; for Nerves affected by ſent of Parts, and Proſtration of Appetite. The Air of Places is not good; for in the Winter it is too cold, and mmer ſultry hot. Air filled with the Exhalations of Me- s bad; the Air of a clayey Soil relaxes the Stomach; but comes from a light yellow Earth, is more drying than the er; the beſt exhales from a black Loam.

he Air alſo changes according to the Seaſons of the Year. e Spring it is hot and moiſt, in the Summer hot and dry, utumn cold and dry, and in the Winter cold and moiſt. n, there are three Differences in each Seaſon, the firſt, le, and laſt; of theſe the middle bears the trueſt Character- or Temperament proper to that time; for the Extremes cipate of the adjoining Seaſons. Moreover the Moon cauſes Changes in the Air every Revolution. The firſt Septenary, uarter, which is reckoned from the new Moon to the ſeventh incluſively, is, like the Spring, hot and moiſt. The ſecond enary, which holds to the full Moon, is like the Summer. third, the Moon now decreaſing, reſembles the Autumn; the laſt, the Winter. Yet farther, every Day has its Dif- ces of Air; for the Morning is hot and moiſt like the g, in which the Bodies both of ſick and ſound Perſons relaxed, ſo that even feveriſh Patients find it the moſt able Part of the Day. The Middle of the Day may compared to Summer, the Twilight to Autumn, and the ing to Winter. And laſtly, to conclude, the firſt Part of Night is likened to the Spring, the Middle to Summer, and reſt according to Order.

Air is underſtood that Fluid, which is ſcarcely to be per- d by our Senſes, but which manifeſts itſelf by its Reſiſtance odies moved in it, and by its ſtrong Motion againſt other Bodies, when it is called Wind; and by this Reſiſtance and Motion of the Air, we know it is incumbent every where upon the Surface of our Earth. We all live in it, we enjoy it, and are perpetually kept alive by it. The Laws of our Exiſtence, and inevitable Neceſſity oblige us to inſpire and expire this Air, be it what it will; inſomuch that all the Aſſiſtances of Art are vain, and all that is done for us in the common Courſe of Nature is fruitleſs, if we are deprived of the Benefit of the Air.

If we examine into the Manner in which Nature operates according to the Laws which the great Creator has ordained, we ſhall plainly diſcover, that this Air is the grand, efficacious, and neceſſary Inſtrument which Nature univerſally employs in almoſt all the Operations ſhe is perpetually engaged in. For in this, Bodies of all Kinds are placed; in this they move, and in this they perform all their Actions, as well thoſe which proceed from their private and particular Natures, as thoſe which depend on their Relation to other Bodies. There is ſcarcely any Liquid, as appears by Experiments, which has not Air intermixed with it; ſcarcely any Solid, out of which Air may not be extracted by Art. So that it is ſcarce poſſible to ſpecify any Operation of Nature, which happens without the Aſſiſtance of Air, or utterly excluſive of it. The Operations of Fire, the Loadſtone, Gravity, and the particular Attraction and Repulſion of Corpuſcles, may perhaps be alone excepted, as capable of being performed without it; to all others it is abſolutely neceſſary. Whatever is performed in Chymiſtry is done in the Air, without any Exception, unleſs, perhaps, as the Alchymiſts will have it, that the Matter of the Philoſophers Stone, rightly prepared, and carefully locked up in the Philoſophical Egg, is intirely deprived of all crude Air, and is brought to its Maturity in *vacuo*; for they all are of Opinion, that nothing is ſo great an Obſtacle to the Maturation of this beautiful Fruit as the crude Air: But this is to be underſtood of other Particles that are intermixed with the Air, rather than of the pure Element itſelf.

It is very certain, that Fire which puts all things in Motion, can neither be collected, preſerved, directed, increaſed, or moderated without Air. Hence, then, if Air is neceſſary to Fire, Air is alſo neceſſary to every Operation of Fire; ſo that without it Fire would ceaſe to operate, nor could it be applied to other Bodies. The Fire here meant is that which is excited and ſupported by inflammable Fuel, by the Means of which both Art and Nature execute their principal Purpoſes.

Whoever has Leiſure and Inclination to take a View of the more general Claſſes of natural Bodies, will find, that Air is every where required to their Vitality, Growth, Vigour and Action; for if their Lives conſiſt in the Circulation of Humours through proper Veſſels, and by a peculiar Power converting the extraneous Juices they receive into their own Nature, or at leaſt by a ſingular Virtue applying them to their Subſtance, and thus increaſing in their Magnitude, it ſeems utterly impoſſible that one of theſe Functions can be performed without the perpetual Aſſiſtance of Air.

The Chymiſts, I am ſenſible, will be ſurpriſed, when they hear the Air named as concerned in the Œconomy of Foſſils, ſince the great Simplicity of the Matter of which they are formed ſeems to require Fire alone, in order to be capable both of acting and undergoing whatever is brought about in this Species of Bodies; but certainly thoſe who have duly conſidered the Nature of things, have long ago underſtood that Foſſils are brought forth and multiplied in the deepeſt Receſſes of the Mines, and are thence protruded upwards, and that all this is accompliſhed by the great Force of a ſubterraneous Fire. And as this is certain, ſo likewiſe it muſt be allowed, that this ſubterraneous, veſtal, and perpetual Fire is there retained, collected and applied by the Air alone. This it will be proper to ſet in a true Light, as it is a Point which has not been clearly treated any where elſe. Air then is a heavy, elaſtic Fluid, denſe in proportion to the Weights that compreſs it; acts more powerfully upon the ſame Fire, in Proportion to its acquired Denſity; expands itſelf in the ſame Ratio, as it is freed from Compreſſion; rarefies proportionably to the Intenſeneſs of the Fire that acts upon it; and inſinuates itſelf into all things, and exerts chiefly all its Properties in thoſe Parts which are deep, and towards the Center of the Earth. Hence, therefore, it always operates the more violently, the deeper and denſer it is; and being agitated by the Fire, which by this very Attrition of the Air is collected there in greater Quantity, becomes the phyſical Cauſe of the moſt violent Compreſſion, Attrition, Compaction, Depuration, and Union of homogeneous Particles; and hence the Foſſils which are generated there, are of a Nature ſuitable to ſuch a Cauſe. Without Air none of theſe would be produced; and perhaps this is the ſole Reaſon why they are only formed in thoſe Places.

What Boerhaave ſays here about ſubterraneous Fires, and the Production of Metals by Means of the Air, ſeems to want Proof.

Nor will it be any ways neceſſary to explain the Power of Air upon Animals and Plants; for ſome late very accurate Experiments have fully taught us, that no Eggs of Animals, or Seeds of Plants, be they ever ſo ripe, pregnant, and the beſt of the Kind, and cheriſhed with ever ſo kindly a Warmth, will ever bring forth the Embryo's contained in them, but will remain intirely unactive, if they are either deprived of Air, or are incloſed in ſtagnating Air in Glaſſes hermetically ſealed. All ſmall Plants likewiſe, even the moſt minute Moſſes, or aquatic Vegetables, when they are kept in a Place void of Air, or when it is not renewed, preſently wither and die. That the ſame alſo happens to all Animals, even to the ſmalleſt Inſect, is true, beyond all Contradiction.

An accurate Knowledge, therefore, of the Air, by which its actuating Properties may be underſtood, is abſolutely neceſſary for the Chymiſt, Phyſician, and Natural Philoſopher; for by this means alone we ſhall be able to comprehend a great many Operations which are performed by Art or Nature itſelf, their principal Cauſe very often being ſome innate Power of the Air, that exiſts nowhere elſe.

Mean time, there is not, perhaps, any natural Body, the perfect Knowledge of which it is more difficult to arrive at, becauſe, of itſelf, it ſcarcely affects the Organs of our Senſes. This one may juſtly attribute to its exceeding Subtilty, to which the Dulneſs of our Nerves renders us inſenſible; inaſmuch, as even by the Aſſiſtance of the moſt perfect Microſcopes, we are not able to diſcover any thing in it. But there is yet ſomewhat elſe in the Air, which is ſtill a greater Obſtacle to our rightly underſtanding its Nature; and that is, its containing ſo many various Kinds of Corpuſcles, that in the whole Univerſe there is not found a Fluid compounded of a greater Variety.

It is highly neceſſary therefore, firſt of all, to conſider diſtinctly every ſingle Property of the Air, carefully avoiding all Confuſion. This done, and each being ſeparately examined with due Application, it remains, by making an Aggregate of the whole, that we obtain as true a Knowledge of it as the Nature of the Thing will permit.

The firſt Property then of Air, which offers itſelf to our Conſideration, is its Fluidity. This is ſo natural to it, that there is no Experiment the Event of which proves that Air could be deprived of it. It is evident to every one's Obſervation, that even in the ſharpeſt Froſt, when every thing, almoſt, is congealed, the Air ſtill remains liquid; even in an artificial Cold, forty Degrees greater than ever Nature has been obſerved to produce, the Air ſtill retained its Fluidity, notwithſtanding it was acted upon by ſuch a prodigious Exceſs of Cold. If you compreſs the Air with ever ſo great Weight and Force, into the utmoſt Denſity, yet it does not then become ſolid by Concretion, but remains equally fluid as before; and as ſoon as ever the Compreſſion is removed, it reſumes its former Degree of Liquidity. Among the many Experiments I have made with reſpect to the Coagulations of various Liquors, I have never yet met with one ſingle Experiment, by which it appeared that Air was coagulated into a ſolid Maſs. I muſt own, that once about Noon, in a froſty Day, when the Air was very ſerene, I obſerved ſome very ſmall Corpuſcles floating about in it, glittering in the Sun, and, by the Reflection from their little Surfaces, ſparkling with extraordinary Coruſcations; but after a careful Examination, I diſcovered that theſe were nothing but little Globules of Water, which before were diſperſed in the Air, but were now united and congealed, and thus appeared in Form of a very ſubtil Hoar-froſt. If therefore Fire can concrete with other Bodies, Air certainly appears to retain its Fluidity much more obſtinately than Fire itſelf. But, indeed, it rather ſeems probable, that there are in Nature two Fluids, the Elements of which will never unite with each other, nor will ever harden with any other Bodies into one homogeneous Maſs: And theſe two are Air and Fire. In the mean time, however, I have not forgot, that the Air concretes together, and unites with every kind of known Bodies, and ſerves as a kind of Element in their Compoſition: For this is ſufficiently evident from the large Quantity of Air which ſpontaneouſly makes its Way out of almoſt every Body, whilſt it is reducing into its Principles; and this is now uſually, though perhaps not altogether properly, called factitious Air. The Fact upon Examination appears to be thus: It is contained in all known Liquors whatſoever; it penetrates together with them into all the Receſſes of compound Bodies; thus at laſt, after a Coalition of the whole, it remains locked up in the Pores of Bodies, as it were, in very minute Veſſels; and afterwards, the Liquor in which it was conveyed thither being diſſipated, it is left there alone. Hence then it is evident, that this Air was not concreted there, but only lay concealed, being retained by the including Body. As ſoon as ever, therefore, it can diſengage itſelf from this Confinement, it ruſhes forth not in the leaſt changed, and returns with Velocity to its proper Nature. But this ſtill appears in a ſtronger Light, if we conſider common Water, whilſt freezing. There is concealed in it a great Quantity of inviſible Air: As ſoon then as ever the Water begins to form itſelf into Ice, and its Particles are preſſed nearer, and united together, as they are now deprived of that Degree of Fire which is neceſſary to keep them aſunder, and prevent their running into their natural Union, the Particles of Air, detained between the Corpuſcles of Water, cannot congeal, but are preſſed out of theſe Interſtices, where being united with other Particles, they are collected i Bubbles, and become again a moſt fluid Air; thus evidently evincing, that this Air was in reality intercepted, but n concreted, coagulated, or altered. The ſame Thing being ſuppoſed in the like Manner in all other Bodies, the Fluidity Air is ſufficiently demonſtrated.

The extreme Smalneſs of every individual Particle of Ai contributes greatly to its Fluidity; for they are ſo exceedin minute, that no one of them can be repreſented to the Eye b any Microſcope whatever. And yet they are far larger th thoſe of Fire; for they can neither make their Way throu Metals, Glaſs, Stone, or thick Wood, not even through ſtron Paper. And hence, Air may be excluded from any Place. cannot ſo much as paſs through thoſe inviſible Pores of Bodie through which Wine, Oils, Water, Brine, Lixivia, and ac Spirits, are able to inſinuate themſelves. Theſe Obſervatio are all evidently confirmed by the Air-pump: For if a leathe Ring is placed on the Braſs Plate which ſupports the Receive out of which the Air is exhauſted, and the Receiver is ſet o the ſaid Ring, then the Weight of the Atmoſphere, when th Air is exhauſted from the Cavity of the Receiver, will preſs th Edge of the Receiver with ſo much Force upon the Ring o Leather, that the external Air will not paſs into the Ca through the Ducts of the porous Leather, but will be intir kept out; and yet, if you pour any one of the befo[illegible]mentioned Liquors upon the Outſide of the Leather, it will be immediately imbibed, and it will ſoon inſinuate itſelf under th Glaſs into the Vacuum; a manifeſt Proof, that other Flui though ſomewhat thick and tenacious, can eaſily paſs throu the Pores of Bodies that repel and keep out the Air. And th ſame Thing is alſo demonſtrated by an infinite Number of oth Experiments.

In the next Place, theſe ultimate aerial Particles are eaſ ſeparated from one another, inſomuch, that their Diſunion ma be procured by a Force ſo ſmall, that it ſcarcely comes un the Obſervation of our Senſes. And this Separability of the A is ſuch, that it does not alter the Caſe, whatever is the Dire on of the Body that divides it, whether upwards, downwa or ſideways. This eaſy Diviſibility every one may obſerve, w conſiders the Motion of a ſmall poliſhed Body through the Air. Thus a Steel Needle moves with great Facility in t circumambient Air, which Way ſoever you pleaſe; and i the ſame with all other Bodies. This properly, therefore, m be called the Lubricity of the Air.

However, upon a critical Examination, we diſcover ſo Tendency towards a Union between the Particles of the Ai by means of which they readily run together into a mutual A ciation, though a very ſlight one, and which may eaſily be d ſtroyed: For it appears, that whenever one ſingle Particle Air lies concealed in any Liquid, it is not perceived; but ſoon as ever a like Particle is united with it, there preſe ariſes a Bubble from this Union, which by a certain Tenac reſiſts Diſſipation; and if afterwards another, and another B Bubble meets with the former, there ſucceeds, in Proporti a ſtill greater Bubble, tenacious, as the former, of its Ma tude and ſpherical Figure. It may, perhaps, be thought, t this is rather owing to the Compreſſure of the ambient Liqu nor do I deny that it may poſſibly happen by that means: B yet, the Effort at leaſt of the aerial Particles towards an U with one another will be ſtill greater than that between Particles of Water and the very minute Particles of Air. T Attraction, however, between theſe Particles, I acknowledg be very ſmall. It may, perhaps, be ſaid, theſe Particles r each other, as the great Newton has demonſtrated; and th not to be denied. However, it remains certain, that there Power in theſe Particles, by which, when they are united i ſpherical Figure, they long maintain themſelves in that Fo againſt the Force of Bodies that ſurround them.

If we examine this Inclination to Coheſion more cloſely, ſhall ſoon perceive, that the aerial Particles, ſingly and ſe rately conſidered, very eaſily ſuffer themſelves to be mixed any other Liquid void of Air; and that they obſtinately a in it, quietly reſting in its Interſtices, in the ſame Manner as Salts are diſſolved in Water. Beſides, it appears, that a l aerial Bubble, that is compoſed of many united Particles of A and placed on the Surface of a Liquor intirely deprived of it, reſolve into its elementary Particles; and that theſe, when t are thus ſeparated, will be carried into the empty Pores of Liquid, and never gather themſelves into a Bubble again, un by the additional Force of a ſtronger Cauſe.

And hence the Imperceptibility of the Air to our Senſes m be underſtood; for nobody would ever have thought of this which we now treat of, had not ſome large Bodies, and pri pally ſuch as contain but a ſmall Quantity of Matter und large Surface, been moved broadways through it. In this C the Air reſiſting the Motion with a remarkable repulſive Fo immedia ediately manifeſts itſelf to be a hard Body. And as theſe ſtances, which are in reality actual Repulſes, increaſe ac- ng to the augmented Velocities with which the Bodies are ed, or, as the Mathematicians compute, in a duplicate ortion, hence it may happen that this imperceptible Softneſs e fluid Air may become as hard as a Stone: For if one ld take a very thin Braſs Plate, an hundred Feet ſquare, ttempt to move it directly forwards, erect through the Air it was calm, with ſo great a Velocity that it ſhould move gh a Space of two and twenty Feet in a Second, he would find in this Air an incredible Reſiſtance or Hardneſs, eaſily computed by Mariotte's Method. And if with this Plate, and quieſcent, any one ſhould receive the Shock of a Wind, ng with the greateſt Rapidity, he would then likewiſe ex- nce with what Hardneſs the Air is capable of ſtriking, when moved with ſuch Velocity.

his is to be underſtood of the whole Air as a Compound, in h very large and heavy Bodies are capable of floating, as rs by the Inſtances of Birds and Things of ſome Weight d away by the Wind; not to mention thoſe of a light re, as Duſt, *&c.*

he next Property of Air, conſidered in the ſame Manner fore, is the particular Weight of its whole Bulk; for in eſpect all the Parts together, which in the Aggregate con- e this Air, preſs with ſuch a Force towards the Center of arth, that by their Fluidity they form a Sphere around its ce, which may properly enough be called the Aeroſphere, hich, on account of the large Quantity of exhaling Va- contained in it, has hitherto, by Philoſophers, been called tmoſphere.

he great Tuſcan Geometrician Torricellius, in the Year , attempted to aſcertain the Weight of the Air. After he famous Otto Guerick proved this Gravity by ſeveral le Experiments. That ſubtile Philoſopher, Monſieur Paſ- afterwards cleared it farther up; and the great Mr. Boyle red it more compleat. It was Mariotte, however, who he finiſhing Stroke to it, by the moſt curious Experiments , inſomuch, that now no Part of Natural Philoſophy ſtands ſurer Principles than this of the Gravity of the Air; for e Aſſiſtance of what theſe Gentlemen have done, the ht of the whole gravitating Atmoſphere may be obtained greateſt Nicety, and expreſſed under the Denomination mmon Weights.

has hitherto, however, remained impoſſible to determine act comparative Weight of the Body of Air; it appearing o two equal Portions of Air, taken at the ſame time, but ferent Heights, were ever of equal Weight; but that, on ontrary, the lower Air always outweighed the higher. And olds ſo univerſally true, that the very ſame Thing is ob- from the Surface of the Earth to the Tops of the higheſt tains; and in the very ſame Place, at different Times, the c Gravity of the Air will be different.

e Atmoſphere in our Climate, where-ever it has hitherto obſerved, is very conſiderably, and almoſt always won- ly changing with reſpect to its Weight, which never con- long the ſame. This Variation is chiefly apparent when- there is any Alteration in the Meteors in the Air, which frequent: For Rain, ſudden great Showers, Fogs, Hail, , Lightning, Thunder, Winds from various Quarters, s, Whirlwinds, Drought, and the Changes of the planeta- ſpects, are certain Indications of the Atmoſphere's be- g very ſoon of a new or different Weight. In this Affair ifferent Seaſons of the Year likewiſe produce an incredible tion. By means, therefore, of this ſucceſſive and inceſſant bility, depending on ſuch a Number of Cauſes which are nually reviving, it comes to paſs that the Weight of the ſphere never continues long the ſame. And hence an in- Number of Effects about the Earth, which almoſt all d upon the Action of the gravitating Air, are in a perpe- Viciſſitude and Inconſtancy: So that this ſingle Mutability Air, in point of Weight, is the Source of a great many es which produce different Events. In the mean time ver, by the help of very accurate Obſervations, continued e Space of above eighty-ſix Years, we are now come to nowledge of the greateſt and leaſt Gravity of Air that hap- in Europe: For, upon Examination, it has been found, the greateſt Weight of the Atmoſphere is *in equilibrio* with Inches and a half of Quickſilver in the Barometer, but the leaſt would raiſe it only to twenty-ſeven and a half; ſo the Difference appears to be almoſt a tenth Part of its great- Weight, within which Compaſs the perpetual Variation of Gravitation of the Atmoſphere is included.

his daily Alteration depends on many particular, and per- different Cauſes; but yet, however, ſuch as are intirely n, and may be come at by diligent Obſervations. And ever this ſhall be accompliſhed, then we ſhall be able to a regular Judgment of this Fluctuation, which at preſent is d upon as uncertain. Nicholaus Kruquius, whoſe Genius, ing, and indefatigable Induſtry, highly qualify him for the vation of theſe Studies, and whoſe Meteorological Tables, compoſed with infinite Diligence and Accuracy, ſhew us at one View all the Cauſes contributing to every Degree of the increaſed Weight of the Atmoſphere, has given Reaſon to expect farther Diſcoveries. It were to be wiſhed that the Inquiries of this great Maſter in Natural Knowledge might meet with Encouragement equal to their Author's Merit; leſt, when he is gone, we ſhould look in vain for another that is equally qualified for making Diſcoveries of this Nature.

Laſtly, It has been likewiſe obſerved, that the Weight of the common Air, about our Earth, at the time of the middle Weight of the Atmoſphere, and in the moſt temperate Seaſon of the Year, is to that of Water as 1 to 850: But this muſt be underſtood with the Conditions mentioned above, otherwiſe nothing certain can be affirmed about it.

The Air reſting with its whole Weight upon our Earth, preſſes its Surface perpetually. And this Preſſure upon any particular Body is equal to a Force which would ſuſtain a perpendicular Column of Mercury to the Height it then ſtands at in the Barometer; the Baſe of which Column will be a horizontal Plane, cutting a Pyramid, whoſe Apex is in the Center of the Earth, whilſt its Sides touch the horizontal Limits of the Body thus preſſed by the Air. Thus then may this Power be every where exactly computed, by conſidering the Height of the Quickſilver in the Barometer at the time the Computation is made, and the Magnitude of the Surface of the Body preſſed upon. And hence it is inferred, in the ſecond Place, that Bodies placed on the Earth are ſo much the more preſſed by the incumbent Air, the nearer they are to its Center; for it is evidently demonſtrated in Hydroſtatics, that the Preſſures of Liquids upon their Baſes are in Proportion to their perpendicular Altitudes. Hence, therefore, if we conſider the Air as a Liquid, every where homogeneous and incompreſſible, then the Proportion in which Bodies are compreſſed in every Part of the Perpendicular, from the Surface of the Earth to its Center, might be eaſily diſcovered: But as the elaſtic Power of the Air induces a great many very different Conſiderations, it will be neceſſary to treat of its Effects particularly. Mean time, it appears, on the other hand, that all Bodies, the farther they are raiſed above the Center of the Earth, the leſs in Proportion they are affected by the Preſſure of the Air. But it muſt be farther obſerved, that Bodies in the very ſame Situation will be more cloſely compreſſed together, as the Weight of the Air is augmented, according to the above mentioned Obſervations. And, again, as ſoon as ever the ſame Air decreaſes in its Weight, the Preſſure upon theſe Bodies will be proportionably diminiſhed. Moreover, all thoſe Bodies that are expoſed to the Air are never long compreſſed with the ſame external Force, but the Compreſſion they ſuffer is varying continually; with this Limitation however, that the Difference of the Preſſure is never found in the ſame Place to exceed one tenth of the whole: Therefore, the Air itſelf, while by reſting on all Bodies it thus compreſſes them with various Forces, muſt likewiſe in Proportion be repreſſed by them, provided they are elaſtic, or ſuch as have in them an innate Effort to expand themſelves, or to recover that Size which is natural to them. Hence it appears, that in all Bodies, which are ſituated in the Air, there is a perpetual Oſcillation of their Particles, correſponding to the reciprocal Augmentation or Diminution of the Weight of the Air. This Oſcillation is but ſmall indeed, as being confined within the Limits above ſpecified, for the Compaſs of its Variation; but ſtill it is a proper Oſcillation, and is almoſt continual. This Alteration, joined with the perpetual Change brought about with reſpect to the Bulk of Bodies by the Actions of Heat and Cold, muſt have very conſiderable Effects. We acknowledge, therefore, two perpetual Cauſes of the conſtant, internal Motion of all the Particles of elaſtic Bodies; which are Fire, and the Atmoſphere. However, it muſt be remarked, that upon Bodies which are abſolutely ſoft, if any there are intirely deſtitute of a Power to recover their former Figure, when the Force that preſſes them is removed; and upon Bodies, ſuch as Water, which cannot by any external Weights be reduced into a ſmaller Space; upon ſuch, I ſay, the compreſſive Force of the Atmoſphere, with regard to its Increaſe or Diminution, has no Effect; and, conſequently, upon ſuch Bodies the reciprocal Oſcillation we have mentioned will be of no Efficacy. Seeing then that Fire acts equally, and even more upon theſe very Bodies than on all others, it plainly appears, that the Power of Fire, on this Account, is to be regarded as far more univerſal than that of Air, and conſequently of any other Body.

It will now be of Service to us, if, with a View to Chymiſtry, we take notice of thoſe Effects which the external Air produces, conſidered as a Fluid and gravitating Body together; for in this Light it evidently appears, that it muſt reſt with ſome Force upon the outward Surfaces of all Bodies, as has been explained above. Hence therefore, in the firſt Place, it will inſinuate itſelf between the Surfaces of all Bodies, the Diſtances of which, from one another, leave Interſtices wide enough to admit the external Air, which, by its Subtilty, or the looſe Texture of its Parts, may be able to enter into theſe void Spaces: Hence, alſo, it is evident, that all the little inviſible Pores of Bodies, though, in Appearance, perfectly empty, are, in Reality, common Air. And ſince this Air muſt certainly, in thoſe Interſtices, perform all the Effects which are proper to it, hence an infinite Number of the Operations of Nature will of conſequence depend upon it. Secondly, it is a curious Obſervation in Hydroſtatics, that the heavy and fluid Air preſſes upon every Side of Bodies with an equal Force, whether the horizontal, vertical, ſuperior, inferior, or oblique. This is demonſtrated in that Science.

We now proceed to the Conſideration of thoſe peculiar Properties which are poſſeſſed by the Air alone.

The firſt then that here offers itſelf to our Obſervation, is its Elaſticity. This is that ſingular Quality, by which all known Air, poſſeſſing a certain Space, and being confined there, ſo that it cannot eſcape, will, if it is preſſed together by a determined Weight, reduce itſelf into a leſs Space, which will be always in a reciprocal Proportion to the Quantity of the Weight that acts upon it; with this Circumſtance, however, always attending it, that it will conſtantly, by a ſpontaneous Expanſion, recover again the Space it had loſt, in Proportion as the compreſſive Force is diminiſhed; and when this Force comes to be the ſame as it was in the Beginning of the Experiment, then the aerial Maſs will always infallibly expand itſelf throughout the whole Space that it before took up, provided that no other Cauſe, in the mean time, intervenes to prevent it. If the Preſſure is leſſened, Air extends itſelf to a larger Space; if it is increaſed, it reduces itſelf into a leſs.

Now ſuch a Diſpoſition to yield ſo readily to ſuch a Compreſſion, and yet recover itſelf with ſuch a Spring, I do not remember to have been obſerved in any other Liquid hitherto examined. It is certain no ſuch thing is diſcovered in Alcohol, Oil, Water, Spirits, or any Lixivia. For though all theſe are contracted by Cold, and dilated by Heat, yet they are not compreſſed by Weight ſo as to take up leſs Space; nor being freed from Preſſure, do they expand themſelves. This, therefore, is the peculiar Property of Air.

This Elaſticity of the Air cannot be deſtroyed, inaſmuch as, upon Examination by every Kind of Experiment, it has always remained elaſtic; nor are its elaſtic Parts, either by long Reſt, or the greateſt Preſſure, ever ſo altered as to loſe their Elaſticity. For Mr. Boyle and Mariotte having, with a particular View to this, kept common Air ſtrongly compreſſed, and ſhut up in a Wind-gun, found, upon their ſetting it again at Liberty, that it was perfectly as elaſtic as it was before. And laſtly, that great Geometrician Robervallius, examining Air which had been ſhut up for the Space of fifteen Years in the like Manner, found that it had not loſt any thing of its Elaſticity. See *Du Hamel, Hiſt. de l' Ac. Roy. des Sc. p.* 368. But it will hereafter farther appear, that even thoſe elaſtic Particles of Air which are detained in the Interſtices of the moſt internal Parts of fluid or ſolid Bodies, do, when they are ſet free from thoſe Confinements, and are afterwards united to other Particles, exert again that Elaſticity, which they ſeemed to have loſt, to ſuch a Degree, as not to give the leaſt Indication of retaining it; for as ſoon as ever they recover their Liberty, they produce incredible Effects, which can be attributed to their Elaſticity alone; and hence it evidently appears, that neither Time nor Reſt, nor even their ſuppoſed Concretion with animal, vegetable, or foſſil Subſtances, are ever able to deſtroy this wonderful Property of the Air. In the mean time, however, ſuch is the Nature of Air, that its elaſtic Particles, when ſeparate and by themſelves, may be ſo united to other Bodies, by which they are intercepted, or at leaſt may reſt in them in ſuch a Manner, as not, for Ages together, to produce any elaſtic Effect; and that upon being freed from thoſe Bodies, and united with others of the like Nature, they demonſtrate that they have intirely retained their Elaſticity. Hartſhorn, for Example, may be preſerved for Ages; and yet, upon a chymical Examination of ſome which had been kept above fifty Years, and by this Means was grown exceeding hard and dry, it is ſurpriſing what a prodigious Quantity of elaſtic Air it yielded in its Reſolution. Hence, therefore, it is very probable, that one ſingle, aerial Particle is not elaſtic, with reſpect to the Increaſe or Decreaſe of incumbent Weights; but that this Elaſticity then only exiſts, when two ſuch Particles of Air come to touch and repel one another; and that, conſequently, if theſe aerial Particles were ſo far diſtant from each other, as that this repelling Force ſhould utterly ceaſe, then this whole Fluid would, for that time, neither ſpontaneouſly expand itſelf, nor in the leaſt reſiſt any Compreſſion; but would then only exert this Power, when by being preſſed cloſe to one another, they ſhould begin to come within the Sphere of each other's Activity. One aerial Particle, therefore, would have nothing of this elaſtic Power; but it would be only the joint Effort of ſeveral. Hence then, in all Appearance, the elaſtic Force of Air ought to be regarded as conſtant and immutable.

But in what Manner, or to what Degree ſoever Air has been condenſed by the utmoſt Power of Weights, it has always remained, even in that Condition, very fluid; for after it has been contracted to a great Denſity, it has conſtantly reſtored itſelf again, ſo as to fill exactly the former Space; all the Pa ticles receding from each other as readily as they before c together. Since, therefore, by every Experiment that h been hitherto made, this Property has been always found take place, we may ſafely aſſert, that the Fluidity of the Ai in all the large Compaſs, from the moſt rarefied to the m condenſed, remains without Alteration; and that therefore is neither capable of being conſolidated by the intenſeſt Col or the greateſt Degree of Compreſſion we are acquainted wi

But nothing in this Elaſticity of the Air appears a gr Paradox to Perſons not acquainted with theſe Speculations, th what Mr. Boyle has evinced with much Certainty, *viz.* that t elaſtic Power which prevails in any particular Portion of t Air, can, without any greater Condenſation than what is o ing to the compreſſing Air itſelf, ſuſtain all the Force of a wh Column of the incumbent Atmoſphere. And ſecondly, t this elaſtic Power, in ſuch a very ſmall Portion of Air, ca by expanding itſelf, repel the Bodies which compreſs it w as much Force, as that which is exerted by the whole exte Body of Air.

This efficacious Power of the Air the Chymiſts ought have a particular Regard to, ſince in all their Operations p formed by Means of Fire in cloſe Veſſels, this elaſtic Force p duces wonderful and often very terrible Effects, acting wi violent compreſſive Force upon the Contents, often burſting Veſſels, and producing many other great Events.

A very little Portion of Air, therefore, wherever c fined, is capable of producing the very ſame Effects as a v large Quantity in another Place; for if any Portion of c mon Air is contained within a Cavity that is eaſily compreſſi it will there ſuſtain the whole Preſſure, and wholly keep the intire Body of the Atmoſphere. And whenever the in that Place is heated by Fire, or freed from its external Pr ſure, it immediately, by expanding itſelf, becomes ſo rare, to produce ſuch Effects as are equal to thoſe of the grea Body of Air.

Another Law of the Elaſticity of the Air is, that when it condenſed in a certain and determinate Degree, it acquires by the Application of Heat a greater Power to expand itſelf on a Sides, than it had before. And this Power of Rarefaction ariſing from Heat, has the ſame Effect as if that Air had been made denſer in Proportion to the Degree of Heat which it before obtained.

This Expanſion by Heat is ſooner brought about in Air, tha any other Body, either fluid or ſolid, hitherto known in th Univerſe. In Drebbelius's Thermometer, an Increaſe of Hea not perceptible without ſuch a Contrivance, ſhews immediate a ſenſible Rarefaction of the Air.

It is farther evident from Experiments, that of all know Bodies, Air is the only one which can be expanded by Fire ſo great a Degree; for Air, by the Application of Fire, beco ſo rare, that neither the Meaſure or Limits of ſuch its Dila tion have been yet diſcovered. The Heat of boiling Water pands the Air to a third Part of its Bulk. *Hiſt. de l' Acad. R des Scien.* 1699. *p.* 101. In the Heat then which is capable fuſing Iron, certainly this Expanſion of the Air muſt be i menſely great.

In this Part of the Hiſtory of Air Boerhaave ſeems to miſt for Water is capable of a much greater Degree of Expa by Fire than Air, ſo as to exert a prodigious Force, by w very large Weights are eaſily elevated. Now I know no Exp ment which evinces clearly that it is poſſible to rarefy Air by Heat of an artificial Fire, ſo as to make it take up more th three times the Space into which it is expanded in its na State.

It is alſo found, that unequal Maſſes of Air, but of th ſame Denſity, are always expanded in the ſame Meaſure by the ſame Degree of Fire; ſo that theſe Expanſions in the ſame De gree of Denſity, by a conſtant Law of Nature, always are i Proportion to the Augmentations of the Heat applied. Hence, therefore, if the Expanſion of Air of a given Denſity, by a ce tain Degree of Heat, is once diſcovered, it will conſtantly hold good in all ſimilar Caſes. Upon this Subject let me refer you to ſome very curious Obſervations in the *Memoirs of the Ro Academy of Sciences*, 1699. *p.* 113. and likewiſe in the *Mem* for 1702.

But with regard to the Elaſticity of the Air, this is likew conſtantly obſerved, that the more it is condenſed by Preſſu the greater elaſtic Force will it acquire by the ſame Degree Fire, and that nearly in a direct Ratio of the Denſities; wh very curious Property, to the great Advantage of Chymiſtry, was diſcovered by the ingenious Monſieur des Amonton's *Hiſ de l' Acad. Roy. des Scien.* 1702. *Mem.* 155. Hence, then, follows, that a Portion of Air that is exceeding denſe, may, b Means of a very little Fire, acquire the greateſt reſiſting Force

If, therefore, it were poſſible that common Air could Reality be condenſed into a Space eight hundred times leſs th what it naturally takes up, then it might, by being acted up by the Heat of boiling Water, ſuſtain 29600 Inches of Mercury ſince common Air, by the ſame Degree of Heat, will elevate

37; which immenſe Force teaches us, that if the fierceſt terraneous Fire ſhould, in the Bowels of the Earth, be ap- ed to Air reduced to one eight hundredth Part of its Bulk, re would thence ariſe a moſt incredible Force, vaſtly ſu- rior to all that we are acquainted with. This, however, is rtain, that if you increaſe the Denſity of the Air, and at ſame time augment the Heat that is applied to it, then the ſtic Power of the Air will always be increaſed in a compound tio of both.

But, on the contrary, the leſs the Air is compreſſed, the leſs the elaſtic Force that it acquires from the ſame Degree of eat. So that Air which by any Means is rendered twice rarer, quires twice as much Heat to make it require the ſame Ela- city that it had before, and thus in any Degree of Rare- ction.

Theſe things the ſame celebrated Author, in the Places laſt entioned, has demonſtrated by the moſt correct Experiments. nd hence we underſtand, that the Air in the higheſt Regions the Atmoſphere will ſcarcely acquire any Increaſe of its ſtic Force from the moſt intenſe Heat; but, on the contrary, ill become almoſt unactive, on account of its exceeding Ra- ty; and this anſwers perfectly to Obſervation.

The laſt Law which is diſcovered in the Elaſticity of Air is, at it is contracted into a ſmaller Space by Cold, as it is by Increaſe of Weight. Hence its Denſity is always increaſed Proportion to the Augmentation of the Cold.

It may be of ſome Importance to Chymiſtry to conſider theſe roperties of Air, which I have related from the illuſtrious oerhaave, who has collected every thing material which oc- rs in Authors who have wrote on this Subject. It will be of qual Uſe, with reſpect to Phyſic, to be acquainted with thoſe odies which float in the Air. And theſe are incredibly nu- erous, of various Natures, and perfectly different in different rts of the Atmoſphere. We ſhall not therefore deviate much om the Truth, if we conſider it as a Chaos, in which Corpuſcles almoſt every Kind being confounded together, make a ompoſition, conſiſting of the moſt different Things, of which will be incumbent on us to give a particular Account, that om hence we may be enabled to make juſt Concluſions con- rning it,

In the firſt Place, then, in the common Air, there is always d every where Fire, or Heat.

In the ſecond Place, there is Water contained always in e Air, and in every Part of it, and that in ſuch a Manner, at it does not appear poſſible, by any known Methods, to ſe- rate the Water intirely from it. Water is every Moment rſpiring from every Perſon in Health, in an inviſible Vapour. anctorius computes, that in the Space of one Night and Day, ere exhales from ſuch a Perſon nearly the Weight of five ounds, much the greateſt Part of which is Water. A vaſt uantity of aqueous Steams muſt therefore be continually ex- aling from the Animals of all Kinds that are ſcattered all over e Earth; and that all Plants likewiſe ſend forth a dewy aqueous apour, is a Thing that has been long confirmed by Obſerva- ion: But the very induſtrious and ingenious Dr. Hales has tely, in his curious Treatiſe of *Vegetable Staticks*, proved by xperiments what prodigious Quantities of aqueous Vapours ex- ale from Plants; not to mention the Water, that by means of ubterraneous, culinary and chymical Fires, is continually rare- ied ſo as to riſe up into the Air. Dr. Halley, from the Obſerva- ions which he made with the greateſt Care and Accuracy, as made it appear, that from the Surface of the Mediterranean lone, in one Summer's Day, there exhales, by the Heat of e Seaſon only, without any Aſſiſtance from the Wind, 52,800,000,000 Hogſheads of Water. See the *Phil. Tranſ.* nd the Wind and Sun elevate from the Surface of that Sea, ill a much larger Quantity, *ibid.* If we compare now the uantity of Fog, Dew, Rain, Hoar-froſt, Hail, Snow, and octurnal Moiſture, that may be collected in the Space of a hole Year, with the Water which in the ſame Space of Time, y means of the natural Heat, has exhaled into the Air, we hall find, that in one Year there falls upon the Earth enough o cover the Surface of it to about thirty Inches high, as the nduſtrious Kruquius has plainly proved by his Meteorological ables. Hence it is probable, that there every Year exhales nto the Air, from the whole Surface of the Earth, a Quantity equi- alent to thirty Inches Height of Water. And of conſequence, ſince he *Area* of the Earth's Surface is ſufficiently known, it is eaſy to ompute the immenſe Quantity of Water that is perpetually uſpended in the Air.

And that Water is contained in every Portion of the Air, is vident to the Eye in the Air-pump; for there, as the Air, by he Action of the Pump, becomes more and more rare, and eſs fit to ſuſpend the Water, the Inſide of the Glaſs becomes louded with an aqueous Moiſture; the ſame Experiment thus vidently evincing, that Water does really reſide in all Parts of he Air; and that as the elaſtic Part of the Air is rendered ore rare, it becomes leſs capable of retaining it.

But that there is a very large Quantity of Water always and very where diſperſed through the Air, appears evidently to the Eye in dry, alcaline, fiery Fixed Salts; for if theſe, when they are perfectly pure, are expoſed to the Air, they will ſpontaneouſly diſſolve, by attracting the Water out of it. I took at nine in the Morning, two Ounces and one Dram of Salt of Tartar, dried in ſuch an intenſe Heat, that it melted in the Crucible, ſo that no Water at all remained in it. I then placed it in a Glaſs Baſon, made very clean, and in this Manner expoſed it to the Air, in cold, dry Weather, from the 17th of January to the 20th, in a Place which was very dry. The Conſequence was, that upon examining it by the Balance, it weighed three Ounces four Drams and a half; ſo that it increaſed in Weight an Ounce, three Drams and a half. But if we thus examine this Salt by a Pair of Aſſay Scales, we find it is every Moment gaining ſomething in Weight. And as there appears ſuch an Increment of Weight within the Compaſs of three Days, ſo if it is kept a conſiderable time in the Air, the whole of it generally diſſolves into a Liquor intirely fluid, pinguious, thick, ſomewhat tenacious, and unctuous, which is almoſt three times heavier than the Salt firſt expoſed, and this Liquor the Chymiſts call *Oil of Tartar per Deliquium*; beſides which, there will remain at the Bottom of the Baſon a very ſmall Quantity of a white Earth. If this Liquor thus produced by the Salt and Air be put into a Glaſs Cucurbit, with an Alembic, and diſtilled to a Dryneſs, very pure elementary Water will come over into the Receiver, and a dry Salt of Tartar, purer than it was before, and leſs ponderous, will remain at the Bottom of the Cucurbit. The Salt, therefore, receives from the Air this large Quantity of Water. And here we may obſerve, that the Water thus communicated to the Salt from the Air, diſſolves it in a very different Manner from what it would have been diſſolved by pure Water poured upon it; for this Dilution in the Air being ſlow and ſucceſſive, by the Application but of a very ſmall Quantity of Water at a time, diſſolves only the pure alcaline Salts that are eaſieſt of Solution, and therefore ſeparates this Part from the reſt which is diſſolved with more Difficulty, that is, which is ſomewhat more terreſtrial; and this cannot be effected by any other Art. And hence, by ſuch repeated Diſſolutions and Coagulations this whole Salt is at laſt converted into an Earth, and a volatile Principle, which diſappears, and is not perceptible afterwards. This Van Helmont knew very well, and other Alchymiſts had come to the Knowledge of it long before him. In this Experiment, it appears particularly ſurpriſing, that the very Moment, as it were, that this Salt is taken out of the ſtrongeſt Fire, and expoſed to the Air, this Humectation and Diſſolution commence, and the Increaſe of Weight perceptible by an exact Balance is begun, and from that Inſtant increaſes every Moment. And this, which I have very often beheld with Aſtoniſhment, has happened even while the Salt has continued exceeding hot, and been kept in a Place, at the ſame time, which was very much heated by the Fire; ſo that I could not, with the utmoſt Care, keep the Water of the Air from uniting with the Salt. But there is yet another thing to be obſerved, in this wonderful Attraction of Water from the Air into a dry alcaline Salt, which, ſome Years ago, a good deal engaged my Attention. I wanted a very acrid, dry, fixed alcaline Salt, in order to demonſtrate to ſome Perſons, who would not believe, and even denied the Poſſibility of it, that there might be a Tincture produced in an Inſtant from that Salt, and pure Alcohol; a Truth which ſome famous chymical Authors have, in their Writings, mentioned as a Fiction. This Salt, then, rightly prepared, glowing hot, and as yet in Fuſion, I poured into a very hot Braſs Mortar, and with a very hot Braſs Peſtle rubbed it as faſt as I poſſibly could, and as ſoon as ever it became a Powder, I put it up into a very hot and dry Glaſs Bottle, and immediately ſtopping the Mouth with a Cork, and a Piece of Bladder ſoftened with Oil, ſecured it as cloſe as I poſſibly could. The Conſequence was this; when I came to try the Experiment, though I had frequently before met with Succeſs, yet the Event at that time would not anſwer. Surpriſed at this, I carefully examined every Circumſtance that might produce this Variation, and diſcovered at laſt, that the Surface of the Salt was a little moiſtened by the Air in the Bottle; and that therefore this being already impregnated with Water, the Alcohol could not immediately act upon it.

Now, when I conſider this, I am clearly convinced, that in ſo ſmall a Portion of Air as can be contained in a Bottle, which will hold but three Pints of Water, there is Water enough to moiſten an Ounce of Salt of Tartar, and to increaſe its Weight: And having repeated the Experiment with the ſame Succeſs, I learnt at the ſame time, that the Water contained in that Portion of Air, which Water is about eight hundred and fifty times heavier than the common Air, muſt of conſequence make up the greateſt Part of the Weight which is ſtatically diſcovered in the Air itſelf: For if one eight hundred and fiftieth Part of the common Air was Water, then the whole Weight of the Air would certainly be owing to Water alone, which floats in it; and the other Parts, contained in the aerial Maſs, would make nothing towards the Weight of it, and would not, perhaps, gravitate at all. Upon this Subject I had ſome Converſation formerly with my Friend Mr. Henry Van Deventer, famous for his valuable Writings on Midwifry, who told me, he had obſerved the very ſame Thing.

If we conſider all theſe Phænomena with Attention, we muſt hence infer one, two, or all three of the following Propoſitions. Either, firſt, the Air, in all ſtill, cloſe, and ſubterraneous Places, muſt be in a perpetual Motion, in order to be able to apply that little Quantity of Water, which is diffuſed through its whole Maſs, to the Surface of the Salt of Tartar, ſo as to leave it there; for if a Cubic Foot of Air contains at the moſt $\frac{32}{425}$ of a Pound Troy Weight of Water, and communicates, within a Veſſel cloſe ſtopt, this Water to the Salt, then it follows, that all the Air muſt ſo revolve about the Surface of the Salt, as that all its Parts may ſucceſſively come in Contact with it, and thus depoſite the Water they contain: Or elſe, ſecondly, we muſt conclude, that thoſe Particles of Water, which at one time are diſperſed throughout the whole Maſs of Air, are at another time ſo moved through that Maſs, as that they are perpetually and ſucceſſively, ſometimes in one Part of the aerial Space, and ſometimes in another, till at laſt they all meet with that Salt which is placed within it: Or, in the third Place, we muſt acknowledge, that there is a true attractive Power betwixt a fiery, fixed Alcali, and Water; ſo that, like two Magnets, they reciprocally attract each other, in the ſame Manner as we read in *Sendivogius*, of an Alcali of the Earth, that attracts the celeſtial Dew, in order to Fertilization. If a mutual Attraction is the Cauſe of theſe Appearances, the attractive Power betwixt the Water of the Air and an alcaline Salt muſt extend to a conſiderable Diſtance, ſince a very little of the Salt will grow four times as heavy at it was at firſt, by means of the attracted Water; for an Ounce of Salt of Tartar, whilſt it is converted into four Ounces of *Oil of Tartar per Deliquium*, muſt have drawn into it three Ounces of Water: But three Ounces of Water require at leaſt two Cubic Feet and a half of Air to be diffuſed through it, in order to be attracted into that one Ounce of Salt; which Space, with reſpect to that one Ounce of Salt, is very great; but from all kinds of Experiments, it appears very probable, that all theſe three Cauſes concur, at the ſame time, in the Production of this Effect.

But nothing appears more extraordinary in this Affair, than that, whilſt the Water is drawn into the Alcali from the Air, and thus makes *Oil of Tartar per Deliquium*, which in Weight is to Water as ſeven to five, but to Air as 1190 to 1, there ſhould be found in it nothing of the aerial Elaſticity; ſo that this Alcali thus ſeparates the Water from elaſtic Air, and unites it to itſelf, but rejects intirely the aerial elaſtic Quality. Hence, therefore, it appears, that Air, free from Water, is very elaſtic; but on the contrary, when it is replete with watery Vapours, it proportionably loſes ſomewhat of its proper Elaſticity; and again, that by means of a great Quantity of fixed alcaline Salt produced on the Earth, a vaſt deal of Water may be drawn out of the Air.

In continued ſerene and very dry Weather, the Air becomes always more ponderous, the Atmoſphere heavier, and the Water mounts higher in the Air; ſo that, in reality, there is never more Water in the Atmoſphere than at that time, when, by reaſon of the Dryneſs here below, People generally imagine there is the leaſt of all: But the Water then is far more widely diſtributed and diſperſed; for the higher from the Earth the Water aſcends in the Atmoſphere, the greater are the Spaces into which it is diffuſed, and the farther, conſequently, its Particles recede from each other; and then they exiſt ſeparately, and do not immediately unite, nor afford any Moiſture. But if the Barometer is very high, and at the ſame time thick and ſtinking Fogs appear, then the watery Particles almoſt always float below, along with groſs, unctuous, and ſaline Exhalations; all which, at that time, are not equally mixed together. Again, when the Barometer is very low, and the Weather at the ſame time is very hot and cloudy, then the Water comes down to the lower Regions, but in an uniform Vapour, very moiſt, but not yet producing Rain. From theſe Obſervation it is manifeſt, that the Air, when loaded with abundance of Water, often appears very dry, bright, and perfectly clear; and that, on the other hand, when there is leſs Water in it, it may, by the Deſcent, Collection, and unequal Diſtribution of the Water, appear cloudy, dark, and very moiſt. And this is demonſtrated evidently in Cucurbits, Alembics, and Glaſs Receivers, whilſt Water is diſtilling in them: For if the Veſſels are kept ſtopt very cloſe, whilſt the Diſtillation is going forward, all appears bright and clear, and no cloudy Vapour is ſeen; but as ſoon as the Water in the Cucurbit, upon the Removal of the Alembic, begins to evaporate freely into the Air, the whole appears covered with watery and very thick Vapours, the equable Compreſſure being now removed.

But in the Summer Seaſon, when the Weather is fair and very dry, and the Surface of the Earth has been for a conſiderable time parched with the Heat of the Sun, then not only the Water, but other Particles likewiſe leſs volatile, as the oily and ſaline, are, by the Power of the ſolar Rays, carried up into the Air, and fill that Part of it which lies neareſt the Surface of the Earth. And as long as theſe Exhalations are kept in Agitation by the Heat of the Sun, ſo long nothing of them appears to the Eye: But as ſoon as the ſolar Heat, which at Three in the Afternoon is the greateſt, begins to remit, the Air ſoon after begins to grow cool, though the Earth, which retains the Heat communicated to it by the Sun a thouſand times longer than the Air, being yet hot, continues to breathe out Exhalations; and hence there is collected a white, denſe Vapour, which is cool above, but ſtill continues warm below. This Vapour, therefore, appears firſt in Ditches, and watery or marſhy Places; whence diſperſing itſelf by Degrees, it covers the Face of the Earth in the Evening and Night-time, with a Cloud, conſiſting of Particles of this Sort, which in the Morning is again diſſipated by the Heat of the riſing Sun. And this is what we uſually call Dew; which appears, from what is here ſaid of its Production, to be a very compound Fluid; ſo that nothing material can be aſſerted concerning its Properties, which would under all Circumſtances hold true: For ſince it is a Compoſition of all the Corpuſcles of the Earth, which are rendered volatile by the ſolar Heat in Summer, exhaling and deſcending again, and blended and confounded together, it muſt doubtleſs appear, upon the leaſt Conſideration, to be a perfect Chaos. Moreover, in every particular Part of the Earth, it muſt be of a Nature intirely different, according to the various Sorts of the Bodies in the Place where it is produced. In Gravel-pits, for Inſtance, and in high, dry, heathy Grounds, of a large Extent, there is collected but a very ſmall Quantity of this Vapour, and that almoſt intirely watery; whilſt that which is collected about ſtanding Waters, Fens, Moraſſes, fat bituminous Grounds, and Places abounding with the Exhalations of putrefied Fiſh and other Animals, is perfectly of a different Nature, and often pernicious to Mankind. It is no wonder, therefore, that the Chymiſts, in the artificial Reſolution of Dew, have met with ſuch contrary Principles, and written ſo differently upon the Subject, that you can ſcarcely find two of them that give the ſame Account of it. And as for thoſe who expect to find the Spirit of Life, the univerſal Menſtruum, the Mercury of the Philoſophers, and the Nitre and Steel of *Sendivogius* in Dew, they ſcarcely ſeem to have read the Works of theſe Philoſophers to any Purpoſe. That this, however, is a very ſharp, ſaponaceous, pinguious Liquid, abounding with a good deal of Nouriſhment for Vegetables, I do not deny. A Dew too, collected in a certain Part of the Earth, has yielded, by Diſtillation, a Liquor that impreſſed upon Glaſs the lively Colours of the Rainbow, which could neither be removed by Friction, an alcaline Lixivium, or Aqua-fortis: And this Liquor was inflammable, like Spirit of Wine, as appears from the chymical Experiments related in the *Republic of Letters*, *tom.* i. *p.* 590. And again, diſtilled Dew, digeſted for the Space of eight Days in a gentle Heat, and by repeated Diſtillation rendered ſix times more ſubtil, is ſaid to have broke three Glaſs Veſſels, and to have remained perfecty inſipid, though it was ſo very thin, that it reſembled pure Spirit, *ibid.* 1708, *p.* 152. And farther, in the *Philoſophical Tranſactions*, Dew is deſcribed as being like Butter, of a yellowiſh-white Colour, ſoft, melting by being rubbed upon the Hand, and growing dry and hardening by a moderate Heat, of a fœtid Smell in the Winter, and, in the Spring particularly, produced in the Night-time in pretty large Lumps. But the Nature of Dew is likewiſe ſurpriſingly various, according to the different Diſpoſitions of the Weather, and according to the various and ſucceſſive Changes of the Meteors in the Air; for hence it comes to paſs, that the very minute Seeds of ſmall Plants, and the inviſible Eggs of the ſmalleſt Inſects, are mixed with it, together with an infinite Number of other Things; which being all digeſted, fermented, putrefied, and diſtilled together, yield, at different times, Principles of very different Natures, and hence lead the Chymiſts into very extraordinary Opinions. The principal Part, therefore, of Dew, is Water; the reſt, becauſe of their great Variety, cannot poſſibly be determined.

That the Clouds are produced in the Air, from Water only, ſcarce any body doubts; but Water, every where equally diſpoſed, is tranſparent. Clouds, therefore, are collected from what is beginning to be Water, the Parts of which are circumvolved among one another with an unequal Motion, neither reſting nor moving equally. If the Water that is floating about in the Air mounts higher and higher, its Particles at laſt obtain a Situation ſo far above the Earth, that they are not any longer much united together, but receding from each other, they do not then conſtitute Water, but only the Elements of it: But when theſe Elements of Water come to deſcend again from the upper Regions, and are contracted into ſmaller Spaces, they aſſociate together, and become a kind of Water, then forming Clouds. The higher therefore the Water aſcends in the Air, the more ſerene and dry the Weather will be, and the freer from Clouds; and the contrary. But Water is carried up to a very conſiderable Height in the Air; for in Carniola, in the Neighbourhood of Venice, there are Mountains 10274 geometrical Feet high, on the Tops of which there are Indications of Moiſture, *Act. Lipſ.* 1689. *p.* 552. And on the higheſt

eſt Tops of thoſe Mountains, Nature preſents to our View
etual Snows; a certain Proof of the Elevation of Water to
Heights. And even over Teneriff, one of the higheſt Mountains
he World, there conſtantly, about Noon, hang Fogs, or
e white Clouds, which are daily reſolved into Water, which
s in ſuch Plenty down the Mountains, that it ſupplies the
e of Showers, and waters the whole Iſland without Rain,
Lipſ. 1691, *p.* 98. We are certain, therefore, that Wa-
ſcends to ſuch a Height: But had we ſufficient Obſervations
onfirm the Account Maignanus of Thoulouſe gives, in his
atiſe of *Perſpective, p.* 93, of the wonderful Phænomenon
ch he ſays he had obſerved, the Aſcent of the Water in the
oſphere would be found to be abundantly higher: For he
us, that in a very clear Night, and that at Midnight too,
e appeared, in the Month of Auguſt, an exceeding bright
e Cloud, which ſpread itſelf almoſt as far as the Zenith, or
ical Part of the Heavens; and ſays, that Riccius obſerved
ſame Thing in the Neighbourhood of Rome: And, from
e Obſervations, he infers, that Clouds may be elevated be-
d the Projection of the Earth's Shadow. But this Projection,
ſtronomically computed from the given Time and Place of
appearing Cloud, would make it at a prodigious Diſtance
n the Earth; and hence, perhaps, that Appearance was ra-
to be aſcribed to ſome other unknown Cauſe, reſiding in
upper Regions of the Air, ſuch a one as forms the *Auroræ*
eales, or Northern Lights; ſince, on the Tops of the higheſt
untains there are rarely obſerved any Clouds; but, on the
trary, to a Spectator placed there, they appear below him,
ards the Valleys.

he lower Air being full of Water, the Elements thereof
in to unite, and, by this Aſſociation, to form ſmall Drops,
ch falling down, produce a light Rain, generally thick, but
ending with no great Force: For the leſs theſe Drops are,
greater are their Surfaces with reſpect to the Quantity of
ter they contain, and conſequently are the leſs inclinable to
cend with Velocity through the reſiſting Air.

ut when the Water in the upper Regions of the Atmoſphere
llected together, and becomes heavier, and begins to deſcend,
, by gradually falling down, it continually unites to it the
r Particles of Water which it meets with in its Fall. By
means are produced thoſe very large Drops which in Europe
e been obſerved of three Lines in Diameter, but among the
groes, a whole Inch, *Act. Lipſ. Suppl.* i. 425; which Drops,
taining a great Weight of Water under a Surface ſmall in Pro-
tion, ruſh more violently through the Air, and fall to the Earth
h a conſiderable Force. The higher the Place is from which
fall, the larger the Drops are, and ſo *vice verſa*; for it has
n always obſerved, that the Rain, in the upper Part of a
h Mountain, is the ſmalleſt; but that, as it gradually
cends, larger Drops are formed, till at the Foot of the Moun-
it produces the largeſt of all. Hence, the hardeſt Showers
pen in Summer, when the Water, being driven rapidly
nwards on a ſudden, Thunder, Lightning, and Tempeſts
cauſed. And hence alſo, the Drops of Showers, in
mmer-time, are uſually larger than they are in Winter.
ſtly, Obſervation has made it very certain, that Rain, in
ry Part of the Atmoſphere, is there the ſmalleſt where it is
t produced.

But when the Air, abounding with Water, and growing cold
ing the Night-time, is carried againſt the upper Parts of high
ountains, eſpecially if they are diſpoſed in a long Range, then
s cold and denſe Maſs of Bodies, particularly towards the
rth and Eaſt, during the firſt Part of the Night, and towards
South and Weſt after Midnight, ſtops, cools, and unites this
ater of the Air, and converts it into a real Fluid, which
es Riſe to a great many little Rills, which in the higheſt Part
the Mountain are ſmall, but, as they deſcend, and are joined
gether, become larger, and by this Means produce a perpe-
al Trickling down the Mountain, and afford an incredible
uantity of Water, which runs down, and produces various
ivulets, according to the various Channels of the Mountain
the Lands about it; and when theſe, by ſubterraneous Paſſa-
s, deſcend from a high Part of the Mountain to any Part of
e Declivities, and there burſt through Outlets, and ſo diſ-
arge their Stream, they then yield a pure Water, either fall-
g down, or bubbling up from a Spring. And here it is very
ſy to conceive, that, according to the different Height of the
rings, in reſpect to the Outlets, the playing of the Fountains
uſt be various. And hence, likewiſe, it is eaſy to account
r the Variety of Springs, both in the Quantity of Water and
ery other Circumſtance. And hence again it appears farther,
w it comes to paſs that there are no Springs but where there
e pretty high Mountains; and that wheresoever theſe are,
rings are alſo obſerved: The Truth of which appears no
here more evidently, than in the fortunate Valley of Caſſimire,
entioned by Bernier in his *Deſcription of the Empire of the*
reat Mogul.

This Account of Springs may poſſibly be right with reſpect to
me; but I can by no means agree with the illuſtrious Author,
at this is the Origin of all Springs. An eaſy Computation will *make the contrary evidently appear. Boerhaave has ſhewed that the Waters exhaled from the Earth in one Year, would cover the Surface thereof to about thirty Inches high. And if this is all, the Surface of the whole World would not be ſufficient to ſupply the Thames, Trent, and Severn, with the Quantities of Water they yearly carry into the Ocean.*

Again, whereſoever there are ſuch Mountains and Springs, there the Water, after running down from the Mountains, or perpetually bubbling from the Springs, is diſcharged into Rills or little Currents, continually flowing; but, for the moſt Part, with a gentle Courſe at their Origins. But, when different Currents join their Courſes together, the Stream becomes ſtronger; and being continually augmented by Rivulets, which diſcharge themſelves into it, in a ſhort time a River is formed. This again, not long after, being ſtill, as it paſſes, augmented in Strength and Quantity by the Acceſſion of other Streams, forms a River ſtill flowing with a more rapid Courſe, always tending from the higher to the lower Ground, and at laſt diſcharging itſelf into the Sea, from which it never returns again; whoſe Contents, however, in the whole, are by this Means never increaſed, inaſmuch, as what it receives by the Diſcharge of the Rivers into it, it gives up again continually by Exhalation. Sometimes it happens, alſo, that the rapid Torrents of Rivers ſink down into ſubterraneous Paſſages, diſappear, and riſe up again in ſome other Place. Hence, in flat Countries, where there are no Mountains or Springs, no Rivers are formed; and for this Reaſon the Supreme Wiſdom has thus diſtributed Mountains throughout the whole Earth, that they might be beneficial to Mankind, by producing theſe Collections of Water. And hence, laſtly, all the World over, the Courſes of Rivers correſpond with the Order of the adjacent Mountains. Upon this Subject, let me refer you to the Diſcoveries of the incomparable Halley, in the *Britiſh Philoſophical Tranſactions*, which he truly has a Right to the Merit of. All theſe Things it concerns us to be particularly acquainted with, who are proſecuting the Study of Chymiſtry, in which there is almoſt a perpetual Neceſſity of conſidering the Variety of the Qualities of Air and Water.

But by all that has been hitherto ſaid, it does not appear certainly how great the utmoſt Height is, to which Water can aſcend in the Atmoſphere: But this, at leaſt, we are abſolutely ſure of, that on the Top of the higheſt Mountain on the Earth, there never is any Air without ſome Water in it, ſince the Top is always found moiſtened with humid Vapours. And hence it is evident, likewiſe, that it is not poſſible, by any Manner of Art, to make Uſe of Air in chymical Operations, void of Water. Perhaps, indeed, from a given Quantity of Air, pent up very cloſe in a dry Glaſs Veſſel, all the Water may be drawn out: For if ſome Salt of Tartar, coming as hot as poſſible from the Fire, is reduced to a fine Powder, and thrown very dry into this Glaſs Veſſel, and the Mouth of it is immediately ſtopt cloſe, then this exceeding dry Alcali will attract into it all the Water that is contained in the included Air: But then no-body can apply this Air to any chymical Operations, becauſe, as ſoon as ever the Veſſel is opened, this dry Portion of Air mixes again with the common Atmoſphere, and is immediately moiſtened by the Water with which it was filled.

But farther, we are aſſured, from undeniable Obſervations, that the higher the Water is carried into the Air, the more its Parts are diſunited, and diſperſed through wider Spaces, and at the ſame time grow colder: For, upon Examination, it has been conſtantly found, that in every Part of the habitable World, the Heat is greateſt at the Surface of the Earth; and that, at the very Summits of the higheſt Mountains, a freezing Cold preſerves a perpetual Snow. This is true, even at the Equator, and in the Torrid Zones: So that there is not, in the hotteſt Part of the Earth, a Mountain very high, whoſe Top is not exceeding cold: And the Cold even increaſes gradually, as you aſcend from the Foot to the Summit of the Mountain, in ſuch a Manner, that the Increment of Cold is always in proportion to the Increaſe of Height. This is an Obſervation that will always hold true, if all other Circumſtances are alike. When Water, therefore, aſcends to ſuch a Height in the Air, that it meets with a freezing Cold, it muſt neceſſarily be congealed into Ice, unleſs its Elements are ſo ſeparated, that none of them touch one another; for ſo long as the Particles of Water are there diſperſed from one another, ſo long there will be no Appearance of Ice: But, as ſoon as ever, in this high and cold Region of the Air, theſe Elements begin to come into mutual Contact, then they begin immediately to be congealed into little icy Glebules, which float up and down through the clear Air, and falling upon the Surfaces of the Bodies they meet with in that Region, produce a very fine Hoar-froſt, but otherwiſe are ſcarcely perceptible. In the Atmoſphere, therefore, there is an Orbit concentral to the Earth, in which the Water of the Air, when it is carried up to that Height, is always frozen if it is united together. And the higher it is elevated above this Orbit, ſo much the ſooner it will be frozen. But it is not, however, improbable, that when the Water arrives to ſuch a Height, its Particles will be ſo much the leſs united, and therefore will ſeldom be congealed; but, on the contrary, will float about ſeparately, till ſome other Cauſe ſhall happen to unite them together, and by this means form them into Ice.

When the Water, therefore, in this Orbit is congealed, then by an Union of a great Weight of Water under a leſs Surface it muſt immediately become heavier; by which means it will of conſequence begin to fall downwards, and thus deſcending into Spaces that are ſmaller, and are more replete with Water, will aſſociate to itſelf other watery Particles, and ſo gradually form larger icy Concretions, which will now put on the Appearance of Snow, or ſmall Hail. But as there may be a great Number of Cauſes, and thoſe too perfectly different from each other, by Means of which, the Elements of Water that were before ſcattered in the upper Air, may on a ſudden, and in a very large Quantity, be brought into Contact with one another in the icy Region of the Atmoſphere, hence we readily apprehend, that conſiderable Pieces of Ice may in a very ſhort time be produced.

But theſe icy Maſſes may be collected together; and when this happens, there will appear little Clouds high in the Air, and white, becauſe of the Reflection of the Sun; which ſuddenly falling downwards with a conſiderable Velocity, ſeem to increaſe very faſt in their Magnitude, and ruſhing from on high upon other Clouds of the ſame kind, by their Colliſion produce Thunder, Lightnings, Tempeſts, Showers of Rain and Hail, which are always the more violent, the higher the Place is from which they fall. And hence, in Summer-time, when the Weather has been long clear, the lower Air very dry, the Atmoſphere heavy, and the Water therefore in it carried up to a very great Height, then the Atmoſphere being on a ſudden rendered lighter, the Phænomena juſt mentioned uſually ſucceed, eſpecially betwixt the Tropics, where, if a little white Cloud appears very high in the Air, it is a Sign that a terrible Storm is at hand. And it is exceedingly probable, that the Hail, which is always formed in the upper and colder Regions of the Air, as it deſcends by its Weight into thoſe that are lower and warmer, is there diſſolved by Heat, and produces thoſe great Showers of Rain which accompany, follow, and put an End to the Thunder and Lightnings. But if the Hail happens to be ſo ſwiftly carried through the Air, as that, by reaſon of its quick Deſcent, it cannot be melted, it then falls to the Earth in form of icy Concretions, which often, by their Size, Weight and Motion, do a great deal of Miſchief. In the Abridgment of the *Philoſophical Tranſactions*, *N.* ii. *p.* 144. we have an Account of ſome of theſe that weighed a full Pound.

This certainly we are aſſured of, by Obſervation, that Clouds of a very white Colour, to which there preſently ſucceeds a pitchy Blackneſs, terrible Thunder, Lightning, and Tempeſts, are always accompanied with Hail. Hence it may be queſtioned, whether, for producing even the greateſt Thunders and Lightnings, Nitre and Sulphur are always neceſſary; ſince the very violent Colliſion of hard Ice ſuffices, perhaps, for the ſtriking out a vaſt Quantity of Fire; doubtleſs it is ſufficient for producing loud Peals of Thunder; eſpecially if we likewiſe conſider, that the Fire of the Sun, by its Heat, Reflection and Refraction, can act in infinitely different Ways upon the aqueous congealed Matter we are here ſpeaking of. If this then be taken into Conſideration, what Variety of Colours, what Diverſity of Figures, and what Difference of Dimenſions may we not ſuppoſe to happen in this aerial Ice?

This Account of Thunder and Lightning without Nitre and Sulphur ſeems more curious than true.

But amongſt the principal Cauſes that are concerned in the ſudden Production of ſuch extraordinary and various Phænomena in the Atmoſphere, which before was calm and ſerene, we may reckon the Diminution of its Weight; for the Water always begins ſpontaneouſly to ſeparate itſelf from the Air when the Air becomes lighter; and thus the Water diſcovers itſelf, though before it did not appear. In the next Place, we apprehend, that the Bodies of Air which are driven from oppoſite Quarters, often ſtrike againſt one another, and by this Colliſion ſuddenly unite together the Elements, which before were ſeparate. Something likewiſe may perhaps be owing to the various Aſpects of the Planets; not to mention the Efficacy of the Winds, and the Viciſſitudes of Heat and Cold towards theſe Productions. Every one of which, ſeparately, or all of them together, may eaſily enough bring about the Effects we have mentioned, with many others.

On the other Hand, if we examine into the Cauſes which incorporate Water with the Air, and elevate it, we ſhall find a great many which contribute to it. The principal, however, of theſe is the Sun, the Direction of whoſe Rays upon the Water, the nearer they approach to a Perpendicular, the more Water they always elevate into the Air. Upon which Head conſult the Obſervations of Dr. Halley, which I have already cited in their proper Place. Another Cauſe greatly aſſiſting the foregoing, is the ſubterraneous Fire, which is always in Action, never at Reſt. For it has been evinced by Obſervations, that in Mines ſunk loweſt, or in the deepeſt Wells, you firſt come to a Depth in which Water never freezes, but which continues almoſt always of the ſame Heat, without any Alteration, as the celebrated Academy at Paris obſerved long ago, in the Wells of their Obſervatory; but as you deſcend lower, the Heat begins to grow greater, increaſing gradually more and more, in Proportion to the Depth, till at laſt it becomes ſo ſuffocating, that unleſs it be tempered by the Coolneſs of running Water, and the Air that is thence produced, it ſuffocates the Miners. And we ſee alſo that in Winter, when the Water is covered with Ice, and the Earth with a hard frozen Cruſt, if the Ice is broke, or the Earth is opened, both the Water and the Earth ſmoke with Heat. Nor had the Philoſophers, whom I have formerly heard diſcourſing on this Subject, any Grounds for aſſerting that this was all a Fiction, and that it was impoſſible that Fire ſhould thus exiſt in the Boſom of the Earth, becauſe it can neither be ſupplied with a proper Pabulum, or be agitated by Air; for certainly we ought to conſider, that by the ſole Attrition of the condenſed Air, in the Bowels of the Earth, the Fire may be produced and preſerved without any other Air, or any Pabulum. For ſhould the Air, at any vaſt Depths under Ground, be condenſed ſix hundred times more than the common Air, what Effects would it not be capable of producing! Incredible ones without Diſpute, ſince Authors worthy of Credit have declared, that Air forcibly compreſſed in an Iron Tube has there grown warm. It is not to be queſtioned, therefore, but that, in the deepeſt Parts of the Earth, where the Bodies are compreſſed by the prodigious Weight of thoſe which lie above them, the ſmalleſt Attrition muſt produce the greateſt Heat. And hence, as the Action of this Fire is perpetual, ſo likewiſe muſt be the Effect of it too, that is, a continual Exhalation of Water. *The Exiſtence of this ſubterraneous Fire ſeems to want farther Evidence, notwithſtanding Boerhaave ſo little diſputes it.*

Regard is alſo to be had to the very great and conſtantly repeated Effects of common Fires, made uſe of by Mankind in every Part of the inhabited World, in the Diſſipation of Water, whether alone, or contained in Animals, Vegetables, or Foſſils; for, doubtleſs, if any one computes the Meaſure of this exhaling Water, which ſuch Fire carries up, and diſtributes through the Air, he will find it to be incredibly great.

Again, the Force of a very ſharp Froſt carries off from Ice every Moment a ſurpriſing Quantity of Waters, ſo that in a little time the Maſs is conſumed, being diſperſed into the Air by the Cold alone, as the excellent Mr. Boyle plainly diſcovered by an Experiment made with the Balance. But daily Obſervation certainly evinces, that by the piercing Cold of a very ſevere Winter, all Kinds of Bodies are ſtrangely worn away, diminiſhed, conſumed, and diſperſed through the Air.

It ſeems probable alſo, that every phyſical Cauſe, which is capable of ſo diſuniting the Particles of Water from one another, as to make every one of them exiſt ſeparately, will alſo, by this means, make thoſe Particles immediately acquire ſo large a Surface, in Proportion to their very ſmall Weight, that they will be able to float in the Air. And indeed, this Solution of Bodies into their ſmalleſt Parts appears at laſt ſo to increaſe their Surfaces, in reſpect to their Quantity of Matter, that in every Diviſion of them, this Aptitude to ſwim in a lighter Liquid is very much augmented, as the Geometricians have long ago obſerved. But it is farther diſcovered by phyſical Obſervations, that, beſides the Gravity of Bodies, there is likewiſe a certain repelling Force, which tends to prevent the Contact of the Surfaces of different Bodies, and which, conſequently, is always increaſed in Proportion to the Augmentation of their Surfaces. Hence it follows, that Bodies very minutely divided, deſcend, on this Account, with more Difficulty by the Force of their Gravity, than they would do if they were acted upon by the Law of Gravitation only. And the Action of this ſecond Property of Bodies ſeems particularly to prevent the immediate Deſcent of all the Particles of Water out of the Air that ſurrounds the Earth.

It ſeems to be the Effect of the very ſame Property, that the Particles of Water may be expanded round the Air contained in them, and thus form that ſpherical Body which we call a Bubble. And beſides, any Heat or expanding Spirit whatever, while perhaps it acts in the ſame Manner, may, as well as Air, be always at laſt capable of rendering Water lighter; but when afterwards, the Water being ſo divided into very light ſpherical Bubbles, is carried upwards, then does every Bubble expand itſelf more and more continually, and ſo is able to aſcend for a long time, and to remain aloft in the Atmoſphere. And hence it is manifeſt, that the Particles of Water may aſcend to a great Height. See Halley, in the *Philoſophical Tranſactions*, 1692. *N.* cxcii. *p.* 468, *&c.*

But in the laſt Place, there is no Cauſe whatever which carries up ſuch a Quantity of Water from the Earth into the Air as the Wind, as the ſame admirable Halley has elegantly demonſtrated, and as I myſelf have learned from various Experiments, not without Aſtoniſhment; for having expoſed a Copper Cylinder full of Water to the Wind in

ſtormy Weather, I was ſurpriſed at the incredible Quantity
Water carried off in a little time; whereas, when the
ind was ſtill, which happened preſently after, but a very
le Water exhaled, though the Heat of the Weather was
l the ſame. For this Reaſon it ſeems ordered, that high
inds ſhould follow large Quantities of Rain, that, by thus
itating the falling Water, and carrying it up again into the
r, they may prevent its ſtagnating and putrefying, and by this
eans proving deſtructive to the vegetable Kingdom. All theſe
uſes, therefore, when they conſpire together, are ſufficiently
able of diſſipating Water into the Air, and there keeping it
continual Motion.

If we conſider now the Action of this elaſtic Air, replete
h Water, on the Body of a Man, Foſſil, or Vegetable, we
ll find it bring about many and very wonderful Changes;
if we reflect upon its ſingular Fineneſs, which renders it
eedingly penetrating, and that it is perpetually inſinuating
lf into every little void Space; and if at the ſame time we
e into Conſideration its conſtant Mobility, by which it is
ays kept vigorous and active, it is manifeſt that theſe Qua-
es being determined upon Bodies by the Force of Gravity,
capable of producing an infinite Number of Effects. But
Water that is diſtributed through the Air will alſo be
more efficacious, being itſelf agitated by the Motion of the
, and by this Means it will more readily diſſolve the Salts,
the ſaline and ſaponaceous Subſtances of the Bodies it is
lied to. And as there are many ſuch Parts in moſt Bodies,
thoſe Parts too are the principal Inſtruments of their Action,
ce we eaſily apprehend, that, by means of the Application
the Air, the proper Virtues of Bodies may be excited to
ion, ſo far as they depend upon their Salts and Soaps. In
mean time, the principal Alteration wrought upon Bodies
the Water of the Air, is its rendering fixed Salts, and other
pound Bodies, volatile. This Phænomenon was obſerved
ll the Chymiſts of old, and is conſtantly found to hold true,
is, all native Salts, if they are rendered exceeding dry by
open Fire, and then pounded and expoſed to the Air in a
ſs Baſon, will there, by means of the Water in the Air, be
verted into a Liquid, and from the perfectly ſaline Part there
be ſeparated an Earth, which did not appear before. If
ſaline Liquor, thus freed from this Earth, is again thoroughly
d by a clear Fire, and if afterwards the Salt is beaten, and
n diſſolved in the Air, it will depoſite ſome more Earth.
l if, by ſeveral Repetitions of this Solution and Inſpiſſation,
thus remove all the Earth that is every time produced, you
at laſt procure an incredible Quantity; but at the ſame
you will have nothing elſe remaining; for that other Prin-
, which before, in Conjunction with the Earth, conſtituted
Salt, is, by this repeated Action of the Water of the Air
iſengaged from its Earth with which it was incorporated,
now, exiſting ſeparately, it becomes perfectly volatile, is
pated in the Air, nor does ever again come within the Co-
ance of our Senſes. Nor has the Induſtry of the Chymiſts
overed this wonderful Metamorphoſis in native Salts alone,
likewiſe in the fixed Salts prepared by Fire from Vegetables;
by this tedious Operation, theſe Salts are likewiſe reſolved
an Earth, which fixes them, and a Principle perfectly
tile, which is intimately united with it. And theſe Reſo-
ons, which are very ſingular and wonderful, can be per-
ned by no other Means than this very ſubtile Application of
Water diſtributed in the Air, which Art, formerly held a
et, being now more practiſed, has let abundance of Light
the Art of Chymiſtry; though at the ſame time it has too
n proved of Diſſervice to the Chymiſts, who being quite
l out with the Tediouſneſs of the Work, have loſt, in the
, both their Labour and the Thing they were in ſearch of.
again, whenever the Air abounds with Water, and is, at
ſame time, agitated by Heat or Wind, then this Water will
x the Parts of Bodies ſo ſuddenly and ſo efficaciouſly,
muſt ſurpriſe every one who is not acquainted with theſe
jects. But by this Means, likewiſe, many Bodies are
erated, and others are thrown into Fermentation. And as
the Putrefaction of the Bodies, certainly it is ſcarcely more
moted by any other Cauſe than the Humidity of a hot
which, in a very little time, reſolves the Bodies, which
that Way diſpoſed, into a putrid ſanious Matter. And for
Reaſon, the Phyſicians long ago aſſerted, that the Plague
is generated among Animals, from an Air that has been
very moiſt and warm for a conſiderable time. In ſhort,
efore, ſince it ſo diſſolves Salts and ſaponaceous and ſaline
ſtances, elevates them all together, diſperſes them about, drives
n againſt, and makes them penetrate into what Bodies they
t with, it is manifeſt, that, by this Means, it muſt apply
Forces of ſome Bodies to others, and thus bring about
Actions between Bodies, as hardly ever happen from other
ſes; for what other Cauſe could produce the fœtid Butter-
Dew, deſcribed in the *Abridgment of the Philoſophical
ſactions*, *Tom.* ii. 141? Or what elſe could cauſe the ſalt
, obſerved at Sea, *Journal des Sçav.* 1683. 435?

Thus far we have ſufficiently conſidered the Air, with reſpect
s Elaſticity, and the Fire and Water contained in it. We are now to examine it in another View. Let us then carefully enquire what other Corpuſcles, beſides thoſe we have ſpecified, float perpetually in this Air; but this is a Field of Enquiry which is boundleſs: For as the Earth, conſidered in its whole Extent, receives every thing that falls out of the Air, ſo, on the other Hand, the Air receives every thing again from the Earth; and thus, between theſe two Elements, a perpetual Revolution and Diſtillation of all things is carried on.

In the firſt Place, then, all the Parts of Vegetables perpetually changing, are diſperſed throughout the Atmoſphere. That the Spirits of Vegetables do always and every where exhale, and fill the Air with a continual Fragrance, nobody can diſpute. And it is very certain, that the Odour of Plants diſperſed through vaſt Tracts of Air, inform Mariners, before they diſcover Land, of their Approach to the Shore. It is farther known, that theſe Spirits ſpontaneouſly exhale out of the Bodies, in which they are generated, and are ſcarcely to be confined and preſerved, except in Veſſels ſtopped very cloſe. Hence, then, it follows, that whatever odoriferous Spirits are at any time by Nature produced in Plants, all theſe are, at laſt, contained in the Air. And for this Reaſon it is not at all to be wondered, that theſe Spirits ſhould afterwards return with the Water of the Air into the Bodies deſtined to receive them, and that the Air ſhould thus yield up to the Earth what it originally received from it. In fact, we find nothing in Nature leſs imitable by Art, than the fragrant Spirits peculiar to each Plant. But theſe, when they are once freed from the Tenacity of the Sulphur or Oil that entangles and retains them, always, from their own proper Nature, become volatile, and are diſperſed through the Atmoſphere. How various, then, muſt be the Effects that are hence produced; and how wonderful the grand *Metempſychoſis* or Tranſmigration that is, by this Means, brought about!

But again, when we conſider that Vegetables, duly prepared by a proper Fermentation, yield a large Quantity of vinous Spirits, that are continually exhaling, muſt we not hence conceive, that all thoſe Spirits which have ever been produced from any fermented Vegetable whatever, over the whole Face of the Earth, have at laſt exhaled into the Air? And in this View we now look upon this Air again as a Cloud, as it were, of Spirits of Wine. In Reality, whether Wine be drank by Men, or any other Animals, be outwardly applied by Way of Fomentation, or made uſe of either in Cookery or Phyſic, certainly all its Spirits muſt ſooner or later exhale into the Air, there remain for ſome time, and thence, at a convenient Seaſon, return to the Earth again. What Wonder, therefore, if Fermentation, which is the productive Cauſe of Wine, ſhould never produce Wine, without the free Admiſſion of the external Air. May it not, poſſibly, return back again to Places and Bodies the Spirits which it had before received; and muſt it not, for this Reaſon, be always called in to our Aſſiſtance, when they are to be generated again?

And finally, all thoſe Parts of Vegetables, which the Fire divides into exceeding minute Corpuſcles, and converts into a volatile Vapour, the Chymiſts have likewiſe called Spirits; but theſe are alſo elevated into the Air, and are continually floating about in it. As the Water of Vegetables, therefore, ſo all theſe Kinds of Spirits are perpetually tending upwards into the Atmoſphere.

But farther, it is certain, that the native Oils of Vegetables do, in time, by the natural Heat of the Air, intirely evaporate; and that whether they remain in the Vegetable, or ſpontaneouſly exſude out of it, or are forced out by Preſſure; for there are but few Sorts of Wood, in which their Oils are ſo united with their proper Earth, that they are able to remain for Ages together in the open Air. And as for the Oils of Vegetables, which Chymiſtry draws from them by Fire, whether this be done with Water or without, theſe are far more volatile, and ſooner fly off. Thus then they form pinguious Exhalations in the Atmoſphere, which are very well diſpoſed both to take fire, and to ſupport it; for as theſe oleaginous Particles are now ſo minutely divided, that they nearly reſemble Alcohol while they float in the Air, being firſt heated by the Attrition of the Clouds, they may be excited into a Flame by Fire, which may be produced in the Air, all theſe Oils, therefore, which ever were contained in Vegetables, a very few perhaps excepted, are diſperſed into the aerial Chaos; whence, as Water and Spirits do, they return in their time, impregnate the Earth with a pinguious moiſtening Dew, and by thus circulating backwards and forwards, bring perpetually freſh prolific Supplies, and being depoſited for a ſhort time, return into the Air again. All this now happens principally in very hot Weather. For if a long Drought, with a very great Heat, has carried upwards both the Water and the pinguious Corpuſcles of the Earth, then the firſt Fires that happen aloft with Thunder and Lightning, ſend down a Rain which is very different from that pure Snow that falls in a ſharp Froſt, and is far more acrid and more diſpoſed to Froth. And hence Summer Rain, or Rain produced in hot Weather, is always fruitful; whereas that in cold is ſcarcely endued with any ſuch Quality.

I muſt obſerve, that Spirit of Nitre rendered extremely ſtrong and volatile, when mixed with ſome aromatic Oils, as that of Cloves, will explode with great Violence, and form a Kind of artificial Lightning. How far, therefore, the aromatic Exhalations from Vegetables may, by mixing with the Acid of the Air, ſet it on fire, and be concerned in making Thunder and Lightning, I leave to the Determination of Philoſophers.

If we conſider now the native, acid, auſtere, ſaponaceous Salts of Plants, and thoſe which approach the Nature of an Alcali, which are procured by Cryſtallization, Fermentation, Putrefaction, and Combuſtion, we ſhall find, that all theſe do, ſooner or later, diſappear, not one of them excepted; ſince all theſe Bodies, when they are freed from their fixing Earth, aſcend into the Air.

Even that very Earth too, which furniſhes a fixed Element to Plants, by being reduced into ſmall Particles, acquires ſuch a Diſpoſition, that it flies off, and is carried aloft: For Soot, collected at the very Top of a Chimney, from the volatile Smoke of a burnt Vegetable, yields, by a chymical Diſtillation, a remarkable Quantity of pure Earth. Hence, therefore, we are aſſured, that Smoke, which floats at Liberty through the Air, carries along with it real Earth, mounts with it aloft, and widely diſperſes it through the Air. Not to mention the Winds, which ſweep away the Ægyptian and Lybian Sands in Waves, as it were, through the Air, and carry the Aſhes of Mount Ætna to prodigious Diſtances: Farther Inſtances of this are the Sparks of Veſuvius, ſcattered above a hundred Miles through the Air, *Phil. Tranſ. Abr. tom.* ii. 142. Ivy-berries, diſperſed over a vaſt Tract of Land, *ibid.* 144. Small Fiſh, *ibid.* or the ſeminal Duſt of Vegetables, *Phil. Tranſ.* 168. *p.* 911. Hence, then, from Obſervations it is clear, that all the Elements of Vegetables may be carried and intermixed with the Air.

But it is likewiſe certain, that Parts of Plants, and thoſe pretty conſiderable ones, are carried into the Air to an incredible Height. Conſider the Seeds of downy Plants, which are carried up to the Tops of the higheſt Towers, and there, as is daily ſeen, if they meet with a very little Earth, propagate their Species. The celebrated Tournefort has demonſtrated, from Obſervations, that the Funguſſes, which are almoſt all ſeminiferous, by Means of the Air, diſperſe their inviſible Seeds all about, which meeting with a proper Soil, thrive and ſpring abundantly. Moſſes, likewiſe, and the mucilaginous and capillary Plants, as alſo the *Epiphylloſpermophoræ*, or thoſe which bear their Seeds upon their Leaves, ſcatter and diſperſe their Seeds to very diſtant Places. Even the ſmall ſeminal Duſt of the Male-Willow, being ſhaken from the Apices of the Flowers, and carried by the Winds into Places remote from thoſe Trees, and afterwards, when the Wind was down, falling out of the Air, has been taken, by Perſons unacquainted with theſe Things, for Flower of Sulphur, and afterwards believed, by the credulous Vulgar, to be a Shower of Brimſtone, *Vide Phil. Tranſact. Abr. tom.* 3. And if ſuch a ſmall Duſt ſhould happen to be of a remarkable red Colour, why ſhould not the ſame Vulgar, for the ſame Reaſon, have aſſerted, that it had rained Blood? There were Aſhes thrown out of a Vulcano, and carried by the Wind, in the Year 1633, the Space of one hundred Miles, *Phil. Tranſ. N.* xxi. *p.* 377. But theſe are Things not to be wondered at, ſince that excellent Philoſopher, Mariotte, in his Treatiſe of *the Motion of Waters*, *p.* 334, obſerved in a Cloud that poured forth a Shower of Hail, that the Air had carried this Cloud for fifty French Miles. If we reflect, therefore, upon theſe Things, we muſt believe, that there are a vaſt Number of ſurprizing Phænomena in the Air, and produced by it; all which are intirely owing to a Mixture of vegetable Subſtances that are diſtributed through it.

If, in the next Place, we enquire whether the Parts of Animals are contained alſo in the Air, we ſhall find there is a great Quantity of exhaling Spirits, and thoſe wholly peculiar to every Animal, and diſtinguiſhed among Phyſicians by the Name of the *perſpirable Matter of Sanctorius*, that are continually diſſipated and carried into the Air from living Animals, and adhere to other Bodies; and by theſe Spirits it is that Dogs, which purſue by Scent, diſtinguiſh ſo accurately the Animals from which they exhale, and follow them over large Tracts of Land. And how full the Air is frequently of Effluvia, exhaling from Animals, appears evident from the Infection too often obſervable in contagious Diſtempers.

The Excrements continually diſcharged by every Kind of Animals, are alſo, in ſo ſhort a time, diſſipated and diſappear, that we are hence convinced, that the whole Quantity of excrementitious Matter will be always diſperſed into the Air, hardly leaving ſo much as the lighteſt Duſt behind it. In the hotter Countries, the Dung of Animals, being expoſed to the open Air, becomes perfectly volatile by the Heat of one ſingle Day: And even in our own Country, which is not ſo hot, the very Dunghills are quickly conſumed. And as for Urine, how quickly does that ſpontaneouſly become volatile, and exhale?

But there is ſomething in this Affair ſtill more remarkable: For does not an intire Whale, the largeſt of Animals, when in hot Weather it is by the Sea thrown dead upon the Shore, quickly infect the Places, to a great Diſtance about it, with a peſti-ferous Stench? And is not the whole of it reſolved into volatile infectious Particles, ſo that at laſt ſome whitiſh Bones only re-main, all the reſt of the entire Maſs being rendered volatile, and diſperſed in the Air? What vaſt Numbers of Carcaſſes of Elephants, Camels, Horſes, and of almoſt all other Animals, as well as human Bodies, that are the Carnage of War, remain from time to time uninterr'd, and are reſolved into Putrefaction, become volatile, and diſſipate almoſt all their Elements into the Air? Hence, therefore, it follows, that Bodies of Animals are, from their own natural Diſpoſition, as much intombed in the Air as in the Earth; and thoſe very Bodies, likewiſe, which are buried in the Earth, are not then preyed upon by the Worms, but are ſoon converted into a very light volatile Matter, which afterwards eaſily exhales into the Air out of the Earth itſelf. All the corporeal Matter, therefore, that has ever entered in the Compoſition of the Bodies of living Creatures, has been carried up into the Air, with this Difference only, that if th Bodies were burnt, this was brought about immediately; if le to rot in the Fields, more ſlowly; and ſtill in a longer time, i they were interred: But yet, even in every Caſe, they have i time exhaled away. What wonder, therefore, if, from the Air, there ſhould be returned a Matter of the ſame Nature or Kind with the Food of the former Animals, which is capable of affording a proper Nouriſhment to the Bodies, that are by th Means to ſpring up afterwards?

But there is yet another Thing upon this Subject, which wi be worth while to take under Conſideration, as the right under-ſtanding of it will keep us clear of many Miſtakes. I a then, that the very Eggs, impregnated with the fruitful Offſprin of their reſpective Animals, are carried into the Air. For the excellent Redi has demonſtrated, that all Inſects, without E ception, are generated by the Copulation of Male and Fema Leeuwenhoeck has proved, that the Seed of the Male lodges t firſt Embryo in the Egg of the Female. And Boyle ha made it appear, that pregnant Eggs will not exclude their Young, except they are in the open and freſh Air. Being furniſhed, then, with theſe Obſervations, I purpoſely took a Piece of Fleſh, which had been kept a pretty while in boiling Alcohol, and wa afterwards rubbed over with ſome bright Oil of Turpentine, a faſtening it to a long ſmall Thread, hung it up in a moiſt wa Air, in a Place where it was imagined there were no Anima-cula, and the Conſequence was, that in a little time after th ſuſpended Fleſh was full of living Maggots, which were devo ing whatever of the ſucculent Parts remained therein. In th Caſe, then, the Eggs, from which theſe Animalcula were p duced, could not poſſibly come at the Fleſh, unleſs they we conveyed to it by the Air, in which it was ſuſpended. Ho much do the Huſbandmen experience the Truth of this to th Detriment, when, in a warm Spring, certain Winds very ſu denly infect the Trees with numberleſs Vermin, which in a Inſtant, as it were, are produced from their inviſible Eggs? B give me Leave to mention one Thing farther, which is ſtill mo remarkable; and that is, the Rains that frequently ha among the Negroes, which ſtrike a Man with ſuch a ſud Chilneſs, that it makes him ſhudder. Theſe Rains fall i Drops, of an Inch Diameter, which, if they come upon th Skin, eat into it; but, if they lodge on any Garments, p duce living Worms and Moths, *Act. Lipſ. Suppl. tom.* i. 425. Many other Things of this Kind might be here taken n tice of; but theſe may ſuffice, to let the Chymiſts underſta that the new and wonderful Animalcula, which are oftentim produced in Bodies, and even, perhaps, while they are at w upon them, owe their Being intirely to little Eggs, which a thus ſuſtained in the liquid Air, and not to the Efficacy of a chymical Subſtance or Operations. Let them, therefore, b always mindful of the Nature of the Air, and its wonderful Fe-cundity, before they deduce the Origin of ſuch Appearan from any other Cauſe. But the Knowledge of theſe Things, a the ſame time, is not leſs neceſſary and advantageous to th Phyſician and Natural Philoſopher.

Let us now proceed to Foſſils; for Foſſils are likewiſe diſcov able in the Air. For all Foſſil Salts, however fixed, at laſt f off into the Air, if they are diſſolved in Water (eſpecially i that which they attract from the Air) and are afterwards d geſted for a long time in a putrefying Heat, and are then diſt ed with a great Degree of Fire, and have their fixed Re duum calcined with a ſtrong open Fire, and are then d ſolved in the Air again. This is a Truth which a g Chymiſt communicated to the World more than an hun Years ago. Not to mention the Diſtillation of theſe Salts, w Sand, Bole, Brickduſt, Potters and Tobacco-pipe Clay, p formed with the intenſeſt Heat. Do not the Chymiſts, ev Year, convert, by this Method, many thouſand Pounds We of ſuch Salts into acid volatile Fumes, which they call Spi And does not every ſuch chymical Operation infect the v Air? And does not this Air deſtroy the Bodies that are expo to it? The ſingle and ſimple Mixture of Oil of Vitriol, Oi Alum, or of Oil of Sulphur by the Bell, with Nitre, Sea S or Sal Gem, converts in an Inſtant thoſe very fixed Salts i Fum umes, ſo volatile that they can hardly be confined, with which e Air is in a ſhort Time ſo ſtrongly impregnated, as to car- y thoſe Salts to great Diſtances all around. But infinite are e Methods by which the ſame Thing is effected. Before e induſtrious Glauber's Time, indeed, this admirable Me- od of thus changing Salts was not diſcovered. But who ill pretend to determine, how many Methods lie hid in Na- re, even at this Day, by which the like Converſion from a xed to a volatile Matter may be brought about? The Va- ours about Mines, which are often ſo fatal, that no living reature can breathe in them with Safety, ſufficiently prove, at Nature herſelf thus diſperſes Salts through the Air, and onſequently has ſecret Methods which we are not acquainted ith, for performing the very ſame Operations. In the mean ime, however, it is true, that this happens only in certain arts of the Earth, that is, in thoſe Places where there is Plen- of ſuch a Matter, and where likewiſe the Means are not anting of acting upon it after this Manner. And it is like- iſe as certain a Truth, that even thoſe ſaline Vapours are ele- ted only to a certain Height in the Air, and that not a very onſiderable one. And upon this Foundation it was, that the depts aſſerted long ago, that the Air was divided into cer- in diſtinct Strata or Beds, each of which contained a diſtinct ind of Exhalation and Vapour. Hence, then, it is evident, at by the Means of Water, Heat, Digeſtion, Solution, Ex- cation, Diſtillation, Calcination, Combuſtion, Mixture, U- on, and Separation, foſſile fixed Salts are rendered volatile, d are thus intermixed with the Air.

The Principles of Foſſils, which go by the Name of Sul- urs, whenever Foſſils are burnt, are intirely carried up in- the Air, and, being intermixed with it, diſappear, the ſa- e acid Part changing into a ſuffocating Fume, and the olea- nous Part being attenuated by the Action of Flame, and fly- g off in an inviſible, or a ſooty black Vapour. It is certain, t hardly any Thing at all of theſe Parts remains in the rth. Sulphur now itſelf, when alone, is carried into the ir in Form of an impalpable Flour, and is there diſperſed out. But, when it is mixed with other Bodies, it often ac- ires a ſurpriſing Volatility. The Chymiſts have taken No- e of a great many Methods, both natural and artificial, which Sulphurs are ſo changed, that they fly off into the moſphere, and carry up other Things along with them. In ines, from Time to Time, there appear pinguious, ſtinking, focating Fumes, often very troubleſome to the Miners, to hich, if the Flame of a lighted Candle is applied, they in- ntly take Fire, not without extreme Danger to the Work- en. But it is certain, that Arſenics, Orpiments, Cobalts, lphur of Antimony, Biſmuth, Zinc, and other Bodies fur- h the Matter of theſe Vapours. We are alſo informed of Falling of a Shower of Brimſtone, attended with Light- ngs, which, when it was once on Fire, could neither be extin- iſhed by Water nor Motion. *Nov. Literar. An.* 1684. *P.* 63.

Metals themſelves have been found to be ſo far changed, that en theſe, under the Form of a volatile Fume, have been vated and ſcattered in the Air. This is univerſally known be true of Mercury, which, when agitated only by a Fire ſix hundred Degrees, flies off, and becomes inviſible. And, the Air, impregnated with it, ſurrounds, and is applied to human Body, how wonderfully does it penetrate it, and how ickly does it raiſe a Salivation! But beſides, while it thus es off, it carries up and bears away with it ſome Part of tain Metals; as appears from the Diſtillation of Lead and in with Mercury. Even Lead, Tin, Iron, and Copper, if ey are diſpoſed in a very ſtrong Heat, at laſt diſappear, by eans of the Volatility they acquire, and thus far are diſſi- ted likewiſe into the Air. A great Part of imperfect Me- ls is carried off too by Lead in the Teſt. But when Cobalts, rſenic, and the like rapacious Sulphurs, are intimately unit- with Gold and Silver Ore, the Particles of the Ore being this Means rendered volatile, when they come to the Fire, eſe noble Metals are carried away to ſuch a Degree, that, to e great Damage of the Owner, a good Part of them is ſt; which, by a gentle Calcination, and the Addition of me fixing Powders, might be intirely preſerved. Hence, erefore, it appears, what an Abundance of Gold and Sil- r may be raiſed up into the Air. Nothing ſeems a eater Paradox than volatile Gold, and yet, we are certain, om undeniable chymical Experiments, that, if you take mmon Sublimate of Mercury, and rub it well with Gold duced to Powder, and then diſtil it in a Retort with Regu- s of Antimony, the very Body of the Gold will aſcend in orm of a red Oil, and become perfectly volatile. By Sul- ur, alſo, calcined Vitriol, and Sal Ammoniac, mixed and plied properly, almoſt all Metals may be rendered vola- le in the Fire. No Wonder then, that, in clear Weather, ere very often appear about Mines ſudden Fumes, which ex- nguiſh the Light of a Torch, (ſee *Boyle's Works*) ſince even e moſt denſe Bodies may, in the Form of a Fume, be ſo rried into the Air, that it can hardly be determined what Bodies they were. But there is another Cauſe, which is frequently concerned in impregnating the Air with theſe metallic Parts; and, that is, the Air itſelf as it abounds with Salts and Sulphurs. For, as I have already ſhewn above, that the whole Air is full of Salts and Sulphurs, and, as it appears from what I have now delivered, that thoſe Salts and Sulphurs can carry aloft even Metals themſelves, when they are diſſolved, it is eaſy to apprehend, that the Air itſelf can by this Means cauſe the Parts of Metals to be ſuſpended and float about in it. Are not Iron, Copper, and Lead, by the Contact and Motion of the Air, always, and that in a ſhort Time too, turned into a Calx, Flour, and Duſt? And are not they hence converted into Ruſt, Verdigreaſe, and a Ceruſs? And it may be obſerved, that when, after theſe Changes, they are reduced to an impalpable Powder, they fly away, and are carried through the Air by the Wind. I confeſs, that Silver, Gold, and Tin are leſs ſubject to theſe Alterations, becauſe the volatile Acids of Nitre and Sea-ſalt, which are the proper Diſſolvents of theſe Metals, are hardly ever diſperſed through the Air, except about the Laboratories of the Chymiſts. [*I believe this is a ſmall Miſtake, for the Air is certainly furniſhed, and that plentifully, with an acid Spirit, which, fixing it in a proper Matrix, gives the very Eſſence to Nitre.* See NITRUM.

The Air in America, indeed, is of ſo corroding a Nature, that it conſumes the Tiles of the Houſes, ſtony Bodies, and almoſt all Metals; as the Engliſh unanimouſly agree of the Air of Bermudas; for even Metals themſelves periſh there very ſoon. And that ſurpriſing Phænomenon, which in all Ages has been obſerved by Miners, ſeems alſo to be owing to the Reſidence of theſe metallic Parts in the Air, I mean that the foſſile Glebes, when they are dug out of the Earth, and are expoſed to the Air, are affected by it in a very extraordinary Manner. How frequent is it ſeen, that Marchaſites, the Pyrites, vitriolic Stones, and metallic Subſtances that are quite exhauſted, are ſo acted upon by the Air, that they increaſe, come to Maturation, are changed, renewed, and afreſh impregnated, and become again enriched with a true metallic Matter. In Fact, the Air ſeems to be the grand univerſal Diſtributer of the Seeds of Bodies, which, being plentifully ſtocked with every Kind of Matter, commits to the Earth the Elements of Bodies it had before received from it, and thus generates moſt Kinds of Bodies, rather by Means of a Revolution, than a new Production. It is certain, that Dew, being changed by Diſtillation, has yielded a Liquor, which ſtained Glaſs with the Colours of the Rainbow, penetrating ſo deeply in it, that it could neither be removed by Aqua fortis, Oil of Tartar, or a ſtrong and long continued Friction; and yet, at the ſame Time, the Liquor itſelf was ſo ſubtile, that it burnt in the Fire like Alcohol: *Republic of Letters*, *T.* 1. *P.* 590. Certainly this Effect is very like that of a metallic Tincture upon Glaſs. *Philoſophical Tranſactions abridged*, *T.* 2. *P.* 143.

Thus, then, the few Things I have ſpecified are ſufficient to inſtruct us in our chymical and medicinal Enquiries, what Ideas we ought to form of the Air. In Reality, it is to be conſidered as a true Chaos of all Things intermixed and compounded together; for in it the attenuated Particles of all Bodies whatſoever float. And, ſince theſe little Corpuſcles are always in Motion, they may, by meeting in this aerial Space, produce all thoſe ſurpriſing Operations of Nature, which are owing to the Efficacy of particular Bodies: But theſe are almoſt infinite. So that it is not at all to be wondered at, that there are produced and appear, in this Scene of the Atmoſphere, ſuch extraordinary, and frequently ſuch terrible Events in Nature, as never happen any where elſe; I mean, the Meteors. In this Air there doubtleſs muſt be Bodies that are endued with a magnetic Virtue, which, by their mutual Attraction, Repulſion, Coheſion, Rarefaction, and, by infinite other Methods, muſt every where excite ſtupendous Phænomena. Of this the following Experiment may ſerve as an Illuſtration: Take in one Hand a ſmall open glaſs Vial, in which there is an alcaline Spirit of Sal Ammoniac, and in the Left another, in which there is Spirit of Nitre. Whilſt theſe Bottles are kept at a Diſtance from each other, nothing at all appears extraordinary; but, as ſoon as they are brought gradually ſo near each other, that the Vapours, iſſuing from the two Bottles, begin to meet with each other, there immediately appears a little Cloud, ariſing from the Concurrence of the Alcali and Acid in the Air. If an Amalgama, prepared with Tin and Mercury, is diſtilled in a Retort, with Spirit of Sea-ſalt, it yields a Liquor, which, if it be kept in a cloſe Veſſel, produces no Effect; and yet, if it is expoſed to the open Air, though many Years after its Preparation, it immediately goes off in a very thick Smoke. But Nature is every where full of theſe Inſtances. We know not what other hidden Salts there may be beſides in the Air, that we are not acquainted with, or with what Virtues they may be endued; nor are we leſs ignorant, what Spirits and Oils may float in it; though in the mean Time, from the particular Nature of thoſe unknown Salts, Spirits, and Oils, ſuch ſtupendous

Effects may be produced, as are never obſerved to proceed from any other Cauſes. If the diſtilled Oil of Saſſafras happens to meet with Glauber's Spirit of Nitre; what a terrible Effect is produced in an Inſtant, an Effect hardly to be exhibited by any other Experiment! This Experiment will be given under the Article NITRUM.

If at any Time, now, a Number of Particles, endued with the like Properties, ſhould happen to get into the Air, and theſe ſhould be there mixed together, very ſtrange and ſurpriſing Appearances muſt neceſſarily follow. Certain Times, it is evident, preſent to us with Phænomena, that are never ſeen at any other. To the Production, now, of theſe rare and very extraordinary Effects, it is poſſible, that the Comets, Meteors, various Aſpects of the Planets, and, perhaps, the Influence of the Stars themſelves, may contribute; thoſe Actions may be very conſiderable, on Account of their Attraction, and Repulſion, of their Heat, Light, and Cold, and of the Effluvia which they generate and emit.

In Conſequence of all the Things here mentioned, Air is of a quite different Nature in different Places; firſt, on Account of the Land or Soil, or the Part of the Earth which the Air under Conſideration hangs over: For, according to the various Bodies with which the Earth abounds in any particular Part, the Exhalations and Vapours, that ariſe from it, will poſſeſs as various Qualities, and for this Reaſon the Air in that Part will be full of Corpuſcles, that are not to be met with any where elſe. The Truth of this has always been confirmed by numberleſs Examples. And hence, in ſuch particular Parts of the Air, certain Experiments may be made, that will never ſucceed in any other. In the ſecond Place, a great Diverſity is here obſerved, in Reſpect to the Soil, in different Places, according as Men inhabit it, and keep Animals there, and according as they dung and turn up the Ground, and exerciſe various Occupations there, and by this Means raiſe up almoſt all Kinds of Bodies into the Air: On which Account again, an infinite Number of Changes are obſerved to happen, which are not to be effected elſewhere. A certain Chymiſt, for Inſtance, in his Laboratory, where he was daily employed in the Diſtillation of large Quantities of Vinegar, expoſed to the Air ſome pure, dry, alcaline Salts of Tartar on a glaſs Plate. The Air, of Conſequence, being full of acid Vapours, diſſolved the Salt into an Oil of Tartar *per deliquium*, and at the ſame Time ſo cloſely united the acid Parts of the volatile Vinegar with the Alcali of the Tartar, as at laſt to convert the ſaturated Maſs into a Tartarus Regeneratus, or regenerated Tartar, which melted in the Fire like Wax, and yielded a very noble Remedy for reſolving of viſcid tenacious Humours, in almoſt all Diſeaſes. He was mightily pleaſed therefore with this Production, for he thought he had now diſcovered the Secret of the Alchymiſts for incerating, according to the Language of thoſe Artiſts, a fixed alcaline Salt: But when afterwards he attempted to repeat the Experiment in another Place, where there was not ſo great and conſtant a Quantity of Vinegar in the Air, he did not meet with the former Succeſs. The ſame Thing might be farther made appear by a vaſt Number of Inſtances. Conſider then, how prodigiouſly the Air may be changed in any particular Country, when a great Earthquake has occaſioned Exhalations to ariſe there, very different from thoſe which before uſually aroſe in the ſame Place. And this is again confirmed by Hiſtory, which informs us, that certain Parts of the Earth have become uninhabitable, by Reaſon of the abominably fœtid Vapours, with which they have been infected, after Earthquakes. But again, Inundations by Rain, Overflowings of Rivers, and the Breaking in of the Sea, make ſuch Alterations in the Atmoſphere, by Means of humid Vapours, and Exhalations from putrefied Subſtances, that the whole Nature of the Air, in thoſe Places, is intirely changed. The Winds alſo muſt always carry along with them ſomething from the Places from whence they began to blow, and conſequently are thus always varying the Contents of the Air, continually carrying off from particular Places the Matter peculiar to them, and ſupplying them again with what they juſt brought from ſome others. From which Cauſe, likewiſe, there muſt neceſſarily happen, in chymical Operations, a remarkable Diverſity. And as for the Influences of the Heavens, particularly with Reſpect to the various Aſpects of the Sun and Moon, their Acceſſions, Receſſions, perpendicular or oblique Radiations, Conjunctions, and Oppoſitions, what Changes muſt theſe produce in the Air, by their Attraction, Repulſion, and the Heat and Cold that depend upon them? What Variation muſt they cauſe in the Earth the Vapours and Exhalations that are carried up from the Earth into the Air? But there is one Thing farther on this Subject, which ought to be taken particular Notice of; and that is, the Viciſſitude of the Seaſons of the Year, which is here of ſuch Efficacy, as is wholly incredible. Thus, if the Sun on the tenth of March, in a certain Altitude, and with a certain Degree of Heat, exerts its Power on the Earth, it then acts on a Body, which during the preceding Winter, being locked up by the Cold, has kept in, and accumulated, under an icy Cruſt, its own proper Exhalations, and, at the ſame Time, has received and retained whatever it was furniſhed with by the Air. Hence, as ſoon as it begins to diſſolve, and the Earth is reſolved into a looſe Mould, the firſt ſucceeding Heat of the Sun acts upon this fertile pregnant Body, and immediately fills the whole Air with Vapours; on which Account a vernal Heat hardly ever ſucceeds a Froſt of long Continuance, but there preſently follow Showers, Thunders and Lightnings, and a Sprightlineſs appears in all Animals and Vegetables, and in the whole Creation; but now, when, on the tenth of September, the Sun, at the ſame Altitude, and with the ſame Degree of Heat, acts upon the Earth, it then finds it parched up, and exhauſted by the Heat of the preceding Summer, and not yet moiſtened with autumnal Showers; for which Reaſon, neither the ſame Heat in the Earth, or Air, will produce the ſame Effects, nor will excite this Vigour in Animals and Vegetables, as it does in the Spring. Theſe few Things then will be ſufficient to let us eaſily ſee the Variety there is in the Atmoſphere, according to the Diverſity of the Seaſon of the Year, as far as it ariſes from this Cauſe; a Speculation very uſeful both in Chymiſtry and natural Philoſophy. And, it is plain, the Chymiſts had ſome Knowledge of this long ago, when they attributed to the vernal Rain a Virtue ſo much ſuperior to that of the autumnal, produced in the very ſame Degree of Heat; for they found that this Lixivium of the Air brought along with it very different Vapours and Exhalations, according to the Diverſity of the Seaſon, in the Manner juſt now explained.

Before we leave the Examination of the various Bodies that are contained in the Air, and of the different Powers which prevail in it, we muſt take under Conſideration that Quality of it, which renders it ſalutary, and neceſſary to the Life of Animals and Vegetables; a Quality which has not been yet accounted for from any Property of the Air, but by a diligent Enquiry, however, we may poſſibly, hereafter, come at the Knowledge of it. Whether this latent Virtue of the Air is actually drawn out of it by Animals and Vegetables, and hence is in a ſhort Time exhauſted and conſumed; and whether, when it does thus fail, the Animal dies, no-body is, I think, at preſent able to determine. This, however, is certain, that if a ſmall Bird is put into a large Receiver, full of common cold Air, and the Receiver is then very cloſely ſtopped, the Bird will grow ſick and vomit, within a Quarter of an Hour, and die in the Space of half an Hour after. Boyle, *Of the Air*, 184. A Fiſh, kept in Water in a Veſſel well cloſed, without renewing the Air, dies in a ſhort Time. Fiſh likewiſe die in Ponds, that are every where frozen, and quickly periſh in Water out of which the Air is exhauſted, *Hiſt. de l'Acad. Roy. des Scien.* 1699. 240. 1701. 46. and *Mem.* 224. Flame, and a red-hot Coal, quickly go out in Air that is cloſe pent up. The little Eggs of any Inſect whatever, being accurately ſtopped up in glaſs Veſſels, do not produce their Young, though aſſiſted by a kindly Warmth. The Seeds of Plants likewiſe duly moiſtened, and ſowed in the beſt Earth in cloſe Glaſſes, do not grow, or give any Signs of Life, though excited by a due Degree of Heat. On the other Hand, the upper Surface of Blood, that is expoſed to the Air, is of a bright Scarlet Colour, whilſt, in every other Part which the Air does not come at, it grows as black as the Blood of the Cuttle-fiſh; and yet, as ſoon as ever this black Part is laid open to the Air, the black Colour is immediately changed again into a Scarlet. All theſe Experiments then make it appear, that there is in the Air a certain hidden Virtue, which cannot be accounted for from all the Properties of the Air, which have been hitherto diſcovered. Sendivogius maintained it openly, that there lies hid in the Air the occult Food of Life, and other Chymiſts have aſſerted the ſame. But, what that is, or how it acts, or what is the proper Effect of it, is a Matter ſtill in the Dark. Happy the Perſon that ſhall diſcover it! Thus far *Boerhaave*.

This vivifying Principle in the Air, ſo neceſſary to the Support of Flame and Fire, as well as animal and vegetable Life, ſeems by every Phænomenon to be the univerſal Acid diſtributed through the intire Atmoſphere in a certain Proportion, inſomuch that no Portion of Air ſeems to be without it. This, though not perceivable by the Senſes, is however very manifeſt by its Effects. It is this Acid that corrodes the baſer Metals in a very ſhort Space of Time, and even Gold and Silver are not intirely free from its Influence. By this Acid the Calx of Vitriol, of Alum, and the Earth from which Nitre has been procured, are again repleniſhed in ſuch a Manner, as to be capable of producing acid Spirits afreſh. We may conclude, that Fleſh, expoſed to the Air for ſome Time, contracts a Redneſs from the Influence of this Acid, becauſe Nitre has the very ſame Effect in producing the ſame Colour. Vegetable aromatic Oils alſo are changed by the Acid of the Air red, for, if a Vial is filled with certain aromatic Oils, and cloſe ſtopped, it will preſerve its original Tranſparency; but, if a Part of the very ſame Oil is incloſed in a Bottle not quite full, the ſmall Portion of Acid, in the Air contained in the Vacancy, will

ill change the Oil red, as Hoffman informs us. Hence there Reaſon to ſuſpect, that Flowers, which are all, more or leſs, rniſhed with an aromatic Oil, are obliged to the Acid of the ir for their beautiful Colours, which it ſtrikes upon them riouſly, as the Oil, or Sulphur, which it meets with on the etals determines it to one Colour or another; and the Chy- iſts have long ſince diſcovered, that Sulphur, as they call il, is the Parent of Colours. It is remarkable that Scarlet- yers cannot ſtrike their Colours without the Aſſiſtance of an cid. Hence the Phænomenon of the Surface of Blood, when xpoſed to Air contracting a Redneſs, may be in ſome Meaſure ccounted for. And indeed, all thoſe concerned in the Buſi- eſs of Dying obſerve, that a cloudy moiſt Air very much in- rferes with the Beauty and Vividneſs of their Colours; and at, on the Contrary, a ſerene Sky exalts them, and makes em more elegant. Now it is known, that in this State the Air an Acid abounds much more than when the Wea- er is cloudy, and full of Vapours. Flowers are alſo liable the ſame Influence of the Air in different States, for their olours are never ſo much exalted as when the Air is ſerene d clear, that is, when it abounds with an Acid.

Every body, concerned in Medicine, knows, that all antimo- al Preparations will contract an emetic Quality from Acids, d it is alſo certain, that the ſame Medicines will prove eme- , if they are expoſed to the naked Air; hence it is very pro- ble that an Acid is communicated to them from the Air.

Nitre alſo borrows its Acid intirely from the Air. See ITRUM.

Upon the Whole, I am convinced, that the Acid of the r finds ſome Way of mixing with the Blood of Animals, ugh I cannot determine the ſpecific Manner in which this ion is accompliſhed. But I am inclined to believe, that s grand Operation is performed in the Lungs, becauſe Air inſufficient for the Purpoſes of Reſpiration after repeated In- rations, unleſs a free Intercourſe is maintained with the ex- nal Air. Hence it ſhould appear, that ſomething contained the Air is waſted, of which it ſtands in Need of a freſh pply, in order to render it capable of maintaining Life. w if we conſider, that the Blood moſt certainly acquires ed Colour in the Lungs, and at the ſame Time, if we re- t on what was obſerved before, with Reſpect to the Power Acids, in producing this Colour, when mixed with Sulphurs, will be a Step, at leaſt, to the Confirmation of this Senti- nt. Add to this, that Aſthmas, which prevent the Air from g taken regularly into the Lungs, are productive of Drop- , the Blood loſes its Colour as well as Texture, and be- es pale and watery. Girls alſo, in a Chloroſis, have a porary Aſthma, and hence, perhaps, their Blood is always and thin, ſometimes even as white as Milk or Chyle.

know that I am ſingular in this Sentiment, as the Modes Philoſophy now ſtand, and that Boerhaave, for whoſe Judg- nt I have the greateſt Deference, is of the contrary Opi- n. But I ſee no Reaſon, why ſo exceeding ſubtile and pe- rating a Body as this Acid of the Air may not as well enter Pores of the Veſſels of the Lungs, during Inſpiration, as ore groſs and even viſible Halitus, or Vapour, exhale thro' ſame Pores in Exſpiration. We know the Particles which ſtitute the Blood are large enough to be viſible in Micro- pes, but thoſe which compoſe the aerial Acid are ſo extremely ute, as not to be diſcoverable to the Sight, by any Art what- r. Hence then it appears very plain, that Veſſels may it the Acid above-mentioned, from without, and yet eaſily in the Blood circulating within.]

rom this Account of the Air, its Properties, and Contents, ny curious Appearances, relating to the animal Œconomy, y be underſtood.

irſt then, Air, as a fluid Body, is the Vehicle of the Efflu- of all odorous Bodies to the Organs of Smelling, and, as a derous Fluid, it preſſes them on the Nerves of theſe Or- s with a Force ſufficient to make them ſenſible. It alſo reſſes ſapid Subſtances upon the Organs of Taſte, and ders them obſervable by the Senſes. It is alſo the In- ment of Sound, for the Undulations cauſed in it, by Bo- moved in various Manners, ſtrike upon the external , which, by a ſingular Mechaniſm, communicates this No- to the Nerves expanded upon the internal Ear. This ight of the Air too, by preſſing upon the Surface Animals and Vegetables, prevents a Rupture of their ſels, from the Force neceſſary to circulate their Jui- to which it is, as it were, a Counterballance. All e Things are evident, becauſe on the Tops of high untains, where the Air is very rare, the Senſes of Smell- Taſting, and Hearing, are very languid; it is ſaid, that the Pico of Teneriffe, Pepper, Ginger, Salt, and Spirits e no ſenſible Taſte, and that nothing affects the Organs of ſte, except Canary Wine, which, it is ſuppoſed to do in e Circumſtances, by Reaſon of its Oilineſs, which makes dhere to the Nerves of the Palate. On the Tops of Moun- s alſo the Blood-veſſels are very ſubject to burſt, whence uent Hæmorrhages happen to thoſe who travel to their Sum- s.

The Air alſo, in Virtue of its Elaſticity, contributes greatly to the Solution of the Aliment in the Stomachs of Animals. For, when that which is contained in every Part of the Food is rarefied and expanded by the Heat it meets with in the Stomach, it deſtroys the Coheſion of the component Particles, and aſſiſts in reducing it to a State of Fluidity. At the ſame Time, as it is confined in the Stomach, all its Action muſt be determined to the Aliment, which it muſt therefore act upon with great Force, in this rarefied State.

Reſpiration, ſo neceſſary to the Continuance of animal Life, is performed by Means of the Air. For, when the Air is expelled out of the Lungs, the pulmonary Veſſels through which the Blood circulates, from the right Ventricle of the Heart, and by which it is returned to the left Auricle, collapſe, and are no longer pervious, till the Air, ruſhing into the Branches of the Aſpera Arteria upon the Elevation of the Breaſt, diſtends the Lungs, and thereby opens not only the Air-veſſels, but alſo the Branches of the pulmonary Vein and Artery, which accompany, every where, thoſe of the Aſpera Arteria. Here the Air, as a heavy Fluid, acts upon, compreſſes, and comminutes the Blood, and, as it is elaſtic and dilatable by Heat, the Action of it upon the Blood in the Lungs is by this Property rendered greater. If alſo, as I have ſuppoſed, the aerial Acid, or vital Spirit, is communicated to the Blood in the Lungs, from the Air, ſome Effects of great Importance to the animal Œconomy muſt neceſſarily ariſe from hence.

And, indeed, if we conſider the Air in all Lights, we ſhall find, that every Alteration it undergoes, muſt induce ſome great Change on the animal Machine, if I may ſo call an animal Body. Thus, when it is very heavy, it muſt preſs upon the Surface of our Bodies, and the internal Parts of the Lungs, with a greater Force than when it is light. It has been proved by curious Obſervers, that the Difference of Weight, with which our Bodies are preſſed, by the Atmoſphere, in the greateſt Degree of its natural Gravity, from that which we ſuſtain when it is the lighteſt, amounts to $3982\frac{1}{2}$ Troy Weight. Now, as this Difference is very great, the Effects of it muſt alſo be conſiderable.

The different Degrees alſo of Heat and Elaſticity in the Air muſt have Effects proportioned to the Cauſes upon the Bodies of Animals. The various Contents alſo of the Air muſt of Courſe induce great Changes, as it ſome Way or other finds Means to communicate the Qualities it borrows from them to the Blood and Juices of Animals. Hence it becomes the Vehicle of Contagion, and the Propagator of Diſeaſes, both epidemical, and endemial, which admit of infinite Variety, becauſe the Alterations of the Air, with Reſpect to its Properties, and to the innumerable Combinations of Bodies contained in it, are infinite.

However, we may venture to conclude, that the moſt healthful is that which is ſerene and dry, and conſequently ponderous, and replete with the acid vital Spirit. A gravelly Soil is moſt likely to be furniſhed with ſuch an Air, becauſe from ſuch a one few or no oily Particles can exhale to infect it. Countries alſo, where there is a Variety of Hills and Vallies, with ſwift Rivulets of Water running through them, are productive of a good Air, becauſe ſuch Situations cauſe a Circulation of the Air, and ſuch Currents of Water always produce one in the Atmoſphere.

I muſt not diſmiſs the Subject of the Air, without taking Notice of a great Error, which many inconſiderately run into with Reſpect to Exerciſe; it is, that they eſteem Motion only conducive to Health, and this Sydenham ſeems to give into, when he attributes the Advantages of Riding to repeated Succuſſion. However, we find by Experience that the ſame Degrees of Motion or Succuſſion by Exerciſe in a Houſe, or under Covert, come far ſhort in Point of Efficacy in curing Diſeaſes, and preſerving Health, of that performed in the freſh Air, eſpecially when it is pure, and not abounding with Vapours and Exhalations. The Reaſon of this is very plain, for, when an Animal is moving forwards, he is perpetually reſpiring Air, which has not, by repeated Inſpirations, been robbed of the vital Principle, be that what it will, ſo neceſſary to the Support of Life, and Preſervation of Health. Hence, Sailing even upon calm Rivers, an Exerciſe much recommended by the Antients in the moſt obſtinate Diſtempers, though attended with a very ſmall Degree of Succuſſion, is nevertheleſs efficacious, by Reaſon of a perpetual Change of Air.

Vitruvius, ſenſible of the Efficacy of the Air in preſerving or deſtroying Health, lays down the following Rules for chuſing a proper Situation for a new City, which ought to be regarded in every new Settlement, and ſhould not be neglected even in building a Farm-houſe. His Philoſophy, however, is not always the beſt; but the Reaſons for his Rules will appear by the preceding Pages, inſomuch that the Reader will not be at a Loſs to account for what he aſſerts.

In erecting Walls we are to proceed on theſe Principles: Firſt, a healthy Situation is to be choſen; ſuch a one muſt be raiſed above the Annoyance of Fogs or cold Dews, and muſt regard, or face, not the cold or hot, but the temperate Quarters of the Heavens. Our next Care muſt be to avoid the Neighbourhood of a Marſh; for in ſuch a Situation the groſs Vapours exhaling with the riſing Sun, and condenſed into a Fog, together with the poiſonous Spirits of the Animals inhabiting the Fens, are wafted with the Morning Breeze to your new City, and diſperſe their unwholeſome Blaſts on the Inhabitants, ſo as to cauſe a Peſtilence. If your Walls run along by the Sea, facing the South or Weſt, the Place will not be healthy. For, in the firſt Caſe, the Southern Air is heated by the riſing, and burns with the meridian Sun; and in the latter Situation, it is warmed by the riſing, heated by the meridian, and burns with the declining Sun; ſo that the Inhabitants ſuffer very much in their Bodies by theſe great Viciſſitudes of Heat and Cold. We are taught this Reflection even from inanimate Things. In your cloſe Wine-cellars, none opens a Light to the South or Weſt, but always to the North, becauſe that Quarter is ſubject to no Changes from any Seaſon, but remains for ever firm and immutable. From the ſame Cauſe the Granaries, which any Ways face the Courſe of the Sun, are ſoon corrupted; and Proviſions, or Apples, laid in a Place that is not turned from the Sun, will not keep long. For Heat, by perpetually rarefying, deſtroys the Firmneſs of the Air, and, by continued Attacks of fervid Vapours, draws forth its natural Powers, and diſſolves, or ſoftens and enfeebles them by its quick and penetrating Quality. We perceive the Effects of Heat on Iron, which, though hard by Nature, yet, when thoroughly heated at the Forge, becomes ſo ſoft and ductile, as to be capable of all Manner of Forms. Let the ſame Iron, when ſoft and ſparkling red, be refrigerated, by dipping it in cold Water, it ſhall revert to its former Nature, and reſume its original Hardneſs. This will be further illuſtrated, if we conſider, that in the Summer all Bodies, as well in healthy as unhealthy Regions, grow weak with Heat; but, in Winter, the moſt peſtilential Countries become healthy, becauſe Bodies are at that Seaſon conſolidated and ſtrengthened by Refrigerations. For the ſame Reaſon, Bodies, removed out of cold into hot Regions, cannot endure the Heat, but are diſſolved; whereas, on the contrary, tranſported from a hot Climate to the cold Northern Countries, they are ſo far from being injured by the Change of Place, that they are ſtrengthened and hardened by it.

It appears from theſe Conſiderations, that, when we would raiſe our Walls, we are to appoint them a Situation proper to guard againſt thoſe Regions, whence hot and unwholſome Blaſts may proceed, and ſcatter their baleful Influence over the Bodies of Men. For, all Bodies are conſtituted of Elements, which the Greeks call Στοιχεῖα, namely, Heat, Moiſture, Earth, and Air; of a due Mixture of theſe Elements, according to the Order of Nature, are all the Animals of the World, with their ſpecific Properties, compoſed and tempered. Hence, where Heat is the predominant Principle, it deſtroys the reſt, and diſſolves that Body by its Fervor. And this is the ill Effect of an hot Blaſt from certain Quarters, which, being received into the open Pores, overpowers the other Principles, and proves too hard for the Conſtitution. In like Manner, if Moiſture fills the Veins, and overflows the Body, and by that Means deſtroys the Equilibrium, the other Principles are corrupted by the redundant Liquid, and all the Virtues and Powers of that Compoſition are diſſolved and waſhed away. Bodies are alſo ſometimes injured by Refrigerations of Moiſture from freſh and cooling Gales. No leſs do the other two Elements that enter the Compoſition of the natural Body, which are Earth and Air, by their Exceſs or Defect, weaken and ſubvert the reſt; the Earth, for Inſtance, by oppreſſing Nature with Plenitude of Food, and the Air by an overcaſt and gloomy Sky.

But, for the more evident Demonſtration of theſe Things to the Senſes, we need only watch the Steps, and obſerve the Operations of Nature, in Birds, Fiſhes, and terreſtrial Animals, by which Means their different Temperature will come under Conſideration. For the Kind of Birds are of one Compoſition, the Fiſhes of another, and terreſtrial Animals of a third, widely different from them both. Birds have leſs of Earth and Moiſture, but much of a temperate Heat and Air; ſo that, being conſtituted of lighter Elements, they may the more eaſily make their Way in the Air. Fiſhes, whoſe Nature requires Water for Exiſtence and Motion, are temperate as to Heat, and chiefly compoſed of Earth and Air, but have very little Moiſture, the leſs of which Principle they have in their Compoſition, the better qualified they are to ſubſiſt in it. Hence, when they are caſt on Land, they loſe their Lives with their Water. In terreſtrial Animals, the Elements of Air and Heat are clogged with Earth and Moiſture, ſo that, becauſe the humid Parts abound in them, they cannot live long in Water.

Now if the Caſe be thus as we have repreſented it, and that we are convinced by our Senſes, that the Bodies of Animals are conſtituted of theſe Elements, or Principles, and labour under Exceſſes and Defects of theſe Conſtituents, and are ſubject to Diſſolution, we cannot doubt of the Importance of our chuſing and making the beſt Advantage of the moſt temperate Quarters of the Heavens, when we propoſe to ourſelves an healthy Situation of the Walls we are about to erect. And here I cannot help wiſhing again and again, for the Cuſtom of the Antients. Our Forefathers uſed to examine the Livers of the Cattle they offered in Sacrifice in thoſe Places where they built a Town, or pitched their Camp; and if the firſt were livid, or corrupt, they offered others, becauſe they doubted whether the Defect were owing to ſome Diſtemper, or to the Badneſs of their Food. After they had proved, by many Experiments, the Goodneſs of the Water and Forage, from the Soundneſs and Solidity of the Livers, there they erected Fortifications, and projected Settlements. But, if the Livers were found defective, they concluded, that the ſame Food and Water would work a like Effect on human Bodies, and ſo occaſion a Peſtilence. Therefore they ſpeedily decamped, and went in Search of better Air and Diet, preferring Health above all Things.

That we are beholden to the Soil for the Goodneſs and Wholſomeneſs of Proviſions, both for Man and Beaſt, is demonſtrable from the Lands of the Cretans, which lie along the River Pothereus, between the two Cities Gnoſos and Cortyna. Sheep and black Cattle graze to the Right and Left of the ſaid River; but thoſe which feed next to Gnoſos are not without a Spleen; on the other Side, thoſe next to Cortyna have no Appearance of any. Whence Phyſicians, inquiring into the Cauſe of this Phænomenon, diſcovered an Herb, which the Cattle had eaten, and by its Virtue waſted away their Spleen. They gathered this Herb, and from that Time made Uſe of it to very good Purpoſe, in Diſorders of the Spleen; for which Reaſon the Cretans gave it the Name of Ἄσπληνον. This Example ſhews us, that the natural Wholeſomeneſs or Unwholeſomeneſs of a Place may be known from the Food and Water it affords.

If the Walls be erected in a Marſh, which lies along by the Sea, and facing the North, or between the North and the Eaſt, and thoſe Marſhes be higher than the Sea-ſhore, there ſeems to be Reaſon for chuſing ſuch a Situation; for by digging Canals an Outlet may be made for the Waters to the Shore, and, at every tempeſtuous Swelling of the Sea, the ſalt Waters, overflowing and mixing with thoſe of the Marſh, will hinder the Generation of thoſe noxious Animals that breed in ſtanding Lakes and Marſhes, and ſuch as ſwim from higher Grounds towards the Shore are killed by the Saltneſs of the Waters, to which they are not accuſtomed. We have Inſtances to this Purpoſe in the Cities of Altinum, Ravenna, and Aquileia, and other Towns ſituated by the Marſhes of Gallia, which, by the Means aforeſaid, are very healthy Places. But a Town ſeated by a Marſh, or Lake of ſtanding Waters, that have no Outlet either by Canals or by Means of a River running through them, muſt of Neceſſity ſuffer in Point of Health, for ſuch Waters putrefy by Standing, and ſend forth noiſome and peſtilential Exhalations. For Example, the old Town of Salapia which was built by Diomedes, in his Return from Troy, or, as others write, by Elphias the Rhodian, had the Misfortune of ſuch a Situation. The Inhabitants, being yearly viſited with an epidemical Sickneſs, addreſſed themſelves by public Petition to M. Hoſtilius, and intreated him to ſurvey and chuſe for them a commodious Place, whither they might transfer their Habitations. He immediately undertook the Affair, and, having firſt well examined the Nature and Reaſon of his Undertaking, purchaſed a Tract of Land near the Sea, in a healthy Place, and then preferred a Petition to the Senate and People of Rome, that the Salapians might have Leave granted them to remove their Habitations, and build a new City. This obtained, he erected Walls, plotted out the Ground, and allotted to every Freeman his Poſſeſſion in Fee-ſimple, paying only a ſingle Seſterce [a Piece of Silver worth about Two-pence]. Matters thus ſettled, he opened a Way for the Lake to diſcharge itſelf into the Sea, and, in ſo doing, made of the Lake a Port to the new City. And thus are the Salapians, by a Remove of four Miles from their old Town, now eſtabliſhed in a healthy Situation. *Vitruvius, L.* 1. *C.* 4.

I ſhall add to this Account of Air the Sentiments of the famous de Villa Nova, which are in the general extremely juſt, and from which many excellent Hints have been taken by Boerhaave, in the foregoing Treatiſe on this Subject. Some ſmall Allowances muſt be made on Account of the Time in which the Author wrote.

A clear, ſubtile, and pure Air clarifies, ſubtiliſes, and refines the Blood and Spirits. Of Conſequence, therefore, it makes the Heart glad, the Mind ſerene, the Body lightſome, and accelerates Digeſtion throughout all the Members. On the contrary, a cloudy, groſs, and turbulent Air darkens the Heart, disturbs the Mind, makes the Body heavy, and retards and hinders Digeſtion, ſo that the Superfluities, at leaſt ſuch as are fuliginous and vaporous, cannot ſoon be reſolved by the Body. The Air is influenced from external Cauſes, as from the Stars, from Minerals, Plants, and Animals, or other inſenſible Powers, which moſt effectually alter the Body; ſo that

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me Seaſons and Places it becomes poiſonous and peſtilential ; others ſo pure and ſalutary, and, as it were, theriacal, at no Venom can there find Place to hurt the Body, or but ry little, as in Ireland, and the adjacent Iſlands, in ſome of hich, even dead Bodies, expoſed to the Air, will not corrupt. nd ſo remarkable are the Effects of the Air upon human odies, at ſome Seaſons, as to attemper and illuminate the rain and Spirits to ſuch a Degree, that they are elevated, an extraordinary Manner, to the Contemplation of occult telligences, and the Speculation of Futurities, and to an ex- edite Performance of all the Acts of Reaſon. At other imes, on the Contrary, ſuch Diſturbances in the human Frame e wrought by the Air, that Reaſon receives infinite Da- age thereby, and is either totally loſt or ſuſpended. The ac- dental Effects of Air are innumerable, according to the vari- us Diſpoſitions of the Body in the different Stages of Life: s, for Inſtance, a cold Air comforts the digeſtive Faculty, d corroborates the Body, where the Viſcera abound with irits, by compreſſing and repelling the natural Heat inwards; warm Air, by its contrary Operation in drawing it out- ards, has a contrary Effect. A Phyſician, therefore, ought know the Cauſes of the Changes that are wrought in the ir. It is altered by the Influence of celeſtial and elementary odies. By the firſt it undergoes a Multiplicity of Changes, the oſt obvious of which are thoſe made by the Sun in the four aſons of the Year, and the Moon in her four Quarters. The mmon and natural Diſpoſition of the Air in theſe four Sea- ns is beſt obſerved in the Middle of each ; for in their Ex- emities they coincide with one another. In the Spring, for ſtance, according to the common Courſe of the Sun, the ir is temperate as to the four Qualities [Heat, Cold, Dry- ſs, Moiſture] and therefore it is called a temperate Seaſon. ch a one it muſt be, which maintains the Body in a middle iſpoſition, not altering it by any manifeſt Quality, neither uſing it to ſweat or burn with Heat, nor ſhake, ſhiver, or rink with Cold ; neither hardening, withering, furrowing, wrinkling it with Dryneſs, nor ſoftening, benumbing, or ding it with Rheumatiſms by exceſſive Moiſture. The edominancy of Heat and Dryneſs is moſt evident about the iddle of Summer, eſpecially while the Sun paſſes through o, and is in Conjunction with the Dog-ſtar. In the Middle Autumn, the Air is moderately cold, and manifeſtly in- ned to Dryneſs ; in the Middle of Winter cold and moiſt. t in theſe very Seaſons the Air is liable to Alterations from uſual Diſpoſition from accidental Cauſes. In the four Quar- s of the Moon, the Changes of the Air are moſt evident in Intention and Remiſſion of Coldneſs and Moiſture.

The Changes, cauſed in the Air by elementary Bodies, are her made by Fire actually working on inferior Subjects, m Water, Earth, or their Contents, or from Vapours re- ved and exhaling [which are Effluvia or Exhalations] from m.

Fire heats and dries, and ſometimes overcaſts it with Smoke ; w, if the Air of an Habitation, where are ſeveral Ovens, Furnaces, and great Fires often made, ſhould be natu- ly warm and dry, it will be exceſſive in thoſe Qualities, en the Fires are kindled. But, if the Air naturally incline the oppoſite Qualities, it will be purified, and the Exceſs Cold and Moiſture corrected.

Waters of themſelves cool and moiſten the neighbouring r, and freſh Waters more than thoſe which are ſalt. But m the Refulgency [Reflection] of the Sun's Rays that ſtrike on them, they double both the Heat and Luminouſneſs of Air; for, whenever the Sea, or a great Body of Waters, between the Sun, eſpecially when it is in the Meridian, d an Habitation, the Houſe is the hotter, and the Air ſo minous, that, in a Summer's Noon, the Inhabitants, eſpe- lly thoſe who have tender Eyes, have no Uſe of their ht.

The Earth influences the Air by its Qualities and Situation ; t, by its Qualities, for, if it be a fat clayey Soil, it ren- s the Air moiſt and thick ; if dry and ſandy, it makes a and duſty Air ; but dry and ſtony a dry and pure Air. e Situation of a Portion of Earth is fourfold; on a Hill, on Declivity, in a Valley, or in an open Champagne. The on the Top of Hills, compared with that of the circum- ent lower Regions, is very thin, free from Vapours, and d. In Vallies, ſurrounded by Hills, the Air muſt be groſs impure, and hot, compared with that on the Hills, be- ſe of the Reflection of the Rays, eſpecially in Summer. t in the Winter, if the Mountains be extraordinary high, Air is coldeſt in the Valley, becauſe it is overſhadowed. e Air on the Declivity of Hills is of a middle Subſtance, moderately pure, unleſs it be accidentally influenced, as Vapours aſcending thither from ſome neighbouring Marſh, reflected by the Tops of the Hills, by which Means the Air onſiderably thickened, ſo as to be ſometimes warmer, ſome- es colder than on the Top, ſometimes it is of a middle ality ; for, if the Declivity lies to the North, it is coldeſt en ſhadowed by the Top ; if to the South, it is the warmer for reflecting the Noon-tide Rays, and being ſheltered from Northern Blaſts. If the Declivity faces the Eaſt or Weſt, it will be hot or cold in a moderate Degree. An open Champagne, or Field, lies out of the Reach of any Shadow from Hills, but receives the whole Benefit of the Sun's Courſe. The Air in ſuch a Situation is moderate in all its Diſpoſitions.

The Contents of the Earth and Waters cauſe Alterations in the Air, but thoſe of the Waters more ſeldom. For the Contents of Waters in conſtant Agitation, as is the Sea, make no ſenſible Change of the Air; but ſtanding Waters, like the Carcaſſes of Animals, or rotten Plants, infect it with their hurtful Qualities. But the Things, contained in the Earth, very often influence the Air; ſome of theſe are natural, others artificial. Of the Natural, ſome are Minerals, ſome Plants, and ſome are Superfluities generated from Animals.

Minerals operate according to their natural Properties. Thus Mines of Sulphur and Arſenic heat and dry the Air ; Marchaſites and Antimony cool and dry it; and ſo of the reſt. Mines of theriacal Stone, ſuch as thoſe which the Arabians call Bezabar, make a theriacal Air, oppoſite to all Poiſons.

Plants alter the Air, by their Quantity and Quality. In Quantity ; for high Trees, eſpecially if they ſtand thick, as in Woods, obumbrate the Air, and hinder its Ventilation, whence it grows thick and heavy, therefore a Houſe ſituated within a Thicket of Trees is no healthy Habitation. If a Wood lie on the North-ſide of your Manſion, it defends it from the cold Winds that blow from that Part ; if to the South, it moderates the ſultry Heat of Summer. Plants influence the Air alſo by their Qualities. The Aromatics temper it with their aromatic Sweetneſs and Purity, and the fœtid ones, with their noiſome and diſagreeable Effluvia, and ſo of other Qualities. Hence the Brain and Spirits are much damped and clouded by ſitting under a Tree of a ſharp and bitter Taſte, as the Fig-tree, the Walnut, and Pomegranate-trees, but eſpecially a Tree of a rank or fœtid Smell, as the Elder : The ſame is to be ſaid with Reſpect to the Cuttings of Plants that are ſtrewed in Houſes.

The Superfluities, generated of Animals, are either ſuch as proceed from them while alive, or their Remains after Death. Among the firſt only the Excrement evidently cauſes an Alteration. All Excrements heat the Air, and ſome dry it, as does that of a Dove ; others, as that of a Cow or Hog, thicken and moiſten it ; only Man's communicate to it a fœtid Quality. Dead Carcaſſes manifeſtly change the Air by their Putrefaction.

The Things reſolved [that fly off] from the Earth, and the Water, and their Contents, are Vapours. That the Particles reſolved [Effluvia] from the Contents of the Earth and Sea, cauſe an Alteration, is evident from what has been ſaid; and indeed they have ſo great an Influence as to corrupt its Subſtance, and render it peſtilential, and inclined, by its poiſonous Qualities, to vitiate and putrefy the Blood and Spirits in the Heart and Arteries, eſpecially in ſuch as are infirm or prediſpoſed to Putrefaction. Such are Vapours from dead Carcaſſes and Inteſtines of Animals, and Multitudes of Sick in great Armies, eſpecially in a hot, cloſe, ſtill Air. The Vapours which exhale from Water infrigidate and moiſten the Air, and if very denſe, as in a Miſt, render it groſs and inactive.

Vapours that fly off from the Earth cauſe a manifeſt Change in the Air, as well as the Winds. Of theſe there are four principal ones, according to the four Cardinal Points, and all of them by Nature dry. But paſſing over Seas, or very watery Regions, drive the humid Vapours before them into remote Countries : Whence the South-wind brings Rains, and a moiſt Air, to thoſe who live North of the Mediterranean Sea, but Heat and dry Weather to thoſe who live to the South of that Sea. The North-wind is the Reverſe of the other ; and the ſame Judgment is to be formed of the Eaſt and Weſt-winds, which are moiſt in one Country and dry in another, for the above-mentioned Reaſon. But the South-wind is hot in itſelf, and the North-wind cold ; the reſt are temperate. Yet all of them, in paſſing over the intervening Regions, may acquire accidental Qualities ; for Inſtance, Cold in their Paſſage over black and ſnowy Countries, or Heat in blowing over burning Sands and Deſarts. But their Impreſſion is moſt felt, when they blow through the Straits of Mountains into narrow Vallies.

Air may alſo be changed artificially by human Induſtry ; as, in Manſions, according to Matter, Form, Situation, Quantity, and Reſidence. As to the firſt of theſe Particulars : A Houſe built all of Stone, or Earth, or Bricks and Mortar, makes the circumjacent Air cold, but one erected with Wood, and thatch'd with Straw, heats the Air, or if the Floor of the Houſe be paved with Stone, or Brick, the Air will be the purer but much the colder ; but an earthen Floor renders the Air duſty and offenſive to the Lungs.

Secondly, the Form, as well as the Matter, or Materials of a Houſe, influences the Air, as in the Abundance or Defects of Spiracula, that is, Windows and Chimnies ; for the Multitude of theſe ventilates and purifies the Air, though it renders it leſs ſtill and quiet. Windows towards the North cool the Houſe, as thoſe towards the South warm it; thoſe towards the Eaſt and Weſt are indifferent. If a Houſe want Spiracles, like a Shell, or have them ſtopped, the Air becomes groſs and impure, and difficult to breathe. If it be very much frequented, it is ſoon heated, and grows ſultry, as in Stoves, and where ſick Perſons are lodged, in which Places, from Naſtineſs and Putrefaction of Humours, it is ſoon corrupted. Whence it follows, that under Tents and Pavilions, erected in the open Field, the Air is purer and freer, for it vents itſelf every Way through the thin Cloth. But it is not ſafe, for all that, to lodge in the open Air, becauſe of its ſudden Alterations, and the perpendicular Incidence of the celeſtial Rays, which have the greateſt Force. Therefore the Pavilions, which are covered with good thick Leather from the Top to the Middle, are moſt commodious to ſleep in.

In the third Place, a Houſe may be ſituated on the Superficies of the Earth, or below it. On the Superficies the Earth is certainly purer and finer; a ſubterraneous Room has a thick and impure Air, very cold in Summer, and hot and ſmoaky in the Winter, and diſpoſing to Rheumatiſms, at all Seaſons.

In the fourth Place, the Quantity of an Houſe may be conſidered with Reſpect to the Whole, or the Parts. A large and lofty Manſion has the pureſt and always the coldeſt Air, the Oppoſite to this, the warmer Air, but leſs pure. That which has the thickeſt Walls, and is covered moſt towards the South, is the colder, but if its thickeſt Walls and cloſeſt Covert ſtand towards the North, it is ſo much the warmer. If the Fences be thin on both Sides the Impreſſions from either of theſe Qualities, Heat or Cold are the more eaſily felt.

Fifthly, if the Houſe be conſtantly inhabited, the Air in the ſame will be warmer, and purer, and alſo drier, for it is warmed and purified by the Heat of the Body, and by Fire; but, if it remains long without any Inhabitants, the Air grows cold and moiſt, and is corrupted, eſpecially if it be cloſe pent in, ſubterraneous, want Vent-holes, or the Space under Cover contain many Ditches and Caverns. *Arnaldus de Villa Nova.*

I cannot omit inſerting in this Place the celebrated Treatiſe of Hippocrates, περὶ ἀέρων, ὑδάτων, τόπων, becauſe the preceding Pages will aſſiſt us in accounting for, and explaining many important Aſſertions of its admirable Author, beſides that if I have made it intelligible in our own Language, it will afford many agreeable Speculations.

HIPPOCRATES of AIR, WATERS, and SITUATIONS.

Whoever has an Inclination to purſue a right Method in his medicinal Enquiries, ſhould obſerve this Order: Firſt, he ſhould ſtudy the Seaſons of the Year, and learn, what Effects each of them is capable of producing; for they are in no Reſpect alike, but differ exceedingly, both in Regard to each other, and to the various Changes, which happen in each reſpective Seaſon. Next the Winds ſhould be regarded, the hot as well as the cold; principally thoſe which are common to all the World, and afterwards thoſe by which particular Regions are chiefly affected. The Qualities of Water ſhould alſo be conſidered, becauſe each of theſe differ not leſs in their Effects than in Taſte and Gravity.

Upon theſe Accounts, when a Phyſician arrives at a City, with which he is not acquainted, he ſhould inform himſelf well of the Situation, learn what Winds principally affect it, and remark how it lies with Reſpect to the riſing Sun; for the Influences of a North or South-wind, the Morning or Evening-ſun, upon the Place, cannot be alike. Theſe Circumſtances therefore muſt be diligently conſidered; nor muſt the Water paſs unregarded, for it is of Importance to know whether the Place is ſupplied with ſoft Water from Lakes, or by Currents from Hills or Rocks, with that which is hard; as alſo whether the Water is ſalt, heavy, and difficult to boil, or the Contrary.

It ſhould alſo be conſidered, whether the Country be naked and dry, or covered with Woods and damp; and whether it be a Valley, and for that Reaſon ſubject to ſuffocating Heats, or elevated, and conſequently cool. Obſerve, moreover, the Diet to which the Inhabitants are in general addicted; whether they indulge themſelves in Exceſſes of Eating, Drinking, and Inactivity; whether, on the Contrary, they are inured to much Exerciſe and Labour; or, laſtly, whether their Intemperance conſiſts more in Eating than in Drinking. For from theſe Circumſtances we are to form a Judgment of their Diſeaſes, and of the Things beſt adapted to relieve them; inſomuch that a Phyſician, perfectly well acquainted with all theſe Particulars, or, at leaſt, the greateſt Part of them, when he arrives at a City to which he was an utter Stranger, cannot be ignorant of the endemial Diſtempers of the Country, or the Nature of the Inhabitants; and hence the Inveſtigation of ſure and infallible Methods of Cure will not be difficult, which without this previous Knowledge would be leſs eaſy. Beſides, he will be able to foreſee, whether particular Seaſons, or the Year in general, will be ſickly, or healthful, and to foretel what epidemical Diſtempers will prevail, either in the Summer, or in the Winter; and alſo what Kinds of Diſeaſes particular Perſons will be in Danger of incurring, from an Alteration in their Diet. [*I ſuppoſe the Author means that Alteration of Diet, which the Seaſons neceſſarily induce.*] Thus being acquainted with the Seaſons, and the Riſings and Settings of the Stars, as they happen in Order, he may know what Sort of Year is likely to enſue; and theſe Enquiries into the Nature of the Seaſons will enable him to form a right Judgment of particular Caſes which occur, will contribute to make him ſucceſsful in Practice, and to preſerve him, as much as is poſſible, from Error.

If any one ſhould diſregard theſe Things, as barren meteorological Speculations, he may readily learn, if his Obſtinacy does not interfere, that Aſtronomy is of no ſmall Importance to Medicine, becauſe the Changes of the Seaſons conſtantly induce an Alteration in the digeſtive Organs of Men. But in what Manner the above-mentioned Particulars ſhould be conſidered and explored, I ſhall proceed to ſpecify.

Whatever City is expoſed to and frequently affected by the hot Winds, which are thoſe that blow from betwixt the Riſing and Setting of the Winter-ſun, but is ſheltered from the North-winds, is plentifully furniſhed with Water of a ſaltiſh Taſte, and which is not very ſubject to evaporate, being alſo hot in Summer, and cold in the Winter. *

Cities which enjoy a better Expoſure in Regard to the Sun and Winds, and which uſe good Waters, are leſs ſenſible of the following Changes; but Cities which are obliged to make Uſe of ſtagnating and marſhy Waters, and which have a worſe Situation with Reſpect to the Sun, and Winds, are yet more ſubject to the Influences of the Alterations in the Seaſons.

If the Summer is dry, Diſeaſes are of ſhorter Duration, but if rainy, they continue longer; on this Occaſion alſo, Ulcers are very inclinable to grow phagedenic from ſlight Cauſes.

If the Winter is cold, Men are ſubject to Rheums in their Heads, and to Diarrhœas, cauſed by Phlegm falling from the Head upon the Inteſtines. They alſo ſeem relaxed, and neither eat with Appetite, nor drink plentifully, which laſt is not to be wondered at, becauſe weak Heads are not likely to bear much Drinking, and beſides are conſiderably affected by a Debauch.

The reigning Diſeaſes are as follows: Firſt, the Women are unhealthy and ſubject to Rheums, and many are unfertile, not on Account of any natural Infirmity, but for Want of Health; and are ſubject to frequent Miſcarriages. The Children are often afflicted with Convulſions, and Aſthmas, which are eſteemed productive of the Epilepſy, a Diſorder frequent among Children. The Men are affected with Dyſenteries, Diarrhœas, Fevers, attended with perpetual Shiverings, obſtinate, wintery Fevers, frequent Eruptions, and the Piles. But Pleuriſies, Peripneumonies, burning Fevers, and thoſe Diſtempers, which generally go by the Name of Acute, are ſeldom heard of; and indeed it is not likely they ſhould, when the Habit is ſo inclined to be laxative. Beſides theſe, moiſt Inflammations of the Eyes, which are ſlight, and of no long Duration, are common, unleſs ſome general Diſtemper rages epidemically, on Account of Alterations in the Seaſon. Men above ſixty, being ſubject to Defluxions from the Brain are infeſted with Palſies, eſpecially if they expoſe their Heads ſuddenly to the Sun, or to the Cold. Theſe are the Diſeaſes to which ſuch a Southern Situation is principally ſubject, unleſs ſome epidemical Diſtemper from the Change of Seaſons prevails, of which the ordinary Diſeaſes participate.

Cities which have an Aſpect directly contrary to the above-mentioned, that is, which are expoſed and much accuſtomed to Winds, which blow from the Points betwixt the vernal Riſing, and Setting of the Sun, and which are ſheltered from the South-winds, and vernal Gales, are thus affected: Firſt, it is remarkable, that their hard and cold Waters are generally ſweet. The Inhabitants are neceſſarily ſtrong, dry, and generally difficult to purge, and coſtive; but vomit, however, more readily, and are more affected by Bile, than Phlegm; their Heads are healthy and hard; and they are ſubject to frequent Ruptures of the Veſſels. Their uſual Diſtempers are Pleuriſies, which are very common, as well as all thoſe Diſeaſes which are eſteemed Acute. And indeed it cannot happen otherwiſe, by Reaſon of their habitual Coſtiveneſs; they are alſo liable to Suppurations on very ſlight Occaſions, on Account of the Tenſion of their Fibres, and extraordinary Coſtiveneſs; but their Dryneſs, and the Coldneſs of the Waters, incline the Veſſels to Rupture. Theſe People muſt of Courſe be great Eaters, and but moderate Drinkers; for it is ſcarcely poſſible for the ſame Perſon to indulge himſelf in Exceſſes both of Eating and Drinking at the ſame Time. They are ſubject to violent and acute Inflammations of the

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* The Words μὴ μετέωρα have embarraſſed the Interpreters a great deal, and it has generally been tranſlated in ſuch a Manner as to embroil the whole Paſſage not a little. I believe the Author means here by μὴ μετέωρα the ſame as by ἀτεράμνοισι, that is, not eaſy to boil, or to be elevated. But I will not be poſitive I am right in this Caſe.

yes, which endanger the Rupture of the Part ; and thoſe nder thirty, to copious Hæmorrhages from the Noſe, in ummer. Epilepſies are not very common, but vehement, hen they happen ; and theſe People are more likely to arrive a greater Age than moſt others. Moreover, they are but ttle afflicted with cold corroſive Ulcers ; and as to their anners, they have a greater Tendency to the Savage, than the Polite. Such are the Diſeaſes of the Country, which rincipally infeſt the Men, when no unuſual Alteration in e Seaſons introduces an epidemical Diſeaſe.

As to the Women, they are contracted, and of tenſe Fi-res, in the general, becauſe the Waters are hard, difficult to oil, and cold. The Catamenia are not regular, but faulty, oth in Quantity and Quality ; add to theſe, that their La-ours are difficult ; that they are not very ſubject to Miſcar-ages ; and that they cannot always give Suck to their Chil-en, when born, becauſe the Hardneſs and Intractability of e Waters dry up their Milk. Many fall into Conſumpti-s after Lying in, the Violence of their Labour cauſing Rup-res of the Veſſels, and Convulſions. The Children, whilſt tle, are ſubject to contract Dropſies in the Scrotum, which, they grow up, diſappear ; and they arrive at Puberty very e in a City thus ſituated. Thus it is with Reſpect to the t and cold Winds, and to the Cities ſubject to their Influ-ces.

As for Cities which are expoſed to thoſe Winds which blow om betwixt the Riſings of the Sun in Summer, and in inter, or to thoſe which blow from the oppoſite Quarters, y are thus affected by their Situation. Thoſe which face the ing Sun are likely to be more healthful than others, which either ſubject to the Northern Blaſts, or expoſed to the try Southern Winds, though at no greater Diſtance than urlong from each other ; both, becauſe here the Heat and ld are more moderate, and becauſe Waters which ſpring ard the riſing Sun, are neceſſarily clear, ſweet, ſoft, and eeable to the Inhabitants of the Place ; for the Rays of riſing Sun purify the Waters, and prevent Intemperatures the Air, by clearing it of Vapours. The Inhabitants are, to Complexion, well coloured and florid, unleſs any ac-ental Diſeaſe interferes with their natural Habit ; their Voi-are clear ; their Paſſions are more regular, and their natural ts and Underſtandings better, than thoſe of the People who expoſed to the North ; and indeed all the natural Producti-are generally brought to greater Perfection.

A City, thus ſituated, enjoys, as it were, a perpetual Spring, Regard to the Temperature, being neither immoderately hot, exceſſively cold ; and the Diſeaſes, affecting the Inhabitants, neither ſo frequent, nor ſo violent as in other Places ; they are of the ſame Kinds with thoſe by which Cities oſed to the warm South-winds are affected. The Wo-here are extremely fruitful, and have very eaſy Labours. h are the Advantages of this Situation.

Cities which have an Expoſure towards the Setting of the , and are ſheltered from the Winds which blow from the Sun ing, but are open to the hot Winds from the South, and cold ones from the North, have undoubtedly the moſt un-thful Situation of all others. For, Firſt, the Morning s are a long Time retained, which, mixing with the Wa-, render them turbid, for the Sun does not ſhine upon n, till it has acquired a conſiderable Altitude. Beſides, he Summer, the cold Breezes blow, and the Dews fall up-them. As to the reſt, the Inhabitants are parched by the ining Sun, and hence they muſt probably become pale, and ly ; hence alſo they partake of all the above-mentioned eaſes, having nothing to protect them againſt them ; their ces are moreover likely to be deep, and hoarſe, becauſe the they reſpire, is generally impure, and unwholeſome, being little ventilated by the North-winds, which do not fre-ntly blow upon them ; and thoſe Winds, which principal-ffect them, being of all others the moſt moiſt. Add to that the Weſtern Winds, to which ſuch a Situation is oſed, make the Temperature reſemble that of Autumn, Reſpect to the Alterations of the Weather, which en on the ſame Day, for there is a great deal of Dif-nce betwixt the Morning, and Evening Air. Thus it Regard to the Healthfulneſs and Unhealthfulneſs of the nds.

ſhall next conſider the Waters, diſtinguiſh thoſe which are holeſome, from thoſe which are wholeſome, and ſpecify Advantages and Diſadvantages which attend the Uſe of each . For this is of great Importance to Health.

tagnating Waters of Marſhes, and Fens, muſt of Neceſſity arm, muddy, and ſtinking in Summer ; and, moreover, Want of Motion, and becauſe they are perpetually ſup-by the Rains, and warmed by the Sun, they muſt of rſe be white, bilious, and unwholeſome. In the Winter, ey are frozen, and cold, and turbid with Snow and Ice, are productive of Phlegm and Hoarſeneſſes. Thoſe who k them have their Spleens large, and much obſtructed ; Bellies hard, thin, and hot ; and their Shoulders, Necks, and Faces waſted ; for, as the Spleen enlarges, the Fleſh diſſolves ; and hence they are emaciated. Theſe have great Appetites both as to Eating and Drinking. Their Stomachs and lower Bellies are extremely dry, and hence they require ſtronger Vomits and Purges ; and this is habitual to them both in the Summer and Winter. They are ſubject to frequent and fatal Dropſies ; and, during the Summer, to Dyſenteries, Diarrhœas, and very chronical Quartans, which, as they continue long, in ſuch Conſtitutions bring on Dropſies, by which they periſh. Thus it happens to them in the Summer.

In Winter the Younger are ſubject to Peripneumonies, and phrenetic Diſorders ; the Elder, to burning Fevers, by Reaſon of their Coſtiveneſs. The Women contract Tumors and oedematous Diſorders, incline to Sterility, have difficult Labours, bring forth large and bloated Children, and which, in their tender Years, have a Tendency to waſte and become unhealthful ; their Purgations after Delivery alſo are not well performed. The Children are much afflicted with Ruptures, and the Men, with Varices, and Ulcers in their Legs. Hence it is plain, that People with ſuch Conſtitutions are not calculated for a great Age, but that they muſt early in Life contract the Infirmities of old Age. It is farther remarkable, that the Women frequently imagine themſelves with Child, and, when the Period of Delivery approaches, the Fulneſs of the Belly diſappears. This is cauſed by the hydropical Humours which are determined to the Womb. Such Waters, as the above-mentioned, I eſteem improper for all Manner of Uſes.

The next, in Degree of Unwholeſomeneſs, are thoſe which ſpring from Rocks, for theſe are neceſſarily hard, thoſe whoſe Sources are warm, or which are impregnated with Iron, Braſs, Silver, Gold, Sulphur, Alum, Aſphaltus, or Nitre *(not what we call now by this Name)* ; for all theſe are produced by the Force of Heat ; therefore Waters from ſuch Strata cannot be good, but, on the Contrary, hard, and heating, difficult to paſs the urinary Glands, and inclining to Coſtiveneſs. The very beſt are thoſe which ſpring on elevated Places, and loamy Hills ; for theſe are ſweet and clear, and a very ſmall Quantity of Wine communicates to them both Colour and Taſte. [*The Author mentions this as an Inſtance of their Lightneſs and Simplicity.*] In Winter they are warm, in Summer cool, and this, becauſe their Reſervoirs are at a great Diſtance from the Surface of the Earth. Thoſe, however, whoſe Fountains face the Sun-riſing, eſpecially its Riſing in Summer, are much the beſt ; for theſe are neceſſarily the moſt limpid, ſweet, and light. But thoſe which are ſalt, not eaſy to boil, and hard, are not fit to drink. There are, however, ſome Diſeaſes, and Conſtitutions, which I ſhall hereafter ſpecify, where theſe are properly given as a Medicine. Thus it is with Regard to theſe Waters.

Fountains, as I obſerved, afford the beſt Water, which face the Eaſt ; next to theſe, ſuch as have an Aſpect towards any Point betwixt the Riſing and Setting of the Sun in Summer *(reckoning towards the North)* thoſe eſpecially, which incline moſt to the Eaſt ; and the third Degree of Salubrity may be allotted to thoſe Waters, whoſe Sources regard the Quarters lying betwixt the Settings of the Sun in Summer and in Winter. The very worſt are thoſe which ſpring towards the South, or which face ſome Point betwixt the Riſing and Setting of the Sun in Winter *(that is, betwixt the South-Eaſt and South-Weſt)*. Theſe, however bad, are not ſo pernicious to Inhabitants of a Northern, as thoſe of a Southern Climate.

As to the Uſe of theſe Waters, the following Rules are to be obſerved :

He that is in a perfect State of Health, need be under no Reſtrictions, but may uſe any that preſents indiſcriminately ; but if a Perſon that is ill will confine himſelf, on that Account, to that Sort which is beſt adapted to the Circumſtances of his Diſeaſe, he will thereby much forward his Recovery.

Thoſe whoſe Bellies are hard, and inclinable to be heated, find Advantage from thoſe Waters which are ſweeteſt, lighteſt, and moſt limpid. On the Contrary, Waters which are very hard, not eaſy boiled, and ſomewhat ſalt, are better ſuited to others, whoſe Bellies are ſoft and moiſt, and abound with Phlegm ; for theſe Waters will help to dry up the redundant Humours. Whatever Waters boil beſt, and ſooneſt, are moſt likely to diſſolve, and liquefy the Belly. But thoſe which are heavy, and hard, and the leaſt eaſy to boil, are drying and aſtringent. For it is a popular Error, founded on Want of Experience, to imagine, that ſalt Waters promote Stools, whereas, in Fact, they powerfully reſtrain them ; and this, becauſe, for the ſame Reaſons that they are difficult to boil, they are alſo not eaſily ſubdued by the digeſtive Powers, and hence they produce Coſtiveneſs inſtead of liquefying the Belly. And this is the true State of the Caſe, with Reſpect to Fountain Waters. I will now proceed to explain the Natures of Rain and Snow Waters.

Rain Water is of all others the moſt light, ſweet, thin, and limpid. For the Sun exhales only the lighteſt and thinneſt Particles of Water. That this is true, is evident from the Nature of Salt, which, conſiſting of the moſt denſe and heavy Particles, remain and become ſalt, whilſt thoſe which are moſt light and thin are attracted by the Sun, and elevated into the Atmoſphere, becauſe of their Lightneſs. Nor does the Sun raiſe Vapours from Lakes only, but it exhales them alſo from the Sea, and from whatever contains Moiſture, with which every Thing more or leſs abounds. Amongſt other Things, thus influenced by the Sun, is the human Body, from whence the thinneſt and lighteſt of the Fluids are attracted, as appears by the following Inſtance. Let a Man walk or ſit in the Sun with his Cloaths upon him; that Part of his Skin expoſed to the Sun will not appear to ſweat, becauſe, before the Moiſture is viſible in the Shape of Sweat, the Sun cauſes it to evaporate; mean Time, the Parts covered by Garments, or by any other Thing, will ſweat. Thus the Sun forces out the Moiſture from the Body, which being defended from the Sun by ſomething that covers it, becomes viſible. But, upon retiring into the Shade, it perſpires equally at the Parts covered and uncovered, becauſe it is not then ſubject to the Influence of the Sun.

Theſe Properties of Rain-water render it more ſubject to Putrefaction than others, and incline it to contract a diſagreeable Smell, to which alſo the different Exhalations of which it is compoſed, and the various Subſtances with which it is impregnated, contribute greatly; add, that when theſe heterogeneous Particles are drawn up, and elevated, and are carried about in, and mixed with the Air, what is the moſt turbid, and dark, ſeparates from the reſt, and forms Miſts, and Clouds, whilſt the thinneſt and lighteſt Particles remain, are digeſted, and, as it were, boiled by the Heat of the Sun, and are thus rendered ſweet; for all Things grow ſweet by Boiling. So long, therefore, as they remain diſperſed, and rarefied, they are carried to the ſuperior Part of the Atmoſphere; but when they are collected together, and condenſed ſuddenly by Winds blowing in oppoſite Directions, the Cloud, thus formed, breaks in that Part where it is moſt denſe. And indeed, it is moſt likely to happen thus, when the Clouds, not permitted by the Winds to preſerve any fixed Station, but agitated and hurried along in the Air, are ſuddenly daſhed againſt another Cloud, brought by an oppoſite Wind; it is on this Occaſion the Condenſation begins in the firſt Vapours that meet, which is continued amongſt thoſe that ſucceed, till growing denſe, black, and too heavy to be longer ſuſpended, they break, and fall down in Showers. Hence it appears, that ſuch Waters muſt be the beſt; but they require to be boiled, and filtered, otherwiſe they are ſubject to contract a diſagreeable Smell, and to affect ſuch as drink them with a Hoarſeneſs, and Roughneſs of Voice.

Waters from diſſolved Snow and Ice are all bad, for, after being once frozen, they never recover their original Nature; for the limpid, light, and ſweet Particles are ſeparated, and evaporate, whilſt the moſt turbid and heavy remain. The Truth of this is evinced by the following Experiment: Take a Veſſel in Winter, and fill it with a certain Meaſure of Water, then expoſe it to the Air, ſo that it may be frozen, the next Day place it in a Heat ſufficient to thaw it, and, when it is diſſolved, meaſure it again, and you will find it has waſted conſiderably; now this Waſte muſt be of the lighteſt and thinneſt Particles, for it is impoſſible the moſt ponderous and denſe ſhould evaporate firſt. It is for theſe Reaſons that I eſteem the Waters of diſſolved Snow and Ice, and all that bear any Reſemblance to them, the very worſt of all others, for any Uſes whatever.

Men who drink habitually a Mixture of all Sorts of Waters, as thoſe of large Rivers, which receive a great many ſmaller in their Courſes; or Waters of Lakes, into which many Currents, conſiſting of different Sorts of Waters, flow; or who are obliged to uſe Waters carried to them from a conſiderable Diſtance, are much ſubject to the Stone, to nephritic Diſorders, to Stranguries, to iſchiadic Complaints, and Tumors; for it is not probable, that one Water ſhould exactly agree with another in Qualities; thus ſome will be ſweet, others ſalt, or aluminous, whilſt others are impregnated with hot Ingredients; now, when ſeveral of theſe are mixed together, an inteſtine Motion is produced, till the ſtrongeſt Quality prevails; the ſame Quality is not, however, always moſt prevalent, but ſometimes one, and ſometimes another; and it is very poſſible, that the Winds may in this cauſe an Alteration, the North-wind increaſing one Quality, and the South another, and the ſame may be ſaid in Regard to the other Winds. Hence Mud and Sand muſt of Neceſſity ſubſide to the Bottom of Veſſels containing ſuch Waters; and Men, who conſtantly drink them, muſt be ſubject to the Diſtempers above-mentioned; that theſe Effects are not, however, univerſal, I ſhall proceed to ſhew.

The Bladder of thoſe whoſe Belly is naturally inclined to be ſoluble, and healthy, is not ſubject to be heated, nor is the Orifice thereof contracted; hence they make Water freely, and conſequently no condenſed Sediment remains in the Bladder. On the Contrary, thoſe whoſe Bellies are inclined to be hot, have their Bladders neceſſarily affected in the ſame Manner, and the Orifice thereof ſubject to be inflamed. Hence the Urine paſſes with Difficulty, and, being retained, is digeſted, and heated in the Bladder, where the lighteſt Particles are ſeparated from the more groſs, and the moſt pure are diſcharged, whilſt the moſt thick and turbid are retained, and form a Concretion, ſmall at firſt, but which afterwards increaſes; this, being perpetually ſurrounded by the Urine, adapts to itſelf the moſt denſe Particles, increaſes, and in Time forms a Stone, which is forced upon the Orifice of the Bladder, by the Efforts to make Water, where it obſtructs the Paſſage of the Urine, and cauſes violent Pain; this makes Children afflicted with the Stone handle and extend the Penis, where it ſeems to them that the Cauſe of the Obſtruction is ſituated. That the Caſe is thus, is manifeſt from the Urine diſcharged by People who labour under the Stone, which is always extremely limpid, the thickeſt and moſt bilious Part remaining, and concreting. This is the moſt general Way of contracting the Stone. But Milk gives Children ſometimes the Stone, when it is unwholeſome, hot, and very bilious, for then it heats the Belly, and the Bladder, and conſequently the Urine, whence a Stone is formed. I am therefore of Opinion, that Wine, very much diluted, ſhould be preferred before ſuch Milk for Children, becauſe it heats and dries the Veſſels leſs. With Reſpect to Females the Caſe is ſomewhat different, for their urinary Paſſages are ſhorter, and larger, ſo as to permit an eaſy Diſcharge of the Urine; nor are they tempted to rub the Pudenda, like Males, nor to handle the urinary Paſſage, which in them opens within the Pudenda. And, becauſe the Urethra is larger, they can drink more than Males. This I take to be a juſt Account of Waters, or very nearly approaching it.

As to the Conſtitution of the Year, it may be foretold by the following Obſervations, whether it will be healthy, or ſickly. If the Riſing and Setting of the Conſtellations are followed by their natural and uſual Effects; if the Autumn be rainy, and the Winter moderate, that is, neither too mild nor too hard; if the Spring and Summer be tempered with ſeaſonable Showers, we may conclude that a healthy Year will ſucceed. But if the Winter be dry, and attended with frequent Northerly Winds, and the Spring rainy and warm with the South-wind, the Summer muſt neceſſarily produce Fevers and Inflammations of the Eyes. For on the ſudden Approach of ſultry Weather, at the ſame Time that the Earth is moiſtened by vernal Showers, and relaxed by the South-winds, a double Degree of Heat is excited, by the Moiſture and Warmth of the Earth, and the Influence of the Sun concurring to produce it, whilſt the Belly continues relaxed, and the redundant Moiſture of the Brain is not yet dried up; in ſuch a Spring the Body and whole Habit muſt, of Neceſſity, abound with Humours, ſo as to make very acute Fevers epidemical, eſpecially in phlegmatic Conſtitutions; and to produce frequent Dyſenteries, particularly in Women, and Men of moiſt Conſtitutions.

If the Riſing of the Dog-ſtar be attended with Rain and wintery Weather, and the cool Eteſian Breezes *(from the North-Eaſt)* blow as uſual, we may hope that the prevailing Diſtempers will ceaſe, and that the Autumn will be healthy; but, if the Contrary happens, there is great Danger of Mortality amongſt Women and Children, whilſt old People are leſs in Danger, and thoſe who recover of Fevers contract Quartans, which at laſt terminate in Dropſies.

If the Winter be much affected with South-winds, rainy, and mild, and the ſucceeding Spring rendered cold by the Northern Blaſts, dry, and wintery, firſt, Women that happen to be pregnant, and expect to be delivered in the Spring, will be in Danger of Miſcarriages; or, if theſe do not happen, the Children which are born will be weak and ſickly, ſo as to die immediately, or, if they ſurvive, to be thin, weakly, and unhealthy. Thus will ſuch a Seaſon affect Women. The reſt will be troubled with Dyſenteries, and dry Ophthalmies, and ſome will be ſubject to Defluxions from the Head upon the Lungs. Men of phlegmatic Conſtitutions, and Women will be afflicted with Dyſenteries, the Phlegm flowing from their Brains, becauſe of their natural Humidity. Bilious Conſtitutions will be ſubject to dry Ophthalmies, becauſe of the Heat and Dryneſs of their Habits. People advanced in Years will be affected by Catarrhs, on Account of the Rarity and Relaxation of their Veſſels, inſomuch that ſome will die ſuddenly, whilſt others will be ſeized with a Paraplegia either on the right, or left Side. For, when the Winter has been moiſt, and warm, and in Conſequence of this, neither the whole Habit nor the Veſſels competently firm, if the ſucceeding Spring happens to be dry, cold, and much influenced by the North-winds, the Brain, when it ſhould be relaxed by the natural Mildneſs of the Spring, and purged of thoſe Humours, which cauſe Diſtillations from the Noſe, and a Hoarſeneſs, is, inſtead of that, braced, and contracted, ſo that, Summer coming on ſuddenly, the great Heat, and the Change from one Extreme to another, are the Cauſes of the above-mentioned Diſeaſes, which, as they diſappear, are ſucceeded by Lienteries and Dropſies, the Humidity of the Viſcera not being eaſily dried.

the Summer be rainy, and hot South-winds blow, which inue till the latter End of Autumn (μετοπωρὸν) the Winter , of Conſequence, be ſickly. Phlegmatic People, and thoſe e forty, will be ſeized with burning Fevers, and the Bili- with Pleuriſies and Peripneumonies.

ut if the Summer be dry, and much ventilated by the North- ds, and the whole Autumn rainy and much affected with hern Blaſts, the Winter will probably introduce Head-aches, Sphacelations of the Brain, and, moreover, Hoarſeneſſes, ds, Coughs, and, in ſome Conſtitutions, Conſumptions. if the Autumn be dry, and rendered cold by Northerly nds, and there be no Rain, neither about the Riſing of Dog-ſtar, nor of Arcturus, the Seaſon will be favourable hlegmatic, and moiſt Conſtitutions, and to Women, but bad for the bilious, becauſe it dries them exceſſively, and gs on dry Ophthalmies, and acute Fevers of long Conti- nce, and inclines ſome to Melancholy. For, the moſt humid diluted Part of the Bile being conſumed, there remains only hickeſt and moſt acrid Part; as it happens alſo in the Blood; ce the Diſeaſes above-mentioned are immediately produced, lſt this Conſtitution of the Seaſon is favourable to the Phleg- ic, becauſe they are dried by two ſucceeding Seaſons, and ve at the Winter without any ſuperfluous Humidity.

f the Winter be infeſted with North-winds, and dry, and ſucceeding Spring affected as much by South-winds, and y in the Summer, violent Inflammations of the Eyes will pidemical; as will Fevers amongſt Women and Children.

Whoever examines and conſiders theſe Things, will not be Loſs to prognoſticate moſt of thoſe Events which theſe nges naturally produce.

t imports us moſt of all to take eſpecial Notice of the great remarkable Changes of the Seaſons, that we may not at a Juncture preſcribe Purging without urgent Neceſſity, make Inciſions in, or cauteriſe the Parts about, the Ab- nen, till ten Days or more are paſt, but ten Days are of greateſt Moment. The two Solſtices are very dangerous ons, eſpecially the Summer Solſtice; and ſo are the Equi- es, principally the Autumnal. Beſides, we are to regard the ngs of the Conſtellations, eſpecially thoſe of the Dog-ſtar and turus, and to obſerve the Setting of the Pleiades; for theſe s are particularly critical to Diſtempers, and either carry off Patient, or give a favourable Turn to the Diſeaſe; and, in- d, all other Things alter their Forms and Conſtitutions, upon e great Changes. And thus it is with Reſpect to the Seaſons the Year.

My Deſign alſo is to ſhew how different Europe is from Aſia ll Reſpects, and how various Nations differ from each other, Regard to Form, and every other Circumſtance. This Sub- would engage me in too long a Diſcourſe, were I to enter Particulars: I ſhall therefore content myſelf with giving Sentiments, as to the moſt eſſential and important Points rein this Difference conſiſts.

Aſia remarkably differs from Europe in the Nature of Plants Men; for all Things are produced more beautiful and large Aſia than in Europe. The Climate is more temperate than s, and the Manners of the People more poliſhed and civi- d. The Cauſe of theſe Things is the good Temperature the Seaſons; for Aſia is ſituated towards the Eaſt, in the ddle of the Sun's Riſings, and remote from an Exceſs of d. Now, what moſt contributes to the Growth of Things, Mildneſs of Manners, is a well-tempered Climate, in which violent Quality predominates, but every Thing is equable temperate. But all Parts in Aſia are not in all Reſpects e. But that Part which lies between the Extremes of at and Cold, is the happy Region which abounds with all ts of Fruit, which is covered with Trees, which enjoys an ellent Air, and, beſides ſufficient Refreſhments of ſeaſon- e Rains from Heaven, it is plentifully ſupplied with ſuch aters as the Earth affords; which is neither ſcorched by at, dried for Want of Moiſture, nor hardened and ſtiffened th Froſts, but opened and cheriſhed by the warm Breezes of South-wind, and moiſtened and refreſhed by Showers, and dly Snows. Hence it muſt of Neceſſity produce all Kinds Fruit, ſeaſonably and in Perfection, not only thoſe which the rth brings forth ſpontaneouſly, but ſuch as are planted and wn by Man, who eats of them, and makes Uſe of them after ving by Culture rendered them mild, and ſubdued their Wildneſs by Grafting and Tranſplanting. All Flocks of eep, and Herds of Cattle, proſper better in theſe Climates, an in any other Region; they bring forth Young more quently, and feed better. The Men alſo are of a better bit of Body, more graceful, of a larger Size, and better aped, and hardly differ from one another in Form and Sta- re. It is probable therefore that this Climate approaches arer than any other to the moſt temperate and natural Con- tution. But it is impoſſible that Strength, Hardineſs, Vi- ur, and perſonal Courage ſhould belong to ſuch Conſtitu- ns; nor can they be ſuppoſed to be regular in their Affections their own, or a different Species. They are given up to nſual Enjoyments; and hence it is, that we ſee ſo many Monſters among the very Brutes. The ſame may be ſaid of Egypt and Lybia.

As for thoſe People who inhabit the Countries to the Right of the Sun's Riſing in Summer, as far as the Palus Mæotis, which ſeparates Europe from Aſia, they are more different from each other than thoſe I have deſcribed, becauſe of the different Changes of Seaſons, and the Nature of their Country, which, as well as that of the Inhabitants, varies according to theſe Changes; for, where theſe Changes are moſt frequent and ſenſible, the Country is moſt ſavage and irregular. There you find many Mountains and Foreſts, and ſometimes Plains and Meadows. But, wherever theſe Changes are leaſt felt, the Country is more uniform, and even; and the Caſe is the ſame with Men, if they are ſtrictly obſerved. The Natures of ſome Men bear a Reſemblance to Mountains, Foreſts, and unwatered Deſarts; others to light and well watered Soils; ſome to Meadows and Marſhes; and others to Plains, which are dry, and naked. Seaſons, which change the natural Forms of Things, are various, and as they differ from one another, their Effects are no leſs different.

Of the MACROCEPHALI.

I ſhall ſay nothing of thoſe Nations where the Difference is inconſiderable, but confine myſelf to thoſe among whom the Varieties, whether they proceed from Cuſtom, or Nature, are moſt ſenſible, and begin with thoſe People whom they call Macrocephali, becauſe they have very long Heads, there being no Nation in the World equal to them in that Reſpect. Here Cuſtom alone was firſt of all the Cauſe of that exceſſive Length; but now Nature acts in Conformity to Cuſtom. Theſe People eſteem a long Head as a Mark of Diſtinction, and hence a Cuſtom aroſe, as ſoon as a Child was born, while its Head was yet tender, to faſhion it with their Hands to as great a Length as poſſible, and by Application of proper Bandage and other Arts, to deſtroy as much as poſſible the ſpherical Figure of the Head, and force it to increaſe in Length. Thus, what at firſt was nothing but Cuſtom, became by Degrees Nature, which in Time no longer wanted the Aſſiſtance of Cuſtom. The Seed comes from all Parts of the Body, and partakes of the Affections of the particular Part from whence it proceeds, whether they are ſound, or diſtempered; if therefore the Children of bald Fathers are alſo generally bald, and thoſe who have grey Eyes beget grey-eyed Children, and Parents with diſtorted Eyes procreate a ſquinting Off-ſpring, and if this holds true with Reſpect to all other Imperfections of the Body, what ſhould hinder a Macrocephalus from begetting a Macrocephalus? At this Time indeed they are not born with ſo long Heads, which is owing to their Negligence, in letting their antient Cuſtom grow into Diſuſe. Such are my Sentiments concerning theſe Affairs.

Of the PHASIANS.

In Regard to the Inhabitants about Phaſis, the Country is marſhy, hot, moiſt, and abounding with Woods, and frequent and heavy Rains fall there at all Seaſons. They live in Marſhes, where they build their Houſes with Wood and Reeds, in the midſt of the Waters. They ſeldom exerciſe themſelves by going to the City, or the Market, but ply here and there about their Canals, of which there is a great Number, in ſmall Boats, which they make out of a ſingle Trunk of a Tree. Their habitual Drink is warm, ſtagnating Water, which is corrupted by the Sun, and ſupplied by the Rains. The Phaſis itſelf is the ſtilleſt of all Rivers, and flows the ſloweſt. The Fruits which grow in the adjacent Parts are all effete, afford little Nouriſhment, never arrive at Perfection, and are inſipid. The Country, moreover, is much ſubject to Fogs, by Reaſon of the neighbouring Waters. On theſe Accounts, the Phaſians are in Perſon different from all Mankind. For they are of an exceſſive Bulk, and prodigiouſly bloated. Neither Joint nor Vein are to be diſcovered upon their Body. They are pale like thoſe who are affected with a Jaundice. Their Voice is more deep and hoarſe than that of any other People, becauſe of the Groſsneſs and Humidity of the Air they reſpire; they are exceſſively lazy and indolent; the Change of Seaſons is inſenſible with them, either as to Cold or Heat; all their Winds blow from the South, except a Wind which is peculiar to them, and which is ſometimes very violent, troubleſome, and hot, and this they call *Cenchron*. The North-wind never reaches them, or, if it comes ſo far, is ſo weak and languid, as to be hardly ſenſible. And thus it is with Reſpect to the Natures, Differences, and Forms of the Inhabitants of Aſia and Europe.

With Regard to the Effeminacy and Cowardice of the Aſiatics, who are far inferior in Courage to the Europeans, but exceed them in Delicacy of Manners, the Cauſe hereof is to be attributed, principally, to the Seaſons, which, with the People of Aſia, never change from one Exceſs to another, either as to Heat or Cold, but are always in a State of Equality. Upon theſe Accounts the Inhabitants never ſuffer any great Tranſports of Mind, nor undergo very violent Changes in their Bodies, which are the two moving Cauſes that excite the Paſſions, and are more likely to render the Imagination lively and warm, than if ſuch Exceſſes and Alterations were never to happen. Changes, however, there are, either greater or leſs, in all Things, and theſe ſtimulate the Paſſions, and diſturb the Sedateneſs of the Mind. Beſides theſe Reaſons for the Cowardice of the Aſiatic Nations, which appear to me very probable, another may be deduced from Cuſtom. Moſt of the Aſiatics are ſubject to the Tyranny of abſolute Kings. And wherever Men of Senſe are deprived of Liberty, and the Power of acting conformable to their own Inclinations, but are Slaves to others, it is Policy in them to avoid all Appearances of Courage, and to diſſemble Cowardice. For, under theſe Circumſtances, the Danger is diſproportioned to the Motives of Valour. Thus they are obliged to fight, undergo Fatigues, and to die for the Sake of their Lords, and this at a Diſtance from their Children, Wives, and every Thing they hold dear; whilſt all their Fortitude and Bravery ſerves only to increaſe the Power of their Tyrants, and rivet their own Fetters the faſter, all their Recompence being Dangers and Death. Beſides, ſuch a Country muſt in Time become deſolate, ſince the wiſeſt and braveſt Men equally deteſting ſuch Motives for War, and Inactivity, will abandon an arbitrary Government, ſo little ſuited to their Genius.

A ſure Confirmation of this Truth is, that all the Greeks as well as Barbarians in Aſia, who are their own Maſters, and independent of Kings, are incomparably more warlike than the others; for they labour for themſelves, they run no Hazards but on their own Account, and they reap all the Fruits of their Bravery, as they ſuffer all the Inconveniencies of their Cowardice. You will, however, find even amongſt the Aſiatics conſiderable Differences, ſome being better, and others worſe, and this Variety is to be attributed to the Mutability of the Seaſons, before taken Notice of. And thus is the State of Aſia.

Of the SAUROMATÆ.

There is in Europe, about the Palus Mæotis, a Scythian People, called Sauromatæ, which differ from all others. Their Women mount on Horſeback, draw the Bow, throw the Dart, and fight Battles, while they are Virgins. They are obliged to preſerve their Virginity, till they have killed three Enemies, and are not allowed to approach their Huſbands, before they have offered a certain Sacrifice by Law appointed. The married Women are diſcharged from mounting on Horſeback, and going to War, except the whole Country is obliged to take up Arms on ſome very urgent Occaſion. They have but one Breaſt, which is the left, for their Mothers take Care to burn off the Right, while they are very young, with an Inſtrument of Braſs, made on Purpoſe; ſo that, this Breaſt ceaſing to grow, all the Strength and Nouriſhment go to the right Arm and Shoulder. *

Of the other SCYTHIANS.

As for the reſt of the Scythians, they are like one another in Form, but have no Reſemblance to any other People. The Caſe is the ſame with the Egyptians, with this Exception, that they are as much oppreſſed by the exceſſive Heat, as the Scythians are by the extreme Cold.

What they call the Deſart of Scythia, is a vaſt Plain, quite bare of Wood, but interſperſed with Meadows, and pretty well watered. It has alſo large Rivers, into which the Waters of the Plains diſcharge themſelves. It is here that thoſe Scythians live, whom they call Nomades, becauſe they have no Houſes, but live in Waggons, the ſmalleſt of which have four Wheels, and the others ſix, but all covered, and cloſed with large woollen Carpets, and made like Houſes, with three Floors one above another, which ſecure them under Covert from Snow and Rain, and defend them againſt the Violence of the Winds. Theſe Waggons are drawn by two or three Yokes of Oxen, which have no Horns, becauſe of the extreme Rigour of the Cold. The Women live in theſe Waggons, but the Men are generally on Horſeback, followed by their Sheep, Cattle, and Horſes. They remain in one Place ſo long as it will afford them Subſiſtance for their Cattle, but, when that fails, they remove to another Place. They feed upon Fleſh boiled, and drink the Milk of their Mares, and eat Hippace, as they call Cheeſe made of Mare's Milk. Such is their Way of living, and ſuch are their Cuſtoms, in which, as well as their Climate and Perſons, they differ from all other People; but they all reſemble each other, as do alſo the Egyptians. They are of all People the leaſt fruitful, and the Country produces the feweſt Animals, and thoſe the ſmalleſt of all others. They live under the Bear and the Riphean Mountains, whence the piercing Northern Winds blow. The Sun never approaches them but towards the End of its Summer Periods, and then warms them but for a very ſhort Time. Few Winds from the warm Quarters reach them, and thoſe weak and of ſhort Continuance. But they are perpetually expoſed to the Northern Winds, which the Snow, Ice, and Water render extremely piercing, and which, blowing perpetually from thoſe Mountains, render them uninhabitable. Theſe Plains are ſubject to frequent Fogs, during the Day, ſo that they are obliged generally to reſpire a moiſt Air. Their Winter is perpetual, but their Summer continues but a few Days, and has even then but very little Influence; for theſe Plains are elevated, bare, and ſheltered by no Mountains, but altogether expoſed to the North.

The Animals of this Country are very ſmall, becauſe the Severity of the Seaſons would deſtroy ſuch as are too large to retire for Warmth into Holes made under the Earth; for there are neither Woods nor Coverts to preſerve them from the Cold, nor Sun to warm them. There are no very great or ſenſible Changes of the Seaſons, which are always equal, or have but little Variation. Hence the Inhabitants are all like each other. They eat the ſame Food, and wear the ſame Clothes, in Summer and Winter; they breathe in a thick and moiſt Air, and drink nothing but diſſolved Water of Snow and Ice. For theſe Reaſons they are neither remarkable for bodily Strength, nor the Faculties of the Soul; for it is impoſſible there ſhould be either in Perfection, in a Climate not ſubject to violent Changes. Hence, the People are fat and carnous, and their Limbs moiſt and relaxed; their Bellies abound with Moiſture, and are in general more laxative than thoſe of other People; and it is impoſſible it ſhould be otherwiſe in ſuch Conſtitutions, inhabiting ſuch a Country, and ſubject to the Influences of ſuch a Climate. The Tendency theſe People have to grow fat, and the univerſal Smoothneſs of their Skins, produce an extraordinary Similitude in their Perſons, inſomuch that Men can ſcarcely either be diſtinguiſhed from each other, or one Female from another, of the ſame Sex; and this becauſe the Seaſons being always equal and uniform, there can happen no Conſumption, or Irregularity in the original Formation of the Fœtus, unleſs by Diſeaſe, Violence, or Accident.

That I may give abundant of Proof of their exceſſive Humidity, I muſt remark, that moſt of the Scythians, and all the Nomades in general, are burnt in their Shoulders, Arms, Wriſts, Breaſts, Hips, and Loins, on no other Account but that of their exceſſive Moiſture, and Softneſs of Contexture, which enervates them to ſuch a Degree, that they have neither Strength to draw a Bow, or throw a Dart; but after they are burnt, and the Humidity of their Joints is dried up, their Bodies grow robuſt, more firm and nervous, and of a better Habit. The firſt Thing which inclines them to be lax, and ſpread in Bulk, is their Neglect of ſwathing their Children, as they do in Egypt; and this Negligence Cuſtom has eſtabliſhed as a Law, with a View of enabling them to keep a firmer Seat on their Horſes. A ſecond Cauſe of their Relaxation, and enormous Increaſe in Fleſh, is, their ſedentary Way of Living, for the Males, ſo long as they are incapable of mounting on Horſeback, ſcarce ever ſtir out of their

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* The Women amongſt many of the Tartarian Nations are at this Day extremely warlike. Bernier, in relating a Converſation which paſſed betwixt him and ſome Ambaſſadors from the Kan of the Usbec Tartars, tells the following Story, which, notwithſtanding ſome Exaggerations, proves the Valour of their Women.

Then, ſays he, they proceeded to commend the Strength and Valour of their Women, which they deſcribed to me quite otherwiſe than the Amazons; telling me very wonderful Stories of them, eſpecially one, which would be admirable indeed, if I could relate it with a Tartarian Eloquence, as they did: They told me, that, at the Time when Aureng-Zebe made War in their Country, a Party of twenty-five or thirty Indian Horſemen came to fall upon a ſmall Village; whilſt they plundered, and tied all thoſe whom they met with to make them Slaves, an old Woman ſaid to them, Children, be not ſo miſchievous, my Daughter is not far off, ſhe will be here ſhortly, retreat if you be wiſe, you are undone if ſhe light upon you. They laughed at the old Woman and her Advice, and continued to load, to tie, and to carry away herſelf; but they were not gone half a Mile, but this old Woman, looking often backwards, made a great Outcry of Joy, perceiving her Daughter coming after her on Horſeback; and preſently this generous She-Tartar, mounted on a furious Horſe, her Bow and Arrows hanging at her Side, called to them at a Diſtance, that ſhe was yet willing to give them their Lives, if they would carry back to the Village all they had taken, and then withdraw without any Noiſe. The Advice of this young Woman affected them as little as that of her old Mother; but they were aſtoniſhed, when they found her let fly at them, in a Moment, three or four great Arrows, which ſtruck as many of their Men to the Ground, which forced them to fall to their Quivers alſo. But ſhe kept herſelf at that Diſtance from them, that none of them could reach her. She laughed at all their Efforts, and at all their Arrows, knowing how to attack them at the Length of her Bow, and to take her Meaſure from the Strength of her Arm, which was of another Temper than theirs. So that after ſhe had killed half of them with her Arrows, and put them into Diſorder, ſhe came and fell upon the reſt with her Sabire in her Hand, and cut them all in Pieces.

arriages, and walk but very little, and this on Account of eir frequent Tranſmigrations, and rambling Way of Life. he Corpulency of their Females is ſurpriſing. The Com- lexion of theſe Scythians is uſually dark, and ſallow, be- uſe of the Cold, for the Sun has very little Influence up- n them ; the Whiteneſs therefore is affected by an Exceſs Cold, as it is in hot Countries by an Exceſs of Heat, and the llowneſs of their Skins is produced in its Stead.

It is not likely that, under theſe Circumſtances, the People ould be very prolific. For the Men have no ſtrong Inclina- ons to Women, becauſe of the Moiſture of their Conſtitu- ons, and the Relaxation and Coldneſs of their Bellies, all hich tend to diſable them from propagating their Species; ſides, their habitual Exerciſe on Horſeback is no inconſi- rable Cauſe of Imbecillity. Theſe are the Reaſons for the In- cundity of the People, ſo far as the Men are concerned ; but ith Reſpect to the Women, their Obeſity, and the Moiſtneſs their Habit, prevent Conception; for theſe Reaſons the Ute- s cannot attract, and retain the Male Principle of Genera- on ; the Catamenia are moreover neither ſufficient as to Quan- y, nor regular as to the Periods ; and the Orifice of the Ute- s, being obſtructed by Fat, does not readily receive Impregna- n from the Male. Add to theſe, that the Fibres of the omen are not braced by Exerciſe, and that their Bellies are ld and relaxed. On theſe Accounts the Scythians are neceſ- ily the moſt unfertile of all People. That theſe are the uſes of their general Infecundity, is evident from their id-ſervants, who no ſooner admit of a Man's Embraces, n they conceive, becauſe their continual Exerciſes keep wn their Fleſh, and render them lean.

It is farther remarkable of theſe People, that many amongſt m become Eunuchs, and this to ſuch a Degree as to act, even talk like Women, they perform all the Functions Women, and ſpeak like them ; they are called the Impo- t (ἀνανδριεῖς). * The Inhabitants of the Country believe, t this Diſeaſe is inflicted by the Anger of the Gods ; for ich Reaſon they pay a particular Reſpect to, and even wor- thoſe who are thus affected, with a View of averting ſame Misfortune from themſelves. For my Part, I be- e that this, as well as all other Diſtempers, proceeds from Gods, and that there is nothing more Divine, or more nan in one than in another, all Diſeaſes coming alike from Gods ; not but every one has its proper Cauſe, for there othing in Nature that is not an Effect of ſome Cauſe. to the Diſtemper which is the Subject of our preſent In- y, I ſhall give my Opinion how it is produced.

s the Scythians are always on Horſeback, and have their er Extremities perpetually in a depending Situation ; theſe much ſubject to receive a Flux of Humours, which renders n lame, and, as the Diſorder grows inveterate, the Joint he Thigh becomes immoveable. For a Cure they have ourſe to the following Method: When they begin to be diſor- d, they open the Veins behind their Ears, and, when the Blood flowed ſufficiently, they fall aſleep through Faintneſs. en they awake, ſome find themſelves relieved, and others in the leaſt better. Now it ſeems to me, that this very nedy deſtroys their Virility; for behind the Ears are Veins, ch, if a Man ſuffers to be cut, he loſes his generative Fa- y, and theſe appear to be the very ſame which they open. en therefore they approach their Wives, and find their Vi- y fail, they are not much concerned at it the firſt Time, betake themſelves to Reſt; but, when after ſeveral Eſſays find the ſame Inability continues, they no longer doubt they have offended the God, who they imagine inflicts this iſhment upon them. They then put on Women's Clothes, make no Secret of their Infirmity ; they live like Wo- , and do all Female Offices. But this Misfortune ſeldom be- the poorer Sort, but only the Rich, and thoſe of Diſtinc- amongſt the Scythians, becauſe theſe never ſtir but on ſeback, whereas the Poor are leſs ſubject to it, becauſe they k on Foot. Now if this Diſorder in particular was ſent the Gods, it would viſit one Sort as well as another, or Poor rather than the Rich, becauſe the Poor pay much Honour to the Gods, if it be true that the Gods take ſure in being honoured by Men, and that they reſerve r Bleſſings to reward their Worſhippers. Indeed, they are Rich who offer frequent Sacrifices to them, and load their rs with Gifts, which the Poor are unable to do, but in- d of honouring the Gods are more frequently guilty of uſing their Juſtice, becauſe of the unequal Diſtribution ch they make of Riches. The Puniſhment for all theſe mes ought then rather to fall upon the Poor than the Rich. as I obſerved before, this Diſeaſe is of Divine Original equally with all other Diſtempers, for they are all produced by natural Cauſes ; amongſt which this Diſtemper of the Scythians is brought upon them in the Manner I have ſpecified ; and indeed the ſame Cauſe produces the ſame Effects in all other Countries ; for much Riding on Horſeback renders a Perſon ſubject to Tumors of the lower Extremities, to Sciaticas, and Gouts, and is a great Enemy to venereal Commerce, and this it is that renders the Scythians of all Mankind the moſt impotent. Beſides, their Cuſtom of wearing perpetually a particular Sort of Breeches, together with their Poſture on Horſeback, which is almoſt continual, prevents them from touching and warming the generative Organs with their Hands, when they require it ; hence overcome by Cold and Fatigue, they think of nothing leſs than venereal Enjoyments, inſomuch that a Deprivation of Virility is, in their Circumſtances, no great Misfortune. And this is the Caſe with Reſpect to the People of Scythia.

All the other Europeans are very different from one another, both in Perſon and Stature, and this is owing to the Variations of Seaſons, which are great and frequent among them ; for they have ſevere Winters, and inſupportable Summers, great Rains, great Droughts, and high Winds, which produce many very conſiderable Changes, and theſe Changes muſt affect the tender Principles of Generation, in the original Formation of the Fœtus, which are not always alike in the ſame Perſons, being quite different in Summer from what they are in Winter, and in a dry Seaſon from what they are in one that is rainy. And this I imagine to be the Reaſon why the Europeans reſemble one another leſs than the Aſiatics, and why we find ſuch a Difference in the Stature of People even in the very ſame City amongſt us ; becauſe there happen many more Alterations, with Reſpect to the Principles of Generation, in Countries ſubject to thoſe frequent Changes of Seaſons, than where they are almoſt conſtantly equal. The ſame Reaſon will alſo account for the Difference in Manners ; Ruſticity, Unſociableneſs, Intrepidity, are produced by Climates much ſubject to Changes ; for frequent and ſudden Turns, and Alterations, in the Spirits beget Roughneſs of Manners, but extinguiſh Meekneſs and Delicacy. On the ſame Accounts I eſteem the Inhabitants of Europe to be more courageous than thoſe of Aſia ; for a perpetual Equality of Seaſons produces Indolence ; whereas frequent Changes ſtimulate both the Body and Mind to Action. Whence Cowardice is the Off-ſpring of Sloth and Indolence, but Courage is maintained by Exerciſe and Labour ; for theſe Reaſons the European Nations are more warlike than thoſe of Aſia, becauſe of their Government, for they are not ſubject to Tyrants like the Aſiatics ; and it may be laid down as a Maxim, to which there is no Exception, that Slaves are neceſſarily Cowards, as I obſerved above ; becauſe, by their Subjection, they contract a Meanneſs of Spirit ; beſides, it is not probable, that they ſhould voluntarily expoſe themſelves to Dangers, in Support of another's Tyranny. But the Europeans, who enjoy their Freedom, ruſh with Alacrity upon the moſt difficult, and dangerous Enterprizes, becauſe the Hazards they run are purely for their own Sakes, and they themſelves reap the Advantages of their Victories. In this Manner does the Conſtitution of a Government affect the Courage of thoſe who live under it. And ſuch is the general State of Aſia and Europe. There are, however, in Europe Nations which differ in Stature, Perſon, and Strength from each other ; but the Cauſe of this Difference proceeds from what I have explained already, and ſhall endeavour farther to illuſtrate.

All ſuch as inhabit a Country which is mountainous, rough, elevated, and dry, and are ſubject to very conſiderable Changes of the Seaſons, are conſequently of a large Size, and well ſuited to Fatigue, and manly Exerciſes, and their Conſtitutions incline them to be ruſtic and ſavage. On the Contrary, thoſe who inhabit a low Country, abounding with Meadows, and ſuffocating, becauſe expoſed more to the Influence of the hot than of the cold Winds, and where they drink warm Waters, can neither be large as to Size, nor muſcular, but ſpread into infirm Fleſh, and are inclined to be fat ; their Hair is black, and they are rather of a black than fair Complexion ; they are moreover leſs ſubject to be phlegmatic than bilious ; ſuch Conſtitutions therefore are not likely to be remarkable for Courage and Strength, though the Nature of their Laws and Government may effect even this. If their Country is furniſhed with Rivers, to convey away the ſtagnating and Rain-waters, they may be healthful, and of florid Countenances ; but if they have no Rivers, but are obliged to drink the ſtagnating and ſtinking Waters of Ponds, they unavoidably contract Diſeaſes of the Stomach and Spleen.

The

This Diſorder of the Scythians is mentioned by Herodotus, who informs us, it was inflicted on them by the Goddeſs Venus, as niſhment, becauſe, in ſome of their Wars, they pillaged her Temple. Herodotus calls it, as I remember, the θήλειαν νῦσον, and ginus quotes the Expreſſion as an Inſtance of a beautiful Periphraſis. 'The Commentators on Longinus have taken a great deal of rfluous Pains, to explain away the obvious Meaning of this, and to extract either Filthineſs or Obſcenity from a Paſſage where uch Thing could poſſibly be intended.

The Inhabitants of an elevated open Country, expoſed to the Winds, and well watered, are large of Size, upright, are much alike, and of mild Tempers. Thoſe who live in a Country which is barren, not well watered, open, and not ſubject to great Changes, are likely to have dry Habits, and tenſe Fibres; and their Complexions more inclinable to be yellow than black; as to their Manners and Paſſions, they are ſubject to be arrogant, and opinionated. For, wherever the Changes of Seaſons are very frequent, and conſiderable, there we ſhall find the Inhabitants very different from each other, with Reſpect to their Perſons, Manners, and Conſtitutions.

Theſe are the principal Cauſes which operate ſo as to induce a Change in the Natures of Men; and to theſe may be added the Soil, and Waters of each particular Country where a Perſon is bred; for you will find, that Men generally, both in Perſon and Manners, are affected by the Country they inhabit. Thus, wherever the Soil is fat, ſoft, and furniſhed abundantly with Waters, which are ponderous, and conſequently hot in Summer, but cold in Winter, and the Seaſons are ſubject to no remarkable Alterations, there the Inhabitants are full of Fleſh, enervated, moiſt, incapable of undergoing Fatigue, and of corrupted Morals; they are indolent and ſleepy, have no Genius for Arts and Sciences, and are wanting in Point of Vivacity, and Quickneſs of Apprehenſion.

But whatever Country is naked, and deſtitute of Woods, and Coverts, barren, expoſed to the Inclemencies of Winter, and the ſcorching Heats of the Summer, there the People have elaſtic Fibres, are lean, nervous, ſtrong, and hairy; they are alſo ready and dexterous at any Sort of Work, and vigilant. As to their Manners and Paſſions, they are daring and opinionated, and participate more of Ruſticity than Delicacy; they are ingenious, and quick at learning or improving Arts, and their Genius is warlike. And in the ſame Manner, whatever is produced by the Earth is much affected by the Parent Soil. And thus it is with Regard to the great Differences we obſerve in the Natures, and Perſons of Men. And theſe Conſiderations will lead us into a Knowledge of many other Things, of great Importance in the Art of Healing. *Hippocrates.*

AERA. ʼΑἶρα. The Greek Name for Cockle, or Darnel. See Lolium.

AERDADI. A Name given to certain Spirits by Paracelſus, which he has imagined to be Inhabitants of the Air, and ſays, they enjoy a very long Life. He mentions theſe *Aerdadi* in his Treatiſe *de Vita longa*, *L.* 4. *C.* 3. amongſt a great many other imaginary Beings.

ÆREOLUM. A Weight of about two Grains. It is alſo called *Chalcus.* The Name ſeems derived from the Metal of which the Weight was made.

AERIFICATIO. It is the producing of Air from other Bodies, or rather converting them into Air.

AERITIS. ʼΑερίτις. The ſame as *Anagallis*, which ſee. *Gorræus.*

AEROLOGICE. That Part of Medicine which treats of Air, and explains its Properties and Uſes in the animal Œconomy, and its Efficacy in preſerving of reſtoring Health. It is derived from ʼΑὴρ, Air, and Λόγος, a Word, Diſſertation, or Treatiſe.

AEROMELI. ʼΑηρόμελι. Honey. It ſeems to have gained this Name from Virgil, who calls Honey *Aerial:*

> *Protinus* aerii *Mellis, cæleſtia dona*
> *Exequar.* ————————

Manna is alſo called by this Name. *Gorræus.*

AEROPHOBI. From ʼΑὴρ, Air, and φόβος, Fear. Cælius Aurelianus, *Acut. Morb. L.* 3. *C.* 12. ſays, ſome Phrenitics are afraid of a lucid Air, others of that which is obſcure. Theſe he calls *Aerophobi.* So that this *Aerophobia* is a Symptom of a Phrenitis.

AEROSIS. An imaginary Reſolution of the Blood into Vapour, ſuppoſed neceſſary to the Support of the vital Spirits, and ſaid to be brought about by the Ventilation of the Air during Inſpiration, in the Manner that the Flame of Fewel is kindled by blowing it.

As it does not appear there is the leaſt Foundation for this Conceit, it would be ſuperfluous to ſay more about it. Thoſe who deſire to be farther informed, may conſult Charlton's *Exercitationes Phyſico-Anatomicæ.*

ÆRUGINOSUS. Of the Colour of Verdigreaſe. Green. It is frequently applied to what is diſcharged by Vomit of that Colour. See Vomitus. And to the Bile. See Bilis.

ÆRUGO. Ruſt of any Metal, particularly of Copper, called Verdigreaſe. See Æs.

ÆS. Copper. This is called Cuprum in Latin, Χαλκὸς in Greek, and *Venus* by the Chymiſts; is one of the ignoble Metals, ſofter than Iron, ſonorous, of a red Colour, ſhining when poliſhed, fuſible and ductile to a very great Degree. It is ſometimes found pure in the Mines, in Form of ſmall Rods, Branches, Globules, or Maſſes of other Figures; but moſt commonly it is contained in a Kind of Pyrites, or particular Ore. This Pyrites is in ſome Mines of a ſhining Gold-colour, but is not on that Account to be eſteemed more rich, becauſe that Colour is owing to a combuſtible Sulphur. Other Copper-ores are yellow, violet, or purple, and ſome are blackiſh, and mixed with Gold-coloured Sparks, or Veins, intermingled with green. Copper is ſeldom found alone, but is generally accompanied with ſome other Metals, ſuch as Silver, Iron, or Lead, and with a large Quantity of combuſtible Sulphur, very difficult to be ſeparated from it. Copper-ore is differently managed, according to the Subſtances mixed with it. If it abounds with Sulphur, it undergoes repeated Calcinations, till all the Sulphur is conſumed. The Copper-ore of Goſloar in Germany is firſt broke into Pieces of the Size of a Man's Fiſt, then burnt in an open Fire, made of Wood and Charcoal mixed together, and, being afterwards broken into ſmaller Pieces, it undergoes two Torrefactions more. Afterwards it is melted into a ſtony red Subſtance, called *Lapis Cupri*; which having ſuffered another Torrefaction, and being after that melted again, becomes black Copper; which, after a fifth Torrefaction, becomes quite free from its Sulphur, but ſtill contains Silver. This Silver is extracted in this Manner: They mix with the Copper about four Parts of Lead, more or leſs, according as the Lead they uſe is more or leſs free from Silver.

Theſe Metals thus mixed are melted together by a vehement Heat, and then poured out into Moulds, where they harden into a Kind of flat Cakes. Theſe Cakes, covered with Charcoal in a proper Furnace, are heated with a gentle Fire, till the Lead and Silver melt, and, leaving the Copper, fall down into a Veſſel ſet to receive them. The Copper remains unmelted like a Spunge or Honey-comb; and in this State it is termed *Æs pauperum*, and is by repeated Fuſions brought to be malleable. In this laſt Operation, ſome Scoriæ appear, which are ſpecifically heavier than the Maſs conſiſting of Copper, Silver, and Lead. Theſe Scoriæ are afterwards melted with a Mixture of Litharge, and by that Means the ſeveral Metals it contains are ſeparated.

There are ſome Springs of Copper-waters, of which Vitriol is made by Boiling, and Copper may be precipitated from them, by Means of Iron, which has made ſome Perſons imagine, that theſe Waters turned Iron into Copper. There is a famous Spring of this Kind near the Carpathian Mountains on the Confines of Hungary, the Waters of which corrode Iron thrown into it, and in Place thereof ſubſtitute Copper; ſo that a Horſeſhoe that has lain ſeveral Days in this Water ſhall, when taken out, appear not to be Iron, but Copper.

The richeſt Copper-Mines are in Sweden and Germany. Copper is ſofter than Iron, but harder than Lead or Tin. It ignites or becomes red-hot in the Fire before it melts. Its ſpecific Gravity is to that of Gold nearly as Four to Nine. When expoſed to Moiſture, it contracts a Ruſt of a green Colour, which, when handled, has a very diſagreeable Smell, and an auſtere, ſharp, nauſeous Taſte. A Solution of Copper by acid or fixed alcaline Salts is green, but, when made by urinous Salts, it is of a beautiful blue Colour. Filings of Copper, thrown into the Flame of a Candle, bur and emit a greeniſh Flame, but do not ſparkle; when mel with Nitre, they flaſh a little. If we mix one Part of Filings of Copper with ſomething above two Parts of corroſi Sublimate, and diſtil them in a glaſs Retort, the Quickſilve diſengaged from the Salts comes over in running Mercury; but the Copper remains at the Bottom intimately united to th Salts, in Form of a yellowiſh or reddiſh Roſin; ſometime tranſparent, ſometimes opake, which by the Flame of Candle may be melted, and ſet on Fire; the Flame it gives of a green Colour. Copper, calcined long by a very ſtrong Fi till it loſes all its Sulphur, turns to reddiſh Aſhes, which bei expoſed on a Tile to the Focus of a great Burning-glaſs, tu to an intenſely red Glaſs almoſt opake. If this Glaſs be mel on a Piece of Charcoal, in the Focus of the ſame Glaſs, it re covers its Form of Copper. From theſe Things we may co clude, that Copper contains a large Quantity of combuſti Sulphur, though not ſo much as Iron, and that the meta lic Subſtance is a red vitrifiable Earth. Copper, expoſed to th Fumes of Quickſilver, or of Arſenic, acquires a Silver-colo which is not permanent; melted with Lapis Calaminaris, Zinc, it turns of a yellow, or Gold-colour; the differ Ways of doing which are related in the Articles *Cadmia* a *Zinc.* See Cadmia. See Zinc.

Copper, becauſe of its great Ductility and ſhining Colo is much employed in domeſtic Uſes; but is never uſed inw ly as a Medicine, unleſs in Tincture, becauſe this Metal, eſpecially its Ruſt, are reckoned Poiſons; and any Kind Food, or even Water, that has ſtood long in Copper Veſſels, pernicious. The Symptoms, produced by this Poiſon, are P in the Stomach and Inteſtines, exceſſive Vomitings, Irrit ons to Stool, Ulcers in the Inteſtines, ſometimes Diffic of Breathing, and ſpaſmodic Contractions of the Limbs, laſtly Death itſelf, if the Quantity of the Poiſon be great.

The Remedies proper in ſuch Caſes are, firſt, to take a great Quantity of Milk, Oil, or melted freſh Butter; then to drink warm Water till the Patient vomits plentifully. Clyſters made with Oil, Butter, or fat Broths, are likewiſe proper, and laſtly ſtrengthening Cordials, and a Milk-diet.

Various Recrements of Copper were prepared by the Antients, and employed in Medicines ſuch as *Ærugo*, *Flos Æris*, *Æs Uſtum*, *Squama Æris*; of which the *Flos*, *Squama*, and *Ærugo* are mentioned by Hippocrates; but the *Ærugo*, or Verdigreaſe, is the only Recrement now much in Uſe. It is a green Ruſt, raiſed on Copper-plates; the Method of making it is thus: The Husks, Stones, &c. of Grapes, being firſt dried, and after dipped in ſome ſtrong Wine, are laid for nine or ten Days in wooden or earthen Veſſels, till they begin to ferment. Then being ſqueezed together with both Hands, they are formed into Balls, which are put into proper earthen Pots, and Wine is poured upon them, till about half is covered; the Veſſels have a ſtraw Lid thrown over them, and are ſet in a Wine-cellar, where the Balls are left in Maceration for twelve or fifteen Hours, being turned every four Hours, that the Wine may penetrate every Part of them. After this the Balls are raiſed about a Finger's Breadth above he Surface of the Wine, and ſet upon wooden Bars; the Veſſels are then ſhut again, and left in that State for ten r twelve Days more. After which Time, the Balls emit ſtrong and penetrating Scent, and are then fit for diſſolvng Copper. For this Purpoſe they are broken and bruiſed ith the Hand, that the outer Part of them, which is drieſt, ay be exactly mixed with the inner, which is ſtill moiſt ith Wine; then they are ſtratified with Copper-plates in e ſame Veſſels upon wooden Bars, the Plates making always e loweſt Stratum, and the Balls the uppermoſt. The Plates e four Inches long, and three broad; and, if the Copper be ew, they muſt be previouſly buried for twenty-four Hours Verdigreaſe, and then heated a little in the Fire. The Veſſels being filled in this Manner, and ſhut cloſe, are left ithout any farther Management, till the Verdigreaſe is made, hich happens ſooner or later, according to the Nature of e Copper. Some Copper yields its Ruſt in ſix or ſeven ays; ſome requires twelve or fifteen Days. The Verdieaſe thus compleatly extracted, the Plates covered therewith e taken out of the Veſſels, and their Edges moiſtened with e ſtrongeſt Wine; they are then wrapped up in linnen loths, dipped in the ſame, and laid in a Wine-cellar for ree Weeks. By this, the Makers tell us, the Verdigreaſe nouriſhed, and then it is ſeparated off from the Plates with nives, and kept for Uſe.

Verdigreaſe is uſed by Painters and other Artiſts, but is ſelm preſcribed inwardly by Phyſicians. It is often uſed outrdly to deterge and dry Ulcers, and to eat away fungous d callous Fleſh. It is the principal Ingredient in the Unentum Ægyptiacum. *Geoffroy.*

The Directions of Oribaſius from Antillus, with Reſpect the Uſe of Verdigreaſe in Plaiſters, is, that it muſt not added to the other Ingredients, whilſt boiling, but the Vergreaſe muſt be put into a Mortar and rubbed with Vine, and the other Ingredients are to be poured upon it, and xed with it.

Verdigreaſe is reckoned among Emetics, by Oribaſius, *L.* *C.* 26. And amongſt Cicatriſers, *L.* 14. *C.* 57.

Actuarius recommends it for ficous and callous Diſorders of Eye-lids.

Verdigreaſe ſhews its acrid Quality by the Taſte. It diſcuſ, takes off, and conſumes hard as well as tender Fleſh. A le of it, mixed with a good Quantity of Cerate, makes an erſory Medicine without Mordacity. *Paulus Ægineta, L.* 7. 3.

Oribaſius ſays the ſame Thing in nearly the ſame Words. 2. *C.* 1.

The natural Verdigreaſe is a greeniſh Marchaſite, like Drops of Iron, and is found in Copper Mines, and is no Uſe.

The greateſt Part of the Authors who have treated of Vereaſe tell us, that it is made with Vinegar, which is not , for the beſt Wine is not too good for it; and this is true, that there is ſcarce any but Languedoc Wine that make good Verdigreaſe. It is in and about Montpellier t the greateſt Part of the Verdigreaſe, uſed in France and r Countries, is made, and it is a Commodity very diflt to make, and to hit right, although it ſeems as if nog were more eaſy; for, if ever ſo little happens to be ng, it grows greaſy and black, and good for nothing, and never come to a true Conſiſtence.

There are ſome Authors, who ſay, that one may make digreaſe, by putting Plates of Copper in a Crucible, with , Sulphur, and Tartar, which being calcined and cooled, Plates are converted into a very good Verdigreaſe; but e Operations, ſuppoſing them to be true, are at preſent o Uſe, becauſe all the Verdigreaſe we ſell, is made in fore-mentioned Manner.

We have two Sorts of Verdigreaſe from Montpellier, the one in Powder, the other in Cake: If it is good, it muſt be dry, of a beautiful deep Green, and with few white Spots. Verdigreaſe is a Merchandize that loſes a great deal by drying, and this makes thoſe who deal in it mix ſeveral Things with it, and render it ſo moiſt, that the Merchant loſes much by the Waſte, beſides the Skin which covers it, for which they pay as much as if it were Verdigreaſe. Therefore they who uſe it ſhould conſider its Goodneſs, and not ſtand upon the Price; for I can affirm, that there is no Cake of Verdigreaſe, ſuch as they ſend from Montpellier, that weighs twenty-five Pounds, but, after it is dry, has loſt a third Part; ſo that the Verdigreaſe that coſt twenty Pence, when ſoft, will be near twenty-eight Pence, when hardened.

Verdigreaſe is a Drug much demanded, and the Quantity of it that is uſed is almoſt incredible, not only in Phyſic, but by Dyers, Skinners, Hatters, Farriers, and Painters; but it is remarkable, that Verdigreaſe alone, ground with Oil, cannot be uſed; ſo that it is abſolutely neceſſary for Painting, to add white Lead to it, for otherwiſe, inſtead of being green, it would be black. As for the Properties of Verdigreaſe, one of them is Eating off dead Fleſh. They who colour Paper green, make Uſe of Verdigreaſe and white Tartar to give it that Colour.

The Apothecaries who have Occaſion for Verdigreaſe in the afore-mentioned Compoſitions, and others, inſtead of the Powder, may diſſolve it in Vinegar, and ſtrain it through a fine Sieve, and ſo avoid, in reducing it to Powder, the Effects of the ill Quality of the Duſt flying from it. *Pomet.*

It deterges powerfully, conſumes proud Fleſh, attenuates and reſolves, and is uſed only in external Medicines; it is ſharp and digeſting, and cicatriſes Ulcers, being mixed with Oil and Wax.

It is of good Uſe in the Gout, being diſſolved in fair Water, and uſed warm to the Part.

It cures Diſeaſes of the Eyes, and effectually takes off Pearls and Films. But before you uſe it for the Eyes, or for Wounds or Ulcers, you muſt purify it after this Manner: Powder it, and put upon it Spirit of Vinegar, ſix or ſeven Times its Weight, digeſt till the Vinegar is tinged very green, which decant, and caſt away the Fæces; then evaporate the Vinegar in a braſs Veſſel, and ſo you will have an excellent Verdigreaſe at the Bottom, of which one Ounce is worth ten Ounces of the other.

> Take of this fine Verdigreaſe, a Dram; Spirit of Sal Ammoniac, half an Ounce; Alcohol of Wine camphorated, two Ounces; mix them for a Collyrium to waſh the Eyes. Take the White of an Egg, beaten well with Spring-water, four Ounces, and add to it Saccharum Saturni, ten Grains; white Vitriol, ſix Grains; and ſo many Drops of this Collyrium as may make it of an azure Colour, with this waſh the Eyes two, three, or four Times a Day.

This fine prepared Verdigreaſe being made into an Ointment with Honey, Juices of vulnerary Herbs, Vinegar, and abſterſive Sulphur of Vitriol, is applicable to weeping Wounds, Ulcers in the Joints, &c. *Lemery.*

Of VERDIGREASE CRYSTALLIZED.

The cryſtallized Verdigreaſe, or Cryſtals of Verdigreaſe, or as it is called by Merchants and Painters, calcined or diſtilled Verdigreaſe; is Verdigreaſe diſſolved in diſtilled Vinegar, and afterwards filtered, evaporated, and cryſtallized in a Cellar. Theſe Cryſtals are of ſome ſmall Uſe in Phyſic, to conſume dead Fleſh. They are likewiſe uſed by Painters to make a green Colour, eſpecially in Miniature Pictures.

All the Cryſtals of Verdigreaſe that are ſold in Paris, come from Holland or Lyons, and are not unlike Sugar-candy, except in Colour, eſpecially to that which is on Sticks: Theſe Cryſtals, if good, are beautiful, clean, and tranſparent, very dry, and free from Sticks. It muſt be obſerved, that the Verdigreaſe which the Apothecaries make is reduced to Cryſtals by the Means of a Cellar, whereas that which comes to Paris is made after the Manner of Sugar-candy, as I have been informed.

I cannot tell what has induced the Merchants to call theſe Cryſtals diſtilled or calcined Verdigreaſe, ſeeing it is neither diſtilled nor calcined, but made after the Manner above-mentioned.

They likewiſe make Cryſtals of Verdigreaſe by diſſolving Copper granulated in Spirit of Nitre, and afterwards evaporating to a Pellicle, and ſetting it in a Cellar to cryſtallize.

If you would reduce theſe Cryſtals to a Liquor, after having dried them, you muſt carry them back to the Cellar, to reſolve them into a Fluid; and this Liquor is called by the Apothecaries and Chymiſts, the Liquor of Copper, or Venus, and the Cryſtals, the Vitriol of Venus, or Copper. *Pomet.*

Of ÆRUGO SCOLECIA.

There are two Sorts of *Ærugo Scolecia*; one is a Foſſile, the other factitious, and made after the following Manner:

Put a Quarter of a Pint of ſtrong White-wine Vinegar into a Mortar of Cyprian Copper, which has a Peſtle of the ſame Metal, and rub it about till it grows viſcid and ropy; than put to it a Dram of round Alum, and the like Weight of tranſparent foſſile Salt, or the whiteſt ſolid Sea-ſalt, or at leaſt Nitre; beat them well in the Sun, during the Heat of the Dog-days, till they take the Colour of Verdigreaſe, and become of a ropy Subſtance; then draw it out, and make it up in the Form of Worms, ſuch as breed on Roſe Buſhes, and keep it for Uſe. It acquires the more Virtue, with a very fine Colour, if two Thirds of ſtale Urine be mixed with one of Vinegar, and the reſt managed as before. Some take their *Ærugo Raſilis* that was ſpoiled or damaged in working, and make it up with Gum, and ſell it; but have a Care of the Cheat. The Goldſmiths alſo make a Sort of Verdigreaſe, to ſolder Gold, of a Boy's Urine, with a Copper Mortar and Peſtle.

All theſe Sorts of Verdigreaſe anſwer the Purpoſes of the *Æs Uſtum*, but more effectually. Among them the *Foſſile Scolecia* is the moſt eſteemed, the *Raſilis* takes the ſecond Place, and the *Factitious* the laſt, which is the moſt biting and aſtringent; but the Goldſmiths Verdigreaſe anſwers to the *Raſilis*.

They are in general of an aſtringent and heating Nature; they eat away and attenuate Cicatrices in the Eyes, excite Tears, check phagedenic Ulcers, preſerve Wounds from Inflammation; mixed with Oil and Wax, they bring Ulcers to cicatriſe; boiled with Honey, they deterge foul and callous Ulcers; applied as a Collyrium *(See* COLLYRIUM*)* with Gum Ammoniac, they conſume the Calloſities of Fiſtulas; they help Swellings and Excreſcences of the Gums; mixed with Honey, they mightily reduce the Swellings of the Eye-lids that are anointed therewith; but then, after Anointing, they are to be fomented with a Sponge dipped in warm Water; compounded with Reſine of Turpentine and Copper, or Nitre, they cure the Leproſy.

Whatever Sort of Verdigreaſe you uſe, muſt firſt be burnt in the following Manner: Having broken it into very ſmall Bits, ſet it over burning Coals in an earthen Pot, and ſtir it about till it turn to a Sort of an Aſh-colour; then take it off, and when it is cool ſet it aſide for Uſe. Some burn it in an earthen Pot never burnt before, but then it does not always take the ſame Colour. *Dioſcorides. L. 5. C. 92.*

Of ÆRUGO RASILIS.

Ærugo Raſilis is prepared the following Ways: Put ſome of the ſtrongeſt Vinegar into a Firkin, or ſuch like Veſſel, and ſet over it a Copper Pot, inverted, well ſcoured, and without a Vent-hole; it is beſt if the Pot be bellied, but a cylindrical one will ſerve the Turn. After ten Days, remove the Cover, and you may ſcrape off the Verdigreaſe that ſticks about it. Or, hang a Copper Plate in the Veſſel over the Vinegar, ſo as not to touch it, and after the ſame Space of Time ſcrape off the Verdigreaſe, or put one or more Lumps or Plates of Copper into ſtale Huſks of Grapes that are growing ſour, and turn them in like Manner. Verdigreaſe may alſo be made of Filings of Copper, or Plates on which Gold is hammered into Leaves, by ſprinkling them with Vinegar, and turning them three or four Times, till they contract a Ruſt on all Sides. It is ſaid, that two Sorts of Verdigreaſe are produced in the Mines of Cyprus; one that ſticks upon the Stones which have a Mixture of Copper in them, and another Sort that in the Dog-days diſtils from a Cave in a Rock: The firſt Sort, it ſeems, is excellent, though but little in Quantity; the other, though plentiful and of a fine Colour, is vitious, being mixed with much ſtony Matter.

Verdigreaſe is adulterated many Ways, eſpecially the following: Some mix with it Pumice-ſtone, others Marble, or Vitriol. But you may find out the Pumice-ſtone and Marble, by wetting your left Thumb, and with the other rubbing on it a little of the Verdigreaſe; for this will diſſolve and run, but the Marble and Pumice-ſtone remain undiſſoluble, and with continued Rubbing and Wetting grow white. Or you may diſcover this Defect by biting it, for the pure Verdigreaſe feels ſmooth, without the leaſt Roughneſs under the Teeth. But the Vitriol is diſcovered by the Fire; for if you rub a Plate of Metal, or Tile, with this vitiated Sort, and ſet them on hot Embers, or Coals, what is mixed with Vitriol will turn red, becauſe Vitriol burnt naturally takes that Colour. *Dioſcorides, L. 5. C. 91.*

Oribaſius tranſcribes this literally from Dioſcorides.

Of BURNT COPPER.

The *Æs Uſtum*, or burnt Copper, is made of red Copper cut into Plates, and put into a Crucible with Sulphur, and a little common Salt, Stratum ſuper Stratum, and put into a fierce Charcoal Fire; and when the Sulphur is burnt away, and the Copper taken out, it is of an iron Colour without, and of a reddiſh one within, ſhining, and very brittle.

The *Æs Uſtum*, if it be good, ſhould be moderately thick, and of the Colour before-mentioned; and, being rubbed, ſhould make a Red like that of Cinnabar, which it cannot do, unleſs ſome Salt be put to it. This is the Secret of the Dutch, whereby they make it better than they do in other Places.

The *Æs Uſtum* is of ſome ſmall Uſe in Phyſic, becauſe it is deterſive; but they who make Uſe of it, make it red-hot in the Fire nine Times, and quench it as often in Linſeed Oil, and, reducing it to Powder, uſe it for eating off dead Fleſh; and they call this Powder of the *Æs Uſtum* ſo prepared, *Crocus*, or Saffron of Copper. *Pomet.*

Good Burnt Copper is red, and, when rubbed, takes the Colour of Cinnabar; the Black is burnt too much. It is prepared of the Nails taken out of Ships that are broken up. Theſe Nails are laid in an earthen Pot never baked, with Sulphur and Salt in equal Quantities ſtrewed under them, and laid Stratum ſuper Stratum. The Pot being covered, and the Lid well cloſed around with Potters Clay, is ſet in the Furnace, till it be thoroughly baked. Some, inſtead of Sulphur and Salt, uſe Alum; others burn the Nails laid in the Pot, without Salt or Sulphur, for ſeveral Days together; others, again, burn them with Sulphur only, but then the Nails are ſtained with a ſooty Colour. Some anoint the Nails with foſſile Alum, and, with an Addition of Sulphur and Vinegar, burn them in an earthen Pot never baked. Laſtly, others ſprinkle the Nails with Vinegar, and burn them in a Copper Pot three Times over, and then lay them by.

The beſt Burnt Copper is made at Memphis, the next in Cyprus. It is of an aſtringent, drying, attenuating, repreſſing, drawing, cleanſing Quality, and brings Ulcers to cicatriſe, waſtes Excreſcences on the Eyes, conſumes luxuriant Fleſh, and reſtrains ſpreading Ulcers. Drank in Hydromel, or taken in a Linctus, or mixed with Honey, it gives a Vomit. It is waſhed like the Cadmia, changing the Water four Times a Day, till no Froth ariſe. The Scoria, waſhed after the ſame Manner, acquires the ſame Virtue, but in a leſs Degree. *Dioſcorides, L. 5. C. 87.*

Of the MOUNTAIN, or SEA VERDIGREASE.

The Mountain or Hungarian Verdigreaſe, is a Sort o greeniſh Powder in Grains, like Sand, which is found in the Mountains of Kernauſen in Hungary, and comes from Preſbourg to Poland. It is found likewiſe in the Mountains o Moravia; and ſome will have it, that what the Antients ca Flowers of Braſs, was made by throwing Water, or rathe Wine, upon Roſe Copper, whilſt red, that is to ſay, as i comes out of the Furnace; and that this Flower, or Mountai Verdigreaſe, is gathered and found ſticking to other Plates o cold Copper, which they place over them, in ſmall Grai like Sand; and that this is made by Vapours which ariſe, wh they throw Water or Wine upon the hot Copper, and that i is this which makes, what we call Roſe Copper, to be ſo u ſmooth, and to be full of little Figures. Others affirm, th this green Powder was Plates of Copper diſſolved in Wi which was made almoſt after the ſame Manner as Verdigreaſe but as I know no more of it, I ſhall only ſay, that ſuch is to b made Choice of as is dry, of a high Colour, well granulated that is to ſay, like Sand, which is the Mark of natural Mountain Verdigreaſe, and makes the Difference betwixt that an the artificial, which ſome make by pulverizing Verdigreaſe, an putting a little white Lead amongſt it.

The Verdigreaſe of the Mountain is of no other Uſe but i Painting, principally for making a Graſs-Green; and therefore it is that moſt of the green Painting we ſee in Gardens i done therewith.

As it is a dear Commodity, and comes from ſeveral Parts, there are different Sorts of it, and different Prices; therefo they who uſe it ſhould regard the Qualities of it, rather th the Cheapneſs. *Pomet.*

Of the FLOS ÆRIS.

Flos Æris Officinar. is nothing but Copper reduced to ſma Grains like Millet-ſeed; which is done by pouring cold Wa upon melting Copper, which thereupon immediately flies eve Way into Grains, which are collected and kept for U *Geoffroy.*

The *Flos Æris*, which ſome of the Antients called the O [Ψῆγμα] *of the Nails*, is beſt when it is friable, of a deep Y low when rubbed, like a Grain of Millet, ſmall, ponderou and moderately ſhining; which is not intermixed with Fili of Copper, with which it is often adulterated. The Fraud diſcovered by the Filings giving Way, and dilating under t Teeth. The *Flos* is obtained, when the Copper, after Fuſi runs from the Furnace to the Receiver, through the Strainers the Pipes that belong to it: For, at that Time, the Overſe of the Works for refining of Metals pour fair Water upon to refrigerate it. The Metal by this ſudden Check conden concretes, ſpurts, and, as it were, ſpues out the *Flos*.

It has an aſtringent Quality, and reſtrains Excreſcences. It ars the Pupil of the Eye of Things which darken the Sight, t is of a very corroſive Nature. Given to the Weight of elve Grains, it expels groſs Humours. It conſumes fleſhy xcreſcences in the Noſtrils, and in the Anus. Taken in Wine, reſtrains Eruptions. The Powder of the white Sort, blown to the Ear through a Pipe, helps an inveterate Deafneſs; and plied with Honey, repreſſes Tumors of the Uvula and Ton- . *Dioſcorides*, *L.* 5. *C.* 88.

Pliny takes his Account of the *Flos Æris* from Dioſcorides.

Of the SQUAMA ÆRIS.

Squama Æris Officin. is little different from *Æs Uſtum*, be- g only the Particles of burnt Copper that fly off while it is mmered. Theſe *Squamæ*, or inſtead thereof, the Filings Braſs, mixed with Sulphur, and the Powder of Florentine rice, and wore in the Shoes, cure ſtinking Feet; but this actice may be attended with great Inconvenience, for, by ecking ſuddenly that ſtinking Sweat, Diſeaſes of a worſe ind may enſue. *Geoffroy*.

The *Squama* produced in the Cyprian Copper-Works, ich is thick, and goes by the Name of *Helitis*, is of a good ind. But what comes off in the Working of white Copper, ing thin, and of little Subſtance, is accounted of no Value. erefore, rejecting this, we are to chuſe what is thick, of a deep llow, and will ruſt with the Sprinkling of Vinegar.

It repreſſes, attenuates, ſtops the Progreſs of eating Ulcers, ppurates, and cicatriſes. Drank in Hydromel, it purges Wa- . Some give it made up in Meal in the Form of Pills. It s a Place alſo among the Collyria or Medicines for the Eyes, it takes away the Roughneſs of the Eye-lid, and dries up eums.

The Waſhing of it is thus performed: Put half a Pound of dry *uama Æris* cleanſed into a Mortar with Water; ſtir it well ut with the Hand till the *Squama* ſubſide. Fling away what ims at the Top, and, pouring off the firſt Water, put in a all Glaſs-full [$\frac{1}{12}$ of a Pint] of Rain-water, and with your flat nd rub the *Squama* in the Mortar, as if you would reduce it Powder. When it begins to grow viſcid, pour in now and n a little Glaſs of Water, till it amount to ſix Glaſſes, or half Pint, rubbing ſtrongly all the while. Then take the *Squama* your Hand, and rub it well againſt the Side of the Mortar, d, there ſtrongly preſſing it, receive all the Moiſture that mes from thence in a Box of red Copper. This is, as it re, the *Flos Squamæ*, being full of Virtue, and moſt effectual Diſtempers of the Eyes; what is left is of little Value. wever, you may continue to waſh it, till it will grow no ger viſcid, and then cover it with a clean Cloth, and lay it de for two Days, after which, letting the Water that ſtands n it run off, when it is ſufficiently dry, keep it in a Box for e. *Dioſcorides*, *L.* 5. *C.* 89.

The moſt uſual Medicines, prepared with Copper, are the *een Precipitate*, deſcribed among the Preparations of Mercu- , and the *Ens Veneris* of Mr. *Boyle*, which is made in this anner:

> Take of Colcothar, made of blue Hungarian, or Copper Vitriol, well calcined and waſhed, two Drams; of Sal Ammoniac, four Drams; mix them well, and ſublime the Flowers three Times, by cohobating them on the *Caput Mortuum*. The Doſe is from one to ſix Grains. Theſe Flowers are much commended by Boyle in the Rickets, and are ſaid to be a powerful Remedy in a virulent Gonorrhœa.

The *Tinctura Cærulea*, or *Collyrium Cæruleum*, is made from pper, Sal Ammoniac, and Lime-water. It is uſed for Diſ- ſes of the Eyes, to ſtop Gonorrhœas, and to deterge and dry lcers. *Geoffroy*.

Thin Plates of Copper infuſed all Night in Lime-water only, in Lime-water mixed with volatile Salt, or Spirit of Sal mmoniac, make an admirable *Collyrium* for the Eyes, to waſh ith againſt Miſts, Clouds, Films, Pearls, Suffuſions, *&c.* *Lemery*.

The Chymiſts dream, that a red Sulphur is contained in pper, called by Helmont, *Ignis Veneris*, and *Sulphur Philoſo- rum*, which, he ſays, prolongs Life. They try to extract is Sulphur for two Reaſons; firſt, to obtain thereby a ſove- ign Remedy in all Diſeaſes, and a preſent Anodyne in all ins: Secondly, To deprive Copper of its red Colour, and ake it a white Metal, reſembling Silver. But I can find no her Sulphur in Copper, except that bituminous inflammable bſtance common to all Metals, and, indeed, to all combuſtible ixt Bodies. In giving ſuch large Encomiums to this Sul- ur, the Chymiſts therefore only ſhew their own Ignorance, the red Colour of Copper is owing to the Earth, not to the lphur contained in it; and it is perfectly vain to pretend to tract a fixed Sulphur from that Metal; for theſe red Tinctures e only the Copper itſelf divided into very ſmall Parts, and ſpended in different Menſtrua, as appears by precipitating ſe Particles. They have likewiſe vainly endeavoured to rob opper of its red Coat, as they term it; what they call white Copper, does not owe that Colour to the Loſs of its red Sulphur, but to the Addition of a white Earth, found in the fixed alcaline Salts, which they make Uſe of. This Becher has very well obſerved. *Geoffroy*.

The Solution of COPPER in diſtilled VINEGAR, from *Boerhaave*.

Take a large glaſs Body, cut ſo as to have a very wide Mouth, with an alembic Head anſwering to it; in this Head put thin Plates of Copper, ſo as to ſtand ſomewhat erect, without falling, all around the hollow Part of the Ledge. Put Vinegar into the Body; ſet it in a Sand-heat, put on the Head with the Copper-plates, apply a Receiver, and diſtil with a gentle Fire for twelve Hours, the Vinegar then comes over green, and, if the Operation is continued for a ſufficient Length of Time, the whole Subſtance of the Copper will be diſſolved. The Liquor thus procured filtered, and inſpiſſated with a moderate Heat, acquires a green Colour, like that of an Emerald; but of a diſagreeable nauſeous Smell, and the very ſmalleſt Drop of it proves inſtantly emetic. The Plates, being dried, yield an *Ærugo*, or Flower of Copper, but not the true Verdigreaſe of Copper, which is made only at Montpellier, in the Manner above deſcribed.

If the common Verdigreaſe of the Shops be boiled in a tall Bolthead with pure diſtilled Vinegar, till a Tincture is extracted, and if that is poured off, and freſh Vinegar added, and boiled again, and theſe Operations repeated, till the laſt Vinegar by boiling will be tinged no longer, there will then remain a good deal of indiſſoluble Matter at the Bottom; and this demonſtrates ſomething is mixed with the common Verdigreaſe, and that it is adulterated. If all theſe tinged Liquors are depurated by Filtration, and are then diſtilled till there remains only one fourth Part, they make a ſtrong Liquor of Copper.

From this Proceſs, we learn the great Solubility of Copper, and the Origine of Verdigreaſe; and, becauſe Copper ſo readily grows green with Acids, this furniſhes us with a Method of diſcovering this Metal (which has a ſurpriſing emetic and purgative Quality) when it lies concealed in Silver. If watery, lax, ſanious, virulent Ulcers are touched with this Liquor, it helps to quicken, contract, dry, and cleanſe them.

The Solution of COPPER by SAL AMMONIAC.

With one Part of Filings of the pureſt Copper, mix three of Sal Ammoniac, pour upon it four Parts of clean Water, in a Cucurbit cut for the Purpoſe, and, with a moderate Fire, dry the Paſte, and then ſuffer it to diſſolve again in the Air. Repeat this Reſolution and Exſiccation many Times, and you will at laſt obtain almoſt an intire Solution of the Copper. Boil this Mixture in Water, filter it, and inſpiſſate it a little, and a blue Tincture will be procured; and if, according to Art, you bring this to cryſtallize, you will have ſome beautiful Cryſtals of Copper.

This Proceſs ſhews how Copper and Salts act upon each other, This Liquor is the famous Anti-epileptic for Children. If a few Drops of it are given to them faſting in Mead, it operates by Stool, excites a Nauſea, and has a conſiderable Effect upon their languid, tender Stomachs, which it ſtimulates, and brings away any Water, or Mucus lodged therein, and in the Inteſtines, and deſtroys Worms. By this, therefore, ſome bad Habits of Body, and ſome Kinds of Epilepſies, are cured.

The Solution of COPPER in AQUA FORTIS.

To common *Aqua Fortis*, or Spirit of Nitre, in a clean glaſs Veſſel, add a ſmall Quantity of very fine Filings of pure Copper. Upon this there will ariſe a prodigious Effervеſcence with red Fumes, and in an Inſtant the whole Liquor will acquire a beautiful green Colour. Proceed in this Manner till the laſt Portion thrown in will no longer increaſe the Greenneſs. When the Liquor is depurated by ſtanding quiet, and filtered, evaporate it to one half.

Here we ſee the Effect of the Acid of Nitre upon Copper. This Tincture proves an Emetic in the very ſmalleſt Quantity. It kills all Inſects, and hence, if it is diluted with a good Deal of Water, it expeditiouſly deſtroys Fleas, and Lice, both the common Sort, and the flat ones that breed upon the Pubes. It has the ſame Effect upon Ulcers as the Vinegar of Copper; but muſt be uſed with Caution.

The Solution of COPPER in AQUA REGIA.

Into *Aqua Regia*, or Spirit of Salt, throw Filings of Copper, and proceed as in the former Proceſs, and the Effect will be juſt the ſame.

Hence it appears, that Aqua Fortis and *Aqua Regia* diſſolve Copper alike. There is no Ground, therefore, for the Opinion of thoſe Chymiſts, who, from an imaginary Diverſity in them, have pretended to give the Reaſons why one diſſolves Gold only, and the other Silver. This certainly ariſes purely from the ſingular reciprocal Diſpoſition of Bodies to one another, nor can we come to the Knowledge of it, but by Experiments. And for the ſame Reaſon, they argue as unreaſonably concerning the Reſemblance of Metals, from their being diſſolved by the ſame Menſtruum. Sound Chymiſtry proceeds very cautiouſly in Things of this Nature, and is afraid of Univerſals, unleſs when collected from certain Obſervations.

The Solution of COPPER in a volatile ALCALI.

Upon one Dram of Filings of Copper in a clean glaſs Veſſel, pour twelve Times as much of a good alcaline Spirit of Sal Ammoniac. Stop the Veſſel, ſhake it about frequently, and you will have a Tincture at firſt of an Azure, and afterwards of a violet Colour, which will be very beautiful. Pour off the Tincture; upon the Reſiduum put freſh Spirit, and by this Means almoſt all the Copper will be gradually diſſolved, and converted into a Tincture.

If Filings of Copper are moiſtened with three Times the Quantity of Oil of Tartar *per Deliquium*, and then digeſted, dried, and diſſolved, and this is often repeated, and then the Matter is boiled, filtered, and inſpiſſated, by this Means ſuch another Liquor, but of a fixed Nature, will be obtained.

This volatile alcaline Tincture contains the Subſtance of the diſſolved Copper. If a Perſon takes it faſting in a little Mead, and walks gently after it, beginning at firſt with three Drops, and afterwards doubling the Doſe every Morning, till the fourth Time, and then repeating the laſt Doſe for ſome Days, it opens, attenuates, warms, and proves an exceeding powerful and ſpeedy Diuretic. By the Help of this alone, Boerhaave ſays, he cured a perfect *Aſcites*, ſuch a prodigious Diſcharge of Urine being excited, that it was diſcharged as if it ran out of an opened Cock, upon which the Integuments of the Abdomen became ſo looſe, that they might be wrapped over one another. He then only ordered a dry reſtorative Regimen, and the Patient recovered perfectly, and enjoyed a good State of Health many Years after. This, as it happened in his younger Days, he ſays, gave him great Encouragement; but, upon trying the ſame Medicine afterwards in the like Caſes, its Inefficacy gave a Check to his Vanity, and taught him, that Nature has a great Hand in theſe happy Events. He adds, I am convinced, that among the various Kinds of Dropſies, ſome may be cured by different Methods, and ſome not at all. In acid, watery, weak, cold, mucous, pituitous Diſorders, the ſame Tincture, however, is often uſed with Succeſs. The Solution of Copper, in all acid, alcaline, and compound Salts, either latent or open, appears by every Kind of Trial to be very eaſy; for even the expreſſed Oil of Olives, and the diſtilled Oil of Turpentine, and others, which always contain a latent Acid, will, by being digeſted with Copper, acquire a green Colour, and at the ſame Time be rendered fit for ſome chirurgical Uſes. *Boerhaave's Chymiſtry*.

I have been thus particular with Reſpect to Copper, that no Body, whoſe Duty it is to be acquainted with every Part of the *Materia Medica*, may be ſubject to the Imputation of being ignorant of theſe Preparations, which Pliny caſts upon the Phyſicians of his Age. This Author, ſpeaking of the Recrements of Copper, ſays, that Phyſicians are not acquainted with them, few knowing them, even by Name, ſo far are they from underſtanding how Medicines ought to be prepared, which is properly the Province of Phyſicians. But now, inſtead of this, when they meet with any Thing in Books, which they have an Inclination to try, at the Hazard of the miſerable Patient, they truſt to the (Seplariæ) Preparers of Medicines, who corrupt them by all Manner of Adulterations, and content themſelves with ſtale Plaiſters, and Collyria, and the very Refuſe of Drugs.

Every Body, who is in any Degree acquainted with the Education and Learning of our own Country Phyſicians, will know this Character is not in the leaſt applicable to them. And I know many Apothecaries that have had proper Opportunities of Information, who, I am convinced, deſerve no Part of this Invective.

In the Days of Pliny, the Phyſicians at Rome muſt have been infected with the general Corruption of the Times, or elſe the Author muſt have been very malicious to thoſe of the Profeſſion that were his Contemporaries, perhaps on Account of ſome perſonal Enmity againſt one Man.

ÆSALO. 'Αισάλων. The Name of a ſmall Hawk, called alſo *Merillus*, or *Smerillus*, mentioned by Aldrovandus, and by Ariſtotle. I don't find that any medicinal Virtues are attributed to it, nor can I tell why Caſtellus has inſerted it. It is one of the Birds which the Jews were forbid to eat.

ÆSCHOS. 'Αισχος. Deformity of the Body in general, or any particular Member. *Conſtantine. Caſtellus.*

ÆSCHRION. The Name of a Phyſician of the Empiric Sect. All that is farther known of him is, that he was very well verſed in the *Materia Medica*, and was one of Galen's Maſters, who deſcribes a Remedy he learned from him, againſt the Bite of a mad Dog, which he eſteems of conſiderable Efficacy. The Medicine is this:

Take of the Aſhes of Cray-fiſh burnt alive, in a red Copper Pot, ten Parts, of Gentian five Parts, of Frankincenſe one Part. Let the Patient take a large Spoonful of this in Water forty Days together. But if Application be not made for a Cure, till ſome Days after the Bite, the Doſe muſt be doubled. At the ſame Time apply to the Wound a Plaiſter made of Pix Brutia, Opopanax, and Vinegar, compounded according to the Rate of Pix Brutia one Pound, an Italian Pint of the ſtrongeſt Vinegar, and three Ounces of Opopanax. Galen ſays, that he very much confided in this Medicine, becauſe not one of thoſe who uſed it died. Æſchrion burnt his Cray-fiſh after the Riſing of the Dog-ſtar, when the Sun was paſſed into Leo, and on the eighteenth Day of the Moon [the third Day after the Full Moon].

ÆSCHYNOMENOUS Plants, [of 'Αισχυνόμενος, of ἀισχύνομαι, Gr. I am aſhamed.] Thoſe Plants are commonly called *Senſitive*, or ſenſible Plants, as giving ſome Tokens of Senſe: They are ſuch whoſe Frame and Conſtitution is ſo nice and tender, that on the Touch, or leaſt Preſſure of one's Hand, they will contract their Leaves and Flowers, as if ſenſible of the Touch. *Miller's Dictionary*.

ÆSCULAPIUS. The Hiſtory of this great Phyſician, for ſuch he appears to have been, is ſo involved in Fable and Romance, that it is impoſſible to extricate the Truth with any Certainty. Tully ſays, there were three of the Name. The firſt was the Son of Apollo, and the ſame that was held in great Veneration by the Arcadians: He was the Inventor of the Probe and Bandage.

The ſecond *Æſculapius* was Brother to the ſecond Mercury. This is he that is reported to have been ſtruck with Thunder by Jupiter, and is ſaid to lie buried at Cynoſura in Peloponneſus.

The third was the Son of Arſippus and Arſione. He invented Purging, and Drawing of Teeth.

Monſieur Le Clerc is of Opinion, however, that there never was more than one *Æſculapius*, and that he was a Phenician, or rather a Nephew of Chanaan, which laſt he apprehends to be the ſame as Hermes. Or at leaſt, if there was an *Æſculapius* amongſt the Greeks, that he borrowed not only the Name, but the Character of the Phenician.

The Egyptians relate, that *Æſculapius* was taught Medicine by Hermes, whom they repreſent as the Inventor of the Art. And if the Account given by Sanchoniathon is true (See *Euſebius*) *Æſculapius* and Hermes were nearly related, for Miſor, the Father of Hermes, had a Brother, whoſe Name was Siduc, or Sadoc. This laſt had ſeven Sons, called *Dioſcures*, *Cabires*, or *Corybantes*, and an eighth, which was *Æſculapius*, by one of the Daughters of Saturn and Aſtarte. By this Genealogy, it appears, that Hermes and *Æſculapius* were firſt Couſins, and it renders the Egyptian Account, that *Æſculapius* learned Medicine of Hermes, the more probable. Upon the Whole, the intire Family ſeems to have been concerned in making Improvements in, or inventing Medicine, for the Sons of the Cabyres or Corybantes are by the ſame Sanchoniathon repreſented to have employed themſelves in diſcovering the Virtues of Plants, and Remedies againſt venomous Bites.

The Oriental Authors relate, that *Æſculapius* was a Diſciple of Edris, who is the ſame as Enoch; and the Oriental Chriſtians have a Tradition, that Enoch, or Edris, is the ſame as the Hermes of the Egyptians, called TRISMEGISTUS.

This *Æſculapius*, according to the Accounts given of him by the Eaſtern Writers, gave the firſt Riſe to Idolatry, in this Manner: After the Death of Edris, or Enoch, *Æſculapius*, by the Inſtigation of the Devil, made a Statue in Honour of his Maſter and Patron, whom he repreſented, holding a Branch of Althæa, or Marſh-Mallows in his Hand, and, being conſtantly before it, ſeemed to pay it extraordinary Honours. This was afterwards imitated by his ſuperſtitious Countrymen, till at laſt it roſe to Idolatry.

This is the Sum of what is related, with reſpect to the Egyptian, or Phenician *Æſculapius*. The Accounts we have of the Grecian *Æſculapius* are much more ample, but equally uncertain, and perhaps more fabulous, it having been the Cuſtom amongſt the Greeks, to rob the Egyptians of their Mythology, and to diſguiſe the allegorical Meaning with Fictions of their own.

The Mother of this *Æſculapius* was Coronis, a Daughter of Phlegias, King of the Lapithæ in Theſſaly; or, according to ſome, Arſinoe, Daughter to Leucippus of Meſſenia. This Lady, being clandeſtinely with Child by Apollo, was delivered of her Son on a Mountain in the Territory of Epidaurus, during a Journey with her Father into Peloponneſus, where the Child was left. A Peaſant of thoſe Parts, miſſing a ſhe Goat and his Dog, went in Search of them, and found the Goat giving Suck to the young *Æſculapius*, and the Dog mean While guarding them.

Others give a different Account of his miraculous Birth. They agree, that Coronis was with Child by Apollo; but ſay, that Apollo having diſcovered that the Nymph granted the ſame Kind of Favours to a young Arcadian, which ſhe had beſtowed on him, in a Fit of Jealouſy, ſent his Siſter Latona, to ſpread a Plague in the City where his Miſtreſs lived, of which ſhe died. But, as ſhe was on the Funeral Pile, the God came, and took his Son away, out of the Midſt of the Flames, and conveyed him to Chiron the Centaur, who undertook the Charge of his Education. *Pindar*.

Other ſabulous Accounts are given of the Birth of *Æſculapius*, nd many Countries diſpute for the Honour of producing him, s was uſual amongſt the Greeks, with reſpect to their eminent Men. But it is agreed on all Hands, that he was bred under e Tuition of Chiron the Centaur, and that, by his Inſtructi- ns, and the Aſſiſtance of his Father Apollo, he arrived at a very xtraordinary Knowledge in Phyſic, which gained him a Place mongſt the heathen Divinities, after he had rendered himſelf greeable to Mankind, by curing thoſe who ſtood in Need of is Aſſiſtance, of Ulcers, Wounds, Fevers, and painful Diſ- rders, by Means of Incantations, lenient Potions, Inciſions, nd external Applications. It was on Account of his extraor- inary Skill in all Branches of Phyſic, that he was choſen by e Heroes concerned in the Argonautic Expedition, to ac- mpany them in that hazardous Enterprize.

The Greeks, much uſed to Exaggeration, when the Honour any of their Countrymen is in Queſtion, relate, that *Æſcu- ius* could not only recover People from dangerous Diſtempers, t alſo knew a Way of reſtoring Life to thoſe that were dead; d of this they give many Inſtances, among which, the laſt s Hippolytus. Upon this, they ſay, Pluto made a Remon- ance to Jupiter, that, if *Æſculapius* was ſuffered to proceed in s Manner, the Regions under his Juriſdiction would in ime become deſolate. Upon this Complaint Jupiter ſtruck *ſculapius* with a Thunderbolt, and with him Hippolytus, om he had raiſed from the Dead; but at the Requeſt of ollo he was afterwards placed among the Stars by the Name *Ophiucus*.

He left two Sons Machaon and Podalirius, of whom Ho- r makes honourable Mention. The Wife of *Æſculapius* s called *Epione*, or according to others *Hygeia*, or *Lampetia*. s Daughters were *Ægle*, *Panacæa*, *Jaſo*, *Reme*, and *Aceſo*. is alſo ſaid to have had a Siſter called *Eriopis*. All theſe are ſaid ave been concerned in improving the medicinal Art.

After the Death of *Æſculapius*, a great Number of Tem- were built in Honour of him in Greece, and the Grecian lonies. Schulzius reckons up from Pauſanias, and other Au- rs, ſixty-three, to which People from all Parts reſorted, in er to be cured of their Diſtempers, which were probably ormed by common Means, but were attributed to the mi- lous Influence of the God by the Addreſs of his Prieſts.

The Romans did not fail to imitate the Greeks in every cies of Superſtition and Idolatry. Accordingly they built a mple to *Æſculapius* in the Iſland of Tiber, upon the fol- ing extraordinary Occaſion, according to the Account Au- us Victor gives of it.

Rome, at that Time, and the adjacent Territories, were ra- ed by a Plague. Upon this Occaſion an Ambaſſy, conſiſt- of ten, with Q. Ogulnius at their Head, was diſpatched to daurus, in order to invite the God *Æſculapius* to Rome. en theſe Ambaſſadors arrived at Epidaurus, as they were iring the extraordinary Statue of *Æſculapius*, a large Ser- came from under the Altar, and paſſing from the Temple the Roman Ship, went into the Apartment of Ogulnius. Ambaſſadors rejoiced at this Prodigy, immediately ſet , and arrived ſafe at Antium with their Charge, but being ined there ſome Days by the Tempeſtuouſneſs of the Seas, Serpent got out of the Veſſel, and lodged himſelf in a neigh- ring Temple dedicated to *Æſculapius*, but as ſoon as it was n, returned, and then the Ambaſſadors purſued their Voyage; when they arrived at the Iſland of Tiber, the God in the e of a Serpent quitted the Ship, and went on Shore, re they built him a Temple, and the Plague immediately ed.

liny ſays, this Temple was built there out of ſome Diſre- which the Romans had for the Art over which *Æſcu- us* preſided. A very childiſh Reaſon; as if that wiſe People ld have been at the Trouble to have ſent a ſolemn Am- to Epidaurus for the God, in order to affront him.

lutarch, in the Opinion of Le Clerc, has given a better ſon. This Author ſeems to think, that both the Temple at e, and the other Temples in Greece, dedicated to *Æſcu- s*, were built in open and high Situations, that the Sick ch reſorted to them might enjoy the Advantage of a good

here can be no Doubt, but that the Romans built this mple to *Æſculapius*, at a Diſtance from the City, in Imi- n of the Greeks. And there is a better and very ob- s Reaſon, why the latter choſe ſuch Situations for theſe ples, I mean, becauſe they intended to prevent contagi- Diſtempers from being brought into their Cities, by the which reſorted to the Prieſts of *Æſculapius* for their Cure, from being bred in the cloſe Air of a populous Place by ncourſe of diſeaſed People.

he Statue of *Æſculapius* at Epidaurus, made by Thraſy- s, the Statuary, was remarkable for the Size, the Work- ſhip, and the Materials, which were Gold and Ivory. In this he was repreſented ſitting on a Throne, with a Staff in one Hand, and leaning with the other on the Head of a large Serpent, with a Dog at his Feet. Pauſanias ſays, the Dog was placed there, becauſe he guarded *Æſculapius* in his Infancy. Le Clerc rather thinks this Animal an Emblem of that Sagacity which is neceſſary to a Profeſſor of the Art over which this God preſides.

From the ſame Pauſanias we learn, that he was ſometimes figured holding a Pine-cone in his Hand. And that a large brown Serpent, peculiar to the Country of Epidaurus, was ſacred to him. This Sort of Serpent was eſteemed harmleſs, and ſome of them were always kept in his Temple at Epidaurus. In moſt of his Figures this Serpent is drawn twiſted round the Staff he holds in his Hand.

Sometimes a Cock is placed at his Feet to repreſent Vigilance; ſometimes an Eagle, an Emblem of Diſcernment or Longevity, on his right Side, and a Ram's Head on the left, which is ſaid to be expreſſive of Dreams and Divinations.

Upon ſome Medals *Æſculapius* is accompanied by a little Figure of a Youth, cloathed in a Habit which covers his Head; this, Mr. Spon ſays, was the Emblem of Sickneſs, the Object of Medicine, becauſe amongſt the Antients the Sick covered their Heads, whereas thoſe that were in Health went bareheaded. This little Figure was called by the Names of *Teleſphorus*, *Aceſius*, *Evamerion*, or, as Mr. Le Clerc remarks, OB. What the laſt-mentioned Author adds upon this Occaſion, is too curious to be omitted. With that, therefore, I ſhall conclude the fabulous Accounts of *Æſculapius*.

Monſieur Patin gives an Account of a Medal ſtruck in Honour of the Emperor Adrian (perhaps on Account of his Knowledge in Phyſic) where on one Side *Æſculapius* is repreſented accompanied with Hygeia; on the other Teleſphorus with this Inſcription round it:

ΠΕΡΓΑ. ΕΠΙ ΚΕΦΑΛΛΑΙΩΝΟΣ.

And juſt before Teleſphorus the Letters O B. Mr. Patin explains the firſt Words *Pergamenorum ſub Cephalione*, adding in Italics, *Teleſphorus*. He afterwards adds, from Pauſanias, that Teleſphorus was a Divinity of the Pergamenians, who was ſo called by the Directions of an Oracle, and that ſome tranſlate the Word by *Familiar Spirit* (Devin) or *Ventriloquus*. This, ſays Mr. Le Clerc. made me imagine that TELESPHORUS and OB were the ſame, having found OB in other Places alſo tranſlated *Familiar Spirit*, or *Ventriloquus*.

Selden tells us, that the Word OB was uſually tranſlated *Python*, or *Magician*. This OB was a Spirit, or Demon, that gave Anſwers which ſeemed to come from the Pudenda, the Head, or the Armpits, but in a Voice ſo low, that it appeared to proceed from ſome deep Cavity, as if a dead Perſon ſpoke in a Tomb, inſomuch that thoſe who conſulted it, ſometimes did not hear it at all, but formed in their Imaginations what Anſwers they thought proper. Selden adds, See the Hiſtory of *Samuel*, whoſe Figure was repreſented to Saul by a Woman, from the Pudenda of whom OB either ſpoke, or was imagined to ſpeak. The Scripture, in the firſt Book of *Samuel*, Chapter 28.[a] calls this Woman *Pythoneſs*, or *Ventriloqua*, as it 28 is tranſlated, a Woman who had OB; hence Saul addreſſes her thus, *Propheſy to me, I pray you, by* OB, which the Septuagint tranſlate, *Propheſy to me by* VENTRILOQUUS. OB therefore was a Spirit which was ſuppoſed to ſpeak from the Belly.

Thus far Mr. Le Clerc, and as the Hebrew Word is אוב, OB, [b] which in the Septuagint is tranſlated, ἐγγαστρίμυθος, and our Tranſlators render *Familiar Spirit*, I think there can be no Diſpute of his being right.

Buxtorf renders the Hebrew Word OB by *Pytho*, one who, in giving Anſwers by diabolical Arts, ſeduces Men from God, *Levit.* XIX. 31.[c] XX. 27.[d] The Word alſo, as he obſerves, ſignifies *Bottles*, Job XXXII. 19.[e] Hence *Pytho*, according to Aben Eſra, means one who uttered Oracles from a ſwollen Belly, as from a Bottle, whence the Perſon was called ἐγγαστρίμυθος.

I muſt remark farther, that there have been People in our Days, who were Maſters of the Art of managing their Voice in ſuch a Manner, as to make it in Appearance proceed from any Part about them, or even near them, and that in much ſuch a Tone as that of OB deſcribed by Selden. There was a Fellow about Town about twenty-five Years ago, called the ſpeaking Smith, who was a great Maſter in this Way, and who, inſtead of being ambitious of the Character of a Conjurer, employed this Talent in frighting Porters, Drawers, and other People, who were not acquainted with the Trick, and whom their Friends contrived to bring into the Smith's Company, on Purpoſe to be teazed and terrified. About ten Years ago there was another who poſſeſſed this Art, though in a leſs Degree of Perfection. I have been ſeveral Times in his Company in the Country, where he uſed to travel as a Rider, ſo far as I remember, to a Tobacconiſt. And a Woman who begged

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See the Paſſage.

[b] See the Septuagint.

[c] Regard not them that have *Familiar Spirits*, אבות, *Oboth*, neither ſeek after rds.

[d] A Man alſo or Woman that hath a *Familiar Spirit* אוב, or that is a Wizard, ſhall ſurely be put to Death.

hold my Belly is as Wine that hath no Vent, it is ready to burſt like new Bottles כאבות.

about the Country, was ſaid to excel them both in this Way, being able to carry on a ſeeming Converſation betwixt ſeveral People, whom, ſhe told the Ignorant, were her Huſband and Children that had been long dead. It is not to be diſputed, but theſe would have had it in their Power, with a little Artifice, in the Days of Ignorance, to have been eſteemed converſant with familiar Spirits; and they might even have ſurpriſed a more enlightened Age, if they had been artful and deſigning enough to have guarded the Secret.

As to the Hiſtory of *Æſculapius*, without having any Regard to the fabulous Accounts of him in the Grecian Theology, I am inclined to think he was a Phœnician, who having made very ſucceſsful Searches into Nature, eſpecially that Part of it that related to Pharmacy and Medicine, had gained great Reputation and Honour among his Countrymen.

His true original Name, I imagine, is loſt to us in that, which the People that had experienced his Skill and Abilities in Phyſic, had given him by Way of Eminence and Diſtinction; for it was a Cuſtom in the Eaſtern Nations, when any Perſon appeared among them of ſingular Talents, to honour him with an Appellation declarative of his Merit, after the Manner of the Agnomen among the Romans. Hence it was, that Hermes, the Reſtorer of the Egyptian Learning, was called *Triſmegiſtus*, or rather by the Egyptian Name that anſwered that Meaning, for Triſmegiſtus was the Greek Tranſlation of the Egyptian Original; this Man's true Name was *Siphoas*, as Sincellus informs us out of Manetho. Σιφωὰς ὁ ϗ Ἑρμῆς.

As the Egyptians diſtinguiſhed Hermes by the Name of Triſmegiſtus for his great Learning, ſo the Phœnicians, according to the Taſte of thoſe Times (for *Æſculapius* is ſuppoſed to be cotemporary with Triſmegiſtus) gave him likewiſe a Name of Diſtinction, on Account of his Skill in Phyſic and Medicine. They called him חשכל אב, *Haſkel-ab*, the *Father of Knowledge or Skill*, which laſt Word, by-the-by, ſeems to take its Original from the Hebrew-Phœnician Word שכל, *Sekel, Knowledge or Underſtanding*.

It was an uſual Phraſe amongſt the antient Orientals, where they would deſcribe a Perſon that had been beneficial to Mankind, by ſome uſeful Invention or Diſcovery, to call him the *Father* of it. For Inſtance, this Hebrew Idiom is uſed in Holy Writ, with Regard to Jubal, *Gen.* IV. 21. where he is called *The Father of all ſuch as handle the Organ and Harp*, from his firſt inventing Muſic. Tubalcain alſo, from his firſt Invention of fabricating Iron by Fire, was called אב אשחא, *Ab Eſta*, or *The Father of Fire*; from whence the Greek formed their Ἥφαιστος; as the Latins did their *Vulcan* from *Tubalcain*; in like Manner the Phœnicians from the Skill in Medicine, that they found in the Perſon the Subject of this Enquiry, called him *Aſkel-ab*, the *Father of Skill* (in Medicine) which the Greeks afterwards corrupted into *Æſculapius*.

What Mr. Le Clerc in his *Hiſtory of Phyſic* obſerves, that *Æſculapius* was a Phœnician, and that the Original of his Name was to be ſought for there, is undoubtedly true. But I am afraid that cannot be ſaid of the Etymology he gives of it; he derives it from Is CALAPHOT, *A Man of the Knife*; ſuppoſing him to be ſo called from the Uſe of the *Knife* in chirurgical Operations, in which Caſe it is much to be ſuſpected, if the Uſe of the Knife was then ſo much known, as would be neceſſary to ſupport the Etymology of this learned Man.

By all the fabulous Accounts of the Grecian *Æſculapius* it appears that he was a conſiderable Benefactor to Mankind. It remains that we endeavour to come at the Reality of his Perſon and Character, and to extricate Truth out of a Multitude of Fables. And in order to do this, it is reaſonable to make Uſe of the Teſtimony of medicinal Writers, who, it is to be ſuppoſed, are beſt acquainted with what relates to the Patron of their Art. Amongſt theſe Celſus is the firſt, who in his Preface ſays thus: As the End of Agriculture is to ſupply the Body with Aliment, that of Medicine is to procure it Health. No Part of the World has been without ſome Share of Knowledge in this Art, for the moſt barbarous Nations were acquainted with the Virtues of Herbs, and other obvious Remedies, for their Wounds and Diſeaſes. However, it was cultivated in Greece more than in other Nations, not however originally, but a few Ages before it flouriſhed among us, for *Æſculapius* is celebrated for being the firſt Inventor of it, who was deified, becauſe he reduced the Science, before his Time rude and empirical, to a more regular Art.

We find ſomething more particular with Reſpect to *Æſculapius* in Galen, who has in a great Meaſure avoided the Exaggerations uſual amongſt his Countrymen, though he ſpeaks of the national Divinity of the Place where he was born.

Æſculapius, the Deity of our Country, preſcribed entertaining Songs, Buffoonery, and ſome Sorts of Muſic, for ſuch as by the too vehement Motion of the Mind had rendered the Temperament of their Body hotter than was conſiſtent with Moderation: To others, and thoſe not a few, he enjoined Hunting, Riding, and Exerciſes at Arms, and directed the Kind of Motion they were to be employed in, and the Arms in which they were to exerciſe. He did not think it enough to teach in general, how the Mind, when ſunk, might be raiſed, without aſcertaining the Meaſure of it from the Idea of the Exerciſe. *Galen, de Sanit. tuenda, L.* 2. *C.* 8.

True Medicine forms Conjectures concerning the Nature or Conſtitution of the Patient, which the Generality of Phyſicians call *Idioſyncraſy*. But this is by all confeſſed to be incomprehenſible; therefore all aſcribe the true Art of Medicine to Apollo and *Æſculapius*. *Galen, Meth. Med. L.* 3. *C.* 7.

The Greeks aſcribe the Invention of Arts to the Sons, or near Kindred of the Gods, by whom they were communicated. On this Account it appears, that *Æſculapius* was the Inventor of Medicine, in the Knowledge of which he was firſt inſtituted by his Father Apollo, and afterwards delivered the ſame to Mankind. Before his Time the Art of Healing was unknown, though the Antients had ſome Inſight into the Virtues of Medicines and Herbs; ſuch as Chiron, the Centaur among the Greeks, and the Heroes under his Tuition. They had alſo, it ſeems, by what is aſcribed to Ariſtæus, Melampus and Polyidus, made ſome Experiment that Way. That the Egyptians had ſome Notion of other Remedies beſides Herbs ſeems evident enough from Homer.

Beſides, the firſt Phyſicians muſt have learnt many Things in Surgery and manual Operation from the Opening of Carcaſſes, which it was the Cuſtom to do, in order to embalm them. Some Inventions are imputed to Chance, as Couching for a Cataract to the caſual Obſervation of a certain Goat, who, labouring under that Defect, recovered its Sight by impreſſing its Eye on a ſharp-pointed Ruſh. The Uſe of a Clyſter alſo, they ſay, is derived from the Bird Ibis, who, making the Skin of her long Neck ſerve inſtead of a Bladder, fills it with the Water of the Nile, or Sea-water, and by the Help of her Beak introduces it into her Body through the Anus. And Herodotus, the Hiſtorian, writes that it was an antient Cuſtom to bring out their Sick into the Street, and moſt frequented Places, to receive the Advice and Preſcriptions of ſuch Perſons, as had laboured under the ſame Diſtempers, and had been cured; and ſo, by this Means was Medicine at length eſtabliſhed, being raiſed into an Art from the Multitude of Facts and Experiments. But all this while Reaſon was wanting to aſſiſt and perfect Experience, and *Æſculapius* alone was the firſt Inventor of true and rational Medicine, and ſuch as, on all Accounts, deſerved that Name. His Succeſſors, the Aſclepiadæ, delivered it down to Poſterity, as it were, by hereditary Succeſſion. Among them Hippocrates was the moſt eminent by many Degrees, and was the firſt among the Greeks who perfected the Art of Medicine. *Galen's Introduction.*

If we reflect upon the fabulous Accounts related of the Grecian *Æſculapius* above, and join with theſe what is ſaid by Celſus and Galen, we may perhaps have Reaſon to believe the following Conjectures, in Regard to the true Hiſtory of this *Æſculapius*, to be not very diſtant from the Truth.

He appears therefore to have been the illegitimate Son of ſome Lady of Diſtinction, who expoſed him on a Mountain in the Territory of Epidaurus, to avoid the Reproaches uſual on ſuch Occaſions. In this Situation he was probably found by the Means of the Dog of ſome Shepherd, or Goatherd, for it is uſual with theſe ſagacious Animals to apprize their Maſters of any Thing uncommon that occurs, by ſtaying near it and barking; and, if this was the Caſe, a very ſmall Degree of Superſtition, joined with a ſtrong Imagination, would furniſh him with a Goat for his Nurſe, whilſt under ſuch a Diſtreſs.

When he was once found, it is not unlikely that his Mother might privately take Care to have him delivered to Chiron, a Man in thoſe Days eminent for the Education of Youth.

We may very reaſonably ſuppoſe that the young *Æſculapius* had very extraordinary Parts, for which a great many natural Children, both amongſt the Antients and Moderns, have been remarkable, and that upon this Account his Tutor Chiron took more than ordinary Pains in the Inſtruction of his Pupil. Add to this that the Youth, finding he had nothing to depend on but his own Genius and Diligence, might be prompted by Ambition to an extraordinary Application, that he might ſome time make a Figure in the World, equal to that of his Fellow Students, who were Sons to People of Condition, by ſupplying the Diſadvantages of Birth by Induſtry. This Suppoſition will appear leſs chimerical, if we reflect, that those who have in all Ages made very extraordinary Progreſs in Sciences, have generally been ſuch whoſe Circumſtances have obliged them early to take uncommon Pains.

Æſculapius, thus furniſhed with a Capacity, would not fail to lay hold of the Opportunities of Improvement which preſented, and to purſue the Way to Eminence by the Road to which he was directed by his Genius. His favourite Study therefore being that of Phyſic, when he arrived at ſuch a Degree of Knowledge in the Art, as to excel his Contemporaries in the Cure of Diſeaſes, his Countrymen, or perhaps Chiron himſelf, might give him the honorary Appellation of *Æſculapius*, a Name borrowed from the Phœnician Inventor of Phyſic, the Hiſtory and Character of whom the Greeks had at that Time been made acquainted.

The Circumſtances of his Birth, added to his Eminence in Medicine, would give his ſuperſtitious Countrymen an obvious Hint to call him the Son of Apollo, and a national Vanity might at laſt make him a God.

This appears to me the moſt real and genuine Account of the Greek *Æſculapius*, for I can by no Means agree with thoſe Authors who are of Opinion that there never was ſuch a Perſon amongſt the Greeks. Hippocrates is ſaid to be a Deſcendant from him, and a regular Pedigree is produced, by which it appears that he was the eighteenth from *Æſculapius*, incluſive. Now if this was not real, the Aſclepiadæ could never have been guilty of ſo impudent a Fiction, attended with a great many Circumſtances that might have been diſproved, which, however, it does not appear to have been ever attempted, even by the Phyſicians of the Cnidian School, who, as it ſeems, were no great Friends to Hippocrates, and who main-ained a Spirit of Emulation againſt the Phyſicians of Cos. This Pedigree will be given with the Life of Hippocrates; ean Time it may ſuffice to remark that the Poſterity of *Æſculapius*, by Podalirius, reigned Kings of Caria, till the Time f Theodorus the Second of that Name, who was obliged by he Heraclidæ to retire from their Country, and ſettle in Cos, n Iſland not far from Caria.

I ſhall end this Account of *Æſculapius* with remarking, that f the Art of Healing had not been very much advanced be-ore the Time of Hippocrates, it would have been impoſſible r any one Man to have made Obſervations ſufficient to ſtabliſh thoſe univerſal Rules, laid down by that extraordi-ary Man; Rules which, at the Diſtance of more than two houſand Years, are confirmed by every Caſe that occurs in e Practice of Phyſic, inſomuch that it may be truly ſaid, at if the Writings of Hippocrates had been loſt ſo far, that ter Writers in Phyſic could not have borrowed his Sentiments, edicine which, though far from being perfect, is nevertheleſs neficial to the World in an eminent Degree, would have en ſcarce worth regarding, and of little Importance to Man-nd. This I venture to affirm, becauſe I am certain that ery Phyſician in Europe, who is acquainted with this Au-or, and knows his Profeſſion, will agree to it.

ÆSTAS. The Summer. This is too well known to want xplanation.

Some Remarks have been made on this Seaſon by Authors, hich deſerve Notice.

Whence comes it that Lippitude, or Soreneſs of Eyes, more quently happens in this hot and dry Seaſon, than another? r it ſeems reaſonable to imagine, that the natural Dry-ſs of this Time of the Year ſhould put a Stop to all De-xions, and yet we are not ſenſible of the Benefit we might pect with Reſpect to Eyes, from that Conſtriction and enſation which are the natural Effects of Heat. I anſwer, at, granting theſe to be Conſequences of the Seaſon, yet extraordinary Splendor of the lucid Air, which dazzles Sight, is very offenſive and hurtful to the Eyes, which nnot be doubted, ſince every uncommon Degree of White-ſs is wont to diſturb and diſſipate the Senſes. For this Rea-n, when we are preſcribed Reſt, we ſeek out a dark Re-eat, where we may avoid all Cauſes of Motion. It is ain then, that the Frequency of Lippi, or People troubled ith ſore Eyes in the Summer, is owing to the Radiancy of the n-Beams. *Caſſii Problem.* 16.

Diſeaſes, which the Summer produces, are continual, burn-g, or tertian Fevers, Vomitings, Looſeneſs, Pains in the Ears, cers of the Mouth, cancerous Sores, eſpecially in the Puden-, and whatever Diſtempers waſte a Man by Sweating. *Cel-*, *L.* 2. *C.* 1. from *Hippocrates.*

To theſe Diſtempers Aetius adds Inflammations of the Eyes. *tr.* 2. *Serm.* 3. *Cap.* 12.

In the Summer the Pulſe beats quicker, becauſe of the eat of the circumambient Air. *Philaretus de Pulſibus, p.* 6.

In this Seaſon, Reſt is convenient, and a Diminution of xerciſe and Aliment.

The Food ought to be of a colder Nature, and Drinking to be indulged, and all Things done in order to refrige-te and moiſten. *P. Ægineta, L.* 1. *C.* 53. *Oribaſ. Eupo-t. L.* 1. *C.* 10.

In Summer eat and drink often, but little at a Time, the Body wants frequent Refreſhment. For this Reaſon will be convenient to make a Dinner; Fleſh and Greens are oper Food. Drink ought to be very much diluted, that it y quench the Thirſt, without Inflaming; cold Bathing, eat roaſted, Aliment of a cold or refrigerating Nature are to uſed. *Celſus, L.* 1. *C.* 3.

With Reſpect to the Summer, it is worthy of Obſervation, at the Digeſtion is not ſo ſtrong, and that the Appetites moſt People are not ſo great as in Winter, for the very ne Reaſons that the Inhabitants of warm Climates eat leſs, d digeſt ſolid Food with more Difficulty than thoſe of cold. The Caſe ſeems thus: In warm Weather, and hot Climates, Heat relaxes the animal Fibres in general, and conſequently impairs the Elaſticity of thoſe which form the Organs of Digeſtion, the unavoidable Conſequence of which is, that the Appetite, and Power of changing the Aliment, that is, of Digeſtion, muſt be diminiſhed. Hence the Inhabitants of hot Climates are weak, and People who live in the ſame Climate are not ſo ſtrong in Summer as in Winter. In warm Countries therefore, and in Summer, Providence has provided Food ſuitable to the Climate and Seaſon, I mean Fruits; and it is remarkable, that Rice, produced in ſuch Plenty in Southern Countries, as to be the uſual Food of the Inhabitants, is an Aſtringent, which their Situation in Regard to Laxity from Heat ſeems to require. Theſe warm Climates alſo are well ſtored with Aromatics, which are known by Phyſicians to promote Appetite and Digeſtion, by increaſing the Elaſticity of the Fibres which compoſe the Organs ſubſervient to both, and of theſe the Inhabitants make conſiderable Uſe.

On the Contrary, Cold contracts the animal Fibres, and increaſes their Elaſticity; thence People during Winter are ſtronger, eat more, and digeſt better than in Summer; and hence the Northern Nations produce a Race of Men more robuſt, and ſuited to bear Fatigue, than thoſe who live nearer the Line. Their Food, for theſe Reaſons, conſiſts principally of Animal Fleſh, which they are enabled to digeſt, and Providence has not thought it neceſſary to furniſh the cold Climates with many aromatic Vegetables, becauſe they are of little or no Uſe to the Inhabitants.

It is remarkable that our own Countrymen who change this Climate for one that is very hot generally fall into ſome very dangerous Diſtemper; but we do not find the ſame Complaints ariſe from removing from a hot Country into one that is cold. The Reaſon appears plain from what has been ſaid of the Effects of Heat and Cold. In the firſt Caſe, our People are obliged, by Neceſſity, whilſt on Ship-board, to eat Fleſh hardened by Salt, and rendered ſtill harder by the Vinegar it is uſual to eat with it; or elſe farinaceous Vegetables unfermented, both which are very difficult to digeſt, eſpecially when the Organs of Digeſtion are perpetually growing weaker, by Reaſon of the Heat, and a proper Degree of ſtrong Exerciſe, which in all Climates and Seaſons ought to accompany ſtrong Aliments, cannot be uſed. Others by Inclination purſue the ſame Method of Living in Jamaica or Barbadoes which they have been uſed to in England, without conſidering that the Powers of Digeſtion are altered.

The Caſe is juſt the Reverſe, when a Man removes from a warm Country into one that is cold; for, though he is obliged by Neceſſity, or makes it his Choice, to live on Aliment not ſo eaſily changeable by the animal Actions, yet as the Fibres grow daily ſtronger as he approaches the Tropic, by Reaſon of the Increaſe of Cold, the bad Effects ſpecified in the other Inſtance are prevented, at leaſt in a conſiderable Degree.

Hence appears the Reaſonableneſs of thoſe Rules laid down by the Antients with Reſpect to Summer.

ÆSTATES. Freckles on the Face. Pliny, *L.* 28. *C.* 12. ſays, theſe are to be taken away by Calves-dung mixed with Oil, and Gum Arabic.

ÆSTHESIS. Αἴσθησις. Senſation, or the Faculty or Power of Senſation. *Conſtantine.*

ÆSTHPHARA. Incineration, or Burning of the Fleſh, or any other Part of the Body. *Caſtellus* from *Dorneus.*

ÆSTUARIUM. The Name of many Inſtruments, contrived to convey Heat to the whole, or particular Parts of the Body, in Engliſh properly called Stoves. Blancard explains it a Vapour-bath, which is but one Species of *Æſtuarium.*

ÆSTUATIO. It ſignifies in ſome Authors the Boiling up of Liquors, which effervеſce, or ferment, when mixed together. But it is not claſſical in this Senſe.

ÆSTUS. Heat of any Sort, whether raiſed by Fire, Diſtempers, Medicines, Effervеſcence, or Fomentation.

ÆTAS. Age. Different Ages are ſubject to Diſtempers, which do not ſo frequently happen in others. Thus, according to Hippocrates, *Aph.* 24. *L.* 3. new-born Infants are ſubject to Aphthæ, or Thruſhes, Pukings, Coughs, Want of Sleep, Startings in their Sleep (Φόβοι) Inflammations of the Navel, and Running of the Ears.

It is remarkable that Celſus has tranſlated this Paſſage, *L.* 2. *C.* 1. literally, except that he has omitted Φόβοι, which I have tranſlated as above, Starting in the Sleep. Φόβος ſignifies Fear, or the Cauſes of Fear, and no Diſtemper that I know of.

When Children arrive at the Age of breeding Teeth, they are affected with Pains and Exulcerations of their Gums, Fevers, Convulſions, Diarrhœas, eſpecially when they breed their Fore-teeth, which are called *Canine.* Theſe are very dangerous, eſpecially to thoſe who are of a coſtive Habit. *Hipp. Aph. L.* 3. 25. *Celſus, L.* 2. *C.* 1.

In a more advanced Age, they are ſubject to Inflammations of the Tonſils, Diſtorſions of the Spine (as Celſus tranſlates the Paſſage) Difficulty in Breathing, round Worms, and Aſcarides, Warts, Tumors of the parotid Glands, Stranguries, King's Evil, and many other Tumors, but eſpecially thoſe above-mentioned. *Hipp. Aph. L.* 3. 26. *Celſus, L.* 2. *C.* 1.

I have tranſlated Σατυριασμὸς, Tumors of the parotid Glands, in Deference to the Judgment of Heurnius, tho' I ſuſpect it ſignifies an Achor, or ſcald Head; it cannot ſignify a Satyriaſis, becauſe Children are not ſubject to it; the other Signification of the Word is a Leproſy, which Children are not often affected with. Now, as Children are very often troubled with ſcald Heads, which is ſomething like a Leproſy, it ſeems not unlikely that Hippocrates may mean an Achor, eſpecially as that is not otherwiſe taken Notice of in this Catalogue of Diſtempers to which Children are ſubject. Celſus omits it.

As Children approach to Puberty, they are afflicted with many of the Diſorders above-mentioned, with long Fevers, and Hæmorrhages from the Noſe. *Hipp. Aph. L.* 3. 17. *Celſus, L.* 2. *C.* 1.

The Lives of Children are moſt endangered from Diſtempers about the fortieth Day, others at the ſeventh Month, others at the ſeventh Year, and others again at the Time of Puberty. And whatever Diſorders Children are affected with, which do not ceaſe in Men at the Time of Puberty (Celſus adds, or at the firſt Coition) and in Women at the Eruption of the Menſes, are uſually very obſtinate, and continue a long Time. *Hippocrates, Aph. L.* 3. *C.* 28.

This Paſſage I have tranſlated according to the Explication of *Celſus, L.* 2. *C.* 1.

Youth is particularly ſubject to Spitting of Blood, Conſumptions, acute Fevers, Epilepſies, and the like Diſorders. *Hipp. Aph. L.* 3. 29. *Celſus, L.* 2. *C.* 1.

They who are advanced beyond Youth are moſt liable to be affected with Aſthmas, Pleuriſies, Peripneumonies, Lethargies, Phrenſies, burning Fevers, chronical Diarrhœas, Cholera Morbus, Dyſenteries, Lienteries, and Piles. *Hipp. Aph. L.* 3. 30. *Celſus, L.* 2. *C.* 1.

Old People are afflicted with Shortneſs of Breath, Coughs from Catarrhs, Stranguries, Dyſuries, Pains in the Joints and Kidnies, Vertigos, Apoplexies, Cachexies, Itchings all over the Body, Want of Sleep, too much Moiſture in the Inteſtines, Eyes, and Noſe, Dimneſs of Sight, Glaucomas, and Thickneſs of Hearing. *Hippocrates, Aph. L.* 3. 31. To theſe Celſus adds, that ſuch as are lean, and thin, are principally affected with Looſeneſſes, Diſtillations (Catarrhs) Pains in the Viſcera, and of the Sides; but they who are fat, are more ſubject to acute Diſtempers, and Difficulties of Breathing, of which they frequently die ſuddenly, and which ſeldom happens to thoſe that are thin. *L.* 2. *C.* 1.

Celſus makes alſo the Obſervations following on the different Ages:

The Differences of Age, as to Health, are thus conſidered with Reſpect to the four Seaſons of the Year. Children and Youth bordering upon Childhood are in their beſt Health in the Spring, and are ſafeſt in the Beginning of Summer. Old Men are moſt vigorous in Summer and the firſt Part of Autumn. Winter agrees beſt with young Men and the Middle-aged. Winter is moſt prejudicial to old Age, as Summer is to Youth. *Celſus, L.* 2. *C.* 1.

Middle Age is the ſafeſt, becauſe it is in no Danger from the Heat of Youth, nor the Coldneſs of old Age. *Celſus, L.* 2. *C.* 1.

Aetius lays down the following Rules for the Management of People in different Ages:

An Infant ought to be nouriſhed by Milk, till it has acquired a Firmneſs; after which it may be fed with Crums of Bread in Wine mixed with Honey, ſweet Wine or Milk, and, after a little while, with a poached Egg; for Food which requires Chewing is filled with Saliva in their Mouths. The Drink muſt be diluted Wine. When you can ſafely venture to give Food made of Corn (which is commonly about the twentieth Month) by Degrees, and in an artful Way diſuſe it to the Breaſt. If it falls into a Diſtemper after Weaning, put it to the Breaſt again. When the Diſeaſe is gone, uſe your beſt Care to nouriſh and reſtore it, and then ſet about Weaning it as before. *Aetius, Tetrabib.* 1. *Serm.* 4. *C.* 28.

Weaned Infants muſt be diverted and recreated all Manner of Ways, and their Aliment muſt be light, and of good Juice. But the Child who has a good Temperament of Body muſt not be ſuffered to drink much Wine, for, in hot and moiſt Bodies, Wine fills the Head with Vapours. Nor is it my Opinion that they ſhould be forbid cold Water; for, in hot Weather eſpecially, and the Intervals of Eating, I allow them the Drinking of it, provided it be good.

At ſeven Years old let them be taught the Elements of Literature, and put into the Hands of Maſters of known Mildneſs and Humanity. From fourteen to twenty-one is their proper Time to exerciſe themſelves in the Study of Philoſophy. They are to be forbidden the Uſe of Venus. Wine is to be drank ſparingly, and their Exerciſes are to be increaſed. When they have attained to Manhood, and are in full Vigour of Age, a more remiſs Way of Living, and Relaxation of Regimen, with Reſpect to Body and Mind, agree beſt with them. But when natural Heat begins to leſſen, and the Principle of Cold to operate on the Habit, their Exerciſes of Body, of what Kind ſoever, are to be ſlackened by Degrees, and their Proportion of Food by little and little is to be diminiſhed. *Aetius, Tetrabib.* 1. *Serm.* 4. *Cap.* 29.

The REGIMEN for OLD AGE.

Natural old Age is a cold and dry Temperament of Body, the Effect of Longevity. For when the eſſential Parts of the Body, with the native Heat, waſte away by Degrees, and the Organs grow drier than is convenient for Service, both the Actions are performed in a more languid Manner, and the Animal himſelf ſinks in Bulk, grows little, lean, and extenuated. As Dryneſs comes on more and more, Rugoſity ſucceeds Leanneſs, with Weakneſs of Limbs, and a tottering Motion. Whoever then underſtands the Theory of Coldneſs and Dryneſs, will make a proper Phyſician for an old Man. He knows that theſe Qualities are to be corrected by ſuch Things as heat and moiſten; ſuch are warm Baths of ſweet Waters, drinking good Wine, and Aliments which warm and moiſten at the ſame Time, and moderate Frictions with Oil in the Morning, then Walking, or Geſtation, within the Bounds of Laſſitude. An old Man muſt eat often, but little, for an Exceſs in Quantity hurts him much. He is allowed to eat three Times in a Day; about the third Hour let him break his Faſt, on good Bread, and the fineſt clarified Honey. At the ſeventh Hour, after Friction, and ſuch Exerciſes as are proper for old Men, let him waſh, and ſit down to Dinner.

And here let his firſt Diſh conſiſt of ſuch Things as mollify the Belly, ſuch as, Garden Sallads of Beets and Mallows, after that he may eat Sea-fiſh, and ſuch as live about the Rocks; after this Meal let him repoſe a While, and then uſe ſome moderate Motion. At Supper let him abſtain from Fiſh, let his Meat be of good Juice, that will not eaſily corrupt, ſuch as a Pullet, or other Fowl, boiled in pure Water only, and without Sauce. Wine is very beneficial to old Men, not only as it diffuſes a Warmth throughout the whole Body, but alſo as it purges the Serum of the Blood by Urine, which is needful for moſt of them, becauſe they abound with aqueous Superfluities. *Aetius, Tetrabiblos* 1. *Serm.* 4. *C.* 30.

ÆTHALE. Ἀιθάλη. Soot. It is ſometimes wrote Ἄιθαλος. See FULIGO.

ÆTHALES. From Ἀεὶ, always, and θάλλω, to be green, a Name for the Sempervivum, Houſeleek.

ÆTHER. A Word much uſed by natural Philoſophers, to ſignify an extremely fine Fluid, that pervades all Bodies, of which nothing is known, not even ſo much as its Exiſtence.

But the Name of *Æther* has been given to an extremely light and penetrating Fluid, made of Spirit of Wine deprived of its Phlegm by Diſtillation with Oil of Vitriol, of which we have the following Account in the *Philoſophical Tranſactions:*

The *Æther* of Plants appears to be almoſt deſtitute of all groſs Air, from placing it under the Receiver of the Air-pump; for, exhauſt the Air ever ſo accurately, this *ætherial* Liquor remains unmoved, nor does it emit any Air-bubbles which immediately ariſe in other Liquors, and according as their Quantity of intrinſic Air is greater, ſo much the ſooner are ſuch Liquors put into Agitation, and emit alſo more Froth, and more vehement Ebullitions in Proportion to their Viſcidity. Hence it follows, that this *Æther* may be preſerved beſt (becauſe without any Diminution) under the Receiver in Vacuo, whereas, on the Contrary, expoſed to the open Air, its Parts ſoon evaporate, and its whole Bulk vaniſhes.

This Experiment failed remarkably, as we learn from a Note in the *Abridgement of the Tranſactions.* But I am well informed it would have ſucceeded, if the Spirit made Uſe of in the Preparation of the *Æther* had been concentrated upon the Flowers of Zinc.

A little of it, poured on the Surface of the Hand, affects it with a Senſe of Cold, equal to that from the Contact of Snow, and blow upon it but once or twice with your Mouth, immediately your Hand becomes dry. Beware, however, of approaching a lighted Candle with your Hand thus wet, leſt it take Fire and burn you. This Experiment ſucceeded.

It cauſes ſuch a Stridor and Hiſſing, being poured upon hot Water, as is frequently occaſioned by a Piece of hot Iron thrown into it. Take a Lump of Sugar, let it imbibe ſome of this *ætherial* Liquor, and put it into a Veſſel full of hot Water, the Sugar will indeed ſink to the Bottom, but the *ætherial* Liquor ruſhing violently forth, excites a great Ebullition in the Water. If one Spoonful of this *Æther* be poured into a Copper Pot full of boiling Water, without any Sugar in it, and you approach immediately with a Candle, or lighted Paper, inſtantly there iſſues from the Water very great Lightning. The Handle of the Spoon, as well as the Tongs for holding and applying the lighted Paper, muſt be of a proper Length, that the Effuſion of the *ætherial* Liquor upon the hot or boiling Water, and the Application of the lighted Candle, or Paper, may be performed at the ſame Time; otherwiſe the *Æther* is immediately diſſipated, without any ſuch Effect. There is therefore Need of an Aſſiſtant, or of both Hands, and alſo of a Room where Entrance may readily be given to freſh Air, proportionable to the Magnitude of the Flaſh of Lightning which ſo rarefies the Air, as to endanger the Stoppage of Reſpiration. This Experiment ſucceeded.

Hence it appears, that this *Æther* is both Fire and a very fluid Water, but ſo volatile that it ſoon evaporates, and that it is the pureſt Fire, inſomuch that, if kindled in a thouſand Times the Quantity of cold Water, it burns unextinguiſhable. Therefore, if you take an earthen Veſſel of any Magnitude, whoſe Mouth or Orifice may be one or two Yards wide, but the inferior Latitude of the Veſſel may contain ſix hundred or ſix thouſand Gallons of Water, the Experiment will be the ſame, pour on the Top but one Ounce, or a ſmall Vial full of this *Æther*, and apply to it a lighted Wax Candle, it takes Fire immediately, burns placidly, is ſo far from being xtinguiſhed by the moſt profuſe Superaffuſion of common Water, that it much increaſes the Vehemence of the Flame, nd laſts till the ſubtile Parts of the *Æther* are conſumed and entilated by the Flame. This Experiment ſhould be made in a arge and lofty Room, not in Danger of taking Fire.

The Senſe of Touch does not manifeſt the leaſt Oilineſs or Fatneſs in this *ætherial* Liquor, notwithſtanding that it is the rue, natural, and only Diſſolvent, or Menſtruum of all Fat, Oil, Roſin, and Gum whatſoever: By Means whereof all orts of Fat, and every Kind of Fire or Flame is extricated y a ſpeedy, ſafe, and pleaſant Operation. On theſe Acounts it is, that this *ætherial* Liquor will not unite with any Kinds of Salts whatſoever, but all Sorts of Oils, Pitch, Turentine, Opobalſams, Camphire, Wax, Ambergris, Sperma Ceti, Maſtic, Muſk, Copal, and the like, it diſſolves moſt eadily, and with the greateſt Eaſe extracts their beſt Eſnces.

And indeed a wonderful Harmony is obſervable betwixt old and this *Æther*, even greater than between Gold and qua Regia; inſomuch as from hence Gold appears to approach nearer to the Nature of Oils than of Earths. If a Piece Gold be diſſolved in the beſt Aqua Regia, and upon the olution, cold, be poured half an Ounce, or what Quanti- you pleaſe of the *ætherial* Liquor, ſhake the Glaſs carelly, and all the Gold will paſs into the *ætherial* Liquor, and e Aqua Regia, robbed of all its Gold, will preſently depoſit e Copper at the Bottom of the Veſſel as a white Powder, hich, turning of a green Colour, contains the Portion of opper wherewith the Gold was adulterated. The *Æther* ill ſwim like Oil on the Surface of the corroſive Waters. his Experiment deſerves the utmoſt Attention; for here the avieſt of all Bodies, Gold, is attracted by this very light *Æther*, (whereas the Air, which with a common Force preſſes alike Bodies, is here excluded, and the *Æther* itſelf encompaſſes d touches the Surface of the Water) the Gold, by the Force its Gravity, as by an Impulſe, would deſcend from thence; laſtly, this Phænomenon is owing to a certain Harmony and militude of both of them. This Experiment was ſhewn and cceeded.

Æther then is certainly the moſt noble, efficacious, and uſe- Inſtrument in all Chymiſtry and Pharmacy, *ubi enim ignis entialis, ibi actuali non opus eſt*, inaſmuch as Eſſences and ential Oils are extracted by it immediately, without ſo much the Mediation of Fire, from Woods, Barks, Roots, Herbs, owers, Berries, Seeds, &c. from Animals, and their Parts . Thus from Caſtor, by a certain Manufaction, may prepared an Oil, ſweeter than that of Cinnamon, and the true Oil of Saffron, and all by this particular Eneireſis, without the Help of Fire or Diſtillation. For an ample of our Method, take Mint, Sage, or Orange-peels, nnamon, &c. or all theſe together; cut and bottle them; ur upon them a Spoonful or two of the *ætherial* Liquor, d, after it has ſtood an Hour in a cold Place, fill up the ttle with cold Water, and you ſhall ſee the eſſential Oil, imming upon the Water poured upon them, eaſily ſeparable the Funnel. Of this eſſential Oil, one Drop only upon a mp of Sugar manifeſts to the Taſte, &c the medical Virtues the Plant, exquiſitely drawn out, comprehended in this ence, deſervedly named COS, as containing the Colour, or, and Sapor, or Taſte, of the Plant, or Plants. In like anner the eſſential Oils of Exotics are eaſily prepared. This ceeded. It is not however a true eſſential Oil, but an exive ſtrong Tincture, which you may call the Eſſence.

Of the like Uſe it is in the animal Kingdom, where it duces an eſſential Oil of Phoſphorus; as likewiſe in the neral Kingdom, though not ſo immediately, becauſe the olution of Earths muſt proceed. Moreover, it is eaſily wed, that the ſame Liquor extracts the pureſt Gold, or ry Part of the golden Syſtem from any, or all the baſer nerals, and that this Gold, thus extricated, is by this one Operation better and ſooner purified than by Fuſion of Minerals with Antimony.

This our Water is neither corroſive nor joined with apparent Corroſives; wherefore fill as many Bottles with *ætherial* Water as there are Sorts of Salts, and into the firſt Drop by Drop diſtil Oil of Vitriol; put into the ſecond Spirit of Sea-ſalt; into the third, Spirit of Nitre, or of Alum, or of Sal Ammoniac prepared with Water, or the Lixivium of Tartar, or rectified Vinegar, all the Salts immediately ſink to the Bottom: Beſides, it is the lighteſt of all Liquors; for, fill any Veſſel with twenty Ounces of Oil of Vitriol, the ſame, emptied, will contain but ſeven Ounces of *Æther*. It is the very Ens, or Being, moſt pure of Flame; wherefore neither Soot nor Aſhes are ever found upon its Deflagration. This ſucceeded.

Thus far Dr. Frobenius; but to make this Paper more than a mere Harangue, it is abſolutely neceſſary to ſubjoin two Paragraphs out of a Paper of that excellent Chymiſt Mr. Godfrey, Dr. Frobenius's Fellow-labourer, in theſe Experiments which he delivered in when this *Æther* was made public before us.

Feb. 19, 17$\frac{29}{30}$. That this Liquor *Ætherius* was formerly very much eſteemed and enquired into, doth clearly appear by an Experiment I made formerly for my worthy Maſter, Eſquire Boyle, by the Means of a metallic Solution, namely, by the Solution of crude Mercury united with the Phlogiſton Vini, or other Vegetables, and this *Æther* ſwam on the Top of the Solution, which I ſeparated per Fritorium. Note, This is what I have done formerly in Eſquire Boyle's Laboratory, and Sir Iſaac Newton was very well acquainted with it too; which by Reaſon of Shortneſs of Life was not brought to a full End, to do it ſo readily in Quantity. But when Dr. Frobenius, by Experiments on this in my Laboratory, did produce it in greater Quantity, he wanted to ſee how Sir Iſaac Newton had gone on with it in his Book. There we ſaw that great Man's Application in *Fol.* 330. that he had done it *cum Ol. Vitr. & Sp. Vini.*

This of Sir Iſaac Newton is the *Sp. Vini Ætherius*, only there is a Difference in the Proceſs. The Liquor *Ætherius* is made with equal Parts in Meaſure, not Weight. The upper yellow Liquor is ſeparated from the inardent ſulphureous per Tritorium. The inferior Liquor is thrown away, and the ſuperior yellow is put into a Retort to be diſtilled with the moſt gentle Heat; and the Extraction of the *ætherial* Liquid continued ſo far until the ſuperior Hemiſphere feels cold, and the Retort being clapped in the Hand, there is found in the Receiver a Vino-ſulphureous Gas very *ætherial*. Let the Sulphur be precipitated by adding an Alcali, and gently throwing it in till all Ebullition ceaſes, and the Liquor will not farther ſtrike itſelf againſt the Hand, but will ſtrangely attract it. Then the Alcali will go to the Bottom of itſelf, or precipitate itſelf in the common Water. *Abridgement of the Philoſophical Tranſactions, Vol.* 8. *P.* 744. *ad P.* 747.

ÆTHERIA HERBA. Eryngo. *Cælius Aurelianus.*

AETHES. 'Αηθής. From α Negative, and ἦθος, Cuſtom, unuſual, not according to Cuſtom. The Word 'Αήθεα is applied to the Spittle, Hippocrates, *Prædict. L.* 1. 122. but Foeſius alters the Reading to 'Ευήθεα, with the greateſt Appearance of Reaſon.

ÆTHIOPICUM CUMINUM. Æthiopic Cummin. See CUMINUM.

ÆTHIOPICUS LAPIS. The Æthiopian Stone, affirmed by Oribaſius to be of more Virtue than the Hæmatites, the Melitites, the Galactites, or the Schiſtos. It is brought from Æthiopia, and is of the Colour of greeniſh Jaſper. It is reſolved into a Juice of a milky Colour, but of a biting Taſte. *Oribaſius, L.* 15. *C.* 1.

Æthiopis, Offic. Ger. 634. Emac. 779. Chab. 435. Raii Hiſt. 1. 543. *Æthiopis Multis*, J. B. 3. 315. *Æthiopis foliis ſinuoſis*, C. B. Pin. 241. *Sclarea vulgaris lanuginoſa, ampliſſimo folio*, Tourn. Inſt. 179. Elem. Bot. 148. *Sclarea Æthiopica, ſive Æthiopis, laciniatis, & non laciniatis foliis*, Park. Theat. 57. *Horminum Æthiopicum incanum foliis ſinuoſis, Æthiopis dictum*, Herm. Hort. Lugd. Bat. 318. Volck. Flor. Nor. 214. *Horminum Æthiopicum foliis ſinuoſis*, Hiſt. Oxon. 3. 392. ÆTHIOPIAN CLARY. *Dale's Pharmacologia.*

Æthiopis has Leaves like thoſe of Mullen, very hairy and thick, and ſtanding in a Circle about the Head of the Root. The Stalk is quadrangular, thick, and rugged, like that of Baum, or the Woolly-headed Burdock, beſet with many Branches. The Seeds are of the Size of bitter Vetches, and two in a Cell. It ſhoots forth many long, thick, and clammy taſted Roots from one Head, which blacken as they grow dry, and harden ſo as to look like Horns. It grows plentifully in Meſſenia and about Mount Ida. *Dioſcorides, Lib.* 4. *C.* 105.

This Deſcription is repeated Word for Word by *Oribaſius, L.* 11.

It firſt comes up with Leaves of the Breadth of a Hand, and not much longer, and covered on both Sides with Plenty of ſoft Down as it were Lint, otherwiſe not much unlike the common Garden-clary, channelled in ſome Plants, ſome jagged, others not. From the Midſt of theſe ſhoots up a ſquare Stalk, hairy in like Manner, and ſurrounded with Leaves like the former, but often leſſer, and thick beſet with Branches, on which at the Joints ſtand the Flowers in Whorles.

They conſiſt of two Leaves, forming a cloſe Empalement like thoſe of common Clary, of a ſnowy White, one of them which is raiſed and gathered like a Woman's Hood, producing from its Boſom, which is concave, like the Lip of May-weed, yellow Cluſters, and a Silver-coloured Pointal. The Flower-cup is oblong, cut into five Diviſions, and almoſt hid by the Thickneſs of the Down. It has the ſtinking Smell of Archangel, or the Hedge-Nettle. The Root is fibrous; the Seeds are four in a Cell, not two only, as C. Bauhinus, and Parkinſon from him, have related, like the Seeds of Clary, of a dark Brown, and triangular. It grows plentifully in Greece and Illyria. There are two Species of this Herb; one with jagged Leaves, and another whoſe Leaves are whole and even round the Edge. *Raii Hiſt. Vol.* 1.

It is cultivated in Gardens, and flowers in Summer; its Root is the Part in Uſe. *Dale.*

The Decoction of the Root, drank, relieves the Sciatica, Pleuriſy, Spitting of Blood, and Hoarſeneſs. It is taken with Honey in the Form of a Linctus. *Dioſcorides, Lib.* 4. *Cap.* 105.

The ſame is repeated, after Dioſcorides, by Paulus Æginete, *L.* 7. *C.* 3. and *Dale* in his *Pharmacologia.*

Æthiopis is an Ingredient in a Droſaton, againſt Coughs and Pleuriſies, deſcribed by *Myrepſus, Sect.* 8. *Cap.* 54.

Pliny relates, that the Magicians boaſted, that the *Æthiopis* would dry up Rivers and Ponds, if only caſt into them, and open every Thing that is ſhut at a Touch. But he laughs at theſe monſtrous Accounts, *L.* 26. *C.* 4.

ÆTHIOPS MINERALIS. *Æthiops Mineral.* This Medicine takes the Name from the Colour, which is very black. It is made either with or without Fire. The Proceſs for that made with Fire is thus:

Take an unglazed earthen Veſſel that will bear the Fire, put into it what Quantity of Sulphur you pleaſe, let it melt over the Fire, and, during the Fuſion, mix with it, by Means of an iron Spatula, an equal Weight of Mercury revived from Cinnabar. Set the Mixture on Fire, and when the Sulphur is burnt away, the remaining Maſs, which is black, friable, and heavy, is the *Æthiops Mineral.*

The Doſe of this Medicine is, according to Lemery, betwixt eight Grains and two Scruples, but it may be given in much larger Quantities. It is recommended in an Aſthma, Epilepſy, Rheumatiſm, Venereal Diſorders, and King's Evil. *Lemery.*

The *Æthiops Mineral* without Fire is made by rubbing equal Parts of crude Mercury and Flowers of Sulphur together, till they are intirely incorporated, ſo as the Mercury intirely diſappears, in a glaſs Mortar, according to the Directions of the *London* and *Edinburgh Diſpenſatory*, but according to Wilſon, in one of Iron. It requires much Labour to mix the Mercury and Sulphur intimately together, but a great deal of this may be ſaved by warming the Mortar over a gentle Fire, during the Trituration, for then they unite readily, and the Medicine cannot be worſe for it.

The *Æthiops Mineral* does not mix with any other Subſtance without Difficulty. The Doſe is from ten Grains to a Dram, but a much larger Quantity may be taken.

Various are the Accounts given of this Medicine by Authors. Some recommend it in all Foulneſſes of the Skin, old Ulcers, and every Species of the Venereal Diſeaſe, and I think every one agrees that it is effectual in deſtroying Worms. Some have affirmed, that it will give a white Colour to Gold carried in the Pocket, and that a great deal of it has been found upon the Plaiſters which have laid on the Ulcers of thoſe that have been under a Courſe of it. One great Advantage which attends it is, that there is no Danger of a Salivation from its Uſe, if well prepared, but I do not think this any Evidence of its Efficacy.

But Boerhaave is of a very different Opinion with Reſpect to the medicinal Virtues of *Æthiops Mineral.* He affirms, it cannot enter the Lacteal Veſſels, but is diſcharged out of the Inteſtines as it goes in; however, if it is attended with great good Fortune, he ſays, it may poſſibly kill Worms, and that this is all the Effect it can poſſibly have. He farther alſo throws out a Suſpicion, that ſo ponderous and unactive a Maſs may do a great deal of Miſchief in the tender Inteſtines of Children. This great Man appeals to Reaſon, and his own Experience, for the Truth of what he aſſerts. As to Reaſon, it is difficult to conceive, that the intimate Union of two ſuch penetrating Subſtances as Sulphur and Mercury, ſhould make a third Body utterly unactive. And if his Experience did not furniſh him with any Evidence of the Efficacy of this Medicine, he muſt have been very unlucky in this Inſtance, for it has certainly done great Services in other Hands; but to confeſs the Truth, it requires a long Perſeverance, in order to have any great Effects, except in the Caſe of Worms.

On the other Hand I believe, thoſe who have been very laviſh in the Praiſe of this Medicine, have done it without any very good Foundation, for it has the leaſt Efficacy of all the Claſs of Mercurials.

Upon the Whole *Æthiops Mineral* has had the Fate of moſt other Medicines. When one conſiderable Man ſpoke well of it, this was ſufficient to make all thoſe concerned in the Practice of Phyſic, who have neither Character nor Ideas of their own, to extol it beyond all Bounds of Credibility. And the Diſapprobation of another great Man, however ill founded, has been ſufficient to ſink it into its preſent Diſrepute.

The Proportion of the Mercury to the Sulphur, in this Preparation, is different in different Authors. Boerhaave directs three Parts of Sulphur to two of Mercury.

Somewhat in Imitation of this is a Medicine of much greater Efficacy, deſcribed firſt, I believe, by Dr. Cockburn, in his Treatiſe on a Gonorrhæa, and now generally called

ÆTHIOPS ANTIMONIALIS. It is thus made: Firſt flux equal Parts of Antimony and Sea-ſalt in a Crucible for an Hour, then let the Matter cool, break the Crucible, and knock off the Scoria, then rub equal Parts of the Regulus made in this Manner, and Mercury together, till they are incorporated. This requires more Labour than the *Æthiops Mineral*, but largely repays the Trouble by its great Efficacy, for, I believe, there are few Medicines in Uſe of equal Virtue. It will cure moſt chronical Diſorders of the Skin, and is admirable in all Sorts of Obſtructions. Hence it becomes ſerviceable in the King's Evil, and the moſt obſtinate glandular Diſeaſes, and many chronical Diſtempers that are out of the Reach of other Medicines. I do not give a great deal of Credit to Accounts that may be found diſperſed in medicinal Authors of Cures performed on cancerous Patients, but I have the greateſt Reaſon to attribute the Cure of two Tumors, that were eſteemed cancerous by every Body that examined them, to a long Uſe of this Medicine, and Holt Waters, which in theſe Caſes were drank at a great Diſtance from the Spring. In Venereal Diſorders of a long Standing, I have often been a Witneſs of ſuch Effects as I have not ſeen from any other mercurial Medicine whatever. This, like all Antimonials, will contract an emetic Quality by being expoſed to the Air, which is probably owing to the Acid it imbibes. It may be given in the Quantity of a Scruple, or more in ſome Conſtitutions, but I have learnt to begin its Uſe in a ſmaller Quantity from an Inſtance I once ſaw of its proving a ſtrong Emetic, when there was no Reaſon to expect ſuch an Effect, and when the Doſe was only eight Grains. The Caſe was that of a young Lady, who had complained ſome Time of ſhooting Pains in a Tumor of her Breaſt. The very ſame Morning another Lady took fifteen Grains of the ſame Medicine, and from the ſame Apothecary, and, as I was well informed, out of the ſame Vial, and, notwithſtanding this, in the l Inſtance it had no viſible Operation, though it acted with much Violence in the firſt.

ÆTHNA. Rulandus and Johnſon explain this, that ſ terraneous, inviſible, and ſulphureous Fire, which calcines Rocks in the Bowels of the Earth. Hence they call igneous Meteors that appear about burning Mountains in different Shapes, ÆTHNICI, which they ſeem to think the Spirits of Men.

ÆTHOLICES. Ἀιθόλικες. From Ἄιθω, to inflame. Superficial Puſtules of the Skin, raiſed by Heat. They ſeem mean Boils.

ÆTHYA. Ἄιθυα. A Sea-fowl, called by the Latins *Mergus* or *Fulica.* A Coot.

ÆTHYIA, Ἄιθυια, ſignifies a Mortar.

ÆTIA. Ἀιτία. The Cauſe of a Diſtemper. Hence

ÆTIOLOGIA. Ἀιτιολογία. *Ætiology*, that Part of Theory of Phyſic, which explains the Cauſes of Diſeaſes their concomitant Symptoms.

ÆTITES. The *Eagle-ſtone*, thus diſtinguiſhed by Authors, *Ætites, Aquilæ lapis*, Offic. *Ætites, ſeu Aquilinus lapis*, Wo 77. Charlt. Foſſ. 31. *Ætites*, Schrod. 345. Schw. Kentm. 34. Aldrov. Muſ. Metall. 580. *Lapis Ætites*, 375. De Laet. 114. Matth. 1389. *Ætitæ*, Geſn. de 10. p. 9. Geoff. Prælect. 68. *Ætites, Ochreo ferreus*, W Att. Tom. 2. P. 1. pag. 9. EAGLE-STONE. A Stone, as it were, with another Stone rattling in its Womb, dark, ruſſet, or Aſh-Colour, and commonly of an oval Fig The Oriental is accounted the beſt. *Dale.*

The Stone *Ætites*, being ſhook, ſounds as if it were preg with another Stone. Tied to the left Arm, it retains Fœtus in thoſe Women who are ſubject to miſcarry: in Time of Labour, it muſt be taken from the Arm, tied to the Thigh, and the Woman will be delivered out Pain. Mixed with Bread, it finds out Thieves, Thief will never be able to ſwallow it, after he has ed it. Boiled with Victuals, it is ſaid to work the

Feat, and that a Thief cannot eat of any Thing boiled with it.

Bruiſed, and applied with Cyprian or Gleucine Cerate, or any other heating Compoſition, it is very effectual in Gouts and Palſies. *Aetius*, *Tetrabib.* 1. *Serm.* 2. *Cap.* 32. *P.* 69. *F.*

Dale having cited Shroder for the ſame Virtue which Aetius above aſcribes to this Stone in retaining the Fœtus, and facilitating Labour, with this Addition, that after Delivery he Stone muſt immediately be removed from the Thigh, or Fear it ſhould draw the Womb to it, ſubjoins the following Remarks from Amman:

The natural Effects of the *Eagle-ſtone* are commonly magniied on Account of the Traces of ſome Signature, while t is believed to be of Service in Time of hard Labour, and o facilitate Delivery. This I do not deny; but this natural Effect of the Stone was by Galen, Pliny, and others, mmediately blended and overlaid with Superſtitions. For who will prove, (1) that an *Ætites* tied to the Arm prevents Miſcarrying? Which too is an Effect contrary to the former. (2) That the *Ætites* has ſuch an attractive Power, as o make the Womb fall out? Wormius, *P.* 72. and Valeriola produce their Obſervations as to this laſt. But, in my Opinion, theſe Obſervations are not well grounded. For we now by Anatomy, that the Uterus is held faſt in its Situation by Ligaments formed by Nature for that very Purpoſe. How then can this Stone work ſuch an Effect? Indeed, unleſs a Power of relaxing, or breaking theſe Ligaments, be aſcribed to it by the forementioned Authors, we annot admit the Obſervation of Valeriola, which he makes n a Woman of Valentia, unleſs we ſuppoſe the Uterus to e drawn out of its Place, by the violent and unſkilful Hands f the Midwife, which has ſometimes been the Caſe. And t too many ſuch Abſurdities are inſerted among anatomical Obſervations. (3) There is no Proof that ever this Stone ſcovered if Poiſon were mixed with any Thing, as is reported. (4) That it finds out Thieves, being pulveriſed and mixed in their Bread, by their Incapacity of ſwallowing it, a precarious Aſſertion, depending on a fallible Mark, for Deglutition may be hindered by other Cauſes. (5) It neier procures Love, nor increaſes Riches, which it is ſaid to . (6) Therefore if we ought to ſpeak the Truth, let us ntent ourſelves with allowing the *Ætites* the ſame Virtue the ſealed Earth, in malignant Diſtempers, againſt Poiſons, c. *Dale.*

AETIUS. There appears to have been three Phyſicians of is Name, who all made themſelves enough known to be rerded by the Learned.

The firſt was *Aetius Sicanius*, out of whoſe Writings, togeer with others, the Book, *de Atra Bile*, aſcribed to Galen, ſaid to be collected. *Fabricii Biblioth. Græc.*

The Second was *Aetius* of Antioch, a Man remarkable for anging his Profeſſion ſeveral Times, and for being a great tron of the Arian Hereſy. He was originally bred to the ltivation of Vines, which he quitted, and took up the Trade a Gold and Silverſmith. After this he got into the Service one Sopolis a Phyſician, and then being ſupplied with Money a certain Armenian, he applied himſelf to Letters, and, upon Credit of having been a Servant to a Phyſician, ſet up for himſelf; but changed once again his Way of Life, and ened into holy Orders, where he ſeems to have ſucceeded mewhat better than in Phyſic, for in or about the Year 1. we find he was made a Biſhop.

This *Aetius* appears to have been extremely zealous in progating the Arian Hereſy, which he carried to a greater ngth than even the Author of it himſelf; it is for this aſon that he has incurred the Scandal of being an Atheiſt, ich however muſt be malicious, for it is not probable that a an who was an Atheiſt, would be very ſollicitous in eſtabliſhg any Modes of Belief with Reſpect to the Chriſtian Relion.

Different from this, in the Opinion of the Learned, was *Aetius* Amida, whoſe Works are preſerved. He is ſaid to have ed in the latter End of the fourth, or Beginning of the h Century. All that we know of him for certain is, that travelled into Egypt, where he probably ſtudied, and into elo-Syria.

He was undoubtedly a Chriſtian, as appears from two Paſes in his Works. One in *Tetrabiblos* 2. *Serm.* 4. *Cap.* 50. ere he gives the Method of extracting any Thing that hapns to ſtick in the Throat. When other Ways fail, he ades the following as the laſt Refuge, and on which he ſeems lay ſome Streſs: Turn, ſays he, to the Patient and bid him end, then ſay, Bone come out (if it happens to be a Bone) Jeſus Chriſt brought Lazarus out of the Sepulchre, and as nas was brought out of the Belly of the Whale. Then, ing hold of the Throat, ſay, Blaſius the Martyr and Servant Chriſt ſays, Either come up or go down.

The next Paſſage I would bring for a Proof of his being Chriſtian is in *Tetrabib.* 4. *Serm.* 1. *Chap.* 11. where ſpeaking of the Stings of Waſps and Bees, he ſays, that the venerable and vivifying Image of the Croſs, engraved upon an iron Seal and preſſed upon the Part ſtung, is of great Service, preventing all Manner of Inflammation. To this Preſcription of *Aetius*, I muſt add, and I hope without Danger of any Imputation of Superſtition, that the Remedy he adviſes has great Effects in the Caſes he mentions, generally taking off the Pain and preventing Inflammation. But for Fear I ſhould miſlead my Readers, I muſt remark, that an iron Seal without the Figure of the Croſs, or even the Blade of a Knife, will do as well.

Theſe Paſſages prove *Aetius* a Chriſtian, but at the ſame Time ſuch a one as brings very little Credit to the Faith he profeſſed, ſince a ſmall Degree of Evidence was ſufficient to influence his Belief; for, though the Truth of the Chriſtian Religion admits of all the Proof that a reaſonable Man could require, yet theſe Fooleries, the Effects of a miſtaken Zeal, which he ſeems to give Credit to, are not in the leaſt countenanced either by Reaſon or Revelation.

Upon the Whole *Aetius* appears to have been a very credulous Man in many Inſtances, and was far from giving the Compoſition of Medicines which had acquired a Character, with a Deſign to expoſe them, as Dr. Friend thinks, for in the very Inſtances that are brought to prove this, I mean the Collyrium of Danaus, and the Antidotum Iſotheos, the Author does not ſeem to diſpute the Reality of the Virtues attributed to them, but mentions their great Price in all Appearance with a View to increaſe his Readers Opinion of their Value.

Notwithſtanding the Credulity of *Aetius*, he is a very valuable Author, and has preſerved many Things conſiderable with Reſpect to the Practice of Phyſic in his Collections from Authors whoſe Works are now loſt. Of this frequent Inſtances will occur in the practical Part of this Work, for which Reaſon I ſhall omit taking Notice of them in this Place.

Fabricius and Friend relate, that in ſome Manuſcripts he is ſtiles Κόμης ὀψίκιȣ, *Comes Obſequii*, which the laſt-mentioned Author explains, *The chief Officer of thoſe who uſed to go before the Emperor as his Attendance and Harbingers.*

His Works are at preſent divided into four Tetrabibli, and each of them into four Sermones, which are again ſubdivided into Chapters. This Diviſion appears not to have been made by *Aetius* himſelf, but was probably the Work of ſome Copyiſt, that tranſcribed his Writings ſince the Time of Photius, for in his Days they were divided into ſixteen Books, the Number of Sermones which the four Tetrabibli contain.

Photius ſays, that *Aetius* did not only make his Collections from the ſame Authors that Oribaſius extracted his from, which he dedicates to Julian, Euſthatius, and Eunapius, but alſo from the Therapeutic Tracts of Galen, and from Archigenes, and Rufus, and beſides theſe from Dioſcorides, Soranus, Philagrius, Philomenus, Poſidonius, and ſome others who had made their Names famous for their Skill in Phyſic.

He begins his Works (ſays our Author) with the Virtues of ſimple Medicines and Aliments, which he abbreviates from Galen, and cloſes with the Sixteenth Book, which treats of the Diſeaſes of Women; to which he adds ſome Chapters containing Medicines to clear the Face, and cleanſe the Skin, with the Preparation of Oinantharia [*Sweet Ointments made with Wine and Lilies*] and other Things of the like Kind. So the Work begins and ends; but, to be more particular,

The Firſt Book treats, in a ſummary Way, of the Nature of ſimple Medicines and Aliments. This is the firſt Sermo of the firſt Tetrabiblos, according to the preſent Diviſion of his Works.

The Second ſpeaks of the Virtues and Uſe of metallic Subſtances, and of Animals, both whole, and their Parts, in a compendious Manner. And this may be reckoned to contain no inconſiderable Part of the Materia Medica. This is the ſecond Sermo of the firſt Tetrabiblos.

The Third Book treats of Gymnaſtics and its Preparatories. Then, after ſpeaking of inſenſible Evacuations, he diſcourſes largely on Phlebotomy, diſtinguiſhing the different Ways of Section, and directing the Form and Bigneſs of the Inciſion, with the Time and Meaſure of Evacuation. He goes on to the Section of an Artery, preſcribes a Medicine to ſtop the Bleeding of an Artery, ſpeaks of Cupping, Scarification, and the Choice of Leeches. From thence he proceeds to treat of Cathartics, and the different Preparations of purging Wines, of purging Meads, and medicated purging Wines, of Abſinthaton, Roſaton, Honey of Roſes, and Oxymel, purging Garum, Honey, Metheglin, and Oxygarum, of emollient Broths, Milk, and purging Olives. Concerning all theſe he gives Directions; and proceeds to compound Oxyporia, and different Sorts of Cathartics, to purging Loaves, and Troches. He deſcribes the purging Medicines prepared of Aloes, and alſo of Salts ['Αλωηδάρια ϗ ἅλατα] with the five Hieras.

He preſcribes Help for thoſe who have taken Purgatives which will not work, or, on the Contrary, evacuate too much; gives his Advice concerning Emetics, ſhews the Virtues of Hellebore, and the Perſons for whom it is proper, and who are qualified to take it; how to make Experiments of the Strength of Hellebore, and how the Patient is to prepare himſelf for the taking of it; of the various Uſes of Hellebore, and the different Ways of adminiſtring it, and the Care that ought to be taken of thoſe who have drank it. He proceeds to purging Epithems, and takes Notice of thoſe Parts of our Bodies which may be purged, as the Eyes, Ears, and the reſt in Order. Of Suffumigations producing the ſame Effect, and of Medicines evacuating the ſmall Inteſtines, and the concave Part of the Liver and its Appurtenances; of the Air, Winds, and Significations of the Stars; of Waters, of Baths natural and artificial; of cold Bathing [ψυχρολουσίας] of Baths of Oil [τῆς εἰς ἔλαιον ἐμβάσεως] of pouring Water on the Face [τῶ προσώπω κλυσμάτων] of Perfuſions, Inſeſſions, Irrigations, and dry Fomentations [πυριάσεως]. Moreover the Book treats of the various Kinds of Cataplaſms; of the Dropax, Pication, Sinapiſm, Rubification [φοινιγμῶ] and metaſyncritical Remedies [μετασυγκριτικοῖς βοηθήμασιν]. This is the third Sermo of the firſt Tetrabiblos.

In his Fourth Book he diſcourſes on Regimen, or the Method of preſerving Health. Here he begins with the Nature of Infants, deſcribes their Diſeaſes, and gives Remedies. Then he preſcribes a proper Regimen for all Ages and Conditions of Life; tells when we are to exchange Fleſh for a thinner Diet; treats of Laſſitude from Exerciſe, and its different Kinds; of Laſſitude from Venery; of that Species which ariſes from no manifeſt Cauſe, and which they call *ſpontaneous*; of the Care we ought to take of Concoction; of Perſpiration ſtopped, and its Cure; of burning Heats [ἐγκαύσεως] and ſeaſonable Friction; of Indigeſtion, Crapula [κραιπάλης] and equal Dyſcraſies [ὁμαλῆς δυσκρασίας]. How to know the beſt Temperament; gives us the Characteriſtics of a hot Temperament, and of others, both ſimple and mixed, and that not only of the whole Body, but of the Head, Brain, Belly, Lungs, Heart, Liver, and Teſticles; and preſcribes Remedies for all their Diſorders. This is the fourth Sermo of the firſt Tetrabiblos.

The Fifth is a Treatiſe of Diſeaſes. Here firſt he recommends the Study of Hippocrates, and diſcourſes on Fevers, their Signs [σημειώσεως] Prognoſtics and Diagnoſtics, with their Cures, and whatever elſe belongs to this Branch of Medicine, in a very exact Manner. What is to be accounted the Beginning of Diſtempers, and that the ſame is threefold; what we are to underſtand by Paroxyſm [παροξυσμῶ] and Remiſſion, the Height and Declenſion [ἀκμὴ ϗ παρακμὴ] of the Paroxyſm, either affecting the whole Body, or ſome Part of it. What are the Signs of Death or Recovery to the Patient, and which of them portend quick or ſlow, or in a middle Way, Deſtruction or Delivery. Of the Signs of Pulſes, and Diagnoſtics by Urines, and what is to be learnt by them; of the Marks of Excrements, with the Signs and Prognoſtics of Vomiting; of an Hæmorrhage from the Noſe, and of the Catamenia; of the critical Signs of Sweats and Abſceſſes, and what may be gathered from the Spittle. That a ſkilful Phyſician will know when a Diſeaſe is paſt a Solution, and when it only ſeems to be ſo, and can foretel the Day and Hour when the Sick will die. He goes on to treat of general, epidemic, and peſtilential Diſtempers, of ſuch as, on ſome Occaſions, are ſeized with Faintings, and of Lipothymies and their Cauſes; of Pain in the Head, Ears, and Eyes; Want of Sleep, and Dulneſs of Sight attending a Fever; of ſuch as under a Fever are ſeized with an Hæmorrhage, and their Cure, and what Care ought to be taken of feveriſh Patients. Moreover, it treats of the Bladder, of Difficulty of Urine, Pains in the Loins, Exulceration of the Parts about the Os Sacrum, of the Teſticles and Anus, Breakings out of Puſtules [ἐξανθήματα] over the whole Body, or ſome Part thereof; of Tremors and Convulſions, and gives a Detail of Medicines which are both agreeable and effectual. This is the firſt Sermo of the ſecond Tetrabiblos.

Aetius, in his Sixth Book, treats of the Diſorders incident to the Head and Brain univerſally, and not only deſcribes them, but ſhews a Way to cure them. He proceeds to ſpeak of thoſe who are bit by a mad Dog, of the Apoplexy and Palſy; of the Reſolution of the Eye-brow, Eyelid, Tongue, vocal Inſtruments, and Oeſophagus; and preſcribes Cures for them all. Thence he goes on to the Spaſmus Cynicus, and ſhews how to cure a Reſolution of the Bladder, Penis, and Inteſtinum Rectum, the Leg, or any other Member; treats of a Tetanus [τετάνυ] and of the different Sorts of Headaches, from whatever Cauſe they ariſe, of a Cephalaia [an intenſe Pain in the Head] and a Hemicrania [a Pain confined to one Side of the Head]; preſcribes a Cure for the Alopecia, and Defluxions of the Hair, and for bald Eyebrows; gives Receipts for dying, curling, eradicating Hair; to make it fine, and to prevent its ſhedding; and teaches the Making of Pſilothra [Ointments to fetch off Hair]; ſpeaks moreover, of the Pituriaſis [a Sort of Scurf] Phthiriaſis [louſy Diſeaſe] Achores, and thoſe Puſtules [ἐξανθήματα] which riſe about the Head without any manifeſt Cauſe; for all theſe and the like Diſtempers he gives us a Cure; alſo for thoſe various Indiſpoſitions from different Cauſes, to which the Ear is incident; for an Hæmorrhage from that Part, and for the Parotides. Thence he paſſes to the Noſe, and its Diſtempers, when he treats of Sternutatories, and how to ſuppreſs immoderate Sneezing. This is the ſecond Sermo of the ſecond Tetrabiblos.

In the Seventh he proceeds to conſider the Nature of the Eye, and thoſe manifold Diſorders to which it is ſubject, whether they proceed from an internal or external Cauſe. He inſtructs us in the Section of an Artery, in ſcarifying the Sinciput [περισκυφισμῶ, the Edition of Photius's *Bibliotheca at Rouen*, 1653, has it περὶ σκυθισμῶ, which Error has paſſed into the Latin Tranſlation] and the Forehead, in the Method of Bleeding; among the reſt he gives us Preſcriptions for Ointments, Cataplaſms, and various Sorts of Collyriums; and all this with no ſmall Accuracy and Judgment. This is the third Sermo of the ſecond Tetrabiblos.

In the Beginning of the Eighth he has ſomething to ſay about adorning and ſetting off the Eyebrows; then ſpeaks of a black Eye, how it comes, and how to cure it; teaches us to defend the Face from Burning, either by Sun or Wind, to preſerve the ſame from Wrinkles, to alter a black Colour, with other additional Beautifyings, and to diffuſe a good Scent over the Skin. Hence he paſſes to conſider at large the Diſtempers incident to the Face, Mouth, and Tonſils, whether from an internal or external Cauſe. He treats of the various Maladies to which the Teeth are liable, and preſcribes a Cure; alſo thoſe of the Tongue, Uvula, and all that are compriſed within the Compaſs of the Mouth. Among this Number are the Cynanche and the Synanche, which have their Seat in the Jaws; the Tonſils alſo have their Place among the reſt. He ſhews a Way to revive thoſe who are ſtrangled, but not dead; diſcourſes on the Diſeaſes of the Arteries, and their Remedies; of Coughs alſo, and Catarrhs, where he preſcribes Anodynes for the Cough, with Suffumigations and Epithems. After theſe he conſiders thoſe who are afflicted with Aſthma, Difficulty of Breathing, and Palpitations of the Heart; and having firſt treated of the Diſeaſes of the Breaſt and Lungs, he cloſes the Book with a Diſcourſe on the Pleuriſy, the real and the reputed one, deſcribes them both, and ſhews a Method of Cure. This is the fourth Sermo of the ſecond Tetrabiblos.

The Ninth Book begins with the cardiac Paſſion, and proceeds to ſpeak of thoſe who have their Stomach affected with Atra Bilis, or the Mouth of the Ventricle any Way diſordered, deſcribing the Cataplaſms, and other Remedies for the various Diſtempers of the Stomach. Here he conſiders the Caſe of thoſe who ſuffer Convulſions of the Stomach, after the Manner of epileptic Patients; treats alſo of Want of Appetite, of the canine Appetite, of Indigeſtion, and their Cures. Then he ſhews how to cure a Surfeit, and preſcribes a Remedy for Coſtiveneſs; treats moreover of Flatulencies, the iliac Paſſion, and the Colic, of Fluxes of the Belly, and what is called a Diſpoſition to the Colic, of Colliquations, of Worms, round and broad, of thoſe called Aſcarides, and of the Affections of the Inteſtines. He preſcribes a Remedy for thoſe who have ſwallowed Gold, Braſs, or any ſuch Thing; as alſo for ſuch as labour under a Dyſentery, to be taken at the Mouth, or injected beneath, ſuch as Paſtils, Suppoſitories, Ointments, Epithems; and at laſt ends his Book with treating of a Lientery. This is the firſt Sermo of the third Tetrabiblos.

He begins his Tenth Book with the Liver, its Weakneſs, and other Diſorders, and preſcribes Medicines for them. Then proceeds to conſider the Affections of the Spleen, and its various Diſorders, ſuch as Inflations, Inflammations, Scirrhoſities, preternatural Tumors, and Hardneſs, and ſhews how to cure them; after theſe, of the Jaundice, Cachexy, and Dropſy; ſhews you whence every one of theſe Diſtempers proceeds, and puts you in a Way and Method how to cure them. This is the ſecond Sermo of the third Tetrabiblos.

The Eleventh Book treats of a Diabetes, and the lax T of the Reins, of bloody Urine, of Stone in the Kidnies and Bladder, of Inflammation, Hardneſs, and Suppuration of the Kidnies; of Dyſury, Strangury, and Iſchury; of Reſolution of the Bladder, of ſuch as cannot hold their Water in Sleep, of the Inflammation, Hæmorrhage, Clots of Blood, Tubercles and Ulcers in the Bladder; alſo of the Flux and Itch of the ſame Part; of a Satyriaſis, Priapiſmus, Gonorrhœa, and venereal Dreams. To all theſe Diſtempers, as far as poſſible, he aſſigns proper Cauſes, and ſubjoins the neceſſary Cautions and Cures. At the End of this Book he preſcribes Exerciſes and Medicines for Impotency. This is the third Sermo of the third Tetrabiblos.

In his Twelfth Book he conſiders the Sciatica, and the Gout, and examines into the Cauſes, both general and particular, of theſe Diſtempers, and preſcribes Variety of Remedies for them, and for other Diſorders conſequent upon them.

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ecounts the ſeveral Ways of Evacuation, the Chriſms, Emol- ients, Anointings, the Acopa, and the Ointments, as alſo the roper Cathartics, and Antidotes, and Abundance of other Things proper to give Relief under theſe Diſeaſes. This is the ourth Sermo of the third Tetrabiblos.

His Thirteenth treats of the Bites of Animals, what Alterati- ns and Symptoms they produce in the Subject bitten, and how o remove and cure them. He makes the like Obſervations on nimals that ejaculate their Poiſon, and points out thoſe Plants nd Herbs which are venomous and deſtructive, with ſingular are and Diligence. He diſcourſes on Fungi, Bull's Blood, nd Milk clotted in the Stomach; informs us what metalline ubſtances are hurtful to an Animal, when taken inwardly; xplains how drinking of cold Water or Wine may be hurt- l; makes Obſervations on thoſe who are ſtrangled, drowned, precipitated from ſome high Place; of Precaution and Fore- ght in Brute Animals, eſpecially domeſtic ones. He then iſcourſes of the Theriaca Andromachi, of Vipers, gives its reparation, Uſes, Seaſons of uſing it, Ways to try it, the oſe, and the Diſtempers in which it is properly adminiſtered; ſo the other Theriacæ, particularly the Antidotus Mithrida- ca, or Mithridate, its Preparation, Uſe, and in what Caſes it to be adminiſtered. To this he ſubjoins other Antidotes, d to them the two Cyphi [precious Ointments]. From ence he proceeds to write of the Elephantiaſis, of pruriginous ruptions [κνησμωδῶν ἐξανθημάτων] Pſydraces, and Puſtules ariſing om Sweat [ψυδράκων ϗ ἱδρωτίδων] ulcerous Eruptions [ἑλκωδῶν βρασμάτων] in the Legs, Scars from Ulcers which blacken d deform the Body. He proceeds to treat of the two Species Alphus [Ἄλφος, a Kind of Leproſy] and of the Leuce [λεύκη, white Sort of Leproſy] and laſtly of the Leproſy; ſhews their riginal and Cauſes, and preſcribes their Cures. This is the ſt Sermo of the fourth Tetrabiblos.

In the Fourteenth Book *Aetius* treats with great Accuracy the various Diſeaſes incident to the Anus, of Warts [θύμοι] d Fiſſures in the Pudenda, of a Phlegmon, Carbuncle, pha- denic Ulcers, and ſuch as have their Seat in the urinary Paſ- es; of a ſcabbed Scrotum, of an Inflammation in that Part d the Teſticles, and the Species of Herniæ; of the Compo- on of Plaiſters, and the Way of preparing the Ingredients. treats moreover of wounded and bruiſed Nerves, of Buboes, d Phlegmons in general; alſo of Abſceſſes, and hollow Ul- s, declaring their Nature, and preſcribing Remedies for all, d alſo for Worms bred in Ulcers, and againſt the Spreading, trefying, and Bleeding of the ſame. He carries on his Diſ- rſe to a Sinus, Fiſtula, Gangrene, Sphacelus, cancerated mors, Carbuncles, Eryſipelas, Herpes, Terminthus, and Pu- les, ſpecifying their Cauſes and Cures. He preſcribes heal- Medicines for ſuch as are burnt with Fire, ſcalded with Wa- , or ſcourged with Whips; for Abraſions, Galls, Contuſions, ere the Fleſh is whole or broken [σαρκὸς θλασθέντος ἢ ῥαγείσης] Convulſions, Contorſions, Luxations, and Chilblains, not itting Excreſcences over the Nails, Whitlows [πτερυγίων, ωνυχίας] Nails cruſhed, bloody, looſe, or rotten; alſo to make h Nails grow out in the Room of thoſe which are fallen off, get off Rings that are grown into the Fleſh, to cure Corns d Chaps in the Feet, and alſo Varices. The Book con- des with the Management and Cure of the Dracunculi in Arms and Legs. This is the ſecond Sermo of the fourth trabiblos.

The Fifteenth Book contains the Theory and Cure of oede- tous, emphyſematous. indurated, and incyſted Tumors, of umæ, Bronchocele, Meliceride, Steatomata, Ganglia, Aneu- ns, Favi, and Hydrocephalus. Of all theſe you have the igin, and Cauſes, with the chirurgical and other Methods of re, and the Preparation of many and various Sorts of iſters. This is the third Sermo of the fourth Tetrabi- s.

In the Sixteenth, and laſt, the Author treats of the Situa- n, Structure, and Magnitude, of the Womb, with the Sea- s of its Purgation and Semination. Of Conception, of the rks of Fœcundity, and having actually conceived, and of Symptoms peculiar to pregnant Women. Of the great re that is to be taken of them; who are qualified for ea- Labour, and who are unhappy in that Reſpect. Of hard bours, and preternatural Births, of the Cæſarean Section, Extraction of the Secundines; what are the Cauſes of In- cundity in Man or Woman. For all theſe fore-mentioned ils, Remedies are provided in this Book; as, for Inſtance, ions, Peſſaries, and Suffumigations are preſcribed to pro- te Conception. Hence he goes on to the Diſeaſes of Wo- ns Breaſts, which he treats of in a ſkilful Manner, ex- ning their Origin, Eſſence, chirurgical and other Methods Cure. After this, he enquires into the Cauſes of the Ob- ction of the Menſes, of their too plentiful Efflux, both the and the white, of Hyſterics, and a Fluor albus, with excel- t Preſcriptions in theſe Caſes. He proceeds to treat of other tempers of the Uterus; as Abſceſſes, oedematous Tumors, les, Dropſy, Ulcers, &c. and other Things of the like Kind, forgetting to ſpeak of the Phimoſis, and Imperforation, other like Incidents, with their proper Remedies; alſo of the Section of the Nymphæ, Cercoſis, the Hernia varicoſa, Thymi, and ſuch like; and how to cure them. To all theſe he ſubjoins ſome Smegmata [a Sort of Waſh-balls] for the Face, and other Parts of the Body, with Preſcriptions for the Compoſition of ſome precious Ointments, with which he closes his Treatiſe of the Art of Medicine. This is the fourth Sermo of the fourth Tetrabiblos.

This Work of *Aetius*, in my Opinion, excels the Synopſes of Oribaſius, I mean thoſe dedicated to Euſtathius and Eunapius, on all Accounts; for he does not only give us the Definitions, the Cauſes, the Diagnoſtics, and Prognoſtics, in a more perſpicuous Manner, but is more full and copious in the therapeutic Part. And he is not only his Superior in thoſe Reſpects, but even in what he has epitomiſed from Galen, both in Perſpicuity, and Extenſiveneſs, as comprehending more Diſeaſes. But, perhaps, there is no Compariſon between this Work and that of Oribaſius, which takes up ſeventy Books, becauſe our Author has not only omitted Anatomy, which Oribaſius has explained, but has ſaid nothing about the Uſe of the Parts, which indeed more properly comes under the Conſideration of a Philoſopher than a Phyſician. On theſe Accounts, perhaps, it will be thought inferior to the fore-mentioned Epitome of Galen's Works. But, to ſpeak my Mind freely, in this negligent Age, which minds nothing leſs than the Sick, I would recommend this Collection above all other Works of that Kind, eſpecially to thoſe who do not care to ſearch into the Depth of the Theory of Medicines, but have the Health of Mankind more at Heart. They will here find Remedies in Abundance, and an ample Recompence for all their Pains and Study on this valuable Piece of Medicine. *Photii Biblioth.*

This is the Character Photius beſtows on *Aetius*, and Cornarius agrees with him ſo exactly, that he ſeems to tranſcribe him.

Of the Works of *Aetius*, only the two firſt Tetrabibli, or eight firſt Books, have yet been printed in Greek, and theſe only once in Folio, at Venice, 1534. The reſt are ſaid to remain in Manuſcript in many Libraries.

Johannes Baptiſta Montanus, a Phyſician of Verona, was the firſt who publiſhed a Latin Tranſlation of all his Works, at Baſil, 1535, in Folio.

In 1542, Janus Cornarius publiſhed his Tranſlation of all the Works of *Aetius* at Baſil in Folio. This has been ſeveral Times reprinted, and is publiſhed amongſt the *Medicæ Artis Principes*, by H. Stevens.

AETOI PHLEBES. Ἀετοὶ φλέβες. *Eagle-veins.* According to the Report of Ruffus Epheſius, Philiſtio, an Italian Phyſician, who wrote in the Doric Dialect, which was ſpoken in that Part of Italy where he was born, called certain Veins which aſcend through the Temples to the Head by this Name. *Ruffus Epheſ. L. 1. C. 33.*

ÆTOLION. Ἀιτώλιον. The ſame as *Granum Cnidium. Gorræus.* See CNIDIA GRANA.

AETOMA. Ἄετωμα. *The Roof of a Houſe.* This Word is uſed by Hippocrates, in his Treatiſe *de Articulis*, and for that Reaſon claims a Place here.

AETONYCHUM. From Ἀετὸς, an *Eagle*, and Ὄνυξ, a *Claw*, or *Nail.* The ſame as *Lithoſpermon*, ſo called from the Hardneſs of the Seeds. See LITHOSPERMON.

AFFAX, AFFARX, or AFFARIS. *Ink. Rulandus. Johnſon.*

AFFECTIO, or AFFECTUS. An *Affection.* This is expreſſed in Greek by Πάθος. It ſignifies a Diſorder that all, or any Part of the Body is affected with, or ſuffers. Thus *Affectio Colica* is the Colic; *Affectio Melancholica* is Melancholy. And in this Manner by adding an Adjective to *Affectio*, or *Affectus*, moſt Diſtempers, to which the Body is ſubject, are expreſſed.

AFFENICUM. The *Soul. Rulandus.*

AFFEOS. The ſame as Ἀφρὸς, *Spuma*, *Froth*, or *Foam. Rulandus.*

AFFIDRA. *Ceruſs. Rulandus.*

AFFION. A Name for *Opium.* A particular Sort of Electuary alſo prepared in Bantam, in which Opium is an Ingredient, is thus called. It is famous for exciting Courage and venereal Vigour. *Caſtellus.*

AFFLATUS, or, as it is ſometimes wrote, ADFLATUS. A *Vapour*, or, as the Country People call it, a *Blaſt*, preſerving the Analogy of the Latin Word, which affects the Body with ſome ſudden and dangerous Diſtemper. It is uſed to expreſs ſuch violent Effects of ſomething contained in the Air, or of the Bites of Serpents, and is often applied to Inchantments, with a View to which Horace ſays:

——————— *velut illis*
Canidia afflaſſet *pejor ſerpentibus Afris.*

AFFLICTIO. AFFLICTION. I do not know that this has been admitted into the Catalogue of Diſtempers, but it is certainly productive of a great many, and thoſe often fatal. For, according to the vulgar Way of expreſſing it, many People die of a broken Heart, and for Reaſons that appear very obvious.

It is known, that thoſe Paſſions of the Mind, which increaſe the Velocity of the Blood, augment the Stricture, Tenſity, or Elaſticity of the animal Fibres. This Effect theſe Paſſions have in common with every other Cauſe which makes the Heart contract with greater Force, and expel the Blood from it with more Strength. Becauſe, under theſe Circumſtances, the Blood acts with a greater Force, or, as the Mathematicians call it, *Momentum*, upon the ſolid Parts, and the reciprocal Action of the Veſſels on the Blood is alſo increaſed; hence, with Reſpect to the Solids, the Application of Part to Part is brought about with more Force, or, in others Words, what is ſupplied by Nutrition is more firm. With Reſpect to the Fluids, theſe, being preſſed upon by the Solids with an increaſed Strength, are more compacted together, and conſequently contain an equal or perhaps a greater Quantity of Matter under a leſs Surface. The Secretions alſo are performed with more Vigour, and a great Part of the watery Particles is ſeparated from the Blood, and carried off by the proper Emunctories. Hence the Fibres are rendered hard, elaſtic, and rigid, and the animal Strength is in general increaſed. But if this State is carried beyond a certain Point, various Diſeaſes are thence produced, as Madneſs, Inflammations, Gout, Stone, and malignant Ulcers.

The Paſſions, uſually ſaid to produce theſe Effects, are Anger, Envy, and Hatred. Thus Achilles, the ſtrongeſt Man of the Grecian or Trojan Army, is repreſented as extremely paſſionate; and thus the envious Man is ſaid to grow lean in a literal Senſe at the Proſperity of his Neighbour.

But, on the Contrary, thoſe Paſſions which diminiſh the Velocity of the Blood have an Effect directly the Reverſe; for the reciprocal Action betwixt the Solids and Fluids, being leſſened, neither can be ſo compacted as in the other Caſe. The Secretions alſo muſt be carried on with leſs Vigour, and many Particles which ought to be diſcharged as of no Uſe to the Œconomy of the Whole, are retained, hence the Muſcles become relaxed and flabby, the Glands obſtructed, and the whole Habit bloated, and weak.

The Paſſions which induce this Alteration, are Fear, Grief, and thoſe alſo which cauſe a great Complacency, as Joy and Delight. Hence Fear and Grief are obſerved to bloat thoſe affected much with either; and Proſperity to make People fat, which are both Degrees of Relaxation.

It will be difficult to ſpecify the Manner how the Paſſions either increaſe or diminiſh the Force of the Heart, till ſuch Time as the Action of the Soul upon the Body is better known. Inſtead therefore of attempting this, I ſhall give a remarkable Inſtance of the Effect of *Afflictions* from the *Hiſtory of the Royal Academy of Sciences*.

A Lady of Dauphiny, aged Forty-ſeven, being ſeized with a violent Sorrow on Account of the Death of her only Son, in September, 1729, began, from that Time, to fall into a very languiſhing Condition, and a Leanneſs that ſtill grew upon her. At the End of nineteen Months, M. Patras, Doctor of Phyſic at Grenoble, who obliged the Academy with this Relation, found her under a ſlow Fever, and felt a hard Tumor in the Hypogaſtrium, of the uſual Bigneſs of the Uterus, three Months and a half after Conception; and, indeed, he thought it was the Uterus itſelf. This Lady, ſince her Misfortune, had loſt her Menſes for ſome Time paſt.

The Diſeaſe grew more and more conſiderable, the whole Abdomen ſwelled, the Water was felt in its Cavity, and Tapping was reſolved upon, which was performed twice at her Seat in the Country, the Autumn of 1731. At the firſt Operation there came ſome Drops of Water; at the Second nothing at all.

As this Swelling of the Abdomen, which continually increaſed, cauſed a violent Oppreſſion on the Breaſt, M. Patras was for another Tapping, but in a different Place. The Phyſician, who had directed the firſt, had no Concern or Thought of any Thing but the Aſcites, which was viſible before him, not dreaming of the Tumor in the Hypogaſtrium, which M. Patras was privy to, and which was then hid by the Dropſy. M. Patras then choſe another Place for the Tapping; but, to his great Aſtoniſhment, there came out nothing but ſome Drops of Blood. Notwithſtanding this, the Fluctuation of the Waters in the Abdomen was very ſenſible, inſomuch that M. Patras thought himſelf obliged not to be diſcouraged by thoſe hitherto fruitleſs Attempts of Tapping, ſince all other Remedies had no Effect. In ſhort, the Operation was renewed, and there came forth juſt nothing.

After this the Legs of the Patient broke without any Aſſiſtance, whence in the Space of fifteen Days iſſued out Abundance of Seroſities, which, at leaſt in Part, belonged to the Abdomen, for the Oppreſſion on the Breaſt was conſiderably diminiſhed; but this Relief was the only good Conſequence. The ſlow Fever ſtill continued, and M. Patras, who could then eaſily perceive the Tumor in the Hypogaſtrium, found it very much augmented. Beſides this, it was accompanied with a raiſed Border, in Form of a Girdle, which went a-croſs it from one Side to the other. This Girdle was of a ſoft Conſiſtence, and bore out about half an Inch.

At laſt, the Patient, quite exhauſted of Strength, and frightfully lean and extenuated, could no longer take any Suſtenance, but died the firſt of May, 1732.

The Body being opened, to paſs over the Difficulty of diſentangling the Parts, which had hardly preſerved any Thing of their natural Diſpoſition, M. Patras very plainly perceived, that the Tumor of the Hypogaſtrium which he had firſt touched, and which he thought had been the Uterus, was indeed the left Kidney, ſo prodigiouſly increaſed in Bulk, that it weighed thirty-five Pounds. Its natural Structure was altered, in Proportion to that Augmentation of Bulk and Weight. What looked like a Girdle, whoſe Bearing out might be felt, was the Colon, which paſſed above the Tumor, and had ſtuck thereto.

It is now no longer to be wondered, that the Waters were felt floating in the Abdomen, and yet that the Tapping got none of them out. For theſe Waters only floating in the Spaces left void by that enormous Maſs of the Kidney; there was not a ſufficient Quantity found in the very Places where the Trocar had penetrated. Perhaps a little too went off, and took another Situation, ſo that when the Inſtrument was taken out, and the Cannula came to be applied, it met with nothing but a Maſs too ſolid for its Purpoſe. What is moſt worthy of Obſervation in this ſtrange Accident, is the Power of great *Afflictions* in changing, to ſuch an exceſſive Degree, the very Structure of the Human Body. *Hiſt. de l'Acad. Roy. des Sciences, Année* 1732.

AFFODIUS. A Sort of Serpent, according to Caſtellus, the ſame as the Hæmorrhous, or very like it.

AFFORMAS. *Glaſs. Rulandus.*

AFFRENGI. *Red Lead. Rulandus.*

AFFRODINA. The ſame as *Venus. Rulandus.*

AFFRONITUM. See APHRONITUM.

AFFROTON. *Frothy. Rulandus.*

AFFUSIO. *Affuſion.* The Pouring a Liquor upon any other Subſtance. Sometimes it ſignifies the ſame as *Suffuſio*, a Cataract.

AFRA. An *Oſtrich.* See STRUTHIOCAMELUS.

AFRAGAR. *Verdigreaſe. Rulandus.*

AFRICANUS FLOS. *African Flower.* There are many Species of this Plant; the fourth mentioned by Gerard is thus diſtinguiſhed:

Othonna, Offic. *Othonna*; *Tagetes Indicus*; *Flos Africanus*, Chab. 358. *Tagetes Indicus minor ſimplici flore, ſive Caryophillus Indicus, ſive Flos Africanus*, J. B. 3. 98. Raii Hiſt. 1. 343. Boerh. Ind. A. 114. Tourn. Inſt. 488. Elem. Bot. 390. *Flos Aphricanus minor ſimplici flore*, Ger. 611. Emac. 750. *Flos Africanus minor ſimplex*, Park. Parad. 304. *Tanacetum Africanum ſive Flos Africanus minor*, C. B. 133. *Chyſanthemum Africanum Tanaceti folio procumbens, ſive minus flore ſimplici*, Hiſt. Oxon. 3. 16. *Tlapalcoſatli Coaxochitl, Caryophyllus Mexicanus*, V. Hern. 156. *Tagetes minor flore luteo-rubeſcente*, Act. Reg. Par. An. 1720. 315. AFRICAN MARYGOLD.

Gerard mentions four Sorts of this Plant, the firſt he calls:

FLOS AFRICANUS MAJOR POLYANTHOS. *The great African double Marygold.*

This, he ſays, hath a great, long, brown, reddiſh Stalk, creſted, furrowed, and ſomewhat knobby, dividing itſelf towards the Top into other Branches; whereon grow Leaves compoſed of many ſmall Leaves, ſet upon a middle Rib by Couples, much like unto the Leaves of white Valerian, bearing at the Top very fair and beautiful double yellow Flowers, greater and more double than the greateſt Damaſk-Roſe, of a ſtrong Smell, but not unpleaſant. The Flowers being paſt, there ſucceedeth long, black, flat Seed; the whole Plant periſhes at the firſt Approach of Winter.

The Second differs not much from the Firſt, only that this Plant is leſs, and brings forth more Flowers, we may therefore call it, FLOS AFRICANUS MINOR MULTIFLORUS. *The ſmall double African Marygold.*

The Third he calls, FLOS AFRICANUS MAJOR SIMPLICI FLORE. *The great ſingle French Marygold.*

It hath a thick Root, with ſome Fibres annexed thereto; from which riſeth up a thick Stalk chamfered and furrowed, of the Height of two Cubits, divided into other ſmall Branches; whereupon are ſet long Leaves, compact or compoſed of many little Leaves, like thoſe of the Aſh-tree, of a ſtrong Smell, yet not very unpleaſant. On the Top of the Branches grow yellow ſingle Flowers, compoſed in the Middle of a Bunch of yellow Thrums hard thruſt together, paled about the Edges with a Border of yellow Leaves; after which cometh long black Seed. The whole Plant periſheth with the firſt Froſt, and muſt be ſown yearly as the other Sorts muſt be.

The Fourth is called:

FLOS AFRICANUS MINOR SIMPLICI FLORE. *The ſmall French Marygold.*

The *common African*, or as they vulgarly call it, *French Marygold*

gold, hath ſmall, weak, and tender Branches, trailing upon the Ground, leaning every Way, beſet with Leaves conſiſting of many particular Leaves, indented about the Edges, which being held up againſt the Sun, or to the Light, are ſeen to be full of Holes like a Sieve, even as thoſe of St. John's Wort; the Flowers ſtand at the Top of the ſpriggy Branches, proceeding from long Cups, or Huſks, conſiſting of eight or ten ſmall Leaves, yellow underneath, on the upper Side of a deeper Yellow, tending to the Colour of a dark Crimſon Velvet, as alſo ſoft in handling; but to deſcribe the Colour n Words, it is not poſſible, but this Way; lay upon Paper with a Penſil a yellow Colour, called Maſticot, which, being ry, lay the ſame over with a little Saffron ſteeped in Water, r Wine, which ſetteth forth moſt lively the Colour. The whole Plant is of a moſt rank and unwholeſome Smell, and eriſheth at the firſt Froſt.

The unpleaſant Smell, eſpecially of that common Sort with ngle Flowers (that ſtuffeth the Head like to that of Hemlock) oth ſhew, that it is of a poiſonous and cooling Quality; nd alſo the ſame is manifeſt by divers Experiments; for I emember, ſaith Dodonæus, that I ſaw a Boy, whoſe Lips nd Mouth, when he began to chew the Flowers, ſwelled xtremely; as it hath often happened to them that playing piping with Quills or Kexes of Hemlock, hold them a While between their Lips; likewiſe, he ſaith, we gave to a at the Flowers with their Cups, tempered with freſh Cheeſe, e forthwith mightily ſwelled, and a little While after died; o Mice that have eaten of the Seed thereof have been found ad. All which Things declare, that this Herb is of a venomous d poiſonous Faculty; and that they are not to be hearken- to, that ſuppoſe this Herb to be a harmleſs Plant. So to nclude, theſe Plants are moſt venomous and full of Poiſon, d therefore not to be touched or ſmelled unto, much leſs d in Meat or Medicine. *Gerard's Herbal.*

Miller reckons up thirteen Species of theſe Plants.

The fourth Species, mentioned by Gerard, is called OTHON- , as is taken Notice of above. But it does not appear cer- n, that it is the *Othonna* of Dioſcorides and Pliny, of which y give the following Account:

Some aſſert the OTHONNA to be the Juice of the *greater landine*, others of the *Glaucium*; ſome will have it to be the preſſed Juice of the *Papaver corniculatum*, while others pretend aſſure us that it is a Mixture of the Juices of *female Pimper-* , *Henbane*, and *Poppy*; and to name no more, ſome affirm is the Juice of a troglodytical Herb, called OTHONNA, ich grows in that Part of Arabia, which borders upon E- t. Its Leaves are moſt like thoſe of Rocket, full of Holes, f they were Moth-eaten, dirty, and few in Number; ſo ſome have taken it for a Species of Anemone.

The Juice expreſſed is proper for the Eyes, in Caſes that uire Cleanſing; for it has a biting Quality, and abſterges atever may dim or caſt a Miſt before the Pupil of the . It is ſaid, that a moiſt Subſtance diſtils from the Herb, ich, after it is waſhed and cleanſed from Gravel, is made up Troches, for the Purpoſes aforeſaid. But ſome will have to be an Egyptian Stone, that is found in the Province Thebais, of the Colour of Copper, and of a hot biting Taſte, ed with an Aſtringency. *Dioſ. L.* 2. *C.* 213.

THONNA grows in Syria; it is like the Rocket, having Leaves perforated in many Places, and a Flower like that Saffron, for which Reaſon ſome have called it *Anemone*. Juice is good in Collyria, for it gently ſtimulates and dries, has an aſtringent with its drying Quality. It clears the of Cicatrices and Nubeculæ, and whatever elſe incommodes *Plin. Nat. Hiſt. L.* 27. *C.* 12.

FROB. Rulandus explains this by *Plumbum noſtrum*, *Cor- immundum.* I ſuppoſe he means Alchymiſtical Lead, which NTIMONY.

GA CRETENSIUM. This, according to Ray, is the *um minus Bœticum* of Parkinſon. *Carduus lacteus pere- s Camerarii*, J. Bauh. *Albis Maculis notatus*, C. Bauh. ſmall Spaniſh Milk Thiſtle. See SILYBUM.

GALACTIA. Ἀγαλακτία. From α Negative, and γάλα, . A *Defect of Milk in Childbed.* Hence ἀγάλακτος, *aga- s*, an Epithet given to a Woman that has no Milk when lies in by *Hippocrates*.

GALLOCHUM, is a Sort of Wood, which is exported India and Arabia, like the *Thya*, marked with Spots, iferous, of a bitteriſh aſtringent Taſte, with a thin ſkinny , and ſomewhat mottled.

hewed, or the Mouth rinſed with the Decoction, it makes Breath ſweet; dried and powdered, it ſerves as a Diapaſm fume] for the whole Body, and is uſed in Suffumigations, ad of Frankincenſe. The Weight of a Dram of the Root, k, cures the exceſſive Humidity, Laxneſs, and burning Heat e Stomach [*uſually called the Heart-burn*]. Drank in Wa- it relieves thoſe who are afflicted with Pains in the Side or r, or labour under a Dyſentery, or the Gripes. *Dioſcorides.* 1. *Cap.* 21.

λόη, an Indian Tree, whoſe ſweet-ſcented Wood is called όη, and is the ſame with *Agallochum*. Ἀλόη is an Herb, as much Indian as the other; but growing alſo in other Countries, whoſe Juice is recommended among the principal Cathartics, chiefly on Account of its Bitterneſs. Hence we ſee that moſt Authors, both antient and modern, have confounded the aromatic with the purging Aloe. *Agallochum* is from the Hebrew אהלת, *Ahaloth.* The Maſculine אהל, *Ahel*, whoſe Plural is אהלים, *Ahalim*, is found, they ſay, to bear the ſame Signification. Thence come the Greek ἀλόη, which was very much in Uſe among the later Greeks, who alſo ſay ξυλαλόη, whereas the Antients more frequently uſed Ἀγάλλοχον; and yet the Septuagint were not ignorant of the aromatic ἀλόη. The cathartic ἀλόη, in Syriac, is עלר *Olar*. Hence that Word came to be adopted by the Greeks. The Arabic has its *Cebar*, *Sebar*. In an antient Græco-Arabic Gloſſary, we find written, σάπες, ἡ ἀλόη. In the printed Serapion, *Laber* is injudiciouſly put for *Saber*. A very antient Latino-Arabic Gloſſary interprets *Aloe* by *Seru*; and *Seru* is the Cypreſs-Tree, in the ſame Book. And *Seru*, by an antient Interpreter of Aviſena, is taken for the ſame Tree. I am of Opinion, that the Author of that old Gloſſary put this *Seru* for the aromatic Aloe. A manuſcript Copy of Dioſcorides, of great Antiquity, with Arabic Notes, under the Word ἀλόη, ſubjoins, with an Article [the Arabic Article *Al*] *Alcebar*. Hence comes the Spaniſh *Acera*.

As for the aromatic Aloe, or *Agallochum*, the later Greeks, who are beholden for it to the Arabians, make two Species of it, Ἀγάλλοχον Ἰνδικὸν [*Agallochum Indicum*] and Ἀγάλλοχον Σίνφι [*Agallochum Sinphi*]. So I find it in Charito, the Phyſician. In Serapion's Interpreter, *Seifi* is wrongly put for *Senſi* or *Sinſi*; from an Indian Iſland, called *Sinf*: For there is a Difference between the *Sinfic*, and what they call the *Indian Agallochum*. The latter is ſo denominated, rather from its Colour than its Country, for they call the Black by this Name, which is the moſt valuable Sort. So of the various Kinds of Myrobalans, which are all Indian, only the Black is honoured with that Name. And in other Things I have obſerved the Appellation of *Indian* beſtowed on the blacker Sort. The *Indian Agallochum* is alſo mentioned by Aviſena, under the Letter *A*, where he enumerates the ſeveral Kinds that come from different Parts of India, as the Mundalic, the Cumeric, thoſe which come from Calay and China, and others. In that Chapter, he renders *Haud* by an Arabic Word, which ſignifies Wood in general. *Haud* alſo with them ſignifies a Flute; and we [the French] too call a Flute Wood, *Hautbois*, which, perhaps, is compounded of the Arabic Word and its Interpretation. But *Agallochum* was called *Haud* κατ' ἐξοχὴν, by Way of Eminence; and this was its proper Name among the Arabians. Garcias ab Horto relates, that in Decan, and Guzarate, which is thought to be the Country of the antient Gedroſii, the *Agallochum* is called *Ud*, which Word he ſuppoſes derived from the Arabic. Perhaps the Arabic was derived thence. In the Writings of the Portugueſe, it is called *Udo*; doubtleſs the ſame as *Haud* in the Arabic Pronunciation. It is better, therefore, to render what the Arabians call *Haud Heud*, by *Agallochum Indum*, than, as learned Men do, by *Lignum Indum*. In the Expoſition of Andreas Alpagus, the Author is wrong in reading *Heudeen*, i. e. *Lignum Aloes Indum*. Read *Heud Hen*, or *Haud Hend*, which is from *Haud Hendi*. In Greek I read Ἡαυδχέντο [*Eaudchento*], as ταμαρχέντι [*tamarchenti*] for *tamarhendi*. So *Haud alcumeri*, in the Arabian Geographer, is not the *Lignum Comaricum*, but the *Agallochum Comaricum*; as the ἀγάλλοχον Σίνφι in Charito is *Haud Sinſi*. It is otherwiſe called by the Arabians *Agalugi*, which is a Corruption from the Greek ἀγάλλοχον; and in Aviſena it is read *Agallugun*. The modern Greeks moſt commonly call it ξυλαλόην, *Xylaloes*, having no Regard to the Meaning of the Arabic Word, but only to diſtinguiſh it from the other Aloe, which ſtands recommended on Account of its Juice, and not for its Wood. *Salmaſius de Homonym. Hyl. Iatr. Cap.* 6.

The *Agallochum* is thus diſtinguiſhed by Authors:

1. *Agallochum, Xyloaloes, & Lignum Aloes*, Offic. *Agallochum & Xylo-Aloes*, Offic. Geoff. Tract. 309. *Agallochum ſive Lignum Aloes*, Park. Theat. 1564. *Agallochum Officinarum*, C. B. Pin. 393. Raii Hiſt. 2. 1808. *Agallochum verum*, Ephem. Germ. Dec. 11. Ann. 3. p. 74. *Agallochum Lignum Aloes, Xyloaloes*, Chab. 35. *Agallochum Officinarum, aliis Lignum Aloes*, Johnſ. Dendr. 460. Sinkoo *vulgo Japonum Kavoriki*, i. e. *Lignum ſeu arbor fragrans, Siamenſibus Kiſſina, Latinis Arbor Aquilæ & Aloes dicta, cujus fragrans Lignum appellatur Agallochum*, Kemph. Amœn. Exot. 903. *Lignum Aloes vulgare*, Ger. Emac. 1622. *Lignum Aloes, vel Xyloaloes*, Ind. Med. 67. *Lignum Aloes, Agallochum, Xyloaloes*, Mont. Exot. 7. *Lignum Aloes Officinarum, & Agallochum pleriſque putatum*, J. B. 1. 477. WOOD OF ALOES. *Dale.*

It is an Indian Wood, like the *Thyia*, ſweet-ſcented, and chewed in the Mouth makes a ſweet Breath. *P. Æginet. Lib.* 7. *Cap.* 3. from *Dioſcorides.*

It has an aſtringent mixed with a bitteriſh Taſte; its Bark is like Leather, and of various Colours. *Oribaſ. Lib.* 11. from *Dioſcorides.*

AGALLOCHUM. This is a Wood brought to us from the Eaſt Indies, and is ſaid to grow in China, and there to be called Calambac: But we have no certain Account or Deſcription of the Tree, whoſe Wood it is. It is brought over in ſmall Pieces, we ſeldom ſeeing thoſe of any great Length or Bigneſs: It is of a hard, ſolid Texture, firm and ponderous, of a yellowiſh brown Colour, with ſeveral black or purpliſh reſinous Veins interſpers'd; of a bitteriſh hot aromatic Taſte, of no very ſtrong Scent till it is burnt. Though ſeveral Authors ſet it down as a principal Note of the Goodneſs of this Wood, that it will ſwim in Water, yet I have never met with any but what would ſink in it, notwithſtanding it had all other Characters of true Lignum Aloes.

This Wood is heating and drying, cordial, and ſtrengthening the Nerves, revives the animal Spirits, comforts the Heart and Brain, prevents ſwooning Fits, and Diſorders of the Womb; it is frequently put among Cordials, Species, and Powders. *Miller*. *Dale*.

Dale ſeems to eſteem the two following Woods near a-kin to *Agallochum*.

2. *Aſpalathum*, Offic. Geoff. Tract. 310. Mont. Exot. 7. *Lignum Aſpalathum*, Pharmacop. *Aſpalathus*, Ind. Med. 15. *Agallochum præſtantiſſimum*, Johnſ. Dendr. 460. C. B. Pin. 393. CALAMBAC WOOD.

This Wood alſo is brought from the Eaſt Indies in Pieces that are thicker and leſs ſolid than the Lignum Aloes, of a paler Colour, and fainter Smell, bituminous, fat and reſinous, and of a bitteriſh Taſte.

Its Virtues are the ſame with thoſe of the preceding (for which it is often ſold) but weaker.

3. *Lignum Aquilæ*, Ind. Med. 67. EAGLE WOOD.

It is uſed in the Shops at Paris, inſtead of *Aſpalathum*; but ſeldom met with among us.

Moſt Botaniſts take the *Agallochum* of the Antients to be the Lignum Aloes of the Shops; others ſuppoſe the *Aſpalathum* of the Antients to be the ſame. Again, others, eſpecially the Arabians, make ſeveral Kinds. Garcias knew but one Indian Species. The Shops, as Cluſius obſerves, can ſhew us two Kinds of Lignum Aloes. Caſpar Bauhinus divides it into three Sorts. The firſt he calls the fineſt *Agallochum*, which is reſerved for the Uſe of the Indian Kings. The ſecond Kind is what is ſold in Shops, and the third is the wild *Agallochum*. There are only two Sorts to be met with in the Shops, as we ſaid before. And, it is aſſured, that we have the true *Agallochum*, or Lignum Aloes, brought to us from China, called *Calambac*. This is a tall Tree, deſcribed by none, that I know of; for what Garcias ab Horto writes of is not the ſame, but the *Aſpalathum*, abovementioned, as ſome ſkilful Botaniſts, who have travelled in the Eaſt Indies, aſſure us.

Why *Agallochum* is called *Lignum Aloes*, ſays Paulus Ammannus, many are at a Loſs. *Hoffmannus*, *Lib*. 2. *Cap*. 25. ſays, "Perhaps 'Αλοη, in the Indian Tongue, ſignifies a *Perfume*." *Bontius ad Cap*. 16. *Garc. ab Horto*, *p*. 43. derives it from *Savour*. "This Wood of Aloes, ſays he, has a peculiar aromatic and bitteriſh Taſte, whence, perhaps, it took the Name of Aloes." I would have none think the Aloes of the Shops to be the concrete Juice of this Tree, as Wormius makes it, *p*. 272. For this is a peculiar tall Tree, but the Juice of Aloes comes from a Plant of the ſame Name.

The Lignum Aloes, exported from Manilam in Cochin-China, is of three Sorts. 1. *Sokbio*, which ſeems to be the outer Part of the Trunk; it is not ponderous, is of an Aſh-colour, with Veins of Black, a very little bitteriſh, moderately fragrant, not gummy. 2. *Thimbio*, is to be had at the Shops. This is of a blackiſh Colour, ſolid and ponderous, interſected with Veins and Channels, gummy, bitter, very fragrant, ſwimming in Water, called by the Spaniards, *Calamba*. 3. *Gilam-bio*, which is of an Aſh-colour, inclining to pale, ſoft, and very fragrant.

There is another Sort brought from *Kalapa*, of a darker Colour than the *Thim-bio*, and more ponderous, ſinking in Water. The Chineſe export a very black Wood, moderately fragrant, which they call *Vai-bio*; and another reddiſh Sort, of an extraordinary Fragrancy, called *Chi-tua*.

An Account of the LIGNUM CALAMBAC, and LIGNUM ALOES, ſent by Mr. *Cunningham* to Mr. *Petiver*.

The true *Calambac* is known by its fragrant Smell, its bitteriſh and aromatic Taſte, and its Softneſs, like Wax or Maſtich, receiving Impreſſions from the Teeth or Nails. There are ſeveral Degrees of Goodneſs in it; for in the Kingdom of Cochin-China, or Annam, the chief, if not the only, Place of its Growth, it is ſold from 10 to above 50 Tael an Engliſh Pound. In Reſpect of Colour, there are three Kinds, *viz*. 1. The mixt-coloured, or black-purple, like a Duck's Head, as the Natives make the Compariſon. 2. The ſpotted, like a Tiger. 3. The yellow, like the Yolk of an Egg. What falls of itſelf, without felling, is for the moſt Part of a Variety of Colours, and moſt valued. The *Calambac*, in the Annamic Tongue, is called *Kenam*. The Chineſe Merchants of Fokien pronounce it *Kelam*, whence perhaps is derived the Word *Calambac*. *Lignum Aloes*, boiled in the Decoction, or Juice of *Calambac*, is ſold, by ſome, for the true *Calambac*; but left a while to dry, it loſes its Fragrancy, Softneſs, &c.

The nearer the *Lignum Aloes*, or *Agallochum*, approaches to *Calambac*, the better it is. But the former is, for the moſt Part, harder, and feels dryer, and, as it were, like Duſt in the Mouth; and is not ſo fat, but weaker in all its Qualities. A Pound of it is worth from 5 Mas to 6 Tael. *Lignum Aloes* is called by the Portugueſe *Pao Agula*, by the Natives *Keang*, that is, *fragrant*. The Chineſe in the Mandarin Language call it *Tchin-hiang*, that is, *the fearful or ſinking Fragrant*; but the *Calambac* they call *Suk-hiang*, that is, *the fat Fragrant*. Some tell you that the *Lignum Aloes* is produced by ſeveral Trees: But all agree, that the *Calambac* is the Product of a Tree that bears Fruit (ſome of which I ſend you) ſupported by a *quinquefid* *Calyx*, almoſt in the Shape of a Pear, covered with a Down, of the Size of a Citrine Myrobalan, with a thick ligneous, or fungous Coat, cleaving in the Middle, and containing on each Side a Kernel, ſhaped like a Top, and ſupported by membranous Appendices. The Fruit pulveriſed is an excellent Remedy for the Gripes. *Dale*.

A Tael is the Value of ſix Shillings and eight Pence Sterling, and a Mas, the tenth Part of a Tael, that is, eight Pence.

A Dram of the Powder of the Root, drank, cures the too great Humidity and Laxneſs of the Stomach; it is good alſo in Diſtempers of the Liver, Dyſenteries, and Pleuriſies. *P. Ægin*, *Lib*. 7. *Cap*. 3.

Of all the Woods ſold in the Shops, we have none more precious, more valuable and rare, than the true Wood of Aloes or Xyloaloes: Upon which Account it is very little known, and every one is liable to miſtake the Wood, which makes it eaſy to be counterfeited; ſo that it is a difficult Matter to know it poſitively, it being deſcribed ſo differently, b different Authors.

There are ſeveral Sorts of it, but the beſt is the *Agalloch* of India, which comes from Calecut. The fineſt is the black Kind, of a changeable Colour, full, heavy ſolid, and thick which cannot be whitened, and is difficult to ſet on Fire.

There are others which pretend to affirm, we cannot have the true Wood of Aloes, and that it grows not in this terre trial Paradiſe, it having been ſwept away by Deluge: And others will not allow it us, becauſe it is not produced among u except in Deſerts, and upon inacceſſible Mountains; not only from their Height, but becauſe of the wild Beaſts that inhabi among them, as the Lion, the Tiger, the Panther, and the like; beſides a Thouſand other idle Stories, that are told about this Wood: To confute all this, I ſhall only tell you that the Ambaſſadors from the Kingdom of Siam, brought this true Wood to preſent to the King of France now reigning as well wrought as unwrought; among the reſt, a Baſon wi its Salver, proper to waſh the Hands in, made at Siam, aft the Mode of that Country. This Baſon, though of Wood, more eſteemed than if it had been of maſſy Gold, becauſe ma of the Tree of the true Aloes Wood growing at Bantam and China, and which is of the Size and Shape of the Olive-T having Leaves ſomething after the ſame Sort; upon whi grows a little round Fruit like our Cherry. They bring Quantity of it from Surat, but the moſt reſinous of it is m valued, and it is diſtinguiſhed into larger and leſſer Pieces.

It is obſervable, that the Trunk of this Tree is of th Colours; the firſt Wood, which lies immediately under t Bark, is of a black Colour, ſolid, heavy, and almoſt like bl Ebony; and by Reaſon of its Colour, the Portugueſe call Eagle-Wood. The Second which is a light veiny Wood, rotten Wood, and of a tanned Colour, is what we call Cal bac or the true Wood of Aloes. The third Sort, which the Heart, is a precious Wood of Tambac, or Calambac I ſhall ſay no more of it, having never ſeen any of it, but it is very ſcarce and dear. *Pomet*.

The Arabians ſay, that on a Mountain of Comorin, gro the moſt precious of all Woods, which is that of Aloes, ca by the Greeks *Xylaloe*, and by the Arabians *Ud*, and *Al U* that is to ſay, *The Wood*, by Way of Eminence. It gro plentifully in that Place, and excels all that is imported fr other Countries. *Herbelot*, *Bibl. Orient. Art. Camero*

All the Eaſtern Geographers agree, that this Wood, wh Smell is exquiſite, grows only in thoſe Countries of India wh lie under the firſt Climate. The moſt valuable Sort of this W is in the Iſland called Senf, which lies in the Indian Sea, the Paſſage to China. They call it *Al O'ud Al Senfi*, to tinguiſh it from what they call *Al O'ud Al Comari*; becauſe grows in another Iſland called Comar, not far diſtant fr Senf, but whoſe Wood is far inferior to that of the other.

However, ſeveral Authors are of Opinion, that the Wood Aloes of Camnon, or Comron, which is Cape Comorin, is beſt. And this is what the King of India preſented Nouſchir with, to the Weight of ten Quintals, which ran and blaz the Fire like Wax.

Some Geographers remark alſo, that the greateſt Qua of Wood of Aloes, comes from the Iſle of Semender, which all Sumatra, and the Sheriff Al Edriſſi ſays, that it is found alſo in the Iſle of Serandib, called by us Zeilan. *Herbelot.*

This Nouſchirvan is the ſame as Khoſroes the firſt of that Name, King of Perſia. This Prince, when he had finiſhed his great Conqueſts, retired to his Capital, to ſpend the Remainder of his Days in Peace. All the bordering Princes ſent Ambaſſadors to him, loaded with rich Preſents. Amongſt theſe were a Female Slave, ſeven Feet high; a Carpet made of the Skin of one Serpent, of an extraordinary Size, and as ſoft as Silk. A third great Rarity was the *Aloes*-wood mention'd above, ſent him by the King of Indoſtan.

AGARICOIDES. A Sort of Fungus thus diſtinguiſhed. *Agaricoides parvum, album, lamellis ſubluteis. Fungus parvus, lamellatus, pectunculi forma, alno adnaſcens,* Raii Syn. Vaill. 70. Dr. Martyn has found it in Woods, as in Biſhop's Wood near Hampſtead, and in Madingley Wood. *Tournefort by Martin.*

AGAPE. Ἀγάπη. Love. It alſo ſignifies an Afternoon r Evening Meal of Victuals.

AGAR. Calx. Lime. *Rulandus.*

AGARICUS. *Agaric* was miſtaken by ſome of the Anti- nts for a Root, as we learn from Dioſcorides, who gives the llowing Account of it:

Agaric is ſaid to be a Root like Silphium, though not of a oſe Surface and Contexture, like the Silphium, but all porous d ſpongy. There are two Kinds of *Agaric*, the Male and e Female; the latter is the beſt, and is diſtinguiſhed by the rait parallel Veins that run within it. The Male is round, d every where uniform: However, they taſte alike, that is, eet at firſt, while they diffuſe a Bitterneſs that ſtays on the late. *Agaric* grows in a Country of Sarmatia, called Agaria. me affirm it to be the Root of a Plant; others ſay it is bred e Muſhrooms, of Putrefaction, in the Trunks of Trees. It produced alſo in Galatia, a Country of Aſia, and in Cilicia, the Cedars; but very thin and friable.

It has a warming and aſtringent Quality, and is effectual ainſt the Gripes, Crudities, Fractures, and Bruiſes from lls. The Doſe is ſix Grains, in Wine mixed with Honey, he Patient be free from a Fever; but if feveriſh, it is given Water mixed with Honey. But for thoſe who are affected h Diſtempers of the Liver, an Aſthma, yellow Jaundice, a ſentery, the Gravel or Dyſury, Hyſterics, or an ill Colour κόχροιος] the Weight of a Dram is preſcribed. To conſump- e Perſons, it is adminiſtered in ſweet Wine [γλεῦκος] to Splenetic in Oxymel. By thoſe who are troubled with r Belchings, or other Infirmities of the Stomach, it is chewed ſwallowed raw, without any liquid Vehicle. Half a Scru- , taken in Water, ſtays Vomiting, or Spitting of Blood. e like Quantity in Oxymel is uſeful in the Sciatica, Gout, Epilepſy, provokes the Menſes, and is good for Inflamma- s in the Womb. Given before the Fit of an Ague, it takes the Shaking. A Dram or two taken in Water, mixed with ney, purges the Belly. A Dram of it taken in Wine, di- d with Water, is an Antidote againſt Poiſons; and half a ple, in a Draught of Wine, cures the Bites of venomous tiles. In ſhort, it is adapted to all internal Maladies, ad- iſtered with Regard to Age and Strength, to ſome in Water, thers in Wine, to this Perſon in Oxymel, to another in ter mixed with Honey. *Dioſcorides, Lib. 3. Cap. 1.*

The Root *Agaric* grows from the Trunk of a Tree, of a lax ſiſtence, compounded of an airy and earthy Subſtance. It the Virtue of diſcuſſing and inciding groſs Humours, and erfully opening Obſtructions of the Viſcera. It has the perty of Colocynthis, working ſlowly, and not much diſ- ing the Stomach. It is given to the Weight of two ms, in Honey and Water. Chuſe what is whiteſt, very le, and leaſt ligneous and worm-eaten. *P. Æginet. Lib. 7.* 3 & 4.

garic purges Flegm and Bile, and not violently. The Doſe o Drams in Honey and Water, or Oxymel. *Oribaſ. Med. ct. Lib. 1. Cap. 17.*

The Root of *Agaric* taſtes ſweet at firſt, but ſoon after bitter, t laſt leaves a Sort of Acrimony, and light Aſtringency on Palate; whence it is evident, that this Medicine is com- ded of an airy and earthy Subſtance, which is attenuated eat. But it participates leaſt of an aqueous Eſſence. For Reaſons, it has the Faculty of digeſting and inciding groſs ours, and clearing the Viſcera from Obſtructions. *Oribaſ. Collect. Lib. 15. Cap. 1.* from *Galen.*

its digeſtive and inciſive Qualities, it cures the yellow dice, when it ariſes from an Obſtruction of the Liver; the pſy; takes off the cold Fits of an Ague, which ariſe from and glutinous Humours. *Oribaſ. Virt. Simpl. Lib. 2.* 1.

aric is thus diſtinguiſhed by the Moderns:

aricus, Ger. 1183. Emac. 1366. Sterb. 245. Tab. 27. C. *cus, ſive Fungus Laricis*, C. B. 375. Elem. Bot. 441. n. Inſt. 562. *Agaricus ex Larice*, Park. 249. *Agaricum*, 1. 268. Raii Hiſt. 1. 107. AGARIC. *Dale.*

ere are two Species of *Agaric*: The Female *Agaric*, which ite, light, friable, and tender, ſweet at firſt to the Taſte, but leaves a Bitterneſs behind, and is of a penetrating Smell; this is the beſt Sort. The other, called the Male *Agaric*, is yellow, compact, heavy, and tenacious; and this is good for nothing.

It is of the Claſs of the Fungi, and grows on the Trunks and largeſt Branches of many Sorts of Trees, eſpecially the Larch and the Oak. It conſiſts of a fiſtulous Wood: If it be beaten with a Hammer, and a Spark afterwards light upon it, it becomes all in a Blaze; whence it is called *Igniarius. Boerhaave.*

It does not ſhoot up in a Night, like the reſt of the Fungi, but requires a whole Year for its Perfection. *Dale.*

If *Agaric* works not downwards, it is apt, in ſome, to cauſe a Tremor and Reſolution. *Aetius Tetr. 4. Serm. 1. Cap. 81.*

It is ranked among the poiſonous Roots, Thapſia, Aconite, Iſias, white Hellebore, and Ephemeron. *Ibid. Cap. 45.*

The poiſonous Sort is called *Black Agaric*, by *Actuarius, Meth. Med. Lib. 5. Cap. 12.* and *P. Ægineta, Lib. 5. Cap.* 64.

AGARIC is a woody, fungous Excreſcence, that grows on the Body of old Larch-trees; outwardly it is covered with a hard, tough, brown Cruſt or Bark; which being pared off, the *Agaric*, is of a white Colour: That which is very light and friable, eaſy to cut, and without Knots, of a pure white Colour, is to be preferred. The Marks of the beſt *Agaric*, according to Dale, are contained in this Diſtich:

Res frangi præſto pretioſus Agaricus eſto,
Candidus et ſplendens, bonus in libra leve pendens.

It is of a bitter, nauſeous Taſte, with an ungrateful Sweetneſs, which makes it rarely given by its ſelf, but mixt with other purging Medicines.

It is accounted a ſtrong Purger of watery and bilious Humours; uſeful in the Gout, Rheumatiſm, Dropſy, and Jaundice, and to cleanſe the Lungs of tough Flegm, and is of Uſe in Epilepſies, and obſtinate Head-achs. The beſt *Agaric* comes from Barbary; what comes from Ruſſia, is not ſo good. What comes from the Woods near Trent, and thoſe Parts near the Alps, is accounted the beſt, ſays *Dale.*

Officinal Preparations, are *Pilula de Agarico, & Agaricus Trochiſcatus.* Miller, Bot. Offi.

It is corrected with Ginger, Clove Gillyflowers, Sal Gem. Cryſtals of Tartar, *&c. Dale.*

Agaric is an Excreſcence, that is found upon the Trunks, and large Branches of ſeveral Trees; but chiefly upon the Larch-tree, called by the Latins *Larix*, and upon ſeveral Sorts of Oaks; but the beſt of all ought to be ſuch as is white, light, tender, brittle, and of a bitter Taſte, pungent, and a little ſtyptic. And this is the *Agaric* the Antients uſed to call the Female. As for that which is termed the Male, it is uſually heavy, yellowiſh, and woody, which ought intirely to be rejected from Phyſical Uſes.

The beſt *Agaric* is that from the Levant, it being abundantly better than what comes from Savoy or Dauphiny. We have likewiſe ſome brought from Holland, that is raſped, and blanched, on the Outſide, with Chalk. In ſhort, none is fit for Uſe but the Levant *Agaric.*

Agaric was a Medicine ſo familiar to the Antients, that they made Uſe of it, not only for purging Flegm, but likewiſe in all Diſtempers proceeding from groſs Humours and Obſtructions; ſuch as Epilepſy, Vertigo, or Giddineſs of the Head, Madneſs, Melancholy, Aſthma, and Diſtempers incident to the Stomach, and the reſt of that Kind; yet they complained, that it weakened the Bowels, and purged too churliſhly; upon which Account, Galen ſteeped the Powder of it with Ginger, and gave it, to a Dram, in Oxymel, or Honey of Squills, it is preſcribed, tho' rarely, from a Dram to two; but in Decoction, or Infuſion, from two Drams, to half an Ounce.

By a chymical Solution, it paſſeth almoſt all away into Oil. It yields no volatile Salt, but abounds with a Sort of ſcaly Earth, and an acid Flegm, from whence the Infuſion of *Agaric* makes blue Paper of a purple Colour. Hence it clearly appears, that it ought to be corrected with Cloves, Cinnamon, Mace, Mint, Worm-wood, and others of this Kind. Its Slowneſs in Working may be helped or promoted with Scammony and Calomel; or it may be wetted in ſome purging Decoction, made of Aſarabacca, Sena, and other Purgatives, and then dried again, and formed into Lozenges, adding Balſam of Peru, or Oil of Cinnamon.

We muſt not forget to take Notice that Luſitanus admoniſhes us to make Uſe of the Troches of *Agaric*, or Lozenges, while they are freſh, and new made, leſt their Virtue be weakened by long Keeping. *Pomet.*

Agaric appears to have been in high Eſteem with the Antients, however, diſregarded by the Moderns, for good Reaſons. It is very ſlow in Operation, and, by its long Stay in the Stomach, excites Vomiting, or, at leaſt, inſupportable Nauſeas, followed by Sweats, Faintings, and long Weakneſs, with a laſting Averſion for all Kinds of Food. Very likely the Antients, who had not ſo great a Choice of Purgatives as we have, were not ſo delicate.

Agaric is a Kind of Fungus, that grows upon the Larch-tree. Some take it for an Excreſcence, or Tumor, produced from a Diſeaſe in the Tree: But M. Tournefort makes no Scruple to place it with the other Fungi among the Plants. 'Tis ſuppoſed, that what is brought to us from the Levant, which is the beſt, comes from Tartary. We have it alſo from the Alps, the Mountains of Dauphiny, and from the Trentine. There is a bad Sort of *Agaric*, which does not grow upon the Larch-tree, but upon Oaks, Beeches, *&c.* whoſe Uſe would be very pernicious. To proceed, *Agaric* is divided into Male and Female. The Male is of a rough and uneven Superficies, its inner Subſtance very fibrous, ligneous, not eaſily ſeparated, ponderous, and of various Colours, excepting white. The Female, on the Contrary, has a fine ſmooth Superficies, of a brown Colour, and under that a white friable Subſtance, eaſily reduced into a Meal, and conſequently light and porous. Both of them taſte ſweet at firſt upon the Tongue, but leave a Bitterneſs, and Acridneſs behind them, eſpecially the Male, which is never uſed in Medicine; and perhaps this is what never grows upon the Larch-tree.

M. Boulduc made Experiments upon the Female *Agaric*, with the two grand Diſſolvents, the Sulphureous and the Aqueous. He extracted, with Spirit of Wine, a reſinous Tincture, of an intolerable Smell and Taſte. A Drop of it, put upon the Tongue, raiſed a Vomiting, and cauſed a Diſguſt to every Thing for the whole Day. Two Ounces of *Agaric*, yielded ſix Drams and a half of Tincture. The Reſiduum, which weighed but nine Drams, would afford no more; it was nothing but a Mucilage, or a Sort of Mud.

Upon this, M. Boulduc began to ſuſpect, that this uſeleſs Mucilage, which was in ſo great a Quantity, might come from the farinaceous Part of the *Agaric* after it was thus moiſtened and macerated, and the reſinous Tincture only from the ſuperficial or cortical Part. He aſſured himſelf of this by Experiment, for having ſeparated the two Parts, he extracted all his Tincture from the Outer, and hardly any from the inner Subſtance; which ſhews, that the former is the only Cathartic, and all of it that is uſeful, ſuppoſing it be uſed, for it is always very diſagreeable, creating great Nauſeas, and muſt be mixed with other Cathartics, to diminiſh its ill Effects.

The aqueous Diſſolvents had no extraordinary Succeſs upon the *Agaric*, more than the other. Water, by itſelf, extracted nothing: Nothing came off it, but a thick Mucilage, with a Dirt, and no Extract. Water with the Help of Salt of Tartar, the alkaline Salts of Plants, uſually diſſolving their reſinous Parts, produced another Mucilage, which, after ſome Days Settlement, ſhewed its upper Part tranſparent, in form of a Jelly, and very different from the Bottom, which was very cloſe and denſe. From this upper Part, ſeparated from the other, M. Boulduc drew, by Evaporation, in a gentle Heat, an Extract of a pretty good Conſiſtence, which ought to contain all the reſinous and ſaline Parts of the *Agaric*, one extracted by the Water, the other by the Salt of Tartar. Two Ounces of *Agaric*, with half an Ounce of Salt of Tartar, yielded an Ounce and half a Dram of that Extract. It purges very well, without Nauſea, and much more gently than the reſinous Tincture, extracted by the Spirit of Wine. As to the under Part of the Mucilage, it does not purge at all, being no more than the Earth of *Agaric*.

M. Boulduc having uſed diſtilled Vinegar, inſtead of Salt of Tartar, and after the ſame Manner, he obtained an Extract in all Things like the other, and of the ſame Virtues, but in a leſs Quantity.

The Diſtillation of *Agaric*, yielded M. Boulduc, a good Quantity of volatile Salt, and a little eſſential Salt. There was very little fixed Salt in the *Caput Mortuum*.

The Male *Agaric*, which M. Boulduc calls Falſe *Agaric*, with which he would not have troubled himſelf; but that he was willing to neglect nothing in this Affair, has very few reſinous Particles, and ſtill fewer of volatile or eſſential Salt. Whence it ſeems to proceed only from old rotten Trees, who have undergone a Reſolution or Diſſipation of their active Principles.

The Infuſion of this *Agaric*, in Water, turns it as black as Ink, when mixed with a Solution of Vitriol. The Uſe of Male *Agaric* is to dye Black, and hence we ſee a good deal of Agreement between it and the Gall, which is an Excreſcence of a Tree. *Hiſtoire de l'Academ. Royale*, 1714.

Lemery ſays, the Doſe of *Agaric* is from half a Dram to a Dram and a half in Infuſion.

Agaric is ſo variouſly deſcribed by the Antients, and with Characters ſo different from thoſe of the modern Drug of that Name, that I am forced to believe they are not the ſame. What it was, or whence it came, was not thoroughly underſtood by the Antients themſelves. You may learn its Country by its Name; for Dioſcorides would have it called Ἀγαρικὸν, *Agaricon*, becauſe it grows ἐν τῇ Ἀγαρίᾳ, in Agaria; and yet he tells us, that it is generated ἐν τῇ Ἀγρίᾳ τῆς Σαρματίας, in Agria, a Country of Sarmatia; but then its Name would not be *Agaricum*, but *Agricum*, or *Agriacum*. The foregoing is rendered wrong, by ſome Interpreters, *In incultis & agreſtibus Sarmatiæ*, *In the wild and uncultivated Regions of Sarmatia*. The Ἀγρίαι, *Agriai*, in Stephanus, are a People of Pannonia, between Hæmus and Rhodope; and Strabo places the Ἄγροι, *Agri*, near the Palus Mæotis, which would be more to the Purpoſe, for their Country would then be called Ἀγρία, *Agria*. But ſtill the Nomen κτητικὸν [Name formed from that of the Country] would be Ἀγρικὸν, *Agricum*, not Ἀγαρικὸν, *Agaricum*, which requires that the Country from whence it is called be named Ἀγαρία, *Agaria*. But where is this Agaria? Ptolemy mentions the River Agarus, and the Agarian Cape in European Sarmatia. The Sheep of the ſame Place are called Ἀγαρικαὶ, *Agarican*, in an Epigram of Crinagoras among the Anecdotes. It deſcribes a ſtrange Kind of Sheep that came from Agarria, which it ſeems to make a Country of Armenia, ſituated upon the River Araxes:

Τῆς οἷος γενεὴ μὲν Ἀγαῤῥικὴ, ἐντὸς Ἀράξεω
Ὕδωρ πιλοφόροις πίνεται Ἀρμενίοις, &c.

But the Incoherence of the Senſe proves, that there is ſomething wanting in the Beginning of this Epigram, which we are to ſupply by ſaying, that the Breed of theſe Sheep was brought from Agarrica, a Country of Sarmatia, into Armenia. The old Scholiaſt on this Epigram remarks, that this Kind of Sheep were found not only in Armenia but Scythia. I make no Doubt but the Ἄγροι, *Agri*, of Strabo, *L.* 11. ought to be read Ἄγαροι, *Agari*, and the Ἀγρία, *Agria*, of Dioſcorides is put by Miſtake for Ἀγαρία, *Agaria*. From thence comes *Agaricum*, and οἶες Ἀγαῤῥικαὶ in Crinagoras, who doubled the *Rho* for the Sake of the Metre, as we read Ἀῤῥαβίαν, and Ἀῤῥαβικήν. Well then Ἀγαρικὸν, *Agaricum*, comes from the *Agarians*, a People of Sarmatia, and being ſo far fetched, I do not wonder that the Antients knew ſo little of it, but ſhould much wonder, if the Moderns were better acquainted with it. Nay, we may conclude, from what has been ſaid, that what is now ſold for *Agaric*, is not *Agaric*, if it be fetched no farther than the Mountains of Trent, or Tyrol, and the Country of the Griſons, where Larch-trees abound; for they ſay it is produced from no other Tree but the Larch-tree. But had the Antients found that *Agaric* grew ſo near their Doors, and on ſo common a Tree, they had not been at ſo great a Loſs, about its Nature as well as the Place of its Growth. Dioſcorides doubts whether it be a Root, but takes it on Report. Ἀγαρικὸν ῥίζα φέρεται σιλφίῳ ἐμφερής. "*Agaric* is ſaid to be a Root reſembling Silphium." The Root of Silphium, according to Theophraſtus, is a Cubit long, and has a tuberous Head, which appears above Ground. If the modern *Agaric* be compared with this Deſcription, it will hardly ſtand the Trial, for it is a mere Fungus of the Larch-tree, of that Sort of Fungi which grows and adheres to the Trunks of old Oaks, and ſerved the Antients inſtead of Tinder, to light their Fires. The later Greeks call it Ὑσκα, that is to ſay, *Eſcas*, *Baits*. Had the *Agaric* of the Antients been thus qualified, they could hardly have queſtioned its being a Root not unlike the *Laſerpitium*. But Pliny plainly ſignifies *Agaric* to be a Fungus, growing chiefly on glandiferous Trees in Gallia. "It is, ſays he, a white Fungus, odoriferous, medicinal, growing on the Tops of Trees, ſhining in "the Night, whence it takes its Characteriſtic, which is to "be gathered in the Dark." Dioſcorides ſays not a Word of this Sort of *Agaric*. As for Pliny, I do not queſtion, but a Piece of Wood, putrefied to the Degree of ſhining by Night, was impoſed upon him for *Agaric*. I have often ſeen the like in Burgundy, and held it in my Hands. It is a Piece of Oak, putrid, white, and odoriferous. It ſmells like a Sort of Muſhroom, commonly called *Potirones*, and ſhines by Night at ſuch a Rate, that it frightens thoſe who are juſt awoke from Sleep, and know nothing of the Matter, with its wonderful Luſtre. The Peaſants call it *Shining Wood*. It is indeed of a fungous Nature, and a thin Contexture, as Dioſcorides deſcribes his *Agaricum*; and hence Pliny, or he from whom he borrowed it, ſuſpected it to be a Fungus. But the Rareneſs of Contexture is not natural but adventitious; for it is a Wood which becomes thin and fungous by Putrefaction. Beſides, it has ſtrait Veins within its Subſtance, as Dioſcorides relates of the Female *Agaric*. Laſtly, he tells us, from the Opinion of others, that *Agaric* is generated by Putrefaction, and grows on certain Trees; and this too is true of our *Shining Wood*. The Words of Dioſcorides, in which he recounts the various Opinions concerning the Riſe and Generation of *Agaric*, are written in a very antient Copy, which is widely different from the Vulgate, after the following Manner: Λέγουσι δὲ οἱ μὲν φυτοῦ ῥίζαν, τινὲς δὲ ἐν σητίνοις δένδρεσι κατὰ σῆψιν γίνεσθαι, καθάπερ καὶ οἱ μύκητες ἐπιφύονται, i. e. *Some ſay it is the Root of a Plant; others that it is generated from Setine-trees by Putrefaction, after the Manner of Fungi.* The Paſſage, as it ſtands thus, is much to be preferred before that in our Editions. Mark his Words: He does not ſay it is a Fungus, but is generated, like a Fungus, from a Tree, ſuppoſe an Oak, or another Tree

ree. Now the common *Agaric* is plainly a Fungus of the arch-tree. And indeed, if *Agaric* were a Fungus, it could ever have entered into the Heads of the Antients to fancy it e Root of a Tree, eſpecially when it is reported to reſemble e Root of *Laſerpitium*, which, they ſay, is above a Cubit ng, and of a competent Thickneſs.

Let us now inquire what are thoſe Setine-trees from which ioſcorides writes that *Agaric* is generated by Putrefaction; for are the Words in that forementioned choice Manuſcript, which written in larger Letters than ordinary, τινὲς δὲ ἐν σητίνοις, &c. s before; whereas our Editions have it: Τινὲς δὲ ἐν τοῖς στελέχεσι ν δένδρων, i. e. *others ſay in the Trunks of Trees.* As Decay begets *garic* on Trees, ſo Corruption, rather than Correction, be- t this Reading. We know that Aviſena read σήτινα δένδρα in ioſcorides, by his Verſion of the ſame; for he tranſlated that hole Chapter of Dioſcorides concerning *Agaric*, and rendered ήτινα by *corroſas, corroded*, as if it were σητόβρωτα. Nay, in the eginning of the Chapter, he cites Dioſcorides by Name, in e Arabic Edition, not the Son of Meſue, as it is in the Latin erſion. Serapion alſo reads Dioſcorides after the ſame Manner, r, after mentioning him, he quotes all his Words, and renders is Paſſage thus, according to the Latin Interpreter: *Et qui- am dicunt quod generatur in putrefactione Arborum, quando corro- ntur, ſicut generantur fungi. Some ſay it is generated in the utrefaction of Trees, when they are corroded, as Fungi are ge- rated*; where it is plain, that he takes σήτινα, *ſetina*, for τόβρωτα, *ſetobrota, corroded.*

This Depravation of the Text in Dioſcorides is of ſuch An- quity, that all the Copies I have ſeen, except that moſt an- ent one, agree with the Vulgate, in reading ἐν τοῖς στελέχεσι τῶν δέν- ων, *in Truncis Arborum, in the Trunks of Trees.* But the Origi- l was not altered in the Days of Aviſena and Serapio. They d however the Misfortune to make a wrong Interpretation of a ght Reading; for, I believe, none who underſtands Greek will quieſce in their Expoſition of σήτινα, *ſetina*, by *corroſa.* For, in e firſt Place, the Greeks do not call thoſe Worms which corrode ood, σῆτας, *Setas*, but θρίπας, *Thripas*, and σκώληκας, *Scolecas.* Hence ey call σκωληκόβρωτα δένδρα, *Scolecobrota dendra*, and θριπήδεστα, *ripedeſta, Worm-eaten Trees.* Sut σὴς, *ſes*, properly ſignifies a orm, or Moth, that lives among Garments; hence σητόκοπα άτια, *ſetecopa himatia, Moth-eaten Clothes.* Again, I think, at σήτινον, *ſetinon*, can by no Means, according to the Greek iom, be put for σητόβρωτον, *Setobroton*, or σητόκοπον, *Setocopon*; d all that are well verſed in the Greek will agree with me. or who ever found σκωλήκινον, *ſcolecinum*, to ſignify what is cor- ded by Worms? At this Rate of Etymology, a Man bitten a Dragon muſt be ſaid to be δρακόντινος, *Dracontinus*; one ng by a Viper, *Viperinus*; and another, devoured by a Ser- nt, *Serpentinus.* Laſtly, *Agaric*, indeed, ſprings from a De- y by Putrefaction in Trees, but not from their Corroſion by orms. For the Fungi, which have the ſame Principles of rowth, as owing their Riſe to Putrefaction, yet delight to ow on whole Trees. A little after, Dioſcorides adds, that it ows in Galatia and Cilicia on Cedars, but does not ſay that eſe Cedars were Worm-eaten.

It remains therefore for us to conclude, that σήτινον, *Setinum*, is e Name of a particular Sort of Tree, on which *Agaric* grows, cording to the Report of thoſe from whom Dioſcorides had it, r no other Interpretation, but what is falſe, can be given of e Word in this Place. And after all my curious and diligent nquiry, I could find no Tree among the Greeks, that would ree with this Name and Place, except that celebrated one, ſo ten mentioned in *Holy Writ*, where we read that this and that tenſil or Structure was made or fabricated of Wood of *Setim*, r the Ark of the Covenant, and the Tabernacle with moſt of Veſſels, were made of this Wood. They call it שטים *Sit- m.* It was otherwiſe written, Σήτιμ, *Setim*, as the vulgar Ver- n has it *Ligna Setim, Wood of Setim*, and it was commonly derſtood to ſignify the fineſt and choiceſt Sort of Cedar. From is Σήτιμ, I could almoſt ſwear, ſome Helleniſtical Writers form- their σήτινα δένδρα, *ſetina dendra*, to ſignify Cedars. So from λιστι, ιμ, comes Παλαιστῖνοι, *Philiſti eim, Palæſtini*, and from Χερυ- μ, *Cherubini.* The Arabians alſo ſay *Cherubin* for the Hebrew *herubim*; and Σήτινα δένδρα, *Setina dendra*, is ſaid after the Man- r of Κέδρινα δένδρα, λεύκινα, δρύινα, *Cedrina leucina, dryina, den- a*, in the ſame Dioſcorides, *de Bryo, Lib.* 1. *Cap.* 20. It was ry natural therefore for the Helleniſt Writers, to put σήτινον δέν- ν, *ſetinon dendron, ſetine Wood*, for the Hebrew שטה, *Setah*, *Sittah*, which is of the ſingular Number, and makes in the lural *Setim*. It is put for a Kind of Tree, *Iſai.* XLI. 19. here ſome erroneouſly join it with הדס, *Hadas, a Myrtle*, Nature of an Adjective. Others combine it with the preced- g Name of a Tree, which they interpret the Cedar, ארז שטה, *ez ſittah*, which they would have to be the beſt Sort of Cedar. ut there are three Kinds of Trees reckoned up in that Place, *rez, Sittah*, and *Hadas*; if then *Erez* be a Cedar, *Sittah* ill he another Sort of Tree. And, indeed, the Arabi- ns call the Cedar by the Names of *Erz* and *Erza*; but oſt take *Sittah* for the choiceſt Kind of Cedar, which Opi- ion of theirs ſeems confirmed by this Place, where the σήτινα δένδρα, *ſetina dendra*, are κέδρινα, *Cedrina, Cedar-wood.* The Septuagint for *Wood of Setim* conſtantly render ἄσηπτα ξύλα, *incorruptible Wood*; now Incorruption is a Property of the Cedar, which is not ſenſible of Age or Rottenneſs. "The Matter of "it, ſays Pliny, laſts to Eternity, therefore the Images of the "Gods were made of it." The incorruptible Nature of the Cedar is alſo celebrated by Theophraſtus. What Dioſcorides writ about *Agaric*, he collected from different Authors; ſo that when he found in one that *Agaric* grew ἐν σητίνοις δένδροις, on *Setine-trees*, and in another, that it flouriſhed ἐπὶ κέδρων, i. e. *upon Cedars*, he concluded they were different Trees; whereas they who aſſerted that *Agaric* grew on *Setine-trees*, and the others, who would have it to be generated from the Cedar, ſaid both the ſame Thing, for the Setine-tree is the Cedar.

But if *Agaric* grows on Cedars, I do not ſee how it can come from Scythia or Sarmatia, where are no Cedars. But it took its Name from *Agaria Sarmatica.* Let others examine into the Reaſon of that. Theodotion tranſlated *Setim, a Thorn*, ἄκανθον; and indeed, there is a thorny Kind of Cedar, which the Greeks call ὀξύκεδρον, *Oxycedrum*, which grows plentifully in Lycia and Cilicia; and there *Agaric* alſo is very common, as Dioſcorides writes from bare Report. But Theodotion meant quite another Thing than the Oxycedrum, or thorny Cedar. Jerome expounds it to be a Tree that grows in the Wilderneſs, like the white Thorn, whoſe Wood is incorruptible, and the ſmootheſt (λειότατον) of all Woods, and for Strength, Solidity, Brightneſs, and Beautifulneſs, as far exceeding them. This is very applicable to the Egyptian Thorn, which the Greeks call ἄκανθος, or ἄκανθα, *the Thorn*, by Way of Eminence. It grows in the Deſarts, is incorruptible and everlaſting, and remarkable for its Firmneſs and Brightneſs. By ſaying it is like the white Thorn, Jerome means the Oxyacanthus of the Greeks, which we alſo call white Thorn at this very Day. It is called white Thorn by Columella alſo. And the Compariſon is not amiſs between the Egyptian Thorn and this white Thorn. For the Egyptian Thorn is not very tall, nor does the white Thorn grow to a Tree of any conſiderable Height. Theophraſtus makes two Kinds of Egyptian Thorn, the *White* and the *Black.* The White is of no firm Subſtance, but Subject to Putrefaction; the Black is ſolid and incorruptible, therefore its inner Subſtance, or Heart, is uſed in Ship-building. Pliny, ſpeaking of the Trees peculiar to Egypt, ſays, "Nor is the "Thorn of this Country leſs worthy of Notice, that is, the black "one, for it endures under Water incorrupted, whence it is "very uſeful in building the Sides of Ships." Of this Thorn muſt Theodotion be underſtood, when he renders *Setah* and *ligna Setim*, by Ἄκανθα, *Acantha*, and Ἀκάνθινα, *Acanthina*; the Name will ſuit with nothing elſe. For the Arabians call this Tree *Seitan*, or *Saten*, which may alſo be read *Sitan.* It is that Thorn from which they gather the Gum Arabic, and make the Acacia. Alphagus, in his *Index* to Aviſena, ſays, "Alcharad, "or Alchara, or Alchrath, is the Fruit of the great thorny Tree, "which grows in the Country called Baſſera in Egypt, and is "called by the Egyptians *Setan.*" Proſper Alpinus ſays, it is called *Sant.* "Acacia, which the Egyptians call *Sant*, grows in "thoſe Parts of Egypt, which are moſt remote from the Sea."

The Fruit of the Egyptian Thorn is called in Arabic *Karath*, from the Greek Κεράτιον, which ſignifies a *Huſk*; with the Article *al*, *Alkarath*, for its Fruit is a Huſk, according to Theophraſtus. I make no Doubt, but the *Sittah*, or *Setah*, of the Hebrew is the ſame with the *Setten* of the Arabians, which is the Egyptian Thorn that grows in the Deſart, and is rightly tranſlated by Theodotion Ἄκανθα, *Acantha.* For in the Place of Iſaiah above quoted, *Setah* is manifeſtly diſtinguiſhed from the Cedar, which the Arabians, as well as Hebrews, call *Erez.* Beſides the Name all their Characters agree. Yet the Helleniſt Authors, from whom Dioſcorides borrowed his Information, that *Agaric* grew on *Setine-trees*, ſeems to have taken them for Cedars, as that Word is generally interpreted; for it was the prevailing Opinion that *Agaric* was generated on Cedars.

Many other Things did Dioſcorides borrow from Helleniſt Writers, who tranſlated foreign Words into their own Greek Idiom; as when he ſays of *Cancamum*, that it was a Tear, Ἀραβικοῦ ξύλου, *Arabici Ligni*, for Ἀραβικοῦ δένδρου, *Arabicæ Arboris*; which is according to the Syriac Idiom, and quite remote from the Greek. So in his Account of the Palm-tree, he tells us that the unripe Date, while it is yet in its Huſk, is called Ἐλάτης, *Elates*, and by ſome Βόρασσος, *Boraſſus*; which is purely Hebrew, only tranſpoſed for Βόσσαρος, *Boſſarus*; for בסר, *Boſer*, is a *ſour Grape.* The Arabians alſo call an unripe Date *Beſſer*, which the Greeks, who adopt the Arabic Terms, name Βυσσέρ. An antient Interpreter of Aviſena has it *Buſſurum.*

Pliny, *Lib.* 16. *Cap.* 8. will have *Agaric* peculiar to Gallia, and a Fungus of glandiferous Trees; but in *Lib.* 25. *Cap.* 9. he ſays it is generated like a Fungus on the Trees about the Boſphorus. Theſe are very different Accounts; and yet in this laſt he mentions the Gallican *Agaric*, which, he ſays, is thought to be of a weaker Kind. Perhaps he was led into an Error by the Homonymy of the Words in the Name Γαλατία, which with the Greeks ſignifies both *Gallia* and *Galatia.* Dioſcorides always calls this laſt Γαλατίαν τὴν κατ' Ἀσίαν, *Galatia which is in Aſia*;

ſo

to diſtinguiſh it from the other Galatia, that is in Gallia, which in another Place he calls Γαλατίαν κατ' Ἄλπεις, *Galatia, in which are the Alps*, *L.* 3. *C.* 28. But, to come to a Concluſion, the Gallican *Agaric* of Pliny ſeems quite different from the Galatian *Agaric* of Dioſcorides. The latter grows on Cedars, like a Fungus. Pliny's *Agaric* is a Fungus peculiar to glandiferous Trees, and ſhines by Night, which are the very Characters, as I ſaid, of the putrefied Wood, moſt commonly Oak, which ſo remarkably glitters in the Dark. Dioſcorides, in his Deſcription, has divided *Agaric* into Male and Female, and takes no Notice of the Diſtinction into White and Black. But in another Place, *Lib.* 5. he mentions black *Agaric* among the Poiſons, and reckons it in the Liſt of venomous and deadly Roots, which, according to his Account, are Hellebore, Ixias, black *Agaric*, and the Ephumeron, which ſome call Colchicum. I wonder, he ſays nothing of it in his Chapter of *Agaric*. I ſuſpect the Male *Agaric* was the black and the poiſonous Sort, though he ſays no ſuch Thing there. "But the Male Kind is not good, but hard and black," ſays Aviſena. The two Kinds are made to differ very much in Form and Subſtance, according to Dioſcorides; and yet their Taſtes, he ſays, are alike. The Moderns ſet the higheſt Value on that *Agaric* which is moſt friable. Dioſcorides depreciates the Cilician and Galatian *Agaric* on that very Account, becauſe it is of a weak Contexture, and very friable.

All theſe Things conſidered, I am almoſt perſuaded that the *Agaric* of the Antients was not the ſame with that which now paſſes under that Name. I read in Iſidore, that *Agaric* was the "Root of the White Vine." Heſychius tells me, that *Agaric* was "an Herb ſo called by Phyſicians." He terms it an Herb, becauſe others had made it a Root. Galen, *L.* 7. Περὶ δυνάμεων, after he has named *Agaric*, and declares its Virtues, begins, as it were, again, with mentioning the Root of *Agaric*, in theſe Words, which are corrupted. Ἀγαρικοῦ ῥίζα τυτέστιν ἐπιφυομένη πρέμνῳ. *i. e.* "The Root is what grows to the Stock of the Tree." They ſeem an Interpolation, except you read them thus: Ἀγαρικοῦ ῥίζα τοῦτό ἐστιν ἐπιφυόμενον πρέμνῳ, *i. e.* "That is be accounted the Root "of *Agaric*, by which it grows to the Trunk or Body of the "Tree." The Arabians have nothing about *Agaric*, but what they learned from the Greek Books. The Name they have for it is purely Greek, viz. *Garicon*, and in an old manuſcript Tranſlation of Dioſcorides into Arabic, you have the Word kept intire, viz. *Agaricon. Salmaſ. de Homonym. Hyl. Iatric.*

There are ſeveral of the Fungi which are alſo called *Agarics*, as:

Agaricus digitatus maximus, ex luteo, coccineo, & nigro colore eleganter variegatus.

Agaricus villoſus tenuis, inferne lævis, C. Giſſ. 193. *Fungus arboreus villoſus, inferne planus*, Doody Syn. 2. App. 335.

Agaricus membranaceus ſinuoſus ſubſtantia gelatinæ, C. Giſſ. 194. *Fungus membranaceus parvus aureus*, Sterb. P. 242. Spec. 113. T. 26. *Luteus Sambucino ſimilis, colore ſuo manus inficiens, Geniſtæ vulgari ſpinoſæ adnaſcens*, Merr. Pin. *putridus arborum ramis inhærens, plurimis ſimul cohærentibus*, C. B. Pin. 372. 2. *Fungi dicti ſpongiæ lignorum pernicioſi*, J. B. 3. 841. F. *pernicioſi*, Gen. 24. Species 3. Cluſ. H. 288. Syn. 2. 19. 40. On rotten Wood in England and Ireland. Obſerved by Dr. *Sherard* and Mr. *Dale*.

Agaricus meſentericus violacei coloris, C. Giſſ. 194. *Fungus arboreus purpureus corrugatus*, Doody Syn. 2. App. 336.

Agaricus Lichenis facie variegatus, Inſt. R. H. 562. *Fungus ſalignus Lichenis forma variegatus*, C. B. Pin. 372. 7. *Quartus pernicioſus*, Cluſ. H. 277. *Depictus*, Sterb. 240. T. 26. A. *Fungi Salicum, colore varii, pernicioſi* J. B. 3. 842. *Nec lamellatus, nec poroſus eſt.* A. D. Sherard *obſervatus.*

Agaricus pedis equini facie, Inſt. R. H. 562. *Fungus durus ſive igniarius*, Park. 1323. *(fig. mal) in caudicibus naſcens, unguis equini figura*, C. B. Pin. 372. 3. F. *arborei ad ellychnia*, J. B. 3. 840. Touchwood or Spunk.

Agaricus intybaceus, Inſt. R. H. 562. *Fungus intybaceus*, J. B. 3. 839. Syn. 2. 14. 21. *Arboreus maximus poroſus, diverſimode ſe dividens & protrudens*, Doody Syn. 2. App. 336.

Agaricus officinali ſimilis, C. Giſſ. 192. *Agarico ſimilis Fungus diverſarum arborum caudicibus adhærens*, C. B. Pin. 375. 2. *Fungus arboreus albidus maximus, ſeu Agaricus ſpurius*, Doody Syn. 2. App. 335.

Agaricus poroſus rubens carnoſus, hepatis facie, C. Giſſ. 192. *Fungus hepatis facie & colore*, Merr. Pin. *Arboreus rubens carnoſus, hepatis facie.* Doody Syn. 2. App. 340.

Mr. Doody found it near Hally in Kent, and ſince received it very fair from Mr. Chaplin, gathered in Suffolk, as you go from Sir Robert Dillington's Houſe to the new Church in the Iſle of Wight. *Merr. Pin.*

Agaricus multiplex poroſus, C. Giſſ. 193. *Fungus circulum gradatim perficiens, cujus diameter quandoque triginta vel plures pedes conficit*, Merr. Pin. *In montoſis paſcuis non infrequens, referente* Merret. *Memorabilis eſt magnitudinis & plures juxta ſe oriri ſolent, qui ſatis latum ſpatium ambitu ſuo complectuntur.*

Agaricus poroſus igniarius Fagi, ſuperne candicans, inferne fuſcus, C. Giſſ. 193. *Fungus pedem equinum referens, ſubtus foraminoſus*, Dood. Syn. 2. App. 336. *Ad arbores. Igniarius dicitur, quod caro ejus in fomitem igni concipiendo idoneum præparari queat.*

Agaricus poroſus igniarius Carpini, C. Giſſ. 193. *Fungus arboreus maximus fuſcus, ſubtus planus*, Doody Syn. 2. App. 335. *Lateraliter Ulmo adherentem prope Epſom invenit* D. Plukenet.

Agaricus varii coloris ſquamoſus, Inſt. R. H. 562. *Fungus arborum & lignorum putreſcentium, coloris varii*, Syn. 2. 18. 31. *Ceraſorum imbricatim alter alteri innatus variegatus*, C. B. Pin. 372. 8. *Fungi Ceraſorum coloris varii pernicioſi*, J. B 3. 842. *Fungus ſemicircularis durus, multos durans per annos*, Merr. Pin. *Holoſericeus iridiformis quaſi, colorum alternatione variegatus*, Cat. Alt. *Inferne foraminulentus eſt, non lamellatus, colore albicante. Non Ceraſo tantum, ſed & aliis paſſim arboribus adnaſcitur.*

Agaricus villoſus & poroſus, ſubſtantiæ coriaceæ, C. Giſſ. 193. *Fungus arboreus variegato illi Ceraſorum, &c.* C. B. *Similis, ſed hirſutior, foraminulis etiam majoribus*, Doody Syn. 2. App. 336. *Arboribus junioribus plerumque adnaſcitur.*

Agaricus villoſus, lamellis ſinuoſis & invicem implexis, C. Giſſ. 192. *Fungus arboreus villoſus albus, foraminibus oblongis, ſemicircularis*, Doody Syn. 2. App. 336.

Agaricus quernus lamellatus, coriaceus albus, C. Giſſ. 191. *Fungus arboreus inferne foraminibus longis & rotundis inſculptus*, Doody Syn. 2. 18. 33. *Hic a* D. Dale *pariter obſervatus.*

Agaricus quernus lamellatus coriaceus villoſus, C. Giſſ. 191. *Fungus arboreus holoſericeus, inferne lamellatus*, Syn. 2. 14. 26.

Agaricus parvus lamellatus, pectunculi forma elegans, C. Giſſ. 192. *Fungus parvus lamellatus, pectunculi forma Alno adnaſcens*, Syn. 2. 14. 27. Common in Woods in Ireland. Dr. *Sherard*. In the Woods near Dulwich, and many other Places. Mr. *Doody*.

Agaricus parvus lamellatus croceus, e Corylorum ramulis dependens. Undulatus eſt & figura ſua lobum nucis juglandis non male refert. Croceo colore manus inficit. Corylorum ramis aridis & emortuis plerumque adnaſcitur.

Agaricus coriaceus longiſſimus, pectinatim inferne diviſus. Raii Synopſis Methodica.

AGARICUS alſo is a Name for the *Marga Candida*, or white Stone Marl. See MARGA.

AGASYLLIS. Ἀγάσυλλις. According to Dioſcorides, the Shrub (θαμνὸς) that produces the Gum Ammoniacum, *L.* 3. *C.* 98. See AMMONIACUM.

AGATHARCIDES. An Author quoted by Plutarch, *Sympoſiac. L.* 8. *Probl.* 9. as giving an Account of the endemial Diſtempers, to which the Inhabitants of the Coaſts of the Red Sea were ſubject. For this Reaſon Le Clerc ranks him amongſt Phyſicians. But in Reality he was not of the Profeſſion. He wrote amongſt other hiſtorical Pieces an Account of the Red Sea, and in this gives a Deſcription of the Dracunculi, a Sort of Worm of a conſiderable Length, that breeds in the muſcular Parts of the Legs and Arms. See DRACUNCULI, and UENA MEDINENSIS.

Agatharcides, who is diſtinguiſhed from other Authors of the ſame Name, by the Appellation of *Cnidius*, lived in the Time of Ptolemy Philometor, who reigned about 130 Years after Alexander the Great. He wrote many Treatiſes, as we learn from Photius, but nothing relating to Phyſic, except what the natural Hiſtory of the Red Sea led him into.

His Works are loſt.

AGATHINUS. A Phyſician quoted by Galen, Cœlius Aurelianus, and Aetius. He wrote upon Hellebore, and the Pulſe, and other Subjects. He was of the Pneumatic Sect, and conſequently a Follower of Athenæus. Suidas informs us he was Maſter to Archigenes, who practiſed Phyſic at Rome, in the Time of Trajan. His Works are loſt.

AGATHON. Ἀγαθόν. The common Signification of this Word is *good*. But, according to Galen, Hippocrates uſes it in a Senſe ſomewhat different from other Writers, which is no uncommon Thing, both with Reſpect to this Word and many others. In this Author it ſometimes ſignifies *certain, firm, true*, or *perpetual*.

AGATHONIS ANTIDOTUS HEPATICA. *Agathon's Antidote for the Liver.* This is a Medicine deſcribed by Myrepſus, *S.* 1. *C.* 268. It is thus prepared:

> Take of Gentian ſix Drams; of Elicampane, Wormwood, Spikenard, each one Dram. It is given to feveriſh Patients in Water, to others in Wine.

AGATY H. M. *Galegæ affinis Malabaricæ arboreſcens, ſiliquis majoribus articulatis*, D. Syen.

It is four or five Times the ordinary Height of a Man, and its Body as much as a Man can fathom. The Branches that grow out of the Middle and Top of the Tree, extend themſelves in Height more than in Breadth. It grows in ſandy Places. The Root is of a dark Colour, and ſpreads its hairy Fibres all around to a conſiderable Compaſs, and is of an aſtringent Taſte. The Wood is of a ſoft Subſtance, and its inmoſt Pith, or Heart, ſofteſt of all. If an Inciſion be made in the Bark, there diſtils from it a thin and watery Liquor, which afterwards grows thick and gummy. The Leaves are pennated, almoſt a Span and a half long, two Lobes being connected to the main Rib, directly oppoſite to one another, the Pedicles very ſhort, and bending forwards, the Lobes ſmall, of an oblong Figure, and

roundiſh

oundiſh at the Edges, about an Inch and half long, and a inger's Breadth wide, almoſt of an equal Breadth from the aſe to the Top, of a pretty cloſe Contexture, and very ſoft, f an extraordinary Smoothneſs, of a lively Green on the uper Part, but fainter beneath, ſmelling like Beans, if they are ubbed. From the main Rib iſſue fine ſubtile Veins, which iſperſe themſelves over the Leaf. The Leaves ſhut in the Night, with their oppoſite Lobes drawn cloſe to one another. he Flowers which are of the papilionaceous Kind, and have o Smell, grow four, five, or more, on a little Twig, or talk, that comes out from the Alæ of the Leaves. The lowers conſiſt of four Leaves or Petala, which have this eculiarity, that one of them, which raiſes itſelf above the eſt, and two lateral ones bend in an Angle, are ſomewhat hick, whitiſh, and ſtriated with Veins lengthwiſe; and the ourth, which is the broadeſt, is a round Oblong, ſtriated ith numerous ſubtile Veins, which proceed from the Baſe ngthwiſe, being firſt whitiſh, then yellowiſh, and a purpliſh ed. The Stamen forms an Angle, and is divided at the ummit into Filaments, or Threads, bearing oblong yellow pices. The Calyx or Cup is deep, ſurrounding the Baſes f the Petala with four ſhort roundiſh Leaves, of a faint green olour. The Flowers are ſucceeded by Pods, four Spans long, nd a Finger's Breadth wide, ſomewhat round, ſtrait, green, f a thick Rind, and containing Beans of an oblong Figure, ach in its proper Cell, ſeparated by carnous Partitions, placed ngthwiſe in the Length of the Pod, ſomewhat protuberatg, taſting like a Bean, and exactly reſembling our Kidney-beans, nly they are leſs, and turn whitiſh, or a greeniſh White; when ey are ripe, they ſerve for Food.

It bears Flowers and Fruit, in rainy Seaſons, two or three Times a Year, and ſometimes, though but ſeldom, all the ear round. The Root mixed with the Urine of a Cow, d applied to the Place, diſcuſſes Tumors. The Juice of e Bark mixed with Honey, and uſed in Gargariſms, is ood for the Quinſey, and Puſtules in the Mouth. The Bark, oiled in Water and eaten, is beneficial in the Small Pox. he Juice of the Leaves, drawn up the Noſtrils, relieves the atient under inveterate Quartans, when the Day of the Fit omes. The Decoction of the Leaves purges pituitous and ilious Humours, and the Leaves themſelves ſo eaten give Relief the Vertigo and Cholera Morbus. The Flowers boiled are eſcribed for a Catarrh, which Way they are alſo ſaid to inte to Luxury. The Juice of the Flowers, dropped into the yes, takes away Films and reſtores the Sight. *Ray*, *Lib.* 31. *ap.* 23.

AGELÆOS. Ἀγελαῖος. *Gregarious*, *vulgar*. It is ſomemes joined with ἄρτος, and uſed to expreſs the coarſeſt Sort Bread. *Athenæus.*

AGEM. A Name of the *Syringa Perſica*, or *Lilac Perſim. Inciſis Foliis.* See SYRINGA.

AGER CHYMICUS. Dorneus in his *Genealogia Minealium* ſays, Water is the Field *(Ager)* in which the Omipotent has ordained that the Root of Minerals ſhould be xed, and from whence the Trunk and Branches ſhoot into the arth.

The Uterus is alſo called the *Ager Naturæ.*

Ager, or *Agrorum Terra*, is alſo the common Earth or Soil. ll fat Earths are good Applications for any Parts which want ying. The Egyptian clayey Soil was uſed by hydropical d ſplenetic Patients. Many alſo daubed with it their Legs, highs, Elbows, Arms, Sides, Backs, and Breaſts, and found reat Benefit by it. It cured old Inflammations and lax Tuors, and ſuch as through an immoderate Evacuation by the æmorrhoidal Veins, were over-run with hydropical and wary Humours, and it alſo intirely removed inveterate Pains fixd upon any Part. *Aetius*, *Tetrabib.* 1. *Serm.* 2. *C.* 3. from *Ga-n.* See TERRA.

AGERASIA. Ἀγηρασία. From α Negative, and Γῆρας, *Old Age.* hat State which maintains the Health and Vigour of Youth, an advanced Age. What the Latins call *viridis Senecta.*

AGERATUM.

Maudlin thus diſtinguiſhed: *Ageratum*, *Eupatorium Meſues*, ffic. *Ageratum foliis ſerratis*, C. B. 221. Boerh. Ind. A. 125. *geratum pleriſque*, *Herba julia quibuſdam*, J. B. 3. 142. *Ageatum*, *Herba julia*, Chab. 367. *Ageratum vulgare*, *ſive Coſtus rtorum minor*, Park. 78. Raii Hiſt. 1. 364. *Achillea lutea*, *gerati folio longiore*, Act. Reg. Par. An. 1720. 322. *Balſaita fœmina*, Ger. 523. *Balſamita fœmina*, *ſive Ageratum*, er. Emac. 648. *Ptarmica lutea ſuaveolens*, Elem. Bot. 398. ourn. Inſt. 497. MAUDLIN. *Dale.*

Ageratum is a ſpriggy Plant, producing from one Root any Stalks, no higher than a Span, not branched, but very ke Origanum, bearing an Umbella, with yellow Flowers, ke Gold Drops, leſs than the Helichryſus. It is called *Ageatum*, becauſe the Flower preſerves its Beauty for a long ime. Dioſcorides, *L.* 4. *C.* 59. His Deſcription is tranſcribed y Oribaſius, *Collect. L.* 11.

This Plant from a woody branched Root, abiding long the Ground, ſends forth many round Stalks, little or othing branched about a Foot high, on which grow a great Number of ſmall, long, narrow, round-pointed Leaves, deeply ſerrated about the Edges; on the Tops of the Branches ſtand Umbels of numerous ſmall Gold yellow naked Flowers, in ſcaly Cups or Calyces, containing very ſmall Seed. The whole Plant has a ſtrong and not unpleaſant Scent; it grows with us only in Gardens, it being a Native of Italy and the warmer Countries, and flowers in July and Auguſt. *Miller*, *Bot. Off.*

Its Decoction is good in Fomentations. The Vapour of the Herb burnt provokes Urine, and mollifies the Hardneſs of the Uterus. *Dioſ. L.* 4. *C.* 59.

It is a Digeſtive. and gently mitigates an Inflammation. *Orib. Med. Coll.* 1. *L.* 15. *C.* 1. *Æginet. L.* 7. *C.* 3. *Aet. Tetr.* 1. *Serm.* 1.

Maudlin is of a bitter Taſte, warming and drying, and uſeful in Diſorders of the Stomach and Liver. It is good in the Jaundice, and Obſtructions of the Menſes, provokes Urine, and kills Worms. *Miller*, *Bot. Offic.*

It contains the Virtues of Coſtmary and Tanſey, and is an Ingredient in all capital Compoſitions. The Seed has been given, with Succeſs, inſtead of Wormſeed, to kill Worms. The diſtilled Water and Spirit yield a moſt fragrant Smell. This Plant is uſed in Syrup, Oil, Infuſion, Decoction, Powder, and Pills. Mr. Boyle obſerves this Plant to be hurtful to the Eyes. *Boerhaave.*

Beſides the common *Maudlin* taken Notice of by Dale, Miller enumerates the following Species:

Ageratum quæ ptarmica incana, *pinnulis criſtatis*, F. Voy. The hoary Oriental *Maudlin.*

Ageratum Peruvianum, *arboreum*, *folio lato*, *ſerrato*, Boerh. The Peruvian Tree *Maudlin*, falſly called *The Jeſuit's Bark Tree*, becauſe at firſt ſuppoſed to be the Tree from whence the Jeſuit's Bark was taken.

Ageratum ſerratum Alpinum glabrum, *flore purpuraſcente*, Tourn. Smooth *Ageratum* of the Alps, with a purpliſh Flower.

Ageratum Americanum erectum ſpicatum, *flore purpureo*, Houſt. American *Ageratum*, with purple Flowers growing on a Spike.

Ageratum Americanum procumbens, *gnaphalii facie*, *floribus ad foliorum nodos*, Houſt. Creeping American *Ageratum*, having the Face of Cudweed, and the Flowers coming out at the Setting on of the Foot-ſtalks.

Ageratum Americanum fruteſcens, *Chamædryos folio*, *floribus ex foliorum alis*, Houſt. American *Ageratum*, with a Germander Leaf, and the Flowers growing from the Setting on of the Leaves.

AGERATUS LAPIS. A Stone, uſed by Coblers, to poliſh Womens Shoes. It is eſteemed diſcuſſive, and aſtringent, and is uſeful in Inflammations of the Uvula. *Galen*, and from him him *Paulus Ægineta*, *Lib.* 7. *Cap.* 3. and *Oribaſius*, *Lib.* 14. *Cap.* 10.

AGES. Ἀγὲς. The *Palm*, or *Hollow of the Hand.* *Heſychius.*

AGE VITA. The Name of an Antidote, deſcribed by Myrepſus. The Place is much corrupted, but the Commentator conjectures, that Myrepſus wrote ἰούγις βῖτα, *Jugis Vita*, long or continual Life, and that this Antidote took the Name from its great Virtues in procuring Longevity. This, Myrepſus informs us, is called *Meelchagee* by the Saracens. It is a medicated Wine, of which the Author gives the following Account:

> Take ſix Meaſures of good Red Wine, and put into it, after they are well beaten, and paſſed through a fine Sieve, the following Ingredients: Of Galangals, two Ounces; of long and white Pepper, each an Ounce; of Sage an Ounce and a half; of Ginger and good common Cinnamon, an Ounce and a half; of Saffron, three Drams; of Cloves, a Dram and a half. Boil them well in the Wine, till of the ſix Meaſures there remains but one Meaſure and a half, and then pour it into your Veſſel. The Doſe is half an Ounce in the Morning faſting in a Glaſs of Wine.

It is beneficial in all cold Diſtempers, for paralytic, ſtomachic, ſhaking, cachectic, and hydropical Patients. It helps Crudities, Inflations, and all Imbecillities and Coldneſs of the Stomach and Body. It cures Inflations in the Uterus, the Teneſmus, the Maladies proceeding from Defluxions, as the Gout in the Feet and the Joints, and all nervous Diſtempers, ariſing from Crudity and Humidity. *Nich. Myrepſus*, *Sect.* 1. *Cap.* 500.

This ſeems to be a very good Stomach Medicine, and muſt be of conſiderable Efficacy in the Diſorders for which the Author recommends it. On this Account it is called νεῦρον τῆς ζωῆς, *the Nerve of Life.*

AGEUSTIA. From α Negative, and γεύομαι, *to taſte.* It ſignifies a Faſting, or Faſt.

AGGLUTINATIO. *Agglutination.* It ſignifies the Joining together, or Re-union of any ſeparated Parts of the Body, or Healing. Hence Applications, that promote that End, are called *Agglutinants.*

Agglutination is alſo uſed in a different Senſe by *Aetius*, as appears by the following Paſſage:

AGGLUTINATIO PILORUM. A Healing or Reducing the Hairs of the Eye-lids, that grow inwards, to their natural Order and Situation. This may be done by Maſtich, applied with a Probe, which bends the Hairs back into their proper Order. Bitumen, the Slime of a Snail taken off with a Needle, the Juice of Hawk-weed, the Liquor of *Agglutinants*, or Ammoniac, work the ſame Effect. A compound Remedy may be thus prepared:

> Take of dry Roſine, dry Pitch, Sulphur vivum, Bitumen Judaicum, each one Dram; Wax half a Dram. Melt them together, and reſerve them for Uſe till Occaſion offers, when touch the Maſs with a heated Probe, and *agglutinate* the Hairs as before directed. *Aetius*, *Tetrabib.* 2. *Serm.* 3. *C.* 681.

AGGREGATUM. *An Aggregate.* A Body reſulting from the Union of a great many others, which are ſmaller, of which the whole Sum or Collection is the *Aggregate*.

AGIAHALID. An Egyptian Plant thus diſtinguiſhed by Ray: *Lycio Affinis Ægyptiaca*, C. B. *Agiahalid Ægyptiaca Lycio affinis*, Park. *Agiahalid Ægyptium folio Buxi, aut Lycium?* J. B.

It is a large Tree like the wild Pear, with but few Branches, and prickly, formed like the Lycium or Boxthorn. Its Leaves are like thoſe of Box, but bigger and at a greater Diſtance one from the other. Its Flowers are but few, of a white Colour, reſembling thoſe of Hyacinth, but leſs. They are ſucceeded by little black Fruits, like thoſe of dwarf Elder, of a ſtyptic Taſte, a little bitteriſh. This Tree grows in Æthiopia, and Egypt.

Its Leaves are ſouriſh and aſtringent, and are eſteemed good to kill Worms. *Lemery de Drogues.*

AGITATIO. *Agitation, Shaking.* In Medicine it is conſidered as an Exerciſe, and to this Dr. Sydenham attributes the great Benefit of Riding; and, no doubt, it is very efficacious in removing Obſtructions of the Viſcera, when aſſiſted by the freſh Air. See AIR.

AGLIA. See AEGLIA and ÆGIDES.

AGLITHES. Ἄγλιθες. The Diviſions or Segments of a Head of Garlick, which we uſually call Cloves. It is uſed by Hippocrates, in his Treatiſe *de Morbis Mulierum*, *Lib.* 2. See ALLIUM.

AGME. Ἀγμὴ, or Ἄγμα. From ἄγω, *to break*. A *Fracture.*

AGNACAT. *Scaligeri Pyri Specie.*

In a Country of America beyond the Terra de Labrador, towards the Iſthmus of Darien, there grows a Tree of the Figure and Size of the Pear-tree, always covered with Leaves, and of an extraordinary Greenneſs and Luſtre. It bears a Fruit alſo like a Pear, but green, even when it is ripe. The Pulp is of the ſame Colour, ſweet, fat, and taſtes like Butter. It is a powerful, and next to miraculous, Promoter of venereal Vigour. *Ray's Hiſt. of Plants.*

AGNANTHUS. A Genus of Plants mentioned by Vaillant. It bears the Flower at the Extremity of the Stalk and Branches after the Manner of Grapes. Every Flower, which reſembles much that of the Agnus Caſtus, is a ſmall Pipe, the anterior Edge of which commonly expands and divides itſelf into ſix unequal Parts, three ſuperior which are diſpoſed like Trefoil, and three inferior, of which that in the Middle is the largeſt of the ſix, and the two lateral the ſmalleſt. There ariſes from the Bottom of the Cup or Calyx, which is indented, an Overy. This Overy is articulated to the Bottom of the Pipe or Channel of the Flower, and when the Flower falls off it becomes, according to Plumier, a Berry containing a ſingle Seed.

Agnanthus comes from the Greek Word ἄγνος, *chaſte*, and ἄνθος, *a Flower*, becauſe the Flower of this Plant reſembles that of *Agnus Caſtus*, or *Vitex*.

There is but one Plant of this Genus known which is the *Agnanthus Viburni folio*. *Cornutia flore pyramidato, cæruleo, foliis incanis*, Plum. Nov. Gen. 32. *Calychirichibou Caraibæarum*, Surian. Hort. Sice. *Memoires de l'Academie Royale des Sciences*, *Année* 1722.

AGNATA. See ADNATA.

AGNINA MEMBRANA, or PELLICULA. Aetius, *Tetrabib.* 4. *Serm.* 4. *C.* 2. calls one of the *Membranes* which involves the Fœtus by this Name, which he derives from its Tenderneſs. From him, probably, Bartholine and Drelincourt have borrowed the Expreſſion. It is what Anatomiſts uſually call the *Amnios*.

AGNINA LACTUCA, is *Lambs Lettice*. See LACTUCA:

AGNOIA. Ἄγνοια. From α Negative, and γινώσκω, *to know*. When a Patient in a Fever, or any other Diſorder, forgets, and does not know his familiar Acquaintance. This is called *Agnoia*, by Hippocrates, who pronounces it a very bad Symptom, eſpecially when joined with a Rigor. *Prædict.* *L.* 1. 64. The Truth of this is evinced by every Day's Experience.

AGNUS. A *Lamb*. This Animal is too well known to want a Deſcription. Many of its Parts are recommended for particular medicinal Purpoſes. Thus Hippocrates in his Treatiſe, *de Superfœtatione*, adviſes us to apply the warm Skins of Lambs (ἀρνακίδας) to the Bellies of Virgins who are diſordered for Want of Menſtruation at a proper Age, no doubt, with a View of relaxing the Uterine Veſſels, and removing thereby that Part of the Difficulty, which depends upon their too great Tenſion. Dr. Friend, in his *Emmenologia*, recommends emollient Fomentations for the ſame Purpoſes; but the balſamic Warmth of a Lamb-ſkin, juſt taken from the Animal, ſeems more likely to relax, than any artificial Heat whatever.

The Lights are recommended in Diſorders of the Lungs, and the Gall in Epilepſies, in the Quantity of two Drops to eight for a Doſe. *Lemery.*

The Coagulum which is found at the Bottom of the Stomach is eſteemed a good Antidote againſt Poiſons. *Lemery.*

The Lungs, burnt and powdered, cure the Bruiſes from uneaſy Shoes. *Aetius*, *Tetrabib.* 1. *Serm.* 2. *C.* 155.

Lamb contains a great deal of volatile Salt and Oil.

The beſt and lighteſt Parts of a Lamb, according to Celſus, are the whole Head and Feet. *Celſus*, *L.* 2. *C.* 18.

It affords a glutinous Juice. *Oribaſ. Eup.* *L.* 1. *C.* 21.

It is of a moiſtening and looſening Nature, very nouriſhing, and lenifies ſharp and pungent Humours.

It produces viſcous, phlegmatic, and groſs Humours, eſpecially when it is too young.

It agrees in warm Weather, with young bilious People, but Perſons of a hot and phlegmatic Conſtitution ought to refrain from it, or uſe it moderately. *Lemery on Foods.*

AGNUS SCYTHICUS. The Vegetable called the *Scythian Lamb*, in the Barbarian Language *Barametz*, *Boronetz*, or *Boronetz*, is much noted among the Writers of Natural Hiſtory.

The firſt who treated of it were Athanaſius Kircher, in his *Ars Magnetica* (who cites Sigiſm. L. B. ab Herberſtein, Hayton the Armenian, Surius, and Jul. Cæſ. Scaliger) Lord Bacon, Fortunius Licetus, Andreas Libavius, Euſebius Nierenbergius, Adamus Olearius, and Olaus Wormius, to paſs over the reſt, among whom are many Botaniſts, who do little more than repeat what has been ſaid before them.

This Plant is deſcribed by *Jul. Cæſ. Scaliger*, under the Title of the *Scythian Lamb*, *Borametz*, as follows: "What "has been related may paſs for a Jeſt, if compared with the "wonderful Tartarian Shrub. The chief Hord among the "Tartars is the Zauolhan, diſtinguiſhed as well for its Anti"quity as Nobility. In that Country they plant a Seed very "like that of a Melon, only leſs oblong; from this Seed ſprings "a Plant, which they call *Borametz*, that is, a *Lamb*; for it "grows in the Shape of a Lamb, almoſt three Feet high, "reſembling that Animal in Feet, Hoofs, Ears, and all the "Head, except the Horns; inſtead of which, it has a Tuft "of Hair that looks like a Horn. It is covered with a very "thin Hide, which is ſtript off by the Inhabitants, to make "a Covering for their Head. They ſay the inner Pulp re"ſembles the Fleſh of a Sea Creviſe, and that Blood follows "from a Wound made in it; that it is wonderfully ſweet to "the Taſte; that the Root raiſes itſelf out of Ground as high "as the Waiſt; a Circumſtance that greatly heightens the "Miracle. As long as it is ſurrounded by neigbouring Vege"tables, it lives and enjoys itſelf like a Lamb, in a fat Paſ"ture: When they die, or are extirpated, it pines away, and "periſhes. This Event does not happen only by Chance, or "Length of Time, but has been brought to paſs, by making "the Experiment, and removing all Plants from its Neigh"bourhood. What increaſes the Wonder is, that it is greedily "coveted by Wolves, and not by other carnivorous Beaſts. "But this laſt, I preſume, is made only for the Sake of Allu"ſion, to the Name *Lamb*, and to grace the Story: But I "want to know, after what Manner four diſtinct Legs, with "their Feet, are produced, and proceed from one Trunk.

"What is here related, I have had by Information, partly "from Perſons of the higheſt Rank, and partly from the moſt "curious Inquirers into the Secrets of Nature".

Other Authors give us the ſame Account, or rather tranſcribe Scaliger; however, ſome of them vary in certain Circumſtances, and Kircher, in particular, to his Deſcription has added, or, to ſpeak more properly, invented, a Figure: Nay further, in ſome Muſæums of the Virtuoſi, as thoſe of Wormius and Swammerdam, the Skin, as it is pretended, of this remarkable Production of Nature, was formerly to be ſeen.

Antonius Deuſingius, after nicely weighing the Matter in the Balance of Reaſon, ſuſpected this Account of the *Lamb* as fabulous, and endeavours to perſuade us, that Scaliger himſelf, who was one of the firſt that mentions it, treated it as a Fable; and it was called in Queſtion by others, who were not willing to be impoſed upon.

To ſpeak the Truth, if we examine the whole Story of this *Lamb*, with a Mind void of Prejudice, we ſhall find that it ſavours ſtrongly of the Romance; nay, in reality, is nothing elſe, and that Deuſingius was in the right; which will appear from the following Reaſons:

1. No Perſon of Credit ever ſaw this Vegetable *Lamb*. hat Olaus Wormius had by Relation from Monſ. Eovaldi Kleiſs, Ambaſſador of the Elector of Brandenburg (who d him, that while he lived on the Borders of Tartary, he was ered by a Tartar, in Exchange for ſome Leaves of Tobacco, dried Plant, bearing on its Stem a Fruit, which plainly re- mbled a *Lamb*, a Foot in Dimenſion, and covered with a led Fleece) is not convincing, for that noble Perſon might ily be impoſed upon by ſome cunning Tartar.

2. The very learned and experienced Naturaliſt, Engelbert empfer, M. D. took a great deal of Pains in ſearching for s *Lamb* in its own Country, but could find nothing like it. They have no Notion, ſays he, nor Memory, in Tartary, neither among the vulgar Sort, nor the Skilful in Botany, of the Exiſtence of a Zoophyte that feeds on Graſs, tho' I have ſearched all over the Country for it, till I have been aſhamed and laughed at for my Pains; nor is there any Thing called *Borometz* beſides Sheep, and what belongs to that Kind. Therefore I am well aſſured, that whatever has been related of that Plant is meer Fiction". *Amœnit. Exoticæ.*

3. The whole Story of this *Lamb*, is ſo like a Fable, as one g is like another. What gave Riſe to it, has been very well covered by that moſt diligent Searcher after Nature, in thoſe ſtern Countries, Kæmpfer, before mentioned, in the Place d, where, (having premiſed ſomewhat concerning the Ety- logy of the Word *Borometz*, which, he ſays, is corrupted n the Muſcovite *Boranetz*, in Poliſh *Baranek*, which is a minutive of *Baran*, a Word of Sclavonic Original, and uſed the Ruſſians and Poles, to ſignify a Sheep) he tells us that in e of the Countries about the Caſpian Sea, there is a Species Sheep very different from the common Sort, and highly va- d for the Fineneſs of their Skins, which he deſcribes, and Manner how they are dreſſed, in order to ſerve as Orna- ts, to ſet off the Garments worn by the Tartars and Per- s: " Perſons of Quality, ſays he, and the Rich, whoſe Pride and State require better Clothing than the common Sort of People, covet the Skins of Lambkins, which are much finer than when they are grown, and the younger hey are, the more they are valued; for their Hairs may be wiſted into finer and thicker Curls, which augments the Beauty and Price of the Skin. Hence a greedy Thirſt after Gain has prevailed with ſome, in order to obtain Skins of he utmoſt Fineneſs, to exerciſe Cruelty, ſo far as to anti- ipate the Birth of the Lambkins, by ripping the Bellies of heir Dams. A Skin, thus procured and skilfully dreſſed, is of exquiſite a Fineneſs, as to put it out of the Power of the Unacquainted to determine what it is, and when the Extre- mities are cut off retains ſcarce any Thing of the Figure of a Lamb, but juſt enough to deceive the Ignorant and Credu- ous with the Show of a woolly Membrane, in form of a Gourd." To this he ſubjoins, " The Price of a Skin, ccording to its Goodneſs, amounts to three Pieces of Gold, r more. It is uſed to line their Turbans, and often ſerves, y Way of Ornament, to border their Gowns and Cloaks". concludes, at laſt, in theſe Words: " Whether this Fable wes its Riſe to the Conjectures of ſome contemplative Phi- oſopher, or the Ignorance of the firſt Relater, who, either hrough Careleſneſs, or Unſkilfulneſs in the Language, might miſunderſtand a Thing he heard talked of by the by, or whether we refer it to ſome other Original, the Miſtake be- ng propagated to far diſtant Regions, and ſpreading every where, firſt occaſioned this Pellicle the Loſs of its true Name nd Hiſtory. Proviſion being thus made for its Reception, he Bauble itſelf was imported to us, under the ſpecious Name of a *Miracle*, and lighting upon ſome illuſtrious Per- on of Curioſity, and an Admirer of this foreign downy Piece, it gained Credit and Admiſſion, as all Prodigies are pt to do, by its Vegetable Face. This Error being illuſ- rated by Authority; and ſoon after confirmed by Writing, ook ſuch firm Rooting in the Judgments of the Learned, as well as the Opinions of the Vulgar, that the Pellicle is ſhewn o this Day, among the rareſt Curioſities in the Muſæums, s a Species of Zoophyte, when, indeed, it is no other han a Fœtus of the Cæſarean Section".

From what has been quoted, it appears, that thoſe Perſian nb-ſkins, which our Skinners call *Perſianiſhe Baranken*, are his Kind, that is, ſtript from Lambs that are cut out of Bellies of their Dams, by the Cæſarean Section. But we none of the choiceſt, the Price of which, as Kæmpfer , is three Pieces of Gold, or more, in their own Country, reas we can buy the beſt that is imported, for one Piece, at ſt.

About three Years ago, a Ruſſian, who was a Man of rning and Curioſity, in his Travels, came to our City, was pleaſed to deſire a Sight of my Muſæolum, which, ng other Natural Curioſities, was not unprovided with this hian *Lamb*, which paſſed for the true *Borometz*, the Won- of Wonders. It was about ſix Inches in Length, and iſhed with a Head and Ears, and four Legs of the Colour ron, and covered with a Sort of Down, like the knappy s called by us *Gammet*, except its Ears and Legs, which were bare, and of a darker Colour. When it came to be examined, I found it was not of an Animal Nature, nor the Fruit of any Plant, but the Root of ſome Vegetable, thick, ſpreading, and hairy; or rather the Stem, or Stalk of ſome Plant, which, in its Climbing, had, by the Miniſtry of Art, acquired ſome Sort of Reſemblance of a Quadruped; or the four Legs were the Reliques of ſo many Stems, or, if you will, Pedicles, which had born Leaves, and were lopped off, as were alſo the Ears, tho' they were like Horns. Beſides this, the Fibres ſhooting out here and there, by which the thick Root, and through that the Plant, like all others, received Nouriſhment, left no Room for Doubt. Moreover, one of the fore Legs was not, like the reſt, continuous to the Body, but inſerted therein by Art; and the Head itſelf, with the Neck, was very artificially connected to the ſame, as I found upon making a more accurate Inſpection. So that this *Lamb* was fabricated and put together, from this and that Root or Stump, by the ſame artificial Means, as your Homuncios or Pigmies are compoſed and pieced up of the Roots of Mandrake and Briony. But there ſtill remained a Doubt with me, out of what Plant this Ludibrium of Art and Nature could be formed, tho' a Thought ſoon came into my Head, that it muſt be one of thoſe commonly called the Capillary Kind, for which I had ſeveral Evidences, both from the Compariſon of ſome Exotic Plants which I myſelf knew, and of others which are deſcribed and delineated by Hans Sloane, M. D. and the Rev. M. Plumier, in their coſtly and elaborate Works; for ſome of theſe Plants ſhoot up in ſeveral Stalks, which are covered with a ferruginous Down, or, as they call it, reddiſh Moſs. But what Kind preciſely to fix upon for this Piece of Handicraft, I could not determine, tho' I am apt to think, it is a Species peculiar to Tartary, and not yet deſcribed, till Time ſhall inform me better.

I am farther confirmed in this Opinion, by what I have ſince read in the Engliſh *Philoſoph. Tranſ.* where Sir Hans Sloane, deſcribes, and gives us the Figure of one of theſe pretended Scythian *Lambs*, which he procured from the Eaſt Indies; but it is far more unlike the Figure of a *Lamb*, than mine before mentioned.

I ſuppoſe, that ſuch Sorts of Lambs are ſhaped out of certain Roots or Stumps in Ruſſia and Tartary, ſo as to make this Story of the Scythian Vegetable *Lamb*, in ſome Meaſure, a Truth. But every one ſees, that ſuch a Lamb is a quite different Thing, from what is deſcribed by the forementioned Authors, and not to be ſo much wondered at; for it is no difficult Piece of Work, out of Roots and Stumps of Plants, to conſtruct and frame ſeveral Sorts of Prodigies, which ſhall have ſome Reſemblance of Natural Things, as was obſerved before of the Roots of the Mandrake; and the groteſque Figure of theſe Roots, may, with as good Reaſon, be called an *Homuncio*, or *Little Man*, as the other, which is conſtructed, and ſet together, from the Roots and Stems of another Kind or Kinds of Plants, be taken for a *Lamb*. *J. H. Breynius, M. D. Dantiſc. Phil. Tranſ.*

The Deſcription of Sir Hans Sloane, above referred to, is as follows:

It was above a Foot long, as big as one's Wriſt, having ſeveral Protuberances, and towards the End ſome Foot-ſtalks, about three or four Inches long, exactly like the Foot-ſtalks of Ferns, both without and within. Moſt Part of the Outſide was covered with a Down, of a dark, yellowiſh, Snuff Colour, ſhining like Silk, ſome of it a Quarter of an Inch long. This Down is what is commonly uſed for Spitting of Blood, about ſix Grains of it going to a Doſe, and three Doſes pretended to cure ſuch an Hæmorrhage. In Jamaica are many ſcandent and Tree-ferns, which grow to the Bigneſs of Trees, and have ſuch a Kind of Lanugo on them; and ſome of our Capillaries have ſomething like it. It ſeemed to be ſhaped by Art, to imitate a Lamb, the Roots, or climbing Parts, being made to reſemble the Body, and the extant Foot-ſtalks the Legs. This Down is taken Notice of by Dr. Merret, at the latter End of Dr. Grew's *Muſ. Soc. Reg.* by the Name of *Poco Sempie, a golden Moſs*, and is there ſaid to be a Cordial. Dr. Brown, who has made very good Obſervations in the Eaſt Indies, ſays he has been told there, by thoſe who have lived in China, that this Down, or Hair, is uſed by them for the Stopping of Blood in freſh Wounds, as Cobwebs are with us; and that they have it in ſo great Eſteem, that few Houſes are without it. I have known it, ſays the Doctor, much uſed for Spitting of Blood; but on Trials I have ſeen of it, though I may believe it innocent, I am ſure it is not infallible. *Philoſoph. Tranſac.*

AGNUS CASTUS. *Agnus Caſtus, Vitex*, Offic. *Agnus Caſtus*, Hort. Monſp. 7. Chab. 63. Herm. Hort. Lugd. Bat. 11. Mill. Cat. 124. *Agnus folio non ſerrato*, J. B. 1. 205. Raii Hiſt. 2. 1696. *Vitex, Agnus Caſtus*, Rand. Ind. 94. *Vitex*, Rivin. Rupp. Flor. Jen. 201. *Vitex ſive Agnus Caſtus*, Ger. 1201. Emac. 1387. *Vitex folio anguſto*, Park. Theat. 1437. *Vitex foliis anguſtioribus, Cannabis modo diſpoſitis*, C. B. Pin. 475. Tourn. Inſt. 603. Elem. Bot. 475. Boerh. Ind. A. 2. 222. THE CHASTE TREE. *Dale.*

The *Vitex*, or *Lygus*, is a willowy Shrub, almoſt deſerving the Name of a Tree, which grows on the Banks of Rivers, and in marſhy Fields, and in rough and rugged Places, and Channels worn by Torrents. It bears long flexible Rods, hard to break; and its Leaves reſemble thoſe of the Olive, but are longer, and more tender. One Kind of it bears a white purpliſh Flower, the other a Purple. The Seed is like Pepper.

It is of a warming and aſtringent Nature. The Fruit drank heals the Bites of venomous Beaſts, and relieves ſuch as labour under Diſorders of the Spleen, and the Dropſy. The Quantity of a Dram, taken in Wine, breeds Milk in Abundance, and provokes the Menſes; but it endangers a Miſcarriage, and affects the Head, bringing on a Carus. A Decoction of the Herb and Seed makes a good Inſeſſion, for Women who are troubled with Inflammations, and other Diſorders of the Uterus. The Seed drank with Penyroyal, or in a Suffumigation, moves the Belly; a Cataplaſm made therewith cures the Pain of the Head, and it is uſed with Oil and Vinegar in Embrocations for Lethargies and Phrenſies. A Fumigation, or bare Subſtration of the Leaves, chaſes away venomous Animals, and applied in a Cataplaſm heals ſuch as are bitten by them. With Butter and Vine-Leaves, they mollify the Hardneſs of the Teſtes. A Plaiſter of the Seed, with Water, heals the Fiſſures about the Anus, and uſed with the Leaves cures Wounds and Luxations. A Rod, or Branch, of the Tree, carried in the Hand, is ſuppoſed to prevent Galling in Journies.

This Shrub is called ἄγνος, [*caſtus, chaſte*] becauſe the Matrons, who lived chaſte during the Theſmophoria [Feaſts of Ceres] uſed to lie upon them at Nights: And it is called λύγος, [*Lygus*, as it were, *Oſier*] for the Toughneſs, or Tenacity, of its Rods. *Dioſcorides, Lib.* 1. *Cap.* 135.

Hippocrates *(de Morbis Mulierum, L.* 1.) recommends the Seed of the *Vitex*, for bringing away the Secundines; and thoſe of the white Sort for expelling the Fœtus.

This Tree ariſes not to any great Height or Thickneſs, having many aſh-coloured Branches, flexible, tough, and not apt to break; on which grow many digitated Leaves, or ſuch as are compoſed of five, and frequently ſeven, long, narrow, ſharp-pointed Diviſions, on one common Footſtalk, pretty much reſembling Hemp, but that they are not at all ſerrated about the Edges; they are of a deep Green above, and whitiſh underneath: On the Tops of the Branches grow Spikes of ſmall whitiſh purple Flowers, conſiſting of a ſingle Leaf, cut irregularly into five Parts, which makes them appear, as it were, galeated and labiated. They are ſet on Verticillatim, like the Flowers of Lavender, and are ſucceeded by ſmall, round Seeds, like Pepper, but leſs, of a blackiſh, grey Colour, ſet in hoary Calyces, of a hot aſtringent Taſte.

This Tree grows in the warmer Countries, as in Italy, in the Kingdom of Naples, and in Sicily, and flowers in Auguſt.

The Leaves, Flowers, and Seed of *Agnus Caſtus*, are accounted warming and drying, and uſeful againſt the Hardneſs of the Liver and Spleen, to expel Wind, and bring down the Catamenia. The Seed has been formerly mightily commended to allay venereal Heats, and Deſires which ariſe from the Sharpneſs or Turgeſcence of the Seed, and by that Means preſerve Chaſtity, but there is little Uſe made of it now, and the *Syrupus de agno caſto* is left out of the new Diſpenſatory. *Mill. Bot. Off.*

The Leaves, Flowers, and Seed of this Shrub conſiſt of very fine Parts. The Fruit is eaten, and ſenſibly heats the Body, and cauſes Head-ach. Fried in the Pan, it does not ſo much affect the Head, but heats and dries the Body, affording but little Nouriſhment, and that not in the leaſt flatulent, whence it reſtrains the Inclination to Venus. It is ſuppoſed to promote Chaſtity not only when taken in Meat and Drink, but even if it be but laid under the Bed-cloths. The Seed of it is more effectual than Rue for Hardneſs of the Liver or Spleen. *Aetius Tetr.* 1. *Serm.* 1. *Agnus.*

It contains a great deal of Salt and Oil and but little Phlegm.

AGOGE. Ἀγωγὴ. From Ἄγω, *to lead*, or *conduct*. It ſignifies the intire Order or Tenour of a Thing, as the Manner of a Man's Life; the Procedure of a Diſtemper, or the State of the Air. *Caſtellus.*

Pliny, *L.* 33. *C.* 4. calls little Channels *Agogæ*, through which the Water runs from Gold-ore that has been waſhed with it, and in which the Gold is depoſited.

AGOMPHIASIS, or GOMPHIASIS. *A Diſtemper of the Teeth.* It conſiſts in their being looſe in their Sockets. *Blancard.*

AGONE. The *Hyoſcyamus. Henbane. Heſychius.* See HYOSCYAMUS.

AGONIA. Ἀγονία. From α Negative, and Γόνος, an *Offspring. Sterility.*

AGONIA. Ἀγωνία. From Ἀγὼν, *a Combat*, or *Struggle*. Agony, when there is ſuppoſed to be a Sort of Struggle betwixt Life and Death.

AGONISTICON. Ἀγωνιστικὸν. Paulus Ægineta (*L.* 2. *C.* 30.) makes Uſe of this Word as an Epithet to Water, which he explains by (ψυχροτάτω) *exceſſively cold.*

AGONOS. Ἄγονος. From α Negative, and Γόνος, an *Offspring*, or Γονὴ. Barren.

Hippocrates, according to Foeſius, calls thoſe Women thus, who have never had Children, but are however in a Condition to breed. Or ſuch to whoſe Fœcundity there is at preſent ſome Impediment, which may be removed.

The Word is alſo applied to (ἡμέραι) *Days*, when it ſignifies *equal Days*, as the Fourth or Sixth, on which a Criſis is not to be expected, to diſtinguiſh them from (γόνιμοι ἡμέραι) *unequal*, or *genuine Days* (as the third or ſeventh) on which a Criſis, eſpecially if it is compleat, generally happens.

AGORÆUS Ἀγοραῖος. From Ἀγορὰ, *a Market*. An Epithet for Bread that is very coarſe.

AGOSTUS. Ἀγοστὸς. From Ἄγω, *to bring*, or *lead*. That Part of the Arm from the Elbow to the Fingers. Alſo the Palm, or Hollow of the Hand. *Caſtellus. Conſtantine.*

AGRESTA. *Verjuice. The Juice of unripe Grapes.* Or, *the ſour Grape itſelf.*

Lemery ſays, the *Agreſta*, *Omphax*, or *unripe Grape*, contains a great deal of eſſential Salt and Phlegm, and a ſmall Portion of Oil and Earth. He adds, that it is deterſive, aſtringent, and cooling; that it tempers the Acrimony of the Bile, and raiſes the Spirits.

AGRESTEN. *Acid Stone-tartar. Caſtellus.*

AGRESTIS. *Wild.* It is applied to Vegetables to diſtinguiſh thoſe which grow ſpontaneouſly in the Fields, from ſuch as are cultivated.

It is uſed alſo to expreſs a malignant Diſpoſition in ſome Diſtempers; and likewiſe a Brutality in the Manners and Diſpoſitions of Men.

It is frequently uſed as an Epithet to Animals, to diſtinguiſh them from thoſe which are domeſtic, and tame.

Wild Animals are more heating and drying, than thoſe which are tame. *Actuarius de Spirit. Animal. C.* 315.

Wild Animals afford better Nouriſhment than tame ones. *Oribaſius, Synopſ. L.* 4. *C.* 1.

Domeſtic or tame Animals are of a more humid Temperature than wild ones, whoſe Fleſh is firmer, and has little or no Fat, and will therefore keep much longer without Putrefactions than that of domeſtic Animals, who are bred up and fatted in Idleneſs. Hence it appears that wild Animals afford an Aliment much leſs excrementitious than the others. *Orib. Med. Col. Lib.* 2. *Cap.* 41.

Wild Animals in general, by Reaſon of the ſtrong Exerciſe they uſe, have their Salts and Oils more highly exalted than thoſe which are tame, and hence proceeds their high Taſte. For this Reaſon alſo they are uſually more healthful, and vigorous, and conſequently afford better Nouriſhment to Stomachs able to digeſt them, for their Fleſh is more firm and hard, for the ſame Reaſon that their Salts and Oils are exalted.

AGRIA, in the Senſe of the Botaniſts, ſignifies the ſame as *Agrifolium*, *Holly*, according to Blancard; but

AGRIA, is alſo a Sort of malignant Puſtule, taken Notice of by Celſus, where he diſtinguiſhes two Kinds of Puſtules, or Papulæ. The firſt, he ſays, is a very ſmall Sort, which cauſes a Roughneſs and Redneſs over the Skin, but ſlightly corrodes it. It is ſomewhat ſmoother about its Center, and ſpreads but ſlowly. This Malady aſſumes a round Figure at its firſt Appearance, and preſerves its Roundneſs as it proceeds. The other, here taken Notice of, is called by the Greeks Ἀγρία, which does not only cauſe an Exaſperation like the other, but an Exulceration, with a vehement Corroſion and Redneſs of the Skin, ſometimes making the Hairs fall off. The more this Sore approaches to a round Figure, the more difficult it is to cure; if it be not timely extirpated, it turns to the Leproſy. But the ſlighter Sort of Puſtules, if they are every Morning wetted with faſting Spittle, are healed without much Trouble. For the greater Kind there is no better Remedy than the Herb Pellitory of the Wall, bruiſed and immediately applied. As for compound Medicines, the Remedy of Mycon, which follows, is effectual:

> Take of red Nitre, Frankincenſe, each P. I. Cantharides cleanſed P. II. Of crude Sulphur a like Quantity. Of Reſine of liquid Turpentine, P. XX. Meal of Darnel, three Pints. Of Fennel Flour, a Quarter of a Pint. Of crude Pitch, an Ounce. *Celſus, Lib.* 5. *Cap.* 38.

AGRIAMPELOS. From Ἄγριος, *Wild*, and Ἄμπελος, a *Vine. The wild Vine.* See VITIS SYLVESTRIS.

Gerard ſays, it is the black Bryony.

AGRICULTURA. *Agriculture.* This is no other Way concerned in Medicine, than as an Exerciſe. The Exhalations from a light gravelly Earth juſt turned up, are reckoned extremely healthful. For this Reaſon People have frequently be een directed to follow the Plough, in order to reſpire Air im- regnated with theſe ſalutiferous Effluvia.

AGRIELÆA. From Ἄγριος, *wild*, and Ἐλαῖα, an *Olive*. *he wild Olive.* See OLEASTER.

AGRIFOLIUM. *Agrifolium*, Offic. Ger. 1155. Emac. 338. Raii Hiſt. 2. 1622. Synop. 3. 466. Merc. Bot. 1. 17. hyt. Brit. 3. Mer. Pin. 3. *Agrifolium ſive Aquifolium*, Park. heat. 1486. *Aquifolium ſive Agrifolium*, Chab. 605. *Aqui- lium ſive Agrifolium vulgo*, J. B. 1. 114. Tourn. Inſt. 600. lem. Bot. 473. *Aquifolium Tournefortii*, Rupp. Flor. Jen. 35. *quifolium baccis rubris*, Herm. Hort. Lugd. Bat. 56. Boerh. d. A. 2. 219. *Ilex aculeata baccifera folio ſinuato*, C. B. n. 425. Johnſ. Dendr. 206. The HOLLY TREE. *Dale.*

AGRIFOLIUM, *ſeu* AQUIFOLIUM [of Ἀκὶς, *a Prickle*, and *lium*, Lat. *a Leaf*, becauſe the Leaves are armed with ſharp ickles]. The HOLLY-TREE. *Miller's Dict.*

This Derivation is very unnatural and far fetched. It ſeems ore to the Purpoſe to derive it from Ἄγριος, *ruſtick, rough, fierce*, d Φύλλον, *a Leaf*.

The CHARACTERS *are*,

The Leaves are ſet about the Edges with long, ſharp, ſtiff ickles; the Berries are ſmall, round, and for the moſt Part of ed Colour, containing four triangular ſtriated Seeds in each. *iller.*

This Plant is too well known to want a Deſcription.

The Berries of Holly are hot and dry, of thin Parts, and ex- Wind. They are good againſt the Colic; ten or twelve ing inwardly taken bring away by Stool thick phlegmatic Hu- ours.

The Birdlime, which is made of the Bark, is no leſs hurtful n that of Miſletoe, for it is marvellous clammy, it glueth up the Entrails, it ſhutteth and draweth together the Guts and ſſages of the Excrements, and by this Means it bringeth De- uction to Man, not by any Quality, but by its gluing Sub- nce. Holly, beaten to Powder and drank, is an experiment- Medicine againſt all the Fluxes of the Belly, as the Dyſentery, the like. *Gerard.*

They make Birdlime after the following Manner:

In June or July they ſtrip the Holly-trees, and boil the Bark Spring-water, ſeven or eight Hours, till it becomes very ten- . Then they take it out, and firſt letting the Water run off, it is dry, they afterwards pile it up with Fern, intermixing every Lay of Bark a Lay of Fern. There it is ſuffered to ment and rot, for two or three Weeks, till it becomes a Mu- ge. This they take and pound in a Mortar till it is able of being moulded like a Lump of Dough, and after- ds work it well in their Hands in running Water, which in ort Time will cleanſe it of all Sordes, and leave nothing but pure and defecated Birdlime. Then put it in an earthen , and let it ſtand three or four Days, till it has thoroughly ged and perfected itſelf by Deſpumation, and after that re- ve it into a freſh Veſſel, and keep it for Uſe. *Raii Hiſt.*

N. B. Birdlime is not only made of the Bark of this Tree; alſo of the Fruit, of Miſletoe, the Cheſnut, and Sebeſten.

The following Species of this Tree are enumerated by *Mil-* :

. *Aquifolium*; *Baccis rubris*, H. L. The common Holly with Berries.

. *Aquifolium*; *Baccis luteis*, H. L. Yellow-berried Holly.

. *Aquifolium*; *Baccis albis.* White-berried Holly.

. *Aquifolium*; *Foliis ex luteo variegatis*, H. R. Par. *Aquifoli- aureum*, Munt. H. 163. Yellow-blotched Holly.

. *Aquifolium*; *Foliis ex albo variegatis*, H. L. White-blotched lly.

. *Aquifolium*; *Echinatâ Folii ſuperficie*, Corn. 180. Hedge- Holly.

. *Aquifolium*; *Echinatâ Folii Superficie Foliis ex luteo variega-* Yellow-blotched Hedge-hog Holly.

. *Aquifolium*; *Echinatâ Folii Superficie Limbis aureis.* Gold- ed Hedge-hog Holly.

. *Aquifolium*; *Echinatâ Folii Superficie Limbis argenteis.* Sil- -edged Hedge-hog Holly.

10. *Aquifolium*; *Foliis longioribus, Limbis & Spinis ex unico tum Latere per totum argenteo pictis*, Pluk. Alm. 38. BRO- RICK's Holly, *vulgô.*

11. *Aquifolium*; *Foliis ſubrotundis, Limbis & Spinis utrinque entatis. Aquifolium elegans*, D. Doct. Eales. Pluk. Alm. . EALES's Holly, *vulgô.*

12. *Aquifolium*; *Foliis oblongis lucidis, Spinis & Limbis argen-* . Sir THOMAS FRANKLIN's Holly, *vulgô.*

13. *Aquifolium*; *Foliis oblongis, Spinis & Limbis argenteis.* rtfordſhire White Holly.

14. *Aquifolium*; *Foliis ſubrotundis, Limbis argenteis, Spinulis & rginalibus purpuraſcentibus.* BRIDGMAN's Holly, *vulgô.*

15. *Aquifolium*; *Foliis oblongis, Spinis & Limbis flaveſcentibus.* NGSTAFF's beſt Holly, *vulgô.*

16. *Aquifolium*; *Foliis oblongis lucidis, Spinis & Limbis aureis.* ADLEY's beſt Holly, *vulgô.*

17. *Aquifolium*; *Foliis oblongis, Spinis & Limbis aureis.* WISE's lly, *vulgô.*

18. *Aquifolium*; *Foliis ſubrotundis, Spinis minoribus, Foliis ex luteo elegantiſſimê variegatis.* The Britiſh Holly, *vulgô.*

19. *Aquifolium*; *Foliis oblongis atro-virentibus, Spinis & Limbis aureis.* BAGSHOT Holly, *vulgô.*

20. *Aquifolium*; *Foliis latiſſimis, Spinis & Limbis flaveſcentibus.* Glory of the Eaſt Holly, *vulgô.*

21. *Aquifolium*; *Foliis oblongis, Spinis majoribus, Foliis ex aureo variegatis.* Glory of the Weſt Holly, *vulgô.*

22. *Aquifolium*; *Foliis ſubrotundis, Spinis & Limbis aureis.* ASLET's Holly, *vulgô.*

23. *Aquifolium*; *Foliis longioribus, Spinis & Limbis argenteis.* The Union Holly, *vulgô.*

24. *Aquifolium*; *Foliis & Spinis majoribus, Limbis flaveſcentibus.* Fine PHYLLIS Holly, *vulgô.*

25. *Aquifolium*; *Foliis minoribus, Spinis & Limbis argenteis.* Painted Lady Holly, *vulgô.*

26. *Aquifolium*; *Foliis anguſtioribus, Spinis & Limbis flaveſcentibus.* FULLER's Cream Holly, *vulgô.*

27. *Aquifolium*; *Foliis oblongis, ex luteo & aureo elegantiſſimê variegato.* Milk-maid Holly, *vulgô.*

28. *Aquifolium*; *Foliis oblongis viridibus*; *maculis argenteis notatis.* CAPEL's motled Holly, *vulgô.*

29. *Aquifolium*; *Foliis oblongis, Spinis & Limbis luteis.* PARTRIDGE's Holly, *vulgô.*

30. *Aquifolium*; *Foliis oblongis, Spinis & Limbis ocroluteis.* MASON's Copper-coloured Holly, *vulgô.*

31. *Aquifolium*; *Foliis parvis, interdum vix ſpinoſis.* Box-leaved Holly, *vulgô.*

32. *Aquifolium*; *Foliis parvis, interdum vix ſpinoſis, Limbis Foliorum argentatis.* WHITMILL's Holly, *vulgô.*

33. *Aquifolium*; *Carolinianum, anguſtifolium, Spinis raris breviſſimis.* Carolina Holly with ſmooth Leaves, *vulgô.*

AGRIMONIA. *Agrimony.*

Agrimony is a Plant of the ſpriggy Kind [Φρυγανώδης] ſhooting forth one ſlender, woody, ſtrait, black, hoary Stalk, a Cubit high, or more, with Leaves at Diſtances cut moſtly into five Diviſions, and ſometimes more, beſt reſembling the Leaves of Hemp or Cinquefoil, of a dark Colour, and ſerrated round the Edges. The Seed grows about the Middle of the Stalk, being ſomewhat rough, and bending down, ſo as, when dry, to ſtick on your Clothes.

The Leaves, bruiſed and applied with old Hogs-lard, heal Ulcers that are hard to cicatriſe. The Plant, or its Seed, drank in Wine, cures ſuch as are afflicted with the Dyſentery, a diſtempered Liver, or are bitten by Serpents. Some, by Miſtake, have given this Plant the Name of Mugwort, which is quite another Thing. *Dioſcorides, Lib.* 4. *C.* 41.

This Herb is called *Hociamſanum* by *Marcellus Empiricus, Cap.* 20.

Agrimony is thus diſtinguiſhed by the Moderns:

Agrimonia, Eupatorium Græcorum, Offic. *Agrimonia*, Ger. 575. Emac. 712. Raii Hiſt. 1. 400. Synop. 3. 202. *Agrimonia vulgaris*, Park. Theat. 594. *Agrimonia Officinarum*, Tourn. Inſt. 301. Boerh. Ind. A. 79. *Agrimonia ſeu Eupatorium*, J. B. 2. 398. Chab. 172. *Eupatorium Veterum ſive Agrimonia*, C. B. Pin. 321. *Eupatorium Veterum ſive Agrimonia inodora, vel minus odora.* Hiſt. Oxon. 2. 614. AGRIMONY. *Dale.*

This is the Eupatorium of Dioſcorides, Galen, and the antient Greeks; it grows about two Feet high, or higher, having ſeveral winged hairy Leaves, of a pale green Colour, compoſed of unequal Numbers of Parts, ſometimes five, oftener ſeven, whereof the three at the End are largeſt; they are ſerrated about the Edges, like the Leaves of Strawberries, having ſeveral ſmaller Leaves intermixed among them, and are ſet alternately on the Stalk, on the Tops of which grow the Flowers in long Spikes a little bending down, they are ſmall and yellow, made of ſix ſmall Leaves, with two green Appendices growing by them, and are ſucceeded by little rough Burs, which ſtick to any Thing that comes in their Way; each Bur containing two Seeds. The Root is long and ſlender, and creeps in the Ground, ſhooting out freſh Leaves and Branches every Year; it grows in Hedges and Borders of Fields, and flowers in June and July.

Some Authors will have this Plant called *Eupatorium quaſi hepatorium*, from its Uſefulneſs to the Liver; others will have its Name derived from *Mithridates Eupator*, who, as Pliny ſays, firſt found out its Virtue.

Lemery adds, that it is good for Looſeneſſes, and often put amongſt aſtringent Clyſters, as alſo in Gargariſms and Apozems. *Lemery de Drogues.*

Agrimony is reckoned a Cleanſer and Purifier of the Blood, a great Strengthener of the Liver, and ſerviceable for all Diſeaſes, ariſing from the Weakneſs thereof, as the Dropſy, Jaundice, and the like; it is commended likewiſe for the Strangury, and making bloody Water, and Riverius extols the Powder of the dry Leaves, for Incontinence of Urine. It is alſo reckoned among the vulnerary Plants, and put in Wound-drinks, and outwardly uſed in Baths and Fomentations. *Miller, Bot. Off.*

It is a moſt noble Hepatic, Vulnerary, and Splenetic, as any we have, and therefore moſt frequently uſed in Diſtempers proceeding from a weak Liver, as the Dropſy, Cachexy, and Jaundice. It is preſcribed alſo in Catarrhs, Coughs, and Retention of the Menſes; and very often uſed in Baths and Lotions. *Dale.*

It has a very fine fragrant Smell, and, infuſed in Wine till it has communicated its Fragrancy, is accounted a ſovereign Remedy againſt Sadneſs and Melancholy. It is a principal Vulnerary, and, though a Corroborative and Aſtringent, is good in Inflammations. It is of peculiar Service in Diſeaſes cauſed by the Laxneſs of the Fibres, in Fluxes incident to Camps, and Obſtructions of the Viſcera from Weakneſs of the Fibres. It is of excellent Virtue againſt the Fluxus Hepaticus, the Diarrhœa, Dyſentery, Scurvy, Rottenneſs of the Gums, Inflammation of the Jaws, Conſumption, Spitting of Blood, Dropſy, and Languor conſequent on a Fever. Externally, the Leaves boiled in refined Wine and Bran, and applied, are uſeful in Luxations and the Falling down of the Womb. Hence it appears to be a prime Medicine in Caſes that require Strengthening or Exhilarating.

It may be uſed as Tea, in which, if it be thought too aſtringent, Honey may be put. This Herb is ſaid to be appropriated to the Liver, becauſe, if infuſed in Water or Whey, and drank, it opens and ſcours the Inteſtines, and ſtrengthens them afterwards, which muſt be of ſingular Benefit to the Liver. It is of excellent Uſe in cold Countries. *Boerhaave.*

The Species of this Plant, according to Miller, are:

1. *Agrimonia Officin.* Tourn. Common or medicinal Agrimony.
2. *Agrimonia odorata*, Cam. The Sweet-ſmelling Agrimony.
3. *Agrimonia minor, flore albo*, Hort. Cath. Leſſer Agrimony with a white Flower.
4. *Agrimonia Orientalis humilis, radice craſſiſſima repente, fructu in ſpicam brevem & denſam congeſtis*, T. Cor. Dwarf Eaſtern Agrimony, with thick creeping Roots, and the Seeds growing in ſhort thick Spikes.

The Leaves of *Agrimony*, in the Quantity of five Pounds, being chymically treated, yield four Pounds of an acid and almoſt auſtere Liquor, two Ounces of an urinous alcaline Liquor, two Ounces of thick Oil, ſix Drams of fixed Salt, and an Ounce of inſipid Earth. From this Analyſis it appears, that this Plant contains very little Salt of the ammoniacal Kind, ſince no concrete urinous Salt is got from it, but the acid Salt, wherewith it abounds, joined with Earth, forms a Concrete reſembling Tartar, or Salt of Coral, combined with a large Proportion of Sulphur. Moreover, *Agrimony* has a ſaline Taſte, a little aſtringent and acid, and its Juice turns the Tincture of Heliotropium to a faint Red; ſo that its aſtringent and aperitive Virtues ſeem both owing to the ſame auſtere Salt; for, though theſe Effects are contrary to one another, yet they often flow from one and the ſame Principle, the Strengthening of the weak and lax Fibres of the ſolid Parts. Experience ſhews, that *Agrimony* has the Virtues which are ſuppoſed to ariſe from its Compoſition; for it is aſtringent, detergent, reſolvent, vulnerary, and aperient. *Geoffroy.*

AGRIMONOIDES.

Agrimoniæ ſimilis, C. B. *Agrimonoides*, Park. Col. *Pimpinella folio Agrimoniæ, nonnullis.*

It has a ſmall, fibrous, woody, and reddiſh-coloured Root. The Leaves next the Ground are joined to hairy, reddiſh Pedicles, of nine Inches long, theſe are like Strawberry Leaves, but blacker, and more in Number, diſpoſed after the Manner of Agrimony-leaves, with ſmaller ones interſperſed (as is obſerved alſo in Agrimony) hairy, ſoft, ſerrated at the Edges with finer and more acute Indentings than Agrimony; and the Leaves themſelves are rounder. It produces ſeveral ſupine, hairy, red Stalks, that ſend forth three or four Branches, which are furniſhed with ſmaller, fewer, and rounder Leaves, that have Auricles about the Stalk, like others of the ſame Kind, and at their Top bearing three or four hairy Buds, like thoſe of the Pomegranate, very much jagged at the Edges, and containing the ſmall yellow Flower of the Agrimony, which ſometimes hardly opens, though the Fruit is duly formed within. After the Flowers are fallen off comes the Seed, which is of a round oblong Figure, of the Size of a Grain of Wheat, and formed with two Protuberances. When ripe, it falls off ſpontaneouſly, leaving the Huſk gaping. It is of an abſterſive, drying, and bitter Taſte; and in Smell is a Mean between the fragrant and common Agrimony.

It flowers in April, comes to Perfection in May, and grows among Bryers and Shrubs in ſome mountainous Parts of Italy. *Raii Hiſt.*

It agrees with Agrimony in Virtues. *Boerh.*

AGRIOCARDAMUM. From Ἄγριος, *wild*, and Κάρδαμον, *Naſturtium*. The ſame as *Iberis*, Sciatica Creſſes. See IBERIS.

AGRIOCASTANUM. The ſame as *Bulbocaſtanum*, *Earth-Nut*, or *Pig-Nut*, which ſee.

AGRIOCINARA. From Ἄγριος, *wild*, and Κινάρα, *Artichoke*. The *wild Artichoke*. See CINARA.

AGRIOCOCCIMELEA. Ἀγριοκοκκιμηλέα. From Ἄγριος, *wild*, Κόκκος, *a Berry*, and Μηλέα, *an Apple-tree*. The ſame as *Prunus Sylveſtris*. *Blancard.*

AGRIOMELA. Ἀγριόμηλα, *Crabs*, the Fruit of the Malus Sylveſtris. The Malus Sylveſtris, or Crab-tree, is thus diſtinguiſhed by Authors:

Malus Sylveſtris, Offic. Ger. 1276. Emac. 1460. Jonſ. Dendr. 1. Raii Synop. 3. 452. Park. Theat. 1502. *Malus Sylveſtris ſive agreſtis*, J. B. 1. 26. Raii Hiſt. 2. 1448. *Mala Sylveſtria, quæ & alba, & rubra, & majora, & minora*, C. B. Pin. 433. *Malus Sylveſtris acido Fructu*, Tourn. Inſt. 634. The CRAB-TREE, or WILDING. *Dale, Pharmac.*

It is commonly lower than the cultivated, more crooked, ſcraggy, branched, and is ſuppoſed to be of a harder and firmer Subſtance. The diſorderly and entangled Multiplicity of its Branches and Twigs, and the Luxuriancy and native Rigidneſs of the Shoots which it ſends forth on all Sides, as well from the Stem as the Root, eaſily diſcover its wild and uncultivated Nature. The Leaves are generally leſſer, and more ſhrivelled than thoſe of the cultivated Tree; but their Flowers are alike, only the wild ones are, for the moſt Part, ſmaller, of a fragrant Smell, and ſometimes inclining to a Red. But the principal Difference is in the Fruit, or Apples; for thoſe of the Crab-tree are ſmall, ſeldom as big as Walnuts, but near about the Size of Medlars, only rounder, and hanging by a ſomewhat long and ſlender Pedicle, with a green Rind, or Skin, which at laſt turns to Yellow, and in ſome to a beautiful Red. But they will bear no Compariſon with the worſt of thoſe which grow on cultivated Trees, neither in Softneſs of Subſtance, nor Agreeableneſs of Taſte, for they are endued with ſuch a Sourneſs and Aſtringency, as renders them utterly unfit to be eaten.

There are as many Species of Wildings as of cultivated Apple-trees, and more than it is poſſible, or worth While to enumerate.

They are in Bloſſom at the ſame Time with thoſe which are cultivated, or a little later, and their Fruit is alſo ripe after the others, that is, in October.

They are common in Woods and Hedges, not only in England but in foreign Countries.

The Fruit is vehemently auſtere, acid, and aſtringent, as well as the Juice expreſſed from it, which is very frequently uſed in England, France, and Germany, inſtead of Vinegar. Some call it *Agreſta*. It will keep ſeveral Years. The French and Germans think it renders Fiſh, that are boiled in it, firmer, and more ſavoury; and this has been found true alſo amongſt us, ſays Bauhine. The Engliſh call it *Verjuice*, that is, *green Juice*, borrowing the Name from the French. *Raii Hiſt. Plant.*

Wild Apples [ſuch as grow on Crab-trees] are like your early ones, and have an aſtringent Quality. In Caſes which require the Uſe of Aſtringents, you are to chuſe thoſe which are moſt unripe. *Dioſcorides, L. 1. C. 163.*

Verjuice mixed with Yeaſt, and applied to the Place, is good for the Eryſipelas, Itch, and all Sorts of Inflammations. Dropped into the Eyes, it is believed to cure their Redneſs, Inflammations, and Lippitude.

For the Scrophulæ [King's Evil] firſt waſh and cleanſe the Ulcers well with Verjuice, and afterwards apply thereto black Wool, moiſtened with Oil of Neat's-foot. *Raii Hiſt. L. 2.*

Its Fruit and Juice are the Agreſta of the Shops, called Verjuice; it is vehemently auſtere, acid, and aſtringent. *Dale, Pharmac.*

AGRION. Blancard ſays, this is a Name for *Peucedanum*. I do not know his Authority, having met with the Word in no other Author. See PEUCEDANUM.

AGRIOPHYLLON. This alſo, according to Blancard, is a Name for *Peucedanum*.

AGRIORIGANUM. From Ἄγριος, *wild*, and Ὀρίγανον, *Origanum*. *Wild Origanum*, or *wild Marjoram*. See ORIGANUM.

AGRIOSELINUM. The ſame as *Hippoſelinum*, which ſee. *Dioſcorides.*

AGRIOSTARI. A Species of Wheat, called *Triticum Creticum*. See TRITICUM.

AGRIPALMA. A Name of *Cardiaca*, *Motherwort*. See CARDIACA.

AGRIPPÆ. Thoſe Children are thus called, who are born with the Feet foremoſt, becauſe Agrippa, the Roman, was ſaid to be born in this Manner.

Of all Births, where the Child preſents any Part but the Head; the leaſt dangerous, and moſt eaſy, is that, when the Feet come foremoſt, and even often, by the Hands of a ſkilful Man-midwife, it is accompliſhed ſooner and with leſs Pains than a Birth where the Head preſents.

Since the Head is to open the Paſſage, it has no Way to do it, but by preſſing ſtrongly againſt the internal Orifice, and redoubling its Efforts at each Pain, which are reiterated for that Purpoſe. But after the Waters are pierced, if the Feet are preſent at the Paſſage, the Operator, by gently drawing them, cauſes the Orifice to dilate, in order to give a Paſſage to the Legs, and after them to the Thighs, and ſo on to the whole Body. Thus the Parts which come out firſt, being in Bulk than thoſe which follow them, they open the Way after another; ſo that in this Situation, the Birth is often ſooner brought about, and a great deal of Pain ſaved to the Mother.

The

There are Signs by which we know that the Child is not rightly turned, and that ſome other Part preſents, and not the Head: For Example; if the Pains are remiſs, and at long Intervals; if they begin in the Region of the Reins, and do not preſs ſtrongly downwards, there is Reaſon to believe the Head does not preſent. But the Operator is certain of it, when he touches the Woman, and perceives that nothing puſhes againſt the internal Orifice; or if he does perceive ſomething, it is not hard and round like a Head. In this Caſe, he feels the Waters prepared, but in preſſing his Finger againſt the Membrane, he does not meet with the ſame Reſiſtance, as he would from the Head of the Child.

In this Juncture, the Man-midwife is to wait till the Waters break of themſelves, and, by their Evacuation, make Way for the Infant to deſcend, and for the Part which preſents, to ſink down. If the Feet, or a Foot, preſent, he is not to think of returning the Infant, or endeavour to give it another Poſture; but he is to receive and bring it away by the Feet, conducting himſelf by the following Directions.

When, I ſay, that he is to wait till the Waters break of themſelves, I do not pretend to make it a general Rule: I mean, when the Pains are remiſs, and the Delivery ſeems at a Diſtance; but when the Pains are frequent and intenſe, and the Waters are diſtended, ſo as to fill up the internal Orifice, the Operator ought to break them with his Nails, in order to make Way, by their Evacuation, for the Infant to deſcend, and pre- nt itſelf at the Paſſage. If it be rightly turned, its Head comes pon the internal Orifice, and hinders the reſt of the Waters om running off, by this Means facilitating a Paſſage for the ody of the Infant, after the Head has made Way. But if any her Part, beſides the Head, place itſelf at the Paſſage, all the Waters run off by little and little, there being nothing to ſtop em; ſo that, when the Child is coming away, there is none ft, which makes the Birth the more difficult.

It would not be impoſſible, if the interior Orifice were ough dilated, to introduce the Hand, as ſoon as the Waters ere pierced, and before the Infant was fixed in the Paſſage, to turn it, when it preſented the Feet, and to make it take its tural Poſture, which is to come with the Head foremoſt; as would neither be impoſſible, when it preſented the Head, to turn it, and make it come by the Feet: But we are not to n at changing either of theſe two Poſtures, which are the moſt tural; and whether it preſent the Head or the Feet, we are receive it after both Manners, and not expoſe the Mother to ins that can be of no Service, nor the Infant to the Violences ich muſt be offered it, in order to make it change its Situa- n.

As ſoon as the Waters are pierced, and the firſt Flow is er, the Man-midwife, who muſt have no Rings on his Fin- s, nor his Nails too long, having anointed his Hand with l or Butter, muſt introduce it into the Vagina. If he finds internal Orifice not enough dilated to paſs his Hand up to Infant, he muſt try gently with two or three Fingers, to di- it. If the Feet preſent, he muſt graſp them, and, drawing m without Violence, oblige the reſt of the Parts to follow: d ſo is the Woman happily delivered, and in a very little me.

If one Foot only preſents, we are to bring it down into the gina, and examine whether it be the right or the left Foot, order to guide the Hand along the Inſide of the Leg which held, the more eaſily to find out the other; which is no ficult Matter to a ſkilful Practitioner, who, when he has got d of one Foot, ſoon finds the other. Having got hold of h, he muſt join them together, and, wrapping them in a rm Cloth; draw them gently out, with the reſt of the Body, ich is obliged to follow them.

Mauriceau adviſes us to take Care, that the two Feet we d, do not belong to two different Children; but as it is im- ible for ſuch a Caſe to happen, that Caution is unneceſſary. hen there are two Children, they are incloſed each in its ticular Membrane, which never break together, but one r another, ſo that four Feet cannot preſent at one Time. the two Children, one is at the Paſſage, the other at the tom of the Uterus, which hinders them from coming out ether. Beſides, if one had a Mind to join the right Foot of Infant, with the left Foot of another, he would find it im- ible, for the Diſtance that there is between them. So that he ght have ſpared his Pains in making an Obſervation, which never exiſt but in Idea, and not in reality.

Deventer, and Heiſter, however, in this Point, are of a erent Opinion, and agree with Mauriceau, that two Feet, nging to different Children, may poſſibly preſent toge-

They who have the Precaution to tie the firſt Foot of the ld which comes out with a Ribbon, which they faſten to the ther's Thigh, for fear it ſhould retire, while they are em- yed in finding the ſecond, and ſo put them to the Trou- of ſearching for it a ſecond Time, doubtleſs believe that it is the Power of the Child to draw back its Foot: But they miſtaken; for the Mother who preſſes downwards, without ceaſing, rather conſtrains the Infant to advance in its Way out, than ſuffers it to replace itſelf within. So here is another needleſs Precaution, that can never be of any Service.

In drawing gently the Foot that is come out, the other often preſents itſelf; but if it delays ever ſo little, it muſt be ſearched for, which is done by ſliding the Hand along the Thigh of the Infant up to its Buttock, where you are ſure to find it. The two Feet being brought out, and joined together, are to be wrapped in a dry linnen Cloth, to prevent the Moiſture with which they are covered, from making them ſlip out of the Hands of the Operator, in the Time of the Operation.

The Child being thus extracted beyond the Hips, the Operator ſtops a while, in order to diſengage the Arms, one after the other, and to lay them at Length by the Body. When this is done, he renews his Efforts, and pulls with more Force, becauſe of the Shoulders, which, being the moſt bulky Part of the Body, are brought away with moſt Difficulty. When the Shoulders are paſſed, the Head follows eaſily, except it be of an extraordinary Bigneſs; and in order to prevent its being ſtopped, the Operator muſt call upon the Mother to redouble her Efforts, that while he is drawing on one Hand, and the Mother bearing down on the other, the Head may the more eaſily be extricated, and follow the reſt of the Body.

Mauriceau would not have one Arm of the Child left for a Conductor and Stay to the Neck of the Infant, without bringing it down, though it is the Practice of many other Men-midwives, who ſay it ſucceeds very well. He ſays, that the Arm which is left, cauſing the Head to bend to one Side, hinders it from coming in a ſtrait Line, and ſo may cauſe it to ſtick at the Os Pubis. But, in Anſwer to this, they ſay, there needs no more than to leave both Arms, for then the Head will be right, and its Bulk not the more augmented, becauſe they are placed at the Sides of the Head, on the Temples, where it is flat. But whether the Arms are laid along by the Sides, or left in their Situation by the Sides of the Head, it makes no material Difference, and can do no Manner of Prejudice.

When the Feet of the Child come foremoſt, it is a Sign that it did not turn in the Beginning of the ninth Month, like all other Children, but that it preſents in the ſame Poſture it always kept in the Womb. If it lies on its Back, with its Face upwards, which is eaſily known by the Feet, which are brought out, the Operator muſt take a great deal of Care not to extract it in this Situation, becauſe, the Face lying upwards, the Chin would be ſure to catch upon the Os Pubis, which would extremely perplex the Operation. He muſt, therefore, in extracting the Child, gradually turn it, as it comes, on its Face, with its Back upwards, which is the moſt convenient Situation for the Birth, and where it runs leaſt Hazard of being ſtopped by the Bones which ſurround the Paſſage.

The Child thus turned with its Face downwards, is brought away without much Difficulty, provided the Bulk of the Head be proportioned to that of the Body. But when the Head is of an extraordinary Size, it has the Misfortune to be ſtopped by the Bones of the Pelvis, which being incapable of giving Way, will not ſuffer it to paſs. When this happens, you muſt not be too violent in pulling the Body of the Child, for fear of ſeparating it from the Head, as it too often happens. In this Caſe the Operator is to give the Feet to be held by an Aſſiſtant, with a Charge not to draw before he orders it. Then, the Back of his left Hand being turned towards the Coccyx, he ſlips one or two Fingers into the Mouth of the Child, to preſs down its Chin; and with his right Hand graſping the Neck near the Occiput, he draws gently, with the Aſſiſtance of the Perſon who holds the Feet, and has Directions to draw in Conjunction with him. And thus the Child is born, without running the Riſque of loſing its Head.

If we ought to take Care of drawing the Child away with too much Violence, we are, at the ſame Time, to avoid leaving it too long in that Situation, becauſe it would infallibly die if it remained there above half a Quarter of an Hour. It wants Reſpiration, in order to maintain the Circulation of the Blood, and Reſpiration cannot be performed, while the Head is thus encumbered. Nor can the Circulation between the Mother and Child be carried on, becauſe the Cord, by Means of which it is preſerved, is preſſed between the Head of the Child, and the Bones that ſurround it. Since then, neither of theſe can be performed, it muſt unavoidably periſh. Such a Misfortune happened in 1695, to a Male Infant of the Duke of Savoy, who had continued too long in that Situation, by the Fault of the Mid-wife. Upon this Account, two Years afterwards, when the Ducheſs of Savoy, now Queen of Sicily, was with Child, the Duke, her Huſband, now King, ſent his chief Surgeon to Paris, to learn the Art of Midwifry, who afterwards returned to Turin, and delivered the Queen of all the Children ſhe has had, who did very well. *Dionis des Accouch.*

Deventer, a very good Judge of theſe Affairs, agrees pretty much with Dionis as to the Manner of treating theſe Caſes. He is very particular in directing, that one Foot ſhould not be ſuffered to ſink too far into the Paſſage, but that as ſoon as ever the Waters break, if one Foot preſents it ſhould be kept back;

mean Time the Operator muſt ſlide his Hand along the Inſide of the Leg which preſents, to which he is directed by the great Toe, and by this means he is infallibly directed to the other Leg, if he does not meet with it in the Way; this he is to join with the other, and bring both together out of the Paſſage.

But if it happens, that the Leg is already ſunk too deep into the Paſſage, he adviſes to place the Woman with her Head conſiderably lower than her Hips, that the Uterus together with the Child may recede a little, and then to return the protruded Leg, or at leaſt the Knee, that there may be more Room to ſearch for the other Leg, and bring both away together in the Manner directed above.

This Author is utterly againſt bringing down either one or both Arms, but recommends it ſtrongly to bring the Child away without that Trouble to the Mother, or Operator, and Danger to the Child, who muſt neceſſarily remain longer confined in the Paſſage. And gives repeated Aſſurances that leaving the Arms to come away lying on each Side the Head, can be of no ill Conſequence.

At the Time the Head is extracting, all Authors agree with Deventer in adviſing the Mother to bear down forcibly, whether ſhe has Pains, or not.

The grand Point wherein Authors upon this Subject diſagree, is with Reſpect to bringing down the Arms, when the Child is advanced as far as the Shoulders. La Motte, Giffard, and Chapman adviſe it. Dionis, as we have ſeen, leaves the Thing indifferent, and Deventer is utterly againſt it. Hence we muſt conclude, that all theſe Authors have ſucceeded very well in their different Ways of delivering Women under theſe Circumſtances. And if ſo, that Method which gives a Woman the leaſt Pain, the Operator leaſt Trouble, and the leaſt endangers the Child, is to be preferred; and therefore Deventer's Method of leaving the Arms of the Child to come away with the Head, muſt be the beſt.

There is not much Difficulty in Births of this Sort, till the Child is extracted as far as the Head, but it is ſometimes ſubject to ſtick a little there, ſome Management is therefore neceſſary to bring the Head away expeditiouſly, otherwiſe, as Dionis obſerves, the Circulation by the Intervention of the Umbilical Veſſels being hindered, the Child muſt periſh. The following Obſervations will ſet all Circumſtances relating to Labours of this Sort, in an intelligible Light, and either confirm, or illuſtrate the Doctrine laid down by Dionis as above.

When the Head ſticks, and does not come away readily, one, or two Fingers are to be introduced into the Child's Mouth, whilſt with the other Hand the Operator lays hold of the back Part of the Neck, then by acting with each Hand alternately, and ſometimes with both together, the Head is generally readily extricated. *La Motte.*

As ſoon as the Child is advanced as far as the Buttocks, if the Toes are turned towards the Mother's Belly, the Body as it is extracted muſt be turned by Degrees in ſuch a Manner, that the Toes may be towards the Anus, and conſequently the Heels towards the Belly of the Mother, otherwiſe the Chin will catch upon the Os Pubis, and endanger the Child and the Mother too. In this Caſe a greater Force is requiſite to bring away the Child, and Pulling too hard may ſeparate the Head from the Body, and cauſe a great deal of Trouble in bringing away the Head afterwards. *La Motte.*

When this Precaution has been neglected, and the Child is advanced as far as the Chin, where it ſticks, being intercepted by the Os Pubis, the Method is to introduce the Fingers of one Hand betwixt the back Part of the Head, and Os Coccygis, and with theſe to thruſt back a little the hinder Part of the Head, mean Time, one or two Fingers of the other Hand are to be introduced betwixt the Os Pubis and Chin, till they can be got into the Mouth of the Child; then turning the Head a little on one Side, and acting ſometimes with one Hand and ſometimes with the other, and ſometimes with both together, as Occaſion requires, the Head is to be freed from its Confinement, without endangering its Separation from the Body, which by pulling hard without theſe Cautions would probably be effected. *La Motte.*

The Reaſonableneſs of this Method will appear very plain to whoever conſiders the Figure, and preſent Situation of the Head. When the Chin is thus fixed on the Os Pubis, the back Part of the Head is thrown towards the Os Sacrum, and this the more, the greater Force is uſed in drawing the Child in order to bring it away, inſomuch that it lies in ſome Meaſure a-croſs the Paſſage, with the Chin at the Os Pubis, and the Crown of the Head pointing towards the Os Sacrum; in this Situation then it is next to impoſſible for it to come away, unleſs the Paſſage is very large. But when the back Part of the Head is thruſt from the Os Sacrum towards the Bottom of the Uterus, the Chin approaches nearer the Neck, and conſequently is more likely to be brought off the Os Pubis, which obſtructs it. On the Contrary, when the Chin is made to approach the Neck, the Crown of the Head is made to recede from the Os Sacrum. So that each Hand in this Way of acting, recommended by La Motte, aſſiſts the other in the beſt Manner that can be conceived, and gives them a Command of the Head to turn it a little on one Side, that the Child may be extricated from this dangerous Situation.

If both Feet cannot be found without Difficulty, the Child may be extracted by one; however, in this Caſe, Care muſt be taken, not to draw one Foot with the ſame Violence as both would bear, for Fear of ſtretching the Ligaments, and laming the Child for ever. *La Motte.*

La Motte obſerves in another Place, that before we attempt to bring away a Child by one Leg only, we ſhould be very ſure that the Child can come in that Poſture, I ſuppoſe he means, that the Paſſage is large enough, in Proportion to the Size of the Child; for, he ſays, when the Child is engaged in the Paſſage to a certain Point, it is not in the Midwife's Power to bring it any other Way, that is, to get the other Foot.

The late Writers on the Subject of Midwifry of our own Country, I mean Chapman, and Giffard, are of Opinion that both Feet ſhould be brought out, provided it can be done conveniently; but if they can get one Foot, they are in no farther Pain about the other than to aſſure themſelves that it is bent forwards, towards the Belly; and then wrapping a ſoft warm Cloth about the Leg, they readily bring the Child away by that only; eſpecially when the Paſſage is tolerably large, the Woman has had a Child before, and the Infant is of a moderate Size.

This Sort of Birth is of Importance enough to deſerve a particular Attention, becauſe all Births whatever, where the Child preſents any Part but the Head, muſt be reduced to this, for the Method of turning a Child, which preſents in a wrong Poſture, in ſuch a Manner as to bring the Head to the Orifice, as it ought to be naturally, is now exploded by the beſt Authors, and Practitioners, as more inconvenient and dangerous to the Mother and Child, as well as troubleſome to the Operator. Deventer is even of Opinion, that in Caſes where the Head preſents, but the Birth is retarded by a bad Poſition of the Womb, it would be the beſt Way to bring the Child away directly by the Feet, without waiting to reduce the Womb to its natural Situation, which is not done without much Difficulty and Pain. Heiſter, in this Caſe, agrees with Deventer, provided the Womb, and with it the Head of the Child, cannot immediately be reduced to the natural Poſition. By a bad Poſition of the Womb, I mean, when it inclines too much, either forwards, or backwards, or to either Side, for then the Orifice, inſtead of anſwering directly to the Paſſage, is thrown either upon the Os Sacrum, Os Pubis, or the Bones which form the Sides of the Pelvis, which obſtruct the Birth, and render the Pains, let them be never ſo ſtrong, of no Effect.

I muſt not omit taking Notice, that Heiſter recommends another Method of extricating the Head, when the Face is turned towards the Os Sacrum. This Author is apprehenſive, that the Tenderneſs of the lower Jaw would render it liable to be broke or diſlocated, when the Fingers of the Operator are placed in the Mouth. He therefore adviſes to introduce the Hand far enough to place two Fingers one on each Side of the Child's Noſe, and then with this Hand to preſs gently towards the Inteſtinum Rectum, in order to make more Room for the Egreſs of the Child.

He alſo adviſes, when the Face of the Child is turned towards the Mother's Belly, to place the Fingers on each Side of the Noſe, inſtead of introducing them into the Mouth. Whilſt the Operator is in this Manner endeavouring to bring the Head away, an Aſſiſtant ſhould draw the Child gently, that by theſe united Efforts the Birth may be expedited.

When the Body of the Child is turned in ſuch a Manner, during the Extraction, that the Toes point downwards, by which it ſhould appear that the Face is turned towards the Os Sacrum of the Mother, it is poſſible, however, that the Neck may be twiſted in ſuch a Manner, that the Face may point towards the Mother's Belly, and then the Chin will catch on the Os Pubis. This Caſe is not to be diſcovered otherwiſe than by Feeling, and when the Operator is certain of it, he muſt conduct himſelf by the Directions given above.

It is a general Rule, that the Force with which a Child is drawn when it comes with the Feet foremoſt, ſhould not be directed in a right Line from the Paſſage, but inclining ſomewhat downwards towards the Os Coccygis.

A few Caſes will be ſufficient to illuſtrate theſe Rules.

CASE I. from LA MOTTE.

In September, 1693, I was called to the Wife of a Carpenter. I found the Midwife pulling with all her Force the Child, who had preſented the Feet, and was extracted as far as the Neck, but the Chin appeared to be fixed upon the Os Pubis. I immediately introduced one Hand betwixt the Os Pubis and Face of the Child, who had been dead a conſiderable Time, and got a Finger into the Mouth, and with the other Hand, which I introduced betwixt the Rectum and back Part of the Head, I puſhed the Head a little backwards. By Means of my two Hands placed in this Manner, I had Command enough of the Head to turn it a little on one Side; and this gave me Room to introduce my Fingers ſomewhat farther ſo that I had an Opportunity of acting with my Hands alternately, and ſometimes with both together, till at laſt I brought the Chin into the Paſſage, which gave me the Advantage of taking better Hold, for I durſt pull at the Neck but very gently, it being almoſt ſeparated from the Head when I arrived. Having put Things in this Situation, I waited for a Pain, and the next being fortunately a very ſtrong one, by the Help of this joined with the ſmall Aſſiſtance I was able to give with my Hands, I accompliſhed the Delivery, and brought the Child away, whoſe Head would have infallibly have been ſeparated from the Body, and left in the Womb, without this Care and Caution.

CASE II. from LA MOTTE.

arch 6, 1717. The Curate of Cherbourg ſent to deſire my Aſſiſtance for a poor Woman, who had been in Labour three Days, and whoſe Child was certainly alive. He informed me that two Midwives had been with her all the Time, without being able to deliver her. I made all the Haſte I could to her, and, upon Examination, found the two Feet preſenting at the Paſſage, with the Toes turned towards the Mother's Belly, and conſequently the Heels towards the Anus. I laid Hold on them, and, joining them together, made an Effort to draw them out, but could not ſucceed. As the Force I employed, on this Occaſion, was at leaſt ſufficient to move them, if not to bring them away, I did not doubt but there was ſomething extraordinary in the Caſe, which cauſed this Reſiſtance. In order to examine farther, I introduced my other Hand into the Vagina, and paſſing it up, I found the Buttocks ſunk ſo low, that they intirely filled the Paſſage, and kept the Knees bent upward, in ſuch a Manner, that it was impoſſible to move the Legs, till I had puſhed back the Buttocks, and then I brought the Child away with a great deal of Eaſe.

CASE III. from GIFFARD.

uary the 25th, 1725, I was called upon early in the Morning, to go to Weſtminſter, to viſit a Woman in Labour; Upon Examination, I found the Child was come forth, with the Feet foremoſt, as far as the Buttocks, in which Poſture it had ſtuck for about two Hours, before I got there, the Midwife being foiled in all her Attempts to extricate it out of this Difficulty. I therefore thought it highly adviſeable to endeavour the Delivery as ſoon as poſſible, becauſe the Child was already dead, by ſticking ſo long in this Manner, and the Mother underwent very great Pain and Uneaſineſs. I hereupon wrapped a dry Cloth about the Thighs and Buttocks, and, by gently pulling, endeavoured to bring it forwards; but it moved with great Difficulty, and very ſlowly. I was at length, after much Trouble, able to bring down the Arms, and then placing one of my Hands under the Breaſt, with the other I pulled at the Shoulders; but that not availing, I got one Finger into the Child's Mouth, and pulled by the under Jaw, at the ſame Time clapping two Fingers againſt the Child's Cheeks; unluckily the Jaw gave Way and ſplit, by which unhappy Accident, in a great Meaſure, I loſt my Hold; yet, after great Fatigue and Labour, I brought the Child, but not without great Apprehenſions and Fear of the Head's being ſeparated from the Body.

CASE IV. from GIFFARD.

il the 6th, 1726, I was deſired to go to a Woman, the Wife of a Cabinet-maker, where, when I came, the Midwife told me, that the whole Body was in the World, and that it ſtuck at the Head. I thereupon (well knowing the Danger the Child muſt be in, being ſo confined, and that it would, if it was not already, be very ſoon choaked) immediately endeavoured to extricate the Head, which I ſoon accompliſhed after this Manner: I clapped one Hand flat upon the Breaſt, and with the other taking Hold above the Shoulders, drew towards me, but the Head did not readily follow. I therefore paſſed my Fingers up to the Child's Mouth, ſupporting the Breaſt with my Wriſt and Arm, and putting one Finger into the Mouth, and two others upon the Cheeks, I pulled towards me, and at the ſame Time drawing with my other Hand above the Shoulders, brought out the Head. The Child was born alive, but died ſoon after.

CASE V. from GIFFARD.

the 3d, 1726, I was, about eleven a Clock at Night, tched by a neighbouring Apothecary to his Wife, who d been in Labour ever ſince one a Clock that Morning. pon Examination, I found the Membranes much extended the Waters, and her Pain ſtrong, but not bearing forards; ſhe continued in this Condition till about five Clock the next Morning, when upon a ſtrong Pain e Membranes gave Way, and the Waters guſhed out. I ould have obſerved, that I could not feel any Part of the hild, until the Membranes were broke, which made me judge it would preſent in a wrong Poſture, as it accordingly did; for, upon the paſſing off of the Waters, the Feet came foremoſt, with the Toes towards the right Hip of the Mother; when it was advanced as far as the Hips, by gently turning it I brought the Face towards the Mother's Fundament; afterwards I drew it almoſt to the Shoulders, wraping warm, dry, and ſoft Linnen Cloths about the Hips and Body. It was with ſome Difficulty I brought down the Arms, but that being done, I placed one Hand flat upon the Breaſt, to ſupport it, and with the other took Hold above the Shoulders and pulled towards me; but the Head ſticking, I was forced to paſs the Ends of two Fingers into the Mouth, and ſo brought out the Head. Immediately I made a Ligature upon the String and divided it, and wrapping the End about my Fingers paſſed my Hand up towards the Placenta, and finding it ſtuck to the Bottom of the Womb, I ſeparated it with the Ends of my Fingers, and brought it away. The Child at its firſt Appearance ſeemed to be dead, but in a little Time began to move, and gradually to recover; it proved a large and luſty Girl.

CASE VI. from CHAPMAN.

I was ſent for to a Woman, where the Child preſented with the Feet; the Midwife had gotten all but the Head, which ſtuck faſt, and had ſo done for four Hours. I immediately introduced my Hand, ſo as to paſs two Fingers into the Infant's Mouth, by which, pulling gently at the Neck with the other Hand, and moving the Head tenderly to and fro, I delivered her with Eaſe and Safety.

CASE VII. from CHAPMAN.

I was ſent for to a Woman, where the Membranes of two Children were broke; for, in paſſing my Hand, the Infants were in ſuch a Poſition, that I found a Number of Hands and Feet. The Waters had been ſo long loſt, and the Contraction of the Parts ſo great, that I had ſome Difficulty, not in diſtinguiſhing a Foot from a Hand, but in pairing the Legs; which, when by paſſing my Hand up to the Groin, I had done, I brought the firſt Child away by the Feet, and afterwards the Second, but with greater Eaſe, in the ſame Manner; then I gently ſeparated a large double Placenta (which adhered a little more than uſual) and ſo drew it away by the two Navelſtrings.

AGRONOMOS. Ἀγρόνομος. From Ἄγρος, *a Field*, and Νέμω, *to feed.* It is an Epithet for wild Animals, that ſeek their Subſiſtance in the Fields.

AGROPHON. Ἄγροφον. Galen, in his *Exegeſis*, explains this by ὀρεινὸν, *mountainous.*

AGROSTIS, Ἄγρωστις. This is the *Agroſtis* of Dioſcorides. *Gramen*, Officin. *Gramen caninum*, Ger. 22. Emac. 23. Mer. Pin. 50. *Gramen caninum vulgatius*, Park. Theat. 1173. Hiſt. Oxon. 3. 178. *Gramen caninum vulgare*, Merc. Bot. 1. 38. Phyt. Brit. 51. *Gramen caninum arvenſe, ſeu Gramen Dioſcoridis*, C. B. Pin. 1. Theat. 7. Elem. Bot. 417. *Gramen caninum ſpicæ triticeæ aliquatenus ſimile*, Raii Meth. Gram. 171. Boerh. Ind. A. 2. 155. *Gramen ſpica triticea repens vulgare caninum dictum*, Raii Synop. 3. 390. *Gramen repens Officinarum*, Chab. 181. *Gramen repens Officinarum forte, ſpicæ triticeæ aliquatenus ſimile*, J. B. 2. 457. Raii Hiſt. 2. 1255. *Gramen Loliaceum radice repente ſive Gramen Officinarum*, Tourn. Inſt. 516. Rupp. Flor. Jen. 245. Buxb. 145. QUICK-GRASS, or COUCH-GRASS. *Dale.*

The *Agroſtis* produces jointed Tendrils, which creep on the Ground, and take Root from their Joints. The Roots taſte ſweet, and are alſo jointed. The Leaves are pointed, hard, broad, like thoſe of the ſmall Arundo, or Reed, and ſerve to feed Cattle. *Dioſcorides, L.* 4. *C.* 30.

It is a tall Graſs, ſometimes above three Cubits high. The Leaves, which are for the moſt Part rough, proceed from a long Vagina, or Sheath, four or five on a Stalk, that is, one from each Joint. The Stalk bears an Ear on its Top, in the ſame Situation as that of Wheat, but thinner, and more inconſiderable on all Accounts, reddiſh, with a very ſhort Beard. The Seed is of an oblong Figure, and of a dark Colour. The Roots, with Reſpect to Graſs, are ſomewhat big, and creep far and wide, hard, ſharp, and pungent at their Extremities, and of a ſweet Taſte.

They are very unwelcome and troubleſome by their Creeping and Luxuriancy in Fields and Gardens, and hard to be extirpated.

I obſerved another Species, or Variety of this Graſs, with a much longer Beard, about Settle, a little Town in Yorkſhire, and ſeveral other Places in the North of England. *Raii Synop.* 2. 1255.

The Root bruiſed, and applied, glutinates Wounds. The Decoction of it, drank, is effectual againſt the Gripes, Difficulty of Urine, and Ulcers of the Bladder, and breaks the Stone. *Dioſcorides, L.* 4. *C.* 30.

The Root of the *Agroſtis* is cold and dry, but the Herb refrigerates, though weakly, and is in the middle State between

Humidity and Dryneſs. The Root has a biting Quality, and ſome little Fineneſs of Parts, and has been ſometimes found effectual in breaking the Stone. The Seed of the common Sort is weak, but what grows in Parnaſus is of fine Parts, of a drying Quality, and a ſouriſh Taſte. *Oribaſ. Med. Col. L.* 15. *C.* 1. *Aet. Tetr.* 1. *Serm.* 1. *Tit. A.*

Green Graſs, not only what is ſo called by Way of Preheminence in the Shops, but all Sorts of it, diſſolves Stones, eſpecially bilious ones. Oxen and Sheep that are troubled with the Stone in the Winter, are freed in the Spring by eating the green Graſs, as is obſerved by Fran. de la Boe Sylvius, and alſo by Dr. Gliſſon in his *Anatomy of the Liver*. *Raii Synop.* 2. 1255.

It refrigerates, dries, opens, and is ſomewhat aſtringent, and is of fine and penetrating Parts. *Schrod. Dale Pharmac.*

Its Roots are of great Uſe in almoſt all Ptiſans. Its diſtilled Water is ſaid to kill Worms. The Roots are moderately aperitive, and lenifying, and open the Bowels without any ill Conſequence.

By the chymical Analyſis, a great deal of Oil, Earth, and ſeveral acid Liquors, alſo a little fixed, but no volatile Salt is obtained from them; ſo that probably they act only by a Salt analogous to that of Corail, involved in a good Quantity of Sulphur. *Tournefort's Hiſtory of Plants, by Martyn.*

Monſ. Scheuchzer, in his *Agroſtographiæ Helveticæ Prodromus*, ſays, that among all the Plants that grow on the Alps, he betook himſelf particularly to ſtudy the different Species of the *Gramen*, or *Dogs-Graſs*; becauſe he was perſuaded, that this Herb, the moſt common, and, in Appearance, the moſt worthleſs of all, is, at the ſame Time, the leaſt known among the Botaniſts, and the moſt difficult to be diſtinguiſhed under its ſeveral Species. Sixteen of theſe he has deſcribed, and cauſed to be engraved. *Hiſt, de l'Acad. Roy. des Scienc. An.* 1708.

This is the famous *Chien dent* of the French, a conſtant Ingredient in all the Ptiſans, as they improperly call them. See PTISANA.

The Lithontripic Virtue of this Plant has been taken Notice of by Boerhaave, and confirmed by Abundance of Experiments.

A Decoction of the Root is excellent for Children who are troubled with Worms.

AGRUMINA. *Onions. Leeks. Caſtellus.*

AGRYPNIA. From α Negative, and Ὕπνος, *Sleep. Want of Sleep.* See VIGILIÆ.

AGUAPE. The *Nymphæa Alba Ger.* J. B. *Nymphæa Alba major*, C. B. White Water-lilly is called ſo by the Inhabitants of Braſil. *Raii Hiſt. Plant.*

AGUARA QUIYA. The *Solanum vulgare.* Common Night-ſhade is ſo called in Braſil, in the Opinion of Ray.

AGUARA PONDA. *Braſilianis Marggravii, Ruttenſteert Belgis*, i. e. *Myoſuros. Viola ſpicata Braſiliana.*

It grows to the Height of a Foot and half, or higher, with a ſmooth, round, green, and jointed Stalk. At each Node, or Joint, come forth four, five, or more, narrow, ſerrated, pointed, green, and unequal Leaves. The Top of the Stalk bears an Ear a Foot long, ſmooth, and covered with Flowers of a fine violet Azure, or the Colour of our Viola Martia, conſiſting of five roundiſh Leaves. The whole Flower is not unlike the Viola Martia, and has ſomewhat of its Smell. The Root is ſtrait, of a moderate Thickneſs, and ſhoots out into Abundance of leſſer ones, and theſe again into Filaments.

There is another Kind, diſtinguiſhed from the former, by the Wideneſs of its Ear of Flowers, which is marked with cubic Pits, and repreſents an Helmet, of a green Colour. From thoſe Pits proceed azure Flowers, as in the other. *Raii Synop.* 2. 1337.

AGUL J. B. *Alhagi Maurorum*, Rauwolf. *Geniſta Spartium ſpinoſum foliis Polygoni*, C. B.

Agul is a little Shrub very prickly, the Leaves are longiſh, and reſembling thoſe of the Knot-graſs; abounding with Flowers, of a Colour ſomewhat red. They are ſucceeded by red Huſks. Its Root is long, of a purple Colour. This Plant grows in Arabia, in Perſia, and in Meſopotamia. They find in the Morning on its Leaves Manna as big as the Grains of Coriander, of the ſame Taſte and the ſame Smell as ours, but if they let the Sun ſhine upon it, it melts.

The Leaves of this Tree are eſteemed Purgative. *Lemery de Drogues.*

AGUTIGUEPA *obi Braſilienſibus. Marggr.*

The Root is round in its upper Part, of a dark Red, and eatable. It ſhoots obliquely downwards ſix, ſeven, or eight Fingers into the Earth, and has Abundance of thick Filaments. From this Root ariſes a Stalk, three, four, or five Feet long, Reed-like, ſtrait, of a Finger's Thickneſs, bearing here and there, on Pedicles, two or three, and even five or ſix Fingers long, Leaves a Foot, or a Foot and half, and ſometimes two Feet long, and four Fingers broad, ſharp-pointed, of a fine Green, ſhining, like Vellum, or the Leaves of Paco-eira, to the Touch; graced with a Rib, which runs its whole Length, and very ſubtile Veins, which ſpread themſelves obliquely over it, and moreover bordered about, or edged, with a red Lin On the Top of the Stalk grows a Flower like a Lilly, of a very fine Carnation and Flame Colour, conſiſting of three or fou Leaves, each of which has three, four, or five Chives, or Stamina, of the ſame Colour, in the Shape of a Boar's Tooth.

The Root bruiſed heals Ulcers, cleanſes and incarnates them Boiled, or roaſted, it ſerves to eat in Time of Dearth.

AGUTI TREVA, or AGOUTI TREVA, *Inſulæ marignæ. De Laet.*

It has the Leaves of the Orange-tree, only thinner, a den Flower, a large Fruit, with a greeniſh Rind, and contai Kernels like thoſe of the Pomegranate, thin, ſweet, and not tasted. *Raii Hiſt. Plant.*

AGYION. Ἄγυιον. From α Negative, and Γυῖα, *a Lim Weak, feeble.* It is uſed by Hippocrates (*de Morbis Mulierum L.* 1. to expreſs the Weakneſs of a Fœtus, that is very ſmall.

AGYNOS. From α Negative, and Γυνή, *a Woman.* Name for the Agnus Caſtus, ſo called becauſe it is ſaid to promote Chaſtity. *Blancard.*

AGYRTÆ. From Ἄγυρις, *a Croud of People*, or *a Mu* or from Ἀγείρω, *to gather together.* Quacks, Mountebanks, People that went about from Place to Place offering Medicines Sale. Theſe were alſo called *Circulatores, Circumforanei*, Ὀχ γωγοὶ, *Ochlagogi*, and *Pharmacopolæ*, for this laſt Word, thoug applicable ſtrictly to any Venders of Medicines, was howev particularly uſed to ſignify this Sort.

This Way of practiſing Phyſic is very antient; for the have in all Ages been Impoſtors, who have found the Art making a private Advantage of the Weakneſs of others, who have talked the Ignorant into a good Opinion of the Medicines, Amulets, and Charms. Ariſtophanes takes No of one Eudamus, who ſeems to have been of this Profeſſion, Manufacture was Rings, which he pretended were effect Cures for the Bites of venomous Animals. Tully menti Clodius of Ancona, whom he calls *Pharmacopola Circumfo neus*, and who dealt in Poiſons. And Galen ſpeaks of one C riton, whom he call Ὀχλαγωγός.

AHATE DE PAUNCHO RECCHI.

It is a Tree of a moderate Bigneſs, and about twenty Fe high, covered with a fungous Bark, which is red on the Inſi The Wood is white and extremely hard; but the Heart, or i ner Subſtance of the ſame is greeniſh, without Smell, of bitteriſh and ſomewhat auſtere Taſte. It produces but f Branches, which, as well as the ſmaller Boughs and Sprays, a all covered over with a green Bark, marked here and the with ſmall Aſh-coloured Spots. The Root, which is y lowiſh, is covered with a Bark of a deep Red, ſmells ſtro and has an unctuous Taſte; it ſhoots out into Abundance Fibres, which however do not ſpread far in the Ground. T Leaves are oblong, ſmooth, and bare, not unlike the Leave Malakatijambou, but not anſwering one againſt another; th upper Part green and ſhining, the under greeniſh, when r bed in the Hands unctuous, but without Smell. The Flow join by their Pedicle to leſſer and finer Leaves, that fall o theſe Flowers conſiſt of three thick, triangular, and Leath like Leaves, whitiſh on the Inſide, but on the Outſide of a f Green, and, if thrown into the Fire, ſending forth a S like burnt Leather.

From the Stamen of the Flower proceeds the Fruit, or ther the Cone, when ripe about the Bigneſs of the comm Citron, green and ſtriated on the Outſide, but whitiſh wit and full of a juicy Pulp, of a grateful Taſte, and pleaſant Sm The Seeds in this Fruit are oblong, ſmooth, and bare, ſ ing, of a plain Superficies, incloſed in Huſks, and neatly c vered over with the juicy and whitiſh Pulp of the Fruit. T Fruit is gathered before it is ripe, and grows mellow, lik Medlar, before it is eaten.

The Tree is not a Native of Malabar, but was brought i India from the Philippine Iſlands. It delights in a hot a moiſt Situation, in Ground well ſeaſoned with Horſe-Dung wants no Watering nor Sunſhine.

At two or three Years Growth it bears Fruit. The Bloſſo it produces in April, are ripened about Auguſt, and the B ſoms of September are ripened into perfect Cones in Febru following. It will bear Fruit at fifty Years old, or more, w proper Culture.

The Leaves beaten very ſmall, and with an Addition of S reduced to the Form of a Cataplaſm, are a powerful Ripener malignant Tumors. The unripe Fruit boiled in common Wa with a little Ginger cures the Vertigo; but after ſufficient P paration, they are eaten for Pleaſure, and mightily refrigera and looſen the Belly, if you drink Water after them. R *Hiſt. Plant.*

AHENUM. A *Kettle*, or *Pot*, properly of Braſs, but to ſignify one of any other Metal. It claims a Place in a M dicinal Dictionary, becauſe Writers on the Subject of Pha cy frequently mention it.

AHIUS. *Salt-ſtone. Rulandus.*

AHMELLA. See ACMELLA.

AHOVAI THEVETI CLUSII. *Park. Arbor Ameri na foliis pomi fructu triangulo*, C. B. *Aiioai. Haouvay. Ab*

Ahouai is a Fruit of Braſil, as big as a Cheſnut, white, re-ſembling in Figure the *Tribulus Aquaticus*, or Water-Caltrops; t grows to be as large as a Pear-tree, the Bark is white and full of Juice, the Leaves are two or three Inches long, and two nches broad, always green; its Flower is compoſed of one eaf, formed as a Funnel, divided at the Edges in many Parts: here ariſes from its Cup a Peſtil which ſoon after becomes he Fruit.

If they make Inciſions in the Bark, a Sort of milky Liquor ſues out, of an unpleaſant Smell, like Garlic.

Its Fruit is a pernicious Poiſon. *Lemery de Drogues.*

Miller enumerates two Species of *Ahovai*:

1. *Ahovai*, Thev. Franc. Antarct. 66.

2. *Ahovai nerii folio, flore luteo*, Plum. *Ahovai* with an Ole-nder Leaf, and a yellow Flower.

Theſe two Plants grow in great Plenty on the Continent, in e Southern Parts of America, but are leſs common in the lands; the Wood of this Tree ſtinks moſt abominably, and the ernel of the Nut is a moſt deadly Poiſon, ſo that the Indians al-ays caution their Children againſt eating of it, for they know no Antidote to expel this Poiſon, nor will uſe the Wood of is Tree for Fewel. *Miller's Dictionary, Vol.* 2.

AHUSAL. The *Sulphur of Arſenic*, called by Chymiſts *the hite Eagle.*

AJARAZAT. *Lead. Rulandus.*

AIDRIS. Ἄϊδρις. From α Negative, and ἴδρις, *ſkilful. Un-lful, ignorant.*

AIPATHIA. See Aeipathia.

AIRA. Ἆιρα. *Lolium, Darnel.* A Plant growing much ongſt Wheat. Hippocrates (*de his quæ Utero non gerunt*) di-ts to gather the Darnel from Wheat, and bruiſe it a little, or ind it, and uſe it as a Fomentation in uterine Diſorders.

It is frequently mentioned by Theophraſtus, and Dioſcorides es an Account of its medicinal Virtues.

It is thus diſtinguiſhed by modern Botaniſts: *Lolium*, Offic. *lium album*, Ger. 71. Emac. 78. Raii Hiſt. 2. 1262. Synop. 3. 5. Park. Theat. 1145. Hiſt. Oxon. 3. 181. Merc. Bot. 48. yt. Brit. 69. Mer. Pin. 73. *Lolium verum*, Boerh. Ind. A. 2. 157. *lium Gramineum ſpicatum, caput tentans*, J. B. 2. 437. *Lolium œnix, gramen Loliaceum*, Chab. 187. *Gramen Loliaceum ſpicâ giore*, C. B. Pin. 5. Rupp. Flor. Jen. 245. Buxb. 146. Elem. t. 418. Tourn. Inſt. 516. *Gramen Loliaceum, ſpicâ longiore, Lolium Dioſcoridis*, C. B. Theat. 121. Darnel. *Dale.*

It is called *Lolium*, as if it were δόλιον, that is, *adulterine*, it is ſuppoſed to be generated of the corrupted Seed of Bar-and Wheat. The *d* is changed into *l*, as from the Æolic δσσευς, comes *Ulyſſes*; from Δάκρυα, *Lachrymæ*, or it is nam-Ἀπὸ τῦ λαῖον ὀλεῖν, that is, *from deſtroying the Corn*, or Λαῖον , that is, *hurtful Corn.*

Darnel is diſtinguiſhed from other Grain by its ſlender, flat, , and by its Grains with their Huſks, on both Sides, as as the Stalk, being ſituate in the ſame Plane.

It has a fibrous Root, with very fine Capillaments, and a lk two or three Cubits high, and as big as the Stalk of heat, or perhaps ſomewhat leſs, divided by four or five Joints, h a ſingle Leaf at each, as in other culmiferous Plants, nar-er and greener than thoſe of Wheat, ſhining, ſmooth, ſtriated, enwrapping the Stalk almoſt to the next Joint, after parting from it, extending a Hand and half, or Hands in Length. The Stalk bears an Ear a Foot long, peculiar Figure, for three, four, or five, and ſometimes ſix ſeven Grains proceed alternately from the Sides of the Stalk, the Form of a ſmall Ear, without Pedicles, each of theſe le Ears having a ſmall Leaf embracing them. The Grains leſs than Wheat, and incloſed in ſingle dark-coloured ſks, which end in a fine ſharp Beard, which ſometimes is nting. It grows too often among Corn, eſpecially Wheat. *ii Hiſt. Plant.*

Darnel, by ſome called *Thyarus*, which grows amongſt Wheat, ng ground to a Meal, and made into a Cataplaſm, with diſhes and Salt, has the Virtue of ſcowering the Edges of rid and eating Ulcers, and Gangrenes. With crude Brim-e and Vinegar it cures malignant Lichens and Leproſies. led in Wine, with Doves-dung and Linſeed, it diſſolves umæ, and breaks ſuch Sores as are with Difficulty brought Maturation. Boiled in Hydromel, and applied in Form of ataplaſm, it cures the Sciatica. Uſed in a Suffumigation with enta, Flour of dried or parched Barley, Myrrh, and Saffron, Frankincenſe, it promotes Conception. *Dioſcorides, Lib.* 2. . 122.

Lolium [Darnel] is called by Virgil *infelix* [unlucky] and yet Meal of it boiled in Vinegar, and applied, cures the Im-go [a Sort of Leproſy] and the ſooner, the oftener it is nged. Given in Oxymel, it cures the Gout and other Pains. Way of Preparation for theſe Purpoſes is ſomewhat pecu-, and is as follows: Let two Ounces of Honey be diluted h one Pint of Vinegar, which is a juſt Proportion. Boil Pints of Darnel Meal in three Pints of this Mixture to onvenient Thickneſs, and apply it hot to the pained Part. ſame Meal draws out Splinters of Bones. *Plinii Nat. Hiſt.* 22. C. 25.

Darnel heats and dries, attenuates, diſcuſſes, and cleanſes. Mixed with Malt, it promotes Drunkenneſs. A great Quantity of it in Bread renders them who eat it ſtupid, and, as it were fuddled. Hence by ſome it is called *Drunken Wheat*, by the French *Ivray*, as it were, *drunken.*

Moſt of the Antients, and many of the Moderns, have imagined that Wheat degenerates into Darnel; but the more curious Naturaliſts have queſtioned the Truth of this, and for good Reaſons.

Though Darnel taken inwardly cauſes a ſudden Vertigo, outwardly applied, with the Fat of a Gooſe, it remedies the ſame.

It hurts the Eyes, and creates a Dimneſs, by the acrid Vapours it elevates to the Brain. Hence they who are weak-ſighted, as purblind and near-ſighted Perſons, are ſaid, by the Proverb, to *feed on Darnel. Raii Hiſt. Plant.*

AIRI. See Hayri.

AISTHESIS. See Æsthesis.

AISTHETERIUM. The common Senſory, or, if I may ſo call it, the Laboratory of Senſation; this is the Place whither the Nerves convey the Impreſſions made on them by ſenſible Objects. Many have been the Opinions of Authors, with Reſpect to this Place. The Carteſians imagine it to be the Pineal Gland. Willis endeavours to prove it the Beginning of the Medulla Oblongata, in the Corpora Striata. Till the Union of the Soul with the Body is better known, it will be a difficult Matter to determine the Place where Senſation is performed.

AITMAD. The Arabian Name for *Antimony. Caſtellus* from *Fallopius.*

AJUBATIPITA BRASILIENSIUM. The Name of a Shrub five or ſix Palms high, bearing a Fruit like Almonds, but black, whence is extracted an Oil of the ſame Colour, with which the Savages uſe to anoint enfeebled Joints. *Raii Hiſt. Plant.*

AJUGA. A Name for *Chamæpitys, Ground Pine.* See Chamæpitys. A Doſe of two Drams in Powder, with Figs, or boiled Honey, purges Phlegm ſufficiently. *Actuarius de Methodo Medendi, L.* 5. *C.* 8.

AIZOON. *Aizoon paluſtre*, J. B. *Aloe* 4. *ſeu paluſtris*, C. B. *Stratiotes ſive militaris Aizoides*, Ad. Lob. *Stratiotes aquatica*, Lugd. *Stratiotes potamios*, Dod. Gal. *Sedum aquatile*, Dod. fol. It is an aquatic Plant, reſembling common Aloes, but its Leaves are leſs, and rough at the Edges: There ariſes from the Middle of theſe a Sort of Conduits, diſpoſed like the Legs of a Lobſter, which opening, there appear white Flowers compoſed of three Leaves, having in its Middle little yellow Hairs; its Roots are compoſed of long, round, and white Fibres, reſembling Worms. This Plant grows in Moraſſes, and in other watery Places: It contains a great deal of Oil and Phlegm, but little Salt.

It is proper to cool and to thicken the Humours, externally applied. *Lemery de Drogues.*

AKIBOT. *Sulphur. Rulandus.*

AKON. A *Whetſtone. Rulandus.*

AL. The Arabian Article which ſignifies *The.* It is frequently applied to a Word by way of Eminence, in the ſame Manner as the Greek Article ὁ.

It is commonly known that, among the Orientals, the Manner of expreſſing the Superlative is by an Addition of the Name of God, as the *Mountains of God*, for Mountains of an extraordinary Height; and it is not impoſſible that *Al*, when uſed by way of Eminence, may have a more particular Relation to the Word Alla, *God*; ſo that Alchemia may be not only *The* Chymiſtry, but the Chymiſtry of *God*, that is, the moſt exalted Perfection of the Chymical Science.

ALA. In Botany, is the Hollow of a Stalk, which either the Leaf, or the Pedicle of the Leaf, makes with the Stalk or Branches; or it is that hollow Turning or Sinus, placed between the Stalk or Branch and Leaf, from whence a new Offſpring is wont to put forth; which the French call *Aiſſelles des Plantes.* Sometimes it is taken for a little Branch, as when they ſay, a Stock or Stem, armed with many *Alæ*, becauſe Branches grow to the Stock as ſo many Wings.

Alæ is alſo uſed to ſignify thoſe Petala of papilionaceous Flowers placed between the Vexillum and the Carina, which the French call *Les ailes des Fleurs legumineuſes.*

Alæ is alſo uſed for thoſe extreme ſlender membranaceous Parts of certain Seeds, as in the Bignonia Plumeria, the Fruit of the Maple, &c. which the French call *Semences Ailées.* Again,

Alæ is uſed for thoſe foliaceous Membranes which run the whole Length of the Stem; whence it is called *Caulis alatus*, a winged Stem, in French, *Tige Ailée. Miller's Dictionary, Vol.* 1.

ALÆ NASI, otherwiſe called Pinnæ Nasi, are the Cartilages which are joined to the Extremities of the Bones of the Noſe, and which form the lower and moveable Part of that Organ. See Nasus.

ALÆ AURIS, or PINNÆ AURIS, is the ſuperior Part of the external Ear.

ALÆ. The *Arm-pits.* To take off their rank Smell, take two Parts of liquid Allum, and one Part of Myrrh diſſolved in

Wine. Or take Litharge burnt and quenched in fragrant Wine, and beat it in Wine, putting in a little Myrrh, till it become of the Conſiſtence of Honey. Or take ſixteen Drams of Spuma Argenti, two Drams of Myrrh, and one Dram of Amomum, and moiſten them with Wine. Or, laſtly, take of liquid Allum eight Drams, of Amomum, Myrrh, Spikenard. each four Drams; bruiſe them in Wine. *Paulus Ægineta, Lib.* 3. *C.* 36.

Aetius adviſes to drink the Decoction of the Root of Scolymus in Wine, which, he ſays, brings off Abundance of fœtid Urine, and by that Means cures not only the Fœtor of that Part, but all over the Body. *Aetius, Tetrab,* 1. *Serm.* 1.

This is taken from Dioſcorides by Aetius. The Scolymus of Dioſcorides is the wild Artichoke, or Cardonet. See SCOLYMUS.

ALÆ. The Nymphæ are ſo called by Aetius, who, in Caſe of an Abſceſs in that Part, or the Labia Pudendi, which extends towards the Anus, adviſes to forbear Inciſion; for a Fiſtula, he ſays, is ſoon generated from the Rugoſity of that Part; but if it ſpreads upwards, towards the Urinary Paſſage, that Operation may be ſafely undertaken. *Aet. Tetr.* 4. *Serm.* 4. *Cap.* 120.

ALÆ. The *Wings of a Fowl.* Theſe conſidered as an Aliment are hard and fibrous. The Wings of Geeſe are good Aliment, but thoſe of Pullets are better. *Oribaſ. Collect. Lib.* 2. *Cap.* 43. 44.

Alaris Vena. The internal Vein of the three oppoſite to the Elbow, in one of which Bleeding is performed. This Vein has under it an Artery, the middle one a Nerve, and therefore ought to be cautiouſly dealt with; but the Superna, or outer one, called alſo *humeralis*, may be opened without any Danger. *P. Æginet. Lib.* 6. *Cap.* 40.

ALABANDICUS, or ALABANDINUS LAPIS. A Stone of a blackiſh Colour, intermixed with a ſallow. It is pellucid, and looks as if it was divided by Fiſſures into Segments. The Powder of this Stone makes gray Hairs black. *Aetius, Tetrabib.* 1. *Serm.* 2. *C.* 33.

ALABARI. *Lead. Rulandus.*

ALABASTRA. Are thoſe green herbaceous Leaves that encompaſs Flowers. Jungius explains *Alabaſtrum* to be the Globe or roundiſh Bud, that is but juſt peeping out. *Miller's Dictionary.*

ALABASTRON. The Ointment *Alabaſtron*, with which Mary anointed the Lord. It is uſeful in all Diſeaſes of the Uterus and Reins, and for Bruiſes, by the Bleſſing of our Lord Jeſus Chriſt.

> Take of green Savin two Ounces and a half, Cypreſs Turpentine two Drams and a half, green Roſemary, Sage, Leaves of Ground-ivy, Yarrow, Mugwort, Avens, Fenugreek, Linſeed, each two Ounces and a half. Bruiſe them together in a Mortar, and then boil them in twelve Pints of Water; after which add to them two Pounds and a half of Oil, and boil them again till all the Water be evaporated. Strain them, and boil once more, adding of Wax, Colophony, Turpentine, Galbanum, Gum Hedera, Spaniſh Pitch, Reſine, Frankincenſe, Maſtich, each two Ounces and a half; Styrax, Calamita, Ammoniac, Spikenard, each one Pound and a half; Oil of Balſam an Ounce and a half. *Myrepſus, Sect.* 3. *Cap.* 61.

I cannot determine whether Myrepſus is right, or not, when he ſays, this was the Ointment which was poured on our Saviour. The Word in the New Teſtament, which we tranſlate, *an Alabaſter Box af Ointment*, is, 'Αλάβαστρον μύρου. This Conſtantine interprets, *a Veſſel of Ointment without Handles*, from α Negative, and λαμβάνω, *to take hold.*

Other Authors ſay, that Alabaſter, as being very ſolid, was uſed by the Antients for Veſſels to put their precious Ointments in, becauſe it preſerves them very well. Hence, perhaps, theſe Sort of Veſſels took the general Name of *Alabaſtra*. And it is not unlikely, that the moſt precious Sort of Ointment might take the Name of *Alabaſtron* from the Veſſels it was uſually preſerved in; and if this is true, Myrepſus may be right.

ALABASTRUM.

1. *Alabaſtrum & Alabaſtritis*, Offic. Mer. Pin. 211. Worm. 42. *Alabaſtrum*, Aldrov. Muſ. Metall. 748. Kentm. 54. Charlt. Foſſ. 18. *Alabaſtrites ſeu Alabaſtrum*, Boet. 490. *Lapis Alabaſtrites*, Matth. 1386. *Alabaſtrites*, Schrod. 345. ALABASTER. A white Stone, much known, a Kind of Marble, but ſofter.—It is found in Staffordſhire, Derbyſhire, and other Places. *Dale.* The burnt Stone, applied with Roſin or Pitch, diſcuſſes Hardneſs; with Cerate, eaſes Pains in the Stomach, and faſtens the Gums. *Dioſcorides.*

2. *Alabaſtrum Citrinum*, Mont. Exot. 14. YELLOW ALABASTER has the ſame Virtues as the former. *Mont.*

3. *Gypſum*, Offic. Mer. Pin. 213. Kentm. 25. Worm. 46. Charlt. Foſſ. 20. Boet. 398. Aldrov. Muſ. Metall. 673. Matth. 1376. TARRAS, PLAISTER OF PARIS.

Authors diſpute about the *Gypſum*; ſome will have it to be the Calx of Alabaſter; others that of Allum of Scajola; others make it the Calx of Muſcovy Glaſs; and ſome that of the Selenite Stone. But our *Gypſum* is a Lime, made of ſome whitiſh Stones, and opake Bits of Talk, ſlightly burnt till they ſparkle. The beſt, according to Doctor Merret, is in Derbyſhire, and uſed in flooring and cieling of Houſes. The very learned Dr. Liſter, in his *Journey to Paris*, ſays, there are Quarries of this *Gypſum*, or *Alabaſtritis*, at Montmartre, and that they burn it in an open Fire, the hardeſt requiring no more than three or four Hours Burning. He ſaw alſo a Quarry of it at Clifford Moor in Yorkſhire, where it is called HALL-PLASTER.

It is of a drying Quality, and ſtops Bleeding. It is uſed by Painters and Statuariſts; and alſo by Plaiſterers, as at Paris.

Some preſcribe the *Alabaſtrites* burnt in Diſorders of the Stomach. *P. Æginet, L.* 7. *C.* 3.

Lemery adds, that it abſorbs, as an Alcali, the Acrimony which falls from the Gums in the Scurvy. *Lemery de Drogues.*

The Oriental Alabaſter, which is tranſparent, is famous in thoſe Countries. There are many Quarries of it in Cambaia. The Arabians call it *Rokham Alabiadh. Herbelot.*

ALACAB. *Sal Ammoniac. Caſtellus* from *Rulandus.*

ALACHASCHEE. Rulandus explains this by TRIBULUS, which has many Significations, ſo that it is difficult to know what he means.

ALACNOTH. Caſtellus, from Avicenna, informs us, that a Man who by Reaſon of a great Reſolution in Coitu Venereo diſcharges his Excrements in the very Act, is thus called in Arabic.

ALAFI. *Alcaline Salt. Caſtellus.*

ALAFOR, and ALAFORT. *Alcaline Salt. Rulandus.* Johnſon calls it VAS, *a Veſſel.*

ALAFREG. A Species of *Ceruſs. Rulandus.*

ALAHABAR. *Lead. Rulandus.* Caſtellus, ſays Johnſon, explains it *Calx, Lime*, but I do not find the Word in Johnſon in any Signification whatever.

ALAHATIB. Rulandus explains it *Lapis rubens*, the *red Stone.*

ALAIA PHTHISIS. 'Αλαία φθίσις. From ἀλαὸς, *blind.* Galen, in his *Exegeſis*, quotes this from Hippocrates's Treatiſe *de Locis in Homine*, but there is at preſent no ſuch Word in it. Foeſius has however cleared up this Difficulty. Hippocrates in this Book giving an Account of ſeveral Diſtempers, which he ſays, are cauſed by a Fluxion of Humours from the Head, ſays, if it falls on the (μυελὸν) ſpinal Marrow, I ſuppoſe he means, another Sort of Conſumption happens (φθίσις ἄλλη γίνεται). Here ἄλλη ſhould be altered to ἀλαία, and then the Senſe will be, that ſuch a Fluxion will cauſe a Conſumption which waſtes the Patient inſenſibly, as an Atrophy, or perhaps a Tabes Dorſalis.

ALAIS. Johnſon explains this *Vas, a Veſſel.*

ALAMANDINA. A precious Stone mentioned by Dorneus, in his Treatiſe *de Gemmarum Structura.* Caſtellus thinks, he means the LAPIS ALABANDICUS.

ALAMBIC. See ALEMBIC.

ALANABOLUS. A Sort of Earth, mentioned by Paulus Ægineta, *L.* 7. *C.* 3. which, he ſays, has the ſame Virtues as the Armenian Bole. It is without Diſpute the ſame as ALANA TERRA.

ALANA TERRA, called alſo *Terra Tripolitana & Tripolis*, Offic. *Tripolis*, Schrod. 320. *Terra ſeu Gleba Alana*, Calc. Muſ. 131. *Alana Terra, vulgô.* ENGLISH OKER. It is eſteemed drying and aſtringent. Its principal Uſe is to mix with Salts in Diſtillation, in order to keep them from melting. *Dale.*

Alana Terra is a light Stone, of a white Colour, inclining a very little to red, they get it in many Mines of Britany, Auvergne, and Italy; they believe, that the Lightneſs of this Stone proceeds from a Calcination it has undergone by ſubterraneous Fires. We ſee two Sorts of it in France, the firſt and the beſt is that which they get from a Mountain near Rennes in Britany; they find it diſperſed in Beds about a Foot thick. The Lapidaries, the Goldſmiths, and the Braziers make Uſe of it to whiten and poliſh their Work.

The Second, and the leaſt eſteemed, they get from Auvergne, near Riom; it is divided into Lamina, neither the Lapidaries, Goldſmiths, nor Braziers can make Uſe of it; it is ſometimes employed to ſcour and whiten Kitchen Furniture.

It is deterſive and deſiccative, externally applied; but it is not much uſed in Medicine.

It is thought that this Stone is what the Antients called *Samius Lapis*, or *Samian Stone. Lemery de Drogues.*

ALANDAHAL. *Colocynthis. Johnſon.*

ALANFUTA. The Name of a Vein, ſituated betwixt the Chin and Under-lip, which uſed to be opened to cure a fœtid Breadth. *Caſtellus* from *Avicenna.*

ALAPÆ. *Cuffs*, or *Slaps with the flat Hand.* Theſe are directed by Aetius, *Tetrabib.* 3. *S.* 1. *Cap.* 8. in order to revive People who faint from ſtaying too long in a hot Bath.

ALAQUECA is a Stone which is found in little poliſhed Fragments, at Balagate in the Indies.

It is very much eſteemed to ſtop Bleeding, externally applied. *Lemery de Drogues.*

LARIS, or ALIFORMIS. *In the Shape or Form of a Wing.*

LARTAR. *Æs Uſtum. Burnt Braſs. Rulandus.*

LASALET. *Sal Ammoniacum. Rulandus.*

LASTROB. *Lead*, according to Rulandus; but accord- to Johnſon, *Lime. Caſtellus.*

LATAN. *Litharge of Lead. Rulandus.*

LATERNUS. This is the *Alaternus*, Offic. Chab. 43. k. Parad. 603. *Alaternus* 2. Cluſio. J. B. 1. 542. *Alaternus r & minor*, Raii Hiſt. 2. 1608. Park. Theat. 1445. *Spina Bur- Monſpelienſium*, ejuſd. *Alaternus Plinii, & humilior*, Ger. 1212. ac. 1398. *Alaternus, ſive Philyca elatior & humilior*, C. Bauhi- Pluk. Almag. 12. *Alaternus* 1. *Cluſii & minori folio*, Tourn. 595. Boerh. Ind. A. 2. 213. *Alaternus prior & altera*, ſ.Hiſp. 56. Elem. Bot. 468. *Philyca elatior & humilior*, C. Pin. 476. Jonſ. Dendr. 261. EVERGREEN PRIVET.

t is a ſmall Shrub, about the Bigneſs of the Privet, cover- ith a black Bark, almoſt like that of the Cherry-tree. Its od is of a light Yellow, the Leaves oblong towards the Top, lerately large, firm, ſet all round with ſmall Prickles, diſ- rly placed, reſembling thoſe of the Philyrea, but diſpoſed in nate Order on the Branches, whence it takes the Name *ternus*, whereas the Leaves of the Philyrea grow in Pairs, by Side. The Flowers are ſmall, and ſtand many toge- . They are ſhaped like a Funnel, or Top of a Tent, and Star-like into five Points, or Rays, of a white Colour, odori- us, ſucceeded by Berries, about the Bigneſs of Elder-berries, ered like Grapes, ſoft, juicy, black when they are ripe, incloſing three Seeds joined together, rounded on the Back, flattened on the Sides where they touch. The Roots run a t Way in the Earth. It grows in the Hedges, and is cul- ted in Gardens. It contains much Oil and Phlegm, and little Salt. *Lemery des Drogues.*

he Plant is of a deterſive, aſtringent, and cooling Nature, is uſed in Gargariſms for Inflammations of the Mouth, and the Quinſey. *Boerhaave. Lemery.*

he Fruit moderately binds the Belly. *Dale.*

luſius confeſſes, that he knew no Uſe of either of the two ds of his *Alaternus*, but that he was aſſured by the Portu- e, that their Fiſhermen uſed to dye their Nets of a reddiſh our, with a Decoction of the Bark in Water; and that Dy- uſed the Decoction of the Chips of the Wood, which is of a Colour, to give a dark Blue. *Raii Hiſt. Plant.*

nother Species of the *Alaternus* is the

ELASTRUS, Offic. Johnſ. Dendr. 262. *Celaſtrus Theo- ſti*, C. B. Pin. 477. Ger. Emac. 1600. Park. Theat. 1448. *ſtrus Theophraſti Cluſio*, Parad. 603. *Alaternus latifolia, Ce- us dicta*, Herm. Cat. Hort. Lugd. Bat. 11. Raii Hiſt. 2. 8. *Alaternus Hiſpanicus, Celaſtrus dicta*, Boerh. Ind. A. 2. . The STAFF-TREE. *Dale.*

t grows to above a Man's Stature, with a firm and hard Body, ch runs out into many Branches, that are covered with a n Bark while young, but blackiſh after a Year. The ves are numerous, always ſtand oppoſite, and are thick ſet, a deep Green on the upper Face, but fainter on the er, perennial, that is, never falling off, till diſplaced by ones, which is the Caſe of moſt Evergreens. The ves are of a ſhining Smoothneſs, and no larger than thoſe of Alaternus, but moſt of them ſmaller, eſpecially thoſe of a r old, which cover the lower Part of the Sprays, not jag- , eſpecially the young ones, which, though they ſeem to e ſomewhat reſembling Jaggs, cannot be called jagged; they of a bitteriſh Taſte. At the utmoſt Part of the young ays, among the Leaves, grow Pedicles, which bear five or ſix ll Flowers, conſiſting generally of four or five ſmall Leaves, a greeniſh Yellow, and a ſweet Smell, diſpoſed in Cluſters like Flowers of the Maſtick-tree, not expanded in the Form of Umbrella, like thoſe of the Wild Bay, or Elder. They open y late, and not before the latter End of Autumn, or Begin- g of Winter, and ſometimes not before the mild Air of the ing breathes on it. So far Cluſius; to which P. Paauwius s, This Tree in the Leyden Garden, 1610, in the Month of ne, began to ſhew the Rudiments of a Fruit, producing a rt Pedicle, on which grew a Berry, about the Size of a yrtle-berry. While growing it was green, but red at its l Growth, which turned by Degrees from a light Red to a coral lour, extremely like the Berry of Sparrow-graſs, I mean the ler Sort. It kept up this lovely Colour to the Beginning of guſt, when its Skin, or Superficies, began to ſhrivel, and at e ſame Time to change Colour, and from a round to become an oblong Figure, turning firſt of a duſky Colour, which ew at laſt to a Coal Black. After it fell off, we diſcovered its Inſide one ſingle oblong, and in ſome Sort triangular, ed, very like the Kernels of Grapes, and breaking the Shell, hich was hard and ſomewhat ſtony, we found but one Ker- l, covered with a thin Membrane, or Skin, of a Saffron Co- ur, under which lay the Pulp; hard, whitiſh, and like that of Haſle-nut. *Raii Hiſt. Plant.*

A third Species of the *Alaternus* is the

Caſſina Offic. C. B. Pin. 170. *Herba Caſſiana famem ſitim- e retardans*, J. B. 3. 631. Chab. 655. *Caſſine vera Florida- rum, Arbuſcula baccifera Alaterni ferme facie, foliis alternatim ſitis, tetrapyrene.* Pluk. Mant. 40. Phytog. Tab. 376. f. 2. *Apalachine ſive Caſſine*, Ind. Med. 11. *Alaternoides Africana Lauri ſerratæ folio*, Comm. Raf. Exot. 1. 61. CASSINY. *Dale.*

It grows in Carolina. The Leaves are about an Inch long and half as wide, ſhaped like the Leaves of Sena, blackiſh when dried, ſhining in the upper Part, but greener underneath, of no Smell, but a Taſte ſomewhat aromatic.

It is accounted a very good Medicine in the Small-Pox, reſtraining the immoderate Fermentation of the Blood, without putting too great a Check upon the expulſive Faculty. It promotes Expectoration, preſerves the Lungs, and keeps off the Small-Pox from the Head and Throat. *Dale Pharmac.*

The fourth Species of the *Alaternus* taken Notice of by Dale is the

Perygua, Offic. Marl. Obſ. Mont. Exot. 8. *Caſſine vera perquam ſimilis Arbuſcula Phyllireæ Foliis antegoniſtis ex Provincia Carolinenſis*, Pluk. Mant. 40. Phytog. 381. f. 3. THE CASSIO-BERRY BUSH.

It is found in Carolina. The Fragments of the dried Leaves, and the Powder of the Stalks, are uſed.

Sometimes it purges, at other Times excites Vomiting, or promotes inſenſible Perſpiration, ſtill acting as Nature inclines. It is accounted an excellent Specific in the Diabetes, and ſeveral Hiſtories of Cures done by it in that Diſtemper are related by Marloe. A Tea made of the Herb is good in the Nephritic Colic.

Of what Plant the Perigua are Fragments, is a Queſtion not eaſy to be determined, nor can the Opinions of learned Botaniſts be well reconciled. Some take it for a Species of *Alaternus*, whoſe Authority I have followed in placing it here. Others put a Queſtion, whether it be the *Peragu. Hort. Mal. Tom.* 2. To me it ſeems moſt likely to be the Plant of which Du Biſcay gives an Account, in his Voyage on the Rio de la Plata, by the Name of *the Plant of Paraguay*, which the Natives uſe as a Preſervative againſt noxious and mineral Vapours, and alſo for a Vomit on Occaſion. Query whether the Fragments of Plants of late imported, under the Name of PARAGUAY-TREE, be the ſame with the forementioned Perygua of Marloe. *Dale Pharmacologia.*

Miller enumerates ſix Species of *Alaternus.*

ALATERNOIDES [from *Alaternus* and Εἶδος Gr. Form or Shape] a Sort of *Alaternus.*

This differs from the *Alaternus* in having three Seeds joined together, in the manner of Tithymallus (or Spurge) whereas the *Alaternus* has three Seeds incloſed with one common Covering, and appears to be a ſingle Berry till it is opened.

Miller enumerates three Species of *Alaternoides.*

ALATI. Thoſe are called ſo whoſe Scapulæ, or Shoulder-blades are very prominent, and ſtand like Wings. Thoſe who have ſuch a Conformation are eſteemed very ſubject to a Conſumption.

ALATI PROCESSUS, or ALARES, are Proceſſes of the *Os Sphenoides.* See SPHENOIDES.

ALAUDA, a Gallic Word for *Galerita*, a *Lark.* This Bird is a moſt effectual Remedy in all Pains of the Colon and other Inteſtines, both for Men and Cattle, whether it be roaſted and eaten, or burnt to Aſhes, and three Spoonfuls thereof carefully pulverized given in warm Water for three Days together.

It is called by the Greeks Κορυδαλὸς, and is to be burnt Feathers and all, in an earthen Pot plaiſtered over, and ſet in a Furnace, till it may be reduced to Powder. *Marcellus Empiricus. Cap.* 29.

The Lark eaten with the Broth made of it cures the Colic; but it ought to be frequently uſed. *Paulus Ægineta. Lib.* 7. *C.* 3.

The Lark is a little grey Bird very well known, celebrated for its agreeable Singing early in the Morning, when it is fine Weather; ſhe lays her Eggs in May, July, and in Auguſt; her young ones are ready to fly in ten or twelve Days.

There are two Sorts of Larks, one that has a Creſt, and another without one; the laſt fly in Flocks. The Lark is eſteemed the Harbinger of the Spring; that with a Creſt lives more on the Ground than the other; they both eat Wheat, Worms, and Piſmires; they keep ſome in Cages; when young they are a delicious Meat; their Fleſh is firm, brown, and of a good Juice eaſy to be digeſted; thoſe are moſt eligible which are very tender, and well fed.

The Heart and the Blood of Larks are good for the windy Colic, and to extricate Gravel and Phlegm from the Kidnies and Bladder.

Schroder ſays the freſh Blood, taken in ſharp Vinegar, or warm Wine, effectually relieves the Stone and Gravel.

They ſay that the Name *Alauda* is taken from the antient Gauls, and that Julius Cæſar having raiſed Soldiers in France they were called by the Name of Larks, becauſe the Figure of their Head-piece reſembled a Lark with a Creſt. *Lemery des Drogues.*

When the Lark is old, her Fleſh is hard, dry, and difficult of Digeſtion, and the Juice bad.

It contains much Oil and volatile Salt.

It agrees with any Age and Conſtitution, eſpecially in Autumn when this Bird is fatter and more delicious, than at any other Time of the Year.

The Lark is a delicious Bird, and much eſteemed for the Goodneſs of its Taſte, and the happy Effects it produces. As it is much upon the Wing its Perſpiration is abundant, and conſequently it muſt contain but a few groſs Humours, and many volatile and exalted Principles. *Lemery on Foods.*

As the Lark uſes much Exerciſe, its volatile Salts muſt be much exalted, and its Juices alcaleſcent, eſpecially as it feeds ſometimes on Inſects.

The creſted *Lark* is thus diſtinguiſhed, *Galerita*, Offic. Bellon. des Oyſe. 268. *Alauda criſtata*, Schrod. 5. 314. Aldrov. Ornith. 2. 841. Mer. Pin. 176. Jonſ. de Avib. 70. *Alauda criſtata, albicans*, Gen. de Avib. 72. *Alaudas criſtata major*, Raii Synop. A. 69. *Alauda criſtata, Galerita*, Ejuſd. Ornith. 208. *Alauda criſtata, Vienna Auſtriæ viſa & deſcripta*, Will. Ornith. 151. *Alauda, Galerita caſſita, criſtata*, Charlt. Exer. 88.

The *Sky Lark* is thus named by Authors, *Alauda*, Offic. Mer. Pin. 176. *Alauda non criſtata*, Schrod. 5. 314. Johnſ. de Avib. 70. Aldrov. Ornith. 2. 844. Bellon. des Oyſe, 269. *Alauda vulgaris*, Raii Ornith. 203. Ejuſd. Synop. A. 69. Will. Ornith. 149. *Alauda altera*, Geſn. de Avibus.

ALAURAT. *Nitre. Rulandus.*

ALBA ANIMALIA. White Animals are almoſt univerſally weaker than black ones, which is evident from comparing their Fleſh together, that of the latter being more ſavoury. *Aet. Tetr.* 1. *Serm.* 2. *Cap.* 88.

In every Species of Seeds, Roots, or Juices, alſo ſome Indication of the Temperament may be taken from the Colour. For Inſtance, an Onion, a Squill, and Wine, the whiter they are, the leſs Heat they have in them; but the deep, or pale Yellow, carry the moſt Heat. The ſame is obſervable in Wheat, Kidney-Beans, and Chiches; as alſo in the Roots of Iris, Daffodil, and many others; and univerſally the pale or bright Yellow, and the Ruſſet, are hotter than the White. *Aet. Tetr.* 1. *Serm.* 1.

ALBA TERRA. David Lagneus, in the *Theatrum Chymicum, Vol.* 4. *Page* 721. tells us, that the Matter of the Philoſophers Stone is Quickſilver and Sulphur, and that this Compoſition is called TERRA ALBA.

ALBA VITILIGO. See VITILIGO.

ALBADARA. It ſignifies in Arabic the Seſamoide Bone of the firſt Joint of the great Toe, which is about the Size of a ſmall Pea. Its Uſe is to that Joint much the ſame as the Patella is to that of the Knee.

The Magicians are ſaid to attribute extraordinary Virtues to this Bone. Some of the Jewiſh Rabbies relate ſtrange Stories of a little Bone, which is called *Luz*, and which they ſay is found betwixt the laſt Vertebra of the Loins, and the Os Sacrum. As there is no ſuch Bone to be found in that Place, perhaps they may mean this Seſamoide Bone, and may have borrowed ſome fabulous Accounts of it from the Magicians. They relate, that this Bone is not to be deſtroyed by either Fire or Water; and that God will make Uſe of this Bone at the laſt Day, to raiſe the Dead, making the Body to grow again from it, as a Plant does from the Seed.

But as there is ſomething very remarkable in this Bone, with Reſpect to Phyſic, without recurring to Jewiſh Fables, and Magic Tales, I ſhall relate what I have heard and obſerved on this Subject.

About twenty Years ago, there was a Cure performed by a Phyſician, who then lived at Oxford, which was much talked of, and, I believe, moſt Gentlemen of the Profeſſion who ſtudied there, about that Time, may remember it. A young Lady had been ſubject to frequent Fits of an odd Kind, againſt which all Remedies which were tried had proved ineffectual. At laſt, a Phyſician was conſulted, who was of Opinion, that theſe extraordinary Fits were cauſed by a Diſlocation of the Bone, which is the Subject of this Article, and that an Amputation of the great Toe would cure them. The Lady purſued his Advice, the Toe was cut off, and ſhe recovered perfectly. I neither knew the Lady nor Phyſician; but the Fact was well known at that Time, and I never heard it diſputed. The following Caſe in which I was concerned is a farther Evidence, that ſuch Caſes may, and actually do ſometimes happen, though they have been generally overlooked by Medicinal Writers.

In the Summer of 1737, I was called to one Mr. Fitter, a ſubſtantial Farmer of Henwood-Hall, near Solihull in Warwickſhire. I found him ſitting on the Side of his Bed, where he told me he had been all that Day, and the preceding Night, without daring to move, becauſe he was ſure of having a Fit, the Moment he moved his Foot, the Apprehenſions of which gave him great Terror. He ſaid, that a few Days before, in croſſing a Waggon Road in Haſte, where the Ruts were deep, and the Sides of them very hard, he ſtumbled at a Clod, and hurt the great Toe of his left Foot very much; that in a few Minutes he fell into a Fit, and that whenever he moved that Toe, which he never did without a great deal of Pain, he was ſure to fall into another of the ſame Sort. Theſe Fits much reſembled thoſe of the Epileptic Kind, except that no Froth discharged at the Mouth, and that the injured Foot firſt beg to be convulſed, then the Leg, and from thence a very un Senſation aſcended to his Head, and then the Convulſions gan to be univerſal.

Upon Examination, I found he had never been ſubject any Diſorder like Convulſions before. He was at this T upwards of fifty. Before this Accident, he was in all App ance a very hearty Man, and had now no Complaints of Kind, except the above-mentioned.

I do not recollect exactly what I directed for him; but I member nothing did him the leaſt Service, inſomuch that Week, or thereabouts, he died, perhaps as much by the Ne lect of thoſe about him, as by his Diſtemper; for, as the Ac dent happened in the very buſieſt Time of Harveſt, he had the Attendance which a Caſe of this Importance merited.

I could never, with all my Intreaties, get Leave to exam the Toe, with the Attention and Exactneſs it deſerved, for was ſo exceſſively afraid of having it touched, or moved, that was almoſt in Agonies, whenever I attempted to move Hand towards it. I ſhould have ſollicited for Liberty to diſ the Toe, if an Opportunity had preſented, but he had b buried ſome Days, before I heard of his Death.

Hippocrates (*de Morbis Mulierum, L.* 2.) has a moſt ex Deſcription of the Sort of Fits this Patient was affected wi which he attributes to Hyſterics, or, in his Phraſe, to the U rus; this I ſhall tranſcribe from him, in order to give a be Idea of this Patient's Caſe: Ην ἐς τὰ σκέλεα τῷ ποδὶ τράπωνται, ὧδε. Ὁι μεγάλοι δάκτυλοι τοῖν ποδοῖν σπῶνται ὑπὸ τὰς ὄνυχας, ϗ ἰδὼν τὰ σκέλεα ϗ τὼ μέρω, ϗ ἔγκειται ϗ θλίβει τὰ ἀμφὶ τὸ μηρὸν νεῦρα.— Ην δὲ ἄναυδος γίνηται ἐξαπίνης, τὰ σκέλεα ψυχρὰ εὕροις ἂν, ϗ τὰ γόνα τὰς χεῖρας, ϗ ἡ καρδίη πάλλεται ϗ βρύχει, ϗ ἱδρὼς πουλυς, ϗ τ' ἄλλα ὑπὸ ἱερῆς νόσυ ἐπίληπτοι πάσχυσι.

ALBAGIAZI. The Arabic Name for the Os Sacru *Caſtellus from Fallopius.*

ALBANI. Rulandus explains this *Lapis Salis Lacti*, wh is not very intelligible. Johnſon, and Caſtellus, as is uſ with them, in Caſe of Difficulty, take no Notice of it. Th is a Kind of Salt to be procured from Milk, which cryſtalli in the Form of a Cake, the Diſcovery of this is attributed to L dovicus Teſti. It is poſſible that this Salt may be meant b Albani, and that Ludovicus Teſti might take the Manner preparing it from ſome chymical Author that preceded him.

ALBANUM. *Salt of Urine. Rulandus.*

ALBARA. A Species of Leproſy. *Caſtellus.* See VITI LIGO.

It ſignifies alſo the *White Poplar. Brunfelſius.*

ALBARAS. *Arſenic. Rulandus.*

Blancard explains *Albaras alba*, by *Leuce*, the white Lepro and *Albaras nigra*, by *Lepra Græcorum.*

ALBATIO, ALBIFICATIO, and DEALBATIO, are chemiſtical Terms, not eaſily underſtood. They ſeem mean Reducing the baſer Metals to a Whiteneſs, in order their Tranſmutation into ſome of the more noble Sorts.

They alſo ſignify the Calcination of Metals, or Minerals, a Whiteneſs, without any View to Alchemy.

ALBEDO. Is the Whiteneſs procured by Albificati Or Whiteneſs of any Kind.

In Proportion as the Fleſh of Animals alters from its Wh neſs, ſo much it loſes of the Goodneſs of its Juices. *Actuar de Spir. Anim. Cap.* 7.

Of Whiteneſs, with reſpect to Urine, there are four Kin *viz.* the Cryſtalline, the Snowy, that of Lime, and the Li pid, like that of fair Water. For Ice, Cryſtal, Snow, Li and Water, have a Whiteneſs, but not in the higheſt Deg The Colour of Milk comes ſhort of the higheſt Degree Whiteneſs, but exceeds the aqueous and cryſtalline. Then t Whiteneſs of the glaucous Colour falls as much ſhort of t of Milk, as it exceeds the χαροπὸς, *Charopos*: For the Glaucous perſpicuous like a clear Horn, or the Cornea Tunica of t Eye; but the *Charopos* [Latin Ravus] is like the whitiſh Ha of Camels; or the Colour of the Onyx Stone. *Theoph. Urinis Cap.* 5. *Actuarius de Urinis Cap.* 8.

ALBERAS. The Arabic Name for the *Staphiſagri Schroder.*

ALBERICK. Rulandus explains this *Album Æris.* T German Word ſignifies *White Ore.*

ALBESTON. *Quick-Lime. Rulandus.*

ALBETAD. *Galbanum. Rulandus.*

ALBI. Both Rulandus and Johnſon explain this by *S mati.*

ALBIFICATIO. See ALBATIO.

ALBINUM. A Name of the *Gnaphalium marinum.* S CUDWEED or COTTON-WEED. See GNAPHALIUM.

ALBIR. Pitch got from the Bark of the Taxus, Ye *Johnſon.*

ALBOR. *Urine. Rulandus.*

ALBORA. A compound Species of Itch, or rather L proſy, of which Paracelſus gives the following Account:

I ſay that *Albora* is a Complication of three Things, t Morphew, the Serpigo, and the Leproſy.

Wh

When ſeveral Diſeaſes of different Origins meet together in e Center, there is generated a new Diſeaſe under a new ame.

The Signs.

When Cicatrices appear in the Face, like the Serpigo, and en turn to ſmall Bliſters of the Nature of Morphew, for hich there is no Name, I ſay, the Patient has the *Albora*.

The Term.

It terminates, without any Ulceration, in extremely fœtid acuations from the Mouth and Noſtrils. The Diſtemper is own only by its outward Signs; it takes its Seat too in the oot of the Tongue.

A Caution.

Avoid all internal Medicines, and ſtrong corroſive Waters.

The Cure.

ake of Tin, Lead, Silver, each a Dram; diſtilled Water of the Whites of Eggs, half a Pint; mix them together. The boiled Whites of Eggs are to be diſtilled, and the Water put to the Filings of the ſaid Metals, and the *Albora* is to be waſhed with the ſame. *Paracelſus de Apoſtematibus*, *Cap*. 42.

ALBORCA. *Mercury*. *Johnſon*.

ALBOT. *A Crucible*. *Rulandus*. *Johnſon*.

ALBOTAT. *Ceruſs*. *Rulandus*. Johnſon calls it ALBO- AR. It is alſo called ALFIDAS.

ALBOTIM. *Turpentine*. *Rulandus*. According to the e Author it is alſo called ALBOTAI.

ALBOTIS. The ſame as TERMINTHUS, which See.

ALBUCASIS. An Arabian Author, known alſo by the ames of *Albucaſius*, *Albuchaſius*, *Buchaſis*, *Bulcaſis Galaf*, *Al- aravius*, and *Azaravius*, according to Fabricius, who places n in the eleventh Century. Hence it appears, that Dr. iend is not the only Author, nor the firſt who acknowledged *ſaharavius* for the ſame as *Albucaſis*. He is eſteemed an ex- llent Surgeon. *Wolf. Juſtus* places him about the Year 85. Dr. Friend ſays a great deal about his Practice, which s not belong to this Article. What he ſays, however, con- ning his Perſon, Character, and Writings, I ſhall inſert.

Alſaharavius is an Author never mentioned by any other Ara- n Phyſician, and ſcarce known in Europe, to any but Mat- eus de Gradibus (who died in 1460.) till P. Ricius's Tran- tion of him (a very bad one) appeared in 1519, and this itſelf ver ſeen by Geſner. The Tranſlator gives him a very great comium, and ſays, he is a very clear Writer, ſuccinct, and the ſame Time very comprehenſive; and, in his Opinion, in- ior to none, except Hippocrates, and his Interpreter, Galen. e compiled a Work, called *Al-Taſrif*, or a *Method of Practice*, vided into thirty-two Treatiſes, in which he is ſuppoſed by ne to be excellent for the diagnoſtic Part, and deſcribing the mptoms of Diſeaſes. The Book, indeed, is very methodi- lly writ, and, without doubt, deſerves a good Character: But en, I muſt obſerve, that the greateſt Part of this Work is moſt exactly the ſame with what we may read in Rhazes: For ſtance, the 26th Tract, about the Diſtempers incident to hildren; the 28th, concerning arthritic Diſorders; the th, which treats of mortiferous Medicines, are all, in a Man- r, tranſcribed from that Author. More particularly in his ccount of the Small-Pox, in the 31ſt Treatiſe, he copies al- oſt every Word of what Rhazes had written upon the Pe- lence; and ſo little varies from him, that he retains the very ne Diviſions, and even Titles of the Chapters: Nay, he entions the ſame extraordinary Virtue of a Medicine, which, ough nine Puſtules are come out, will prevent a tenth; though deſcribes the Medicine itſelf a little differently.

In peruſing this Author, I obſerved, that he refers to a Book, hich contained the Precepts and Practice of Surgery: This he es very often, particularly *p.* 80, 81, 88, 97, 99, 107, 117, 8, 129, 123, 124, 125, 127, &c. I compared theſe Paſ- ges with *Albucaſis*, as he is commonly called the only Ara- an, who has left us any ſeparate Treatiſe of chirurgical Ope- tions; and I had the Satisfaction to ſee, that every Caſe in rgery, as mentioned by *Alſaharavius*, was treated of by him. deſired the Favour of Mr. Gagnier, who has very great Skill the Oriental Languages, to enquire whether the Arabic Ori- nal of *Albucaſis* could be found in the Bodleian Library. Up- n ſearching, he met with one Manuſcript, in Archbiſhop arſh's Collection, No. 54. with this Title (tranſlated into atin thus) *Tractatus x libri* Zaharavi *dictus operatio manûs d eſt) Chirurgia & ars medica, circa cauterizationem, & diſ- ctionem & commiſſionem fracturarum, in tres partes diſtributus*— ut not finding the Name of *Abulcaſim* (which is the Name gi- en him in a Latin Manuſcript there, by Gerardus Carmonen- , who tranſlated him) he went further, and found another anuſcript amongſt Dr. Huntington's, No. 156, with this itle at large—*Pars xi libri Al-Taſrif, Authore Abûl-câſem Chalaf Ebn-Abbas Al-Zararavi*—and, at the End of the Manuſcript, were theſe Words tranſlated out of Arabic thus, *Explicit hîc Tractatus de Chirurgia, eſtque concluſio totius libri Practices medicinæ cujus Author eſt Ab'ul-caſem, &c. Die primo menſis Safar*, A. H. 807. and, in the Latin Manuſcript already mentioned of Gerardus, it is called *Particula* 30 *libri* Albucaſim. The joint Authority of theſe two Manuſcripts, concurring with what I have obſerved before, about the References to a Treatiſe of Surgery, puts it, I think, beyond all Diſpute, that what we have now under the Name of *Alſaharavius*, and *Albucaſis*, were writ by the ſame Perſon. Add to this, that *Albucaſis* often refers to a Book, which he had writ concerning the Practice of Phyſic.

I do not find any Certainty of this Author's Age; but he is generally (though for what Reaſon I do not apprehend) ſuppoſed to have lived about the Year 1085: But there is ſome Ground to think he was not ſo antient. For, in treating of Wounds, he deſcribes the Arrows of the Turks: A Nation which ſcarce made any Figure, till the Middle, at leaſt, of the twelfth Century. And from what he ſays, that Surgery, in his Time, was in a Manner extinct, ſo that ſcarce any Footſtep of the Art remained: One may, I think, infer, that he lived long after Avicenna; for, in that Phyſician's Time, we know, Surgery was in good Repute. *Albucaſis* revived it; and thinks it is the higheſt Impudence to attempt any Thing in it, without being well verſed in Anatomy, and in the Virtues of Medicines, eſpecially the former, and adjures all of this Profeſſion never to undertake, for the Sake of Gain, a Caſe which they do not underſtand. Though he takes a great deal from the Greeks, and eſpecially from Aetius and Paulus, yet of the practical Writers he mentions only Hippocrates and Galen: And this, by the Way, may be another Reaſon to make us believe, that he is the ſame Perſon with *Alſaharavius*, who, in like Manner in his practical Work, does not quote above four or five Authors, *viz.* Rhazes, Honain, *&c.* beſides theſe two. He throws by, he ſays, all that is ſuperfluous in Surgery, and retains only what is uſeful, and neceſſary: And acquaints us, that he had joined long Reading and Experience together, and proteſts he will relate nothing but what he has ſeen. He is to be commended particularly for this, that he is the only one among the Antients, who has deſcribed the Inſtruments in each Operation, and explained the Uſe of them; and the Figures of theſe Inſtruments are in both the Arabic Manuſcripts which I have named, though not ſo finely and elegantly drawn, as in the Latin Copy. Another Thing very remarkable and indeed, peculiar to himſelf, is, that he gives his Reader Warning, whereever there is any Danger in the Operation: A Caution many Times as uſeful, as the long and minute Directions of others, how to perform it.

A Tranſlation of *Albucaſis*, intitled, *Methodus medendi certa, clara, & brevis, pleraque, quæ ad Medicinæ partes omnes, præcipue quæ ad Chirurgiam requiruntur, Lib.* 3. *exponens, cum Inſtrumentis ad omnes ferè Morbos utiliter &* γραφικῶς *depictis*, was publiſhed, together with ſome other Authors, at Baſil, 1541, in Folio.

Albucaſis was alſo publiſhed in Latin at Venice, 1500, in Folio. And at Straſburgh, 1532, in Folio. *Vander Linden*.

ALBUGINEA TUNICA OCULORUM. The Coat of the Eye called *Adnata*, or *Conjunctiva*. See ADNATA.

A Coat of the Teſticles is alſo called ALBUGINEA. It is ſo called from its Colour, which is white. It is a ſtrong, thick Membrane, very ſmooth on the outward Surface; the inward, which adheres to the Subſtance of the Teſticle, is rough and uneven. Into the upper Part of this Membrane are inſerted the Blood-veſſels, Nerves, and Lymphatics, which ſend from thence divers Branches into the Subſtance of the Teſticle. *Drake.*

ALBUGINEUS HUMOR OCULI. The aqueous Humour of the Eye. See AQUEUS HUMOR.

ALBUGO OCULORUM. A Pearl or white Speck in the Eye.

Nitre finely powdered, and mixed with Oil, ſoon takes away Pearls from the Eye anointed with it. The Juice of Anemone has the ſame Effect, by its attenuating Virtue. *Oribaſius de Loc. affect. Lib.* 4. *Cap.* 24.

The Collyrium of Archigenes, which at the firſt Anointing takes off moſt Part of the Pearl or Speck in the Eye, and is alſo an excellent Remedy for a bleared or blood-ſhot Eye, though long and dangerouſly affected.

Take of Snails calcined, three Drams; Æs uſtum, four Drams; Squama æris, ſix Drams; Squama ferri Stomomatis, twelve Drams; Ærugo, ſix Drams; Lapis Sciſſilis, one Dram; Aloes, one Dram; Omphacium dried, two Drams; Indian Thorn, four Drams; Chalcitis, Myrrh, Frankincenſe, each three Drams; Cortex thuris, Saffron, Crocomagma, each two Drams; Spikenard, three Drams; the Flowers of Pomegranate, two Drams; Gum Arabic, eight Drams. Bruiſe them in Water, and make them into a Collyrium, which uſe with Water; or you may bruiſe the Collyrium, and uſe it dry. *Aetius, Tetrab.* 2. *Serm.* 3. *Cap.* 39.

All Cicatrices appear white in the Black of the Eye, for, the Cornea Tunica being thickened, the cærulean Colour cannot appear through it; the moſt eminent Parts of the ſaid Tunica turn white, the even Parts are leſs white, and thoſe which ſubſide, are, in a manner, of the ſame Colour with the Black. Thoſe Parts which have been treated with aſtringent Medicines, 'till the forming of a Cicatrix, are darker than the reſt, becauſe the Pellicles are much thickened by Adſtriction. Now though old, callous, and thick Cicatrices, or Albugines, ought not to be meddled with, becauſe, in ſuch Caſes, it is neceſſary to uſe Collyria that are of a very acrid Quality, which may endanger an Ulceration of other Parts of the Eye, we ſhall however deſcribe ſome of thoſe Medicines that have the Virtue of dying thoſe *Albugines*, or white Cicatrices, of another Colour. For this End keep the Powder of Galls by you, and, upon Occaſion, heat the blunt End of a Probe, and, taking up ſome of the Medicine upon it, apply it to the *Albugo*, and after that ſome Vitriol diluted in Water: Or apply the Powder of Malicorium, and then the Vitriol as before. Another Medicine from *Oribaſius de Loc. Lib.* 4. *Cap.* 24. quoted by Ætius.

Take the Pulp of a ſweet Pomegranate, and beat it well, adding now and then a little Water, and, after you have uſed this about the Eye for ſome Time, anoint the Place with the Juice of Henbane for fifteen Days together; this will take off the Colour of the *Albugines*, and with often uſing, in a Year's Time, leave no Sign of them. *Aetius, Tetrab.* 2. *Serm.* 3. *Cap.* 37. & 40.

Cicatrices in the Superficies of the Eye, are only ſo called by ſome, others call them *Nubeculæ* [little Clouds,] and thoſe that are deeper ſeated, *Albugines*. The Juice of Anemone, or the leſſer Centaury, takes off the Nubeculæ; the more inveterate, are attenuated and diſcuſſed by Oil of Cedar, and Copper beaten in Water, and uſed as a Collyrium; and by all deterſive Collyria. For *Albugines*, Nitre finely powdered, and mixed with old Oil, is a fine Detergent, and ſo is the calcined Shell of the Cuttle-Fiſh, beaten up with Honey. Among the Collyria, the following is a good mild Deterſive:

> Take of Mamera (*the Root of an Herb, ſuppoſed by the Commentator on Myrepſus, to be Doronicum*) Gum Ammoniac, Myrrh, Crocodiles Dung, equal Quantities, and make them into a Collyrium: Or, take the Dung of the Land Crocodile, and beat it in Water for a Collyrium. *Æginet. Lib.* 3. *Cap.* 22. *Acctuarius, Lib.* 2. *Cap.* 7.

> For the *Albugines*, Take Saffron and Pepper, of each equal Quantities, and, with a Cat's Gall, make them into a Collyrium. *Actuarius de Meth. Med. Lib.* 6. *Cap.* 5.

> Take a Fox, and cut out his Tongue, and then let him go; dry the Tongue, and hang it by a ſcarlet Ribbon about the Neck of the Patient. *Marcel. Empir. Cap.* 8.

For the *Albugines* of Infants, cauſed by their Crying, anoint them with the Juice of the Solanum Nigrum, *Black Nightſhade. Aetius Tetr.* 1. *Serm.* 4. *Cap.* 11.

ALBUHAR. *Ceruſs. Rulandus.*

ALBULA. The ſame as ALBUGO.

ALBULA is alſo the Name of a Fiſh in the Lake of Zurich, mentioned by Aldrovandus, and ſaid to be very good Food.

ALBULA. *A little Pearl. Rulandus.*

ALBULÆ AQUÆ, or ALBÆ, according to Cælius Aurelianus. Theſe were much celebrated amongſt the Antients for their medicinal Virtues.

The Waters called *Albæ*, or *Albulæ*, in Italy, were approved by the antient Phyſicians in Palſies and Fluxes, and other like Diſorders affecting the natural Functions, becauſe of their cooling Quality. *Cælius Aurelianus, Chron. Lib.* 2. *Cap.* 1.

Aluminous Waters, ſuch as thoſe they call *Albulæ* in Italy, are good for all Kinds of Ulcers, but eſpecially ſuch as are ſubject to a Flux of Humours, by ſpeedily drying them up, and by that Means effecting a Cure. *Galen. de Simp. Med. Lib.* 1. *Cap.* 7. 50.

Galen, in his *Method. Med. Lib.* 8. *Cap.* 2. gives the Hiſtory of a Cure he performed on a Man who contracted a Fever by bathing in the aluminous Waters called *Albulæ*; which ſtopping all the Pores occaſioned that Diſorder.

The *Albulæ Aquæ* are recommended by Archigenes, in Aetius, for Ulcers of the Bladder, to be drank after Walking in the Morning, three half Pints the firſt Day, and then to go on to five or ſix; for, beſides their waſhing the Inteſtines, their fuliginous Vapour blunts the Senſe of Pain in the Part, and, making a Separation of the Humours, renders the Blood more pure and florid; and they alſo cleanſe the Ulcer effectually, and give an agreeable Senſation at their Entrance into the Bladder. So that, in ſhort, nothing can more contribute to the Cure of the Patient. They are fitteſt to be drank after the Cool of the Morning. *Aetius, Tetr.* 3. *Serm.* 3. *Cap.* 30.

Aetius ſays, theſe Waters are ſulphureous, aluminous, and warm as new Milk. *Ib.*

ALBUM GRÆCUM. The white Dung of Dogs gathered in March, called alſo *Spodium Græcorum*, *Nihil Album*, and *Album Canis*. It is eſteemed drying, abſtergent, diſcutient, and aperient. It is ſaid to promote the Breaking of Abſceſſes, and to deterge Exulcerations; hence it becomes uſeful in Dyſenteries, and Colical Pains. It is applied externally to the Throat in Quinſies, generally mixed with Honey, and to malignant Ulcers. It mollifies hard Tumors, draws away the Water in a Dropſy, and cures Warts. *Dale.*

ALBUM HISPANICUM. *Spaniſh White*, called alſo *Bianca Alexandrina, ſeu Album Hiſpaniæ*. This is made from Tin in the ſame Manner that Ceruſs is prepared from Lead. It is only uſed as a Paint, being thought to make the Skin look white. *Dale.*

ALBUM OLUS. A Name of the *Lactuca Agnina*, Lamb Lettuce, or Corn Sallet. *Dale.*

ALBUM NIGRUM. *Mouſe-dung.* See MUS.

ALBUM OCULI. *The White of the Eye.*

Things preternatural, among which are oftentimes Hairs, growing in the White of the Eye, which cauſe no Pain, and differ not much in Colour from the natural, are cured by taking hold of, and raiſing them with the Hook, and then cutting them off with the Knife appointed for the Pterygia; after which a little fine Salt is applied, and a Lock of Wool bound on the Place, and the Management is the ſame as in the Cutting of the Pterygia. But Things that put on a reddiſh Aſpect, and appear humid, and with turgid Veins, that are painful, and affect the Temple by Conſent of Parts, are better let alone by the Surgeon, as being of a malignant Nature, full of Hazard, and endangering the Loſs of the Eye itſelf. *Aet. Tetr.* 2. *Serm.* 3. *Cap.* 57.

ALBUM JUS. *White Broth*, good for ſick People, is thus prepared: Boil Whiting, Haddock, Cod, or any ſuch white-grained Fiſh, in Plenty of Water, with a ſufficient Quantity of Oil, and add ſome Anis, and Leeks; when they are parboiled, put in a litttle Salt, juſt enough to give a Taſte. *Oribaſius, Med. Col. Lib.* 2. *Cap.* 51.

ALBUM is alſo a Name of many compound Medicines, as,

ALBUM SEVERI COLLYRIUM. *The White Collyrium of Severus*, much recommended by Aetius, is prepared of the Juice of Fenugreek, Cadmia, Ceruſs, and Gum Tragacanth. *Aetius, Tetr.* 2. *Serm.* 3. *Cap.* 102.

ALBUM UNGUENTUM. This is commonly called *Unguentum Album Rhaſis*, and is thus ordered in the College Diſpenſatory:

> Take of Oil of Roſes nine Ounces; of Ceruſs carefully waſhed in Roſe-water, and powdered, three Ounces; of white Wax two Ounces. After the Wax is melted in the Oil, ſift in the Ceruſs after it hath been well dried from its Waſhing, firſt in common, and then in Roſe-water, ſo that, together, they may be made into an Ointment, S. A. To which add two Drams of Camphire, rubbed with a few Drops of Oil of Almonds, and then it is called the *Camphorated white Ointment*.

There is a very different Ointment in the *Pharmacopœia Regia*, under the ſame Title, and which too is ordered at Pleaſure to be camphorated: But that hath not been thought worth any one's Preſcription, ſince Avicen likewiſe directs one under the ſame Name, which the Auguſtane Diſpenſatory hath got, wherein Litharge is made an Ingredient, and the White of Eggs beat into it; but that alſo now is quite laid aſide. That which is here retained is attributed to Rhaſes, whoſe Compoſitions are generally more uniform, and ſimple, than any of the Arabians. But our wholeſale Dealers in Medicine, have learned grievouſly to corrupt it, by uſing Hog's Lard, for the Oil of Roſes, and Wax, which greatly fruſtrates the Intention of the Medicine as a Cooler; inſomuch, that it may not be unworthy the particular Care of a Preſcriber, to enquire into this Matter, when any Streſs is laid upon this Medicine, which is the moſt commonly uſed of any of this Intention. *Quincy's Notes.*

The *Unguentum Album*, of the *Edinburgh Diſpenſatory*, is ſomething different from the preceding.

> Take of unripe Oil Olive three Pints; of Ceruſs, a Pound; of white Wax, nine Ounces; and mix them together according to Art, ſo as to make an Unguent.

ALBUMOR is alſo ſometimes uſed to ſignify the ſame as ALBUMEN, *The White of an Egg.*

ALBUMEN. *The White of an Egg.*

As the White of the Egg ſupplies the Fœtus of Birds with its firſt Nouriſhment, and bears a great Analogy to the Serum of the Blood, it becomes a Matter of ſome Importance to be well acquainted with its Nature.

The *Albumen*, ſays Fabricius, called the *Ovi Albus Liquor* by Pliny; *Ovi Candidum*, by Celſus; *Ovi Albor*, by Palladius; *Ovi Album*, and *Albamentum*, by Apicius; by Ariſtotle, λεύκωμα; by Anaxagoras, ὄρνιθος γάλα, *the Milk of Birds.* It is

a cold,

ld, viſcous, white Liquor of the Egg, differing in Conſi- ce, for towards the acute and obtuſe Parts of the Egg, it is e liquid, in other Parts of a more denſe Conſiſtence, and wiſe in Diſtribution, being more copious towards the obtuſe, towards the acute Part of the Egg, and more copious in laſt, than in the other Parts of the Egg, ſurrounding and ering the Vitellus, or Yolk, on all Sides.

have not only obſerved this Difference in the *Albumen* an Egg, but alſo that there are two *Albumens* different each other, and involved in their proper Membranes: theſe, one is very thin and liquid, the other more denſe and ous, and of a ſomewhat whiter Colour; but in old and Eggs, after ſome Days Incubation, inclining to a Yellow. this ſecond *Albumen* covers the Vitellus or Yolk on all Sides, is itſelf ſurrounded by the other external Liquid. That two *Albumina* are diſtinct, will thus appear: If you take he Shell, and penetrate both the adjacent Membranes, you ſee the Liquid and exterior *Albumen* immediately all run ; but though theſe Membranes are opened, and reclined on Sides upon the Diſh, yet the interior and denſer *Albumen* keep its Place and globous Figure, as being circumſcribed in its proper Membrane, which is ſo fine, as not to be erned by the naked Eye. If you cut this Membrane, the ſe- d *Albumen* will inſtantly fly out on all Sides, and loſe its round re, juſt as when you cut a Bladder the contained Liquor s out on a ſudden; and when you break the Membrane that s the Vitellus, the yellow Liquor runs out, and its former boſity ſubſides. *Harvæus de Generat. Animal. Exercit.* 11.

s the Eggs of Hens conſiſt of two Liquors, each of a dif- t Colour, ſeparated from one another by Membranes, and nguiſhed by two Branches of umbilical Veins, one of which to the Vitellus, and the other to the *Albumen*, ſo it is very able they are of different Natures, and conſequently, ap- ted for different Purpoſes: "The Vitellus of the Egg, ys Ariſtotle, differs from the *Albumen*, not only in Colour, t in other Properties. The Vitellus is condenſed by Cold, e *Albumen* is rather liquefied. On the contrary, the *Albu- en* is condenſed by Fire, the Vitellus retains its Softneſs, if it not burnt; and concretes, and dries, more in boiling, han in roaſting." When the Vitellus grows warm with bation, it becomes more humid, and like melting Wax, at, whence it takes up more Space; for, as the Fœtus in- es, the *Albumen* inſenſibly waſtes away, and condenſes; Vitellus, on the contrary, ſeems to have loſt little or nothing Bulk, when the Fœtus is perfected, and only appears liquid and humid, when the Abdomen of the Fœtus be- to be formed.

he Chick in the Egg is firſt nouriſhed by the *Albumen*, when this is conſumed, by the Vitellus, as with Milk. refore the umbilical Proceſs of Veins that goes to the *Albu-* when that is ſpent, withers, and breaks off before the h, leaving no Sign behind it, but vaniſhing even before the r Belly comes to be bounded with an Abdomen.

oth the *Albumina*, are deſigned for Nutrition, and the r one is firſt conſumed, as being the firſt that receives the ilical Branch of Veins, that viſit the *Albumina* before they r the Vitellus, which is the laſt Nouriſhment of the Chick. *væus de Generat. Animal. Exercit.* 59.

he *Albumen* is contained in concentrical Membranes, but t all of the ſame Conſiſtence; for the exterior Part of it is , and diffuſes itſelf almoſt like Water, when the Mem- es are broke, whereas its interior Part is more viſcous.

can make its Way through the Shell, as it appears from Vaſting by keeping, eſpecially if it is expoſed to a gentle t.

is ſpecifically lighter than the Vitellus.

y Incubation, the *Albumen* becomes thinner, and more id, eſpecially on its upper Part, near the obtuſe End, where alſo firſt conſumed; and it is afterwards diminiſhed towards ſharp End of the Egg, till at laſt nothing of it is left, except hite cretaceous Subſtance at the lower Part of the Shell.

he *Albumen* of a fœcundated Egg is as ſweet and free from ruption, during all the Time of Incubation, as it is in a -laid Egg. *Edinburgh Medical Eſſays.*

oerhaave has given ſome Experiments on the White of an , and immediately afterwards, nearly the ſame Experiments he Serum of Blood, with a View of ſhewing the Similitude e is betwixt the two Subſtances juſt mentioned. Theſe I l inſert in this Place, as they will contribute much to our rmation, with reſpect to many Things relative, not only he Whites of Eggs, but alſo to the Effects of Heat upon nu- ous Juices.

ERIMENTS upon the WHITES of EGGS, in order to rove them neither ALCALINE, ACID, nor in any Degree CRIMONIOUS.

ut ſome Whites of new-laid Eggs, well cleared from their ls, Membranes, and Yolks, into clean glaſs Veſſels. Into of theſe pour different Acids, then ſhake and mix them well together, and there will not in any of them appear the leaſt Sign of an Effervеſcence. Put into another Glaſs, wherein is a Portion of the ſame Whites of Eggs, a fixed, and into another a volatile Alcali, and you will find them continue perfectly at Reſt, without diſcovering the leaſt Tendency to Ebullition.

If the freſh Whites of Eggs are put into a Cucurbit, and diſtilled with a Heat of a hundred Degrees, an inſipid Water comes over, which contains nothing in the leaſt ſpirituous. If theſe Whites of Eggs are applied to the Eye, or the bare Nerves, they do not excite the leaſt Degree of Pain; they ſcarcely affect the Organs of Smell; applied to the Tongue, they taſte perfectly inſipid, and inert, and to the Touch they feel viſcid, and mucous, without the leaſt Indication of Activity.

REMARKS.

Hence it is evident, that in the freſh White of an Egg, neither an Alcali, nor an Acid exiſts, nor any Thing formed by a Combination of theſe two together. But it is a thick, viſcid Liquid, utterly inert, and perfectly inſipid. It appears, however, that by this truly animal Fluid, within the Space of twenty-one Days, and in a Heat of ninety-three Degrees, a Chicken is formed by Incubation under the Hen, which weighs more than an Ounce, and this from a Body ſo ſmall, that it ſcarcely weighs the hundredth Part of a Grain. Here then we find a Fluid different from all others, out of which, by the Application of requiſite Cauſes, Fibres, Membranes, Veſſels, Viſcera, Muſcles, Bones, Cartilages, all the Parts both tendinous, and ligamentous, the Beak, Claws, and Feathers, and all the Humours contained in all theſe are produced. And yet in this Liquid we find a Softneſs and Inactivity, without the leaſt Appearance of any Thing either acid, alcaline, or ſpirituous, or any Diſpoſition to an Effervеſcence. And indeed, if there ſhould happen any Effervеſcence, the Egg muſt unavoidably burſt. The whole Subſtance therefore conſiſts of ſuch a Matter as has been deſcribed, and demonſtrates to us from how tenacious and inactive a Maſs all the Parts of the Chicken, both ſolid and fluid, may be formed. And yet this very Subſtance, by a ſomewhat greater Degree of Heat, is rendered abſolutely unfit for the Production of a Chicken, it ſcarcely bearing a hundred Degrees to any good Purpoſe, whilſt a little leſs proves equally prejudicial, fewer than eighty Degrees not being ſufficient.

The ingenious Malpighi has demonſtrated, that this White of the Egg is not a Liquid every where equally fluid, like the Serum of the Blood, which circulates through the Veſſels of the Body, but that it is a Subſtance compoſed of many membranous Bags which are diſtinct, and filled with their proper Fluids almoſt in the ſame Manner as we obſerve the vitreous Humour of the Eye to be formed. And hence thoſe Waves, as it were, concentric to the Sacculus Colliquamenti, by which the nutritious Juice being gradually attenuated, is at laſt ſtrained into the Amnios of the Chicken.

EXPERIMENT tending to ſhew the ANALOGY betwixt the SERUM of the BLOOD, and the WHITE of an EGG.

If Blood, drawn with a free Stream from a young Perſon in Health, whilſt faſting, is immediately ſet to reſt in a clean Veſſel, it ſoon ſpontaneouſly ſeparates into two Parts, a concreted ſolid Cake, and a fluid, yellowiſh, thin Serum, which perpetually increaſes for a conſiderable Time, whilſt the Maſs remains without Motion. Let this Serum be ſeparated from the red concreted Part as accurately as is poſſible, and divide it into ſeparate clean Veſſels. Into one Portion of it pour ſome of the ſtrongeſt Vinegar; into another Spirit of Salt; into a third Spirit of Nitre; and into a fourth Oil of Vitriol; and you will obſerve that neither of the Mixtures diſcover the leaſt Effervеſcence.

To a Portion of Serum in another Veſſel add a fixed Alcali; and to another a volatile Alcali; and the Conſequence will be, that in both Caſes they will remain perfectly at Reſt, without the leaſt Conflict, or Appearance of Ebullition.

This Serum has a Taſte, which is mild, and but very little inclinable to Saltneſs. It diffuſes a Smell which is diſagreeable, but by no Means acrid or very active. If a Drop of it is inſtilled warm into the Eye, it excites no painful Senſation, but is one of the moſt ſpeedy Lenients in Inflammations and Wounds of that Part. And if it is applied to the Nerves laid bare in Ulcers, or Wounds, it is ſcarcely perceived.

REMARKS.

This plaſtic Serum is ſoft and inert, perfectly like the White of an Egg; and as out of that are formed all the Parts of a Chicken, ſo this furniſhes all the Parts of the human Body with Nutriment.

EXPERIMENTS on the WHITES of EGGS with HOT WATER.

If an Egg is expoſed to a continual Heat of eighty Degrees, the White ſoon loſes its Tenacity and Thickneſs, and becomes ſo ſubtile as to perſpire through the great End, where the Membranes being ſeparated from the Shell, are depreſſed towards the

Yolk, and form a large Cavity. The other Part of the White at the ſame Time will be diſſolved, grow thin, and ichorous, nor will it afterwards harden with the Heat of boiling Water, but becomes fœtid, putrid, and very acrid, and deſtroys the vital Stamina of the Chicken.

The freſh White of an Egg thrown into Water heated to a hundred and ſixty Degrees, loſes its Pellucidity, grows white and opake, and becomes concreted into one thick, ſciſſile Maſs. Or if into Water boiling in a glaſs Urinal you drop a little White, it will be coagulated ſurpriſingly, even during the Motion of the boiling Fluid, though it is agitated about by it to every Side. Or, laſtly, if you put a whole Egg into Water as hot, it will be hardened in the ſame Manner. Hence therefore it appears, that this Coagulation does not ariſe from any Loſs of the Liquid of the White, diſſipated by this Heat, but from the true Action of the Fire applied in ſuch a Degree; for it happens in the Middle of the Water. And if you put the White into a large Quantity of cold Water, it will harden and ſeparate itſelf from the Water as ſoon as it begins to be near boiling.

If an Egg is boiled till it is very hard, and you then accurately ſeparate the White from the Membranes, Tread, Yolk, and Sacculus Colliquamenti, and lay it in a glazed Baſon, it begins gradually to ſweat, as it were, and to be reſolved into a ſubtile Liquid, which appears of a watery Nature, but is a moſt penetrating Solvent, inſinuating itſelf into the Body of Myrrh and other Subſtances, that are otherwiſe diſſolved with Difficulty.

REMARKS.

By this Experiment then we learn, how that Matter is diſpoſed with Regard to Heat, out of which all the animal Parts without Exception may be formed in a ſhort Space of Time. We ſee here that a certain Degree of Heat diſſolves it, that a greater coagulates it, and that a leſs again reſolves it, when it is coagulated. All theſe Things therefore are owing to determined Degrees of Heat, without a proper Regard to which nothing can be aſſerted that will always here hold true. And it will appear ſtill farther, that a Heat exceeding two hundred twenty-four Degrees will attenuate and diſſolve this Coagulation brought about by a leſs Heat. Hence, therefore, let us be warned to conclude more cautiouſly concerning the diſſolving or coagulating Power of Fire with Regard to plaſtic, nutritious Humours, or the Degrees of Heat neceſſary to attenuate, putrefy, inſpiſſate, or again reſolve them.

EXPERIMENTS on the SERUM of the BLOOD with HOT WATER.

Pour Serum of the Blood into clean Water, boiling on the Fire, it immediately grows white, and a Kind of Coagulation is formed in the Middle of the Water. In this Property, therefore, Serum agrees with the White of an Egg, though it muſt be obſerved, that the White of an Egg forms a more ſolid Coagulation than the Serum of the Blood.

REMARKS.

Hence then the Effects of Heat upon Serum of the Blood are manifeſt; hence alſo we may learn how boiling Water acts upon the Humours when it is applied to, and conſequently burns the Parts of a living Body. It is plain, that by that Means neither the ſaline Parts, nor the Oils of the Blood are rendered volatile.

EXAMINATION of the SERUM of the BLOOD with a DRY HEAT.

Take ſome Serum of Blood, put it into a clean Veſſel, and gradually expoſe it to the Fire, and when it begins to ſmoke, that Part which is in Contact with the Veſſel, will grow opake and white, and coagulate; and thus proceeding ſucceſſively, the whole Serum will at laſt be hardened into a white, tenacious, opake, ſciſſile Maſs, lying in Waves, as it were, in the Middle of the Surface, perfectly ſolid, of a mild Taſte, like that of the White of a boiled Egg, and almoſt without Smell. If this Maſs is kept in the open Air, a thin watery Liquid gradually exſudes, perfectly in the ſame Manner again, as it happens in the boiled White of an Egg. And here, if the Coagulation is made with a proper Degree of Fire, that is, with ſuch a one as will juſt effect it, and no more, it will then harden without any Empyreuma, without expelling any Salt, and without the leaſt Appearance of an Alcali. When it is once conſolidated in this Manner, it can ſcarcely be by any other Means reſolved.

REMARKS.

Hence it appears, that in a certain Degree of Heat, not much exceeding a hundred, all our Humours will be reduced into Maſſes, that will not be able to paſs through their Veſſels. A Heat, therefore, of a little above a hundred Degrees, ariſing either from an internal or external Cauſe, cannot be ſupported in the human Body, becauſe it would utterly ſtop the Circulation of the Humours, and conſequently cauſe immediate Death. And the Effects of ſuch a Heat would be firſt ſenſible in the Head an Lungs, becauſe their proper Actions would be firſt diſturbed.

EXAMINATION of the WHITE of an EGG with ALCOHOL.

Put the White of an Egg into a tranſparent Veſſel, up which pour ſome of the pureſt Alcohol of Wine, in ſuch Manner that it runs very gently down the Sides upon the White and this do very carefully, that you may evidently perceive th every Part of the Surface becomes coagulated, as the Alcoh touches it, whilſt the lower Part ſtill continues liquid and p lucid. Then ſhake them gently together, the Coagulation f ſpreads with the Alcohol; and by ſhaking them thoroughly, a mixing them well together, the White is intirely coagulat If the Alcohol is heated before the Experiment is made, t Coagulation is effected in a greater Degree, and the ſame Eff is produced, by ſhaking the *Albumen*, and Alcohol together w Rapidity, the Heat and Motion here promoting the Coagu tion.

REMARKS.

Hence it appears, that the pureſt vegetable Spirits coagul that plaſtic Matter which is the Baſis of Nutrition; and certai ly in that Inſtant of Time it becomes abſolutely unfit to p form its Office. This Admixture, however, of Alcohol p ſerves the White from Putrefaction. How much then does t plaſtic Matter of Animals tend towards Coagulation? Wh unexpected Powers does the too great Depuration of ſome B dies produce in them? Wine will ſuffer itſelf to be mixed w this White; the Alcohol produced from it becomes coagula with the coagulated White; and yet Alcohol diluted with pretty deal of Water will not coagulate it.

EXAMINATION of the SERUM of the BLOOD with A COHOL.

To Serum, contained in a tranſparent Glaſs, pour ſome ve pure cold Alcohol, and immediately, in thoſe Parts which touches, the Serum begins to grow turbid, white, and opa Shake them together, the ſame Thing happens throughout, a the Whole becomes coagulated, though not ſo ſtrongly as t White of an Egg, but in Pieces, cohering leſs firmly togeth If Alcohol is mixed with it very hot, the Coagulation becom much more ſolid. When the Serum is coagulated in this Man ner by Alcohol, it will never grow putrid, but may be kept Years without Alteration.

REMARKS.

Here then we obſerve a farther Analogy betwixt the Ser of our Blood, and the White of an Egg; that is, in their Co gulation by Alcohol. That the Serum is not conſolidated b the Alcohol into ſo denſe a Maſs as the White of an Egg, ſe to be owing to the original greater Solidity of the White. F the White which contains all the Matter of Nouriſhment wh is conveyed to the Chicken, ſo long as it continues incloſed the Shell, has nothing putrid in it, nor is it much diluted whereas the Serum of the Blood contains both urinous Partic and a large Portion of Water; but Alcohol, diluted with Water, will not condenſe the Serum in ſuch a Manner, nor e the White of an Egg. Hence we may learn the Efficacy pure Alcohol upon our Blood, for it condenſes it like Fire, a preſerves it from a ſpontaneous Corruption, on both which A counts it is the moſt ready Styptic we are acquainted with, the ſame Time that it prevents Putrefaction, producing a v thin, indeed, but ſolid Eſchar. For if a Tent dipped in t pureſt Alcohol made ſcalding hot, is applied to a bleedi Wound, preſſed on pretty ſtrongly, covered with a Piece Hogs-Bladder ſoftened with Oil, and then ſecured with a p per Bandage, the Hæmorrhage will be immediately ſtopp and the whole Dreſſing may be kept on for the Space of th Days, in which Time the Veſſels generally coaleſce, being v much contracted and conſolidated by the Alcohol. Thus th does Alcohol coagulate all our thicker Fluids, contract the fibr Parts into a hard dry Coalition, and defend both of them fr the Putrefaction they are naturally diſpoſed to. A famous In ſtance of this is communicated by that excellent Phyſici Samuel Cabelliau, in a Leg that was perfectly ſphacelated, wh by the Help of Spirit of Turpentine, and alcoholiſated Spirits Juniper, was preſerved from Extirpation for the Space of Months, without any farther Putrefaction. *Eph. Germ. Dec.* *An.* 5 and 6. *p.* 495. But thoſe Parts of the Body that are co poſed of exceeding fine Veſſels, ſoon grow hard in Alcohol, t gether with their contained Humours. No Wonder therefore that thoſe poor Wretches who uſe this Alcohol, though ſom what diluted, too freely, ſhould be obnoxious to ſuch terri Diſorders of the Nerves, and Polypuſes in the Blood.

The freſh WHITES of EGGS reſolved by DISTILLATIO

Boil ſome new-laid Eggs in clean Water, till they are ha and then accurately ſeparate the Whites, and chop them Pieces. Put theſe into a clean glaſs Cucurbit, and fitting on

Alemb

bic apply a Receiver. Place the whole Cucurbit in a of Water, and urge it by ſucceſſive Degrees, till the Wa- n the Bath keeps conſtantly boiling. By this Means there not appear any Streaks like thoſe of Spirits, but there es off a ſimple Water diſcovering itſelf in dewy Drops, that in ſuch an incredible Quantity, as to riſe to nine ths of the whole Weight of the original Maſs. Continue ntly this Diſtillation with the Heat of boiling Water, till a Drop more of this Liquor will riſe. This Water then, Examination, diſcovers no Sign of any Oil, Salt, or Spi- in it. It is very pellucid and inſipid, except that towards latter End it taſtes a little bitteriſh, and is almoſt inodor- except that at laſt it ſmells a little empyreumatical. Nor there appear the leaſt Sign of any Alcali, though exa- ed by proper Experiments; nor by any Trial does it diſ- r an Acid. A very ſmall Quantity, in Proportion to what put in, remains at the Bottom of the Cucurbit, each Frag- t being contracted into a ſmall Bulk from their former Magni- ; and they are of a golden Colour, eſpecially in thoſe Parts ch were in Contact with the Glaſs, but yet they are tranſpa- , like ſtained Glaſs. When taken out of the Cucurbit, they ar to be light, hard, and perfectly brittle, ſo that they break a Noiſe like Glaſs, and have a ſlight empyreumatical Smell, a bitteriſh Taſte, occaſioned by the Fire, but are by no Means r alcaline or acid.

ill a glaſs Retort one Third full with the Fragments above- tioned, apply a large Receiver, place the Retort in a Sand- , carefully lute the Joint, and then diſtil with ſucceſſive grees of Fire to the very greateſt, called a ſuppreſſing Heat. this Means a pinguious, oily Spirit ariſes, which runs down treaks, and at the ſame Time a volatile Salt fixes itſelf the Sides of the Receiver, conſiderable in Quantity, with ard to the dried Fragments, but little in Compariſon of the le Whites before the Water was drawn off. Laſt of all, des a light gold-coloured Oil, mixed with the former Parts, e comes over a black, thick, pitchy Oil; and when this Oil is forced out by the extreme Torture of the Fire, then Earth at the Bottom of the Retort, ſtill intimately united h its ultimate, exceeding tenacious Oil, rarefies, puffs up, riſes to the Neck of the Retort, and, if it happens to be d too full, enters into the Neck, and choaks it up, and ce has ſometimes cauſed the Veſſels to burſt, not without ger to the Operator. Continue the Operation till nothing e comes over. The firſt oily, pinguious Spirit appears ngly alcaline, by every Mark; thus, upon being mixed with Acid, it cauſes a very violent Effervеſcence. By Rectification reſolved into a volatile alcaline Salt, an Oil, and an inert d Water. The Salt that adheres to the Sides, is perfectly line, very acrid, fiery, oily, and volatile, and the laſt Oil rid, cauſtic, and remarkably fœtid. The Earth that re- ins at the Bottom of the Retort, is exceeding black, ſhining, t, rare, and brittle, and has a fœtid Smell from the empy- matical Oil that is united with it, and a bitter Taſte from ſame. If this is burnt in an open Fire, it leaves a little d, white, inſipid, inodorous Earth, from which no Salt can procured, exhibiting only an exceeding ſubtile Powder.

REMARKS.

Hence it is evident, that the White of an Egg contains a y large Proportion of Water, but that it has in it not the leaſt tion of an Alcali, which will riſe even with a Heat of two dred and twelve Degrees. That Matter therefore, which by a ater Degree of Heat is converted into a volatile Alcali, is by one of two hundred and twelve Degrees, though very ſiderable, diſpoſed either to be alcaline or volatile. Hence refore it may be inferred, that there is no volatile Salt na- ally contained in it; for, in Chymiſtry, that is called a vo- le Salt which is more ſo than Water, and riſes with a much Degree of Fire. Nor do we diſcover any Spirit, that riſes th the Heat of boiling Water; nor any Oil that ſuffers itſelf be ſeparated by the ſame; nor indeed is the Reſiduum, after watery Part is drawn off, ſo altered by this Action of the e, as to give the leaſt Indication of its containing any Salt; , the more liquid Parts being expelled, it ſpontaneouſly acquires Appearance of a brittle Glaſs. By this Experiment there- e, we learn, that a volatile Salt may be produced from the hite of an Egg, but does not naturally exiſt there in that rm; for when this Salt is, by a proper Degree of Fire, ſe- ated from the reſt of the Maſs, and become volatile, it will n riſe with a Heat of ſixty Degrees, though it was not to raiſed before by one of three hundred. That Volatility refore is not natural to the Salt of the *Albumen*, but is mmunicated to it by Fire; and this is true alſo with Re- ct to its alcaline Quality. And hence we diſcover, the tena- us Adheſion of the Oil to the more fixed Parts of the White, ilſt the Water is ſeparated from them very eaſily; and we o ſee, that an animal Coal will never part with all its Oil in cloſe Veſſel, but that it adheres ſo obſtinately to the terreſtrial ements, that no Fire, except in the open Air, can deſtroy Union. From what has been ſaid then, we may be enabled to form juſt Notions concerning this Matter of the White of an Egg, from which all the Parts of the Animal are afterwards produced.

PUTREFACTION of the WHITES of EGGS.

Sound Eggs, or their Whites, when kept in a Heat of ſeventy Degrees, or upwards, begin in a few Days to be attenuated, grow fœtid, diſſolve, and putrefy, and at the ſame Time, if the Eggs are whole, they begin to grow empty about the large End, and, if they are then boiled, will not harden, but retain their Fluidity. And this Change happens much ſooner in thoſe Eggs which are impregnated, than in thoſe which are not; for in theſe the greateſt Part of the putrid Moiſture exhales, ſo that at laſt the whole Shell almoſt is filled only with Wind or Air. If you continue to keep the Eggs or Whites in the ſame Degree of Heat, at laſt all the Parts grow ſurpriſingly putrid, and alcaline, cauſe an Effervеſcence with Acids, and, in Diſtillation the firſt Part that riſes from them is an alcaline Spirit, and an alcaline Salt, exactly in the ſame Manner as in putrefied Urine. If the White is ſuffered to putrefy in the open Air, it becomes almoſt totally volatile, exhaling in Proportion as the Putrefaction advances, and at laſt leaving nothing behind but a few Skins, all the reſt being diſſipated into the Air. In all theſe Experiments there is never generated the leaſt Portion of Acid.

REMARKS.

If a little Quantity of Egg, putrefied to ſuch a Degree as to become of an alcaline Nature, is taken into the human Body, it produces there very extraordinary Effects, exciting a Nauſea, Horror, Vomiting, great Uneaſineſs, a Diarrhœa, and Gripings, inflaming the Bile, and exciting Heat, Thirſt, and a Fever, and by its putrid Exhalation only it induces a Horror, Nauſea, and Vertigo, and wonderfully diſſolves the Humours of the Body like a peſtilential Poiſon. This, therefore, we know to be the Nature of that Matter, which is nearly in a State fit to being changed into all the Parts of an animal Body. Reſt only, and ſuch a Degree of Heat as has been ſpecified, produce all theſe Qualities in that Subſtance. Hence therefore we learn its ſpontaneous Alteration and Corruption. But it is farther very ſurpriſing, that if an impregnated Egg is digeſted in a proper Stove, with a Heat of ninety-two Degrees, the Parts that are attenuated and altered by this Heat, are ſpent for the Space of twenty-one Days in nouriſhing, increaſing, and perfecting a Chicken, in which there does not appear any Thing alcaline, fœtid, or putrid. Here then the Phyſician may obſerve ſome very wonderful Phænomena; for by Reſt, and a certain Degree of Heat, a Subſtance from thick becomes thin; from tenacious, liquid; from inodorous, fœtid; from inſipid, of a fracid, very acrid, abominable Taſte; from exceedingly mild, cauſtic; from non-alcaline, extremely alcaline; whilſt the latent Oil which was ſweet, grows extremely putrid. Theſe Experiments are made in particular upon the Whites of Eggs, the other Parts, where it could be done, being accurately ſeparated from them, becauſe the White alone is that Matter which ſupplies the Embryo with Nouriſhment, all the other Parts aſſiſting only to the Alteration of the White, that, when it is changed in a proper Manner, it may be applied to the Carina of the Chicken that is to be brought to Perfection by it.

PUTREFACTION of the SERUM of BLOOD.

Serum put into a tall open Glaſs, and expoſed to a Heat of ſeventy Degrees, will grow every Hour more and more thin, ſo as in the Space of three or four Days to be quite reſolved and ſanious. At the ſame Time alſo, from being almoſt inodorous, it becomes fœtid, and exhales a cadaverous Stench; from being inſipid, it acquires a fracid, rancid, acrid, abominable Taſte; and, if it is kept in this Degree of Heat a few Days, it grows alcaline, putrid, and intolerable to our Senſes, evidently diſcovering its alcaline Nature, by raiſing an Effervеſcence with Acids. If it is committed under theſe Circumſtances to Diſtillation, it yields the firſt Time a volatile alcaline Salt, exactly like the White of Eggs, treated in the ſame Manner.

REMARKS.

Hence then we obſerve, that Serum, when expoſed to the Obſervation of our Senſes, by Reſt, and the Degrees of Heat mentioned, becomes ſpontaneouſly thinner. When it ſtagnates therefore in the obſtructed Veſſels of a ſick Perſon, by a gentle Heat, and Time, it diſſolves of itſelf, and often opens the Veſſels it had obſtructed. Hence in acute inflammatory Diſorders, when the Body is reduced to a moderate Heat, in a certain Number of Days, the obſtructing Matter becomes capable of circulating in its Veſſels, as in Practice is every Day obſerved. During the Alterations the Serum undergoes in this Experiment, it never becomes acid, whatever the greateſt Artiſts write to the contrary, but always grows putrid. Nor do we ever obſerve the leaſt Sign of Fermentation, whatever Arts are made Uſe of in order to raiſe one, but a determined Putrefaction only. It muſt indeed be confeſſed, that by thus putrefying it rarefies and produces an elaſtic Air that flies off from it, but not one that is fermentative, and ſpirituous. Nor are there any fermented inflammable Spirits generated by this Putrefaction, but putrid Spirits, of another Kind, which are, however, volatile, and capable of taking Fire. For Excrements, cloſe ſtopped up in a Jakes, and compreſſed together, have ſometimes conceived a ſtrong inteſtine Motion, and at the ſame Time have exhaled an extremely fœtid Vapour, which, upon the Application of a Candle, has burſt out into a violent Flame. From the ſame Cauſe ſometimes a Heat and Rarefaction have been excited in a dead human Body, about the Abdomen only, and that not very conſiderable. From what has been ſaid then, the Phyſician may learn the ſpontaneous Degeneration of the Humours, when they ſtagnate, either in their Veſſels, or in the Cavities of the Body when extravaſated. By acid, compound, ſaline, and ſpirituous Bodies, however, this Putrefaction may be prevented.

By the foregoing Experiments, which ſeem made with great Judgment and Accuracy, we are taught that a great Similitude exiſts betwixt the *Albumen* of an Egg, and the Serum of the Blood. Now, as the White of an Egg has all the Requiſites to the Formation of an animal Body, that is, to Nutrition, when properly applied by the vital Actions to the Parts which require it, and this without any previous Digeſtion by the Stomach, it muſt neceſſarily be one of the moſt proper Aliments in the World, in morbid Caſes, where the digeſtive Organs are relaxed and weak, where the Fibres of the whole Body want a due Tenſion, and Elaſticity, and where conſequently Reſtoratives are indicated. But in order to anſwer any good Purpoſe in this View, it muſt be given freſh, raw, and without the Application of the leaſt Heat, for Heat, as appears by the foregoing Experiments, renders it unfit for Nutrition; the genial and plaſtic Warmth of the Body being all that is required to apply it to the Parts which require Nouriſhment.

It is to be given in a little Milk and Water, or Broth, or may be taken alone, well ſeparated from the Yolk.

It is recommended for many medicinal Purpoſes, as will appear by the following Quotations.

The raw *Albumen*, or White of an Egg, refrigerates, ſtops up the Pores; inſtilled into the Eyes, mitigates an Inflammation there; prevents Puſtules from riſing after Scalds or Burns, if the Place be immediately anointed with it. It keeps the Face from Sun-burning; applied with Frankincenſe, as an Anacollema, to the Forehead, it reſtrains Defluxions; mixed with Wine, Honey, and Oil of Roſes, and applied in Wool, it mitigates an Inflammation of the Eyes. Supped raw, it is good againſt the Bite of the Serpent Hæmorrhois. Uſed with the leaſt Degree of Warmth, it is effectual in Corroſions of the Bladder, Ulcerations of the Kidnies, Roughneſs of the Aſpera Arteria, Vomiting of Blood, and Diſtillations, or Defluxions, on the Breaſt. *Dioſcorides, L.* 2. *C.* 155.

The White of an Egg has a refrigerating, aſtringent, and agglutinating Quality.

It is frequently uſed for Redneſs of the Eyes, to conglutinate Wounds, mixed with common Bole, and in Fractures. It is of Service alſo in Anacollemas. See ANACOLLEMA.

Hippocrates preſcribes three or four Whites of Eggs in Fevers for Refrigeration, and the Expulſion of the morbific Matter.

The Yolk of an Egg is endued with an anodyne, maturating digeſting, and relaxing Virtue. Hence it is very often an Ingredient in Clyſters, and, mixed with a little Salt, is commonly applied, in a Walnut-ſhell, to the Navels of Infants in order to looſen the Belly.

They make a Drink of it, which the German Women commonly uſe in Child-bed; they call it *Seiff*. It is thus prepared:

Take two or four Yolks of Eggs, and one Meaſure of Water, with half a Meaſure of Wine (more or leſs); boil them very well together, in order for drinking. *Schroder. Pharmacop. Med. Chy.*

Sydenham adviſes the Whites of Eggs as a good Gargariſm in a Quinſey, in the following Manner:

Take of diſtilled Waters of Plantain, red Roſes, and Frogſpawn, of each three Ounces; the Whites of three Eggs, beat to a Liquor; white Sugar, three Drams; mix them together for a Gargariſm.

ALBURNUM. The white, ſoft Part of Wood next the Bark. Artificers call it the Sap, to diſtinguiſh it from the Heart, which is harder, and of a deeper Colour.

ALBURNUS AUSONII, is a little River Fiſh which reſembles an Anchovy; with a little Head, its Eyes in Proportion large and red, its Back ſomewhat green, and its Belly white, with two Lines on the Sides.

It is eſteem'd aperitive. *Lemery de Drogues.*

It is eſteemed a very ordinary Fiſh. The Fleſh is flaby. It is taken Notice of by Aldrovandus.

ALBUS. A Sort of very ordinary Fiſh taken Notice of Aldrovandus, and Geſner. The Fleſh is hard, and difficult digeſt. Geſner calls it *Capito Lacuſtris*.

ALBUS FLUOR, or FLUXUS. See FLUOR ALBUS.

ALCADP. *White Ink. Rulandus.* Johnſon calls it ALCADY.

ALCAFIEL. *Antimony. Rulandus.*

ALCAHEST. This is an arbitrary Word derived from Language, and coined by Paracelſus, to expreſs an univer Menſtruum, or Solvent, as Helmont explains it. As the Dif covery of ſuch a Menſtruum would be of infinite Importance Medicine, the Sentiments of the principal Authors who ha wrote about it, ſeem to deſerve Conſideration. But I am ſo ry to ſay, that we are left at laſt much in the dark, with Reſp to this grand Arcanum.

After the elder Van Helmont had publiſhed his Writings, t Chymiſts began to be acquainted with the Hiſtory of a ſecre univerſal Menſtruum, which Paracelſus was ſaid to have po ſeſſed, and which he, according to his extravagant Way, cal the *Alcaheſt*. If any ſuch Thing was ever known to Man, Helmont ſolemnly avers it was, it certainly ought to be eſtee ed the moſt excellent Gift, that the Divine Being ever beſto ed on Mankind, either with reſpect to Chymiſtry, or a other Art; for without Diſpute it would be infinitely a grea Treaſure than the Philoſophers Stone, and much more deſi ble, as, by the Help of it, might eaſily be obtained, the m certain Inſtruments, both of Health and Riches. This, w a great deal of Reaſon, was the Opinion of Mr. Boyle, w after infinite Diligence, and much Skill thereby acqui could ſcarcely believe the Exiſtence of ſuch a Menſtruum, far was he from arriving at a Knowledge of it. The grea Chymiſts, however, have ſo far depended upon the Author of Helmont, that they ſpeak of it as a Thing he was certa ly acquainted with. And here Impoſtors have taken the O portunity of cheating People curious of ſuch Kind of Arca Prudent Men have always remained in Suſpence, not daring ſolutely to pronounce any Thing either one Way or oth concerning it. For theſe Reaſons, I ſhall give an hiſtori Account of this Affair, juſt as it is, that is, as it may be c lected from the Writings of thoſe Authors, who alone h wrote of this Menſtruum; that at leaſt we may know the O nions of thoſe, who tell us, they have poſſeſſed, and made U of this Arcanum. Every Thing, however, that Authors ha ſaid on this Subject, has been borrowed from Helmont alo for, from what Paracelſus himſelf wrote of the *Alcaheſt*, no Mo tal would ever have thought of any ſuch Thing, had n Helmont given the Hint, that ſuch great Myſteries w couched under this uncommon Word. As I am not Ma of this Chymical Secret, all, therefore, that I can do, is, b carefully examining, and faithfully comparing one Paſſage w another, to lay before you what is to be found in theſe Au thors upon the Subject of the *Alcaheſt*. And if theſe were re ly acquainted with it, and deſign that one who ſtudied th Writings attentively, ſhould find it out, I know no be Way of ſearching for it, than that which I have propoſed. this Means, at leaſt, any one who is inclined to ſet about t grand Work, may know what Matter he muſt make Uſe by what Inſtruments he muſt operate, and in what Method h muſt proceed, that he may not loſe both his Labour and h Money. And it will have this farther Advantage, that it w ſecure us from being cheated by the Artifices of itinerant Impo tors, whoſe confident Boaſts of Things they are not in t leaſt acquainted with, render this Caution to the unwary a credulous, in ſome Degree neceſſary; for theſe Pretenders m be eaſily detected by any one who is acquainted with t Doctrine of Paracelſus, and Van Helmont.

Firſt, let us conſider the Name ALCAHEST. This Wo before Paracelſus, no Body ever made Uſe of, not even amo the Chymiſts. And even he himſelf, as far as I have been a to diſcover, never uſed it, but in one Paſſage, and that in h Treatiſe, *De Viribus Membrorum, Lib.* 2. *Cap.* 6. where th are theſe Words: ‘The Liquor *Alcaheſt* is of wonderful Effi ‘cacy in comforting, ſtrengthening, and preſerving the Liver ‘and conſequently preſerves againſt Dropſies, and all Sorts ‘Diſtempers, which ariſe from Diſorders of the Liver. Th ‘Proceſs for its Preparation is by Reſolution after Coagulation ‘and by coagulating again into a tranſmuted Form; as th ‘Proceſs of coagulating, and reſolving, teaches. And if it ſe ‘parates its like, it becomes a Medicine for the Liver, ſuperi ‘to all Medicines; ſo that, if the Liver itſelf were to burſt a ‘diſſolve, this Medicine would ſupply its Place, as well as if ‘had never been burſt or diſſolved. Whoever therefore app ‘themſelves to Phyſic, ought to uſe their utmoſt Endeavours ‘be Maſters of the Preparation of the *Alcaheſt*, that they may ‘able to avert many Diſeaſes that ariſe from the Liver.’ that Paracelſus never made Uſe of this Word but twice, that only in this Place; nor is there the leaſt Mention of ſuch Thing, either before or after, that I could find, by a ca ful Examination of all his Works. No Mortal, therefore, fr what he ſaid upon this Head, would ever have thought of th grand Arcanum, had not Helmont afterwards added his Inter pretation.

Th

he Derivation, therefore, of this new Word, thus coined Paracelſus, was examined into. And upon conſidering, it was uſual with him to conceal common Words by the nſpoſition of their Letters, it was imagined that was the here; though ſometimes he formed ſtrange Words, by ing the Beginnings of different Words together. Thus, n he would have you make Uſe of (Tartarus) Tartar, to lve the Saburra in the Spleen, he ſays, *take Sutratar*, *L.* 11. *Vir. Memb. C.* 7. And again, when for Diſeaſes peculiar to Kidnies, he preſcribes Saffron, which, from its golden Co-, the Chymiſts called *Aroma Philoſophorum*, he ſays, *theſe empers are cured by Aroph. Lib.* 11. *de Vir. Memb. Cap.* 10. ce, therefore, ſome have thought, that *Alcaheſt*, ſignified *li eſt. Rolfinc. Eph. Germ. D.* 12. *Ann.* 6, 7. Rulandus in Lexicon, Glauber; and hence ſuppoſed, that it has always Alcali for its Baſis, which is then ſaturated with a proper d. Others have been of Opinion, that it was called *Alca-* that is, *Staltzgeiſt*, becauſe if the *Alcaheſt* is the ſame with *Circulatum*, they imagined it was made from Sea Salt, coa-ted, reſolved, and coagulated into a tranſmuted Form. again, others ſuſpected, that it was called *Alcaheſt*, *quaſi iſt*, or a perfectly pure ſimple Spirit: This they thought its ceſs of Coagulation, Reſolution, and Coagulating, ſeemed each us. And laſtly, there is Faber's Opinion, who ſays, a pure, mercurial, metalline Spirit, which is ſo united with wn proper Body, that hence two become one Body, that is parable, and indeſtructible. *Eph. Germ. D.* 11. *Ann.* 8. . 3. This, then, being all we can learn from the Etymolo- let us paſs on to the Terms, and ſee, if by comparing them ther, we can get any farther Light into it. Paracelſus him- has left us no ſynonymous Name, but Helmont has a great y; and therefore theſe we will now examine. And in t, we have no other Aſſiſtance, beſides the Authority of Van mont alone, who declares, ‘ that the very ſame Bottle was livered to him.’

hat I may explain Helmont's Doctrine of the *Alcaheſt*, ſo s it is poſſible to render it intelligible, I will give the princi- Paſſages in this Author, where it is mentioned, or any ng ſaid relating to it, and then ſhall give the Sentiments oerhaave, by way of Commentary.

I know a Water, which I do not care to diſcover, by eans of which, all Vegetables are changed into a diſtillable quor, without the leaſt Fæces at the Bottom of the Glaſs; hich Liquor being diſtilled, with the Addition of Alcalis, reduced into inſipid elementary Water. *Helmont. Complex-um atque Miſtionum elementalium Figmentum, Sect.* 27.

I put of oaken Coals, and a certain Water, an equal Quan-y, in a Glaſs hermetically ſtopped. In three Days, all the als were turned, by the Heat of a Bath, into two diapha-us Liquors, differing in Gravity and Colour, which being tilled by Sand, with two Degrees of Heat, the Bottom of Glaſs appeared as clean, as when it came new from the laſs-houſe; and ſoon after, the two Liquors aſcended in a th-heat both together, equiponderating the Maſs of Coals; t the diſſolving Liquor remained at the Bottom, keeping its n Weight and Virtues. Moreover, the two Liquors, ixed with a very ſmall Quantity of Chalk, by a third Diſtil-ion, aſcended almoſt with their firſt Weight, and with all Qualities of Rain-water. Therefore the Gas of the Coals, hich does not exhale, except the Veſſel be open, and vehe-ently heated, together with its Aſhes, are no other, ma-ially, than meer Water. For the ſeminal Property of the oncrete which remains in the Gas, by Length of Time, and Cold, periſhes, and the Gas returns to its original Water. *mont. ib. Sect.* 29.

I thought on a Method how to transfer all my Tribulations the Heads of Nero and Tiberius; and being greatly fa-gued, I was on a ſudden wonderfully refreſhed and comforted, d falling into a Kind of Slumber, I found myſelf in a Pa-e ſuperior to human Architecture, where was an exalted hrone, environed with an inacceſſible Light of Spirits. He at ſat on the Throne was called *Eſt*, and his Footſtool *Na-re*. The Keeper of the Gate was named *Underſtanding*, ho, without ſpeaking a Word, reached me out a Book, *lection from Darkneſs*, the Title of which was, *The Bud of Roſe not yet opened*. And though the Door-keeper ſpoke t a Word, I knew I muſt eat it; I held forth my Hand erefore, took it, and eat it, and it was of an auſtere and rthy Savour, ſo as almoſt to ſtop my Larynx, and it was th much Time and Difficulty that I got it down. When had ſo done, I fancied my Head to be diaphanous; after hich came another Spirit of a higher Order, and gave me a p, in which was comprehended in a Word, *Ignis Aqua*, Name purely ſimple, ſingular, indeclinable, inſeparable, mutable, and immortal. *Poteſtas Medicaminum. Sect.* 3.

It is the *Arbor Vitæ*, the Tree of Liſe alone, that can re-re loſt Strength, and make Life flow on for a certain Space Time. But the Difficulty of preparing lies in this, that Wood [the Cetim] muſt be reſolved, without a Reſo-tion of its Virtues, by ſuch a Warmth as that of Sol artius, as far as its Ens Primum. For it is on account of ‘ theſe Qualities that it is endued with a fermentative Faculty of preſerving and ſeaſoning, with free Ingreſs into our firſt conſtituent Principles; and inſinuating itſelf, through the Organs, into the Familiarity of our natural Spirits. Now the Liquor obtained by ſuch a Reſolution has all the Virtues of the Vital Cedar, together with its ſeminal Property, and that which is formative of long Life. For the whole Maſs of Wood is reſolved into a Liquor, which Maſs, if it were otherwiſe diſtilled, would undergo Tranſmutation, and become a new Creature; which is ſufficiently proved by diſtilling Aqua Vitæ from Grains of Corn or Lees of Beer; and alſo by Oil diſtilled from Wood, and even from the Oil of Olives itſelf. The Manner of Preparation is as follows:

‘ Reſolve Fragments of the Wood Cetim with an equal Weight of the Liquor *Alcaheſt*, in a ſealed Glaſs, over a gentle Heat; and within a Week you will ſee all the Wood diſſolved into a milky Liquor. About the fifteenth Day there will ſwim at the Top diſtinctly two Sorts of Oil, which will increaſe in Quantity for a Month, and their Separation appear more obvious. Then ſeparate the Oil from the Water by manual Operation, and diſtil the Water in a Bath, and the Liquor *Alcaheſt* ſhall remain, with its firſt Weight at the Bottom. But digeſt the Water and Oil for three Months in a gentle Heat, and all the Oil ſhall take the Nature of Salt, and mix itſelf with the Water. This is the Ens primum Cedri. *Helmont. Arbor Vitæ.*

‘ The higheſt and moſt dignified of all Salts, is what has attained the utmoſt Degree of Purity, and Subtilty, which pervades all Things, is the only Thing that whilſt it acts, remains itſelf immutable, and which reſolves all at Pleaſure by a ready Obedience, triumphing over rebellious Matter, with as much Eaſe, as warm Water melts and volatiliſes Snow. *Helmont. Poteſtas Medicaminum. Sect.* 24.

‘ I am taught by ſpagyric Theorems that a ſmall Liquor may be prepared, which ſhall keep the Conſtitutions of Simples uncorrupted without any other Seaſoning. *Helmont. Pharmacopolium. Sect.* 34.

‘ *Alcaheſt* reduces all the tangible Bodies of the Univerſe to their firſt Life, without any Change in itſelf, or Dimunition of its Virtues, and can be changed or ſubjugated by none but its Equal. *Helmont. Ignota Actio Regiminis. Sect.* 11.

‘ None ever cured the Leproſy, who had not firſt obtained the Liquor *Alcaheſt*, which being ſo tedious in Preparation, no Man, though he underſtands the Art, will ever arrive at the Poſſeſſion of it, except whom the Moſt High, by ſpecial Grace, ſhall conduct thither: For he muſt be elected by a peculiar Privilege, and be otherwiſe qualified, in order to obtain ſo extraordinary a Medium, by which all ſenſitive and inſenſitive ſublunary Things are equally penetrated, even to the ſeminal and intrinſic Root of the Primum Ens; whence it puts all Things under Subjection to it, and changes them without Reaction of the Patient, or Depauperation of the Agent, and is therefore the ſame in Number, Weight, and Activity after the thouſandth Action, as after the firſt. *Helmont de Lithiaſi. Sect.* 27. *de Febribus.* 11.

‘ Take of the Ludus or Cevilla Paracelſi, and the Liquor *Alcaheſt*, each one Pint. Diſtil off the *Alcaheſt*, and the firſt Time all the Ludus will be changed into a Salt which will run down in a glaſs Plate ſet in a moiſt Place, without any earthy Reſiduum, and the defluent Liquor will be of a yellow Colour, and, being hermetically ſtopped, will riſe in ſmall Bubbles, like Froth, and ſwim at the Top in the Form of green melted Fat. And this is the Altholizoim correctum of Paracelſus, and the Gall of the Earth. But the Man who thinks he can attain it by an Addition of Salt-petre, or the like, muſt know that ſuch Salts, how often, or how carefully ſoever they are mixed with the Ludus, the Salts will only all run down, and leave the Earth in Dregs, in the Plate. But the Ludus ought to be all tranſmuted into the tinctured Sal Volatile, reſerving nothing of its Adjunct, the *Alcaheſt*, which, as well as the Ludus, preſerves its former Weight, and the Ludus keeps its mineral Virtues, which were beſtowed on it by the great Creator. This is an extremely difficult Operation, not as to the Preparation of the Ludus but of the *Alcaheſt*. *Helmont. de Lithiaſi. Sect.* 23.

‘ The Liquor *Alcaheſt*, Ens primum Salium, Lili, the firſt Metal, the Mercurius Diaphoreticus, or the Aurum Horizontale, one of theſe, which ſo ever it be (for they all conſpire as Uniſons in Conſanguinity of one Diſſolvent) is ſufficient to cure all Diſeaſes. *Helmont. Reſpondet Author. Sect.* 1.

‘ The Arcana of Paracelſus are,

1. ‘ The Tincture Lili, reduced from an immature Electrum to a Vinum Vitæ, one Part of which is the firſt Metal, the other the Eſſence of the Members.

2. ‘ The Mercury of Life, the intire Offsping of Stibium, which abſolutely cures all nervous Diſtempers.

3. ‘ The Tincture Lili, an Antimonial Preparation, of the ſame Virtues with the preceding, but weaker.

4. ‘ The Mercurius Diaphoreticus, which is ſweeter than Honey, and fixed by the Fire, has all the Properties of the horizontal Sun. It will perform all that the Phyſician, or

‘ Surgeon can wiſh, as to the healing Part ; but is not ſo ‘ powerful in Renovation, as the preceding Preparations.

5. ‘ His *Alcaheſt* is more eminent, that immortal Liquor, ‘ that immutable reſolving Water.

6. ‘ His Sal circulatus, which reduces all tangible Bodies to ‘ the Liquor of their Concretes.

7. ‘ Then follow the Element of Fire out of Copper, the ‘ Element, or Milk of Pearls ; but the Eſſences of Gems, and ‘ Herbs, are far inferior to the foregoing.

8. ‘ Laſtly volatile Salts carry in them the preciſe Particu‘ larity of Herbs and Stones, but attain not to the Efficacy of U‘ niverſals. But the Salt of Coral, which is the only Cathartic ‘ among them, cures Ulcers of the Lungs, Bladder, Larynx and ‘ Reins by Purging ; and even extirpates the Gout.

‘ It is common Mercury from which the Liquor *Alcaheſt* ‘ is once diſtilled, and reſides at the Bottom coagulated and pul‘ veriſable, neither increaſed or diminiſhed in Weight. The ‘ Water of the Whites of Eggs is to be cohobated with this ‘ Powder, till it has acquired the Warmth of Coral.’ *Helmont. Arcana Paracelſi.*

In the firſt Place Van Helmont calls it ſimply, *Water* ; telling us that he ‘ Knew a *Water* which he muſt not diſcover, ‘ by the Mediation of which all Vegetables might be tranſ‘ muted into a diſtillable Liquor, without the leaſt Fæces re‘ maining at the Bottom of the Veſſel.’ And he farther tells us, that ‘ He mixed together a certain *Water* and Coals ‘ made from Oak, in an equal Quantity, and digeſted them ‘ with a Bath-heat, in a Glaſs hermetically cloſed.’ He calls the ſame *a thick Water*, for he ſays, ‘ that in the ſecond ‘ Book of the Maccabees,’ Chapter the Firſt, there is Mention made of a ‘ Thick Water, which was a perpetual Fire, and ‘ perhaps not unlike his Water.’ And he in another Place calls it *a ſolvent Water*, when he ſays, ‘ The Liquor *Alcaheſt* is an ‘ immutable, ſolvent Water’. But he came ſtill nearer the Thing, when, in one Word, he called it (*Ignis Aqua*) Fire Water ; for whilſt he is giving an allegorical Account how he came by his Knowledge, he pretends ‘ He received a Bottle ‘ in which there was Ignis Aqua, of one Word only, a Name ‘ perfectly ſimple, ſingular, indeclinable, inſeparable, and im‘ mortal.’ And again he calls it, ‘ A *Latex* reduced to its ‘ leaſt Atoms poſſible in Nature.’ But he very frequently calls it a *Liquor*. ‘ By the Addition of the Liquor *Alcaheſt* of Pa‘ racelſus, may be known how much any Vegetable contains ‘ of either Luminary.’ And he calls it alſo the *ſolvent Liquor*. All theſe Things, therefore, ſeem to intimate, that this ARCANUM was of a moiſt, liquid Form, like a Sort of Water. In another Place, as a Synonymon, he makes uſe of the *Fire of Hell* ; for he ſays expreſly, by the ‘ Fire of Hell, ‘ which is the Liquor *Alcaheſt* of Paracelſus. Original Sand ‘ reſiſts both Art and Nature, nor can by any Means be made ‘ to recede from its Conſtancy, except by an artificial in‘ fernal Fire, in which artificial Fire, Sand becomes Salt.’ If Helmont, therefore, in this Appellation has followed Paracelſus, by this we may know what the *Alcaheſt* was, becauſe Paracelſus himſelf has wrote of this infernal Fire.

Afterwards, Helmont ſays, ‘ This is a moſt excellent and ‘ happy Salt, which has arrived to the utmoſt Degree of Pu‘ rity and Subtilty that Nature will admit of.’ And, for this Reaſon, he ſeems to call it, the ‘ *Ens primum Salium*, the ‘ *Sal Circulatus*,’ and the ‘ *Sal Circulatus Paracelſi* ;’ of which he made Mention in his Book, *de Renovatione & Reſtauratione*. If, therefore, Van Helmont has acted candidly and honeſtly in this Affair, we may from theſe ſynonymous Terms, and the Writings of Paracelſus, make an Attempt towards a Diſcovery of this wonderful Menſtruum. But before we proceed to this, we muſt conſider its Origin. Firſt, then, ‘ It is ‘ never found ſpontaneouſly in Nature, for here Nature is de‘ ficient ;’ in the ſame Place he aſſerts, ‘ That a Part of Earth ‘ may be homogeneouſly reduced into Water by Art ;’ but ſtrenuouſly denies at the ſame Time, that ‘ This can ever be ‘ effected by Nature alone, becauſe by Nature alone no Agent ‘ is produced, by which true Earth may be reduced into Salt ‘ and Water. Nor is this Agent produced without the Aſſiſ‘ tance of Chymiſtry, which alone diſcovers a Liquor that can‘ not be altered, being reduced to the ſmalleſt Atoms that are ‘ poſſible in Nature. Not that this is to be effected by vul‘ gar Chymiſtry, but by the Labour of Wiſdom.’ And this Agent, as he expreſly aſſerts, ‘ Is the ultimate, and moſt per‘ fect Production of this ſublime Chymiſtry. And laſtly, he ſays, ‘ Chymiſtry, as its moſt excellent Effect, prepares an ‘ univerſal Solvent. Moreover, in the whole Art there is ‘ not any Operation more difficult than the Preparation of ‘ the *Alcaheſt* ; nor is there in the whole Art any Thing ‘ more laborious. Nor can the Knowledge of this Operation ‘ be acquired either by Reading, or Speculation, but by a Ful‘ neſs of Science, and that too doubly confirmed ; and hence ‘ very few are qualified to arrive at a Knowledge of it. Hence ‘ this Liquor, whoſe Preparation is ſo exceſſively tedious, and ‘ difficult, cannot be obtained by human Underſtanding ; for ‘ though a Perſon ſhould have ſo much Skill in the Art, as to ‘ be properly qualified to come to the Knowledge of it ; yet ‘ unleſs the Moſt High, by a ſpecial Favour, conducts him ‘ it, he will never arrive at it ; for whoever enjoys it, muſt ‘ choſen by a particular Privilege : For God alone is th ‘ Diſpenſer of it, for Reaſons that are known to the Adepts.’

From this Origin of the *Alcaheſt*, thus delivered by He mont, we may ſee how much they are miſtaken, who imagine, they ſhall be able to prepare it with very li Trouble. Theſe vain Boaſters certainly thus diſcover both th Ignorance and their Diſhoneſty. Nor let them impoſe up you, by pretending to more Things of the ſame Nature ; Helmont abſolutely refutes every Thing of this Kind, by pla ly aſſerting, that ‘ As in the whole Compaſs of Nature th ‘ is but one Fire (*Vulcanus Ardens*) *a burning Fire*, ſo th ‘ can be but one Liquor, which will diſſolve all Bodies in ‘ their firſt Matter, without any Alteration in itſelf, or Di ‘ nution of its Strength ; as the Adepts know and teſtify.’ Be ſecured, therefore, by this Doctrine, I have been able to lence many ignorant People, rich in Promiſes and Expectatio and ſometimes exceedingly artful, for upon aſking them a fe Queſtions, by their Anſwers their profound Ignorance, w Reſpect to the Knowledge they boaſted of, ſoon appeared.

Let us now proceed to examine into the ſtupendous Virtu which are aſcribed to this wonderful and almoſt tremendous A canum. This ‘ Menſtruum then can efficaciouſly exert its ‘ ſolving Power upon all ſenſible Bodies whatever, wheth ‘ Simple or Compound, Volatile or Fixed, Solid or Liquid, An ‘ mal, Vegetable, or Foſſil ; even upon Gold and Mercury th ‘ ſelves, upon which nothing elſe can act, ſo as to affect th ‘ intimate Parts.’ Thus in his own Way of Speaking, ‘ O ‘ *Mechanics have diſcovered to me, that all Bodies, whether ro* ‘ *ſtony Subſtances, or Gems, Flints, Sand, Marcaſites, C* ‘ *Earth, Bricks, Lime, Sulphur,* &c. *may be tranſmuted into* ‘ *actual Salt, equiponderant to the Body from whence it is p* ‘ *cured : And Vegetables, Fleſh, Bones, Fiſh, and every Th* ‘ *like them, I have known to be reduced by it into their th* ‘ *mere Principles : Metals, however, on Account of Anatic Co* ‘ *mixture of their Seed and Sand, are reduced to a Salt w* ‘ *Difficulty. For Sand, or original Earth, reſiſts both Art* ‘ *Nature, nor will by any Help of Art or Nature be made* ‘ *recede from its primitive Conſtancy : But under the Powe* ‘ *the artificial infernal Fire alone, Sand becomes Salt, and at l* ‘ *Water. Again, the* Alcaheſt *of Paracelſus, by ſubtiliſing th* ‘ *tranſmutes all natural Bodies.*’ And in another Place, ‘ ‘ *Bodies are eaſily reduced to Water by the Application of* ‘ *Liquor* Alcaheſt *of Paracelſus ; even thoſe that otherwiſe r* ‘ *to be reſolved into their three Elements. By the Help of th* ‘ *likewiſe all Vegetables are commutable into a Liquor, wh* ‘ *may be diſtilled without any Fæces remaining at the Bottom* ‘ *the Glaſs, even oaken Coal itſelf. For one and the ſame L* ‘ *quor,* Alcaheſt, *perfectly reduces all tangible Bodies in the U* ‘ *verſe to their firſt Life, even all Poiſons themſelves, and d* ‘ *ſolves every Thing beſides itſelf, as warm Water diſſolves S* ‘ *Oil itſelf, and Spirit of Wine, Cedar-wood ; all Kinds of E* ‘ *xir Proprietatis ; the Ludus alſo of Paracelſus, Mercury, G* ‘ *itſelf, which cannot by any other Solvent whatever be radic* ‘ *deſtroyed as far as its conſtituent Principles, as it is much* ‘ *ſier to make Gold out of what was not Gold before, than* ‘ *produce any Thing from Gold which ſhall not be Gold.*’ A indeed in this the whole Fraternity of Adepts unanimouſly gree.

Now let us conſider the Manner in which the *Alcaheſt* ex its Power upon theſe its Objects, and here we find its Effic is always excited by Fire, and this applied only in a gentle D gree, whether it acts in Digeſtion, Diſtillation, or Cohobatio For he mixed the *Alcaheſt* with ‘ Coal, made from Oak, in eq ‘ Parts, and digeſted them for three Days in a Bath-heat, ‘ a Glaſs hermetically cloſed, and the Solution was then co ‘ pleated.’ The ‘ Sal Circulatum, by Digeſtion only, redu ‘ every Sort of Oil, and Spirit of Wine, into a prodigious di ‘ rent Form, from what they were in before.’ If the ‘ *Alca* ‘ is mixed with an equal Weight of Cedar, reduced to ſm ‘ Pieces, and is expoſed to a kindly Warmth in a ſealed Gla ‘ the whole Wood will, in a Week's Time, be reduced ‘ a milky Liquor.’ Sometimes too, the Work is done by ſimple Diſtillation : ‘ For if the Liquor *Alcaheſt* is diſtilled o ‘ only from common Mercury, it leaves it at the Bott ‘ coagulated, and pulverizable, and neither increaſed nor di ‘ niſhed in its Weight, which is effected in a Quarter of ‘ Hour.’ But ſometimes a Cohobation is neceſſary, in order accompliſh your Deſign ; ‘ for frequently, when Bodies ‘ converted into a Salt of the ſame Weight they were of b ‘ fore, they muſt be cohobated ſome Number of Times w ‘ the Sal Circulatus of Paracelſus, before they will intirely l ‘ their Fixity, which happens principally in Metals, Gold ‘ particular, on Account of the perfectly equable Commixtu ‘ of its Seed. On the other Hand, if by one Diſtillation o ‘ ly it is drawn off from the Ludus, or Cevilla of Paracelſ ‘ this Diſtillation in ſo ſmall a Space of Time as that of t ‘ Hours, it converts the whole Stone into a Salt of the ſa ‘ Weight. As for any other Manner of applying this u ‘ verſal Solvent, I can diſcover none, nor does it appear ‘

y Argument, that a greater Degree of Fire is neceſſary
the Operation. By a gentle Agitation of its Parts there-
e, excited by the Fire, it is capable of diſſolving all Bo-
s. For the *Alcaheſt* itſelf riſes in Diſtillation with the ſe-
nd Degree of a Sand-heat. But it does not aſcend with
Bath-heat.'

ut farther, there was Nothing ever obſerved in all Na-
, or even related, that is more ſurpriſing than the phy-
Effects which theſe Authors aſcribe to the Action of this
nſtruum: For it intirely converts the whole Body of its
end, into a Matter which has neither gained nor loſt
leaſt Weight during the Operation, and this tranſmuted
ter ſeems always to be liquid or ſaline. In this, however,
e is ſome Diverſity; 'for, Mercury, by the Action of the
cabeſt, is reduced to a fixed Powder, which is pulverizable,
iſts a Wind-fire, and remains fixed if mixed with Lead.
moſt all other Bodies are converted into a Salt æquipon-
ant to their former Maſs. An oaken Coal is ſoon changed
o two diaphanous Liquors, which differ in Situation and
olour. Cedar-wood is converted into a milky Liquor of
al Weight with it, and then farther into a two-fold Oil,
ich afterwards, by ſimple Digeſtion, are changed into a
ure Salt, ſo that it may be mixed with Water. But
Ludus, or Cevilla of Paracelſus, which is a Stone found
the Bottom of the Schelde, near Antwerp, is within the
ce of two Hours only, converted by a gentle Diſtillation
o a Salt equiponderant to the Concrete, which being
oſed to the Air, diſſolves, and runs into a Liquid without
ving any Fæces at all.' From this whole Account then, it
vident, that this Solution at the Beginning is perform-
ter different Manners, but that at laſt, however, 'it re-
es all Bodies into a Kind of Salt that may be diſſolved
Water, Mercury alone excepted, which on Account of
perfect Simplicity, which renders it more pure than Gold,
exceedingly like pure Water, refuſes to be converted in-
a Salt; and hence it radically reſiſts all Diviſion poſſible
be effected, either by Art or Nature, and for this Rea-
is perfectly indeſtructible. Theſe Bodies, however, after
are by the Help of the *Alcaheſt* reduced to an æquiponde-
ng Salt, ſtill retain their proper Virtues, which depend
n the ſeminal Property of them, and which therefore are
uliar to them, and not common to others.' This very
rkable Circumſtance is deſcribed, when he ſays: 'The
beſt of Paracelſus, by ſubtiliſing them, tranſmutes all Bo-
in Nature; for Bodies, when they are reduced to their
oſt poſſible Subtilty, at laſt paſs into another Subſtance,
a Retention of their ſeminal Properties. By the uni-
al Solvend, all Things return back to their *Ens primum*,
exhibit their native Qualities, whence they have an Op-
tunity of acquiring great and unlimited Powers.' But
plainly ſtill, while he aſſerts, 'that this Liquor alone
lves all Solids into their firſt Matter, without any Di-
ution, or Alteration of itſelf.' And therefore, he cries
'Get but acquainted with this homogeneous, immutable
ent, which reſolves all its Objects into their firſt liquid
tter, and then you will be able to look into the inti-
e Eſſences of Things, and examine their Qualities. By
Means, therefore, all theſe Bodies are converted into a
e volatile Matter, which ſtill retains their particular ſpi-
ous Rector. Hence it may be intimately mixed with any
mour of the human Body, and with it circulate through
its Veſſels, and in its whole Paſſage, every where, exert
e Powers which are proper to it, with Regard to our
ies. Theſe, therefore, they called *Potables*.' Hence, then,
arn, what the Adepts meant by potable Gold, and how
and deceitful the Boaſt of thoſe is, who pretend to be
ers of it. Gold, when it is corroded by Acids, will ſtill
you again its actual Particles of Gold, though they then
ncealed in the Acid: But the philoſophical potable Gold
ſaline Liquor, æquiponderant to the Gold, without any
ſtruum whatever united with it, being only the pure,
e, firſt Matter of the Gold, or its *Ens primum*. Here
fore, above all, it is particularly remarkable, that the
beſt, whilſt it thus diſſolves, never mixes itſelf at all with
olvend, but remains perfectly ſeparate from it. Hence
fore, it neither increaſes nor diminiſhes the Subſtance of
ody diſſolved, but leaves it exactly the ſame as it found it.
evidently appears, when he ſays, 'that the two Liquors of
diſſolved oaken Coal, which were different in Situation
Colour, roſe with the Warmth of the Bath, whilſt the
ent Liquor remained at the Bottom, of the ſame Weight
before. For it finds no Body with which it can be join-
itſelf being too pure and ſubtile, and reduced to its leaſt
ms, and hence diſdaining all Ferments, and always re-
ining ſingle. Hence it acts only by an external Action,
concreting with its tranſmuted Object, as the pureſt Fire
to act upon its Object, as warm Water melts Snow.
this Liquor leaves nothing of itſelf mixed with its Sol-
d.' Hence, therefore, beſides others, this Menſtruum
to have two great Advantages above all others: In the
Place, that it does not act by Attraction, or Repulſion,
but only by a mechanical diſſolving Power, contrary to all others that we are acquainted with, Fire, perhaps, alone excepted. And then, Secondly, that it always preſerves intire the native Powers of its Solvends, and yet, whilſt it reſolves Poiſons, it deprives them of their violent and deadly Quality, and gives them the moſt excellent medicinal Virtues, by reducing them to their *Ens primum*, which, however, it muſt be allowed, is very difficult to comprehend. When Bodies, now, are by the Help of the *Alcaheſt* reduced into their ſaline volatile *Ens primum*, retaining at the ſame Time all their ſeminal Qualities, if they are then urged any farther by the Action of this Solvend, they are perfectly deprived of their proper ſeminal Virtue, and from every one, how different ſoever, there is produced the ſame unactive, inodorous, inſipid, ſimple, elementary Water, ſo that by too great an Application of the very ſame Menſtruum, whatever Excellence was produced before, is now deſtroyed. It appears, therefore, that the ultimate Matter of all tangible Subſtances is Water, upon which the *Alcaheſt* itſelf can act no farther, but which being again impregnated with the ſeminal Fœcundity of any Seed, may be converted again into any new Bodies whatever. Hear what he ſays himſelf: 'Every Body is tranſmuted into an actual Salt 'equiponderant to the Body from whence it is made; and this 'Salt being cohobated ſome Number of Times, with the Sal 'Circulatum of Paracelſus, loſes intirely all its Fixity, and is 'tranſmuted into a Liquor which itſelf likewiſe at laſt be'comes an inſipid Water, of the ſame Weight with the Salt 'from which it proceeded. Original Sand, by the artificial 'infernal Fire alone, is changed into a Salt, and then a Wa'ter.' And, 'I know a Water, by the Mediation of which, 'all Vegetables are converted into a diſtillable Juice,' which 'riſes without leaving any Fæces at the Bottom of the Glaſs, 'and which Juice being diſtilled with Alcalis, is totally re'duced into an inſipid elementary Water. An oaken Coal, 'turned into two Liquors by the *Alcaheſt*, and then mixed with 'a little Chalk and diſtilled, riſes with almoſt its former 'Weight, and has all the Qualities of Rain-water. And then 'they all become ſo volatile, that they riſe with a Bath-heat, 'and fly off from the *Alcaheſt*, which remains at the Bot'tom.'

But what is much more ſurpriſing than all the reſt, is, that this Menſtruum, whilſt it operates ſo ſurpriſingly upon all other Bodies, is not in the leaſt leſſened, altered, or weaken'ed in its Efficacy by any of them: So that in this Reſpect again it reſembles Fire, and is with a great deal of Reaſon compared to it. By a very expreſſive Phraſe, therefore, it is ſaid 'To act by its Power of acting upon all ſublunary Bodies, 'without Reaction. And after it had diſſolved the oaken 'Coal in ſo extraordinary a Manner, the ſolvent Liquor re'mained at the Bottom of its former Weight and Strength. 'For its Tranſmutation is deſpaired of, as it cannot find any 'Body worthy to be wedded to, and is ſingle with Regard to 'every commiſcible Ferment, to which it might be in Sub'jection, and hence it cannot die. In its moſt perfect Action, 'therefore, it reduces every tangible Subſtance to its middle Life, 'without any Change in itſelf, or Diminution of its Strength. 'It is immutable therefore, and immortal. This alone, by 'operating, is not altered. It acts, therefore, without any 'Reaction of the Patient, or Depauperation of the Agent; 'for this Diſſolvent is homogeneous and immutable, and being 'the ſame, both in Number, Weight, and Activity, it is as 'efficacious, the thouſandth Operation, as it was at firſt.'

But among other Things remarkable in this Menſtruum, is, its Degree of Fixity or Volatility in the Fire; and this again is exceedingly ſurpriſing. 'For after it has rendered all 'Bodies, the moſt fixed not excepted, ſo volatile, that they 'will riſe with the gentle Heat of a Bath, yet itſelf remains 'fixed at the Bottom, nor aſcends with them. In the mean 'Time, however, the *Alcaheſt* itſelf is ſo volatile, that it riſes 'in Diſtillation, together with the Bodies it has diſſolved in 'the ſecond Degree of a Sand-heat. And hence it may, by 'Diſtillation be drawn off from common Mercury, which it 'fixes and coagulates.' Hence, therefore, the ſmall Compaſs of Heat is exactly determined within which the whole Power of this *Alcaheſt* exerts itſelf upon all Bodies in Nature.

Laſtly, before we quit this Subject, we muſt obſerve, that this Solvend, which thus remains intire in all its Operations, nor is ever overcome, or fatigued by the Reſiſtance it meets with from any Thing, does yet acknowledge one Body in Nature with which it may be ſo united, as to be brought into Wedlock with it. This appears evident, by conſidering the Text of the Author, 'Chymiſtry was ſolicitous about finding 'out a Body, which ſhould have ſo great a Sympathy of Pu'rity that it ſhould not be diſſipated by any Corrumpent. 'And at laſt, Religion was aſtoniſhed to ſee a Liquor diſco'vered, which being reduced to the leaſt poſſible Atoms in 'Nature, remained ſingle, and diſdained to be wedded to any 'Ferment. Its Tranſmutation therefore was deſpaired of, as 'it could not find any worthier Body with which it might 'be united. But the Labour of Wiſdom found out an ano'malous Body in Nature, which roſe without any commiſ-

'cible Ferment different from itſelf. This Serpent bit itſelf, 'revived from its Poiſon, and afterwards knew no Death.' So that we ſee here the Conjunction of two Things which were in ſome Meaſure different. But he intimates this ſtill more plainly and diſtinctly. He ſays, 'That one and the ſame Liquor, *Alcaheſt*, 'reduces all the tangible Bodies in the Univerſe to their firſt 'Life, without any Alteration in itſelf, or Diminution of its 'Strength, but is brought under the Yoke, and altered by its 'equal alone.' But he comes ſtill nearer the Affair when he tells us, 'That when Mercury is perfectly freed from the ori'ginal Sulphur, which intimately adheres to it, it is not after'wards mutable by any Fire, but immediately deſtroys all other 'Seeds, except its Equal.'

This is the Sum of what Helmont has ſaid on the Subject of the *Alcaheſt*, and the Whole muſt reſt upon his Authority, becauſe no other Author, I have met with, ſpeaks of it in ſuch Terms. The antient Philoſophers and Chymiſts ſeem to have been utterly unacquainted with it, at leaſt they no where mention it, though, of all the Deſiderata in Phyſic, this is of the greateſt Importance.

What has been ſaid on this Subject, will undoubtedly raiſe a Curioſity of knowing, in what Kind of Matter the *Alcaheſt* ought to be looked for. It is for this Reaſon I will expatiate a little upon this Subject, having made an incredible Variety of Experiments, many of which I have had Reaſon to regret, and heartily repent of.

Paracelſus had a Liquor, which he prepared, by an infinitely tedious Circulation, from Sea Salt, in which Nature has placed the greateſt Degree of Perfection. This, by an indefatigable Induſtry, he reduced to a perpetual Oil, and then he called it the *Ens primum Salium*, *Oleum Salis*, *Liquor Salis*, *Aqua Salis*, *Circulatus Sal minor*, *Circulatum minus*. And the troubleſome Preparation of this *Sal Circulatus* is deſcribed without any Thing obſcure in it, unleſs that he does not explain what the Spirit of Wine is, which is required to ſeparate the impure from the pure. This agrees exactly with the Opinion of Van Helmont; for he ſays, that 'The Salt of Bodies, being ſome Number of 'Times cohobated with the Sal Circulatus of Paracelſus, is con'verted into Water.' And hence he aſcribes the Virtues of the *Alcaheſt* to the *Ens primum Salium*; and ſays, that 'By the Sal 'Circulatus all Poiſons die. Hence he calls it 'The moſt ſu'preme and happy Salt, which is reduced to the ultimate De'gree both of Purity and Subtilty, and hence pervades every 'Thing, that alone remaining immutable during its Operation, 'whilſt it readily diſſolves every Thing elſe. This Sal Circula'tum acts wonderfully upon Oil and Spirit of Wine. This Sal 'Circulatus reduces Bodies into the Liquor of their Concrete; 'and with that may be prepared the Ludus.'

But Paracelſus had another SOLVENT much more powerful than the former Circulatum minus, and much more difficult to arrive at the Knowledge of, which therefore he called his *Circulatum majus*, *Archidox*. 10. *C*. 4. And hence, in the ſame Place, he calls it *Materies Mercurii Salis*; and afterwards, *Living Fire*, *Archid*. 10. *C*. 4. In common Mercury he acknowledges a moſt perfect Fire, and a latent, celeſtial Life, and that the Quinteſſence of Mercury is celeſtial Fire, if it is diſſolved with its Mother, viz. an *Arcanum* of Salt, *Archidox*. 10. *C*. 6. When theſe two, therefore, are intimately united by a true Union, and together rendered pure, ſubtile, and volatile, then ſeems to ariſe that wonderful mercurial Water, which he deſcribes in the Chapter *de Corrodente ſpecifico*, where he ſays, 'That Gold ſo dies there, that it continues to be Gold no 'longer; whereas, in all other Corroſions of Gold, the Gold 'is only divided into very ſmall Particles, but ſtill remains the 'ſame true Gold, and, by an artificial Reduction, may be al'ways recovered again. By this Art, therefore, there is a per'fect Marriage of Water with Water: For Water is twofold; 'viz. a common Water, which reſides in Salt, and a metallic 'Water, which is found in Mercury, both which however 'have the ſame Root.' All this ſeems to have been underſtood by Van Helmont exactly in the ſame Manner, and therefore I ſhall juſt add what he has ſaid upon it, as follows: 'The internal Mer'cury of Metals, perfectly freed from every Taint of a metal'line Sulphur, coheres together with an indiſſoluble Union, ſo 'that it radically reſiſts all poſſible Diviſion, either by Nature or 'Art. Nor could I learn the Nature of Water, except under 'the Rod prepared from Mercury's Wand. And I found the 'Nature of Mercury adequate to Water; for it does not con'tain the leaſt Earth in it, but is always the Son of Water 'alone.' And he ſays, with all the antient Alchemiſts, 'If I 'had not ſeen, that Mercury eludes all the Labour of the Artiſts 'ſo, that it either flies all off from the Fire ſtill intire, or elſe 'all remains in it, and in both Caſes retains its immutable and 'primitive Identity, and the anatic Homogeneity of its Identity, 'I ſhould ſay that that Art was not true, which is true without 'any Falſity, and by far the moſt true of all others. So that 'what is above is like that which is beneath, and the contrary. 'And hence it is abſolutely impoſſible either for Art or Nature 'to find any different Parts in the Homogeneity of Mercury, 'not even by the *Alcaheſt* itſelf, as Mercury is more ſimple than 'even Gold, and formed with a greater anatic Identity: and 'hence therefore Mercury is as indeſtructible as the Elemen 'themſelves. Hence all ſublunary Things are too weak to ſub'due pure Mercury, or to penetrate, alter, or defile it. It re'mains ſecure in Air, Fire, and the acrid Liquor. It is no 'affected by any Solvent, much leſs penetrated by Air; a 'therefore there is nothing in Nature like this pure Mercury, 'no not at a Diſtance. It reſembles the *Ens primum* of Metals, 'and comes very near it, and at laſt, exiſting actually ſimple, 'is not as a conſtitutive Part of Things. From theſe Principle 'we know that it is brought under the Yoke, and changed b 'its Equal alone: For this anomalous Body in Nature ro 'without any commiſcible Ferment different from itſelf; but i 'bit itſelf, revived from the Poiſon, and afterwards knows n 'Death.'

Thus we have the Hiſtory of the *Alcaheſt* of Paracelſus, a Van Helmont, extracted from their own Writings with th utmoſt Accuracy. Hence it evidently appears that it is i vain to ſeek for this univerſal Menſtruum in human Urin or any of its Productions. Nor can it ever be found in Tarta or any of its Preparations, though this may be ſubſtituted a *Vice-Roy to the Prince*. Nor can Phoſphorus ever be reduce to it; becauſe its Properties that have been ſpecified, w not allow of it. Hence alſo it appears that Glauber is mi taken, when he ſearches for it in the fixed Alcali of Nitr as is Zwelfer in expecting to find it in the extremely ac Spirit of Vinegar, diſtilled from Verdigreaſe. Nor does th celebrated Guernerus Rolfincius ſeem to have had a better i of it, when he ſuppoſed it to be procurable from a fixed Alc as its Baſis, and a mineral, vegetable, or animal Acid; f from Salt of Tartar, and Vinegar of Antimony, a meer v triolated Tartar is produced; from Salt of Tartar, and Vin gar, a Tartarus Tartariſatus; and from Salt of Tartar ſatur ed with acid Whey, only a more precious Tartarus Tarta ſatus. Nor does the Addition of Sal Ammoniac much alter t Caſe. See *Eph. Germ. D*. 1. *An*. 6, 7. *p*. 193--196. *App*. And i deed, Nobody in the Deſcription of the *Alcaheſt* has come ne to the Sentiments of Paracelſus and Van Helmont, than Pet Johannes Taber, in his Manuſcript upon the Subject of A chemy, wrote to the moſt ſerene Duke of Holſtein, which printed in *Eph. Germ. D*. 2. *An*. 8. *App. p*. 111. 117. in wh are theſe remarkable Words, which confirm my Opini 'The Liquor *Alcaheſt* is a mercurial, pure, metallic Spirit, 'united to its own proper natural Body, that theſe two bec 'one inſeparable indeſtructible Being, deſtroying every Th 'elſe, and converting them into their firſt Matter. It is t 'true *Mercurius Philoſophorum*, prepared from the mineral Kin 'dom, joined to its own Body, inſeparable from it, bein 'milky, buttery Liquor, penetrating, and diſſolving eve 'Thing. This is of two Sorts, ſimple and compound. T 'Simple is made from a pure metallic Acid, and a pure meta 'Salt, rendered volatile with its Spirit; and the Preparation 'this is extremely difficult. But that of the Compound, is 'far more ſo; for this is prepared from a mineral Acid, and 'pure animal and vegetable Salt. The Liquor *Alcaheſt*, or t 'perfect pure *Mercurius Philoſophorum*, is like Fire, of an i 'corruptible, unalterable Nature, reducing every Thing to 'firſt Matter.' And the ingenious Joachim Becherus, in h *Phyſica Subterranea*, is almoſt of the ſame Opinion; for he a ſerts, that he has diſcovered in Sea-ſalt, a certain arſenical a mercurificating Power, which was it but ſeparated, and pu would be the *Alcaheſt* itſelf, which nevertheleſs would be v different from the *Mercurius Philoſophorum*. Hence Merc itſelf, he looks upon as a ſulphureo-metalline Subſtance, wh of itſelf would be ſolid, and which receives all its Fluidity fr an arſenical Sulphur of common Salt. This very ſubtile Co jecture, I wiſh he had more clearly demonſtrated. The S of his Argument amounts to this: 'The pureſt Silver, corr 'ed by Spirit of Nitre, and precipitated by Spirit of Sea-ſ 'becomes volatile, and then eaſily diſpoſed to part with 'Mercury; and therefore Sea-ſalt can change the pureſt Me 'from their fixed Nature, into true Mercury.' If I ſhould aſked, if I believe that any of the Chymiſts were ever p ſeſſed of this grand Arcanum? I ſhould anſwer thus: V Helmont complains, that the Bottle was once given him, that it was taken away again, and therefore he could not m many Experiments with that Liquor: And Paracelſus does ſay ſo many and ſo great Things of his Solvent, and therefo is difficult to determine any Thing about it with any De of Certainty. This, however, I will venture to aſſert, if you examine Sea-ſalt and Mercury, by every chymical thod poſſible, you will never repent of your Trouble. B *haave's Chymiſtry*.

Boerhaave has ſaid ſo much on the Subject of the *Alca* that I have only to add, that Van Helmont's *Circulatum* *nus* is ſaid to be prepared by a Circulation of nine Weeks, f equal Parts of Spirit of Urine rectified three Times, Alc or highly rectified Spirit of Wine, and Vinegar twice rect

Thoſe who are acquainted with the great Effects which be produced by theſe ſeparately, will readily believe that by an intimate Union may be converted into a Menſt capable of doing ſurpriſing Things; eſpecially as we k neutral Menſtrua, as this muſt be, will act upon ſome hard Bodies, which are not otherwiſe diſſoluble by acid, ne, watery, or ſpirituous Menſtrua.

is I inſert on the Authority of a Gentleman who had it a Son of Helmont's, who lived for ſome Years at the of Hanover, under the Favour and Protection of the eſs Sophia, Grandmother to the preſent King of Great in.

CALI, or ALKALI, a Word much uſed by the Chy- to expreſs a Body which is eſteemed the Reverſe of an

Many whimſical Theories have been ſpun out by Chy- of warm Imaginations, upon a Suppoſition of a certain ity ſubſiſting betwixt theſe two. This is therefore an Ar- of Importance enough to deſerve a ſtrict Examination, I ſhall therefore beſtow upon it, in Hopes of giving a juſt f ſome Things not commonly known, unleſs to Chymiſts philoſophical Turn, and thoſe perhaps of the firſt Rank.

LI, a Word well known upon the Eaſtern Coaſts, and gypt, ſignifies a certain Herb, replete with Salt, which about the Sea-ſhore, and the Banks of the Nile, and al- ſe of the celebrated River Belus in Syria, as Pliny aſſures m the Teſtimony of antient Authors. This Plant, if when it arrives to its full Growth, produces Aſhes re- ble for their ſalt, acrid Taſte, an Evidence of its abound- ith Salt. When theſe Aſhes are boiled in Water, they a ſtrong, acrid, ſalt Lixivium, or Lye, conſiſting of the ommunicated by them to the Water, which being proper- arated, there remains a greyiſh Part, which will neither e in Water, nor burn in the Fire, but is perfectly in- and of the Nature of Earth. If this Lixivium, or Lye, porated to a Dryneſs in an iron Veſſel, a white ſolid Maſs, moſt acrid cauſtic Taſte, and perfectly ſoluble in Water, behind. Since, therefore, *Lix* in the Latin Tongue ſig- *Aſhes*, and *Lixa*, a *Maker of Aſhes*, hence Pliny very pro- ſays, *Cinerum Lixivium. L.* 39. *C.* 99. and *Lixivium Ci-* 14. *C.* 2. 25. *L.* 15. *C.* 18. And Columella calls Wa- hen it is impregnated with this Salt, and filtered, *Lixivium*, *C.* 41. All theſe Salts, therefore, are properly enough *Lixivious Salts*. By Terms, however, already received, re called *Alcalies*, or *Alcaline Salts*. They are alſo called me *Rochetta*, *Soda*, or *Zoda*. From this Salt, and the of all Stones that ſtrike Fire with Steel, may be prepar- *it* for the making of Glaſs. Theſe alſo quickened with and mixed with any oily Subſtances whatever, are con- e into Soap. The beſt of this Sort of Salt is brought Alexandria in Egypt and Tripoli.

all our phyſical Knowledge of Things depends upon the veries which our Senſes make in natural Bodies, hence eir Characteriſtics muſt be taken only from ſuch ſenſible thus diſcovered. Nor are we able to diſtinguiſh Bodies in ther Manner. The following Characters therefore of *cali*, may be laid down as genuine, and ſufficient for the ſes both of the Chymiſt, the Philoſopher, and Phy- .

A fixed *Alcaline Salt* is produced from a vegetable Sub- .

It is only prepared from a Vegetable by the Action of Fire, converts it into Aſhes.

When it is thus prepared, it will remain a conſiderable in the Fire, thus demonſtrating its Fixity.

In a moiſt Air, it perfectly diſſolves and depoſites ſome , being impatient of a continued Dryneſs, if any Part of ir has Acceſs to it.

It impreſſes an acrimonious Taſte upon the Tongue, hat cauſtic, and it excites a Taſte of Urine, on which unt theſe Salts have, though not very properly, been call- *inous Salts*. For the Taſte of this Salt does not reſemble f Urine, at the firſt Application. But when this has been Mouth ſome Time, and by its Stimulation cauſed a Diſ- e of the Saliva, then the neutral animal Salts which are e Saliva, depoſite all their Acid on the fixed *Alcali*, and become volatile and *alcaline*, and then impreſs upon the ue a diſagreeable urinous Taſte, of which this is the true n.

This Salt, when it is perfectly pure and without Mix- has not the leaſt Smell, being extremely fixed, even in ire. But as it attracts every Acid, if it meets with any , which contains a volatile *alcaline Salt*, fixed by an A- and therefore without any Smell, it then immediately ab- the Acid, and the *Alcali* being by this Means diſengaged, rendered volatile, affects the Organs with an *alcaline* Smell, h is falſly aſcribed to the fixed Salt. This appears evident- on mixing a fixed *alcaline Salt* with warm freſh Urine, up- hich the Liquor that was inodorous before, inſtantly emits greeable *alcaline* Smell.

Another Property of this Salt is, that when mixed with Acid whatever, it immediately produces an Ebullition and veſcence; and afterwards is ſo intimately united with it in- e Maſs, that if the Saturation is compleat, the Compound vers no Sign, either of an *Alcali* or an Acid, but there is always by this Means produced a Salt of another Nature, which is uſually called *Neutral*.

8. If a pure fixed *Alcali* is mixed with the Juice of the Turnſole, Roſes, or Violets, it preſently changes their natural Colour, which is a Kind of Purple, into a Green.

9. When this *Alcaline Salt* is applied for ſome Time to a human Body that is warm, and conſequently exhales ſome Moiſture, it excites an acute Inflammation, attended with all its Symptoms, which ſoon becomes a grey, hard, dead, and often black Eſcar, it is therefore capable of producing a true Sphacelus, or Mortification.

10. All theſe Salts have the Faculty of deterging and cleanſing, which is not the Caſe with Reſpect to thoſe called *Neutral*. Theſe then are the Marks by which fixed *Alcaline Salts* may be known and diſtinguiſhed from all others; and by theſe we ſhall be enabled to avoid Confuſion.

Such *alcaline* fixed Salts may be alſo procured from any crude, freſh Vegetable, burnt to Aſhes, and treated in the Manner above mentioned. But ſome Plants, by this Management, yield a very ſmall Quantity. Such are thoſe, which, when crude, have a pungent Smell, which ſtrikes the Noſe, and makes the Eyes water; for almoſt all the Salt of the Plants is volatile, and is diſſipated by the Heat of the Fire. Garlic, the bulbous vomiting Roots, Onions, Scurvygraſs, Ladies-ſmock, Rockets, Hedge-muſtard, Creſſes, Radiſhes, Rapes, Squills, Leeks, Muſtard, and the like, are of this Claſs, in which Nature has ſo far perfected their *Alcaline Salts*, as to render them volatile, as in Animals.

Theſe lixivious acrid Salts, have been known to the Antients, in almoſt all Ages of which we have any Account. Ariſtotle tells us, that the Aſhes of burnt Reeds and Bulruſhes, boiled in Water, yield a plentiful Salt. And Varro, *de Re Ruſtica*, informs us, that ſome People about the Rhine, having neither Foſſil, nor Sea-ſalt, inſtead of thoſe, made Uſe of a ſalt Coal, which they prepared from ſome Sorts of Wood, burnt: From which is is plain, that they knew a Method of preparing theſe Salts, not unlike that of Trachenius, ſo as to make them leſs acrid, and to come nearer to the Nature of the native neutral Salts. Hence Pliny aſſerts, that Aſhes have the Quality of Salt, but are milder. And that the burnt Fæces of Wine have the Virtues of Nitre (the antient Nitre). And in another Place he ſpeaks of the Nitre produced from burnt Oak, which, he ſays, yields but a ſmall Quantity, *L.* 31. *C.* 10. We farther learn from Pliny, that Aſhes were in his Time uſed medicinally, and the Lixivium made of them drank as a Remedy. All theſe Authorities, to which more might be added, ſufficiently evince, that the Diſcovery of *Alcalies* is not ſo modern as ſome imagine.

No Native Salts have yet been diſcovered, with which the preceding Characteriſtics agree, *Alcaline Salts* being procured from vegetable Subſtances only, by the Action of Fire. But ſince the firſt Calcination of Vegetables that ever happened in the World, theſe Salts have been produced. Hence therefore, in all Ages and Places where this has happened, there muſt have been a prodigious Quantity of this Salt generated, which always is at laſt together with the Aſhes returned to the Earth. In the Revolution, therefore, of ſuch a Number of Years, the whole Earth muſt have been converted into this Salt, provided it was immutable. But this is not the Caſe, for theſe Salts, when committed to the Earth, render it indeed fruitful, but then they loſe their *alcaline* Nature, and, imbibing the Acid of the Air, become neutral Salts, and act as ſuch.

It is farther remarkable, that no Plant which ever grows upon the Surface of the Earth, if it was ſuffered to grow dry, carious, and rotten, would ever yield a ſingle Grain of a fixed *Alcali*; but on the Contrary, they are always either diſſipated into ſuch minute volatile Particles, as eſcape the Notice of our Senſes, or leave behind them a Subſtance, which upon Examination appears to be ſimple Earth. This Experiment, therefore, confirmed univerſally in all Ages, evidently demonſtrates, that Nature never produces a fixed *Alcaline Salt*, either in the Solids or Fluids of Vegetables.

Hence it is certain, that fixed *Alcaline Salts* have their ſpecific Nature imparted to them by Fire, and not by any natural vegetable Operation. But this is ſtill farther evinced by the following Experiment, which never fails to ſucceed in the ſame Manner: Take any Vegetables, which, if burnt, would yield a large Quantity of a fixed *Alcaline Salt*, let them be reduced to Putrefaction by Art, ſo that their whole Subſtance ſhall be perfectly putrefied, they will then be rendered exceedingly fœtid, and a great Part of them volatile, and, if they are burnt in an open Fire, will not yield the leaſt Portion of a fixed Salt, but what remains will be a perfectly inſipid Earth. If therefore we view this Experiment in a juſt Light, we muſt be of Opinion, that fixed *Alcaline Salts* are as much the Creature of Fire as Glaſs, which Nobody ever ſuſpected to be a vegetable Production, though vegetable *Alcaline Salts* enter its Compoſition, and are neceſſary to its Exiſtence.

It muſt alſo be remembered, that theſe *Alcaline Salts* are capable of being reſolved into a conſiderable Part that is ſaline, hard, bitter, and almoſt vitreſcent; into a ſimple Earth; and into an *Alcaline Salt*, that is ſtronger and more pure: And thus we may obſerve that theſe *Alcaline Salts* are no ſimple Bodies; but that they are compounded of different Parts united together, and that the Conjunction of their Principles into one Maſs, which has the Appearance of being homogeneous, is effected by the Strength of the Fire. Hence it will follow, that Nature never acts by fixed *Alcaline Salts*, as by her proper Inſtruments, unleſs when they are received firſt prepared by the Fire. And that even then, when ſhe makes Uſe of them, thus prepared, in bringing about her Purpoſes, ſhe only operates by them, as they are compounded of the three above-mentioned Principles; to which, however, as a fourth Part, there ſtill ſeems to remain a Portion of Oil, as many Arguments evince.

Hence it appears, that as theſe fixed *Alcaline Salts* are rendered more and more ſimple by a Separation of their conſtituent Parts, the Salt that thus ariſes will be continually different; for that which remains after a Separation of ſome of its Principles, will always be of another, and more ſimple Nature, and conſequently will have a different Power of acting. Thus, in Pot-aſh, which yields the beſt *Alcali*, a conſiderable Part of it is a bitter, hard, pellucid Salt, which does not very readily diſſolve in Water. If this is carefully ſeparated from the reſt, a purer *Alcali* is obtained, fitter than the former, before this Separation, for many Operations that are performed by *Alcalies*.

It is farther to be obſerved, that theſe *Alcaline Salts* may be greatly altered by the caſual Admixture of ſome other Body, whilſt the Vegetables are burning, which being alſo of a fixed Nature, may be united with them, and remain in the Aſhes. Suppoſe, for Inſtance, that Nitre ſhould happen to come among them; then this being fixed with the other vegetable Salt, would produce an *Alcali*, to which, if Oil of Vitriol was added, it would emit a fetid Fume, that would in Smell reſemble Spirit of Nitre, which never is the Caſe, if the *Alcali* is pure. The ſame is true with Reſpect to Sea-ſalt, and many others. And laſtly, we muſt take Notice, that the very Burning of Vegetables, as it is performed in a different Manner, will produce different Salts; for it is a known Truth, that if the ſame Vegetable is burnt ſuddenly in a briſk ſtrong Fire, it will yield a Salt different from what is produced by burning it in a ſlow ſmothering Fire.

Amongſt *Alcaline Salts*, the moſt common is that which is uſually called *Pot-aſh*. This is imported in great Quantities from Courland, Ruſſia, Poland, and other Parts of the North, where it is prepared from the Wood of green Firs, Pines, Oaks, and others of a like Nature, of which they make large Piles in proper Trenches, and burn them till they are reduced to Aſhes. Theſe are immediately ſifted, and were by the Antients called *Lix*, by the Moderns *Cineres Clavellati*, a Name taken from the *Clavæ*, or *Clavi*, Billets, into which the Wood is cleft, to make it burn more readily. Theſe Aſhes are then diſſolved in boiling Water, and when the Liquor, which contains the Salt, is depurated by Subſiding, it is poured off clear, and makes a Lixivium. This is immediately put into large Copper Veſſels, and is there boiled for the Space of three Days and Nights, till at laſt a Salt is left, which takes the Name of *Pot-aſh*, from the Pots the Lixivium is boiled in. This Salt, whilſt it is hot and dry, muſt be put up in Caſks, made of dry Wood, and which is not impregnated with Oil of any Kind, and by this Means it may be preſerved dry; otherwiſe, if it is expoſed to the Air, eſpecially one that is moiſt, it will run into a pinguious *alcaline* Fluid, exactly like Oil of Tartar *per Deliquium*.

By the Manner in which theſe fixed *alcaline Salts* are produced, one would not ſuſpect them to contain any conſiderable Quantity of Earth, and yet upon Examination, we find they yield a great deal, even after they have been rendered as pure as it is poſſible to make them. The Truth of this will be evinced by the following Proceſs:

Take a ſtrong Lixivium of vegetable Aſhes, and by ſuffering it to ſtand quiet for a long Time, let all the terreſtrial Fæces ſubſide to the Bottom; and by this Means, it will be ſo depurated, as to become as limpid as Water: Let it then be depurated by repeated Filtrations till it become as clear as Cryſtal. This Liquor then, if examined with a Microſcope ever ſo nicely, will not diſcover the leaſt Sign of any terreſtrial Subſtance. Then take this pure Lixivium, and put it into a clean Veſſel, and in a quiet Place, as free as poſſible from Duſt, reduce it to the Conſiſtence of a thick Oil; and then in a clean iron Pot evaporate this thick Liquor to a Dryneſs, keeping it continually ſtirring with an iron Spatula; and by this Means, you will procure an exceeding *Alcaline Salt*. When this is done, put this Salt into a clean Crucible, and with a Tile cover it over as cloſe as poſſible, and in this Condition commit it to a very ſtrong Fire till it is melted: Then pour it out into a warm braſs Mortar, and with a hot Peſtil rub it immediately into a Powder. Let this Powder then be put into a large glaſs Baſon, and be thus expoſed to the Air in a Place free from Duſt, and the Salt in a very ſhort Time will be intirely diſſolved into a Liquor perfectly fluid, whilſt to the Bottom there will fall a white terreſtrial Powder, which being thoroughly waſhed fro
the Salt that adheres to it, will appear to be nothing but me
Earth, ſuch exactly as that, which remained, of the vegeta
Aſhes after the Salt was all extracted. If you take this Oil o
Tartar *per Deliquium* and dry it, calcine it, and expoſe it to th
Air as before, it will diſſolve again, and you will have a new O
per Deliquium, and always ſome Earth remaining; and if th
Operation is repeated a ſufficient Number of Times, at laſt th
greateſt Part of the fixed *Alcaline Salt* will be reduced to a me
ſimple Earth, which in burning was united with that oth
Principle, both which, joined together, formed the *Alcaline Sa*
which ſaline Principle being now by many Calcinations a
Solutions ſeparated from its Earth, and ſet at Liberty, flies o
and is diſſipated into the Air, and leaves the Earth alone. I
all this, Earth, however, is collected together, and weighed, i
will be found a good deal lighter than the Salt at firſt made U
of; this Decreaſe in its Weight evidently evincing, that a gre
Part of the Salt was rendered volatile, and thus carried away. A
this Experiment, therefore, conſtantly ſucceeds in this Manne
we cannot but conclude, that this Earth, thus diſcovered, d
really exiſt before in the fixed *Alcaline Salt*, from which it
by this Means procured, and that in ſo latent a Form, that
ſuffered itſelf, during that Time, to be perfectly diſſolved i
Water, which otherwiſe is ſo repugnant to the Nature of Ear
And hence, therefore, it farther appears, that the pureſt Ear
when it is united with ſome other Principle, is totally diſſo
ble in Water, though it is in no Degree ſoluble in Wa
when alone.

But it often happens during the Repetition of this Operat
that the *Alcali* changes its firſt Nature, and is converted into
neutral Salt, which eaſily melts in the Fire like Wax: A
hence ſome Chymiſts have vainly thought, that they w
Maſters of that great Secret, *an incerated*, *fixed*, *Alcaline Sa*
which the antient Chymiſts ſo highly extolled. But this c
happens from the volatile Acid in the Air, applying itſelf to th
Salt, and being united with it, by which Means a new Ki
of Salt is produced, compounded of the *Alcali*, and this Ac
and hence eaſily melting in the Fire, but deprived of all
Alcaline Virtue.

A fixed *Alcali*, procured in the Manner above deſcrib
has, above all others, every Mark of an *Alcali*. This Sa
therefore, we may fix as a Standard for all of this Kind, by t
Character of which we may examine any Salts that we are
Doubt about, whether they belong to this Claſs, or not. An
thus we learn, that *Alcaline Salts*, procured by burning, ar
no Means homogeneous, but compoſed of different Princip
Amongſt theſe, the true ſaline Part is greatly leſs, th
might be imagined, and when it is alone it is volatile, a
eſcapes the Notice of our Senſes, inſomuch that as yet we
not come to a Knowledge of its proper Nature.

The Juice preſſed from ripe Grapes, ſpontaneouſly ferme
and during this Operation, it is called Muſt. After this Fe
mentation is over, and the thicker Fæces ſubſide, and it h
ſtood a ſufficient Time quiet in the Caſk, it becomes li
pid, fine, and, in Appearance, homogeneous. This is ca
new Wine, after having depoſited theſe Fæces, which are na
the *Lees*, or *Mother*, of Wine, and which were firſt diſpe
in the Muſt, then elevated into Flowers, or Yeaſt, and af
wards ſubſiding, are collected at the Bottom of the Veſſel. T
Wine, when it is thus become fine, if it is drawn off from
Lees into a clean Veſſel, leaves all theſe thick Fæces behind
from which, by preſſing them ſtrongly through thick Ca
Bags, a turbid Wine is procured, which is uſed for making
ſtrongeſt Vinegar. If the dry Fæces that ſtill remain in
Bags, and are formed into Cakes, are burnt to Aſhes, theſe
they are ſifted, diſſolved in Water, and depurated from the
ſiding Earth, yield a clear Lixivium. And this, by Evap
tion, in large Veſſels produces a Salt, very like the for
but more pure, and more acrid. This, then, is a ſecond S
cies of fixed *Alcaline Salts*, which by the preceding Ferme
tion ſeem to be rendered more ſubtile than the former.

If Wine, thus fermented, defecated, and rendered fine,
drawn off into a clean Caſk, and ſtands for ſome Time, th
will then begin to appear ſmall ſhining Bodies in it, like Pa
cles of Glaſs, which gradually uniting together, form la
Globules, which fix upon every Part of the Veſſel that
Wine reaches, and thus, by Degrees, incruſtrate ove
whole Surface with a Kind of ſtony Matter, called, for
Reaſon, very properly, by the Germans, *Wine-Stone*; by
Chymiſts, *Tartar*. This is always of an acid Taſte, and p
duced from Wine only which has been fermented, and dep
ted in the Manner above-mentioned.

When Tartar is diſtilled, a very black Maſs remains at
Bottom of the Retort, which is perfectly *Alcaline*, and exc
ingly acrid; and this is the only Method known of produc
fixed, alcaline, acrid, vegetable *Alcali* in a cloſe Veſſel; fo
other vegetable Subſtances whatever, when expoſed to
ſtrongeſt Fire in a Retort, produce a black Coal, but never
ford any *Alcaline Salt*, till this Coal is afterwards burnt i
open Fire. But if this black *Alcaline* Coal of Tartar is t

of the Retort, and burnt in an open Fire, it yields a white
line Salt, of all fixed *Alcalies*, the moſt acrid and pure.
his ſurpriſing Experiment, we learn, how much Fermen-
n promotes the Production of an *Alcali*, though at the
Time it always heightens, and even generates an Acid.
Alcalies and Acids, therefore, are more readily produced,
e Aſſiſtance of Fermentation, than without it ; which Ob-
tion, certainly, is of great Importance, though very little
n Notice of.

t all *Alcalies*, from whatever Vegetable produced, when by
rongeſt Fire they are at laſt brought to their greateſt *alcaline*
ction, become ſo perfectly alike, that they can ſcarcely
ſtinguiſhed from each other. There is, however, one tri-
Circumſtance, wherein they differ, which is, that Glaſs
with the very ſame Flints, but different fixed Salts, will
a little with Reſpect to Colour, ſo that what is prepared
the *Alcaline Salt* of Fern, ſhall be different from that made
any other Salt. But Chymiſts are very ſenſible, that a
ſmall Matter will make a conſiderable Alteration in the
ur of Glaſs ; thus, Pounding the Salt in a metal or mar-
Mortar, will produce a Difference. Hence it ſeems poſſi-
that ſomething metalline may inſinuate itſelf into Vegeta-
which being naturally fixed in the Fire, may impart Pro-
es to the Salts which eſcape the Notice of our Senſes, till
diſcover themſelves in the Colour of the Glaſs produced
them. It is certain, that Particles of Iron lie concealed
any Bodies ; and perhaps Copper may do the ſame.

nother Sort of fixed *Alcaline Salt*, which has been diſcovered
he Chymiſts, and accurately deſcribed by Glauber, is pre-
d in the following Manner :

t ſome pure Nitre in a clean Veſſel, let it melt over the
, and it will then ſcarcely have any viſible Motion. Whilſt
in this State, throw a Piece of burning Coal into it, and
Inſtant it will produce a great Noiſe, the Coal will be
ted upon the Surface of the Nitre, till it is conſumed, and
the Nitre will flow quietly again, as before ; then throw
nother Piece of Coal as before, and the ſame Appearances
be renewed. Repeat this till the Nitre is no longer moved
e Application of the Coal, and then what remains, will in
Reſpect anſwer the Character of an *Alcaline* fixed Salt :
s, for Example, it betrays a cauſtic Acrimony, and an uri-
Taſte in the Mouth ; it raiſes an Ebullition with all
n Acids ; if ſaturated with an Acid, it is converted into a
ound Salt, whoſe Nature is determined by that of the
; and it has the very ſame Effect as the *Alcaline Salt* de-
d above, with Reſpect to the Production of Colours, Pre-
tions, and Solutions of Bodies. This Salt, however, dif-
n ſome Reſpects from the former, as it always retains
thing of Nitre, which is not utterly deſtroyed by the Pro-
This does not diſcover itſelf, till ſome of the beſt Oil of
iol is poured upon it ; but then a Vapour inſtantly ariſes,
h by its Smell, like that of Spirit of Nitre, or Aqua Fortis,
vers its nitrous Nature. In this Experiment, the Oil of
iol generally grows black, when it is mixed with the *Alca-*
hence it appears, that ſomething of the Charcoal is united
the *Alcaline Salt*. Glauber, therefore, was certainly in the
, in believing this *Alcali* of Nitre, to be in ſome Meaſure
ent from vegetable *Alcalies* ; but when he extols its Vir-
above all others, it is poſſible his own Diſcovery might be-
him into a little Exaggeration. For he boaſts of the Oil
Deliquium of this fixed *Alcaline Salt*, as if it was the Al-
t, or univerſal Solvent.

t a third, and the moſt expeditious Way of producing a
Alcaline Salt, and that in great Quantity, is as follows :
of the beſt and drieſt Tartar, and Nitre reduced to a fine
der, an equal Quantity ; mix them together, and throw
by a little at a Time, into a clean iron Veſſel, made al-
red hot, and an inſtantaneous Deflagration will enſue,
a white, *alcaline*, fixed Salt will be produced. This, too,
e a vegetable *Alcali* in every Characteriſtic, except that
being mixed with Oil of Vitriol, it betrays by the Smell its
nal Nitre.

here is another ſingular Method of preparing a fixed, fiery,
line Salt from Nitre, and that in a very little Time, as fol-
: After Antimony is as much as is poſſible deprived of its
hur, the pure metalline Part, which remains, is called its *Re-*
. Take this Regulus, put it into a clean Crucible, melt it
e Fire, and when it is in Fuſion, add an eighth Part of the
ſt, and drieſt Nitre. It is ſomething ſurpriſing to find that
Nitre, which generally flows eaſily in a ſtrong Fire, cannot
be melted, without the Application of a Heat, intenſe
gh to fuſe Copper. And when it is urged with a Degree
ire ſufficient to melt it, it immediately acquires a golden
ur ; and when the Whole is poured out into a Cone, the
e riſes to the Top, in the Form of a golden Cake. This,
n ſeparated by ſtriking the Cone, is impatient of Dryneſs,
is of ſo acrid, *alcaline* a Nature, that it is perfectly fiery
moſt all its Effects : Nor have the greateſt Maſters in Chy-
y ever found any Method of communicating to Salt an
l Degree of Acrimony. And here it is obſervable that Ni-
which is the coldeſt of all Salts, and has not the leaſt Mark of any *Alcali* in it, when it is thus fuſed with the metalline Part of Antimony, acquires this Acrimony, as it were, by Contact. It is probable, in this Caſe, that the Sulphur of Antimony is very intimately united with the Nitre ; for the Salt thus produced, whilſt it is exceeding dry, and hot, makes a red Tincture with pure Spirit of Wine, and that immediately, of an exceeding cauſtic Nature. This Experiment ſucceeds, whether the Regulus is made with Iron, according to Suchten's Method, or with Tartar and Nitre, in the common Way. But this Effect will not be produced, ſo long as the external Sulphur adheres to the Antimony, the Experiment then only anſwering, when this Part being ſeparated, the remaining reguline Part is fuſed with the Nitre. The ſudden Change that is in this Caſe effected, is ſo much the more ſurpriſing, as Nitre with Sulphur never becomes *alcalious*, but is converted into a bitteriſh Sal Polychreſton. And what ſtill makes it more extraordinary is, that Nitre, if it is kept for a conſiderable Time in Fuſion by itſelf, will undergo no Alteration, but remain the ſame. Hence, then, we learn, what ſudden and unſuſpected Effects are produced by the Combination of Bodies, which it was not poſſible to foreſee ; and that general Concluſions in Phyſics, are liable to a great deal of Error. From this Experiment, alſo, we may obſerve, how eaſily the whole Subſtance of Nitre grows *alcaline*, as it were, by mere Contact ; for in this Inſtance, it is not mixed with the melted Antimony, but only flows at the Top of it.

The Properties of fixed *Alcaline Salts* are as follows :

They attract Water very powerfully and at a great Diſtance, and from every known Body in which it reſides. This is plain to the Eye, for when ſuch an *Alcali* is taken out of a ſtrong Fire, if it is ſuffered to remain in a very hot Air, cloſe by the Fire, where Water can by no other Art be diſcovered, it will even there grow moiſt, and diſſolve : And if it is then put into a clean, dry, glaſs Veſſel, and dried over the Fire, and the Vapour that exhales, is received, and condenſed in an Alembic, it will yield again the pure Water which the *Alcali* had attracted. Other Salts, if moiſt before, would have been deprived of their Water in the very ſame Degree of Heat, and the ſame Place where the dry *Alcali* attracted Moiſture. Theſe *Alcaline Salts* therefore, are true Magnets to Water ; by this they are diſſolved, and are ſtrongly united with it ; and hence, when they are once diſſolved in Water, a Heat equal to that of boiling Water will not perfectly dry them again.

Thus, for Inſtance, Oil of Tartar *per Deliquium*, will not be dried in a Heat of two hundred and fourteen Degrees of the common mercurial Thermometer, which is ſufficient to make Water boil ; but it muſt be put into a metal Veſſel, and kept continually ſtirring in a Heat of more than ſix hundred Degrees, in order to ſeparate all the Water from it : Hence, we ſcarcely know any Body that parts with its Water with more Difficulty.

The following Experiments were made with a View of diſcovering the Force with which fixed *Alcaline Salts* attract Water, the Quantity they imbibe, and the Spaces through which their attractive Virtue is diffuſed.

An Ounce of a fixed *Alcaline Salt*, exceedingly pure and dry, was put into a clean glaſs Baſon, and expoſed to a dry Air, in a ſubterraneous Place, that was every way incloſed, and not in the leaſt diſturbed by any Wind ; and in a little Time, the Water was attracted out of this ſtill Air to the Surface of the Salt, and the Water was thus attracted by the Salt, till the Salt was impregnated with near three Ounces of Water, but being then thoroughly ſaturated, it did not imbibe any more. Hence it appears, that ſix cubic Feet of Air at leaſt, was required to ſupply this Salt with ſuch a Quantity of Water. For if we ſuppoſe the Weight of Air to that of Water, as one to a thouſand, and a cubic Foot of Water to weigh ſixty-four Pounds, then all the heavy Bodies in a cubic Foot of Air, will weigh $\frac{8}{125}$ of a Pound. Let us imagine only half of theſe heavy Corpuſcles to be pure Water, the other half, all the reſt of the ponderous Bodies contained in the Air, and then it appears that in a cubic Foot of Air, there will be about half an Ounce of Water. As this Salt, therefore, is capable of attracting Water out of ſo large a Space, we hence diſcover a very ſurpriſing Power in Nature. Sendivogius, therefore, well obſerved, that the more *Alcalies* are burnt, the more Water theſe calcined Bodies attract out of the Air. It is poſſible, however, that the Water in the Air, at a Diſtance from that which ſurrounds the *Alcaline Salt*, may be drawn into this Air, and ſupply the Place of that Water which is attracted by the Salt.

But to come at a more accurate Knowledge of this Attraction of Water by *Alcaline Salts*, Boerhaave took a large glaſs Bottle, very clean, and dry, and hot, as if it had juſt been taken out of the Glaſs-Houſe Oven. Into this he put ſome pure Salt of Tartar, very hot and dry alſo, and reduced to Powder, in the Manner above deſcribed. He then immediately ſtopped the Mouth of the Bottle with a dry Cork, and tied over it a Hog's Bladder ſoftened with Oil, and made very ſupple : The Effect of this Experiment was, that the Salt which adhered to the Side of the Glaſs, was grown moiſt with the Water contained in that ſmall Quantity of Air included in the glaſs Bottle, though the Air was extremely hot and dry, at the Time that the Bottle was cloſed.

2. It has not yet been determined with any Degree of Certainty, whether fixed *Alcaline Salts* repel Air, or attract it ſo ſtrongly, as not to part with it again readily. Experiments that have been made with this View leave the Thing dubious. It is very certain that Oil of *Alcaline Salts per Deliquium*, examined by the Air-Pump, gives not the leaſt Indications of containing Air, ſince none is to be ſeparated from it, when the Preſſure of the Atmoſphere is taken away, even though the Oil is made very hot in order to expel the Air. On the contrary it is equally certain, that when *Alcaline* Oils *per Deliquium* are mixed with Oil of Vitriol, from which the Air has been extracted by the Air-Pump, a ſurpriſing Quantity of elaſtic Air is produced, or, as it is called, generated. Upon conſidering theſe Circumſtances, it appears moſt probable that fixed *Alcaline Salts* actually attract Air, and unite it with themſelves ſo ſtrongly, that it is not to be diſlodged, till the Texture of the Salt is deſtroyed by the Effervеſcence upon mixing it with an Acid.

Theſe pure, acrid, fixed, *Alcaline Salts*, if they are mixed with the pureſt Alcohol, when they come very hot out of the Fire, attract it, and unite with it; but if there is the leaſt Mixture of Water, either in the Salts or the Alcohol, then the Salts repel the Alcohol, nor can they be united by any Art whatever. In this Manner, therefore, pure, fixed *Alcaline Salts* divide ſtrong Spirit of Wine into two Parts, that are not afterwards miſcible with each other, that is, into a Water ſaturated with the *Alcaline Salt*, and into a pure Alcohol, which ſwims at the Top. And thus, again, plainly appears the reciprocal Attraction betwixt Water and fixed *Alcaline Salts*: Take a Pint of the pureſt Alcohol, mix with it a ſmall Quantity of Water, and then add a dry *Alcaline Salt*, and the *Alcali* will in an Inſtant draw into it that little Portion of Water, and will appear in the Form of a thick Oil about the Sides of the Glaſs; and, at the ſame Time, the Combination of the Alcohol and Water will be utterly prevented.

Theſe *Alcaline Salts* act alſo upon vinous Spirits in another Manner: For, as every Spirit drawn by Fire, from Wine of any Sort, has always a volatile Acid intermixed with it, the Acid being greedily attracted by the *Alcaline Salt*, the Spirit by this Means becomes much more pure, when freed from the Acid which adhered to it, and conſequently will be very different, both in its Nature and Virtues, from what it was before this Operation. And the *Alcali* itſelf will alſo, at the ſame Time, be intirely altered, and become a Salt compounded of an Acid and *Alcali*, inſomuch that, if it is perfectly ſaturated in this Manner, a Salt perfectly neutral will be produced.

Theſe Obſervations direct us to a Method of preparing a pure Alcohol, without Diſtillation, or any Aſſiſtance from Fire; for add a ſufficient Quantity of Pot-aſh to common Spirit of Wine, and ſtir them about till they are thoroughly mixed together, the Water will be attracted by the *Alcaline Salt*, and the Alcohol will ſwim at the Top, which, by a gentle Decantation, will come off good the firſt Time. If any Doubt remains, whether it is quite pure, or not, put ſome more Pot-aſh into the Alcohol thus prepared, and by ſtirring them about, and then pouring the Liquor off, as before, it may be rendered ſo. In this Operation, however, the Spirit of Wine always diſcovers an Oil, which before appeared neither in the Spirit of Wine, nor the *Alcaline Salt*, but is generated when they are thus mixed together.

Another Property of *Alcaline Salts* is to unite intimately with diſtilled vegetable Oils: For if the moſt acrid, pure, dry *Alcaline Salt* is thrown very hot into a diſtilled Oil, it attracts the Oil greedily, with a conſiderable hiſſing Noiſe, and unites it ſo with its own Subſtance, that there is immediately formed a Kind of Soap, and the Oil is more firmly united to the *Alcaline Salt*, and the Soap is rendered more perfect, if the Mixture is ſet in a ſubterraneous Place; for by this Means both of them become ſemi-volatile, and form a Maſs diſſolvable in Water, which is endued with excellent medicinal Virtues. This is the *Ens parvum Sapientum*, the *Sapo Helmontianus*, the *Sal-Volatile Tartari* of Starkey, and the *Corrector* of Matthews. It was formerly in great Reputation, firſt in England, and afterwards all over Europe; for it powerfully reſolves almoſt every Kind of viſcid Concretion that is generated from the Humours of the human Body: Hence it incides and attenuates the tenacious Concretions that obſtruct the Veſſels, and at the ſame Time it gently ſtimulates the Veſſels themſelves; and thus, by acting both upon the Solids and Fluids, it promotes the Secretions by Sweat and Urine, and by theſe Evacuations carries off the Cauſe of many chronical Diſtempers. This Soap alſo intirely alters the Nature of many Simples, when digeſted with them, and hence, depriving ſome of their Virulence, imparts to them Virtues very different from what they naturally poſſeſſed. The Chymiſts, however, as is uſual with them, have been too laviſh in the Praiſe of this Medicine, which they have extolled as an univerſal Remedy. But it muſt be obſerved, that this Combination of a fixed *Alcaline Salt* and diſtilled Oil can never be brought about, if the leaſt Portion of Water adheres either to the Salt or Oil; and for this Reaſon it is neceſſary the Salts ſhould be hot when mixed with the Oil. It will even hinder the Succeſs of the Operation, if a ſmall Portion of the *Alcal* *Salt* ſtands above the Oil in the Veſſel, and thus, by being e poſed to the Air, grows ever ſo little moiſt.

Fixed *Alcaline Salts* are eaſily united alſo with the expreſ Oils of Vegetables, or Animals, as is daily ſeen in their Com nation into artificial Soap by the Aſſiſtance of quick Lim Water and Fire.

But *Alcaline Salts* remarkably attract all Kind of Acids wh ever, whether animal, vegetable, or mineral, and that whethe dry or moiſt, pure or diluted. And this Force, with whic *Alcalies* thus attract Acids, is incomparably greater than th with which they attract Water: For in this Action, by whic they unite theſe Acids with themſelves, they violently expel t Air that reſides both in the Salt and Acid, whence ariſe ſu Numbers of Air-bubbles, which ſuddenly appear, and bur This Union alſo makes them repel even Water, and when th are thus ſaturated, they will eaſily ſuffer themſelves to be drie or deprived of their Water, which before, when they w ſeparated, they retained moſt tenaciouſly. Pure Oil of Vitri for Inſtance, when it is alone, can ſcarcely by any Art be utte deprived of its Water; Oil of Tartar not without a great d of Difficulty: And yet, when you mix them together, the W ter is expelled in ſuch a Manner, that a Salt almoſt dry app in the Veſſel under it, as is evident in the Preparation of Ta tarus Vitriolatus. The ſame is true alſo of other Acids, w they are combined with an *Alcali*. This Power however, b which *Alcalies* attract Acids, is limited to certain Bounds hence there appears a great Diverſity among them, though th indeed, ſeems more owing to a Difference in the Acids, than the *Alcalies*. Upon this Subject the illuſtrious Homberg h communicated to the World many uſeful Obſervations, ſome which are of Importance enough to deſerve inſerting:

One Ounce of Salt of Tartar abſorbed all the Acid from fo teen Ounces of the beſt diſtilled Vinegar; and hence, after was dried, it was increaſed in Weight three Drams thirty- Grains; the remaining Part of the Vinegar was mere in Water. By this Means, then, we diſcover the Proporti there is between the Acid, and the Water of the Vinegar.

The ſame Quantity of Salt of Tartar abſorbed all the A from two Ounces five Drams of Spirit of Salt; the Increaſe Weight, when dried, was three Drams fourteen Grains.

An Ounce of Salt of Tartar abſorbed all the Acid from o Ounce, two Drams, thirty-ſix Grains of Spirit of Nitre; th Increaſe of Weight was three Drams ten Grains.

The ſame Quantity of Salt abſorbed all the Acid from o Ounce, two Drams, thirty Grains of Aqua Fortis; the increaſ Weight was three Drams ſix Grains.

From five Drams of Oil of Vitriol an Ounce of Salt *of Ta* abſorbed all the Acid; the Increaſe of Weight in the dried S was three Drams five Grains.

As theſe are the principal Acids, we may infer, Firſt, that acid Liquors, though various with Reſpect to their Bulk, wh united with their Water, yet the acid Principle has nearly t ſame Weight in all. Thus Vinegar, which is the lighteſt all theſe Acids, increaſed the Weight of the ſame Salt of Tart as much as the Oil of Vitriol, which is the heavieſt and ſtrong The ſame too is true with Reſpect to the other Acids, Difference between the greateſt and leaſt Increaſe of Wei being no more than thirty-one Grains, and that only in t Vinegar, and this becauſe the Tartarus Regeneratus, that the compound Salt formed by the Union of the Salt of Tar and Acid of the Vinegar, is not dried without a vaſt deal Difficulty.

Secondly, Acids ſeem to differ principally as to the Quan of Water they are diluted with, ſince the pure Acid, when is extracted, diſcovers always the ſame Weight. If fourt Ounces, therefore, of the ſtrongeſt Vinegar could by any Co trivance be reduced to five Drams, by ſeparating the Wa from it only, and collecting the Acid into a ſmaller Comp without altering it, it is poſſible that the Vinegar thus redu in Bulk would be as ſtrong as Oil of Vitriol. It is howe certain, that it would be then capable of ſaturating the ſa Quantity of *Alcaline Salt*.

Thirdly, We hence perceive, how great a Part of theſe a Liquors is Water.

Fourthly, It is probable, that if theſe acid Salts could be o tained pure without any Water at all, they would then app in a ſolid Form. This, however, has never yet been acco pliſhed: Very intenſe Cold has come neareſt it of any Th but not quite compleated it. Hence alſo we may conceive w ſurpriſing Effects *Alcaline* Menſtruums may produce, when th act upon Subſtances that have any latent Acid in them, or up thoſe that are actually conſolidated, and held together by Acid; and hence, when this Acid is abſorbed, they fall a into their conſtituent Elements.

When this Affuſion of an Acid to an *Alcali* is perfor gradually and cautiouſly in warm Liquors, and in a large Ve if at the ſame Time the Veſſel is ſhaken after every Inſtill of the Acid, the Mixture at laſt arrives to ſuch a Temperam that there will be no farther Ebullition: And this is called t *Point of Saturation*. If Acids are after this added, no more Ag tati on will be excited, than there is upon mixing Water with ter: And then the Compound thus produced is neither *Alca-* nor *Acid*, but *neutral*, formed by the Union of both. Hence *s* have been called Males, and *Alcalies* Females, and the npound of them both Hermaphrodites: The *Alcali*, the Va- n; the *Acid*, the Implent: The *Alcali*, the Chaos, and the the impregnating Spirit.

he violent Ebullition and Efferveſcence, that appear upon Mixture of an *Alcali* and an *Acid*, whilſt the Air and Wa- re forcibly expelled, may poſſibly ariſe, becauſe theſe Bodies etuouſly drive out whatever lies betwixt them, when they ſtrongly into mutual Contact: And if ſo, this Ebullition Efferveſcence do not ariſe from any Diſagreement, but from ſſociation of Principles. Hence the following Queries will rally ariſe: 1. Whether Acids abound plentifully with Air, ſt *Alcalies* contain none at all? So far is certain, that the geſt *Alcali*, taken very hot out of the Fire, and ſo proba- deprived of all its Air, will, if it is thrown into an acid Li- , produce a prodigious Efferveſcence, and a great Quantity ir will be generated. Hence may we not arrive at the true on, why Acids, when they are predominant in animal Bo- are productive of ſo much Flatulency? Do not neutral , produced from a Combination of *Alcalies* and Acids, loſe reateſt Part of their Air; and are they not for this Reaſon d to be very little flatulent in the human Body? Are not or at leaſt aceſcent Bodies, the only Subſtances which are ſed to ferment, becauſe of the latent Air they contain? is not this latent Air the Source of that prodigious Quan- of Air, which is generated by Fermentation? Does Fer- ation therefore naturally tend to the Generation of Acids, t an intenſe Fire produces *Alcalies*?

om what has been ſaid it appears, that amongſt natural es, by which Motion is excited in the Univerſe, we muſt n *Alcalies* and *Acids*, at the Time when theſe are mixed her, which Motion ceaſes, as ſoon as ever this Combina- s compleated.

e Motion thus excited ſeems of conſiderable Importance in Vege- , or rather in preparing the Earth for it. People concerned uſbandry are ſenſible, that frequent Ploughing or Digging the mellows it, as they call it, and renders it fertile; or, to ſpeak philoſophically, diſunites the Parts of the Earth, which other- ohere together, and form large Glebes, and reduces them into Particles, better ſuited to the ſubſequent Solution they are to un- in order to the Production of a Plant. Now when the Earth furniſhed with an Alcaline Salt, *and that is intimately united the earthy Particles, which ſoon happens, becauſe theſe Salts, ting the Water floating in the Air, run into an Oil* per Deli- *, and ſink into the Ground; the ſame Salts attract alſo the f the Air, till they are ſaturated, and both together rendered l. Whilſt therefore this Neutralization is effecting, an Effer- ce is made leiſurely and by Degrees, as the* Alcaline Salt *im- e* Acid. *Hence Motion is excited in the Parts of the Soil were impregnated with the* Alcali, *ana by this Motion the les of the Earth are ſeparated from each other, more effectually ther by Ploughing or Digging. This Separation is an excellent rative for a future Solution, and indeed is one Step towards it, e Solution of a Body is only the Reducing it into Particles fine to float in the Menſtruum that diſſolves it, and ſmall enough ranſparent, and conſequently not viſible.*

ere can be no Doubt, but that in the Action of theſe e Menſtrua upon *Acids*, the Water is expelled out of as well as the Air, when they thus unite together; for h they are perfectly fluid, when they are mixed, yet they in the very Act of Combination, into little ſaline Gle- and appear in the Water in the Form of pellucid Cryſtals, tery Liquid being driven out, and ſwimming at the Top. hen the Saturation is compleat, the Water may be ſepa- pure, and without any ſaline Taſte, and then the Re- er is eaſily dried into the Form of a white, farinaceous, Powder, and that too by a gentle Heat, whereas the Pa- *lcali* and *Acid*, by whoſe Combination they are produced, cannot be dried at all, or not without the greateſt Diffi-

s farther remarkable, with reſpect to theſe compound hus prepared, that it is extremely difficult to ſeparate again *cali* from the *Acid*, ſo as to procure either of them pure, Aſſiſtance of Fire only. Sal Ammoniac, for Inſtance, by a Combination of *Alcaline* Spirit of Sal Ammoniac, and of Sea-Salt, may be ſublimed, by expoſing it to a ſufficient e of Fire; but it will not be thus poſſible to ſeparate it he ſaline Principles of which it was compounded. The s true with Regard to Tartarus Vitriolatus, Sal Marinus eratus, Nitrum Reſuſcitatum, Tartarus Regeneratus, and

There are, however, ſome Methods diſcovered, by this Reſolution of compound Salts, into their conſtituent e, and *Acid* ſaline Principles, may be accompliſhed, and nowledge of theſe will make us acquainted with ſome of ſt ſecret Myſteries of Chymiſtry. In order, therefore, e at the Knowledge of theſe, it is neceſſary to examine arther Properties of *Alcalies*.

Alcalies, therefore, though they attract all known Acids; at the ſame Time it is remarkable, that they attract ſome, much more powerfully than others. This Aſſertion is abundantly confirmed by Experiments. Thus, if upon an *Alcali* perfectly ſaturated with Vinegar, or upon Tartarus Regeneratus, Spirit of Salt, or Nitre, or Sulphur, or Vitriol is poured, then the latent *Alcali* will attract into it that Acid, and repel from it the Acid of the Vinegar with which it was before ſaturated; and hence a Liquor, nearly of the Nature of Spirit of Vinegar, may be afterwards drawn from this Compound with a moderate Heat, there remaining a conſiderably fixed, regenerated, nitrous Salt at the Bottom of the Veſſel: Again, if Spirit of Nitre is poured upon an *Alcali*, ſaturated with Spirit of Salt, an Aqua Regia will ariſe in Diſtillation; and a nitrous Salt will be left at the Bottom; but much changed from its former Nature. On the contrary, if Spirit of Salt is poured upon an *Alcali*, ſaturated with Spirit of Nitre, the Mixture will in Diſtillation alſo yield an Aqua Regia, and the Salt that remains will be of a nitrous Nature, and ſomewhat inflammable; howevet of a Nature very different, both from Sea-Salt, and Nitre. In both theſe Caſes, as there is no conſiderable Difference betwixt the Acid of Nitre, and that of the Salt, with reſpect to their Strength, each of theſe Acids, in ſome Degree, diſlodges, and expels the other, by which means they riſe mixed together; and both of them alſo remain united with the *Alcali* in the Reſiduum.

Pour Oil of Vitriol upon an *Alcali*, ſaturated with Spirit of Nitre; a pure Spirit of Nitre is immediately expelled, and the Acid of the Vitriol unites with the *Alcaline* Part of the Nitre, and forms a Salt at the Bottom, ſomewhat of the Nature of Tartarus Vitriolatus, though different from it in ſome of its Properties; it has, however, ſcarcely any Thing in common with Nitre. And, laſtly, if Oil of Vitriol is poured upon factitious, or natural Sea-Salt, a very volatile Acid, fuming Spirit of Sea-Salt, will inſtantly ariſe, endowed with almoſt all the known Virtues of Spirit of Salt, except that it fumes more, is more volatile, and its Vapour is noxious and ſuffocating, till it is corrected by repeated Depurations. All theſe Experiments, therefore, certainly prove that thoſe Acids, which are naturally diluted with a leſs Quantity of Water, have a greater Power of uniting themſelves with *Alcalies*, than thoſe, which are naturally diluted with a greater. And this Rule, ſo far as has yet appeared by Experiment, may be laid down as general, that the ſtronger *Acid* always expels from the *Alcali* that which is weaker and which is the leaſt powerfully attracted by the *Alcali*. And then the ſtronger *Acid* always unites with that *Alcali* from which the weaker was expelled, and takes Poſſeſſion of the Place in which that reſided.

Again, the Salt thus generated, loſing the Diſpoſition it had acquired from the firſt and weaker Acid, which is now removed, puts on very nearly the Nature of that Salt, from which the laſt and ſtronger Acid, which is now united with the *Alcaline* Part, was drawn. It muſt, however, be confeſſed, that there is always ſome remarkable Difference betwixt the Salts thus produced, and the native Salts from which thoſe ſtronger Acids were procured. Thus, for Inſtance, the Sal Mirabilis Glauberi, which is prepared by a Diſtillation of Sea Salt, with the beſt Oil of Vitriol, is of a very different Nature from that Tartarus Vitriolatus, which is obtained by a Saturation of Oil of Tartar with Oil of Vitriol. This is alſo true, with reſpect to other compound Salts. Thus the Salt which is procured by diſtilling Glauber's Spirit of Nitre, is intirely different from the Sal Mirabilis of the ſame Author, though both theſe are ſuppoſed to be produced from the ſame *Acid*, and the ſame *Alcali*. This Rule therefore, which has been laid down by the moſt eminent Chymiſts, *That* Acids *always convert* Alcalies *into their Nature in ſuch a Manner, that from theſe Compounds, may be conſtantly regenerated thoſe Salts, which before yielded thoſe Acids*, is too general, and muſt be underſtood with ſome Reſtriction.

It is farther remarkable, that when theſe ſtronger Acids thus poured upon compound Salts, expel thence the weaker Acids which were united with them before, and join with the remaining *Alcalies*, this new Combination is effected without any conſiderable Efferveſcence or Conflict: For the firſt and weaker *Acid* quits the *Alcali*, and the laſt and ſtronger takes its Place, without any great Ebullition, notwithſtanding there ariſes ſuch a prodigious Emotion, when a pure *Alcali* is mixed with a pure *Acid*. Nor does it appear, that any Air is generated by this Union, though in the other Caſe it was expelled in ſo large a Quantity. It is probable, therefore, that the Efferveſcence which was excited in the firſt Saturation of the *Alcali*, had expelled all the Air, ſo that now the new *Acid* does nothing more than enter into the ſaturated *Alcali* thus deprived of its Air, and remains there, without either expelling or attracting any Air; and it ſeems a farther Confirmation of this, that if the *Acid* which is expelled by a ſtronger *Acid*, is mixed with another *Alcali*, it will with that raiſe a violent Efferveſcence, ſo that a great Heat, Noiſe, and Generation of Air will be produced, whilſt in the compound Salt, there was very little of any ſuch Appearances.

What has been ſaid above, with reſpect to fixed *Alcaline Salts*, will be ſufficient to give a general Idea of their Nature and Properties. It remains, that I give the different Methods of preparing fixed *Alcaline Salts* for medicinal Uſes, and ſpecify the Virtues they are ſuppoſed to exert in and upon the human Body. This I ſhall do principally from Boerhaave, becauſe he has given the particular Proceſſes with more Exactneſs, and been more juſt in his Reflections upon them, than any preceding Writer upon theſe Subjects.

I muſt, however, take Notice of two Miſtakes which the above-mentioned Author ſeems to have made, in regard to the Theory of theſe Salts, and which he is ſo ſollicitous of propagating, that he takes all Opportunities of repeating them.

The firſt is, when he tells us, that fixed *Alcaline Salts* are never produced naturally, but are only generated by Fire from Vegetables. This is evidently an Error, becauſe, according to the beſt Accounts we have of the Egyptian Natron, it agrees with fixed *Alcaline Salts* in moſt, or perhaps all its Properties. Now this is a native Salt, procured either from the Earth by boiling it in Water, or elſe by evaporating the Water of certain Ponds, or Lakes, to Dryneſs. And we have an Account of an Earth which is got near Smyrna, which, by boiling in Water, and a ſubſequent Evaporation, yields a Salt very little, if at all, different from Pot-Aſh, and which may for all Purpoſes be uſed in its Stead. And the Heat of boiling Water is in no Inſtance ſufficient to generate an *Alcaline Salt*.

The ſecond Miſtake is, when he inculcates, that the fixed *Alcaline Salts* of Vegetables of all Kinds are exactly alike, and nothing different, either in their phyſical Properties, or medicinal Virtues; though he confeſſes, that the Salts of different Plants, impart a different Colour to the Glaſs which is made from them, which proves, at leaſt, ſome Variety. He farther ſays, that a Portion of the vegetable Oil always adheres to the Salt, notwithſtanding the exceſſive Fire they have endured; as therefore the Oil of every Vegetable differs from that of every other Vegetable, this Circumſtance muſt make ſome Difference in the fixed Salt. And in this I have the illuſtrious Hoffman's Opinion in my Favour.

If this Controverſy is brought to the Teſt of Experience, I am certain it will be determined againſt the above-mentioned illuſtrious Boerhaave. For the Salts procured from ſome Plants will, even when mixed with an Acid, and ſaturated, cauſe a great Heat and Senſation of Burning at the Stomach, whilſt Salt of Wormwood ſaturated with the ſame Acid, and given a few Hours after, will cauſe no ſuch Uneaſineſs, but have a much better medicinal Effect. And this is ſo remarkable, that I have frequently diſcovered by the Effect, that other Salts have been ſubſtituted in the Room of Salt of Wormwood. And from the various Effects I have ſeen produced from the fixed Salts of different Plants, I am convinced that it is as much impoſſible to procure a Salt endued with exactly the ſame Virtues as Salt of Wormwood from any other Plant, as it is to produce a Plant of Wormwood from the Seed of any other Vegetable. And I believe the ſame may be ſaid with reſpect to the fixed Salts of Broom, Bean-ſtalks, Mint, Fern, and moſt other Plants. Though at the ſame Time it muſt be confeſſed, that the fixed *Alcaline Salts* of all Vegetables agree very much in all their ſenſible Qualities; but as Nature has Ways of acting, to which we are Strangers, and draws mechanical Properties from Sources to us unknown, it is dangerous, as well as imprudent, to determine any Thing from Theory, before it is confirmed by a Multitude of Experiments.

As *Alcaline Salts* made after the Manner of Tachenius ſhould, by the Character Boerhaave gives of them, be of great Importance in Phyſic, I ſhall begin with thoſe.

The METHOD of preparing a fixed ALCALINE SALT from BURNT VEGETABLES, after the MANNER of TACHENIUS.

1. Put into a large and deep iron Frying-pan, a Quantity of the Leaves and Stalks of clean, dry, freſh, green Roſemary; upon this lay an iron Plate, in ſuch a Manner, that it may compreſs the Roſemary, and perfectly cover it all over. Then place the Pan upon a gentle Fire, which increaſe gradually, till the Veſſel grows red hot. The Plant will then ſmoke, diffuſe a Smell, and be converted into a Coal. Then add more freſh Roſemary, cover it, compreſs it down, and proceed as before, till this is alſo turned into a Coal. Repeat this till a Quantity is procured, ſufficient for the Purpoſe intended. During this Operation, take all poſſible Care that the Herb does not flame, which is beſt prevented, by covering it in ſuch a Manner, that it has no Communication with the Air, for if that comes to it, it burſts out into a Flame, which in this Caſe does Harm. This is called the Uſtulation of a Plant, and the ſlower and more gradually it is performed, the Operation will be proportionably more perfect. The burnt Herb will be very black, brittle, and bitter; and boiled in Water, the Decoction ſcarcely diſcovers any Salt in it, but taſtes burnt and bitter, and is ſudorific; ſo that in the Uſtulation of a Plant into a black Coal, ſcarcely any Salt is diſcoverable, either by the Lixivium made from it, or by the Taſte of the Coal.

2. When this firſt Part of the Proceſs is rightly performed, take away the iron Plate which covered the Roſemary, and let the Frying-pan, with the uſtulated Herb, remain on the ſame Fire; upon which, as ſoon as ever the Air comes to it, the Herb, which is now become black, will take Fire, and would very eaſily riſe into a Flame; but this muſt here be carefully prevented, and the Ignition muſt be ſuſtained by a Fire accommodated to the Purpoſe. When the upper Part, which is contiguous to the Air, has for ſome Time ſparkled, its Fire goes out, and then it immediately grows white. But the Parts of the uſtulated Vegetable which are covered with theſe white Aſhes, will ſtill remain black, and on Fire, and therefore all the Herb muſt be gently ſtirred about with an iron Rod, till the whole Maſs has in every Part been ſucceſſively on Fire, and, by this continual Agitation, been for a ſufficient Time expoſed both to the Air and Fire together, ſo as to be converted into one homogeneous white Maſs, which is then but in ſmall Quantity, ponderous, and equally white. And when this is done, it is impoſſible to raiſe a ſingle Spark in the Maſs by the ſtrongeſt Fire: Though if there is but one black Leaf in it, that, as ſoon as ever it comes into Contact with the Air, will take Fire in the ſame Manner as the reſt did. When the whole Herb is thus reduced to a Whiteneſs, it has then an acrid, and ſomewhat urinous, ſaline Taſte; which never appears in the Herb, as long as that black Part, which is a pure inflammable Oil, continues to adhere to it; but as ſoon as ever this is intirely conſumed by the Fire, then the Salt, which is not waſted by the Fire, begins to diſcover itſelf. Hence it appears, that the Conſumption of the Oil is neceſſary, before the Salt can be procured.

3. Let the Aſhes thus prepared, be left an Hour or two upon the Fire, ſo as to be kept conſtantly red hot, and let them be continually ſtirred with an iron Rod; and this compleats the Calcination of Herbs for Tachenius's Salt. In the firſt Part of this Operation, the ſuffocated Action of the Fire, after it has expelled the Water, intimately unites the ſaline and oily Principles, into a ſulphureous ſaline Concrete, to ſpeak in the Language of the Chymiſts, which is in ſome Meaſure of a ſaponaceous Nature, but which, at the ſame Time, has a large Admixture of a very ſubtile Earth.

4. Put the Aſhes thus procured into a clean iron Veſſel, with ſix Times their Weight of pure Rain-water, and boil them, ſtirring them often with an iron Ladle, then the Liquor that ſwims at the Top will be acrid, lixivious, and ſaline, and wi have drawn a great Part of the Salt out of the Aſhes, leaving the Earth at the Bottom. Let this be poured off, and filtered boiling hot, till it becomes perfectly limpid, and then let it be ſet by, under the Title of a *Lixivium* for Tachenius's Sal If the Earth that remains at the Bottom of the Veſſel, or i the Filter, is boiled again, with freſh Water, it will ſtill yi a farther Lixivium; but the Taſte of this will more reſemb the Acrimony of Lime, and will contain leſs Salt: This ma be filtered too, and mixed with the former. Let t Earth that is left behind be boiled with more Water, and th Liquor poured off as before, and this be repeated, till the la Water comes off as inſipid as it was put on. Theſe laſt Li viums may be thrown away as of little Uſe. Let the Ea that remains be ſhook about with Rain-water, let this, wh it is become turbid, be poured off, and proceed in this Mann till the Sand, which alone will ſink to the Bottom, is perfe ſeparated from the true Aſhes, which laſt will be mixed w the Water. Let theſe turbid Waters be mixed together, a ſuffered to ſettle, and there will fall an Earth to the Bott which being dried, is a pure vegetable, elementary, a virgin Earth, very proper for making Cupels.

5. Let the pure Lixivium, above-mentioned, be evapora in a clean iron Veſſel, till it is become quite dry, keeping it co tinually ſtirring towards the End of the Proceſs to prevent t Salt from adhering too much to the Veſſel, and by theſe Me is procured a browniſh Salt, that will be acrid, and ſomew *Alcaline*, and which will gradually diſſolve in the Air; but not ſo readily, as a perfect *Alcali*: The browner this Salt is, t more rightly will it be prepared; for it will have ſo much more of the Oil in it.

6. If this Salt is put into a clean Crucible, and ſet in a F every Way ſurrounding it, till the Crucible is red hot, it w eaſily flow like Water, much ſooner than a true fixed *Al* *Salt*; and then it muſt be poured out upon a clean braſs P in Form of little Cakes. And thus you have the pure ed vegetable Salt of Tachenius; which may be rendered purer, by expoſing it to the Moiſture of the Air, or diſſol it in Rain-water, and then filtering the Liquor, and let it ſtand quiet, for a ſufficient Time, let it be inſpiſſated t Pellicle appears on the Surface; and then, by ſetting it by i ſtill Place, it will ſhoot into ſaline Glebules, which are Cry of all others, the moſt pure. In theſe there is not contain acrid *Alcali*, but the Oil of the Plant, being united with the *caline Salt*, renders it more mild. It is obſervable, that the

ur of this Salt will be very eaſily altered, if a Coal happens
o fall into it whilſt it is melting, for then it immediately ac-
uires a leaden Colour, which will vary, according to the Quan-
ity of the Coal that gets amongſt it.

OBSERVATIONS on the preceding PROCESS.

1. Theſe Salts are neither acrid, nor igneous, but are a ſa-
ine Compound of an Oil cloſely united by the Fire with an
crid *Alcali*; and they differ from an acrid, *alcaline*, cauſtic Salt,
Proportion, as the Herb undergoes a longer Uſtulation, and as
e Air is kept from them during the Operation. And by theſe
leans their medicinal Virtues too, are increaſed in Proportion.

2. They are not, therefore, in their Nature ſo contrary to an
cid, as to deſtroy ſo great a Quantity of it, as pure *Alcalies*.
they are properly prepared, they may in ſome Meaſure ſup-
y the Want of ſea and foſſile Salt for the common Uſes of Life,
has been obſerved before from Varro.

3. If theſe Salts are put into open Veſſels, and are expoſed to
e external Air for a conſiderable Time, they will attract the
Vater from the Air and liqueſy; but ſlower, and with more
ifficulty, than a pure *Alcali*; but in Water they diſſolve
mediately.

4. They will readily mix with all the Humours of the hu-
an Body, even with the oily Parts and the inſpiſſated Bile by
e Aſſiſtance of the vital Heat, and the Action of the circula-
g Fluids.

5. Hence they are capable of penetrating into the ſanguiſe-
us, ſerous, lactiferous, lymphatic, urinary, ſudoriferous, and
lious Veſſels; but they cannot penetrate into the Nerves.

6. When they are mixed, and diluted with the animal
uids, they are able, by the Concurrence of the natural Heat,
d vital Actions, to reſolve the principal Concretions that are
med in our Humours; eſpecially, if they are aſſiſted by
iction, Riding, or other ſuitable Exerciſe. They will not howe-
diſſolve Stones in the Body, as a Menſtruum, but will wear
m away, by the mechanical Motion, and Attrition, which
y increaſe in the Body, and determine particularly to the uri-
y Paſſages. Diſorders in the Juices of the Nerves, howe-
, they cannot reach, and therefore are not capable of curing
enuine Gout; otherwiſe, when they are diluted with warm
ater, and aſſiſted with Motion, they become conſiderably
etrating, even into the moſt intimate Parts of the Body.

. When theſe Salts are received amongſt, and mixed with
Humours, they there act with an Acrimony which is not
ructive, but which however renders the Juices more ſtimu-
g than they are in their natural ſoft and mild State, and
ce they irritate the ſenſible Parts of the Nerves, and ſtimu-
them to the Performance of their Vibrations with a greater
ce than uſual; and on this Account, they are of great Im-
ance where a Stimulus is wanting in a languid Habit of Bo-
in ſlow, hypochondriacal, and hyſterical Diſorders, and
rs that ariſe merely from Inactivity.

. They therefore produce very conſiderable Effects, by
ning the obſtructed Veſſels of the Body, both as they agi-
the whole nervous Syſtem, and, at the ſame Time, diſ-
e the concreted Fluids, and by their Weight alſo, which
eater than that of our native Salts, urge all the animal
ctions with a Force greater than that which is uſual, with-
their Aſſiſtance.

. They act therefore by promoting all the Secretions, and
retions, for at the ſame Time that they render the Hu-
rs ſufficiently fluid, and free the Veſſels from Obſtructions,
exerciſe a Stimulus both upon the Humours and Veſſels at
ſame Time; and thus they equably excite the true Cauſes
he Motion of our Fluids through their Veſſels, on which
nd all the Secretions and Excretions in every particular Part
he Body.

o. Hence it appears, why theſe Salts are a Sudorific; for
it is certain, that the Sweat naturally contains in it the
ve Salts of the Body, and depoſits them on the external
ace of the Skin, by Means of ſmall Arteries which open
, theſe Salts, when mixed with the circulating Juices, will
ly find a Way to the ſame excretory Arteries, and bring
them their Power of increaſing the Secretions; and this
nfirmed by Experiment. Theſe Salts in a particular Man-
augment the Diſcharge of Urine; for the Author of Na-
has formed the Kidnies principally to carry off the Salts
nding in the Humours, that it may be evacuated out of
Body, to which otherwiſe it would prove pernicious. This
Urine, of all our Humours much the ſalteſt, ſufficiently
ces. And hence the Efficacy of theſe Salts is never more
ifeſt than in their Operation by Urine, and at the ſame
e purging the Humours from any noxious Impurities with
h they are loaded. They help alſo to forward the Diſcharge
he harder Excrements by Stool, whilſt they reſolve them,
the Paſſages, and ſtimulate the too tardy Inteſtines to a
ker Performance of their Offices. In melancholic Caſes,
ded with conſiderable Coſtiveneſs, we find no Medicines
effectual than theſe Salts, if directed in a proper Manner,
Quantity, and continued for a ſufficient Time. And in
Caſe, they have this particular Excellence, that when they are left off, the Inteſtines continue regularly to diſcharge their Contents without any remaining Coſtiveneſs, which is not the Caſe with Reſpect to any other Cathartic whatever. The Liver, Spleen, Gall-bladder, biliary Ducts, and Vena Porta, which together conſtitute the Laboratory of the bilious Syſtem, cannot be more effectually purged and freed from Obſtructions, or noxious Humours, than by theſe Salts. And by this lixivious Soap, the viſcid and tenacious Obſtructions in the Primæ Viæ, that is, in the Stomach and Inteſtines, are diſſolved, and properly prepared for Excretion, without Danger or Violence; ſo that upon the Whole by this Means we arrive at that Coction or Preparation of the Humours, recommended by Hippocrates, as neceſſary to their ſucceſsful Evacuation.

11. From what has been ſaid upon the Subject of theſe Salts, it appears, that they are excellent in all chronical Diſtempers, where there is a mere Torpor, or Inactivity of the Spirits, too great Laxity of the Fibres, and a ſluggiſh Viſcidity of the Juices without any Tendency to a putrid Acrimony, an Acidity from a Weakneſs of the vital Powers, or a Coagulation from a prevailing auſtere or acid Acrimony. If, therefore, we conſider, what a great Number of Diſeaſes depend upon theſe Cauſes, we ſhall be convinced, that many chronical Diſtempers may be cured by Salts prepared in this Manner, which deſtroy Acids, and convert them into neutral Salts, which laſt ſtimulate the Solids, and diſſolve Concretions in the Fluids, by new Properties they acquire the Moment they are rendered neutral. We muſt not, however, conclude from hence, that theſe Salts are always ſalutary, and never noxious; for in Caſes where the Humours are putrid, bilious, alcaleſcent, or are moved with too great Velocity, and hence acquire too much Heat, theſe Salts only add Oil to the Fire: Nor are they leſs hurtful to Perſons whoſe Conſtitutions are ſo tender, that they are not able to bear the Effect of them; for then the Motion they excite proves deſtructive. They are alſo noxious where Salts already abound too much in the Body.

The METHOD of uſing theſe SALTS in MEDICINE.

1. They ought to be exhibited when the Stomach is empty, and has compleated the Digeſtion of the Aliment laſt taken, and conſequently about ten Hours from the laſt Meal. The Doſe ought to be varied, according as the Circumſtances of the Patient determine it; but in general they may be taken from four Grains to two Drams, or more, which muſt be left to the Judgment of the Phyſician.

2. They ſhould be diluted with a large Quantity of Water, leſt, if they ſhould be taken too naked, they ſhould injure the Fauces, Œſophagus, and Stomach. Let a Dram therefore of this Salt be diſſolved in nine Ounces of common Water, and then it will in ſome Meaſure operate like mineral Waters, which act by a ſmall Quantity of foſſile Salt diſſolved in a great Deal of pure Water.

3. If the Phyſician's Intention is to purge, let the Patient take, going to Bed, nine Grains of purified ſuccotrine Aloes made into three Pills; or half a Dram of Pil. Ruf. and the next Morning let him riſe early, and walk a little in a cooliſh Air, taking particular Care not to raiſe a Sweat, and whilſt he is walking, let him take a proper Quantity of theſe Salts, divided into five or ſix Doſes. The Effect of this will be excellent, for it will purge and take away all Heavineſs, without any Diminution of Strength; thus becoming an exceeding proper Remedy for the Coſtiveneſs of ſedentary learned Men, and extirpating Diſorders ſo deeply rooted, that no other Purges whatever will have any Effect upon them.

4. But if the Intention is to purge the urinary Paſſages, and ſanguiferous Veſſels, proceed as is above directed, but omit the Aloes in the Evening, mean Time let the Region of the Loins, and Hypogaſtrium be kept warmer than the other Parts of the Body, and let the Patient now and then drink a Draught of warm Tea or Coffee.

5. If the Deſign is to raiſe a Sweat, let the Patient take theſe Salts in Bed in a Morning, in the ſame Manner as before directed, and, after each Doſe, let him drink ſome mild Sudorific, as a Decoction of Burdock-Roots, of the five opening Roots, of Sanders, or Saſſafras-wood, Tea, or Coffee; and, being covered with a ſufficient Quantity of Clothes, let him promote Sweat according to the Nature of his Diſtemper.

6. For the Cure of Autumnal Tertians, or Quartans, purge two or three Days ſucceſſively, according to the Rules laid down above. Then about four Hours before the Fit is expected, let a gentle Sweat be raiſed in the Manner juſt now directed, taking Care that the Sweat may be the greateſt about the Time of the Acceſs of the Fit. In this Manner very obſtinate Intermittents are happily cured. And, in this Reſpect, a Lixivium of theſe Salts excels even the Acidulæ, and Spaw Waters.

Theſe Salts may as eaſily be procured from a dry Vegetable, and indeed, with ſomething leſs Trouble; if, however, the Plant is ſo old and dry, as to be carious, it will yield little or no Salt.

Boerhaave is of Opinion, as I obſerved before, that it is of no Importance from what Plant this Salt is prepared, becauſe, according to his Sentiments, Plants thus treated loſe their proper Nature, and do not in the leaſt preſerve their ſpecific Properties. But as ſo large a Portion of the vegetable Oil adheres to Salts prepared in this Manner, theſe above all the *alcaline* Tribe ſhould ſeem to be in ſome Degree impregnated with the Virtues of the Parent-Plant. I will not however be poſitive, that they actually do retain the medicinal Qualities of the Vegetable they are prepared from; but I will venture to affirm that the fixed *Alcaline Salts* of different Plants vary both in Reſpect to their Effects as Remedies, and their Action upon other Bodies in chymical Operations, that require great Accuracy.

Roſemary is in the preceding Proceſs given for an Example, but a Salt may by the ſame Management be procured from moſt Vegetables. There are, however, ſome preferable to others. Thoſe which I ſhould make Choice of, for medicinal Purpoſes, are Wormwood, Broom, Bean ſtalks, Mint, Carduus Benedictus, and all of the Thiſtle Kind.

The above-deſcribed Method of making fixed Salts from Vegetables with a View to Medicine, is much preferable to that commonly purſued, on many Accounts, for as the Oil is preſerved in ſome Meaſure, they muſt neceſſarily be more ſaponaceous, and conſequently more reſolvent; they are alſo leſs acrid.

The common Way of making fixed Salts is by burning the Vegetable freed from the Dirt that adheres to it, in an open Fire, to white Aſhes; theſe are then boiled in Water, till all their Salts are diſſolved; this Water is filtered, and after that evaporated to Dryneſs, taking Care, eſpecially at the latter Part of the Proceſs, to keep the Lixivium continually ſtirring; what remains in the Veſſel after Evaporation, is the fixed *Alcaline Salt* of the Plant, which may be again diſſolved, filtered, and then evaporated to Dryneſs; and by this Means the Salt may be rendered more white and beautiful, but at the ſame Time much worſe for medicinal Uſes, becauſe by every Solution, and Filtration, it loſes ſome of its adhering Oil, which gives it a brown Colour. Thoſe therefore who boaſt of the Whiteneſs and Beauty of theſe Salts, either intend a Fraud, or are ignorant of their real Virtues.

The SEPARATION of a BITTER, CRYSTALLINE, HARD, FIXED SALT, that is SUBVITRESCENT, and not ALCALINE, from a FIXED ALCALINE SALT.

Take ſix Pounds of the beſt Pot-aſh, and diſſolve it in twenty Pints of cold Rain-water in a glaſs Veſſel, ſtir them well with a Stick, and then let them ſtand quiet. When the Parts not diſſoluble have ſufficiently ſubſided, pour off gently the clear Lixivium, and there will be found at the Bottom with the Fæces a great Number of very ſmall Grains, of an Aſh-colour, and bitter Taſte, which have almoſt the Hardneſs and Brittleneſs of Glaſs, and in which nothing of an *Alcali* can be diſcovered. There is another Method of ſeparating theſe cryſtalline Glebules, as follows: Take ſix Pounds of the beſt Pot-aſh, and diſſolve them in a braſs Kettle, by boiling them with four Times their Weight of Water. Strain this Lixivium, whilſt boiling hot, through a linnen Bag, that it may be perfectly pure whilſt it continues very hot. Put it then into a hot, moiſt, clean, glaſs Veſſel, and ſo leave it. Immediately a Cruſt ſomewhat opake, of a browniſh-aſh Colour, begins to fix to the Bottom and Sides of the Veſſel, which increaſes, and grows thicker continually. When the Lixivium has ſtood thus for ſome Time, and ceaſes to depoſite any more of this Salt, pour off accurately all the pure Lixivium, and at the Bottom there remains a Salt, like that procured by the former Method, but purer, and in a larger Quantity. Take the Lixivium thus freed from this Salt, and inſpiſſate a little, and ſet it by, it will then yield perhaps a ſmall Quantity of the ſame Kind of Salt, but it will afterwards produce no more, ſo that the *Alcaline Salt* contains but a certain limited Quantity of this Salt.

If the Salt ſeparated in this Manner, is agitated with cold Rain-water, it will not be diſſolved by it, but the *Alcali* that adheres to it, will be thoroughly waſhed away, ſo that by this Means it will become perfectly pure; and if then gently dried, it will be ſimple, and may be preſerved ſo.

REMARKS.

1. Many ſkilful Chymiſts have formerly aſſerted, that true fixed *Alcaline Salts*, can ſcarcely be reduced to cryſtalline Glebes; and this is in a great Meaſure true. When the more modern Chymiſts, therefore, have produced the Salt thus ſeparated from an *Alcali*, as an *Alcaline Salt* cryſtallized, they have not diſtinguiſhed ſo accurately as they ſhould have done; and in Fact when an *Alcali* is well freed from this Salt, it is not eaſy to reduce it into Cryſtals, though even that is poſſible.

The NATURE and QUALITIES of this SALT.

This Salt never ſpontaneouſly liqueſies in the Air. In cold Water it does not diſſolve readily. But in a large Quantity of boiling Water it will at laſt be diſſolved; but as ſoon as ever the Water grows cold, it concretes again into Glebules. It is hard, and brittle, and may be reduced to a fine Kind of mealy Powder, which will remain dry, and will not in the leaſt attract the Moiſture of the Air. It has an exceeding bitter Taſte, which continues long in the Mouth. In the Fire it crackles, and flies about with ſome Violence. It is neither Acid, nor *Alcaline*, neither is it like any other Salt that we are hitherto acquainted with, but a perfect new Kind of Salt. It ſeems, however, to approach neareſt the Nature of that Salt which is thrown up in making of Glaſs; and, being collected at the T goes by the Name of the *Gall of Glaſs*. It is poſſible that the Fire, whilſt it produces the *Alcali* from Vegetables, generates this Salt at the ſame Time; and that the Fire, when it combines the *Alcali*, with the Calx of Flints, for the Production of Glaſs, ſeparates again this Salt, and caſts it on the Surface of the Metal. It is very probable, that this may be the Caſe. And hence we may in ſome Meaſure underſtand why no ſuch Salts can be procured from the *Alcaline Salt* of Tartar; for Tartar is generated in exceeding fine Particles from a ſubtile fermented Liquor.

3. A fixed *Alcaline Salt*, when it is perfectly freed from th brittle, bitter Salt, differs intirely from the ſame when united with it. Whenever, therefore, any Experiment is to be made with a pure *Alcaline Salt*, Care muſt be taken always firſt to ſeparate this from it; otherwiſe it often impairs, or interferes, with the true *Alcaline* Virtue of Salt. *Boerhaave*'s *Chymiſtry*.

Some OBSERVATIONS on fixed ALCALINE SALTS.

1. Fixed vegetable Salts are procured only by Fire, fro Vegetables that are naturally fitted for their Production. So Plants, when they are burnt, ſcarcely yield any of this Sal And even thoſe that are naturally diſpoſed to do it, if they are ex poſed for a conſiderable Time to the Air, and undergo alte nately repeated Viciſſitudes of Moiſtneſs, and Dryneſs, loſe at l all that Matter, which, by burning, would have produced a *Alcaline Salt*, and therefore, if they are then burnt, they yi none at all: For the Air perpetually changing, with reſp to Moiſture and Heat, acts upon Vegetables, and deprives th of that Matter which they otherwiſe yield by Decoction a Infuſion, and diſperſes it in the Atmoſphere, and by this teach us, that the Part, which the Fire fixes into an *Alcaline* Sa was ſpontaneouſly volatile in its own Nature.

2. Again, fixed, *alcaline*, vegetable Salts, are generated on ly by Fire, whilſt it actually conſumes Plants that are diſpoſ for this Operation: For in the Matter which Vegetables yi by Infuſion, and Decoction, and native vegetable Salts, no ſu Thing appears: But they are only generated by a burning Fi And here alſo it is obſervable, that according to the different De grees of Fire, and Duration of its Action, the Salt is render proportionably more or leſs ſtrong, fixed, and *Alcaline*. It mu however, be confeſſed, that in Muſtard-Seed, there natur exiſts ſomewhat *alcaline*, as appears by its Effervescence wi Acids; but this is volatile, and diſappears when the Muſtar Seed comes to be burnt.

3. A fixed *Alcaline Salt*, therefore, is not a native, vege ble Salt, that is, a Salt generated by the ſpecific Nature of a Ve getable, from the common nutricious Juices it receives from t Earth, and which of conſequence will always remain in it, long as it is left to itſelf, and ſuffers no Violence ſufficient to a ter its natural Diſpoſition. But this is deſtroyed by the Fi and is converted into ſomething of a quite different Na The larger Garden-ſorrel abounds with a native, acid Sa and yet, if this is burnt in an open Fire, it yields a fixed *Al line Salt*, though before it evidently contained an Acid. T *Alcali*, therefore, is not native to Plants, but is changed by t Fire, from one that was not an *Alcali*, to an *Alcali*.

4. From what has been ſaid, the Nature of an *alcaleſcent* Ve getable may be underſtood: For by this Name are meant, fi ſuch as abound with an acrid, and almoſt *Alcaline* Juice, affo ing a volatile, odorous Exhalation, for which Garlic, O ons, and others of the like Kind, are remarkable. Second thoſe that, by their acrimonious Stimulus, increaſe the Veloc of our Humours, as they circulate through the Veſſels, and b this Means cauſe our native Salts to verge towards an *Al* Putrefaction. Hence the moſt acrid Aromatics, though no themſelves really *Alcaline*, diſpoſe, however, our native Salts an *Alcaleſcence*. And, thirdly, thoſe which by Fire yiel large Quantity of a fixed, *Alcaline Salt*.

5. Betwixt a native, vegetable Salt, therefore, and the mo acrid, *alcaline*, fixed Salt, there are a great many Degre fixed Salts, all which differ in their phyſical Actions, and co ſequently in their Natures, theſe ought then to be carefully ſtinguiſhed from each other. An Example will make the Mea ing of this more obvious. Take the beſt Rheniſh Tar This is the native Salt of the Wine, perfectly acid, and in ſ Meaſure ſharp, and hence of infinite Uſe in *alcaleſcent*, bili putrid Diſtempers; if this is diſtilled in a glaſs Retort, w a gentle Fire, it yields a ſmall Quantity of an aqueous, acid light Liquor, which allays Thirſt. When this is drawn o the Subſtance that remains in the Retort begins to be *alca* and will make a Man hot and thirſty. Urge the Remain

wi

h a Fire ſomewhat ſtronger, there will then ariſe a fragrant, etrating, bitter, heating Oil, of a golden Colour. This be- ſeparated, the remaining Maſs will appear black, will be re *Alcaline*, will heat the Body more, create a greater Thirſt, , being boiled with Spirit of Wine, will yield a noble, ape- t, detergent, diuretic, anti-hydropical Medicine. If the e is farther increaſed, a thicker, tenacious, fœtid, bitter Oil nes over, and at the Bottom of the Retort, there will be left ery black Coal, which will be much more *Alcaline* than the mer. If this is then taken out of the Retort, put into a cible, and expoſed to an intenſe naked Fire, a fixed *Alcaline* will at laſt be produced, which, according to the Strength and ration of the applied Heat, will be continually changed in all Properties, becoming conſtantly more and more acrid, as Action of the Fire upon it is more intenſe, and longer con- ued. In this Caſe we ſee a native, acid Salt, rendered at laſt remely *Alcaline*, by the Action of Fire only.

. Three Cauſes are obſerved to impart theſe Differences to *aline Salts*. Firſt, the Proportion of combuſtible Oil that eres to the ſaline Matter; for the greater this is, the leſs d will the *Alcali* be; and if the Quantity of this Oil is leſs, Salt will be more acrid. Secondly, the artificial Combi- ion of this Oil with the *Alcali* makes a Difference; for if the t is uſtulated with ſuch a ſlow ſuffocated Fire, as is uſed in Preparation of Tachenius's Salt, it will yield a greater Quan- of Salt, but leſs acrid, and *alcaline*; but if it is burnt ily in a ſtrong, open Fire, it will produce leſs Salt, but more acrimonious Nature. Thirdly, the proper Action of Fire itſelf, ſeems to add ſomething igneous to the *Alcaline* , whether this ariſes from the Fixation and Accretion of the Subſtance of the Fire to the Salt, or only from a Power ch it is endued with of altering the Salt in this Manner. s is beyond Diſpute, that the longer Lime is burnt, and intenſer the Fire is that is made uſe of in the Operation, the e Heat, or the more true Fire it will excite in cold Water. fixed *Alcaline Salts* alſo, will generate more Heat in cold ter, as they have been expoſed to a greature Torture of during their Preparation. To theſe Cauſes, perhaps, a th may properly be added, and that is, the original ſeminal perty of Plants, which is not eaſily deſtroyed. One Plant yield a great deal of fixed Salt; another, none at all; that this laſt naturally contained leſs Salt than the for- , but becauſe it was of ſuch a Nature, that it would not r the Matter which conſtitutes the *Alcali* to be fixed, by the , or the Oil, or Earth, or all together.

. From what has been ſaid above, we arrive at the Know- e of the Origin of *Alcaline Salts* in Animals, ſo far as they rd the Matter of their Food, Drink, and the Air they ire. For Animals that live ſolely upon pure Water, and etables, take into their Bodies the very Matter, from which *line Salts* are generated. No-body could naturally ſuſpect, ſuch an inſipid Body, as ſoft, moiſt Graſs, ſhould, by g burnt, yield an acrid, igneous *Alcaline Salt*. Or who poſſibly diſcover any Thing of this Kind in Ale or Wine? yet Experience proves that an *Alcali* may be produced from theſe. But the Action of the Animal Body brings this latent tter to Light, and manifeſts it. A Child that is fed with hing but ſweet, mild, freſh Milk, which does not diſcover leaſt Degree of Saltneſs, makes conſtantly a ſalt, acrid Wa- not by actually generating any Salt, but by ſetting that at erty, which before lay concealed. The Urine alſo of a Bul- , which lives on Vegetables only, is found to be exceed- ſalt, for the very ſame Reaſon. But in Animal Bodies, Salt is rendered volatile, becauſe it is freed from its fixing th, by the Digeſtion it undergoes in the Stomach, which mbles a ſudden Putrefaction. And Putrefaction is known ender the Salts of Plants volatile.

ompendious View of the Effects of fixed Alcaline Salts upon the Body.

. They ſoon deſtroy all the Acid in the Body; for there it ts with but a ſmall Quantity, and that too, a mild, vegeta- Acid, only reſiding in the Primæ Viæ, that is, in the mach and Inteſtines.

. If they meet with an Acid there, they cauſe an Effervesſ- ce, generate Wind, and cauſe Eructations, ſtimulate by their ivity, and are converted together with the Acid into a neu- Salt; which then becomes harmleſs, penetrating, aperient, horetic, diuretic, and antiſeptic, and productive of new cts by Virtue of their Neutralization, which are ſometimes ibuted improperly to the *Alcaline Salts*, becauſe ſubſequent to r Exhibition.

. By Means of this Efferveſcence they ſtimulate the Nerves, e the Spirits, and incline both to Motions, different from t they had before. Hence, they often cure the Spaſms of ochondriacal Men, and hyſterical Women, and the Diſtem- depending on them; an Inſtance of which we ſee in the brated Anti-emetic of Riverius, conſiſting of an *Alcaline Salt* mixed with Juice of Lemons, which, if drank in the Act of Effervescence, cures the Cholera Morbus, and ſtops obſtinate Vomitings, which reſiſt all other Methods.

4. They attenuate and reſolve whatever is coagulated by an Acid; and hence, when Milk is curdled in the Stomach, they have very good Effects, if prudently adminiſtered. They are alſo capable of reſolving other tenacious Concretions.

5. They attenuate glutinous, oily, and fat Concretions, and render them more eaſily miſcible with Water, and hence become Detergents. Fullers, Laundreſſes, and Dyers, are ſenſible of this Property in a Lye of theſe Salts, and therefore they uſe them to remove viſcid, greaſy Concretions from Cloths. If moderately uſed, therefore, they free the chylo-poietic Organs from all glutinous Impurities.

6. They reſolve Coagulations of the Bile, Lymph, Blood, and Serum, when admitted into the internal Parts of the Body, and there agitated by the vital Powers.

7. By their acrid Stimulus, they put in Motion Bodies that were before unactive, and hence they provoke Urine, Sweat, and Perſpiration, and for this Reaſon are numbered amongſt Diuretics, Diaphoretics, and Sudorifics: The Inteſtines alſo they ſtimulate to a Diſcharge of their Contents.

8. In Diſeaſes, therefore, attended with unactive, mucous Viſcidities; where an Acidity prevails in the Stomach and Inteſtines from aceſcent Aliment; where there is a Load of aceſcent auſtere Crudities, manifeſt by the Coagulations it produces; where a watery Serum, or fat, tenacious Concretions abound, or where Diſtempers have been generated by theſe Cauſes, as the Dropſy, Jaundice, Leucophlegmatia, Gout, Rheumatiſm, and Scurvy: In theſe Caſes, this Salt is of great Uſe, if prudently given, that is, well diluted, in ſmall Doſes, and thoſe adminiſtered at a proper Time, and properly repeated. That Species of Gout which is cauſed by an abundant Acid, ſcarcely admits of a more ſucceſsful Method of Cure, than that which may be performed by a continued Uſe of theſe Salts, taken in ſmall Doſes. But it does not follow from their Effects in this Caſe, that they are to be extolled as univerſal Remedies for the Gout; for they will do a great deal of Prejudice to gouty Patients, whoſe Bile is exalted into an acrid *Alcaleſcence*, and whoſe Humours tend ſpontaneouſly to an *Alcaline* Putrefaction.

9. Theſe Salts alſo are of conſiderable Uſe to the Surgeons; for as Cauſtics they are employed to raiſe Eſcars, in order to make Iſſues; by a temperate Lixivium of theſe, ſordid, putrid Ulcers are ſucceſsfully mundified; Parts that are corrupted by a Gangrene, if ſcarified almoſt to the Quick, and then fomented with a Lixivium of theſe Salts, contract into a Cruſt, and then admit of a Separation from the living Part, and by theſe Means the Mortification is prevented from ſpreading farther, and a Cure is happily effected; they extirpate Warts alſo, and eat away ſmall Cancers with Safety; and if ſufficiently diluted, they will effectually take away Diſcolorations or Spots of the Skin.

10. It is however neceſſary to remark, that the Uſe of theſe Salts is highly pernicious in every Diſeaſe, where the native animal Salts begin to degenerate into an acrid, alcaleſcent, putrid, volatile Nature; or where the natural Oils of our Bodies are diſpoſed to turn acrid, fœtid, putrid, rancid, and volatile, which is manifeſted by a diſagreeable Smell, peculiar to this Kind of Putrefaction, and a Redneſs of the Urine. But theſe Salts are particularly deſtructive, when the Bile is thus degenerated into an acrid *alcaline* Nature, and when the Humours of the Patient are too much diſſolved, fluid, and putrid; hence in the Plague they are almoſt an immediate Poiſon, and this pernicious Quality is even communicated to the Soap, in which they are an Ingredient. Hence, therefore, in Inflammations, Suppurations, Gangrenes, a Sphacelus, continued putrid Fevers, and Diſeaſes ariſing from too great a Velocity of the Blood, the internal Uſe of theſe Salts muſt be abſolutely forbid.

11. And, indeed, in all Caſes they ſhould be uſed with Caution. Let a Dram of them be diſſolved in twenty Times its Weight of Water, and this is the largeſt Doſe that ought ever to be given. Let them be repeated with Circumſpection, and let it be carefully obſerved when the Neceſſity for their Exhibition ceaſes. And with theſe Cautions they may be uſed ſucceſsfully, and without Danger. Laſtly, let the Effects be determined to particular Parts of the Body, in the Manner ſpecified in the Remarks upon Tachenius's Salt.

Beſides the *Alcaline Salts* already taken Notice of, there are others which are volatile, that is, which are capable of being forced by a conſiderable Heat from the Body which contains them, and which afterwards riſe with a very ſmall Degree of Heat. The moſt remarkable amongſt theſe are animal Salts, which may be procured by Diſtillation from every animal Subſtance we are acquainted with. Thus Hartſhorn, Bones, Blood, Silk, and Cobwebs yield it in great Plenty. The Analyſis of Blood given below under the preſent Article, may ſerve for an Example of the Method by which they are ſeparated from the reſpective Bodies wherein they reſide; and the Proceſs with the whole Apparatus is ſpecified under the Article Cornu

Cervi, together with their medicinal Virtues, with Reſpect to which, let it ſuffice to ſay in this Place, that they agree pretty much with fixed *Alcaline Salts*, with a Reſerve to the Difference which depends on their Volatility.

But there are beſides theſe two Subſtances which yield a volatile *Alcaline Salt*, very like thoſe which are prepared from animal Bodies. Theſe are almoſt all thoſe warm pungent Plants, which, if bruiſed, ſend forth a Vapour ſo acrid, that it makes the Eyes water, and will cauſe Sneezing, if it gets into the Noſe. Many of the bulbous Roots poſſeſs this Acrimony in a great Degree; as Onions, Garlick, Leeks, Squills, Hyacinths, and the Narciſſus; and the Seeds of a great many of the *alcaleſcent* Plants, a Catalogue of which will be given in this Article, abound with it.

The other Body which yields a volatile *alcaline Salt*, is almoſt any ſoft, juicy, vegetable Subſtance, which has undergone Putrefaction.

The following Proceſs may ſerve for an Example of the Method by which volatile *Alcaline Salts* are procured from acrid Vegetables:

Fill a glaſs Retort almoſt to the Neck with ripe Muſtard-ſeed, lute on a large clean glaſs Receiver, and diſtil gradually with a Sand-heat. The firſt Fluid that comes over, is oily, and yellowiſh, and, when collected by itſelf, is limpid and acrid. Increaſe the Fire, and there ariſes another Spirit like the former, but more yellow, and with a light and a very pinguious Oil. Theſe alſo, if ſaved by themſelves, are very acrid. Lute on the Receiver again, after it has been cleared of the laſt-mentioned Liquor, increaſe the Fire underneath, and at the ſame Time lay live Coals upon the Sand above, and by this Degree of Heat there will aſcend from the remaining Maſs a light black Oil in a large Quantity, and, at the ſame Time, an oily, *alcaline*, volatile Salt will ſtick upon the Sides of the Receiver, collected into little Spots, as it happens in the Diſtillation of Hartſhorn. If this Degree of Heat is ſuſtained for a conſiderable Time, white Fumes will continue to come over perpetually. A very black Maſs will remain at the Bottom of the Retort, which is light and bitter, but not in the leaſt ſalt.

Diſtil again in a clean Veſſel, by a gentle Heat, the firſt and ſecond Spirit which came over, and you will have in the Receiver a limpid acrid Liquor, not unlike Spirit of Hartſhorn, and of much the ſame Virtues. A fœtid oily Water will remain in the Retort.

Separate the Oil from the Liquor which aſcended laſt, and from the Salt, and waſh off the Salt which adhered to the Sides of the Glaſs with the laſt-mentioned rectified Spirit, and a Liquor will be obtained abounding with a volatile *Alcaline Salt*, which makes a conſiderable Effervefcence with *Acids*, and which by Diſtillation with a gentle Heat, out of a tall Veſſel, yields a pure volatile Salt, little different from Salt of Hartſhorn, after Rectification.

Dr. Daniel Cox gives the following Account of the volatile *Alcaline Salts*, procured from putrefied Vegetables:

Take in warm Weather a conſiderable Quantity of the Leaves of any Vegetable, ſtripped or pulled from the greater Stalks, lay it on a Heap preſſing it pretty cloſe together; they will ſoon become very hot, eſpecially in the Middle, and in a few Days reſolve into a pappy Subſtance (excepting the outward Leaves) which being made into Pellets, and put into a glaſs Retort, and diſtilled, will yield, beſides a great Quantity of Liquor, much thick black Oil, of a balſamic Conſiſtence. The Liquor being ſeparated from the Oil, and diſtilled in a tall glaſs Body, a volatile Spirit ſublimes, which, after one, two, or three Rectifications, becomes perfectly urinous, not to be diſtinguiſhed by Smell, or Taſte, from well-rectified Spirit of Hartſhorn, Blood, Urine, or Sal Ammoniac.

I never made Trial of any Herb, which, thus ordered, did not yield the mentioned Subſtances; although I have examined many, by this Method of Procedure, which ſeemed very different from each other, as well in ſenſible Qualities, as thoſe vulgarly called *Occult*; ſuch as Rue, Sage, both Celandines, Carduus Benedictus, Tobacco, ſtinking Orach, Garden Scurvy-graſs, the leſſer Spurge, Baum, Mint, Tanſy, Camomil, Monk's Rhubarb, ſeveral Docks and even common Graſs, with many others, which it were altogether unneceſſary to enumerate; beſides Flowers of Elder, Pæony, Cowſlips, Clove Gilliflowers, &c. with ſeveral Sorts of Moſſes, and Rudiments of Vegetation; which laſt is a green Subſtance on the Surface of the Earth, in Rivers, Ciſterns where Rain often falls, and on Ships between Wind and Water, very apt to run into Moſs and Fibres.

1. The Veſſels wherein theſe Diſtillations were performed, though exceedingly well waſhed with Water, ſcoured with common Salt, Sand, Aſhes, Soap, fixed Salt, &c. and afterwards expoſed many Years to the Air, Wind, Rain, Dews, and Froſts, yet nevertheleſs retained a very ſtrong Smell, not much unlike that of Muſk.

2. The Water left at the Bottom of the Glaſs, after the firſt Rectification, was ſomewhat acetous; eſpecially when the Herbs were not ſufficiently putrefied.

3. If the Herbs are duly putrefied, they leave little Caput Mortuum, ſometimes not a twentieth, and never, by my Trials, above a tenth Part; whereas diſtilled before Putrefaction, they leave much more; and this remaining Coal, burnt to Aſhes, yields ſcarce any *Alcali* or fixed Salt.

4. The volatile Salt is much more than the fixed Salt would have been, afforded by the Herb incinerated the ordinary Way.

5. All thoſe Herbs which yield Store of fixed Salt, ſuch as Wormwood, Carduus, Mugwort, Sage, &c. do likewiſe, being thus managed, afford plentifully a volatile Salt.

6. Theſe volatile Salts being highly rectified, did not, that I could perceive, differ from each other; as neither do vinous Spirits of putrefied Vegetables, or their fixed Salts highly purified and rectified.

7. During the Putrefaction, the Room would be ſtrongly perfumed, at the Beginning, with the natural Scent of the Herb, if it had any eminently peculiar Smell, in the Middle of the Putrefaction with the Scent of a Mixt between that and the urinous; but, being well putrefied, became ſenſibly urinous.

8. The diſtilled Liquor of ſome Herbs, at the firſt Rectification, yieldeth a Spirit very hot; but the laſt inclined rather to that of pungent vinous Spirit of Scurvy-graſs, Horſe-radiſh, &c. being, if I may ſo ſpeak, Piperaceous, and biting, rather than like volatile Salts; but, after repeated Rectifications, one, two, or more, according to the Nature of the Plant, or Time it had putrefied, became perfectly urinous. This was uſually when the Herbs had not duly putrefied, which proceeded, in my Apprehenſion, from ſome Commixture of eſſential Oil, which, by reiterated Rectifications, is either ſeparated or tranſmuted. The ſame happens in the vinous Spirits of putrefied Vegetables, and in their fixed Salts.

9. In the Diſtillation of the putrefied Herbs, the urinous Spirits and Salts came chiefly at the latter End with the Oil, in the Form of a thick white Cloud, or Fumes, and, condenſing in the Recipient, formed an innumerable Company of very irregular crooked Rivulets, exactly after the Manner of Hartſhorn, Blood, &c. and at the Beginning came the Phlegm, with moſt of the Acetum, in great Drops with little Fume, and the Rivulets ſtrait, and without Striæ and Wanderings.

10. Some Herbs, as Winter-ſavory, Sage, &c. in the firſt Diſtillation, yielded copiouſly a volatile Salt in a dry Form, which coated the Receiver, and ſublimed into the Neck of the Retort; ſo doth Tobacco, and once Saffron did ſo, in Digeſtion with Spirit of Wine.

11. All Plants, thus putrefied, yielded plentifully (eſpecially towards the latter End of the Diſtillation) a fœtid groſs Oil, which, if the Herb was well putrefied, did not in the leaſt reſemble the Plant which produced it. I could hardly perceive that they differed from each other in either Taſte or Smell, only, if the Plant was not thoroughly putrefied, an Oil would come over at the Beginning of the Diſtillation, which, as alſo the Water, would retain exactly the Taſte and Smell of the Vegetable which afforded it, and it would be fluid and tranſparent like other eſſential Oils. The Oil of Herbs very well putrefied came over chiefly at laſt, and did require a very ſtrong Fire to extricate it out of the Herb; was moſtly (eſpecially that which comes laſt of all) of the Colour and Conſiſtence of Tar, very tenacious, and did far and wide emit a very odd, faint, fœtid, offenſive Odour. If any Thing became infected by this Oil, it was not to be freed from it in a long Time.

12. Herbs, which are diſtilled in an Alembic with Water, yield little eſſential Oil, as Baum, Mint, Camomil, &c. afford much of it thus putrefied; and thoſe that give much eſſential Oil, as Wormwood, with many others, being putrefied, yield abundantly more.

13. During Putrefaction, the Herbs became exceedingly hot, eſpecially thoſe that were cloſely compreſſed, and had Store of Moiſture in them; ſo that I could as well detain my Hand in the Flame of an ordinary Fire, as in the Midſt of them.

14. Fatty, moiſt, and inſipid Herbs putrefy much ſooner, and with greater Heat, as Graſs, Docks, Garden Scurvy-graſs, Celandine, &c. Drier, and much more ſapid Plants, more leiſurely, and with leſs Heat, as Winter-ſavory, Roſemary, Sage, Rue, Mint. The Stalks of no Herb putrefy ſo ſoon as the Leaves freed from them. This is moſt evident in Docks, whoſe tender Parts are pappy and mucilaginous, when the Stalks are intire.

15. Herbs ſeem by this Putrefaction to be deprived of all their ſpecifical or peculiar Properties. Celandine loſes its tinging Quality; Spurge, its Milk, veſicating and poiſonous Nature, &c.

16. Herbs, which before Putrefaction were extremely fœtid, as Atriplex Olida, &c. become afterwards either inodorous, or not ill-ſcented. And, on the Contrary, Monk's Rhubarb, Garden Scurvy-graſs, with many other inodorous Vegetables, during

g Putrefaction, become abominably, and almoſt inſupportably etid, like the worſt of Excrements, all which yet they loſt imediately upon Diſtillation.

17. None of thoſe Flowers, I have hitherto uſed, do ſtink Putrefaction.

18. Many of the Herbs, thus putrefied, ſwarm with Maggots n Argument of the cloſe and ſtedfaſt Contexture of the ſemi-al Principles in Inſects) eſpecially at the Bottom, and in the Iiddle, whither Flies and other Inſects can have no Acceſs, depoſite their Eggs, and where the Heat is ſo violent, that ey could not poſſibly ſubſiſt.

19. Yet the volatile Spirit and Salt is not afforded by theſe ſects; for, having diſtilled ſeparately a great Quantity of em, they yielded no volatile Salt or Spirit, but a Liquor of a ry different Nature.

20. Herbs, putrefied in a great Glaſs with a narrow Neck, Mouth left open, in a few Weeks became, for the greater rt, a Mucilage; and, diſtilled a Year after they had ſtood ſo en, yielded a little urinous Spirit, but not a Drop of Oil.

21. Vegetables, if the external Air be excluded from them, ll not putrefy or ferment.

22. Some Herbs, Moſſes, and Rudiments of Vegetation, ld a volatile Salt, diſtilled without previous Putrefaction; as alſo many Seeds, and ſeveral of them ſufficiently inſipid.

23. Theſe volatile Spirits and Salts have not only the ſame ſible Properties, but alſo agree in all known Effects, and erations, with common urinous Spirits, and Salts; as, in changing Syrup of Violets, and many other vegetable nctures, green, in being diaphoretic, diuretic, and deobent, contrary to Acids, which they do mortify, precipitate Metals and Minerals diſſolved in acid Menſtruums; being hly rectified, and mixed with perfectly dephlegmated Spirit Wine, ſtrike the Offa alba, as Chymiſts ſpeak. They unite h Acids, and thereby become Ammoniac or neutral Salts; , indeed, perform whatſoever can be expected, or deſired, n the common urinous Spirits of Salts. *Phil. Tranſ. Abr.* 3.

EASES generated by an ALCALI abounding in the HUMOURS.

What has been ſpecified above with Reſpect to *Alcalies*, will us to a Knowledge of the Nature of alcaleſcent Aliments, their Effects upon the Body in altering the Juices ſo as to be luctive of Diſtempers. A Knowledge of infinite Impore to every Body concerned in the Practice of any Branch Phyſic, becauſe every Fever, or febrile Diſeaſe, is either ed by, or accompanied with a Tendency to an *alcaline* Puction. And many chronical Diſorders, which depend uphe Vitiation of particular Parts, owe many of their Symp- to this *Alcaleſcence*.

liments are taken either from the animal or vegetable King-. Of vegetable Aliments, the Juices of ſome, if expoſed for me to a Heat ſufficient, will turn ſour, and theſe have been d *aceſcent Vegetables*.

t there is a conſiderable Claſs of Plants, which do not be- acid by Putrefaction, but are reſolved into a fœtid oily *Al-* And from theſe, it is remarkable, that no vinous Spirit be produced by Fermentation; for Fermentation is only ffort to render vegetable Juices acid, or rather to diſene the latent Acid, and ſeparate it from the Oil and Earth, confine and diſguiſe it.

o this Claſs belong almoſt all the very acrid Aromatics, h by the Pungency of their Taſte betray their Family. e are ſeldom taken in Quantities ſufficient to produce ſeaſe by their own Power, but are however capable of oting any preceding Tendency in the Juices to an *Alnce*, and heightening it into a Diſtemper. Phyſicians therefore be careful how they preſcribe the warm Anbutics, becauſe when any Degree of the above-mentioned *ſcence* prevails in the Juices, theſe will not fail to increaſe their Uſe, and if long continued, the Patient will run a Hazard of incurring a Putrefaction of the Lungs, Liver, ne of the principal Viſcera, which according to the Part ffected will be attended with a fœtid Breath, Spitting of , a putrid Diarrhœa, Dropſy, or hepatic Flux.

ongſt *alcaleſcent* Vegetables, Boerhaave enumerates the ing:

inthium	Wormwood
aria	Sawce all alone, or Jack by the Hedge.
ium	Garlick.
ſſon	Mad-Wort.
noracia	Wild Radiſh.
m	Cuckow-Pint.
iplex Olida	Stinking Orache.
aragus	Sparrow Graſs.
Barbarea	Winter Creſſes.
Braſſica	Cabbage.
Bryonia Alba	White Bryony.
——— *Nigra*	Black Bryony.
Bunium	Wild Parſley.
Camelina	Treacle Wormſeed.
Capſicum	Guinea Pepper.
Cardiaca	Motherwort.
Cardamine	Meadow Creſſes.
Cataputia	Garden Spurge.
Centaurium minus	Leſſer Centaury.
Chamædrus	Germander.
Chelidonium majus	Greater Celandine.
——— *minus*	Leſſer Celandine.
Cochlearia	Scurvy-Graſs.
Cepæ	Onions.
Dentillaria	Lead Wort.
Digitalis	Foxglove.
Eruca	Rocket.
Eryſimum	Hedge-Muſtard.
Eſula	Spurge.
Eupatorium Canabinum	Hemp Agrimony.
Gratiola	Hedge-Hyſſop.
Iberis	Sciatica-Creſſes.
Laureola	Spurge Laurel.
Lepidium	Dittander.
Napus	Navew Gentle.
Naſturtium Aquaticum	Water Creſſes.
——— *Hortenſe*	Garden Creſſes.
Nerion	Oleander, or Roſe Bay.
Perſicaria acris	Water Pepper, or Arſmart.
Porrum	Leek.
Raphanus	Radiſh.
Ruta	Rue.
Sabina	Savin.
Satureia	Savory.
Sedum minus acre	Wall Pepper, or Stonecrop.
Sinapi	Muſtard.
Squilla	Squill.
Thlaſpi	Treacle Muſtard.
Victorialis	Spotted Ramſons.

Many of theſe are not proper for Aliment, as abounding ſo much with an *alcaleſcent* Acrimony, that it renders them poiſonous. Beſides the Vegetables above-mentioned, there are many others which properly belong to this Claſs.

All animal Foods have a ſpontaneous Tendency to an *alcaline* Putrefaction, the Milk of ſome Animals only excepted. This is obvious to every one who has obſerved Fleſh, when expoſed to a certain Degree of Heat, to putrefy and become fœtid. But animal Foods differ very much:

Firſt, With Reſpect to the Parts of the ſame Animal.

Secondly, With Reſpect to the Food of the Animal.

Thirdly, With Reſpect to the habitual Exerciſe of the Animal.

Fourthly, With Reſpect to the Manner of its being killed.

Fifthly, With Reſpect to the Seaſon of the Year, or Climate in which it is eaten.

I. With Reſpect to the different Parts of the ſame Animal, Milk differs very much from all the other Parts, eſpecially that of ſuch Animals as live on Vegetables only, and Water; thus the Milk of the Aſs, Goat, Cow, Mare, and Sheep, are aceſcent, that is, turn ſour upon Putrefaction, like aceſcent vegetable Juices, from whence it is prepared, and not yet perfectly converted into an animal Subſtance, by the Powers of Digeſtion. And this Milk will acquire a Difference from the Sort of Vegetable, which the Animal that affords it principally feeds on.

The Entrails of Animals alſo differ from the muſcular Parts, and have a greater Tendency to Putrefaction, as being more full of Juices, and of theſe Juices ſome incline more to Putrefaction than others. Thus we find, when an Animal dies, the Abdomen and its Contents putrefy firſt.

The Blood alſo is more ſubject to Putrefaction than the ſolid Parts, and promotes Putrefaction in the Solids where it abounds. Hence, the more animal Aliment is cleared of Blood, the leſſer ſubject will it be to produce an *Alcaline Acrimony* in the Stomach and Inteſtines, and an *Alcaleſcence* in the Juices of another Animal that eats it.

II. With Reſpect to the Food of Animals, thoſe which live on Graſs, or other aceſcent Vegetables, on ripe Fruits, or Corn, are furniſhed with Juices leſs inclinable to Putrefaction than other Animals, abound leſs with volatile *Alcaline Salts*, and theſe Salts are leſs volatiliſed, and exalted. Hence upon Putrefaction they are leſs fœtid, and offenſive. Of this Sort are the following Animals:

The Lamb, and Sheep.

The Calf, Cow, and Ox.

The Kid, and Goat, eſpecially when young.
The Rabbit.
Swine, provided they are fed with Vegetables only. See the Article Porcus.
The tame Duck, if fed with Corn only.
The tame Gooſe, if fed with the ſame.
Hens of all Sorts.
Turkeys.
Tame Partridges.
Tame Pheaſants.
The Quail.

But all Animals which feed principally on other Animals, or Inſects, have Juices which abound with a highly exalted volatile *Alcali*, having undergone a Sort of double, and ſometimes triple Sublimation, or Rectification, firſt in the Organs of the Animal which ſerves for Food, and ſecondly in thoſe of the Animal which feeds on it.

III. Animal Foods differ with Reſpect to their habitual Exerciſe, for ſtrong Exerciſe, long continued, exalts the volatile Salts of Animals, and makes them approach to a State of Putrefaction.

The following Animals, uſed commonly for Food, abound with a volatile Salt, exalted either by their Food, Exerciſe, or both.

Deer, both red and fallow, by Reaſon of their habitual Exerciſe, though they feed on Vegetables.

The Hare, for the ſame Reaſon.

The wild Boar, for the ſame Reaſon.

Pigeons in ſome Degree, becauſe of their habitual Exerciſe.

The Lark, both becauſe of its Exerciſe, and Food, which is principally of Inſects.

The wild Duck, both becauſe of its Exerciſe, and Food, which conſiſts much of ſmall Fiſh, Frogs, and aquatic Inſects. This is alſo true of all the Duck Species.

The wild Gooſe, Solan Gooſe, and all of the Gooſe Species, for the ſame Reaſon.

The wild Swan, or Elk, for the ſame Reaſon.

The Bittern, becauſe of its Food, conſiſting principally of Fiſh, and Frogs.

The Woodcock, becauſe of the great Exerciſe it is uſed to.

The Snipe, for the ſame Reaſon; and in general all Birds of Paſſage, very few excepted.

The Plover, and Lapwing, both becauſe of their Food, which is principally of Inſects, and their Exerciſe.

The wild Pheaſant, becauſe of its Food, which conſiſts principally of Ants.

The Sparrow, and all ſmall Birds which feed partly on Inſects, partly on Vegetables, and uſe much Exerciſe, have Juices proportionably *alcaleſcent*.

IV. Animal Food is more or leſs *alcaleſcent*, with Reſpect to the Manner in which it is killed. Thus if an Animal is killed whilſt very hot with ſtrong Exerciſe, or ſoon after, the Tendency to Putrefaction in the Juices will be very much increaſed; inſomuch that an Ox, or Sheep, killed in ſuch a Manner, will be as ſubject to Putrefaction as an Animal whoſe Juices are naturally more *alcaleſcent*, but killed whilſt perfectly cool. Hence Deer, and Hares that are hunted, and Birds killed by hawking after a long Flight, contract an immediate Tenderneſs, which is the firſt Stage of Putrefaction.

Animals alſo which are ſhot, ſtrangled, or killed in any Manner which prevents their Bleeding, are more ſubject to an *alcaline* Putrefaction, than thoſe which are ſuffered to bleed freely. Of this the nice Judges of culinary Arts are ſo ſenſible, that they frequently kill Fowl by ſtrangling them, in order to exalt their Taſte, or, which is the ſame Thing, increaſe their Tendency to Putrefaction.

V. The Climate, or Seaſon, makes a Difference in animal Food, becauſe Putrefaction is always in Proportion to Heat, and conſequently the Juices of the ſame Animal will be more diſpoſed to an *alcaline* Putrefaction in warm Climates and Seaſons, than in thoſe which are cold.

Hence the Inhabitants of very hot Climates are obliged to uſe animal Food ſparingly; and through a Neglect of this Conſideration it is, perhaps, that many of the Northern Europeans, who travel far to the South, contract Calentures, and putrid Fevers. I am alſo perſuaded, that the indiſcriminate Uſe of animal Food in the hotteſt Summers, and coldeſt Winters, is productive of many acute Diſtempers and Deaths in England.

Moſt Sorts of Inſects are highly *alcaleſcent*.

Fiſh of all Kinds are *alcaleſcent*, and that in a very high Degree. Thoſe of freſh Lakes and Rivers, however, are leſs ſo, than Sea Fiſh; and again, the ſofter Sort of Fiſh without Scales are obſerved to incline ſooner, and more, than thoſe furniſhed with Scales, to an *alcaline* Putrefaction; and Shell-Fiſh moſt of all.

And it may be laid down as a certain Rule, that of all Sorts of Animals, whether terreſtrial, or aquatic, thoſe which putrefy ſooneſt, and become moſt offenſive when putrid, incline the Juices of our Bodies moſt to an *alcaline* Putrefaction, when uſed as Food. And indeed ſome of them are not to be eaten ſafely for this Reaſon, without Vinegar, Salt, or *aceſcent* vegetable Liquors.

From what has been ſaid under the preceding Articles in Relation to the *Alcaleſcence* of animal Aliments, and what is ſpecified under the Article Porcus, one Reaſon at leaſt will appear, why it pleaſed the Supreme Being to forbid the Jews, a People that inhabited a very warm Climate, the Uſe of many Sorts of Animals as Food; and why they were enjoined to take away a great deal of Blood from thoſe they were allowed to eat.

It would be prudent if we, though Inhabitants of a colder Climate, would however believe, that he who cannot err has conſulted our temporal Welfare in every poſitive Injunction he has laid upon us, though the Reaſons for it may not always be very obvious; for this would ſurely incline us by Acts of implicit Obedience to ſecure to ourſelves Happineſs and Health.

But that I may ſet the Advantages, accruing to the Children of Iſrael from theſe Prohibitions, in a ſtronger Light, I ſhall make the following Obſervations on the Foods they were forbid to uſe, with this further Remark, that if we, even in our cold Climate, would conform to the Rules laid down by the wiſe Legiſlator of the Jews, Longevity would be more frequent amongſt us, as we ſhould be much leſs ſubject to be affected by epidemical Diſtempers, and acute Diſeaſes of all Sorts, which carry off at leaſt two Thirds of Mankind. Nor would chronical Affections perhaps be ſo terrible, and difficult to conquer, a they are found to be at preſent.

It muſt be remembered, that the Climate, in which the Children of Iſrael lived, was very hot; and that therefore every Species of Aliment which is improper to be eaten in our Climate, on Account of its Tendency to an *Alcaline* Putrefaction, was much more pernicious in the warm Country inhabited by the Jews.

The Aliments forbidden the Jews were:

Blood. This is extremely ſubject to an *alcaline* Putrefaction, and the Juices formed from it are highly *alcaleſcent*, and ſubject to putrefy. For the ſame Reaſon all Animals whatever killed, without being ſuffered to bleed ſufficiently, are improper Food. It is well known to common Obſervers, that the more ſucculent, and juicy the Fleſh of Animals is, the more ſubject it is to Putrefaction.

If an Animal has been heated by Hunting, there ſeems a further Reaſon to let it bleed, in order to leſſen the Tendency t Putrefaction it acquires by Exerciſe, and Heat. And thus we find it directed, *Leviticus*, *Chap*. xvii. *V*. 13.

And whatſoever Man there be of the Children of Iſrael, or the Strangers that ſojourn among you, which hunteth or catcheth a Beaſt, or Fowl which may be eaten; he ſhall even pour out the Bl thereof, and cover it with Duſt.

Animals which die of themſelves are unwholeſome, both a they do not bleed, and as their Juices are generally in an a State of Putrefaction, or near it, before they die. And we fi the Fleſh of ſuch Animals forbid in the above quoted Chapter Verſe the 15th.

גמל *Gamal*. —— The *Camel*. Though the Food of th Animal is only Vegetables, and Water, yet the Fibres are h dened, and rendered in a great Meaſure indigeſtible, and th Salts are highly exalted by its habitual Exerciſe.

שפן *Shaphan*. —— The *Coney*, as we tranſlate it, but Bo chart in his *Hierozoicon* ſays, it is a large Species of *Rat*, a others call it a *Mountain Rat*. Thus, *Proverbs*, *C*. xxx. *V*. 2 שפנים are ſaid to *make their Houſes in the Rocks*.

As the general Food of all Creatures of the Rat Species Animal, their Juices muſt be conſequently much inclined to a *alcaline* Putrefaction, and therefore their Fleſh muſt be unwho ſome.

ארנבת *Arnebeth* —— The *Hare*. The Animal we c thus is certainly meant in this Place; the Septuagint tran it by δασύπους, and with this the Syriac and Arabic Verſions a gree; and thus the Jews underſtood it, who abſtained fr eating it, as we learn from Plutarch, *Sympoſiac*. 4. *Quæſt*. and Clemens Alexandrinus, *Pædag*. 2. 10.

The Hare is remarkable for being extremely timorous, a this makes it uſe a great deal of Exerciſe by way of Precau when he goes to ſeek his Food, and at the Approach of Danger, either real, or imaginary; this habitual Exerciſe bably contributes to the Exaltation of the Salts. We fi Effect that the Hare has a very high Taſte, even in our c Climate; and this high Taſte univerſally is an Evidence, t the animal Fleſh which gives it is ſtrongly inclined to an a *line* Putrefaction. It is remarkable that the old Britons a ſtained religiouſly from eating Hare, as we learn from Cæ *de Bello Gallico*, *L*. 5.

חזיר *Hhazir* —— The *Swine*. This Animal is remar for Filthineſs, and feeding on all Manner of Ordure, even C rion if it falls in his Way. It is the only Animal in the B

Creation ſubject to the Leproſy; and alſo ſomething very like what we call the King's-Evil, called in Latin *Scrofula*, from *Scrofa*, a *Sow*; as this Diſeaſe is in Greek called Χοιρὰς, from Χοῖρος, a *Swine*. The Meaſles is another filthy and contagious Diſeaſe which this Brute is frequently infected with, inſomuch that it has paſſed into a Proverb, as we learn from Juvenal, who calls it *Porrigo*. In this Diſtemper, all the fleſhy Parts are full of innumerable ſmall, round, white, and hard Subſtances ſomewhat like Hail Stones.

Hence it muſt appear to every reaſonable Obſerver, that the Fleſh of this Beaſt, as an Aliment, muſt be highly improper for a People ſo ſubject to Leproſies, as the Jews appear to have been, and who were Inhabitants of a warm Climate, which renders every Thing more inclinable to Putrefaction.

All BEASTS which do not both divide the HOOF, and chew the CUD.

Under this Prohibition are included all Beaſts of Prey, and thoſe which eat Fleſh, whoſe Juices are highly *alcaleſcent* for Reaſons before given. All Animals of the Horſe, and Aſs Kind, are likewiſe here prohibited. And we find that the Fleſh of all theſe is difficult to be digeſted, and aſſimilated by the vi-al Powers; and that the Juices are rank and *alcaleſcent*; per-aps becauſe they are frequently heated by the habitual Exerciſe hey are obliged to uſe for the Service of Man.

I cannot explain ſcientifically all the Effects which Chewing he Cud may have upon the Fleſh and Juices of the Animal that oes it. But it is worthy of Obſervation, that all Creatures hich chew the Cud live on Vegetables and Water only; ave a very ſlow Digeſtion, ſpend a great Part of their Time in getting their Food, and the reſt either in chew-g the Cud, or ſleeping; ſo that it is accidental if they ever e Exerciſe ſufficient to heat themſelves, harden their Fleſh, d exalt their Salts to any conſiderable Degree of *Alcaleſcence*. f this the Cow, and Sheep are obvious Examples. Deer both ew the Cud, and divide the Hoof; and their Juices are not-ithſtanding ſomewhat *alcaleſcent*, as they are uſually killed nongſt us. The Fleſh is however tender, and eaſy of Di-ſtion; and if they are killed according to the Directions of e Levitical Law, that is, if they are ſuffered to bleed plenti-lly, this Tendency to an *alcaline* Putrefaction is in a great eaſure removed.

All FISH which have not FINS and SCALES.

Theſe are what medicinal Writers call *Piſces molles*. It has en obſerved above, that all Sorts of Fiſh are very ſubject to trefaction; but thoſe without Scales more than others, and ell-fiſh moſt of all.

נשר *Neſher*——The *Eagle*.

פרס *Peres*——The *Oſſifrage*.

עיזניה *Iznijah*——The *Oſpray*, ſo called from חיזיה with Epenthetic. It is an *Eagle*, ſo called from his Strength, ich we may imagine to be the little *Black Eagle*, which is refore called *Valeria*. The Syriac renders it a *Crow*.

דאה *Daah*——The *Kite*, ſo called from his Flight, which ery ſtrong, eſpecially when he hangs in the Air, without ving his Wings.

אי *Ajjah*——The *Merlin*, a Kind of ſmall *Hawk*.

ערב *Oreb*——The *Raven*, or perhaps the *Nycticorax*.

בת היענ *Bath Hajjaanah*——The common *Owl*.

תחמ *Tahhmas*——The *Noctua*, a Species of Owl.

שח *Shabhaph*——The *Cuckow*.

נ *Natz*——A *Hawk*. It is explained a Bird with which er Birds are taken, and which Fowlers carry on their Fiſts.

כו *Cos*——The *Goſs Hawk*. Some tranſlate it an *Owl*; rs *Onocrotatos*, a Bird which makes a Noiſe like an Aſs.

של *Shalach*——The *Cormorant*.

ינשו *Janſhuph*——The great *Owl*.

he Juices of all theſe are highly *Alcaleſcent*, both as they are s of Prey, and as their habitual Exerciſe is great.

תנשמ *Tinſhemeth*——The *Swan*, or *Chough Daw*. It is o great Importance which is here meant, for the Juices of are much *Alcaleſcent*, and their Fleſh rank, and ſcarcely ſtible.

קא *Kaab*——The *Bittern*. This Fowl feeds on Fiſh; the h is very rank, and ſubject to Putrefaction.

רחם *Rahham*——The *Gier Eagle*. It feeds on Fleſh.

חסי *Hhaſidah*——The *Stork*, ſo called from חסיד, be- its Piety to its Parents is ſaid to be remarkable. Hence onius calls it *Pietatis Cultrix*. The *Stork* feeds on Frogs, nts, and other Reptiles, which are in general extremely *eſcent*, and therefore it muſt afford Juices in a State very to Putrefaction.

אנ *Anaphah*——The *Heron*. It feeds on Fiſh, and uſes at deal of Exerciſe, and for both theſe Reaſons has Juices y *Alcaleſcent*.

דוכי *Duchiphath*——The *Lapwing*, a Bird almoſt perpe- on the Wing, and which feeds on Inſects. The Fleſh a very high Taſte, and near to a State of Putrefaction.

עט *Atallaph*——The *Bat*. It feeds on Inſects.

ח *Hholed*——The *Weaſel*, a Beaſt of Prey.

עכבר *Achbar*——The *Mouſe*. It feeds on Fleſh.

צב *Tzâb*——Properly the *Toad* from its Swelling, derived from עבה, *intumuit*.

אנקה *Anakah*——This is ſometimes tranſlated the *Ferret*, and by ſome it is called a Species of *Locuſt*. But, as in the Prohibition it immediately follows after the *Toad*, and is derived from אנק, which ſignifies *clamavit*, there is great Reaſon to believe it ſhould be underſtood the *Frog*, literally the *Cryer*, or, *the Beaſt that cries*, alluding to the Croaking of this Reptile.

כוח *Coahh*——The *Lizard*.

לטאה *Letaah*——Bochart calls it the *Salamander*, a Sort of *Lizard*.

חמט *Hhomet*——The *Snail*.

תנשמת *Tinſhemeth*——Bochart calls it here the *Chamælion*; in another Place quoted above, the ſame Word ſignifies a *Swan*, or *Jack-Daw*.

All theſe Reptiles are extremely ſubject to Putrefaction, as are Reptiles of almoſt every Kind; the Smell of theſe, when putrefied, is extremely offenſive; and hence we muſt conclude their Salts to be highly exalted, and their Juices *Alcaleſcent* to a great Degree.

Before I proceed farther in the Account of an *Alcaline* Putrefaction in the Juices, and its Conſequences, it is neceſſary, that I ſpecify the Parts into which the Blood is ſeparable by Chymical Analyſis.

Firſt then, if the Blood of a Perſon in Health, freſh taken away, is put into a Retort, with a Receiver accurately luted to it, and is then committed to a Heat much leſs than is ſufficient to make Water boil, a Vapour comes over, which condenſes into a Liquor very little, if at all, different from Water, and which does not appear to be either *alcaline* or acid, ſaline, pinguious, or in any Degree acrimonious. And if the Fire is increaſed to the Degree of boiling Water, the ſame Vapour ſtill continues to come over, forming exactly the ſame Kind of Water, till the Blood put into the Retort loſes much about ſeven Eighths of the original Weight.

If the remaining dry Maſs is taken out of the Retort and examined, it affords no Signs of containing any Thing the leaſt *alcaline*, acid, or acrid; but is utterly inſipid, except that it taſtes and ſmells of Burning, and that not much. This incloſed in a wooden Box, will keep for Ages without Putrefaction. But by a Sand-heat, gradually increaſed, it yields, firſt a fattiſh, oily, bitter Liquor, ſomewhat inclining to be *Alcaline*; then a white volatile Salt; and, as the Fire increaſes, a yellow Oil, and with it the ſame Kind of Salt. Take the Receiver away that contains what is come over, and lute on another; urge the Remainder with the moſt extreme Degree of Fire that the Glaſs will bear without melting, and white Fumes will ariſe without ceaſing, if the Operation be continued ever ſo long, and with theſe a black, thick Oil.

The Maſs remaining in the Retort is very black, and ſhining, brittle, extremely light and ſpongy, of a diſagreeable Smell, empyreumatic, bitter, and ſcarcely at all ſalt; this, when urged with a Heat almoſt ſufficient to melt the Retort, continues perpetually to emit Fumes, and preſerves its black Colour ſo long as it remains in a cloſed Veſſel; but when expoſed to a naked Fire, it flames, and, loſing this Blackneſs, becomes white, and is then found to be an inſipid Earth, containing not the leaſt Portion of an *Alcaline Salt*; but a ſmall Quantity of an Acid may be got from it by an extreme Degree of Fire, which Boerhaave imagines to be the Offſpring of the Sea-Salt which had been uſed in Food, and remains in the Blood unaltered; but in his Obſervations on this Proceſs, he tells us, that he had obſerved the ſame Appearances in the Diſtillation of the Blood of many Brutes, and therefore this Acid cannot be owing to Sea-Salt, becauſe no Animal, that I know of, eats Salt, except Man and Pigeons, unleſs domeſtic ones, as Dogs, and Cats, ſometimes by Accident, not by Choice. I am ſenſible it may be anſwered, that there is Salt, more or leſs, in all Water that Animals drink; and I know a Salt may be procured from the Urine of Animals, much reſembling Sea-Salt in the Figure of the Cryſtals, and ſome other Properties. But if the Source of this Salt was the Sea-Salt taken into the Stomach with the Aliment, human Urine would probably yield more of this Salt, than that of graminivorous Animals, becauſe the Salt taken in the Water of theſe Animals, bears no Proportion to that which is eaten by a Man; however it appears, that the Urine of a Cow, or a Horſe, yields a much larger Proportion of this Salt than that of a Man.

Here then we find in the Blood a Water, an Oil, a volatile *Alcaline Salt*, a fixed Earth, and a Portion of Acid. And now, if we conſider attentively the Progreſs of animal Putrefaction, we ſhall find it has exactly the ſame Effects, as the Diſtillation deſcribed above, and that it only differs from it in taking up a ſomewhat longer Time. For firſt the watery Particles exhale; next the ſaline Part is attenuated, and diſengaged from the Earth and Acid, and thus being rendered acrid, *alcaline*, and volatile, riſes together with a Part of the Oil alſo attenuated, and ſeparated from the Earth, and affects the Organs of Smell with a Nidor, or Stink peculiar to animal Subſtances in a State of Putrefaction.

The reſt of the oily Particles unite with the Earth thus deprived of the finer Part of the Oil, Water, and Salt, and both together form a black, tenacious, viſcid Subſtance, which, however, at laſt is reſolved, and leaves nothing behind but a pure virgin Earth, the Acid alſo exhaling. Thus the animal Juices, by Putrefaction, undergo a thorough Alteration, and Separation, after which it is impoſſible to unite the ſeparated Particles again, ſo as to make an uniform homogeneous Fluid, like what it was before.

It is impoſſible this Putrefaction ſhould prevail univerſally in the Juices whilſt the Animal is alive, for Reaſons which will be given hereafter; but particular Parts of the Body may putrefy, without cauſing immediate Death. *Alcaleſcent* Food alſo may putrefy in the Stomach and Inteſtines, and cauſe great Diſorders in the animal OEconomy, when taken in Quantities diſproportioned to the Powers of Digeſtion. And the Juices in general may have a ſtrong Tendency to Putrefaction, and of this ſeveral Birds that feed on Carrion are ſenſible, much ſooner than Mankind, for as ſoon as the volatile Salts, and rancid Oils, begin to exhale, the Organs of Smell, in theſe Birds, are ſooner affected than ours, inſomuch that they are frequently allured from conſiderable Diſtances, to the Neighbourhood of Houſes inhabited by People in Fevers.

The antecedent Cauſes therefore of an *Alcaleſcence* in the Body, and the Diſeaſes depending thereon, may be reduced to the following:

1. *Alcaleſcent* Aliment, that is, Aliment of *alcaleſcent* Vegetables, or of Animals, the Milk of graminivorous Animals only excepted. And amongſt theſe Fiſh, particularly their Livers, and Skins: Fowls that live on Fiſh; all Birds which prey on other Animals, or Inſects, or which are uſed to a great deal of habitual Exerciſe; alſo Animals killed whilſt heated with ſtrong Exerciſe, incline more to an *Alcaline* Putrefaction than others.

2. A Weakneſs of the Organs of Digeſtion.

When this is the Caſe, the Aliment, following its natural Tendency, putrefies in the Stomach, and cauſes what is uſually called a Surfeit. And the Chyle enters into the Blood in a State near to Putrefaction, or in Part putrefied.

3. A great Strength of the digeſtive and aſſimilating Organs, for this produces

4. A great Quantity of Blood highly exalted, and in a State very near to Putrefaction, and a Bile in a State near to Putrefaction.

It muſt be remembered, that Aceſcent Aliments are by the Actions of the above-mentioned Organs converted into *Alcaleſcent* Juices. When therefore theſe Organs act ſtrongly on Food already *alcaleſcent*, it muſt be rendered more ſo, and brought nearer to a State of Putrefaction.

It is upon this Account that Plethoric People are more ſubject to epidemical Diſorders than others; that People in a full State of Health, are more in danger of falling into Fevers, and thoſe of a bad Kind, than others whoſe general State of Health is not ſo good; and that ſuch who have very ſtrong Conſtitutions, are more liable to peſtilential Diſorders, and putrid Fevers, than Valetudinarians.

Hence Hippocrates, *L.* 1. *Aphoriſm.* 3, adviſes to beware of an Exceſs of Health, for the ſame Strength of Conſtitution which was ſufficient to bring the Blood and Juices to ſuch a Degree of Perfection, will at laſt exalt them into a Diſeaſe. And Celſus tells us, that a full State of Health is to be ſuſpected: *Ergo ſi plenior aliquis, & ſpecioſior, & coloratior factus eſt, ſuſpecta habere ſua bona debet. Quæ quia neque in eodem habitu ſubſiſtere, neque ultra progredi poſſunt, fere retro, quaſi Ruina quadam, revolvuntur.*

Hippocrates thinks it prudent to ſubtract ſomething from a State of Health arrived at the utmoſt Perfection, becauſe, as it is not poſſible it ſhould remain long without Alteration, and cannot mend, it muſt neceſſarily grow worſe. But with all Deference to ſo great an Authority, I muſt remark, that Nature has Reſources of more Importance for the Preſervation of Life, and Health, than any Aſſiſtances which Art can afford her, and from which ſhe draws Help upon theſe Occaſions. Thus in Caſe of too much Fulneſs of Blood, an Hæmorrhage lowers the Habit to ſuch a State, as Hippocrates adviſes us to reduce it to by Art. If the Juices are ſo much exalted, as to tend too much to an *Alcaleſcence*, the Acrimony attending this State, before it becomes ſenſible by any ill Conſequences frequently ſtimulates the Glands of the Skin, and thus cauſes its own Evacuation by an increaſed Perſpiration; or elſe, if it happens to affect the Glands of the Kidnies, it is carried off by Urine; but if it falls upon the Liver, the moſt likely Part to receive it firſt, or the Pancreas, or the Glands of the Stomach, and Inteſtines, the Danger is prevented by Vomiting, or a Diarrhœa, or both, ſufficient for the ſalutary Purpoſes above-mentioned; and hence the popular Opinion, founded on the Experience of all Ages, that a Looſeneſs in the Spring and Summer is ſalutary. Thus we ſee this Acrimony ſo much to be dreaded, is frequently under the Conduct of a well regulated animal OEconomy, its own Antidote, and the Means of preſerving, inſtead of interrupting Health. But here we muſt ſuppoſe no Exceſſes are committed, and regular Exerciſe is uſed.

5. Long Faſting. For, if the Blood is not perpetually diluted with freſh Chyle, it will contract an *Alcaline* Acrimony, and the Breath will become fœtid, till in the end a Fever and Death enſue from this Putrefaction.

6. A Stagnation of any Part of the Blood or Juices.

Becauſe all Animal Juices, which ſtagnate, follow their natural Tendency, and putrefy.

7. Great Heat, whether of the Seaſon, or Climate; external, or internal; natural, or artificial.

8. Violent Agitation of the Blood. Becauſe it produces Heat.

9. Exceſſive Exerciſe, eſpecially if long continued.

When any of theſe Cauſes, or many of them conjointly, have produced an *Alcaline* Putrefaction, it is manifeſted by the following Signs, in the Primæ Viæ.

1. Thirſt.

It is obſervable that Nature, or rather the Author of Nature, has given to all Animals a certain Sagacity, to enable them to diſtinguiſh Aliments which would be noxious to them, from thoſe which are ſalutary; and to direct them to the Means of curing the Diſorders they labour under. This, in Brutes, is called *Inſtinct*; and as we find the ſame Propenſions calculated for the ſame good Purpoſes in Mankind, I think we may properly enough call them by the ſame Name.

In the preſent Inſtance, Thirſt is raiſed, that is an Inclination to drink large Quantities of ſmall diluting Liquors. Now theſe Liquors dilute the *alcaline*, putrid, acrimonious Salts, relieve the preſent uneaſy Senſation, and diſpoſe the putrefying or putrefied Matter to be diſcharged out of the Stomach and Inteſtines, either by Vomit, or Stool. But if the Propenſity is to acid Liquors, which is generally the Caſe, theſe Acids, when mixed with the putrid Salts, deſtroy them, and are both together converted into a neutral Salt.

It is remarkable, that taking internally volatile, *alcaline*, animal Salts, as Salt or Spirit of Hartſhorn, raiſes a Thirſt, in the ſame Manner, and for the ſame Reaſons.

2. An utter Loſs of Appetite, and an Averſion for *Alcaleſcent* Aliment, particularly of that Sort of Aliment, which originally cauſed the Diſorder.

This is another Inſtance of the Inſtinct above-mentioned; or rather, of the Protection of Providence, which watches over us in Sickneſs as well as Health. An Appetite would be prejudicial, when the Stomach is in ſuch a Condition, as not to be able to digeſt the Aliment taken into it; and *Alcaleſcent* Aliment would increaſe the Diſorder.

3. Nidorous Eructations, or Belches which affect the Mouth with the Taſte of putrefied Eggs.

Becauſe a Portion of the putrid Salts, and rancid Oil, is excluded together with the rarefied Air.

4. Putrid Sordes upon the Lips, Teeth, Tongue, Palate, and Fauces, which affect the Organs of Taſte with a Senſation of Bitterneſs, becauſe animal Oils, when they grow rancid, become bitter; or perhaps this Taſte may be cauſed by the Bile too much exalted, and tending to Putrefaction.

5. A Sickneſs at the Stomach, from the Stimulation of the acrimonious Salts, eſpecially at the Sight, or even Idea of *Alcaleſcent* Aliment near to a State of Putrefaction. This Stimulation increaſed, cauſes a Diſcharge of the putrefied Matter by Vomit, which is ſalutary, when the Diſorder proceeds only from a Putrefaction of the Aliment in the firſt Paſſages; but if from a Putrefaction of the Liver, Pancreas, or any other of the Contents of the Abdomen, it is ſometimes a very bad Symptom. When this *Alcaline* Acrimony affects the Inteſtines, it ſtimulates them to a Diſcharge of their Contents by a Diarrhœa, which is alſo the Means of Cure, when the Putrefaction is confined to the Aliment contained in the Stomach and Inteſtines; but is often fatal, when cauſed by large Putrefactions in any of the Viſcera.

Fiſh that has been kept too long before it is eaten will cauſe a plentiful Diarrhœa; and a very ſmall Quantity of putrefied Egg will have the ſame Effect, by ſtimulating the Inteſtines.

6. This *Alcaline* Acrimony produces a ſpontaneous Laſſitude, and univerſal Uneaſineſs; a troubleſome Senſe of Heat, and inflammatory Iliac Pains.

The Effect of an *Alcaline* Putrefaction in the Blood is a Diſſolution into an *Alcaline* acrimonious Fluid; the watery Particles ſeparate from the other Principles and exhale; the fineſt Part of the Oil grows rancid; the reſt of the Oil joins with the Earth, they form together tenacious Obſtructions in the Veſſels to which they adhere; and the Salts no longer uniformly mixed with the diluting Water, ſoftening Oil, and neutral Earth, become acrid and corroſive. Hence the Fluid circulating in the Veſſels, which in order to be fit for Nutrition and the Exigencies of the animal OEconomy, muſt be mild and deſtitute of all Acrimony, is, in the preſent State, ſo far from being accommodated to theſe ſalutary Purpoſes; but instead of that, ſtimulates, abrades, and carries away a Part of the Solids; and corrodes and deſtroys the extremely minute

Veſſels, to which thoſe of the Brain are above all others ſubject, whence a Train of Symptoms which are uſually called nervous, as Delirioуſneſs, Convulſions, Comas, or Want of Sleep.

This Corroſion and Deſtruction of the internal Parts is nothing more than what may at any Time be produced on the external Skin, by confining a ſmall Quantity of animal, *Alcaline Salts*, for a ſhort Time, to any Part of it, for it will then act as a Cauſtic, and raiſe an Eſcar. This may ſerve as a ſeaſonable Caution to thoſe who wantonly accuſtom themſelves to ſmell to volatile Salts, eſpecially thoſe which have their cauſtic Acrimony exalted by Lime in their Diſtillation; for when a Part of theſe is drawn into the Lungs, it may, and without Diſpute has, very bad Effects on the tender Membrane which lines the Lungs.

In the State of the Blood mentioned above, the Liquors ſecreted from it are fœtid; and the Urine is high coloured, approaching to Redneſs, in Proportion to the Degree of Putrefacion prevailing, and the Patient neceſſarily labours under a coninual burning Fever.

From this Account of an *Alcaline* Putrefaction in the Blood, t is eaſy to perceive, that the Conſequences muſt be a Diſturance, Depravation, or utter Deſtruction of all the Actions, whether natural, animal, or rational; an intire Alteration in he Circulation, and conſequently in the Secretions, and Exretions which depend thereon, with general, or local Inflamnations, which, if the Putrefaction is conſiderable, muſt terinate in Suppurations, or Gangrenes, Sphacelations, and Death.

The different Parts of the Body which are affected by this *alcane* Putrefaction, make ſome Difference in the Cure. Thus, the *Alcaline* Aliments, taken in Quantities too large for the igeſtive Powers, putrefy in the Stomach and Inteſtines, and oduce the Effects mentioned above, the moſt rational Method Cure is to procure their Diſcharge, either by a Vomit or urge, or both; and in this the principal Symptoms muſt be r Guide; for if from theſe we learn the Stomach is affected, Vomit is to be given; but if the putrefied, or putrefying Alient, is protruded into the Inteſtines, a Purge will ſometimes ſufficient to promote their Excluſion. Proper Vomits, in is Caſe, are warm Water, green Tea, Infuſions of Carduus, Ipecacuanha, in the Quantity of half a Dram; and Purges the ſaline Kind ſeem beſt adapted for this Purpoſe; becauſe as y increaſe the natural Tendency to a Diarrhœa, and therecarry off the offending Matter, they at the ſame Time reve the Symptoms, by deſtroying a Part of the Acrimony. th Vomits and Purges muſt be repeated, according as the ntinuance of the Diſorder ſhall make them appear neceſſary. general one Vomit, but repeated Purges are required.

I have met with a popular Remedy for an Over-charge of Stomach by *alcaleſcent Aliment*, of too much Efficacy to be itted; it is the Runnet with which Milk is curdled, in er to make Cheeſe. Runnet is thus made; the firſt Stomach a Calf is ſalted and dried, or elſe preſerved in Brine; this ne, or an Infuſion of the dried Stomach in cold Water, is Runnet. One or two Spoonfuls of this Brine in half a Pint cold Water, or an Infuſion of a Piece of the dried Stomach ut two Inches ſquare for a few Hours in the ſame Quantity of ater, if drank, is ſaid to take away all the uneaſy Senſation cauſby the ſtimulating Acrimony, and to promote the Expulſion the offending Matter, either by Vomit, or Stool. It would haps be ſomewhat difficult to demonſtrate the ſpecific Acn of the Juices in the Stomach of a Calf, by which Milk is dled; but we find in Fact, that this Effect is produced, h in the Stomach of a Calf whilſt it is alive, where all the Milk it takes is found curdled, and in Milk wherewith Infuſion of the ſame Stomach is mixed, even after the th of the Calf. I am equally at a Loſs to account for ſalutary Effect of Runnet, conſidered as ſuch, upon a hun Stomach under the ill Impreſſions of *alcaleſcent* Aliments efying therein. But I am ſenſible that the Salt, which prees the Calf's Stomach from Putrefaction, will alſo have a good Effect upon the Aliment putrefying in the Stomach, roy totally or in Part the *alcaline Acrimony*, and conſequently ve the Symptoms cauſed thereby; but whether all the good cts of Runnet as a Medicine depend on the Salt, I will not upon me to determine; I am, however, certain upon my Knowledge, that it is an excellent Medicine in the Caſe ve-mentioned.

When a Tendency to this Putrefaction is got into the whole it, and prevails in the Blood and Juices, the Cure is much e difficult and tedious, and the Diſorder is attended with a h greater Degree of Danger. And as almoſt all acute Diſpers whatever are either raiſed originally by, or elſe acpanied with a greater or leſs Tendency to an *alcaline* Puction, the Regimen and Medicines proper to deſtroy or this *Alcaleſcence*, are of the utmoſt Importance to the Art Healing. The Regimen, however, is moſt to be regarded, upon this the Cure principally depends.

With Reſpect then to the Cure, Bleeding ſeems proper, as it res and diminiſhes the Action of the Solids upon the remainMaſs of Fluids, which leſſens the Attrition betwixt the Solids and Fluids, and betwixt the Particles of the Fluids with each other; now, as Attrition is one great Cauſe of Heat, and Heat a great Promoter of Putrefaction, Bleeding promiſes fair to remove at leaſt one principal Cauſe thereof.

In ſuch Caſes alſo Reſt muſt be ſtrictly enjoined, and an Abſtinence from all Sorts of Motion rigorouſly perſiſted in. Becauſe every Degree of Motion proportionally hardens the Fibres, and accelerates the Circulation of the Blood; this increaſes the Attrition betwixt the Solids and Fluids, and betwixt the Particles of the Fluids with each other, and conſequently promotes Heat, the Parent of an *alcaline* Putrefaction, and all its Conſequences.

Warm emollient Baths, Fomentations, and Clyſters, are alſo of Service, as they relax the Fibres, and thereby help to remove one conſiderable Cauſe of Heat; and as the abſorbent Veſſels take up a Portion of them, they become farther ſerviceable by diluting the Blood.

With Reſpect to the Air which the Patient reſpires, it ſhould be temperate and refreſhing; if too hot, it increaſes the Tendency to Putrefaction; if too cold, by contracting the animal Fibres, it is conſequentially productive of internal Heat.

Hence the Reaſons are very plain, why all Heat beyond Temperateneſs, whether natural, and produced by the Climate, or Seaſon; or artificial, and generated either by Fires, too many Bed-cloaths, or hot Medicines, muſt neceſſarily be pernicious in all Diſtempers, where there is a Tendency to an *alcaline* Putrefaction.

Our next Care muſt be to ſaturate the Blood and Juices with Aliments which are aceſcent, which have a ſtrong Tendency to become acid when taken into the Stomach, or which are actually acid. Such are Milk either alone, or diluted with Water; Whey, and Buttermilk.

Bread, which has been fermented, is another Aliment of the aceſcent Kind, but if it has been much fermented, it is actually acid. Of this great Varieties of Foods may be prepared, by boiling it with Water, till it is of ſuch a Conſiſtence, as anſwers the End propoſed, and afterwards adding to it other aceſcent Ingredients, as Wine, or the crude, or prepared Juices of Fruits. The moſt common of theſe is called *Panada*.

Many Sorts of Aliments, exceedingly proper when there is an *Alcaleſcence* of the Juices, are alſo prepared from farinaceous Vegetables, particularly Barley and Oats. The Ptiſan of the Antients, ſo famous in all Ages, was made of Barley huſked, and boiled in Water, and ſeems to have been a Kind of Gruel, which obtained different Names, according to ſome Circumſtances to be taken Notice of hereafter. The Word is derived from Πτίσσω, which ſignifies *to peel*, or *take off the Huſks*, this being the firſt Part of the Proceſs for its Preparation, but the French have, through an unpardonable Error, applied the Name of *Ptiſan* to any Sort of medicinal Decoction.

Amongſt farinaceous Vegetables Boerhaave enumerates the following:

Wheat.
Barley.
Oats.
Rye.
Rice.
Buck Wheat, or Frumentum Saracenicum.
Millet.
Mays, or Indian Wheat.
Panick.
Spelt Wheat.
Piſtachio Nuts.

Of theſe boiled in Water, and digeſted for a conſiderable Time, till they acquire a Tendency to Acidity, many Sorts of Food may be contrived, very proper in an *alcaline* State of the Juices. Decoctions and Emulſions of theſe, drank in large Quantities, are of conſiderable Service; firſt, as they are in ſome Degree ſaponaceous, and diſſolve Obſtructions in the Veſſels, which Water alone cannot act upon. Secondly, as they dilute the Juices inclinable to an *Alcaleſcence* with an aceſcent Fluid. Thirdly, as they relax the Solids. And, Fourthly, as by their oily Softneſs they invelope, and obtund the *alcaline* Acrimony, and, thereby rendering it mild, prevent its Effects in the Body.

I muſt not omit obſerving, that aceſcent Aliments in general ſeem more healthful than thoſe which are *alcaleſcent*, and are leſs ſubject to form Obſtructions, provided they are taken in Quantities proportioned to the Strength of the digeſting and aſſimilating Organs, and by People inured to habitual Labour and Exerciſe.

Thus Homer celebrates the Hippimolgi, a Northern Nation, whoſe uſual Food was Milk, for Longevity. And the Mountaineers of Great Britain, who generally live on Milk, and Cakes made of Oatmeal, fermented till they grow quite ſour, are remarkable for Health, Strength, Activity, and living to a very great Age, and are ſeldom or never viſited by epidemical Diſtempers, in any conſiderable Degree. And what Virgil ſays of a Northern Nation is ſomething to our preſent Purpoſe:

——————— *Pocula læti*
Fermento atque Acidis *imitantur Vitea ſorbis.*
Talis Hyperboreo ſeptem ſubjecta Trioni
Gens Effræna Virûm Riphæo tunditur Euro.

There is another Claſs of Vegetables of excellent Service, when the Juices tend to an *alcaline* Putrefaction. I mean the Summer or Autumnal Fruits, when perfectly ripe.

Boerhaave mentions the following :

Oranges.
Lemons.
Elder-Berries.
Cherries of all Sorts.
Citrons.
Garden Cucumbers.
Garden Gourds.
Figs.
Strawberries.
Pomegranates.
Jujubs.
Apricocks.
Peaches.
Melons.
Mulberries.
Apples.
Sweet Plums of all Sorts.
Currants of all Sorts.
Raſpberries.

I do not know why the illuſtrious Author has omitted Grapes, Tamarinds, and ſome others of the like Kind.

Of theſe conſiderable Uſes may be made. For they may be boiled, or roaſted, and eaten occaſionally ; or their Pulp, or crude Juices, may be mixed with Panadas, Gruels, or other aceſcent Aliments. Or elſe the Juices, expreſſed after baking, or boiling them with a very ſmall Quantity of Water, may be mixed with Food, or given as a Medicine, firſt adding to them the Quantity of Sugar which ſhall be judged ſufficient. And it muſt be obſerved, that boiling, or baking Fruits, deſtroys a great Quantity of the elaſtic Air which they contain when crude, makes them ſit more eaſy upon the Stomach, and thereby renders them more fit for medicinal Purpoſes.

With Reſpect to Fruits, it is a very great Error to condemn them in general as unwholeſome ; for, on the Contrary, when thoroughly ripe, they are the moſt admirable Remedies that perhaps Nature has furniſhed us with, and never pernicious unleſs taken in Quantities too exceſſive, and diſproportioned to the Powers of Digeſtion. Nothing can be better adapted to check that Tendency to an *alcaline* Putrefaction, which the Juices are ſubject to contract during the Summer's Heat. We ſcarcely meet with a more powerful Remover of Obſtructions, than the Juices of ripe Fruits, if taken in Quantities ſufficient, frequently repeated, and theſe continued for a conſiderable Time. For the Juices of Fruits, when neutraliſed by the Heat of the Sun, that is, when perfectly ripe, are ſaponaceous, and capable of diſſolving Obſtructions in the Veſſels which no other known Fluid is able to act upon effectually. Every common Obſerver can judge, that Eruptions on the Surface of the Body are ſalutary, and promiſe a future State of Health. The Reaſon of this is, that when the obſtructing Matter, which forms Concretions in the ſmall Veſſels, is diſſolved, and reduced to Particles ſmall enough to circulate with the Blood, the vital Powers find Means of diſcharging them by the inteſtinal, or urinary Glands, or elſe diſpoſe of them by the Pores of the Skin; now when it happens that the Particles of Matter to be diſcharged are ſomewhat too large to perſpire, they ſtick in the perſpiratory Veſſels of the Skin, and there ſuppurate, for Suppuration is one Way which Nature takes to diſburthen herſelf of what is uſeleſs or offenſive. Hence thoſe ſalutary Eruptions, which frequently appear on the Skin in various Parts of the Body, after a plentiful Uſe of Summer-fruits, have been erroneouſly deemed, by many, the pernicious Effects of thoſe Fruits, which in Reality acted the Part of a Medicine, and removed Obſtructions, which otherwiſe might have produced a Diſeaſe. It is farther to be remarked, that a Diarrhœa, or Looſeneſs, after the Uſe of the above-mentioned Fruits, is ſo far from being dreadful, provided it keeps within due Bounds, that it does good Service to the animal Œconomy, by carrying away the Matter of Obſtructions previouſly diſſolved by the ſaponaceous Juices of the ſaid Fruits. But it is prudent to bake, or boil theſe Fruits, both for the Reaſons given before, as alſo, becauſe the Fire deſtroys the Eggs of Inſects, which are ſometimes depoſited in them, and becauſe it brings them to a more exact Neutrality, the Sun being ſcarcely ſufficient in our Climate to render them perfectly ripe.

In an *Alcaleſcence* of the Juices, watery Liquids, drank warm eſpecially, are alſo of Service, though endued with no ſaponaceous Quality, as they relax the Solids, diſſolve the Salts, and carry them out of the Body, and contribute to preſerve the Blood in a State of Fluidity.

As to Medicines, they may be contrived in various Forms, either from native vegetable Acids, as the Juices of Oranges, Lemons, Crabs, and many other acid Fruits, or the Eſſential Salts of acid Plants, as of the Sorrels.

Fermentation alſo furniſhes us with many valuable Medicines in this Intention. Thus Moſelle, or Rheniſh Wines, which incline to Acidity, are admirable, when diluted with a ſufficient Quantity of any ſaponaceous Fluid. Thus alſo Vinegars of all Kinds, are of conſiderable Uſe, properly diluted ; and of theſe Medicines may be made extremely reſolvent, and abſterſive, by mixing them with Water, or Honey, or both, or infuſing in them Vegetables ſuited to anſwer particular Intentions, as Squills, in making Oxymel of Squills.

Many Medicines alſo of excellent Virtues are, and more might be, prepared by inſpiſſating the Juices of Fruits perfectly ripe to a Jelly or Rob, and amongſt theſe none excels Rob of Elder, a Medicine which deſerves the higheſt Encomiums.

By Diſtillation we procure another Claſs of Medicines which powerfully deſtroy a Tendency in the Juices to an *alcalin* Putrefaction. Theſe are the acid Spirits of Sal Gemmæ, Sea-ſalt, Nitre, Vitriol, and Sulphur, commonly called *Oil of Sulphur by the Bell.* But theſe muſt be taken diluted in a great Quantity of Fluid, and they are never proper, unleſs in Caſes where a great Tendency to Putrefaction renders the milder vegetable Acids ineffectual, as in the Plague, and ſome very bad Kinds of the Small-pox.

There is another Claſs of Medicines of very great Importance in the Caſe before us ; I mean, the natural, or artificial neutral Salts. The natural neutral Salts are Nitre, Sea-ſalt, and Sal Gemmæ. The two laſt are ſeldom uſed, except in Clyſters ; but Nitre is, or at leaſt ought to be, an Ingredient in almoſt every Medicine, given with a View of checking the Progreſs of an *alcaline* Putrefaction. It is well known, that theſe Salts preſerve all animal Subſtances from Putrefaction ; and Nitre has a remarkable Property of preſerving the Fluidity of the Blood, either in, or out of the Blood-veſſels, Nitre has alſo a Power of reſolving Concretions already formed, and of expelling the obſtructing Matter thus reſolved by the proper Emunctories, as by the Glands of the Inteſtines, Kidnies, or Skin ; it is alſo extremely penetrating, and thus it appears poſſeſſed of every good Property, that can render it an eligible Remedy in all Diſorders where Danger is to be apprehended from an *alcaline* Putrefaction, that is, in moſt acute Diſtempers. It is uſually given in a Powder or Bolus, or diſſolved in ſome proper Fluid.

Artificial neutral Salts may be made from almoſt every different Sort of Acid, impregnated or ſaturated with any Sort of *Alcali*, either fixed, or volatile. The *Acid* and the *Alca* muſt be joined in ſuch a Manner that neither may prevail over the other. Whilſt they are mixing together, a conſiderable Effervescence ariſes, and the Acid is deſtroyed by, and deſtroy the *Alcali*, and then both, thus united, form a Body very different in every Property, Characteriſtic, and medicinal Effect from the Parent Salts.

Neutral Salts the moſt generally uſed in Practice, are th *Tartarus Vitriolatus*, made as directed by Boerhaave (See TARTARUS VITRIOLATUS) a Medicine very different from th directed under the ſame Name in our Diſpenſatory, thoug made of the very ſame Ingredients. The Tartarus Regeneratus, and Tartarus Tartariſatus of the ſame Author.

Many extemporaneous Preſcriptions of a neutral Fluid m eaſily be contrived to very good Purpoſes. Thus, a Scruple Salt of Wormwood will ſaturate about half an Ounce of J of Lemons ; or about ten or twelve Grains of volatile S Ammoniac will ſaturate half an Ounce of diſtilled Vinegar either of theſe mixed with an Ounce of ſome ſimple Wat and rendered agreeable by a few Drams of a proper Syru and the ſame Quantity of ſome compound Water, makes very pretty Draught of conſiderable Efficacy, which may repeated as Occaſion requires, for Example every four Hours.

Theſe neutral Medicines deſerve the ſame Encomiums whi I have given above to Nitre, and for the ſame Reaſons.

From what has been ſaid above with Reſpect to the Cau and Cure of Diſeaſes from a Tendency in the Juices, or any them, to an *alcaline* Putrefaction, it appears, that in all D eaſes where Danger is to be apprehended from the afore Putrefaction, any acid Excretions are to be eſteemed g Symptoms, as they are certain Evidences that the *alca* Acrimony is deſtroyed. Thus in Diſorders of the Stom from ſuch a Cauſe, acid Eructations of Wind witneſs, that Cauſe of the Diſtemper is almoſt, if not intirely removed. A thus in acute Diſtempers, Sweats which have an acid Sm have been remarked to be of good Preſage.

It has been obſerved, that many who have recovered of t Plague, and peſtilential Fevers, have been affected as th Health returned, with a ſaltiſh Taſte in their Mouths, ſo what like that of Sal Ammoniac ; the Reaſon of this app to be thus : It is well known in Chymiſtry, that a putrid *a line Salt*, when united with an *Acid*, forms a neutral Salt ſo what reſembling Sal Ammoniac. Now when the Juices h been loaded with ſuch a putrid Salt, as it happens in Plague and peſtilential Fevers, when this Salt is ſaturated w

Acid, the *alcaline* Acrimony is deſtroyed, and the Patient Degrees recovers; and then all the Excretions are in-ſted with the muriatic Salt above-mentioned, like Sal Am-oniac, and amongſt the reſt the Saliva; hence a perpe-l Taſte, like that of Sal Ammoniac, in the Patient's Mouth; d hence he fancies all Sorts of Aliments ſalted.

The Forms of Medicines calculated to deſtroy an *alcaline* rimony are infinite. I ſhall therefore only give a few by ay of Example:

Take of Oats, bruiſed with the Huſks, two Ounces,

Boil theſe in three Pints of Water to two, and add to it en ſtrained,

Of freſh Citron, or Lemon Juice, an Ounce.
Of Cinnamon-water, two Drams.
Of Syrup of Mulberries, an Ounce.

Let the Patient uſe this for his conſtant Aliment. *Boerhaav.* *t. Med.*

Take of Oats peeled, two Ounces.

Boil them in three Pints of Water to two, ſtrain it, and let Liquor ſtand in a gentle Heat for twelve Hours, or till it ws ſomewhat acid; then add,

Of Syrup of Violets, an Ounce and half.
Rheniſh Wine, half a Pint.
Simple diſtilled Water of Citron-peel, an Ounce and half.

o be uſed like the preceding Decoction. *Boerhaav.* *Met.*

Take of peeled Oats, three Ounces.

ith a ſufficient Quantity of Water make an Emulſion; to t and half of which add,

Of purified Nitre, half a Dram.
Syrup of Violets, an Ounce.
Vinegar of Squills, two Drams.

n Ounce or two of this may be taken frequently. *Boer-* *Mat. Med.*

Take of Oxymel of Squills, three Ounces.
Vinegar of Squills, two Drams.
Tincture of Myrrh extracted with Vinegar, a Dram.
Simple Succory-water, ſix Ounces.

lf an Ounce of this may be taken every Hour. *Boerhaav.* *Med.*

Take of Vinegar boiled to the Conſiſtence of Honey, half an Ounce.
Fine Honey, an Ounce.
Syrup of Succory, an Ounce and half.
Simple Fumitory-water, ſix Ounces.

be uſed as the preceding. *Boerhaav. Mat. Med.*

ake of Rob of Currants and Elder, each two Ounces.
Simple Oxymel, an Ounce.
Spirit of Salt, twenty Drops.
Barley-water, two Quarts.

the Patient uſe this at Pleaſure for his conſtant Drink. *av. Mat. Met.*

e of clear Barley-water, twenty-ſix Ounces.
Rheniſh Wine three Ounces.
Syrup of the five opening Roots, two Ounces.
Rob of Elder, ſix Drams. Make a Decoction.

the Patient take three or four Qunces of this every three Hours.

ake of Cryſtals of Tartar,
Pure Nitre,
Vitriolated Tartar perfectly neutraliſed, according to Boerhaave's Method, of each ten Grains mix into a Powder.

one of theſe be taken every four, or ſix, or eight Hours, Doſe of the preceding Decoction, or ſome other aceſcent

what has been ſaid in the preceding Pages will explain, undantly confirm many important Points of Doctrine to the Cure of acute Diſeaſes, which are delivered by rates, in his Treatiſe Περὶ διαίτης ὀξέων, I ſhall finiſh this with that incomparable Piece, which Dr. Friend, a very udge of theſe Subjects, calls *One of the moſt valuable of Antiquity*. And indeed, he might have given it reater Encomiums.

lieve it impoſſible to do the excellent Author of this uſtice in our Language, or any other, at leaſt I am to think ſo, becauſe I am ſenſible of the Defects of my own Tranſlation. If, however, I have rendered this moſt valuable Piece intelligible to thoſe who cannot underſtand it in the Original, I am certain it will be of no inconſiderable Benefit to Mankind.

I muſt remark, that the latter End of this Treatiſe does not ſeem to have arrived to us as Hippocrates left it; for it is probably either mutilated, or has had ſomething added to it by an Interpolator, much leſs judicious than the Author of the reſt, at leaſt it wants the finiſhing Stroke of that maſterly Hand which compleated the other Parts of this incomparable Piece.

Hippocrates begins this important Treatiſe with blaming the Method of the Phyſicians of the Cnidian School, who ſeem to have been the Rivals of thoſe of Cos. This Introduction is ſomewhat obſcure, and the more ſo, becauſe we have not the Cnidian Sentences, which he finds Fault with.

It ſhould ſeem that the Cnidians had deſcribed Diſtempers very accurately, but omitted taking proper Notice of many Circumſtances which occur in every Diſeaſe, which are worthy of Remark, becauſe they inform the Judgment of the Phyſician, and point out the Indications, or the Method to be purſued in order to cure the Diſeaſe. Amongſt theſe are the Age, Strength, and Conſtitution of the Patient; his Manner of living; the natural Evacuations which promote, or retard the Cure; the Concoction of the morbific Matter; and, in ſhort, every other Circumſtance, which can aſſiſt us in foreſeeing the Event of a Diſeaſe, and directing a proper Regimen.

HIPPOCRATES on REGIMEN in ACUTE DISTEMPERS.

The Authors of the *Cnidian Sentences*, as they call their Work, have indeed given us an accurate Account of what Patients ſuffer in every Diſeaſe, and of the Events of ſome Diſtempers. And ſo far any Man, however ignorant of the Art of Medicine, might write, and not be miſtaken, provided he perfectly underſtood each Patient's Repreſentation of his own Caſe. But as to the Prognoſtics which cannot be learned from the Sick, though it is the Buſineſs, and Accompliſhment of a Phyſician to be well verſed in them, they are in a great Meaſure neglected, as are alſo many Circumſtances highly neceſſary in order to enable us to form a right Judgment of any Caſe before us.

Now ſince the Management of each Patient is to be regulated by a perfect Knowledge of every Circumſtance relative to every particular Caſe, I am of a quite different Opinion, in this Reſpect, from what they have declared themſelves to be. And I am not only diſſatisfied with them on this Account, but alſo becauſe they made Uſe of but few Remedies. They have indeed offered us Plenty of Medicines (except in acute Diſeaſes) that purge downwards, and talked of the ſeaſonable Uſe of Whey and Milk. If theſe Remedies were good, and proper for the Diſtempers in which they preſcribe them, the fewer they were in Number, if ſufficient for the Purpoſe, the higher would be their Value. But the Caſe is otherwiſe.

But in what they publiſhed afterwards, the Character of Phyſicians was better ſupported, with Reſpect to what ought to be exhibited in each Caſe. But indeed the Antients never left any Thing worth Notice in Writing concerning a Method of Diet, but were wholly ſilent as to that important Point. Some of them, it is true, were not ignorant of the various Forms and Diviſions of Diſtempers, but, while they endeavour to give us the Names of Diſtempers, they ſhew themſelves miſtaken. For it will be no eaſy Matter to number them, if we reckon, on one Hand, every Diſeaſe a Perſon labours under a diſtinct Species from another, becauſe it differs from it in ſome Reſpect; or, on the other Hand, ſuppoſe it cannot be the ſame Diſeaſe, unleſs it paſſes under the ſame Denomination.

My Opinion is, that, in all Reſpects, we ought to have a ſtrict Regard to the Rules of Art. For, if we deſire that any Work ſhould proſper and be promoted, we muſt proceed in every Thing relating to it with Exactneſs. In Things that require Diſpatch, and where Delays are dangerous, our Aſſiſtance ought to be ſpeedy in Proportion. Where Things ought to be performed after a neat and decent Manner, we are to obſerve Neatneſs and Decency. If a Caſe admits of an eaſy and gentle Treatment, we are by all Means to avoid putting the Patient to any unneceſſary Pain or Torment. In ſhort, we ought to endeavour at Improvements in every Branch of Medicine, without confining ourſelves to the vulgar Modes of Practice.

I praiſe that Phyſician moſt, who knows how to diſtinguiſh himſelf, above others of his Profeſſion, by his Skill in improving the ordinary Methods of Practice in acute Diſeaſes, which make the greateſt Havock amongſt Mankind: Such are thoſe to which our Anceſtors gave the Names of Pleuriſy, Peripneumony, Lethargy, Burning Fever, and other Diſorders which have an Affinity with them, for theſe deſtroy the Patient, by a Fever altogether continual, which accompanies them[a].

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ave given ὁκόσα τουτέων ἐχόμενα ἐϛίν a Turn ſomewhat different from the Latin Tranſlations, for Reaſons which the learned Reader will prehend. But, as my preſent Buſineſs is rather to explain Things than Words, I ſhall attach myſelf very little to Criticiſms of this

[b] For, when there is no peſtilential Diſtemper that rages epidemically, but only ſporadical Fevers of various Kinds, more die of theſe Fevers than all other Diſeaſes. The Generality, indeed, are not capable of diſtinguiſhing ſuch as excel their Neighbours in medicinal Knowledge, and therefore they only praiſe, or condemn, capriciouſly the Cures which they ſee performed. And it is ſtrongly to be preſumed, that common Obſervers cannot underſtand theſe Fevers, becauſe their Nature is not to be comprehended without Study. But even thoſe who are no Phyſicians may eaſily appear to be ſuch, particularly in the Diſtempers above-mentioned. For it is not difficult to learn the Names of Things uſually employed about the Sick: Suppoſe, for Inſtance, any one ſhould name the Cremor [χυλὸς] of Ptiſan, or this or that Sort of Wine, or Hydromel, the Sounds are the ſame to vulgar Apprehenſions, whether they proceed from a better or a worſe Phyſician. But theſe Things are to be conſidered in a very different Light, and a Man of Skill is more eſpecially diſtinguiſhed in ſuch Caſes.

Now it is my Opinion, that ſuch Things as are advantageous to be known, and yet have eſcaped the Notice of Phyſicians, or which are the Occaſion of much Good, or Hurt, to the Perſons concerned, highly deſerve to be communicated to the Public. The Things unknown are as follow:

What ſhould determine ſome Phyſicians, in acute Diſtempers, to perſevere for ever in giving their Patients Ptiſan not ſtrained, and yet think their Method right.

Some diſpute, with all the Reaſon they are Maſters of, againſt allowing the Patient boiled Barley, becauſe they apprehend it to be of very pernicious Conſequence, but however ſtrain it through a linnen Cloth, and exhibit its Juice [χυλὸν]

Others, again, will neither ſuffer the thick Ptiſan, nor its Juice, to be given, ſome of theſe extending the Prohibition to the ſeventh Day of the Patient's Illneſs, others of them to the full Determination of the Criſis.

Our Phyſicians are not very fond of propoſing ſuch Queſtions as theſe, or if they were ſo ingenuous as to propoſe their Doubts, the Anſwers, perhaps, are not at Hand.

Mean while, the Art itſelf falls under Reproach and Diſregard, among the Vulgar, always too ſubject to conclude from Difficulties, and contrary Practices, that there is no ſuch Thing as *real Medicine*. For in acute Diſtempers, for Example, our Artiſts differ among themſelves to ſuch a Degree, that thoſe very Remedies which one of them ſhall preſcribe as the beſt, another ſhall think improper to be uſed. It is upon this Account, that the Art of Medicine, ſeems very like Divination. For Augurs [μάντιες] look upon the ſame Bird which appearing on the right Hand, they embrace as a good Omen, to be a bad one, if it appears on their left; not to mention many other Singularities belonging to the Art of Augury; mean Time there are others of the ſame Profeſſion, who interpret the very ſame Omens in a Manner directly contrary to the former.

I however affirm, that the Regimen, in acute Diſeaſes, is a Speculation extremely noble and excellent, [πάγκαλον] and that it bears a near Relation to many of the moſt important Points in the Art of Medicine. For Regimen is capable of doing great Things for thoſe that are ſick; of preſerving Health to thoſe, who already enjoy it; of procuring a good Habit to thoſe who exerciſe themſelves; and of contributing, much to the Attainment of that deſireable State, to which the Wiſhes of every wiſe Man tend.

Ptiſan ſeems to me; preferable to all Aliment of the frumentaceous Kind, in theſe acute Diſtempers, and I commend their Judgment who have given it this Preference. For it has a Kind of Viſcoſity, which is ſmooth and equal, ſoft, and ſlippery, moiſtening, cauſing no Thirſt, but conveniently waſhing whatever wants Elution. It is no Aſtringent, raiſes no Diſturbance in the Stomach during Digeſtion, nor Inflations in the Belly, having loſt that Property in the Boiling, where it ſwelled as much as its Nature would permit [c].

A Phyſician, then, who allows his Patients the Uſe of Ptiſan in theſe Diſtempers, need not enjoin Inanition, or Emptying of the Veſſels, as it is called, though but for one Day, unleſs he finds himſelf obliged to intermit it for the ſake of a Purge or a Clyſter [d].

Thoſe who are accuſtomed to two Meals in a Day, may have their Ptiſan twice in like Manner; but ſuch as uſually make but one Meal, are to eat their Ptiſan once the firſt Day, but may, in Time, be brought by Degrees, to take it twice a Day, if it ſhall be thought convenient. But here you are to obſerve, that it is not to be given the Patient at firſt, in too great Quantities, nor too thick, but only enough to comply with Cuſtom, which requires that ſomething ſhould be taken, and to prevent the too great Inanition of the Veſſels. As to the Increaſe of the Ptiſan, with reſpect to Quantity, in the Progreſs of the Diſeaſe, if it is attended with any uncommon Degree of Dryneſs, too much muſt not be given; but Honey and Water, or Wine, or any Thing elſe that ſhall be judged proper, muſt be drank, before the Ptiſan is exhibited. What is moſt proper in each particular Caſe, I ſhall ſpecify hereafter [e].

If the Mouth be moiſt, and what is diſcharged from the Lun laudable, and without any bad Quality, the Quantity of ſo bile Food (Ptiſan) to be allowed the Patient is, in one Wor to be increaſed conſiderably. For a quick and plentiful Humetation indicates a ſpeedy Criſis, but that which is ſlow, a ſparing, the contrary [f].

And this is ſo far the true State of the Caſe. But we ſh paſs over many Things that may happen very ſeaſonably to fu niſh us with Prognoſtics, and reſume the Conſideration of th hereafter. The more plentiful the Purgation, (of the Lung the more freely may the Patient take his Ptiſan till the Cri and it will be proper to continue it for two Days after the Criſis, for Fear of Relapſes in thoſe Caſes, particularly where th is an Appearance of a Criſis on the fifth, ſeventh or nin Day; always having Regard to the equal or unequal Numb of Days. After this (two Days from the Criſis) it will prudent to give the Patient Ptiſan in the Morning, and in th Evening to proceed to more ſolid Food.

The Advantages which the Patient reaps by the immedi Uſe of the whole Ptiſan [g] are principally theſe: The pleuri Pains immediately ceaſe ſpontaneouſly, ſo ſoon as the Patie begins to ſpit any Thing conſiderable, and to expectorate [ἀ καθαίρεσθαι.] Beſides, the Purgations (of the Lungs) are more perfect, and the Patients eſcape with leſs Putrefacti (of the Lungs) than if they had made Uſe of any other Re men. The Criſes are alſo more genuine, are performed w leſs Difficulty, and are leſs ſubject to Relapſes.

Ptiſan ought to be made of the fineſt Barley, and to be v well boiled eſpecially if any Thing, unleſs the ſtrained Juic to be uſed. Beſides the other Virtues of Ptiſan, the Lubri which this Manner of preparing it gives the Barley, rende innocent, when eaten. For Ptiſan never cauſes Obſtructio nor oppreſſes the Thorax; it is very lubricous, excites no Th is very eaſy of Digeſtion, and is extremely relaxing, [h] provi it be well boiled; all which Properties render it beneficial acute Diſeaſes; inſomuch that a Patient will frequently be inj by too ſcanty an Allowance of this ſorbile Aliment.

But in Caſe the Patient is coſtive, and takes Ptiſan wi previous Evacuation of the Excrement, if he was before in P it will be increaſed; if eaſy, a Pain will immediately ſucc with a Shortneſs of Breath, which muſt have bad Effects, it dries the Lungs, and creates a deal of Fatigue and Uneaſ in the Hypochondria, lower Belly, and Diaphragm. Mo over, in a continual Pain of the Side, that will not yield to Fomentations, and where nothing is expectorated but a viſ unconcocted Matter, if, inſtead of attempting to remove Pain, either by Bleeding or Purging, as ſhall ſeem moſt co nient, we ſhould give them Ptiſan, we by this Conduct ha

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[b] This Paſſage Sydenham ſeems to have had in View, when he ſays nearly the ſame Thing.

[c] Aretæus ſpeaking of a Pleuriſy, ſays, Ptiſan is to be preferred before all Foods. The beſt Way, in the Beginning of the Diſorder, uſe the Cremor of it, ſtrained from the ſolid Part, and ſeaſoned only with Honey, without thoſe Drugs which are commonly uſed to Reliſh and Variety to the Ptiſan, for at this Time the Cremor alone is ſufficient. It ſerves for the Purpoſes of moiſtening and wa and is effectual in diſſolving and deterging Phlegm, and expels upwards, by Spitting, what ought to be expelled that Way, at the Time gently looſening the Belly. Its Smoothneſs is both grateful to the Palate, and makes it eaſily ſwallowed; and its Viſcidity allays purges the Membranes, digeſts Coughs, and mollifies all the Parts. Such are the Virtues of Barley. *Aretæus* περὶ θεραπ. ὀξ. παθ. Lib. *Cap.* 10.

It appears that Hippocrates was convinced by Experience, that the Ptiſan was an admirable Aliment in acute Diſeaſes; but he do ſeem to have been acquainted with all the Reaſons why it was ſo. As it relaxes, it removes one great Cauſe of Heat, the grand Pro of an *Alcaline* Putrefaction. During the Time it boils, and digeſts, it acquires a Tendency to Acidity, and is, on this Account, a Aliment in acute Diſeaſes, where the Juices tend to an *Alcaline* Putrefaction. And again, as it is in ſome Degree ſaponaceous, it wi ſolve Obſtructions, which Water alone will not act upon.

[d] The Inanition here hinted at, is that which is brought about by long Abſtinence from all Sorts of Aliment; a Practice which ſo the Antients gave into, however contrary to Reaſon, and unſucceſsful in Practice.

[e] In the Courſe of this Treatiſe, Hippocrates explains himſelf more at large, with reſpect to Honey, and Wine, which are both ſcent. Mean Time it muſt not be imagined, that he adviſes Wine unmixed, for the Antients ſeldom drank it without ſix, or at lea Times as much Water, even in Health. This will be explained more amply in the Sequel.

[f] The Senſe of the Author is, that if the Tongue and Mouth appear moiſt, and the Patient begins to expectorate laudably very ſoon Diſeaſe, the Criſis will be ſpeedy in Proportion: But on the contrary, if theſe Evidences of Humectation appear late, the Criſis wi ſlow.

[g] The whole Ptiſan ſeems to be the Ptiſan not ſtrained.

[h] The great Advantages of Relaxation in inflammatory Diſorders, are ſpecified under the Article INFLAMMATIO, which ſee.

Death. For theſe, and ſuch like Reaſons, thoſe who make Uſe of the whole Ptiſan, die on the ſeventh Day, or perhaps ſooner, ſome delirious, and ſome ſuffocated with an Orthopnœia, and Stertor (*Rattling in the Throat*).

The Antients believed ſuch Patients blaſted [βλήτας] on Account of theſe Symptoms, and were confirmed in their Opinion by obſerving the Sides of the deceaſed to be livid, as they would have been from a Blow received. But the true Cauſe of this Lividneſs was, the Patient's dying before the Inflammation of the Pleura and Lungs was reſolved [i]. Theſe immediately become aſthmatic [πνευματίαι]; for by much and frequent Reſpiration, the Matter to be diſcharged from the Lungs being rendered highly viſcous without Concoction, as was obſerved before, prevents Expectoration, and, ſticking to the Aſpera Arteria, cauſes a Stertor; and when the Diſtemper arrives at this State, it is generally fatal [k]. For the viſcid Matter obſtructs the Paſſage of the Air into the Lungs, and makes immediate Expiration neceſſary. And thus both conſpire to haſten the Fate of the Patient; for the viſcid Matter, by Adheſion, cauſes a ſhort Reſpiration, and this Shortneſs of Reſpiration renders the viſcid Matter (πτύελον) more and more glutinous, and prevents it from growing ſlippery, and moveable.

Nor is the unſeaſonable Uſe of Ptiſan alone, thus pernicious, ut the Eating or Drinking of any Thing that is leſs proper han Ptiſan, is attended with ſtill greater Inconveniencies. Whether a Perſon be injured by the Uſe of the whole Ptiſan, r its ſtrained Juice (χυλῷ), the Remedies are much the ſame, s alſo if the Injury is received from neither of theſe, but from n improper Uſe of Liquids; ſome Circumſtances may however ccur, which may induce a Neceſſity of varying the Means of Relief. The Methods to be purſued are as follow:

If a Man finds himſelf ſeized with a Fever ſoon after a Meal, and before he has had a Stool, whether his Indiſpoſition e attended with Pain, or not, let him abſtain from Ptiſan, ll he has Reaſon to think that there is a due Seceſſion made of e Aliment into the lower Inteſtines. If he has any Pain, let is Drink be Oxymel, warm if it be Winter, but cold in the ummer; or if his Thirſt be conſiderable, Hydromel (μελικρήτω) uch diluted with Water. After this, if the Pain continues, d there is any Appearance of Danger, let him not proceed to e Uſe of Ptiſan, till after the ſeventh or ninth Day, provided s Conſtitution be ſtrong; and even then, let him not take it o thick, or in too large Quantities. If the Food of his former eal does not ſecede, to make Room for what he has juſt w eaten, if he be robuſt, and in the Vigour of his Age, give Clyſter; but if his Conſtitution be weak, a Suppoſitory is eferable, unleſs he has Stools ſpontaneouſly. As to the pror Times for giving the Ptiſan, this Maxim ought to be obved, both in the Beginning, and throughout the whole Proeſs of the Diſeaſe, that whenever the Feet are cold, we abin from giving any Ptiſan, but eſpecially from the Uſe of quids; but when the Heat deſcends to the Feet, then is the me for the Patient to take them. And it will always be dent to conſider the Obſervation of this Point of Time, as a ing of the greateſt Importance, in all Diſeaſes, but princily in thoſe which are acute, and more eſpecially in ſuch as attended with a high Fever, and great Danger of Life.

To proceed, the ſtrained Juice of the Ptiſan (χυλῷ) is geney to be made Uſe of firſt, and after that the Ptiſan itſelf, ays having a ſtrict Regard to the Rules laid down above. d it will not be amiſs to attempt the Reſolution of the Pain the Side, whether it happen in the Beginning, or in the greſs of the Diſeaſe, by hot Fomentations [l]: The beſt of Kind, is warm Water in a leather Veſſel (ἀσκῷ) [m], or in a dder, or in a copper or earthen Veſſel, firſt applying someg ſoft to the Side, in order to protect the Part which is in from being hurt. The Application alſo of a large, ſoft Sponge, ſqueezed out of warm Water, is of good Service; but whatever is made Uſe of as a Fomentation, muſt be covered with a Cloth, both to preſerve its Efficacy the longer, and to keep the Vapour from being drawn into the Lungs, unleſs, as it may ſometimes happen, we have ſome End to anſwer by doing the contrary. It will be uſeful alſo to apply Barley and bitter Vetches [ὄροβοι] macerated in Vinegar, which is ſo tempered, as to be a little too ſour for Drinking, ſewed up in Bags; or Bran may be uſed after the ſame Manner. For a dry Fomentation, Salt, and torrified Millet in woollen Bags, are very proper; for Millet is lenient and relaxing; and ſuch emollient Fomentations as theſe reſolve, and relieve Pains that reach even to the Clavicle [n]. If the Pain is not eaſed by hot Fomentations, they are not to be long continued, for that dries the Lungs, and promotes Suppuration. But if the Pain at the Clavicle gives a ſufficient Indication, or if there is a Senſe of Weight at the Arm, about the Breaſts, or above the Region of the Midriff, we are, without Delay, to open a Vein on the Inſide of the Bending of the Elbow, and, as expeditiouſly as may be, to bleed without ſparing, till the Blood runs of a much redder Colour, or, inſtead of pure and red, runs livid, for either of theſe Alterations is uſual [o]. But if the Pain is ſituated below the Midriff, and there be no Indication at the Clavicle, the Belly muſt be looſened with Black Hellebore [μέλαν ἐλλεβόρῳ] or purple Sea Spurge [πεπλίῳ] mixing with the Hellebore wild Carrot [δαῦκον] or Hartwort [σέσελι] or Cummin, or Aniſe, or ſome other of the fragrant Herbs; but with the Spurge the Juice of Silphium [ὀπὸν σιλφίου] for though here be a Mixture of Simples, they are of a like Quality, and produce one uniform Effect. But black Hellebore works better than Spurge, and is more effectual in promoting a Criſis, but Spurge more powerfully diſpels Wind; both are Anodynes, and ſo are many other Cathartics, but theſe are the beſt that I am acquainted with. But whereas we find thoſe Purges which are not nauſeous on Account of their Bitterneſs, or any other diſagreeable Taſte, the Quantity neceſſary for a Doſe, the Colour, or ſome particular Averſion of the Patient, are with good Succeſs given in Ptiſan, it will be proper to give the Patient Ptiſan, and that not in a much leſs Quantity than uſual immediately after taking a Doſe of the Cathartics above-mentioned, [p] but it is inconſiſtent with Reaſon to give ſorbile Aliment, during the Operation of the Purge; when that ceaſes, it may be taken in a leſs Quantity than uſual, which afterwards may be increaſed by Degrees, if the Pain be removed, and no other Circumſtance forbids it.

The ſame Rules will hold good with reſpect to the Cremor of Ptiſan [χυλῷ.] For I aſſert, that it is much better to begin with it at firſt, than, after Inanition of the Veſſels by Faſting, on the third, fourth, fifth, ſixth, or ſeventh Days, except the Diſeaſe come to a Criſis within that Time; and the neceſſary Preparations previous to its Uſe, are nearly the ſame as thoſe already mentioned. And theſe are my Sentiments, in regard to the Exhibition of Ptiſan. And with reſpect to the Drinking any of thoſe Liquids to be mentioned, this is my Opinion. But I know ſome Phyſicians, who act quite contrary, to what they ought, in this Affair. For their Method is, after they have firſt exhauſted their Patient, in the Beginning of the Diſeaſe, by an Abſtinence of two, three, or even more Days, then to allow them ſorbile Aliment, and Liquors upon this Principle, perhaps, that it ſeems reaſonable to compenſate for one great Change in the Body, by introducing another as great, and contrary. A Change, indeed, would be very advantageous, could it be brought about in a regular Manner, or the Tranſition made by juſt, and eaſy Stops. But as this Change conſiſts principally in the Allowance of Food, if this be not regulated, the Sick will be greatly injured, and thoſe, moſt of all, who are indulged the Uſe of the whole Ptiſan. Thoſe alſo who

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A Mortification is the true Cauſe of this Lividneſs, and this frequently happens, when the Inflammation is not reſolved early enough to ent it.

This Paſſage, and the Prognoſtic upon it, is extremely juſt, though the Way of accounting for the Danger of ſuch Caſes is none of the beſt. have more than once known Prognoſtics made in inflammatory Caſes of the Breaſt, where the Event has not much promoted the Reputaof the Prognoſticator. Thus a Patient has had a violent Pain ariſing from an Inflammation of the Pleura, and has, on a ſudden, become ely eaſy, and upon this the Perſon who had the Conduct of the Caſe, has raſhly given Aſſurances, that the Caſe was no longer dangerous, h the Event has in a very few Hours contradicted, the Patient being ſeized with a Shortneſs of Breath, which Hippocrates expreſſes by ματίαι, and this has, to the Confuſion of the unwary Practitioner, terminated in Death. In ſuch Caſes, when the Mortification is once n, the Patient is no longer in Pain, as it frequently happens in external Inflammations. Hence we may learn to beware of ſudden nges in acute Caſes, particularly Inflammations.

I believe every Phyſician is ſenſible of the great Importance of Fomentations applied to the Part in Pain, in all inflammatory Diſeaſes, erhaps nothing has been invented, ſince the Time of Hippocrates, equally capable of aſſiſting Evacuations, and internal Remedies, in Reſolution of the Inflammation.

The ἀσκὸς here mentioned, was the Hide of ſome Beaſt, ſewed up in a Manner to make it hold Water, or any other Liquor.

V. Cæl. Aurel. Acut. L. 2. C. 19.

Whatever has been ſaid by Sydenham, Hoffman, and almoſt every other modern Author, has been founded upon what Hippocrates on this Subject.

denham lays the whole Streſs upon Bleeding, and an aceſcent Diet, much the ſame as Hippocrates recommends.

to Diet, I forbid all Fleſh-meats, and the ſmalleſt Fleſh-broths, and adviſe the Patient to ſup Barley-broth, Water-gruel, and Panada; o drink a Ptiſan, made of *Pearl-barley, Sorrel, and Liquorice Roots*, &c. boiled in Water, and ſometimes ſmall Beer. *Sydenham de itide.*

Hippocrates was not acquainted with ſome lenient and gentle Cathartics, which we now make Uſe of with great Succeſs in acute Caſes. herefore recommends giving the briſk and ſtimulating Purges which he knew, in ſuch a Manner, as to take off a Part of their Stimulawhich ſhould ſeem to be in ſome Degree effected, by the ſoft and lubricous Particles of the Ptiſan, given immediately after a take the Cremor will be injured, as will thoſe who drink only Fluids; theſe laſt, however, will be the leaſt Sufferers. We may furniſh ourſelves with Reaſons, in this Caſe, from the Conſideration of the Diet of Perſons in Health. For if there appear great Differences in Foods, as in other Things, particularly in their Changes, with reſpect to Perſons in a State of Health, may we not very well ſuppoſe them to differ not a little, in regard to the diſeaſed, and eſpecially ſuch as labour under acute Diſtempers? Now it is obvious to be underſtood, that a bad, but conſtant and uniform Courſe of Diet, both with reſpect to Meat and Drink is, upon all Accounts, a ſafer Way to preſerve Health, than a great and ſudden Change, from a bad to a more wholeſome Regimen. So they who are uſed to eat twice, or but once, in a Day, find themſelves injured, and diſordered, by altering their old Cuſtom. Let one who is not uſed to dine make a Dinner, he immediately finds himſelf not well, and feels a Heavineſs over all his Body, with a Weakneſs, and Inactivity; and if he takes beſides his uſual Supper, he is moleſted with ſour Eructations, and ſometimes looſe Stools, when the Stomach is burdened beyond its uſual Cuſtom, having been uſually ſuffered to dry, and clear itſelf, and not obliged to the Fatigue of two Intumeſcences, and two Concoctions. In this Caſe therefore the Change is to be compenſated by another, that is, by Sleep after Dinner, as in the Night after Supper, taking Care to avoid the Inconveniencies of Cold in the Winter, and Heat in the Summer. If a Perſon cannot ſleep, let him walk about gently for a conſiderable Time without ſtanding ſtill; and let him make little or no Supper, drinking ſparingly, and nothing aqueous. The ſame Perſon would be more affected, if he was to make three Meals in a Day to Satiety, and the oftener he eat, the more Inconvenience would he find from it. And yet there are ſome who eat plentifully three Times a Day, and bear it very well, becauſe they are accuſtomed to it. And others who eat but twice, if they ſhould miſs their Dinner, find themſelves weak and feeble, and too much diſpirited for any Buſineſs, and are beſides affected with a Pain at the left Orifice of their Stomach [καρδιαλγίες] their Viſcera ſeem in a Manner ſuſpended, they make hot Urine of a pale Colour, and their Excrements are baked within. Some taſte a Bitterneſs in their Mouth, their Eyes grow hollow, and they feel a Pulſation at their Temples, and a Coldneſs in their Extremities. Again, there are many, who, unleſs they have had a Dinner, dare not venture on a Supper, becauſe a Supper would oppreſs their Stomach, and create a greater Degree of Reſtleſneſs, during the ſucceeding Night, than if they had alſo made a Dinner. Since, therefore, a Change in Diet from the uſual Cuſtom, though but for half a Day, produces ſuch Effects in healthy Perſons, it ſeems the ſafeſt Way, neither to add to, nor retrench from, our uſual Fare. If any one therefore, contrary to his uſual Way of Life, eats but once a Day, and, after cauſing an Inanition of the Veſſels by faſting all Day, takes his uſual Quantity of Food for Supper, he will probably find himſelf ill, and diſordered, on Account of miſſing his Dinner; and after Supper he will feel a Heavineſs, which, however, will be much greater, if he eats more than his uſual Quantity for Supper. But if after Inanition of the Veſſels, by a longer Faſt, he ſhould then ſuddenly make a hearty Supper, he will find himſelf yet much more oppreſſed by it. Whoever, therefore, has exhauſted himſelf by Faſting, cannot take a better Method to compenſate for his Day's Abſtinence, and recruit his Strength, than in the firſt Place to guard againſt Cold or Heat, and not fatigue himſelf with Labour, becauſe he is in no Condition to bear any of them. Then at Supper, let him eat much leſs than uſual, and no dry Food, but Aliment of the more moiſt Kinds. Again, let his Drink be by no Means aqueous, nor leſs in Proportion to his Food. The next Day let him make a ſlender Dinner, and ſo, by gentle Degrees, return to his cuſtomary Way of Living. Some are, more than others, affected by theſe Irregularities, particularly thoſe who abound with Bile in their ſuperior Parts; for thoſe who are phlegmatic are, on all Accounts, better qualified to ſuſtain unuſual Abſtinence; and for this Reaſon, if they make but one Meal a Day, they are better able to bear it.

We have ſaid enough to prove that great and extraordinary Changes in Things which relate to Nature, and Habits, are the principal Springs of Diſeaſes. It is utterly unſafe, therefore, to attempt unſeaſonable and extravagant Inanition of the Veſſels, or to offer Food in the Height of a Diſeaſe, attended with Inflammation, or, in ſhort, to make any ſudden Alteration, in any Reſpect, during the whole Courſe of the Diſtemper.

Relative to what has been explained, much might here be ſaid in regard to the Stomach, and Things of the like Kind. As that we bear with Eaſe what we are accuſtomed to, whether Meats or Drinks, though bad in their own Nature; and, on the contrary, are incommoded with the beſt of Foods to which we have never been uſed. The Effects alſo of eating much Fleſh, contrary to Cuſtom, or of Garlick, or Silphium, or its Juice, or Cabbage, or any others of that Kind, which are endued with ſome remarkable Virtue, might be taken Notice of; but it is no Wonder, that theſe ſhould, more than other Things, diſturb, and incommode, the Stomach; eſpecially if we have obſerved, what Diſturbances, Intumeſcences, Inflations, and Gripings, are excited only by Maza, in a Stomach never uſed to it; what a Thirſt, and ſudden Repletion, are cauſed by hot Bread, by Reaſon of its drying Quality, and ſlow Digeſtion; alſo what various Effects are produced by the fineſt Bread, as well as the coarſer Sort [ξυγκόμιστα,] when eaten contrary to Cuſtom; and by Maza, when dryer, moiſter, or more viſcous than ordinary; what are the Effects of new Polenta [ἄλφιτα] on thoſe who are unuſed to it; and how it operates, when ſtale, with ſuch as are accuſtomed to eat new; what are the Conſequences of Wine and Water, being contrary to Cuſtom, on a ſudden, exchanged one for another; or of the ſudden abandoning a Cuſtom of drinking our Wine pure, or diluted with Water, for the contrary; for one will be ſure to produce a Redundance of Humidities in the Stomach, and Flatulencies in the lower Inteſtines; and the other a Palpitation of the Heart, Heavineſs of the Head, and Thirſt. White and black Wines, exchanged one for another, in Violation of Cuſtom, will cauſe many Alterations in the Body, though both are equally ſpirituous; ſo that we have little Reaſon to wonder, that ſweet, and generous Wines [γλυκὺς κ̀ οἰνώδης οἶνος.] when exchanged on a ſudden, are not capable of producing the ſame uniform Effects.

On the contrary it muſt be confeſſed, that in acute Diſeaſes ſome Inſtances occur, where a Change with Reſpect to Diet may be induced, without any Alteration in the Body as to Strength or Weakneſs, conſiderable enough to render an Addition to, or Subtraction from the Aliment neceſſary. In theſe Caſes, however, Regard muſt be had to the Strength of the Patient, the Nature of the Diſeaſe, the particular Conſtitution, Way of living, and uſual Diet of the Sick, both as to Meat and Drink. The Addition of Food is much leſs to be regarded, but an intire Subtraction of it is frequently of Uſe, provided the Patient has Strength ſufficient to ſupport him under ſuch an Abſtinence, till the Diſtemper arrives at its utmoſt Height, and is ripe for a Criſis: And in what Caſes this is to be put in Practice I ſhall ſpecify hereafter. Much might be added, relative to what has been already ſaid, in Confirmation of theſe Sentiments; but, as no Illuſtration is of equal Force with the Thing itſelf, I have been endeavouring to ſet in a juſt Light by ſimilar Inſtances, I ſhall proceed to the direct Doctrine, I would inculcate, as of more Importance with Reſpect to Inſtruction.

In the very Beginning of acute Diſeaſes, ſome have been indulged in eating the firſt Day of the Diſtemper, others the ſecond Day; ſome have taken any ſorbile Aliment, Cyceon not excepted [κυκεῶν.] Now this Method of Diet was far from being the beſt that might have been contrived, Errors, however, of this Kind are leſs pernicious, than if, after two or three Days Abſtinence injoined, and a conſequent Inanition of the Veſſels, the Patient had entered on ſuch a Regimen the fourth or fifth Day: Much more unſafe is it, after all theſe Days Abſtinence, and Inanition, to allow ſuch a Regimen on the ſucceeding Days, before the Diſeaſe is prepared for a Criſis. Such a Method would manifeſtly prove fatal to moſt, unleſs the Diſtemper were very favourable. But Errors in the Beginning are not ſo deſtructive, but more eaſy to be retrieved than thoſe which are committed in the farther Progreſs of the Diſtemper. This, therefore, ſeems to me a very good Argument why we ſhould not, during the firſt Days, injoin an Abſtinence from this or that Sort of ſorbile Aliment to thoſe who will be under a Neceſſity of taking ſome Sort or other on the ſucceeding Days. Wretchedly ignorant, and ill-adviſed, then are thoſe Patients, who enter upon the Uſe of Barley-Ptiſan after two, three, or more Days Abſtinence, becauſe it is in ſuch Caſe prejudicial to them. Nor do they who uſe only the Cremor [χυλῷ] underſtand that it does them a Miſchief, when they begin to make Uſe of it at an improper Time. However, they are wiſe enough to know that the Uſe of Barley-Ptiſan, before the Diſeaſe is prepared for a Criſis, is very hurtful to thoſe who were accuſtomed only to the Cremor; and they have Caution enough to avoid it. All theſe Things are ſtrong Evidences that Phyſicians uſe a prepoſterous Method with their Patients, with Regard to their Aliment, and injoin Abſtinence, and conſequently Inanition, where there ought to be none; and from theſe make a Tranſition to ſorbile Liquors, by equally wrong Steps, and, for the moſt Part, exactly counter to the Method required: Sometimes they paſs from Inanition of the Veſſels to Sorbition, when on the contrary they ought to have proceeded from Sorbition to Inanition, if the Exacerbation of the Diſeaſe required ſuch an Alteration. On Account of ſuch Errors it ſometimes happens that bilious Crudities are drawn from the Head, and Region of the Thorax; theſe are ſucceeded by Want of Sleep, which prevents the Concoction of the morbid Matter; the Patients grow dejected, moroſe, and delirious; their Eyes ſparkle, and look wild; their Ears ring; their Extremities become cold; their Urine is unconcocted; what they ſpit grows thin, ſalt, and ſincere (ἀκρήτῳ) as to Colour, and little in Quantity; Sweats break out about the Neck, accompanied with Anxieties, and Reſtleſneſs; their Inſpiration is, as it were, interrupted, quick, and d very large. Their Eye-brows are in ſome Meaſure enlarg- , they fall into troubleſome, fainting Fits, toſs off the Bed- oaths from their Breaſts, and are ſeized with Tremors of the nds, and ſometimes of the under Hip; and, if theſe Sym- oms appear early, they portend a high Delirium, and gene- ly Death. They, who eſcape, come off with an Abſceſs, Hæmorrhage at the Noſe, or a Diſcharge of thick Pus by pectoration, and no other Way.

And indeed I do not find Phyſicians ſo ſagacious, as to diſtin- ſh in Diſeaſes betwixt a Weakneſs cauſed by an Inanition of Veſſels, or ſome other Incentive, and one that is owing to Pain, and Violence of the Diſtemper; nor do they diſcern various Impreſſions and Affections of every Kind, which e their Spring in the Nature, and Habit of Individuals, ugh on the Knowledge or Ignorance of theſe Things Health Death depend. Now that Phyſician does the greateſt Miſ- f, who, miſtaking his Patient to be weakened with Inani- , orders him Drink, or increaſes his Allowance of ſorbile ment, or other Food, when the unhappy Perſon is exhauſted, debilitated by the Anguiſh, and Fury, of the Diſeaſe. It n unpardonable Error not to diſtinguiſh when a Diſorder eeds from Inanition, and, in Conſequence of that Igno- e, to reſtrain the Patient from Food. Such a Blunder in- carries Danger with it, but much leſs than that before- tioned, but is however much more ridiculous: For, if ano- Phyſician, or one utterly ignorant of Medicine, ſhould e, and be informed of what had happened, and ſhould ad- iſter Meat and Drink, which the other had forbid, he ld, no Doubt, be thought to have relieved the Patient. Events bring public Diſgrace upon an Artiſt, in the Opi- of Men; for, in this Caſe, the before-mentioned Phyſicians, e illiterate Perſon, ſeem in a Manner to have raiſed a dead on to Life.

or theſe Reaſons we ſhall deſcribe the proper Signs of theſe tions by which they may be diſtinguiſhed; and indeed they ſome Affinity with what happens in regard to the Stomach. e whole Body has reſted a long Time, contrary to Cuſ- it will not immediately increaſe in Strength; and if it be nly put to Labour, after a long Courſe of Inactivity, it is , that this ſudden Change muſt be attended with ſome In- enience. The ſame Opinion are we to form of each Part e Body. For the Feet will be in like Manner affected, ikewiſe the other Limbs, if they ſhould ſuddenly be put ſtrong Exerciſe, after a long Series of Reſt. After the Manner will the Teeth, the Eyes, or any other Part of ody, ſuffer in the like Caſe; and even a ſoft Bed, as well e that is hard, will give Uneaſineſſes to thoſe who are not to them; and a Bed, contrary to Cuſtom, made in the Air, hardens the Body. But it may be uſeful to illuſ- this Doctrine by Inſtances: Suppoſe then a Man con- an Ulcer in his Leg, not bad enough to give him much ern, yet too conſiderable to be ſlighted; and that his is not very difficult, nor yet remarkably eaſy to heal. ſe alſo, that he is immediately laid up for it the firſt Day, never moves his Leg, he will by this Method, indeed, an Inflammation, and it will be much ſooner healed, if he gently walked about during the Cure. But if he Mind to riſe, and try to walk on the fifth, ſixth, or farther Day, he will find himſelf worſe afflicted, than had kept himſelf upon his Legs, and walked gently about the Beginning. And if he ſhould on a ſudden put him- pon hard Labour he will ſuffer vaſtly more, than if he aboured in that Manner all thoſe Days, while he was Cure. So that all theſe Things, taken one with an- , will ſtill concur to prove abundantly, that every great, eyond all Meaſure, ſudden Change, either one Way or an- is pernicious.

e Stomach ſuffers various Ways, from the ſudden Recep- f too much Food, after a great Inanition of the Veſſels by nence; and all the other Parts of the Body will receive more Damage, if ſet to Labour after a long State of than by a Change from a plentiful Diet to Inanition, ded, however, the Body is indulged with Reſt upon this ge.

therefore a ſudden Tranſition is made from Exerciſe, abour, to Indolence and Inactivity, the Stomach muſt ffered to reſt in Proportion from the Fatigue of Di- n; otherwiſe, for Want of this Precaution, the Body will not fail to ſuffer, either by an univerſal Heavineſs, or ſome other Diſorder.[q]

I have been very copious on this Subject of Alteration in Diet, either one Way or another, becauſe of its great Importance, not only in general, but with Reſpect to the particular Subject we are upon, that is, a Mutation from an Inanition of the Veſſels to Sorbitions in acute Diſeaſes. A Change there muſt be, according to my Opinion, but by no Means to Sorbitions, before the morbific Matter is concocted, or ſome Sign, either evacuatory or ſtimulating, appears about the Inteſtines, or about the Hypochondria, which ſhall preſently be deſcribed.

Obſtinate and continual Want of Sleep is the Cauſe of Crudities, and Indigeſtion, both as to Meat and Drink; but a Change to the Contrary, diſſolves the Body, and induces Debility, and Heavineſs of the Head.[r]

RULES for the USE of WINE, WINE and WATER, WATER, OXYMEL, and BATHS.

The ſeveral Sorts of Wines, as the Sweet, Generous, White, and Black, as alſo Honey and Water, Water, and Oxymel, are diſtinguiſhed with regard to acute Diſeaſes, in the Manner following: Sweet Wines are not ſo ſubject to make the Head heavy and intoxicate, as the more generous, but are more productive of Stools. Yet they augment Tumors of the Viſcera, as of the Liver, and Spleen, more than the other, and are not proper for bilious Conſtitutions, becauſe in theſe they increaſe Thirſt. They alſo generate Flatulencies in the ſuperior Inteſtines, which do not affect the lower, as they might be ſuppoſed to do, for Flatulencies cauſed by ſweet Wines are not of a penetrating Quality, but remain about the Hypochondria; ſweet Wines do not, however, provoke Urine as the generous White Wines; but more powerfully promote Expectoration; but it is to be remarked, that if ſweet Wine cauſes Thirſt when drank, it increaſes Expectoration leſs than the other, but if it cauſes no Thirſt, more.

Generous White Wine has received the greateſt Part of its Praiſe and Cenſure in the Account of Sweet Wine. It better penetrates to the Bladder than the other, is a Diuretic and powerfully breaks through Obſtructions [καταῤῥηκτικὸς] and muſt therefore be very good in acute Diſeaſes. For though it be leſs fit for other Purpoſes than the former, yet its Faculty of purging by Urine frees the Body from Diſeaſes, if it be managed properly. Theſe Rules will hold good in regard to the Advantages and Prejudices attending the Uſe of Wine, though they were unknown to former Phyſicians.

Deep-coloured and black auſtere Wines may be uſed in theſe Diſtempers under the following Limitations, that is, if the Head is not affected with a Heavineſs, there is no Delirium, if Expectoration is free, if there is no Stoppage of Urine, and the Excrements be ſomewhat moiſt, and like Abraſions [ξυσματωδέστερα]. Under theſe and the like Circumſtances eſpecially, we may venture to change White Wine for theſe.

We are alſo to take Notice, that Wine, well diluted with Water, is leſs hurtful to the ſuperior Parts, and thoſe near the Bladder; but Wine, leſs diluted, is beſt for the Parts about the Inteſtines.

OF HYDROMEL, or HONEY and WATER.

But Hydromel [μελίκρητον] drank throughout the Courſe of the Diſeaſe, in acute Diſtempers, is leſs proper for ſuch as abound with Bile, or have an Intumeſcence of the Viſcera [πικροχόλοισι ϗ μεγαλοσπλάγχνοισι] than for others. However it does not excite Thirſt ſo much as ſweet Wine, but mollifies the Lungs, and promotes Expectoration moderately [πτυέλου ἀναγωγὴν] and mitigates a Cough. It has alſo ſomewhat of a ſaponaceous Quality, which is ſubject to render the Spit more viſcid than it ought to be. Hydromel is alſo a good Diuretic, provided there be no Impediment in the Viſcera. It promotes alſo the Diſcharge of bilious Excrements by Stools, which are ſometimes laudable, at other Times too much ſaturated with pure Bile, and frothy, particularly in bilious Conſtitutions, and thoſe who labour under Obſtructions in the Viſcera [μεγαλοσπλάγχνοισι].

Hydromel then, much diluted, is better adapted to promote Expectoration, and to mollify the Lungs; but the leaſt diluted is moſt effectual in purging downward frothy Excrements, and ſuch as are too hot, and too much ſaturated with pure Bile.

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this Manner great Numbers of People of Diſtinction, whoſe Affluence enables them to live without Labour, and Exerciſe, con- iſtempers, both acute and chronical, which deſtroy them before the Period which their Conſtitutions would, with good Manage- permit them to arrive at. For having ſpent their Youth in a Series of Rural Sports, which require ſtrong Exerciſe, when with theſe, they on a ſudden become indolent, and make an imprudent Tranſition from ſtrong Exerciſe to Inactivity; mean however, they preſerve that Appetite which they had before acquired by Labour and Exerciſe, and which was an Happineſs Time, but becomes a Misfortune in the preſent State of Inactivity, as it overcharges the digeſtive Organs, and the whole Syſtem, and produces Obſtructions, the Cauſes of all Diſtempers whatever. ſe Gentlemen would find their Account in continuing a Degree of Exerciſe ſufficient to digeſt, perfectly aſſimilate, and at laſt off, the Quantity of Aliment which their Appetites enable them to take into their Stomachs with Satisfaction; or elſe to ſub- an Abſtinence in Proportion to the Diminution of Exerciſe.

is Sentence ſeems miſplaced, as it has no Relation to what immediately precedes it. In all Probability it ſhould come in amongſt amples of the Inconvenience of ſudden Changes.

Bile. But it muſt be confeſſed, that ſuch Sorts of Stools are attended with ſome Inconveniences, for they do not allay the burning Heat of the Hypochondria, but rather increaſe it, and cauſe a Reſtleſneſs, and continual Toſſings of the Limbs, as alſo an Exulceration of the Inteſtines and Anus, for which Remedies will hereafter be ſpecified.

In theſe Diſtempers, therefore, diſcarding ſorbile Aliments, if we make Uſe of Hydromel inſtead of all other Drink, you may practiſe with Succeſs, and ſeldom have the Mortification of miſcarrying. In what Caſes it is proper, and where not, and for what Reaſons, has, in a great Meaſure, been explained already.

But Hydromel is condemned for reducing thoſe who drink it to an extreme Weakneſs, the Conſequence of which is thought to be Death, in a very ſhort Time. Now this Cenſure was paſſed upon it, on Account of thoſe who ſtarved themſelves to Death; for ſome there are, who make it their only Drink, as if this was the proper Uſe of it. This is not, however, the true State of the Caſe, for Hydromel drank even alone, is much ſtronger than Water, unleſs it happens to purge. And it is, in ſome Reſpects, ſtronger than white, thin, ſmall, and unfragrant [ἀνόσμου] Wines, and, in ſome Reſpects, weaker. For there is a great Difference betwixt the Meracity [ἀκρητότης] of Wine, and that of Honey, if you compare them with regard to Strength. Let a Perſon drink double the Quantity of Wine that he takes of Honey, he will certainly find himſelf much ſtronger from the Honey than from the Wine, unleſs the former purges him, and incomparably more Excrements will be produced from the Honey, than from the Wine. Yet if any one ſhould drink Hydromel after Ptiſan, it would produce in him an extraordinary Repletion and Inflation, which would have no friendly Influence upon the Viſcera about the Hypochondria; whereas, if it were drank before the Ptiſan, it would have no ſuch bad Effects, but would in ſome Meaſure be of Service.

Hydromel boiled has a much finer Aſpect than when crude; for it becomes bright, fine, white, and pellucid; and yet I do not know, that it acquires any new Virtue; for it is no ſweeter than the crude, if the Honey was good; but it is weaker, and produces fewer Excrements, which are Properties no way neceſſary to Hydromel, in order to its Uſefulneſs. Boiled Hydromel is fitteſt for Uſe, if the Honey is bad, impure, black, and ill-ſcented, for the Boiling, in a great Meaſure, corrects theſe ill Qualities.

Of Oxymel.

The Drink, called *Oxymel*, you will find to be beneficial in theſe Diſtempers on ſeveral Accounts; for it promotes free Expectoration, and renders Reſpiration eaſy. We muſt however have Regard to the following Conſiderations in giving it: That which is extremely acid, muſt have ſome very conſiderable Effect upon the Spit which is not brought up without Difficulty; now if it diſlodges and renders lubricous that, which adhering to the Bronchia cauſes a Wheeſing, and Alteration of Voice, and if it dilates the Bronchia, it muſt conſiderably eaſe the Lungs, becauſe it relaxes them. If, I ſay, it is capable of theſe good Effects, it muſt neceſſarily be exceedingly beneficial. But ſometimes the Contrary happens, and what is highly acid, is ſo far from promoting Expectoration, that it renders the Spit more glutinous, and ſo does Miſchief. And thoſe are worſt affected by it in this Manner, who, beſides other bad Symptoms, can neither cough nor ſpit out what is contained in the Bronchia. In this Caſe then we are to conſider the Strength of the Patient, and, if Things are in a promiſing Situation, to give a little of it very warm, beginning with a ſmall Quantity, and proceeding gently, never exhibiting too much at one Time. What is but a little acid moiſtens the Mouth and Throat, brings up Spit, allays Thirſt, and is beneficial to the Hypochondria, and the ſubjacent Viſcera. For it prevents any Miſchief from the Honey, by correcting what is bilious in it; it diſcuſſes Flatulencies [φυσέων καταῤῥηκτικὸν] and provokes Urine; yet it fills the lower Part of the Inteſtine with too much Moiſture, and cauſes Abraſions. Sometimes, however, it is prejudicial in acute Diſorders, eſpecially as it prevents a Flatus from making its Way through the Body, [φῦσαν κωλύει περαιοῦσθαι] and forces it to recur upwards [παλινδρομέειν ποιέει] beſides it weakens the Body, and refrigerates the extreme Parts. And theſe are all the ill Effects of Oxymel that are worth Notice. It is convenient to be given, a little of it to drink at Night, upon an empty Stomach, before the Sorbition [πρὸ ῥοφήματος] though there is no Reaſon why it may not be given, at a conſiderable Diſtance of Time after Supper. As to thoſe, whoſe Regimen conſiſts of Fluids only, without ſorbile Food, I eſteem it not proper for them to be perpetually taking Oxymel, eſpecially becauſe of the Abraſion and Exaſperation of the Inteſtines, to which they are the more ſubject for their being void of Excrements, and ſtill more on Account of the Inanition of the Veſſels. Add to this, that it may ſubtract ſomething from the ſtrengthening Properties of Hydromel. But if any one ſhould fancy, that the frequent Uſe of Oxymel might be of Service in all Diſtempers, let him make it with a very little Vinegar, juſt enough to give it a Taſte, for then what might be hurtful in it, will be rendered innocent, and its beneficial Qualities will be preſerved intire.

In ſhort, the acid Quality of Vinegar renders it more proper for bilious than melancholy Conſtitutions. For the Bile, as being bitter, is diſſolved, and converted into Phlegm when exalted by Vinegar; but Melancholy is fermented, elevated, and multiplied by it, [πολλαπλασιοῦται] for Vinegar increaſes Melancholy. But Vinegar is far more prejudicial to Women than to Men, for it is productive of Pains in the Uterus.

Of Water.

As to drinking of Water in acute Diſeaſes, I know not to what Purpoſe it can ſerve; for it neither mitigates the Cough in a Peripneumony, nor is it an Expectorant [πτυέλου ἀναγωγὸν] but is worſe, in theſe Reſpects, than other Liquors for conſtant Uſe. But a little Water drank betwixt the Doſes of Oxymel and Hydromel may promote Expectoration, as it induces an Alteration in theſe Liquors, and promotes their good Effects, for it dilutes them in the Stomach. In other Reſpects, Water is not good to quench the Thirſt, but increaſes it; and in a bilious Conſtitution, it turns to Bile, it is bad for the Hypochondria, and more than uſually miſchievous, bilious, and weakening, when it arrives at the inferior Inteſtines; it increaſes the Heat of the Liver and Spleen, when they are inflamed, and fluctuating cauſes an uneaſy Senſation in the Stomach and Inteſtines. For, by Reaſon of its Coldneſs and Indigeſtibility, it paſſes ſlowly, and neither produces Stools, nor provokes Urine. It is ſomewhat hurtful alſo, becauſe it is by Nature void of Excrements. But if it be drank when the Fe are cold, it cauſes theſe Inconveniencies in a greater Degree, a Circumſtances incline it to this or that bad Effect.

However in Diſorders which threaten a vehement Oppreſſio of the Head, or a Delirium, we are totally to abſtain from Wine, and in ſuch Caſes it will be beſt to give Water, or, i any Wine is allowed, it muſt be very ſmall white Wines, that have not the leaſt Flavour, and a ſmall Quantity of Water muſt be drank after it, by which Means the Strength o the Wine will have the leſs Effect upon the Brain and Senſes. But the proper Subjects for drinking Water, with t right Seaſons for indulging them in, or reſtraining them fro the free Uſe of it, and when it is to be drank cold, and whe warm, has been in Part declared before, and ſhall be mo fully ſpecified in its Place.

As to other Kinds of Liquors ſuch as that made of Barley [κρίθινος] or thoſe which are made from green Herbs, Raiſin or Huſks of Grapes, or are prepared from Wheat, Cnic [κνίκος, *Holy Thiſtle*] Myrtle-berries, Pomegranates, and oth Things, the proper Seaſons of uſing theſe ſhall be aſſigned th under the Diſeaſe itſelf in which they may be ſerviceabl and we ſhall take the ſame Method with regard to other compound Medicines.

Of Bathing.

Bathing might be uſeful in many Diſtempers, in ſome frequent Uſe, in ſome otherwiſe; and ſometimes it can be uſed ſo frequently as it ought, for Want of Convenien cies; for we ſhall find in few Houſes the neceſſary Prep rations with ſuitable Attendance; and, unleſs a Man be and thoroughly waſhed, he may receive conſiderable Inju The Bathing-room ſhould be without Smoak; there ſhould great Plenty of Water, and the Ablutions ſhould be freque but not over copious unleſs the Caſe requires it. Deterſion, think, may very well be omitted; but if it muſt be uſed, ought to be done hot, and the Patient muſt be well rub with a deterſory Medicine [σμῆγμα] in a much more cop Manner than is generally thought neceſſary, and muſt h Plenty of Water poured upon him, and that Water exp tiouſly changed for freſh. The Way to the Solium ſho be ſhort, and made eaſy both for going in, and coming The Perſon who bathes, ought to be compoſed and ſilent, do nothing himſelf, but ſuffer others to waſh and rub him. W ter alſo of different Degrees of Heat muſt be in Read [μετακέρασμα] the Perfuſions are to be quick, and the Spong to be uſed inſtead of the Strigil, and the Body is not to quite dry, before it is anointed. But the Head ought to dried, as much as is poſſible, by rubbing it with a Sponge; neither the Extremities, nor the Head, nor any Part of Body ought to be refrigerated. The Bath is not to be uſed after a Sorbition or Drinking, nor are Aliments or Drink be taken juſt after Bathing. Great Conſideration is here t taken of the Patient, as whether he was a great Lover of thing, or accuſtomed to it while in Health; for ſuch are more deſirous of the Bath, and find themſelves the better Bathing, and are not ſo well without it.

The Bath, generally ſpeaking, is more proper in a Peri mony, than a burning Fever, for it mitigates the Pain of Side, Breaſt, and Back, maturates and brings up the Spit, litates Reſpiration, and relieves Laſſitudes, being a Mollifier of the Limbs, and outer Skin, provoking Urine, reſolving Heavineſs of the Head, and moiſtening the Noſtrils.

Theſe are the Advantages to be reaped from Bathing, where all neceſſary Accommodations are in Readineſs; but when one or more of the Requiſites are wanting, it is to be apprehended that this Kind of Remedy may do more Hurt than Good; for a Negligence of the Attendants in any one Circumſtance is capable of conſiderable Miſchiefs.

In Diſtempers where the Belly is unſeaſonably looſe, Bathing is not at all proper, nor where it is unſeaſonably coſtive, without previouſly relaxing it. Perſons much enfeebled are not to bathe, nor thoſe who are affected with a Nauſea, Vomiting, or bilious Eructations; or who have an Hæmorrhage at the Noſe, except it was in leſs Quantity than the Occaſion required; and you know the Occaſions. But if the Hæmorrhage was too little, it will be convenient to bathe, whether it be for the Benefit of the whole Body, in other Reſpects, or only for the Sake of the Head.

When there is, therefore, a convenient Apparatus, and the Patient ſeems well able to bear it, Bathing may be uſed every Day, and it will not be amiſs if thoſe who are fond of Bathing, uſe it twice a Day. Thoſe who feed on whole Ptiſan, an with more Safety venture upon the Bath, than ſuch as make Uſe of the Cremor only, though it may on ſome Occaſions e allowed to the laſt. But Bathing is leaſt proper for ſuch take only Fluids, though there are Occaſions when even theſe ay be permitted to bathe.

From what has been wrote upon this Subject, it may be realy underſtood under what Kind of Regimen Bathing may beneficial, and with what it will not agree. Bathing can ever be proper for ſuch as are in Want of Neceſſaries, or Conniences, to render it of Service to them; but ſuch as are entifully furniſhed with whatever may be commodious for this urpoſe, may bathe, provided the Symptoms of the preſent iſorder render it proper, and likely to be of Service. [s]

Of Fevers, and Febrile Diseases.

The Summer produces a Burning Fever [καῦσος] when the eins, being parched and dried by the Fervor of the Seaſon, ract to themſelves an acrid and bilious Ichor [t] [ἰχῶρες]. A lent Fever attends with great Pain, and a Senſe of Laſſitude the Bones. It generally happens after a long Journey, and g Thirſt, when the dried Veins attract to themſelves hot and imonious Rheums.

Under this Diſorder the Tongue becomes rough and dry, and y black; the Parts about the Belly are affected with a biting in; the Excrements are very liquid, and of a pale Colour; re is a vehement Thirſt, and Want of Sleep, and ſometimes Delirium.

Let the Patient have as much Water, and boiled Hydromel, ch diluted, as he will drink; if there be a Bitterneſs in the outh, it will be proper to give an Emetic and Clyſter; if ſe do not procure Stools, purge him with Aſſes Milk boiled. ve nothing ſalt or acrimonious, for the Caſe will not bear nor any ſorbile Liquor, till the critical Day be paſt. If re happens a conſiderable Hæmorrhage from the Noſe, or uine critical Sweats, with white and thick Urine, and a light Sediment; or if an Abſceſs be formed, there is a Solution of the Diſeaſe. If there be a Solution without theſe Symptoms, the Patient will relapſe, or be ſeized with a Pain in the Hips or Legs, and will ſpit a groſs Matter, if he recovers.

There is another Kind of Burning Fever, which is attended with a Looſeneſs, an intenſe Thirſt, a rough, dry, and ſaltiſh Tongue, a Suppreſſion [ἀπόληψις] of Urine, Want of Sleep, and Coldneſs of the Extremities.

This Diſeaſe is never critically determined without an Hæmorrhage from the Noſe, or an Abſceſs about the Neck, or a Pain of the Legs, with a Spitting of groſs Matter after the Looſeneſs ſtops, or a Pain at the Iſchium, or a Lividneſs of the Pudendum. The Tenſion of a Teſticle alſo is a Symptom of an approaching Criſis. Give the Patient attractive, ſorbile Aliment [u].

In acute Diſeaſes, if the Diſtemper be violent, and the Patients ſtrong, and in the Flower of their Age, bleed. In a Quinſy (σύναγχος) or any pleuritic Diſorder, promote Expectoration with ſoft Linctuſes. If the Patient appears weakened by too plentiful Bleeding, inſtead of repeating it, adminiſter a Clyſter every third Day, till he is out of Danger, and wants no farther Remedy but Abſtinence.

Tumors of the Hypochondria not cauſed by an Interception of the Spirits, *(perhaps Hyſterics)* Diſtentions of the Diaphragm, a laborious Reſpiration, with a dry Orthopnœa, and without any internal Suppuration, but proceeding from an Interception of the Breath *(a Straitneſs of the Ramifications of the Aſpera Arteria, preventing the Ingreſs of the Air)* but particularly violent Pains of the Liver, Oppreſſions of the Spleen, other Inflammations, and Diſorders that are cauſed by painful Tumors in the Parts above the Diaphragm; all theſe cannot be reſolved by Purging at firſt, but are more tractable, if the Cure is began by Bleeding. After this proceed to Clyſters, unleſs the Diſtemper be very violent; but Regard muſt be had to the Safety and moderate Operation of Cathartics, which are made Choice of after Bleeding [x]:

Whoever, in the Beginning of an inflammatory Diſeaſe, attempts the Cure by Cathartics, does not in the leaſt diminiſh the Tenſion, and Inflammation of the Part affected; for the Diſtemper, in this State of Crudity, will not yield to ſuch Medicines; on the contrary, this Method of Treatment liquefies and waſtes the ſound Parts, which would otherwiſe reſiſt the Diſtemper; and when the Body is in this Manner weakened, the Diſeaſe gets Ground, till at laſt it becomes incurable.

Of the Catalepsis.

When a Perſon is ſuddenly taken ſpeechleſs, without manifeſt Cauſe, or any evident great Diſorder, it proceeds from a Stagnation of the Blood in the Veins [φλεβῶν ἀπολήψιες]. In this Caſe open the internal Vein of the right Arm, and take away more or leſs Blood, according to the Age and Habit of Body. This Diſorder is generally accompanied with a Redneſs of the Face, fixed Eyes, diſtended Hands, Grinding of the Teeth, Palpitations, Contraction of the Jaws, Coldneſs of the Extremities, and an Interception of the Pulſe. When a Pain comes on, there is an Afflux of black Bile, and acrimonious Humours to the Part. The internal Parts are affected with a biting Pain, as well as the Blood-veſſels, which are alſo extremely

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There is a remarkable Blunder at this Place in the Edition of *Foeſius* of 1657.

This Sentence admirably expreſſes the Conſequences of an alcaline Putrefaction; and the ſubſequent Account of a *Burning Fever*, as alls it, is inferior to none given by later Authors.

Galen could not underſtand what is here meant by *Attractive*; and indeed it is not very eaſy to find the true Senſe of it.

Sydenham has the following Paſſages, the Hints of which were, probably, taken from the great Author before us, and, no Doubt, Exence made him afterwards ſenſible of the Truth and Importance of the Doctrine here delivered.

e ſhould not omit, that if the State of the Patient requires both Bleeding and Vomiting, it is ſafeſt to bleed firſt, and give the Vomit wards; otherwiſe there would be Danger, that whilſt the Blood-veſſels are greatly diſtended, the violent Motion in Vomiting might the Veſſels of the Lungs, or hurt the Brain, and occaſion a Vomiting of Blood, or a mortal Apoplexy; of which I could give ſome ances, if it were proper; but my Deſign is only to caution. *Sydenham, de Morbis Acutis.*

ut in the firſt Stage of epidemic Diſeaſes, of whatſoever Kind they be, great Care muſt be had not to purge before Bleeding. For the aſes, which ariſe from an epidemic Conſtitution of the Air, are either actually Fevers, or upon the leaſt Occaſion degenerate into Fe-; ſo that a Fever may eaſily be cauſed by the Diſturbance raiſed in the Blood and Juices by the mildeſt Purgative, and the Heat ſucceedit, which Nature had otherwiſe expelled by the uſual Evacuations of the morbific Matter; as, for Inſtance, by a Catarrh, or an epiic Cough, or by a Diarrhœa, when the epidemic Fever has a Tendency to that Diſcharge. The ſame may be ſaid of any other ſtitution of the Air, that diſpoſes the Body to ſome peculiar Fever; which does not always actually happen, becauſe Nature expels morbific Matter from the Blood by ſome ſuitable Evacuation. This I affirm to be Fact, though the preſent Practice is to exhibit Catics before Bleeding, or, which is ſtill more dangerous, without Bleeding at all.

or, though it may be objected, that, by Bleeding before Purging, the foul Humours contained in the firſt Paſſages are propelled into the y Veins, yet it is moſt certain, that the Evacuation which precedes Bleeding cannot make Amends for the Injury, which the Blood ves from the Tumult raiſed therein by the Cathartic. And it muſt be owned, that a Purge, taken immediately after Bleeding, works more gently, and heats and agitates the Blood leſs, than it uſually does when exhibited before Bleeding: And I am apt to think Numbers, and Children eſpecially, have periſhed for Want of knowing this, or through Neglect of it.

nd this I have learned from a long Courſe of Experience, which is the ſureſt Guide in theſe Caſes; and, unleſs Practice be regulated eby, it were better to diſcard the Art: For the Lives of Men are but too much trifled with, on the one Hand, by Empirics, who are ant of the Hiſtory of Diſeaſes, and the Method of Cure, and only provided with Receipts; and, on the other Hand, by ſuch idle nders, as rely wholly upon Theory; whence both together deſtroy greater Numbers, than the Diſeaſes would without their Aſſiſtance. t that Method of Practice, and that only, will relieve the Patient, which deduces the Indications of Cure from the Phænomena of Diſ-, and afterwards confirms them by Experience; and by this Means the great Hippocrates merited the higheſt Reputation. *Sydenham ola Prima Reſponſoria.*

heſe Rules with Reſpect to Bleeding in acute Diſorders, before Cathartics are exhibited, are of infinite Importance in the Practice of ic; and it is much to be lamented, that they are not more regarded; for I am ſatisfied that Thouſands are deſtroyed by an Ignorance, egleſt of theſe ſalutary Cautions. I ſhould therefore recommend it to Practitioners of every Claſs to have ſome Regard to the Authority ippocrates, the firſt and beſt medicinal Author, the greateſt and moſt ſolid Genius that, perhaps, any Age has produced, the Preſerver houſands yet unborn; and let them remember, that his Precepts have in this Inſtance, as well as many others, received the Sanction ydenham, the beſt practical Writer ſince his Time.

ly dried, and contracted, and being moreover inflamed, they attract the Humours to them which are ſet a float. Hence the Blood being corrupted, and the Circulation obſtructed and prevented from being carried on in the natural Conduits, Stagnations are cauſed, of which Refrigerations, Vertigoes, Loſs of Voice, Oppreſſion of the Head [καρηβαρία] and Convulſions, are the Conſequences, when they affect the Heart, Liver, or Vena Cava [τὴν φλέβα]. Hence proceed Epilepſies, and Palſies, when the noble Parts above-mentioned are thus diſordered by a Flow of Humours, and dried for Want of a proper Circulation.

For ſuch Patients, certainly the beſt Thing we can do is, immediately after Fomentation, to open a Vein, while the affected Spirits, and Humours are a float, for then are Remedies of the greateſt Efficacy. When the Patient is a little recruited after Bleeding, a Vomit will be proper, unleſs he is before much relieved, always having Regard to a Criſis. And if Stools are not procured by a Clyſter, purge with Aſſes Milk boiled, in a Quantity not leſs than ſix Pints, or, if the Conſtitution is robuſt, more than eight may be given.

Of a QUINSY.

The Quinſy happens frequently in Winter or Spring, by the Defluxion of a Multitude of viſcous Humours upon the Jugular Veins, which attract the more, on Account of their extraordinary Size. This cold and viſcid Humour obſtructs, and renders impervious all the Paſſages of the Blood, and Spirits, condenſes the Blood near it on every Side, coagulates it, and cauſes it to ſtagnate, being by Nature cold, and inclined to generate Obſtructions.

Hence the Patients are ſuffocated, their Tongues are livid, round, and bent back in their Mouths, becauſe of the Tumefaction of the Veins underneath; an Inciſion being made in the Uvula, which is alſo called κίων, a large Vein, appears on each Side. Theſe Veins, when thus turgid with Humours, preſs upon the Tongue, which, on Account of its Dryneſs, Rarity, and Sponginеſs, is ſuſceptible of Impreſſions from the adjacent Veins, and readily imbibes the Humours with which they abound; and hence it is changed from flat to round, from well coloured, to livid, from moiſt, to dry, and from flexible, to ſtiff, inſomuch that the Patient is in Danger of Suffocation, without immediate Relief, which is to be given by Bleeding in both Arms, and opening the Veins under the Tongue, by Lambitives capable of inciding the Humours, by hot Gagariſms, and evacuating a Part of the Humours by an increaſed Diſcharge of Saliva [y], and by ſhaving the Head. A Cerate ſhould alſo be applied to the Head and Neck, and over this Wool, and the external Parts muſt be fomented with ſoft Sponges, wrung out of warm Water. The Drink ought to be Water and Hydromel, but by no Means cold; or Cremor of Ptiſan, when the Danger is judged from the Criſis, to be over.

In Summer, or Autumn, when Humours deſcend from the Head, which are hot and acrimonious, as participating of the Heat and Acrimony of the Seaſon; they corrode, exulcerate, and fill with Spirits, and an Orthopnœa, with a great Dryneſs, ſucceeds. In this Caſe, the Fauces, if inſpected, manifeſt no Tumor, the Muſcles on the back Part of the Neck are fixed, as in a Tetanus; the Voice is broken, Reſpiration ſmall, frequent, and not performed without Difficulty; there is an Exulceration of the Aſpera Arteria, with an Inflammation of the Lungs, inſomuch that they cannot readily admit the external Air; and if the Diſeaſe do not ſpontaneouſly tend to the external Parts of the Neck, it is the more terrible, and fatal, on Account of the Seaſon of the Year, and becauſe it owes its Origin to hot and acrid Humours. [z]

MISCELLANEOUS OBSERVATIONS WITH REGARD TO FEVERS.

If a Fever ſeizes a Perſon whilſt the old Excrements are retained, or immediately after new Food is received, whether accompanied with a Pain of the Side, or not, the Patient is to reſt, till the Food is deſcended into the lower Inteſtines; mean Time, let his Drink be Oxymel. When a Heavineſs is perceived at his Loins, purge the Belly with a Clyſter, or a Cathartic. After Purging, let him take firſt ſorbile Aliment, and drink Hydromel; after this, he may proceed to vegetable Food, and boiled Fiſh, with a little diluted Wine at Night, and diluted Hydromel in the Day-time. If the Diſcharges of Wind are very fœtid, a Suppoſitory or Clyſter will be of Service. If otherwiſe, he muſt continue the Uſe of Oxymel, till the Excrement deſcends into the inferior Inteſtines, and then let a Clyſter be adminiſtered.

If a burning Fever ſeizes whilſt the Belly is laxative, if Purging appears proper, defer it the three firſt Days, and give the Cathartic on the fourth. After Purging, give ſorbile Aliment, obſerving the Approach of the Fever Fits, ſo as never to give it when the Fit has actually ſeized, or is juſt coming on, but when it ceaſes, and is intirely gone off, and the Diſorder is at the greateſt Diſtance from the Acceſs of the ſucceeding Paroxyſm. But give no Drink, nor ſorbile Aliment, nor any Thing of that Kind, whilſt the Feet are cold; but eſteem it as a Matter of the greateſt Importance, to wait till they are thoroughly hot, and then give what you think moſt proper; for the Coldneſs of the Feet is univerſally a Sign of the Approach of the Paroxyſm; at which Time, if you load the Stomach with any Thing, you will do Wrong upon all Accounts, for the Diſorder will hereby be conſiderably increaſed. But when the Fit is over, the Feet, on the contrary, grow hotter than the reſt of the Body; and as the Feet are refrigerated, the Fever increaſes, and a Fire is kindled in the Thorax, which imparts Flame to the Head. For all the Heat ruſhing together, and exhaling to the Head, it is not at all ſtrange that the Feet, which are by Nature of a nervous, and not fleſhy Subſtance, ſhould be refrigerated. Beſides, their great Diſtance from the hot Parts contributes to their Refrigeration, when the Heat is collected in the Thorax. Again, it is conſonant to Reaſon, that the Feet ſhould grow hot, when the febrile Paroxyſm is reſolved and utterly diſperſed. At this Time, the Head and Thorax are refrigerated, and for that Reaſon Food is to be given. For, when the Feet are cold, the Stomach muſt neceſſarily ſuffer with too much Heat. Hence Sickneſs and Nauſea, diſtended Hypochondria, and Reſtleſneſs, becauſe of the internal Agitation, as alſo a Delirium, and Pain; add to this, that the Patient is affected with Vellications, and Inclinations to vomit, and if what is diſcharged by Vomit is bad, Pain ſucceeds. But when the Heat deſcends to the Feet, and the Urine is diſcharged freely, though no Sweat ariſes, all Things are compoſed, and then it is proper to give ſorbile Aliment, which at other Times is pernicious.

In ſuch who have their Belly laxative during the whole Courſe of a Fever, take care to keep their Feet not leſs warm than the reſt of the Body, by warming them, covering them with Cerates, and rolling them with Swaths. But if they are ſpontaneouſly hot, warming Applications are not neceſſary, unleſs ſo far as may preſerve them from Refrigeration. In this Caſe, let the Patient drink cold Water, or Hydromel, in ſmall Quantities.

As for ſuch as have their Bellies laxative in Fevers, and are delirious, many of theſe pick the Bed-cloths, rub their Noſes, return quick (κατὰ βραχὺ) Anſwers to what they are aſked, and talk nothing that is rational, but utterly incoherent. Theſe Symptoms I imagine ariſe from black Bile. In this Caſe, if the Stools be liquid and colliquative, cooler and thicker Sorbitions, in my Opinion, are proper to be given, and Drinks fit to ſtop a Looſeneſs, but rather vinous than aſtringent.

As for thoſe who, in Fevers, from the Beginning, are affected with a Vertigo, and Pulſation in the Head, and make a thin Urine, we are to expect a conſiderable Exacerbation of the Fever about the Criſis; nor is it a Wonder if they become delirious.

Thoſe who in the Beginning make cloudy or thick Urine, are to be purged, provided nothing contradicts. But ſuch as make thin Urine in the Beginning, are by no Means to be purged, but may, if it ſhall be thought fit, have a Clyſter adminiſtered; theſe latter are to be treated in the following Manner:

Let the Patient be enjoined a ſtrict Reſt; let him be anointed, and equally covered with Cloths; let his Drink be diluted Hydromel, and let him ſup the Cremor of Ptiſan at Evening. Evacuate him with Clyſters in the Beginning, but avoid Purging; for if you raiſe any Commotions about the Stomach, the Concoction of the Urine will be hindered, and the Fever conſiderably prolonged without Sweat or Criſis. Permit no ſorbile Aliment to be given at the Approach of the Criſis, when the Perturbation is at the Height, but defer it till the Patient grows eaſier, and mends. The Criſes of all Fevers are to be obſerved, and ſorbile Aliments, at that Time, are to be ſtrictly prohibited.

Theſe Sorts of Fevers, generally continue a long Time, and if attended with a Coldneſs of the Feet, uſually terminate in Abſceſſes, about the Ears or Neck. If no ſuch Coldneſs attends, other Alterations are more likely to happen, as an Hæmorrhage from the Noſe, and ſometimes a Diarrhœa. Thoſe who labour under Fevers attended with great Anxiety and Diſtention of the Hypochondria, with Reſtleſneſs, ſo as not to be able to lie a Moment in the ſame Place, and Coldneſs in all their Extremities, require the greateſt Care and Watchfulneſs over them. The Method of treating them is to give them nothing but Oxymel diluted; and to keep them from all ſorbile Aliments, till the Fever is abated, and the Urine appears concocted. The Patient is to lie in a dark Chamber, on a very ſoft Bed, to endure for a long Time the ſame Poſture of Decubiture, and to avoid as much as is poſſible all Jactation of the Body, for in ſo doing, he will find himſelf principally relieved. Moreover, mollify the Hypochondria with Linſeed, applied to them, as hot as it can be endured, and boiled in Water and Oil, taking particular Care that it is not grown cold when laid on.

Probab

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[y] Thus Galen interprets ἐκλειχτοῖσι. It is obſervable that Sydenham's Method of Practice is nearly the ſame as that here ſpecified.

[z] This Account of a very dangerous Sort of Quinſy, has been adapted by moſt ſucceeding Authors on this Subject.

Probable Prognoſtics may be drawn from the Urine: Thoſe which are turbid, and pale, are better, but the thin and black, re much worſe: Their frequent Alteration indicates a long Duration of the Fever, which conſequently muſt be irregular, nd undergo many Changes, either for the better or the worſe. Theſe anomalous Fevers are to be let alone, till they come to ſome Conſiſtence, and Regularity, and then they are to be oppoſed y a proper Regimen, and a convenient Method of Cure, al- ays having a due Regard to whatever Nature produces. Even he Countenances of the Sick are various, and worthy of No- ice; it is therefore the Duty of every Phyſician, to be watch- l that no Circumſtance eſcapes his Obſervation, whether it anifeſts itſelf by outward Appearances, or may be diſcovered y Reaſoning; nor muſt any of thoſe be neglected, which ay be expected to happen at equal, or unequal Numbers of Days.

Firſt, then, odd Days are to be ſuſpected, becauſe theſe pro- uce Alterations in the Diſtemper, either for the better or for e worſe. Obſerve, therefore, the firſt Day when the Patient as taken ill, and whence and when the Diſeaſe began, which eſteemed the firſt and principal Thing to be conſidered. Af- r this, the Sick muſt be examined, and all Things duly eighed and conſidered; firſt, enquire how he finds his Head, hether it be free from Pain, and whether he has no Senſe of ravity in it. Then as to his Sides, and Hypochondria, aſk him hether they are free from Pain; the Hypochondria, in parti- lar, whether they are affected with any Uneaſineſs, or Intu- eſcence, or Obliquity, (*that is, whether they are more ſwelled one Side than the other*) or Fulneſs; whether] there be a in of the Side, and that Pain be attended with a Cough, ripes, or Uneaſineſs of the Belly.

If any of theſe Symptoms affect the Hypochondria, the moſt per Remedy is a laxative Clyſter, and let the Patient drink iled Hydromel pretty hot; examine alſo whether the Patient ſubject to faint when he riſes up, and whether he reſpires thout Difficulty. The Stools alſo are to be regarded; and tice taken if they are remarkably tinctured with a black lour, or are ſincere, as in a State of Health; obſerve alſo, ether there be an Exacerbation of the Fever on the third y.

After conſidering whatever happens on the three firſt Days in ſe Diſtempers, there are other Things that muſt come under amination. Thus, if the fourth Day produce any of the e Symptoms as the third, the Caſe is attended with nger.

As to the Signs, black Stools prognoſticate Death; but ſuch re like thoſe of Perſons in Health, if they appear every Day ſame, are Signs of Recovery.

f a Stool cannot be procured by a Suppoſitory, and never- leſs Reſpiration is eaſy, but the Patient faints when he ſits or lies in Bed, and this happens at the Beginning of the Fe- , a Delirium is to be expected, whether the Patient be a n, or a Woman, that is thus affected.

The Hands alſo are to be obſerved; for if they tremble, an morrhage from the Noſe may be expected.

nſpect likewiſe the Noſtrils, and obſerve whether the Breath es equally free through both; and if much of it paſſes ugh the Noſe, Convulſions uſually follow; in which Caſe th is to be expected; and it is of Importance to a Phyſici- to make ſure Prognoſtics.

f a Fever happens in the Winter, attended with Roughneſs e Tongue, and a Delirium, though there is a Remiſſion of Diſeaſe, the Patient is however to be kept extremely low, to be juſt ſupported with Water, and Hydromel, and Cre- of Ptiſan (χυλοῖς); for there it is dangerous to rely on the miſſion of ſuch Fevers, becauſe Signs of this Nature ſhew the ent to be in a hazardous State. When you are well ac- nted with theſe Things, make Predictions, if you pleaſe, ys, however, with great Circumſpection.

n Fevers, if there appears any formidable Symptom on the Day, or there happens a ſudden Diarrhœa, or Fainting, or of Voice, or Convulſions, or Hickups, which render the ent extremely reſtleſs; if a Sweat breaks out about the up- Lip, the Forehead, and the Part of the Neck behind the d; the Perſons who labour under theſe Symptoms, die very ſhort Time, as it were, aſthmatic (πνευματώδεες.)

hoſe who in Fevers are affected with Tubercles on their (σκέλεα φυματώδεα) which continue a long Time without uration, the Fever ſtill perſevering; and who are moreover d with a Suffocation in the Throat (πνιγμὸς ἐν φάρυγγι) no nor appearing about that Part, and the Tubercles ſtill ining crude (καὶ μὴ σβεθῇ) are uſually ſeized with an Hæ- hage from the Noſe, which if it be copious prognoſti- a Solution of the Diſeaſe; if not, that it will be of long tion; and the leſs the Hæmorrhage, the Diſtemper will be e, and longer in Proportion. If the Patient is tolerably with reſpect to other Things, he may expect Pains about his Feet. But if Pain ſeizes the Foot, and grows exceſſive, and is attended with Inflammation, which remains without Reſolution, the Pain, by Degrees, will penetrate to the Neck, the Clavicle, the Shoulder, the Breaſt, and the Hip, (ἄρθρον) whence this laſt muſt neceſſarily be affected with Tubercles; if theſe diſappear, and the Hands are contracted, or unſteady, the Patient ſoon grows convulſed and delirious; Puſtules (φλυζάκια) alſo, and red Spots (ἐρυθήματα) appear upon his Eye-brows, the Eye-lids ſwell, and approach each other, a dry Inflammation ſucceeds, the Eye ſwells extremely, and now the Delirium increaſes exceedingly; the Night, however, produces an Exacerbation of the Delirium, more than the Day. An unequal Number of Days favours the Production of the Symptoms above-mentioned, more than one that is equal; but whenever they appear, they are alike of bad Preſage.

If you intend to purge ſuch Patients at the Beginning, it muſt be done before the fifth Day, provided a Murmuring is perceived in the Inteſtines, otherwiſe omit it. But if there is a Murmuring, and the Excrements are bilious, purge gently with Scammony; as to the reſt of the Treatment, abſtain, as much as the Caſe will permit, from Liquors, and Sorbitions, till after the fourteenth Day, and the Fever begins to remit, for this Method will promote the Cure.

In a Fever, if there be a Failure of the Voice about the fourteenth Day, it portends no quick Solution nor Deliverance to the Patient, but the long Continuance of the Diſorder; if it happens preciſely on the fourteenth Day, ſtill the longer will the Diſeaſe prevail.

If the Patient in a Fever on the fourth Day, finds ſome Difficulty in ſpeaking, and has thin bilious Stools, he uſually falls into a Delirium.

It is alſo of Importance to conſider the Conſequences of many Things which occur.

[a] In acute Diſeaſes, which happen in Summer and Autumn, a ſudden Diſcharge of a few Drops of Blood (from the Noſe) indicates a great Reſiſtance (συντονία) and Inflammation of the Veſſels, and the Appearance of a thin Urine the next Day. And if the Patient be in the Vigour of his Age, inured to Exerciſe, carnous, or of a Conſtitution inclined to Melancholy, or his Hands ſhake with Drinking, you may ſafely prognoſticate a Delirium or Convulſions; which, if they happen on even Days, are the more favourable, but, on critical Days, are pernicious, unleſs the Patient is relieved by a copious Hæmorrhage from the Noſe, or the hæmorrhoidal Veins; or by a Suppuration, Tranſlation of the morbific Matter, critical Tumor, or Pains about the Hypochondria, Teſticles or Legs; for a Solution of theſe, paves the Way to Expectoration, and the Diſcharge of a thick, ſmooth, and white Urine.

In a Fever, attended with Hickups, let the Patient take the Juice of Silphium, and wild Carrot, beat up with Oxymel; and give him Galbanum in Honey, with Cummin, by Way of Lambitive; after theſe, he may be allowed ſtrained Juice of Ptiſan. In this Caſe, the Patient cannot eſcape, unleſs he is relieved by critical Sweats, regular Sleep, and the Diſcharge of a thick and acrid Urine, except the Diſeaſe terminates in an Abſceſs. An Eclegma may be prepared of Pine-nut Kernels, and Myrrh; and let the Sick drink very little Oxymel; but, if he be very thirſty, give him Barley-water.

In a Peripneumony, or Pleuriſy, we are to conſider whether they are attended with an acute Fever; whether the Pain lies in one or both Sides; whether the Patient labours for Breath; whether there be a Cough, and of what Kind the Spit, whether reddiſh, livid, thin, frothy, florid, or in any Reſpect different from what uſually happens in ſuch Caſes. The Patients are to be treated after the following Method:

If the Pain verges towards the Clavicle, or the Breaſt, or Arm, open the inner Vein of the Arm, on the Side where the Pain lies, and take away as much Blood as the Habit of Body, the Seaſon of the Year, together with the Age and Complexion of the Perſon will permit; and the more plentifully, and with the greater Confidence, if the Pain be acute, even to the Fainting of the Patient. After this, let a Clyſter be given.

But if the Pain is ſituated under the Thorax, and is very intenſe, exhibit a Purge. Whilſt it works, give nothing; but when the Medicine has finiſhed its Operation, let the Patient take ſome Oxymel. Purge on the fourth Day; but the three firſt Days make Uſe of Clyſters, and then, if theſe give no Relief, purge gently; after this, let due Care be taken of the Patient, till the Fever diſappears, and the ſeventh Day is arrived. If then the Danger appears to be over, proceed thus: Firſt, exhibit a little Juice of Ptiſan, mixed with Honey. Afterwards, if the Spit comes up with Eaſe, Reſpiration is eaſy, and the Pain of the Side is no longer ſenſible, give a ſomewhat larger Quantity, made a little thicker, twice in a Day.

If the Diſeaſe be more obſtinate, the Drink muſt be leſs in Quantity, with a little ſorbile Food; that is, the Juice of Ptiſan prepared thin, and given but once in a Day, and that at

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[a] The following Obſervations are extremely juſt.

the Time when it is at the beſt, which may be known by the Urine. But in theſe Diſtempers, ſorbile Food is not to be allowed till a Concoction is manifeſt in the Urine and Spit. And if the Patient has been purged much, his Diet muſt be the thinner, and the leſs in Quantity, for he will not be able to ſleep, becauſe of the Inanition of the Veſſels, nor digeſt as he would otherwiſe, nor have Strength to ſuſtain the Shock of the Criſis. But when Crudities are brought to a Colliquation, and what reſiſts (*Nature*) is expelled, nothing will afterwards interfere with a more plentiful Uſe of theſe. Now the Spit is diſtinguiſhed to be concocted, when it is like Pus, and the Urine, when it depoſites a reddiſh Sediment like (*the Meal of*) Vetches.

In other Pains of the Sides, it is proper enough to apply warm Fomentations and Cerates, and to anoint the Legs and Loins with warm Oil or Fat; but on the Hypochondria lay a Cataplaſm of Linſeed, that may extend as far as the Breaſt.

A Peripneumony, in its Vigour, admits of no Relief, without a Diſcharge by Expectoration, and is dangerous, if accompanied with a Difficulty of Breathing, a Diſcharge of thin and acrid Urine, with Sweats about the Neck and Head; for theſe are fatal, as proceeding from a Suffocation, and the Strength and Fury of the prevailing Diſtemper, unleſs when there is a plentiful Diſcharge of thick Urine, or a concocted Matter is expectorated; for if any Thing of this Kind happens, there is a Solution of the Diſeaſe.

An Eclegma for the Peripneumony is prepared of Pine-nut Kernels, and Galbanum with Attic Honey. For a Pleuriſy, in the Beginning, when the Pain is urgent, boil Southernwood, Pepper, and black Hellebore in Oxymel, and give the Patient. A Decoction of Panax (πάναξ) in Oxymel, ſtrained and drank, is good in Affections of the Liver, and Pains about the Diaphragm. Give what is intended to operate by Stool or Urine in Wine and Honey; but it may ſometimes be adviſeable to give Cathartics, with a plentiful Draught of diluted Hydromel.

When a Dyſentery ceaſes, it is ſucceeded by an Abſceſs, or ſome Sort of Tumor, unleſs it terminates in a Fever, or in Sweats, whilſt the Urine is thick, white, and ſmooth; or it may end in a Tertian, or in a Varix, or fix upon the Teſticle, or Legs, or the Hip.

In a bilious Fever the Acceſſion of the Jaundice, with a Shivering before the ſeventh Day, gives a Solution to the Diſeaſe; but if it comes out of Seaſon, and without a Rigour, it is fatal.

Convulſions about the Loins, and a Stagnation of the Blood on Account of a Redundance of melancholy Humours, whenever they happen, are ſolved by Phlebotomy. But when the Body is drawn vehemently forwards by convulſive Contractions of the Muſcles, and Sweats are raiſed about the Neck and Face; the Violence of the Pain ſtimulating, and ſhrivelling the Pſoas Muſcles, [b] which being conſiderably thick, ſuſtain the Spine of the Back, in that Part where the largeſt Nerves take their Riſe, and are extended to the Feet, unleſs the Patient be ſeized with a Fever, and a Sleep, and then makes a well concocted Urine, and falls into critical Sweats, let him drink generous Cretic Wines, and eat boiled Meal. Anoint him alſo with emollient Cerates, and bathe his Legs in a Tub of warm Water, and afterwards wrap them up in Cloths as far as the Feet, and in like Manner cover the Arms down to the Fingers. Lay alſo a warm Skin, ſpread with Fat and Cerate, over the Loins, large enough to reach from the Neck to the Haunches, and to come over before. Fomentations alſo with Bladders may be uſed at Intervals, with Affuſions of warm Water, after which the Patient, being well wrapt up in Linnen, is to be laid to reſt.

Beware of too much Purging; but if the Belly has been coſtive for a conſiderable Time, uſe a Suppoſitory; and if this anſwers the Purpoſe, it relieves the Patient; if not, let him drink fragrant Wine medicated with the bruiſed Root of Bryony and wild Carrot in the Morning faſting, before Affuſions of Water; and after theſe, let him immediately eat heartily of boiled Meal warm, drinking afterwards at Pleaſure Wine well tempered. If this Method anſwers the Intention, it is well; if not, Danger may be prognoſticated.

All Diſeaſes admit of a Solution, either by the Mouth, or the Belly, or the urinary Glands, or ſome other Emunctory; but all critical Diſcharges are accompanied with Sweats.

In Caſe a Rheum deſcends from the Head, Hellebore is the proper Remedy; but to ſuch as labour under an Abſceſs, a Rupture of a Veſſel, the ill Effects of Intemperance, or who, from ſome other powerful Cauſe, are affected with a Suppuration, Hellebore is by no Means to be given; for it can do no Good, and if the Patient be worſe, is ſure to bear the Blame. But if the Body be languiſhing, or there be a Pain in the Head, or a Stuffing of the Ears and Noſtrils, or a Spitting, or a Heavineſs of the Knees, or the Body ſmell more than uſual, you may preſcribe it, provided that none of the aforementioned Symptoms proceeds from Exceſs of Drinking, or Venery, from Sorrow, Cares, or Want of Sleep; if any of theſe are in Fault, the Method of Cure muſt be ſuited to the Cauſe.

Pains in the Sides, Back, Loins, and Hips, and whatever manifeſtly cauſe a painful Reſpiration, are ſometimes the Effects of Travelling; though ſometimes alſo the Pains in the Loins and Hips proceed from a Crapula (*Overloading the Stomach*) or flatulent Food: To theſe may be added a Dyſury; now all theſe together with a Stuffing of the Head, and a Hoarſeneſs, are often cauſed by Fatigue in travelling.

Many Signs worthy of Notice ariſe from the Method of Diet, according as a Perſon deviates from that which has been habitual to him. If any one makes a Dinner, who never uſed to dine, his Belly ſwells conſiderably, and a Sleepineſs, together with a Senſe of Fulneſs, oppreſs him; and if beſides he ſups as uſual, he finds his Belly diſordered. Such Perſons would do well to ſleep immediately after Bathing, and when they riſe, to walk gently for a conſiderable Time; if by theſe Means Stools are procured, let him make a Supper, and drink a little Wine, but not much diluted. But if there are no Stools, the beſt Way is to anoint the Body with warm Oil; and in Caſe of Thirſt, to drink a little white, or ſweet Wine diluted, and immediately afterwards to betake themſelves to Reſt, where, if they cannot ſleep, let them continue at Reſt longer. In other Reſpects, let ſuch a Diet be directed as is proper for a Crapula.

As to Drinks, thoſe which are watery are ſlow of Paſſage, and gather round, and float about the Hypochondria, not readily paſſing off by Urine. Whoever fills himſelf with ſuch Liquo cannot be quick at the Diſpatch of any Work that requi great Efforts, Strength, or Agility of Body. In ſuch a Caſe the beſt Way in general is to be ſtill, and reſt, till ſuch Flu are concocted together with the Food. On the contrary, the ſtronger, or more auſtere Sorts of Drink cauſe Palpitations i the Body, and Pulſations in the Head. Thoſe who are diſordered by ſuch an Exceſs are relieved by Sleep, and ſupping ſo ſuch warm Liquor, as is moſt agreeable to the Palate.

Faſting is bad for the Head-ach and Crapula. Thoſe w eat but once in a Day grow weak; their Urine is hot, fro an unnatural Exinanition of the Veſſels; there is a Saltneſs a Bitterneſs in their Mouth; they tremble when they are abo any Work, the temporal Arteries are diſtended; nor can th digeſt their Supper ſo well as if they had dined. [c] It will be pro per for ſuch to drink leſs than uſual, and to eat Maza m pretty liquid, inſtead of Bread, and among their Greens to Docks, or Mallows, or Ptiſan, hulled Barley, or Beet. A Table, let them after Eating drink a moderate Quantity Wine well diluted, and after Supper take a gentle Walk, t a Secretion being made, they have Occaſion to evacuate by Urine: Let them feed alſo on boiled Fiſh.

Foods alſo evidently manifeſt their Qualities by their Effe Thus Garlick generates Flatulencies, and Heat in the Thorax, cauſes Heavineſs of the Head, and Anxiety, and, if th happens to be any habitual Pain, it will not fail to increaſe But it provokes Urine, which is a good Quality; it is b eaten before a premeditated hard Drinking or Debauch.

Cheeſe breeds Flatulencies, and is aſtringent; it dries Food, is a crude and undigeſtible Sort of Aliment, and very for ſuch to eat who have filled themſelves with Drink.

Pulſe of all Sorts is flatulent, whether raw or boiled, or whether macerated or green; and they ought not to be without other Food. Every Kind has its peculiar Faults.

Chich-peaſe, whether raw, or baked, generate Flatulen and cauſe Pain.

Lentils unhuſked are aſtringent, and cauſe violent and quent Contractions of the Heart [ἄχαδον]. Lupines are the harmleſs of this Claſs.

Silphium, both the Plant and Juice, is very quick in pa through the Body with ſome, but very ſlow in others wh not uſed to it, and breeds what they call *Dry Choler*, eſpe if it be eaten with Cheeſe or Beef. For Beef exaſperates lancholy Affections, becauſe it is inſuperable by the dig Organs, and not eaſy to be diſſolved by the Action of the mach. But theſe Inconveniencies are beſt avoided by thoro ly boiling it, and eating it ſtale.

Goats-fleſh, beſides that it has all the Faults of Beef, is ſubject to breed Crudities, Flatulencies, Eructations, and C ler. That which is moſt fragrant, firm, and is grateful the Palate, is the beſt, and ought to be thoroughly boiled, eaten cold. On the Contrary, what is diſagreeable, rank, hard, is the worſt, eſpecially if freſh killed. It is beſt in Summer, and worſt in Autumn.

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[b] The Commentators and Interpreters have conjured up a Difficulty, where there appears to be none. They ſeem to think the οὐρωδίων ſhould be wrote ὀῤῥωδίων, which they derive from ὄῤῥος, *The Extremity of the Os Sacrum*. In my Opinion, Hippocrates expreſſes plainly the Pſoas Muſcles, for which οὐρωδίων ſeems a very proper Name, becauſe of their Vicinity to the Kidnies, Ureters, and Bladder, Organs employed about the Secretion, and Expulſion of the (οὖρον) Urine.

[c] This is a very judicious Obſervation. It is certain that the Juices after Faſting contract an Alcaleſcence, for Want of being diluted freſh Chyle; and hence the Symptoms mentioned by Hippocrates in this Place.

Swines-fleſh is bad when eaten either too raw, or over done, or then it is ſubject to breed Choler, and create Uneaſineſs. ows-fleſh is however the moſt excellent of all others, and f this the choiceſt is what is neither extremely fat nor lean, or of the Age of an old Victim, and it is beſt when eaten ithout the Skin, and ſomewhat cold.

In a dry Cholera [χολέρη ξηρὴ] the Belly is inflated, and a urmuring in the Inteſtines is perceived ; the Sides and Loins e in Pain, and nothing paſſes by Stool, but the Patient is in- rely coſtive.

In this Diſorder beware of giving an Emetic, but let your are be to diſcharge the Belly of its Contents downwards. For is End as ſpeedily as may be, adminiſter a warm Clyſter, ren- red as emollient as poſſible, by an Admixture of Fat, and, ter well anointing the Patient, conduct him into a plentiful th of hot Water, and placing him in the Solium [σκάφη] ur the Water on him by Degrees. During this Treatment the Bath, if he can have the Benefit of a Stool, there is a lution of the Diſeaſe. Sleep alſo will do him Good, and inking of thin old Wine, not mixed with Water. Give alſo Oil that he may reſt, have a Stool, and ſo get quit of Diſtemper ; but keep him from all Sorts of Food. If the in does not remit, let him drink Aſſes-Milk till it purge him. the Excrements are liquid and bilious, and the Patient is af- ted with Gripes, Vomiting, and Fainting, the beſt Way to enjoin a ſtrict Reſt, and to exhibit Hydromel, ſo as not return it by Vomit.

Of Dropſies there are two Kinds ; the firſt, which comes er the Fleſh [ὑποσαρκίδιους] when it once attacks, is incura- ; the other is attended with Flatulencies, and the Patient ery fortunate if he gets a Cure, which muſt be attempted cipally by hard Labour, Fomentations, and Temperance. him eat dry and acrid Food, which will not only cauſe him to e Plenty of Urine, but alſo ſtrengthen him in a great Mea- . If he is afflicted with a Difficulty of Breathing, and it he Summer Seaſon, and he in the Vigour of his Age, and is full Strength, it will be proper to take ſome Blood from Arm. Afterwards let him eat hot Bread dipt in Black ne and Oil, and drink as little as poſſible, but uſe hard La- and Exerciſe, and eat well fed Swines-fleſh, boiled in Vine- that he might be the better able to ſupport himſelf under atiguing Walks, which ought to be againſt Places of ſteep nt.

ch as have the lower Belly hot, are ſubject to ſharp and irre- r Stools, and to a Colliquation ; if their Strength be firm, ought to have a Doſe of white Hellebore, in order to make vulſion, but if weak, the Juice of Sitanean [σιτανίων] at is to be given, made thick and then cooled, or elſe l of Lentils, or Bread baked in the Embers [ἐγκρυφίας] or , which muſt be boiled for one that is feveriſh, but roaſted thers. Black Wine alſo is to be given to one that has no r, otherwiſe Water in which have been macerated Med- or Myrtle-Berries, as Quinces, or Services, or Dates, or ruit of the Wild Vine. If the Patient be affected with es, without a Fever, let him drink Cows-milk warm, a Quantity at firſt, and increaſed every Time afterwards ; ke Linſeed, and the Meal of roaſted Wheat, and Egyp- Beans, firſt ſtripped of their bitter Huſks, grind theſe, ma- e them, and give the Mixture to drink ; let him alſo eat half roaſted, the fineſt Wheat-flour [σεμίδαλις] Millet, and [χόνδρος] boiled in Milk. Theſe are to be eaten cold, af- ey are boiled ; and other Meats and Drinks of the ſame re with the above-mentioned are to be uſed.

ith Reſpect to Regimen, it is a Point of the greateſt Im- nce to watch and obſerve the proper Seaſons for giving Ali- in acute and chronical Caſes ; and for this Purpoſe to re- the Intenſions, and Remiſſions of Fevers, that you may and improve, the Opportunities when Food is by no s proper, and when it may ſafely be offered, and to know at Time the Diſeaſe is fartheſt from its greateſt Degree of rbation.

ve Regard alſo to Perſons affected with an Head-ach, whe- t proceeds from Exerciſe, as Running, Travelling, Hunt- or any other unſeaſonable Labour, or Venereal Commerce. ve alſo the State of the Ill-coloured, the Hoarſe, thoſe re affected with Diſorders of the Spleen, thoſe whoſe Blood cient, the Aſthmatic, thoſe who are afflicted with a dry h, or Thirſt, or Flatulencies, or Stagnations of the Blood. as have their Hypochondria, Sides, or Back diſtended, or numbed or dim-ſighted, thoſe who are troubled with Noiſe Ears, or an Incontinence of Urine, or the Jaundice ; whoſe Stools are crude, who labour under copious Hæmor- from the Noſe, or hæmorrhoidal Veins, or are moleſted Inflations, or ſuffer vehement and intolerable Pains, from they can by no Means free themſelves. None of theſe mentioned Patients are to be purged ; for Purging would gerous, and can do no Good ; beſides, it prevents a Criſis, prives Nature of the Means of aſſiſting herſelf. But if it be to bleed in any of theſe Caſes, firſt render the Belly firm, and then proceed to take away Blood, to enjoin Abſtinence, and to forbid Wine ; the Cure is to be proſecuted afterwards by a convenient Regimen of Diet, and moiſt Fomentations. But if the Patient appears to be coſtive, relax the Belly with a gentle Clyſter ; or if you think Purging neceſſary, you may with Safety effect it upwards with Hellebore, but preſcribe Purging downwards in none of theſe Caſes.

But the beſt Way is to treat ſuch Patients with Diuretics, and Diaphoretics, and to order them Walking and Friction, though but gentle, leſt the Habit ſhould become more denſe ; and if they lie in Bed, let others rub them.

If the Diſtemper affects the Thorax above the Diaphragm, the moſt proper Poſture for the Patient is to ſit upright, and to recline as little as poſſible, till his Strength is increaſed ; and while he ſits, let him be well rubbed with Plenty of warm Oil for a conſiderable Time together.

But if the Pain lies in the Belly below the Diaphragm, the beſt Situation is Lying along, without moving the Body at all, except by Friction.

Diſeaſes of the lower Belly which have their proper Solution by Urine and Sweat, if they are moderately moveable, are ſpontaneouſly ſolved when ſlight ; but the more conſiderable are of pernicious Conſequence ; for the Patients either die, or fall into ſome other Diſtemper before they recover their Health. But Diſeaſes of this Kind generally fix themſelves upon ſome particular Part.

A POTION for a DROPSY.

Take three Cantharides, and pulling off their Heads, Feet, and Wings, bruiſe the Bodies in a Quarter of a Pint of Water, and give it the Patient to drink. When the Medicine begins to operate, let him uſe an Embrocation of warm Water. He is to drink it faſting, being firſt anointed, and let him eat hot Bread and Oil.

To ſtop an HÆMORRHAGE.

Wet ſome Wool with the Juice of the Fig, and apply it to the Artery on the Inſide of the Noſe, or put ſome Runnet intorted into the Noſtrils, or thruſt up Calcitis with your Finger, compreſſing the Cartilages of the Noſe on the Outſide. Looſen the Belly alſo with Aſſes Milk boiled, and let the Head be ſhaved, and Refrigerants afterwards be applied to it, if the Seaſon be hot.

Seſamoides purgeth upwards, if the Weight of a Dram and half of it bruiſed be taken in Oxymel. It is alſo mixed with the Hellebores, ſo as to be a Third of the Compoſition, which by that Means is rendered leſs ſuffocating.

The SUTURE for a TRICHOSIS.

Take a Needle which hath an Eye, and thruſt the Point through the upper acuminated and tenſe Part of the Eye-lid, downwards, and repaſs it from the inner Part upwards, then faſtening the extended Thread upon the Place with a Knot, let it reſt till it falls off. If this be ſufficient, it is well ; if not, the ſame Operation muſt be repeated.

In like Manner are the Hæmorrhoids be treated, that is, by paſſing through them a Needle with a very thick Thread made of greaſy Wool, and faſtening it with a Knot, the Largeneſs of which will contribute to the Cure ; and when they are thus compreſſed, apply a Suppurative ; but uſe no Embrocation till they fall off ; however, let one remain always. When the Patient has recovered Strength, purge him with Hellebore, and let him uſe Exerciſe and Sweating. The firſt of theſe ſhould be a great deal of Friction in the Morning ; but let him avoid Running, Drunkenneſs, and all acrimonious Food, except Origanum. Let him vomit once in ſeven Days, or three Times in a Month, for by theſe Means he will acquire an excellent Habit of Body. Let his Wine be yellow (deep-coloured) auſtere, diluted, and little in Quantity.

For Perſons affected with INTERNAL SUPPURATIONS.

Cut the Bulb of Squills, and boil them in Water, and when they are very well done, throw away the Liquor, and add a ſecond Water, in which boil them over again, till they appear thoroughly boiled, and are ſoft to the Touch. This done, bruiſe and maſh them, and mix therewith Cummin, roaſted white Seſamums, and new Almonds, reduce theſe to a proper Conſiſtence with Honey, and give them as a Lambitive, and after this a Draught of ſweet Wine. For ſorbile Food let them take the Meaſure of a ſmall Acetabulum [$\frac{1}{8}$ of a Pint, λεκίσκιον] of white Poppy [μήκων] bruiſed, and macerate and boil it in Water wherein ſetanious Meal has been waſhed, and then ſweetening the ſame with Honey, let him take it warm, and ſo paſs the Day ; after which, with due Conſideration of what may enſue, give him his Supper.

For a DYSENTERY.

Take a Quarter of a Pint of Beans cleanſed, and twelve Sprigs of Maddar bruiſed, and boil them together, and with ſomething oily make it into an Eclegma, and give it the Patient.

For the EYES.

Take Spodium [σποδὸς] waſh it, and afterwards work it well like a dry Maſs of Meal; then levigate and moiſten it with the auſtere Juice of bitter unripe Grapes; let it dry in the Sun, and as there is Occaſion moiſten it, ſo as to make it of the Conſiſtence of an Ointment. When it is grown dry, levigate it, then apply it to the Eyes, and ſprinkle it in their Corners.

For moiſt EYES.

Take of Ebony one Dram, of burnt Braſs one Dram and half; levigate them on a Stone, and add half a Dram of Saffron; theſe being all reduced to a fine Powder, pour on it half a Pint of Attic ſweet Wine, and after it has been expoſed to the Sun, cover it, and when it is digeſted, uſe it.

For PAINS of the EYES.

Take of Calcitis one Dram, Grapes when a Third of the Juice is expreſſed, Myrrh and Saffron bruiſed, and mixing them with Muſt, digeſt them in the Sun, and therewith anoint the affected Parts. It ought to be kept in a Copper Veſſel.

To know the STRANGULATION of the UTERUS *(Hiſterics)*.

Pinch the Patient with two Fingers, and if there is any Sign of Senſation, it is a Strangulation; if none, it is a Convulſion.

For the DROPSY.

Give the Quantity of a round Attic Acetabulum (λεκισκὸν) of Meconium *(Petty Spurge)* for a Doſe. Take of the Scoria of Braſs as much as will cover the Breadth of three Probes, give it a Conſiſtence with ſetanian Meal, and having levigated it, exhibit it in the Form of Pills. They purge Water by Stool, and clear the Belly of Excrements. Drop the Juice of Tithymallus upon dried Figs, ſeven Drops on a Fig, and ſet them aſide in a new Veſſel for the Uſe of the Patient, to the Purpoſe aforeſaid, to whom they muſt be given juſt before his Meals. Bruiſe alſo petty Spurge (μηκώνιον) and put Water to it; then, after ſtraining it, make it up with Meal, wet with Honey, into a Cake, which bake, and give your hydropical Patients to eat, who are to drink after it ſweet Wine diluted, or Hydromel likewiſe diluted. But gather the Meconium that comes away with the Excrements, and lay it aſide carefully.

ALCALISATIO. *Alcaliſation.* It imports the Impregnating any Thing with an alcaline Salt, as Spirit of Wine.

ALCANCALI. An *Antidote*, ſo called in Italian. It is of good Uſe in burning Fevers, ſimple and double Tertians, and in continued Fevers, the Lipyria, Semitertian, and, in a Word, every feveriſh Diſorder, and is thus prepared:

> Take of Citrine, Chebule, and Indian Myrabolans, each Sort ſeven Drams; of Purſlane-ſeeds and purple Violets, each an Ounce and half; of Beleric and Emblic Myrobalans, each one Dram ſeven Grains; of Maſtich, one Dram one Scruple; of Oxyphœnicum (interpreted by the Commentator *Tamarindi)* three Ounces; of wild Colocynthis, Hermodactyls, each two Drams four Grains; of Caſſia Fiſtula cleanſed, four Ounces. Then take of Violets, an Ounce and half, and two Pints of Water, and let them boil to a Third; ſtrain it thro' a Bag, and put the Caſſia Fiſtula and the Tamarinds into the Liquor, work them well with your Hands, and, after ſtraining all the Juice through a Bag, let the Liquor ſtand. After this take another Portion of ſuch Liquor, and put in it of Sugar one Pound and half, and let them boil to the Thickneſs of Honey; add to them the Liquor of the Caſſia Fiſtula and the Tamarinds, and let all boil together to the Thickneſs of Honey. Laſtly add to this all the above-mentioned Ingredients well bruiſed. The Doſe is three Drams in warm Water; or you may give two or three Scruples in an Infuſion of Rhubarb warm, or in Roſe-water, faſting. *Myrepſus, Sect.* 1. *Cap.* 24.

ALCANNA. A Plant thus diſtinguiſhed:

Alcanna, Offic. *Liguſtrum Indicum ſeu Alcanna Manithondi*, Herm. Muſ. Zeyl. 6. 65. *Liguſtri ſpecies* 2. *Alcanna dicta*, Bont. 143. *Liguſtrum Orientale, ſive Cyprus Dioſcoridis & Plinii*, Park. Theat. 1447. Raii Hiſt 2. 1603. *Liguſtrum Ægyptiacum latifolium & anguſtifolium*, C. B. Pin. 476. *Liguſtrum Ægyptium, Cyprus Græcorum, Elhanne Arabum*, J. B. 1. 541. Chab. 41. *Liguſtri ſpecies*, Comm. Flor. Mal. 161. *Baccifera Indica baccis oblongis in umbellæ formam diſpoſitis*, Raii Hiſt. 2. 1634. EASTERN PRIVET. *Dale.*

This is the *Kenna* of the Turks and Moors. The Leaf, when reduced to a yellow Powder, is uſed for a Coſmetic by the Natives; namely, by the Men to dye their Beards red, and by Women to dye their Nails of the ſame Colour; in order to which they make it into a Sort of Paſte, with Juice of Lemons. Its medicinal Virtues are Emmenagogue and Hyſteric, and accordingly it is uſed in the Eaſtern Countries, to cauſe Abortion, and to bring away dead Children. *Geoffroy.*

The Account Dioſcorides gives of this Plant, which he calls *Cyprus*, is as follows:

The *Cyprus* is a Tree, the Leaves on whoſe Branches are like thoſe of the Olive, but broader, ſofter, and greener. The Flowers are white, moſſy, and ſcented; the Seed black like that of the Elder-tree. The faireſt grows about Aſcalon and Canopus.

The Leaves have an aſtringent Quality, by which they heal Ulcers in the Mouth, being chewed therein, and are good for Carbuncles, and other fiery Inflammations, if applied in a Cataplaſm. The Decoction of them is uſed to waſh Burns. The Leaves bruiſed, and moiſtened with the Juice of Dyers Weed (στρουθίῳ) turn the Hair of a yellow Colour. The Flowers, bruiſed in Vinegar, and applied to the Forehead, eaſe the Pains of the Head.

The *Cyprine Ointment*, which is prepared of the Flowers, has the Virtue of warming and mollifying the Nerves, and is ſweet-ſcented, being a Compoſition of Simples of a hot and fiery Quality. *Dioſcorides, Lib.* 1. *C.* 124.

The *Cyprus* is a Tree in Egypt, that has Leaves like thoſe of the Ziziphus, Seed like Coriander, and a white ſcented Flower. They boil this laſt in Oil, and expreſs what they call the *Cyprus* (an Oil) which is ſold in Quantities of five Pound *(Pretium ei in Libras quinque)*. The beſt, in Point of Fragrancy, comes from Canopica on the Banks of the Nile, the next in Goodneſs from Aſcalon in Judea, and the third from the Iſle of Cyprus. Some ſay it is the ſame Tree which they call in Italy *Liguſtrum*. *Pliny, L.* 12. *C.* 24.

Pliny has the ſame Virtues of Dioſcorides, and adds that the Leaves are applied to the Stomach when diſordered, and their Juice to the Uterus in Hyſterics; that the freſh Leaves chewed heal running Ulcers in the Head as well as in the Mouth, a Collection of Humours, and Condylomata. The Flowers burnt in a crude earthen Pot, cure Nomæ, and putrid Ulcers, either uſed alone, or with Honey. The Smell of the Flowers provokes Sleep. *Pliny, L.* 23. *C.* 4.

ALCANNA alſo ſignifies the ſame as *Icthyocolla, Iſinglaſs, Johnſon.*

ALCAOL. Rulandus, and from him Johnſon, interpret this *Lac Acetoſum ſive Mercurius.* By *Lac Acetoſum*, I ſuppoſe they mean the *Lac Philoſophorum*, or Solvent for the Preparation of the Philoſophers Stone.

ALCAR. Ἄλκαρ. Galen explains this by Βοήθημα, *Help, Aſſiſtance.* It ſignifies alſo a Remedy. *Foeſius.*

ALCARA. *A Cucurbit. Rulandus.*

ALCE. *The Elk.*

This is a wild Beaſt, furniſhed with Horns, as big as a Horſe, it is bearded and covered with long Hairs from the Top of the Head to the Shoulders; its Colour is commonly grey, or whitiſh; the Head is very large, its Eyes ſparkling, its Lips are large and thick, its Teeth are moderate, its Ears are long and large, its Horns are branched like thoſe of a Fallow Deer, weighing at leaſt twelve Pounds the two, which Horns they lo yearly; the Female has none at all, its Belly is as large as that of a Cow, its Tail is very little, its Legs are long and ſlender, its Feet are black, its Hoofs divided like thoſe of an Ox; the Fleſh is very hard, the Back is covered with Hairs like the fine grey Hairs of a Mouſe; this Animal is found in Poland, in Pruſſia, in Sweden, in Norway, and Canada; it is timorous and ca itſelf into the Water when they hunt it, but it is very ſtrong his Luſt is like that of the Stag. It is ſubject to the Epilepſy, and they relate that, when it is in a Fit, it cures itſelf by rubbing its Ears with the Hoof of its hind left Leg: It is for this Reaſon they eſteem the hind left Leg in Medicine much mo than the right. Its Hoof is in Uſe, called *Ungula Alcis*, it ſhould be choſen weighty, compact, ſmooth, bright, and black; it contains a great deal of volatile Salt and Oil.

They uſe the Hoof of an *Elk* as a Cure for the Epilepſy taken internally; they hang a little Piece at the Neck, and they make of it Rings to wear on the Finger for the ſame Diſtemper, but theſe Amulets produce no Effect.

The other Feet of *Elks* are as good as the left hind Foot, for the Effect proceeds only from the volatile Salt of which the is as much in one as the other. *Lemery de Drogues.*

Some People eat the Fleſh as Veniſon. The Nerves are u againſt the Cramp, by binding the affected Part with them. *Pomet.*

ALCEA. A Plant of the Mallow Kind, thus called by Authors:

Ἀλκέα, Dioſcoridis. *Alcea*, Offic. *Alcea vulgaris*, J. B. 2. 953. Raii Hiſt. 1. 604. Synop. 3. 252. Dill. Cat. Giſſ. 14 *Alcea vulgaris major*, C. B. Pin. 316. *Alcea vulgaris ſive Ma va verbenacea*, Park. Theat. 301. *Alcea vulgaris*, Mer. Pi 3. Merc. Bot. 17. Phyt. Brit. 3. *Alcea vulgaris major flore rubro roſeo*, Tourn. Inſt. 97. Boerh. Ind. A. 270. Hiſt. O 2. 527. *Malva verbenacea*, Ger. 785. Emac. 931. VE VAIN-MALLOW. *Dale.*

Alcea is a Kind of Wild Mallows, with Leaves deeply c like thoſe of Vervain (ἱερᾶς βοτάνης) and three or four Stalks covered with a Rind much like Hemp. It bears a ſmall Flower like a Roſe. The Roots are white, broad, five or ſix in Number, and near a Cubit in Length. *Dioſcorides, Lib.* 3. *C.* 164.

This is a Species of Mallow, and differs from the Common in having its Stalks more hairy, and growing more erect; lo

wer Leaves are ſmaller and roundiſh, cut in about the Edges;
d growing on long Foot-ſtalks; the higher they grow, the
oot-ſtalks are the ſhorter. The upper Leaves are cut into
e deep Laciniæ or Segments, the Flowers are larger, paler,
d not ſtriated like thoſe of the common Mallow. The Cheeſe-
e Seed-veſſel is larger and blacker; the Root is hard and
oody, ſpreading in the Ground.

It grows in the Hedges, and flowers in May and June, and
rough the greateſt Part of Summer.

The Roots drank in Wine or Water cure the Dyſentery and
uptures. *Dioſc. L. 3. C. 164.*

Alcea is a Species of Wild Mallows; drank in Wine, eſpe-
lly the Root, it cures the Dyſentery, and Corroſions of the
teſtines. *Paulus Ægineta, L. 7. C. 3.*

Alcea is a good Digeſtive, is emollient, and ſtops Bleeding.
is uſed in Clyſters, and Fomentations, and is taken at the
outh alſo to correct the Acrimony of Urine. *Lemery de*
rogues.

It is of the Number of Emollients, and is an Ingredient in
iſters. It is in great Vogue among Empirics for Dimneſs
Sight, and a Decoction of it cures the Gripes. It is a very
per Remedy for all Pains attended with Heat. *Dale.*

Miller enumerates the eight following Species:

1. *Alcea vulgaris major, flore ex rubro-roſeo*, C. B. P. 316.
eater Vervain-mallow, with a Roſe-coloured Flower.

2. *Alcea vulgaris major, flore candidiore*, C. B. P. 316.
eater Vervain-mallow, with a white Flower.

3. *Alcea folio rotundo laciniato*, C. B. P. 316. Vervain-
low, with a round cut Leaf.

. *Alcea tenuifolia criſpa*, J. B. II. 1067. Narrow-curled
ed Vervain-mallow.

. *Alcea Cannabina*, C. B. P. 316. Hemp-leaved Mal-

. *Alcea Afra fruteſcens, groſſulariæ folio flore parvo rubro*,
h. Ind. Alt. African ſhrubby Vervain-mallow, with
ſeberry Leaves, and ſmall red Flowers.

. *Alcea Africana arboreſcens malvæ folio hirſuto, flore parvo*
ureo, Till. African Tree-like Vervain-mallow, with
y Mallow-leaves and ſmall purple Flowers.

. *Alcea Afra fruteſcens, groſſulariæ folio ampliore, unguibus flo-*
atro-rubentibus, Act. Phil. African ſhrubby Vervain-
low, with larger Gooſeberry Leaves, and dark-red Spots at
Bottom of the Flowers.

LCEA INDICA.

has a large pentapetalous Flower, and a pretty big ſeminal
el, divided into five Cells containing Kidney-like Seeds.

amia Moſchata, Offic. *Alcea ſive Bamia Moſchata Ægyp-*
, Breyn. Prod. 1. 2. *Alcea Ægyptia Moſchata*, Park. Theat.
Alcea Ægyptiaca villoſa, C. B. Pin. 317. Raii Hiſt. 2.
. *Bamia, Belmuſcus Honorio Bello*, Chab. 302. *Althea*
ptiaca Moſchata Abel Moſch dicta, Hiſt. Oxon. 2. 533. *Abel*
h vulgô, Herm. Hort. Lugd. Bat. 25. *Moſch, id eſt, Ba-*
Moſchata, Alp. Exot. 197. *Ketmia Ægyptiaca ſemine*
bato, Tourn. Inſt. 100. Boerh. Ind. A. 272. MOSCH-
D.

grows in Egypt. The Seeds are uſed, which are of a
y Colour, Kidney like, and of a very fragrant Smell, like
. The Egyptians dry them ſlightly, and mix the Powder
eir Coffee, to make it more effectual for the ſtrengthening
eir Head, Stomach, and Heart. We uſe it in Fumiga-
Dale.

LCEBRIS VIVUM. The ſame as *Sulphur Vivum.* Ru-
s, who alſo calls it ALNERIC, ANERIT, and ANE-

LCEDO. The *King's Fiſher.* A Bird thus diſtinguiſhed by
ors:

ida, Offic. Aldr. Ornith. 3. 518. Geſn. de Avib. 513.
de Avib. 107. *Iſpida, an veterum Halcyon?* Will. Or-
101. Raii Ornith. 146. Ejuſd. Synop. A. 48. *Iſpida,*
fluviatilis, vulgô Piſcator Regis, Charlt. Exer. 111. *Al-*
Schrod. 5. 314. *Halcedo muta*, Bellon. des Oyſe, 219.

is a little Sea-bird, ſomewhat like a Quail, of different
rs, as blue, purple, red, or yellow; its Beak is long and
of a yellowiſh Colour; they build their Neſts among
, or upon Rocks on the Shore; it lives upon ſmall Fiſh;
its Eggs in Winter when the Weather is ſerene. They
d that it is a happy Omen of calm and fair Weather.

contains a great deal of volatile Salt.

is Bird dried, and hanged to Childrens Necks, preſerves
from the Epilepſy, but a more certain Effect is to be pro-
by giving a Scruple every Day in Powder at the Mouths,
ony-water.

white dried Neſts of Birds which the People of Siam and
Travellers bring into France, are thoſe of the Indian King's
s, and principally of thoſe which breed on the Coaſts of
ingdom of Cambia. Their Neſts are in the Shape of
Bowls, their Subſtance is of a white Froth which they
ge from their Bills when they are going to breed, and
hardens by the Heat of the Sun, the Taſte of theſe Neſts
is inſipid, and glutinous. The Chineſe look upon them as Dainties, and eat them boiled with Ginger.

They are eſteemed Reſtoratives, and are ſaid to ſtrengthen the Stomach. *Lemery de Drogues.*

Pomet adds, that the Chineſe are ſuch Lovers of theſe Birds-neſts, that it is almoſt incredible what Quantities are ſent to Pequin, the Capital of China. They are uſually valued at fifty Tabers the Hundred, which is about ſix hundred Livres, or fifty Pounds of our Money. Theſe Neſts were formerly little known, and it was believed that they were made of the Froth of the Sea; but ſince the People of Siam have introduced them they are become very common.

ALCHACHIL. A Name for *Roſemary. Dale.*

ALCHARITH, or ALECHARITH. *Quickſilver. Johnſon. Caſtellus.*

ALCHEMIA, or ALCHYMIA. *Alchemy.* It imports that Branch of Chymiſtry, which relates particularly to the Tranſmutation of Metals. The Arabic Particle AL added to it by Way of Eminence, diſtinguiſhes it from vulgar Chymiſtry.

It was common for the Orientals to denote the Excellence of any Thing by repreſenting it as more particularly belonging to the *Supreme Being.* Thus the *Mountains of God*, are only Mountains eminently high; and *the Rivers of God*, are Rivers of great Depth and Breadth. In like Manner I ſhould ſuſpect *Alchemy* to ſignify the Chymiſtry of God, as *Alla* is the Arabian Name for the *Supreme Being.* See CHYMIA. See AL.

ALCHIMELECH. The Egyptian *Melilot.*

Melilotus Ægyptia Alchimelech vocata, J. B. *Melilotus Ægyptiaca*, Park. *Melilotus Corniculis reflexis minor*, C. B.

The Plant ſpreads itſelf on the Ground, being ſmall, and gently creeping, ſeldom or never raiſing itſelf in Height. Its Leaves are like thoſe of Trefoil, only leſſer. The Flowers are ſmall, copious, long, growing in Cluſters, of the Colour of Saffron, ſweet-ſcented, from whence are produced ſmall oblique Pods, containing a minute round Seed, of a blackiſh Colour, inclining to red, not quite void of Smell, and of a bitteriſh aſtringent Taſte. *Raii Hiſt. Plant.*

ALCHIEN. In the *Theatrum Chymicum*, Vol. 5. we meet with this Word. It would be much more eaſy to tranſcribe the Explanation of it from the Book quoted above, as Caſtellus has done, than to underſtand what the Author means. If it has any real Meaning, it ſhould ſeem to ſignify that Power in Nature by which all Corruption and Generation are effected.

ALCHIMILLA. A Plant thus called:

Alchimilla, Offic. Ger. 802. Emac. 949. Raii Hiſt. 1. 208. Synop. 66. *Alchimilla vulgaris*, C. B. 319. Tourn. Inſt. 508. Boerh. Ind. A. 2. 92. Dill. Cat. 67. *Alchimilla major vulgaris*, Park. 538. *Alchimilla perennis viridis major, foliis ex luteo virentibus*, Hiſt. Oxon. 2. 195. *Pes leonis ſive Alchimilla*, J. B. 2. 3981. Chab. 172. LADY'S MANTLE. *Dale.*

The Leaves of Ladies Mantle, upon their firſt Springing up from the Root, are plaited or folded together, of a whitiſh green Colour, covered with a ſhort fine Down, having eight Corners, and when ſpread open, in Shape ſomething like Mallows, but much neater and more elegantly ſerrated about the Edges; the Stalks are weak, ſeldom ſtanding upright, ſomewhat hairy, and cloathed with the like Leaves, but ſmaller, and having ſhorter Foot-ſtalks, bearing at the Tops Cluſters of greeniſh Flowers, of eight Leaves a Piece, with yellow Stamina in the Middle, each Flower producing two ſmall Seeds. The Root is pretty thick, of a black Colour on the Outſide, with many Fibres. It grows in Meadow and Paſture Grounds, but rarely about London. It flowers in May.

It contains a great deal of Phlegm, and Oil, and a moderate Quantity of Salt. *Lemery de Drogues.*

The Leaves are chiefly uſed. This Plant is reckoned among the principal vulnerary ones, being drying and binding, incraſſating and conſolidating, and of great Force to ſtop inward Bleeding, the immoderate Flux of the Menſes, and the Fluor Albus, and is frequently preſcribed in Wound-drinks, and Traumatic Apozems, and for Ruptures of all Kinds. The Leaves, outwardly applied, are commended for lank, flagging Breaſts, to bring them to a greater Firmneſs, and a ſmaller Compaſs. *Miller, Bot. Off. Boerhaave.*

Lemery adds, that it is deterſive and aſtringent, it ſerves in a Decoction for Soreneſs of the Lungs. *Lemery de Drogues.*

The Species of this Herb are:

1. *Alchimilla vulgaris.* C. B. Common Ladies Mantle.

2. *Alchimilla Alpina, pubeſcens, minor.* H. R. Par. The leſſer woolly Ladies Mantle.

3. *Alchimilla Alpina, quinquefolia folio ſubtus argenteo.* Tourn. The Alpine five-leaved Ladies Mantle, with the under Part of the Leaves white.

4. *Alchimilla minor.* Mor. Hort. Reg. Bleſ. The leſſer Ladies Mantle.

5. *Alchimilla Alpina pentaphyllea minima, lobis fimbriatis*, Boet. Muſ. Par. 2. 18. Leaſt five-leaved Ladies Mantle of the Alps, with fringed Leaves.

6. *Alchimilla montana minima*, Col. Par. 1. 146. Leaſt Mountain Ladies Mantle, commonly called *Parſley Breakſtone.*

7. *Alchimilla ſupina, gramineo folio, minore flore*, Tourn. Low Graſs-leaved Ladies Mantle, with a ſmaller Flower.

8. *Alchimilla erecta, gramineo folio, minore flore*, Tourn. Upright Graſs-leaved Ladies Mantle, with a ſmaller Flower.

9. *Alchimilla gramineo folio, majori flore*, Tourn. Graſs-leaved Ladies Mantle with a larger Flower.

10. *Alchimilla linariæ folio, calyce florum albo*, Tourn. Ladies Mantle with a Toad-flax Leaf, and a white Flower-cup.

11. *Alchimilla linariæ folio, calyce florum ſubluteo*, Tourn. Ladies Mantle with a Toad-flaxed Leaf, and a yellowiſh Flower-cup.

12. *Alchimilla orientalis, linariæ folio breviſſimo, calyce florum albo*, Tourn. Cor. Eaſtern Ladies Mantle, with a very ſhort Toad-flaxed Leaf, and a white Flower-cup.

13. *Alchimilla Græca, kali folio, calyce florum albido*, Tourn. Cor. Greek Ladies Mantle, with a Glaſs-wort Leaf, and a whitiſh Flower-cup. *Miller's Dict.* and *Suppl.*

ALCHITRAM, or ALCHIERAM. It ſignifies Oil of Juniper; or Tar; or prepared Arſenic. *Rulandus.*

ALCHITRAN. This alſo is Oil of Juniper, according to Rulandus, who gives it another Signification, [*Fex Deſtillationis*, I ſuppoſe he means the Fæces left after the Diſtillation of ſome Bodies. In this Senſe, it ſeems to differ from Caput Mortuum, as this is dry, whereas *Alchitran* is moiſt, or fluid, in ſome Degree. Caſtellus, from Libavius, gives it another Signification, and ſays it ſignifies a Sort of Salt; he derives the Word from χύτρα, *a Pot*, by which it ſhould be Pot-aſh.

The ſame Author ſays, *Alchytran* is the Name of a Medicine for the Teeth, taken Notice of by Meſuæ.

ALCHITURA. *Tar. Johnſon.*

ALCHOLLEA. A Sort of Food, common amongſt the Weſtern Moors: It is made of Beef, Mutton, or Camel's Fleſh, but chiefly Beef, which they cut all in long Slices, ſalt it well, and let it lie twenty-four Hours in the Pickle. Then they remove it out of thoſe Tubs, or Jars, into others, with Water, and when it has lain a Night, they take it out, and put it on Ropes in the Sun and Air to dry; when it is thoroughly dried and hard, they cut it into Pieces of two or three Inches long, and throw it into a Pan, or Cauldron, which is ready with boiling Oil and Suet, ſufficient to hold it, where it boils till it be very clear and red, if one cuts it; which taken out, they ſet it to drain: When all is thus done, it ſtands till cool, and Jars are prepared to put it up in, pouring the Liquor they fried it in upon it; as ſoon as it is thoroughly cold, they ſtop it up cloſe. It will keep two Years; it will be hard, and the hardeſt they look upon to be beſt done. This they diſh up cold; ſometimes fried with Eggs and Garlick; ſometimes ſtewed, and Lemons ſqueezed on it. It is very good any Way, either hot or cold. *Philoſ. Tranſact.*

ALCHIMIA. See ALCHEMIA.

ALCIBIADIUM. It is a Name for the ECHIUM, which ſee. *Blancard.*

ALCIMAD. *Antimony. Rulandus.*

ALCIOT. The ſame as ACHIOTL, which ſee.

ALCOB. Sal Ammoniac. *Rulandus.*

ALCOCALUM. The *Cinara, Artichoke. Blancard.*

ALCOEL. Rulandus explains this by *Lac Acetoſum.*

ALCOFOL. *Antimony. Caſtellus* from *Rulandus, Johnſon*, and *Dorneus.*

ALCOHOL, or rather *Al-Ka-hol*, as it ought to be wrote, is an Arabian Word, which ſignifies a fine impalpable Powder which the Women of the Eaſt make uſe of as a Kind of Fucus.

Dr. Shaw, in his Travels, ſpeaking of the Women of Barbary, ſays, that none of theſe Ladies take themſelves to be compleatly dreſſed, till they have tinged the Hair, and Edges of their Eye-Lids, with [*Al-Ka-hol*] the *Powder of Lead-Ore.* Now as this Operation is performed by dipping firſt into the Powder a ſmall wooden Bodkin of the Thickneſs of a Quill, and then drawing it afterwards, through the Eye-lids, over the Ball of the Eye, we ſhall have a lively Image of what the Prophet (*Jer.* 4. 30.) may be ſuppoſed to mean *by renting the Eyes with* (פוּךְ *Lead-Ore*) *painting.* The ſooty Colour, which is in this Manner communicated to the Eyes, is thought to add a wonderful Gracefulneſs to Perſons of all Complexions. The Practice of it, no Doubt, is of great Antiquity: For beſide the Inſtance already taken Notice of, we find, that when Jezebel is ſaid (2 *Kings* 9. 30.) *to have painted her Face*, the original Words are עינוה בפּךְ השם *ſhe adjuſted* (or ſet off) *her Eyes with the Powder of Lead-Ore.* The like Ornament was made Uſe of, not only by other Eaſtern Nations, but by the Greeks and Romans alſo, as appears from antient Authors. Among other Things relating to the Ægyptian Women, I have likewiſe ſeen taken out of the Catacombs at Sakara a Joint of a common Reed, which contained one of the Bodkins, and an Ounce, or more, of the Powder that I have deſcribed; both of them agreeable to the Faſhion and Cuſtom of this Time.

This ingenious Gentleman informs us, that this Word is rendered by Golius and others, *Stibium*, Antimonii Species; and ſometimes *Collyrium.* The Hebrew כחל *Cabhol*, hah the ſame Interpretation; and the Verb, כחלת joined with עיניךְ *Ezek.* 23. 40. is rendered, *thou paintedſt thy Eyes.* פוּךְ (from whence probably the Latin *Fucus*) is taken in the like Signification, being rendered *Antimonium, Stibium*, quo ad tingenda nigrore cilia, ſeu ad venuſtandos oculos, peculiariter utebantur, color ſubniger *ex pulveribus Stibii* confectus. *Schindl.* Lex. St. *Jerom* likewiſe, upon theſe Words, בַּפּוּךְ אַבְנַיִךְ *Iſ.* 54. 11. which we render (*I will lay*) *thy Stones with fair Colours*, takes Notice, quod omnes præter LXX. ſimiliter tranſtulerunt, viz. (*Sternam*) *in Stibio lapides tuos*, in ſimilitudinem comptæ mulieris, quæ *oculos pingit ſtibio*, ut pulchritudinem ſignificet civitatis. פוּךְ therefore, and כחל denoting the ſame mineral Subſtance, or *Collyrium*, it may be preſumed, that what is called to this Day by the latter of theſe Names (which is a rich Lead-Ore, pounded into an impalpable Powder) was the Mineral which they always made Uſe of.

I cannot determine whether the learned Author is right or not, with Reſpect to the Powder called *Alcahol*, which he tells us is Black-Lead. Other Authors, however, inform us, that the Powder made Uſe of by the Women, to ſet off the Eyes, was prepared from Antimony.

But we may be pretty certain, that from this exceeding fine Powder, the Word *Alcohol* has been borrowed, and applied to any other Subſtance reduced to the utmoſt Degree of Purity, and from which all impure and heterogeneous Particles have been ſeparated.

Hence Spirit of Wine, brought by Art to the higheſt Degree of Strength and Perfection, is alſo called *Alcohol.*

As *Alcohol* therefore is the moſt compleat, and perfect Offſpring of vegetable Fermentation, I ſhall in this Place give intire Proceſs by which it is produced from Boerhaave.

There is ſcarcely any Thing of greater Antiquity in Na Hiſtory, more common in civil Life, or more frequent in C miſtry, than Fermentation; ſo that we may fairly ſay with famous Bellini, all Things are full of Ferments, but eſpeci among the Chymiſts. Nay, if you will believe Van Helm the Virtue of Ferments alone is the ſole Cauſe of all real Tra mutations. But ſuch round and general Aſſertions conf the Ideas of Things; for if every Mutation be owing to F mentation, then *Fermentation* will be as general a Word *Mutation*, by which Means, the true Names of Things loſt. This Confuſion has been complained of by Men of beſt Senſe, who have long deſired a particular Diſſertation this Subject, which I ſhall now endeavour to give.

I. By the Word *Fermentation*, I mean that inteſtine Mo excited in Vegetables, by which they are changed in ſuch Manner, that the firſt Thing which ariſes from them in Di lation is an acrid Liquor, miſcible with Water, of a aromatic Taſte, inflammable like Oil, thin, and volatile; elſe, acrid, acid, extinguiſhing Fire and Flame, thin, and volatile.

By this Definition, the Word *Fermentation* is ſo limited to comprehend all that occurs in a true Fermentation, ex ſively of every Thing to which it cannot be properly, th it is too often applied.

In every Fermentation, as long as it continues, there i inteſtine Motion in the whole Maſs, and every Part of it call it *inteſtine*, becauſe it is excited chiefly by internal Pri ples, which are inherent in the Vegetable. Some Deg Heat, I confeſs, is here neceſſary; but this would not ex true Fermentation in the Matter, if it were not previouſ itſelf diſpoſed to ferment. For if you take Water, Sp Oil, or Salts, and give them the ſame Degree of Heat, ye will never bring them to a Fermentation. I ſay farther, this inteſtine Motion can only be excited in Vegetables, fo therto we have met with no Inſtance of a Fermentation Animals, except when they had received into their Bodies getable Matter, which they had not yet aſſimilated and formed into their own Nature. As for Foſſils, I do no member that ever I obſerved in them any Motions ten Fermentation, though Authors of very great Repute made no Scruple to aſſert it. It is the Office of Reaſon to diſtinguiſh between Things, and therefore I was oblig take my Definition from the Effect, becauſe every tru perfect Fermentation terminates in a Spirit, or an Acid. we may put an End at laſt to this Confuſion, I would a judicious Chymiſts, whether this Action of Vegetables, I have thus deſcribed, is to be called Fermentation? Cer none diſputes it. I inſiſt then to know, whether, for Di tion ſake, and to obey the Laws of Order, we ought call all thoſe Actions, which do not produce the Effects by ſome other Names? I think Reaſon teaches us ſo to ſhall then make a wide Diſtinction between Fermentat Putrefaction, becauſe this latter, though it be alſo an in Motion in Vegetables, yet for its ultimate Effect g putrid Oils, and fœtid, alcaline, volatile Salts. Putre of the Humours of Animals is alſo a proper inteſtine M but then it never produces an Acid, or an inflammable but phoſphorical Matter only, and conſequently is qui rent from every Kind of Fermentation; for I cannot al Thing to come under this Name, which does not gen ther an inflammable Spirit, or an Acid, for Fear of Con

n a Word, none of the various Kinds of Efferveſcences
ught, under any Pretence, to paſs for Fermentation, though
hey may come under the Title of inteſtine Motions, and may
e often obſerved even in pure, vegetable Subſtances, as we
e in very ſtrong Vinegar, and a fixed alcaline Salt.

II. Every fermented vegetable Liquor, which in Diſtillation
rſt yields a Spirit that is inflammable, and may be mixed with
Vater, I ſhall diſtinguiſh by the Name of *Wine*, from what-
ver vegetable Matter it is produced. The Word will bear
his Signification, for Tacitus, with great Propriety of Speech
the Latin Tongue, ſays, that the Germans made Wine of
rrupted Corn [Malt]. All ſuch fermented Liquors therefore,
om whatever Vegetables they are prepared, I ſhall call *Wine*,
ithout any Diſtinction. And again, every vegetable Liquor,
rmented in ſuch a Manner as in the firſt Diſtillation to yield
acid Liquor extinguiſhing Fire, I ſhall call *Vinegar*;
henceſoever derived. Hence the whole Effect of a perfect
rmentation, will be the Production either of Wine or Vi-
gar.

III. I call a fermentable Body ſuch a one, as by the Action
ſcribed, N° 1. may be ſo changed, as to be capable of pro-
cing the Wine or Vinegar, deſcribed N° 2. But as this was
ver obſerved but in the vegetable Kingdom, I am obliged to
ow nothing but Vegetables to be fermentable, though it will
eafter appear that they are not all ſo.

IV. I call by the Name of *Ferment*, that Body, which be-
intimately mixed with the fermentable Vegetable, N° 3.
cites, increaſes, and promotes the Fermentation deſcribed,
1. Hence it appears at firſt Sight, that all ſuch Ferments
ong to the Claſs of Vegetables.

V. The fermentable Vegetables, N° 3. are in great Variety.
eſe therefore are to be diſtributed into as many Claſſes, as
y require different Methods of Fermentation; nor can we
, with any Propriety, admit of more or leſs. Thus, as
muſt treat Rye in one Manner to produce Wine from it,
the freſh expreſſed Juice of Grapes in another; ſo it is ab-
tely neceſſary to diſtribute theſe two Vegetables into diffe-
Claſſes: On the contrary, as Wheat, Barley, and Oats,
uire the very ſame Management as Rye, for this Purpoſe;
ce, in this Reſpect, there muſt be no Diſtinction made be-
xt theſe, but they muſt all be referred to the ſame Claſs.
n Time, however, it is neceſſary to obſerve, that all Ve-
bles are not diſpoſed to ferment; for ſuch as abound with a
ve, alcaline Salt, or are eaſily changed into it, are unfit for
mentation, but incline to Putrefaction. Of this I was con-
ed, when but a Novice in theſe Matters, by Experiments on
ons and Turneps, having in vain tried to extract ſuch a
it as is produced by Fermentation as a Medicine for the
e, for I obtained an alcaline, fœtid, volatile Salt, with a
t of the ſame Kind, inſtead of a true fermented Spirit.
ce, though all Fermentables will undergo Putrefaction, yet
utreſcibles will not ferment. In Vegetables therefore, in this
ect, there is a very great Difference.

I. Theſe Things being duly conſidered, we refer to the firſt
of Fermentables all thoſe Seeds of Vegetables, which when
and dry, are reducible by Trituration to a fine Powder,
Meal, and not to an oily Paſte. Hither alſo I refer thoſe
, which though they abound with a pinguious Oil, yet
be ſo changed by Art, as to be converted into a Meal of a
leous Quality. Theſe farinaceous Fermentables require
eefold Subdiviſion.

The firſt comprehends ripe Seeds of culmiferous, grami-
ous, ſpicated Plants, called Corn, as Oats, Indian Wheat,
, Barley, Lacrymæ Jobi, Millet, Rice, Canary-Graſs,
at of all Sorts, and Rye. To theſe, as being much of the
Nature, may be added Buck-Wheat, and Flax, and on
unt of their near Affinity, the Seeds of all the Cucumber
, as Citruls, Cucumbers, Gourds, the Counter-Poiſon,
-Melons, the male Balſam Apple, Pompions, and the
Under this Head too we may rank the Seeds of Lettuce,
y other Plant of the ſame Nature.

The Seeds of almoſt all the leguminous, podded Plants,
the papilionaceous, or any other Flower, as Judas's
Broom, Spaniſh Broom, Furz, Crotolaria, Dwarf-
n, Crimſon Graſs Vetch, Shrub Trefoil, Stinking-Bean-
il, Kidney-Beans, Meſilot, Trefoil, Fenugreek, Reſt-
w, Medich-Fodder, Medicago, the Nettle-Tree, Baſtard
a, Baſtard Sena, Coronilla, Barba Jovis, Peaſe, Everlaſt-
eaſe, Clymenum, Tares, Lentils, yellow Vetchlings,
Goats-Rue, Bitter-Vetch, Liquorice, Saint-Foin,
es, Ladies-Fingers, Lupines, Emereus, (Scorpion
Birds-Foot, French Honey-Suckle, Hatchet Vetch,
-ſhoe Vetch, Scorpionwort, Aſtragalus, Acacia, Caſſia,

Nuts not too oily, as all Kinds of Almonds, Filberds,
uts, Horſe-Cheſnuts, Walnuts, Cocoa-Nuts, and Piſtach
which when they abound with too great a Quantity of
uſt by ſome Method or other be drained of it, which is
ne by letting them begin to ſhoot, and then ſcorching

VII. The ſecond Claſs of Fermentables comprehends all the pulpous Fruits, as they are called, whoſe ripe Juice is of an acid Sweet: Of this Kind are all Cherries, both Sorts of Gooſeberries, Mulberries, Raſpberries, Elder-berries, and Grapes of all Kinds, all acidiſh Apples, all Pears, Oranges, Seville and China, Citrons, Lemons, Apricots, Peaches, Plums, Medlars, and the like, if they do not incline to a fœtid alcaline Putrefaction.

VIII. In the third Claſs are contained particularly all ſucculent Herbs, and all their Parts, as Flowers, Leaves, Roots, and Stalks, if they are diſpoſed to grow acid, rather than putrid.

IX. The fourth Claſs contains the freſh, native Juices expreſſed from Vegetables, and eſpecially from their Fruits, No. 7, 8. Hither alſo we muſt refer that thin Liquor which diſtils from Inciſions made in ſome Trees, as the Birch, Walnut, and Vine, particularly in the Spring-Seaſon: For all theſe Juices uſually undergo a ſpontaneous Fermentation, and then have their Nature quite altered by exchanging their acidiſh, ſtimulating, refrigerating Quality for one which is heating, inebriating, and vinous. Helmont the elder, recommends the Water that diſtils from the wounded Birch in March, when new, or kept from corrupting, as a Secret for the Stone: And Mr. Boyle, from his own, and other People's Experience, aſſures us of its Efficacy in that Diſtemper; but he found, that though the freſh was of Service, yet it had quite altered its Nature by Fermentation.

X. To the fifth Claſs belong ſuch vegetable Juices, as being generated, and inſpiſſated by Nature, are changed into a ſaponaceous Sort of Subſtance in the Form of a ſaline and pinguious Coagulum: Of this Sort are Manna, Honey, Caſſia, Sugar, and all other Things of this Kind, which are not balſamic, gummy, reſinous, or oily.

XI. I am in Doubt, whether we ſhould refer the Waters of Rivers to a ſixth Claſs: Theſe ſeem, indeed, to be common Lixiviums, impregnated with all Kinds of Vegetables which fall into them, are reſolved in them, and at laſt intimately united with them. River-waters derived into the Ditches of populous Cities are mixed with the freſh, fermentative Liquors of Vegetables caſt into them, and therefore, if they are put up in Caſks, which were once uſed for Malt-Liquor, Wine, or Vinegar, may conceal a great Quantity of Spirits for a long Time. And hence, when they come under the Æquator, or within the torrid Zones, by being expoſed to ſo great a Degree of Heat, they may be exalted into a Kind of Fermentation. To the foregoing ſix Claſſes, I think, may be reduced all Bodies ſuſceptible of Fermentation, if they are managed after various Manners ſuited to their different Natures.

XII. In the Bodies contained in the firſt five Claſſes, there are required ſome phyſical Conditions to render them the fitter for Fermentation, as,

1. The moſt perfect Maturity deſigned by Nature in their Kind: For all Seeds and Fruits, which are brought to ſuch a Perfection, that if ſown in a fertile Soil, and at the right Seaſon, they will produce a Plant of their own Kind, are fit for this Operation. But when they are crude, harſh, and watery, they are certainly leſs diſpoſed for it. The rough Juice of unripe Grapes, or Crabs, is but little diſpoſed for Fermentation, though the expreſſed Juice of them, when they are ripe, ferments ſpontaneouſly; and the Caſe is commonly the ſame in others.

2. A moderate Degree of Oilineſs is alſo neceſſary; for very oily Subſtances grow rancid, rather than ferment, and thoſe without Oil are unfit for Fermentation. Hence very fat Almonds, if they are pounded, are leſs liable to be affected in this Manner; but when they are carefully beaten up to a Milk with a great deal of Water, they uſually become diſpoſed for it. And when they are macerated in Water, and are juſt ready to ſhoot, the great Diminution of their Oil renders them fit for Fermentation.

3. They muſt not be too rough and aſtringent; for ſuch Subſtances are with Difficulty excited to this Action: Thus the Juice of Biſtort, Tormentil, and the like, can ſcarcely be raiſed to a Fermentation.

4. It is one of the chief Properties of a fermentable Subſtance to be diſſoluble in Water: Hence Barks, Woods, and Roots, ſo long as they exiſt in theſe Forms, will not be changed in this Manner, though their expreſſed Juice, being then miſcible with Water, will ferment very readily.

XIII. Ferments are principally,

1. All ſuch Subſtances as are ſpontaneouſly very prone to Fermentation themſelves, and therefore are ſoon excited without any other Ferment: Of this Kind in particular are the Juices of ripe Summer-Fruits, which are ſo much diſpoſed to Fermentation, that they can hardly be kept from it, but by the Help of ſuch Subſtances as have the Power of reſtraining it. Dough alſo, made of Flour, and worked with Water, if it lies in a warm Place, cannot be prevented from fermenting. We need not therefore be ſollicitous about this firſt Sort of Ferment, ſince Nature every where ſupplies us with it abundantly.

2. Freſh Yeaſt, or Flowers of Malt-Liquor, or Wine, which work up to the Top in the very Action of Fermentation; for if this light, frothy Matter be mixed with other fermentable Subſtances, it wonderfully promotes their Fermentation, provided it be freſh, and not fallen.

3. The ſame Matter, afterwards grown heavier, and ſubſided to the Bottom, if it is not too ſtale, ſtill retains its former Virtue, though it is leſs active than before; for theſe Lees being mixed by ſtirring excite a new Fermentation in their own Liquor, and uſually do the like in others.

4. Caſſia, Manna, Honey, Sugar, and the like inſpiſſated Juices.

5. The acid, mealy, fermented, Leaven of the Bakers. For if freſh, ſweet, Wheaten Flour, be kept in a dry Place, and ſecured from Inſects, it may be preſerved for Years without Corruption; but if it be kneaded with Water into a ſoft, ſweet Dough of a good Denſeneſs, and ſet aſide ſlightly covered in a warm Place, it begins, within the Space of an Hour, to open, and ſwell on all Sides, to be full of Bladders, to loſe its Smell, Taſte, and Tenacity, and acquire an Acidity, in which State paſſing under the proper Appellation of ζύμη, *Ferment*, it gave the firſt Name to the whole Operation, becauſe if this Leaven is mixed with freſh Dough not yet fermented, it will make it ferment much the ſooner, and more effectually. Hence it appears, that a Ferment may be ſoon prepared, without the Help of one pre-exiſtent.

6. The Reſiduums of former fermented Liquors, which ſtick to the Sides of the Caſks. For the Veſſels being thoroughly penetrated and ſeaſoned by the Subtilty of the Liquors they formerly held, are extremely adapted to excite a ſpeedy and briſk Fermentation in any freſh Liquors that are put into them.

7. Among Ferments, we may alſo, reckon, though with leſs Propriety, the beaten White of an Egg, for it performs the Office of a Ferment in the following Caſe: When ſome fermentable Liquors are ſo diluted and thin, that they too eaſily diſcharge the Air and Spirits, which both excite and keep up a Fermentation, and conſequently do not retain them long enough to change their fermentable into a fermented State, the White of an Egg, mixed with the Liquid, by its Tenacity, ſufficiently inſpiſſates it for the inviſcating and detaining the active Spirits ſo long as it is requiſite. Here indeed, it does not act properly as a Ferment, being itſelf not far from Putrefaction, but only aſſiſts the Cauſes of Fermentation, by preventing their too ſpeedy Exhalation. The ſame Thing therefore may be eaſily effected by other viſcid Subſtances; for which Reaſon,

8. Some have added Salts, as well acid and auſtere, as alcaline; but in this they have Reſpect only to particular Caſes, as in the former. Thus, when fermentable Subſtances have ſo great a Quantity of Acid in them, as to impede their Fermentation, it is obſerved, that a prudent Addition of a ſmall Quantity of an alcaline Salt, will promote the Operation. And again, when any Thing ſubputrid has happened to be generated in the fermentable Matter, a proper Addition of a little Acid, has reſtored a Diſpoſition to Fermentation. Hence it appears, that theſe are not Ferments in themſelves, nor ſo much as Fermentables, but in ſome certain Circumſtances by removing the Impediment to it, they become Promoters of Fermentation. Tartar however, if it is good, may in ſome Reſpects be accounted a Ferment.

9. It is obſerved, that the moſt auſtere Bodies have ſometimes, by their Admixture, procured a Fermentability, in ſome Subjects which they have been known to hinder in others. Hence Quinces, unripe Medlars, rough Cherries, and the like, have been referred to the Claſs of Ferments, though never properly and juſtly; but when the fermentable Liquor is of itſelf too thin, weak, and watery, and therefore wants an Addition of ſomewhat rough, to enable it the better to retain its volatile Spirits.

XIV. We are now to conſider the Preparations which fermentable Subſtances require to make them ferment more ſucceſsfully. Thoſe which fall under the firſt Claſs require, for this Purpoſe, a very particular Management, for,

1. As for farinaceous Seeds, when they are ripe, and in their utmoſt Perfection, dry, and intire, if they are then, in a warm Seaſon, firſt infuſed in Rain-Water, particularly what falls in the Spring, contained in large Veſſels, and are there ſuffered to lie till they are ſwelled, and have imbibed as much Water as they can, this is called Maceration.

2. The Corn being thus ſoaked, is taken out of the Water, and laid in large Heaps in an open airy Place. In a ſhort Time there ſpontaneouſly ariſes in theſe Heaps a genial Warmth, by the Aſſiſtance of which the vital Powers of the Seed are quickened and rendered active, and begin to ſhoot, by putting forth their ſeminal Leaves, and the Rudiments of Roots. In this State, there is a great deal of Caution neceſſary, that the Corn, by too great an Æſtuation, may not begin to putrefy, and that by too much germinating and growing out into Leaves and Roots it may not conſume its mealy Subſtance; for the Fermentation that comes afterwards always ſucceeds, in Proportion to the right Management of the Germination, which muſt be carried on to a certain Point, and no farther.

3. As ſoon as the Germination is ſufficiently advanced through the whole Heap, the Corn muſt be immediately ſpread abroad, that it may continue no longer in a State of Æſtuation, but be ventilated, cooled, and dried in a Place pervious to the Winds, eſpecially the North-Wind. By this Means, its farther Germination is immediately ſtopped, the farinaceous Part being attenuated by the Operation, but not conſumed. The Corn thus prepared, is ſlowly conveyed down a Pipe very much heated, which expeditiouſly dries it to a very gentle Degree of Torrefaction. This is what Tacitus calls *Frumentum corruptum* [corrupted Corn] and what now goes by the Name of *Malt*. The principal Alteration which the Corn undergoes by this Operation is, that its Viſcoſity is wholly attenuated; ſo that though the native Corn will not diſſolve in boiling Water, that which has undergone this Operation, is of ſo looſe a Contexture, as molly to be diſſolved, and to have its Medulla quite exhauſted by it: For crude Wheat, by chewing, will be reduced to a Glue, which can ſcarcely be attenuated, by long retaining it in the Mouth; but Wheat made into Malt, and broken under the Teeth, totally diſſolves, and gently melts away in the Saliva. Beſides, the Malt in making acquires a ſoft, ſweet Taſte, which was not in the Wheat before. When this Malt is to be uſed, they grind it into a Meal, which is then called *ground Malt*. What I have obſerved of Wheat, is found to be true of all the Seeds in the firſt Claſs of Fermentables. Thus if Beans, turgid with Maceration, are caſt into a Heap, and ſuffered to heat till they germinate, and are afterwards dried expeditiouſly with a pretty ſtrong Heat, and then ground, they will yield the ſame Phænomena.

XV. The Preparation of the ſecond Claſs of Fermentab is concerned about the ſoft pulpous Fruits, in treading, preſſi and pounding them, by which Means their Juice is ſeparat from them with a conſiderable Froth. But if their Subſtance b of a harder Kind, they may be boiled in Water, and afterwa reduced to a ſoft Pulp, as is often practiſed with Apples a Pears. If they are pretty dry, they may be raſped to a Powd and then pounded with Water to a Pulp, as in the tube Roots of the Corona Solis, Potatoes, and the like, in whi there is not much Tendency to Putrefaction; for if that be t Caſe, then inſtead of fermenting, they will putrefy.

XVI. Such as belong to the third Claſs, are beat into a P whilſt they are freſh and juicy, adding only a ſmall Quantity Water, to make it of a thinner Conſiſtence, and then they a ſufficiently prepared.

XVII. As for Bodies of the fourth and fifth Claſs, if th are of themſelves too thick, they muſt be diluted with ſuch Quantity of Water, as will produce a Liquor capable of ſupp ing a new-laid Egg: Hence, if theſe native Juices are too th and watry, and you want a well fermented Liquor, take y Juice when it is neweſt, and has had no Fermentation, boil it over a gentle Fire, in a very wide and ſhallow Ve till it has acquired a proper Thickneſs. If it be not thus tre it will hardly ferment, or generate many Spirits. But if it be turally too thick, it is reduced by Water to a juſt Conſiſtence, aforeſaid, for in its firſt State, it will hardly turn ſpirituous, readily degenerate into an Acid. Sugar that is dry, will re unchanged in warm Weather; but if it be reduced to the C ſiſtence of Cream, it ferments violently, and is converted in Liquor that plentifully abounds with Spirits. And the Thing is true of Honey, &c.

XVIII. The next Thing to be conſidered, is the Qu of the Ferment that is neceſſary to be mixed with ferment Subſtances, after they are properly prepared, that the Ferme tion may proceed the more ſucceſsfully. Here obſerve,

The Preparations of the firſt Claſs reduced to Malt, in Summer, ſcarcely require the Aſſiſtance of any Ferment, are of themſelves ſufficiently, and often too much, diſpoſ Fermentation. In Winter, however, the Addition of Ferment is neceſſary, as well as an artificial Heat, wi which they would not be put into Motion. Hence aga you take Care to keep them in a very warm Place, they require, though in Winter, but little Ferment, abou Ounce of Yeaſt, for Inſtance, to twenty Pounds; or H or Sugar in the ſame Proportion; or Baker's Leaven in ble the Quantity.

The ſecond Claſs of Fermentables ſcarce ever want th ſiſtance of a Ferment, unleſs the Weather happens to b cold, on which Account, if the Fermentation proceed ſlowly, you may add a little Yeaſt.

The third Claſs, in Summer Time, eſpecially if it be warm, readily enough ferment of themſelves: In Wi the Fermentation is checked, it may be promoted by th dition of Sugar, or Honey.

Nor in the fourth Claſs, are Ferments often neceſſary theſe Bodies, if the Weather is favourable, ferment ſo v ly, that they can ſcarcely be kept within Bounds; eſpec e Weather be very hot, and the Fruits have had a fine Sea- n for ripening.

The fifth Claſs very rarely want the Uſe of Ferments, they ther acting the Part of Ferments themſelves. You need only iſe an artificial Heat, and maintain it in one conſtant Degree. ence therefore, we ſee, that upon the Whole, Ferments are t ſo neceſſary, as is generally imagined.

XIX. After Fermentables of what Kind ſoever have been epared, and diluted with a ſufficient Quantity of Water in e Manner explained, let them be poured into an oaken Caſk, ll ſeaſoned with a Liquor of the ſame Kind fermented in it fore. Let the Veſſel ſtand in a Heat, between ſixty and ſe- nty Degrees, and let the Bung-hole be left open, that the Air ay paſs freely in and out, or only covered with a Bit of Flan- l to prevent any Inſects from falling into it.

XX. I took a glaſs Cucurbit, the biggeſt I could get, and ced it upright in a wooden Box in ſuch a Manner, that by tting a ſmall Quantity of Fire at the Bottom of the Cheſt, ould keep it in an equal Degree of Heat. I then filled it to ee Quarters of its Capacity, with a crude fermentable Mat- , properly prepared for Fermentation, covering its Orifice htly with Flannel, and keeping up a Heat but of betwixt y and ſeventy Degrees, even in the Winter Seaſon; and it s pleaſant to obſerve the Phænomena that followed, which in s Way lie open to Obſervation, always happen in the ſame nner, and make up the whole Hiſtory of Fermentation.

. The Maſs, which at firſt is at Reſt, and takes up a certain ce in the Veſſel, begins inſenſibly to ſwell, rarefy, to be ele- ed, and conceive an inteſtine Motion through all its Parts, ich diſcovers itſelf by the ſtrange Whirling of the Liquor, ards, downwards, and ſideways, nor ceaſes though the Im- s changes every Moment. In the mean Time Bubbles ap- to be generated in every Part of the Maſs, which with a ng Tendency endeavour to aſcend, ſometimes burſting as riſe, or elſe at the Surface, with a hiſſing Noiſe. Hence whole Matter grows frothy, but the Surface in particular, with a Noiſe, like that of Ebullition, there is diſcharged crid Spirit, that affects the Noſtrils with its Acrimony, is iſh, wonderfully elaſtic, incoercible, burſting by its im- ſe Force almoſt all Veſſels in which it is confined, nor in Reſpects is it to be equalled by any Thing that I am ac- nted with. Hence the great Helmont thought proper to nguiſh it by a particular Name, and therefore called it *Gas eſtre.*

. Whilſt theſe Things proceed in this Manner, the thicker of the fermentable Maſs begins to be ſeparated from the ner, and is thrown up to the Top, where it is collected thick, ſpongy Cruſt, which accurately covers the Liquid rneath, and confines and repels its more active Parts, ſo they cannot eaſily exhale before they have performed their er Office. And then it is very entertaining to ſee, how and conſtant an Agitation there is through every the leaſt icle of the more liquid Part that lies under the incumbent cious Cruſt. Certainly, we can ſcarcely conceive a greater ition than ariſes from the rapid Agitation of theſe Corpuſ- among one another. And hence it comes to paſs, that the t being elevated and ſeparated by the repeated Exploſions, frequently burſts out a Vapour through the Clefts with a derable Noiſe; upon which the Cruſt preſently falling n cloſes again, and confines, as before, the active Princi- ſo that they cannot too eaſily exhale and be diſſipated. indeed, the Formation, and Continuance of this Cruſt, above all Things, to bring about a perfect Fermenta-

In the Midſt of theſe Obſervations one cannot but take ce that whereas all the thick Part of the fermentable Mat- as at firſt carried up, and collected at the Top, there are ſome Parts at the Bottom of the Cruſt, which growing are, and being no longer ſupported by thoſe rare Bubbles rendered them light, begin to deſcend through the liquid are agitated upwards and downwards, form Bubbles about , by their Aſſiſtance riſe, and then by their Diſploſion gain, and when it has happened alternately in this Man- or a good While, at laſt ſubſide to the Bottom, and re- at Reſt. Then other Glebules take their Turn, and play me Part, and when it has thus proceeded for ſome Time, en happens, that the whole upper Cruſt, now grown hea- and leſs rare, on Account of the exploded Spirits, ſinks at once, and ſoon after riſes again, almoſt intire, and ith ſuch an Impetus, as is hardly credible to one who has en it. When the whole Cruſt is perfectly diſſipated and to the Bottom, the Fermentation ceaſes, though the ſame e of Heat is ſtill continued; a clear, thin, light Liquor at Top, and the Fæces ſubſide to the Bottom.

Hence in every true Fermentation, the fermentable Mat- at firſt of an unequal Conſiſtence, but afterwards ſeparat- o two Parts, the more liquid, which is undermoſt, and ore ſolid Cruſt, which covers it. This Cruſt, ſo long as s the upper Place, is called the *Flowers* of the fermentable r, or Yeaſt, and is the moſt convenient and ſerviceable of all Ferments. But, ſecondly, in the ſecond Stage of Fermentation it is ſeparated into three Parts, the Flowers at Top, the Liquid in the Middle, and a third Part, which begins to fall and be collected at the Bottom, under the Title of the *Fæces*, which are the thicker and heavier Part now quite exhauſted of that Principle which cauſed the Fermentation. And, laſtly, in the third Stage it is again divided into two Parts, the Upper, which is clear, fine, and thin, and called *Wine*; and the Lower, which is thick, and lies at the Bottom, named *the Lees or Mother of Wine.*

5. But there is nothing more ſurpriſing, or more carefully to be obſerved in this Affair of Fermentation, than that prodigious *Spiritus Sylveſtris*, which ruſhes out with ſuch an Impetus, when the Fermentation is at the Height; nor is there any Poiſon that I am acquainted with, that is ſo ſubtile, ſwift, and fatal; for if a very large Veſſel full of the beſt fermentable Muſt, in the Height of Fermentation, ſhould diſcharge this Spirit through a ſmall Vent-hole in the upper Part, and the ſtrongeſt Man ſhould but once draw this Vapour into his Noſtrils, he would drop down dead that very Moment; or if he drew in but a little, he would be taken with an Apoplexy; if ſtill leſs, he would be deprived of his Underſtanding, and be a meer Idiot the reſt of his Life, or elſe become paralytic. And hence the like Misfortune happens to thoſe who are imprudently buſy in cloſe Wine-vaults, where the Wines are fermenting in the Time of Vintage. For this Reaſon, theſe Places ought to be purified by Fires, and aired by ſetting the Windows open. From Sugar diſſolved in Water, and its Froth firſt fermented, we have an Account of a Spirit produced, which being drawn into the Lungs, in a very ſmall Quantity, in an Inſtant ſtopped all Reſpiration, exciting an intolerable Aſthma. *Phil. Tranſ. Ab. Vol.* 2. Let Phyſicians then conſider the Force of Liquor drank in the very Act of Fermentation; and how violent that Spirit may be, which in Summer is generated in the human Body, from a too free Uſe of Summer-fruits, when very ripe, if by a convulſive Conſtriction of the Stomach they are prevented from paſſing any farther, and, by being kept in a warm Place, acquire and exert an extreme Elaſticity and Acrimony. Hence in *Alcohol* there ſtill remains a good deal of this Poiſon, and therefore if the Vapour of it be taken into the Noſe in a great Quantity, and for a long Time, it cauſes the greateſt Degree of Drunkenneſs, or a ſlight Apoplexy. If it be uſed too freely internally, it affects the Brain and Nerves particularly, and their Functions. In Chymiſtry we are ſtill at a Loſs from whence this Spirit ariſes. We know, indeed, it is the Production of an actual and preſent Fermentation; nor do we know that ſuch a one is generated in any other Way; but we cannot conceive how it cauſes Death, without any Diſeaſe, or how it affects the Cerebrum, Cerebellum, or Nerves, without Matter, or without any viſible Alteration, either in the Solids or Fluids.

As ſoon as the Fermentation is over, it is proper to cloſe the Veſſel, and let the fermented Liquor reſt a While upon its Lees, for it will ſtill conſume much of them, and aſſimilate them to itſelf, and ſo be ſtronger, more ſpirituous, and much fitter for Diſtillation.

XXI. The Time neceſſary for compleating a perfect Fermentation can ſcarce be determined exactly, as depending upon the Place where the Veſſel ſtands, the Seaſon of the Year, the Heat, and Wind it is expoſed to, and the Nature of the fermentable Matter itſelf. In Africa, the Liquor of the Palm-tree paſſes through this Operation in the Space of a few Hours. In Aſia too the Buſineſs is very ſoon over; but in the Northern Countries it proceeds but very ſlowly. The hot Summer Seaſon quickens, the Winter checks it. The South-Wind promotes, the North-Wind retards it. The expreſſed Juice of Grapes and Sugar ferment ſuddenly and violently; other Fermentables more ſlowly. It is eaſy, however, to know when a perfect Fermentation is at an End, which is, when all the Phænomena mentioned have appeared in the Order deſcribed, and at laſt ceaſe ſpontaneouſly; and then the Veſſel muſt be immediately ſtopped, and the fermented Liquor kept upon its Lees; for otherwiſe the Spirit generated by the Fermentation, would in a ſhort Time exhale, and leave the Liquor vapid, and good for nothing; whereas if the Liquor is kept quiet in a Veſſel well ſtopped, it grows gradually finer, more ſubtile, and fuller of Spirit. Thus the freſh expreſſed Juice of Grapes may, by boiling, be inſpiſſated without loſing any of its Virtue, but after Fermentation, if it be only expoſed to the cold Air, it is ſoon exhauſted of all its Spirits.

XXII. The Liquor prepared by a compleat Fermentation, has in all Ages, amongſt all Nations, and in every Language, from whatever Matter it is produced, been called by the Name of *Wine*. Now the Nature of Wine is known by the following Marks which are common to every Sort of it:

1. It has a Faculty of producing a Temulency in the Functions of the animal Spirits and Actions. This is what it effects while it quickens, refreſhes, exhilarates, diſpoſes a Perſon to Mirth and Frolicks, to be talkative, to rhime and dance, then

proves an Incentive to the hidden and peculiar Paſſions of each Breaſt, reveals Secrets, and lays a Man open; and at laſt diſorders, debilitates, takes away ſpontaneous Motion, ſo that neither Foot, Hand, Tongue, nor Reaſon can exerciſe their proper Offices; the Conſequences of which are Sleepineſs, Palſies, Apoplexies, and Death. This is a Property peculiar to Wine, nor is there any Thing like it in any other Body that I am acquainted with; for Henbane, Tobacco, Opium, and the Thorn-apple, whilſt they affect the Brain, act in quite a different Manner. And this Faculty is much the ſame in every Sort of Wine; for Malt-liquor, Mead, Cyder, Perry, and Wine made with Gooſeberries, Grapes, or any Sort of Berries, have conſtantly the ſame Effect; ſo that this ſurpriſing Power is ſolely the Effect of Fermentation.

2. But Fermentation likewiſe changes vegetable Juices from their relaxing, reſolving, ſaponaceous, refrigerating, and for the moſt Part purging Quality, into one that corroborates, thickens the Humours, dries, and heats. Farinaceous Subſtances reduced with Water to a crude Pap, the inſpiſſated freſh Infuſion of Malt, before it is fermented into Beer, Mulſum, Syrups made with Sugar, Manna, or the Pulps of Caſſia diluted with Water, the freſh expreſſed Juices of full-ripe Summer-fruits, and freſh fermentable Herbs at their Maturity; any of theſe too freely drank, produce windy Diſorders in the Bowels, excite a Diarrhœa, and make a Perſon chilly. But when by proper Fermentation they are made into Beer, Mead, and Wine, how very different are their Powers and Effects! They retain nothing of their former Diſpoſition, but all Things are become new. The freſh Juice of perfectly ripe Grapes is perhaps the moſt powerful Diſſolvent of Humours we are acquainted with, and if uſed immoderately, often brings on a fatal Dyſentery; and an Infuſion of Malt inſpiſſated by boiling (Sweet-wort) drank plentifully, has the ſame Effect. But ſtrong, old Wine from the former, or generous old Beer from the latter, or the diſtilled Spirit from either of them, but eſpecially *Alcohol*, is a good Antidote againſt the former.

3. Another perfectly ſingular Property of Fermentation is that from the fermented Matter it produces a Liquor, called a *fermented Spirit*, which has this particular Quality, that it is convertible into a lucid Flame, and at the ſame Time capable of being thoroughly mixed with Water, and yet quite of a different Nature from the Spiritus Sylveſtris before deſcribed, which ſeems to be produced in the very Act of Fermentation, and loſt at the ſame Time. This Liquor has ſcarce any Thing elſe like it. For the volatile inflammable Spirit, which I once ſaw in a very dangerous Manner burſt out of the Retort in the Diſtillation of Phoſphorus, would not be diluted and extinguiſhed with Water. And what ariſes from large Quantities of human Excrements, thoroughly putrefied in a cloſe Place, and takes Fire, and burſts into a violent and very dangerous Flame upon the Application of a Candle, ſeems to be of the ſame Nature, but horribly fœtid. Oily Subſtances, when urged with the laſt Degree of Fire in Diſtillation, ſend forth white-bluiſh Fumes, which, upon holding a lighted Match to them, will alſo take Fire, but theſe return to an Oil, or a Phoſphorus, that will not mix with Water. So that upon a careful and thorough Examination, I have not been able to diſcover any Liquor, which would abſolutely, and ſpontaneouſly, as it were, mix with Water, and was at the ſame Time convertible into a pure Flame, except what is produced by the Fermentation above deſcribed.

4. Another Effect of Fermentation is the Generation of the Wine-ſtone, commonly called *Tartar*. I confeſs, that this is not produced from all Sorts of Wine; for it is neither generated from the beſt Malt-liquor, Mead, nor many other Sorts of fermented Liquors. From ſome Vegetables, indeed, this is formed good and pure, but then only when they have been converted into a Wine by a perfect Fermentation, and are intirely defecated. Hence, therefore, I always eſteem Tartar as a peculiar Production of Fermentation, and think, it ſhould be called the *Oily eſſential Salt of the Wine*, and be abſolutely diſtinguiſhed from the Mother or Lees.

5. Fermentation alſo induces a ſurpriſing Alteration in the Smell, Taſte, native, and artificial Virtues of Things. The cohobated Water of freſh Roſemary, for Inſtance, differs in every Property from what is drawn from it after it is fermented with Honey. The Muſt freſh preſſed from mature Rheniſh Grapes, that grow expoſed to the Sun upon the Sides of Mountains, is of an exceeding ſweet Taſte, but when perfectly fermented and grown fine in the Caſk, it has a grateful and acrimonious Acidity. Other Wines which are not thoroughly fermented, but have their Fermentation checked, keep their Sweetneſs, but very eaſily relapſe into a Fermentation, and when it is finiſhed turn acid. That Aloes and Colocynth, by Fermentation, loſe their Bitterneſs, is an Obſervation of Wedelius, *Act. Lipſ.* 1686.

6. Fermentation alſo produces a new Smell, Taſte, and Virtue, which are properly called *Vinous*. Even Meal, Sugar, and Honey, produce ſomething that is acid, warm, and rich.

7. Fermentation generates theſe Spirits either from a Matter which was before of a different Nature, or from the Oil of the Plant. This laſt is indeed very probable. But then from which of the Oils have they their Origin? Almoſt all the Chymiſts ſay, from their eſſential Oil. But by what Experiment they are able to determine this, I own, I cannot comprehend; for the Spiritus Rector, which forms the eſſential Oil, is loſt in the Fermenting. In fermented Matter, deprived of its Spirit by Diſtillation, there remains a conſiderable Quantity of Oil; and yet I could never excite a new Fermentation in the Reſiduum, nor by any Art extract more ſuch Spirits from it. In every fermentable Subſtance, therefore, there is naturally only a certain Part which is diſpoſed for the Generation of Spirits, in a determinate Quantity, by Fermentation. But there is yet another Thing which deſerves Conſideration, and that is, that the fineſt and moſt thoroughly fermented Wine generates white Tartar, which is full of a perfectly inflammable, and moſt penetrating Oil, and yet you can by no chymical Operation produce inflammable Spirits from this, as you can abundantly from the Wine. Hence it appears, that the Matter which is convertible into theſe Spirits by Fermentation, is of a ſingular Nature. But as Fermentation, thus productive of theſe Spirits, is every where at Work, there muſt of Conſequence be vaſt Quantities of theſe Spirits generated, which are either conſumed by Animals, or diſſipated into the Air. The Saliva, Blood, and Urine of Animals, who conſtantly uſe theſe Spirits, hardly, indeed, afford any Spirits in Diſtillation; but then there is never wanting in Nature proper Matter for producing more, let but Fermentation come in to its Aſſiſtance. But Fermentation generates alſo ſomething ſaline; ſince an Acid is here produced which is conſiderably volatile, though leſs ſo than the Spirit. Thus from Vinegar there riſes a volatile Acid and ſomewhat pinguious Salt, which the unfermented Matter did not afford. The Spirits themſelves which are generated by Fermentation, have ſomewhat in them of this volatile Acid. Hence the Oils, and acid Salts of fermentable Bodies, ſeem to be attenuated, rendered volatile, and united by Fermentation, and to be conſumed in a certain Quantity. Thus if I diſtil unfermented Roſemary with Water, I obtain an Oil, which has the true Smell and Taſte of the Roſemary, and a milky Water impregnated with the ſame Qualities. If I ferment it with Honey, and then diſtil it before the Fermentation is compleated, it affords a white, thick, opake, pinguious diſtilled Water, richly endued with the Virtues of the Roſemary, together with ſome Oil ſwimming at the Top, though in a ſmaller Quantity than before. But if it be firſt compleatly fermented, and afterwards diſtilled, you draw off an excellent pellucid Spirit of Roſemary, that will mix with Water, and is endued with great medicinal Virtues; but the former eſſential Oil appears no longer.

8. This Spirit produced by Fermentation, which partakes of the Oil, becomes by this Operation more volatile than Water itſelf; whereas the eſſential Oil, before the Operation, was not ſo volatile as Water; but the Vegetable might, by a gentle Heat, be deprived of all its Water, no Oil aſcends with it.

XXIII. The Circumſtances neceſſary to a ſucceſsful Fermentation are principally theſe:

1. It is requiſite that the fermenting Liquor ſhould remain at Reſt, that the Cruſt which forms itſelf at the Top may be intire; for to be continually ſtirring, and mixing it with the Liquor underneath, prevents a perfect Fermentation.

2. There muſt be a free Ingreſs and Egreſs of the com Air, which muſt alſo be intimately mixed with the fermentable Matter, by treading, kneading, or preſſing, otherwiſe the Fermentation will not proceed.

3. A Degree of Heat between forty, and at moſt eighty.

4. The Spring and Autumn in particular, are ſaid to fa this Operation, when thoſe Vegetables are in Flower, from which the Wine was made. Hence the Wine of Grapes is re puted to grow foul, and eaſily ferment again, when the Vi in Bloſſom.

XXIV. The Checks to Fermentation, by which it is ei impeded after it is began, or intirely ſtopped, are as follow:

1. The acid Vapour of burning Sulphur long included, in a conſiderable Quantity, with that Air which is in the C above the fermenting Liquor. For if a Veſſel firſt thorou penetrated and replete with this Vapour, receives the ferm ing Liquor, and the upper empty Part be afterwards filled w the ſame Vapour, and carefully ſtopped, you will prevent farther Fermentation, which, after ſome Time, may be rev by proper Means and reſtrained by the ſame Fumes. The Effect follows from mixing a large Quantity of a ſtrong A with the fermenting Matter. The Acids of Alum, N Salt, Sulphur, and Vitriol, prevent Fermentation, but at ſame Time ſpoil the Liquors.

2. Alcaline Salts alſo, if they are mixed in great Q ties with fermenting Liquors, excite for the preſent a conſi

ſiderable Efferveſcence, but that ſoon ceaſing leaves the
uor incapable of farther Agitation, its Nature being ſo ut-
y deſtroyed, that it can ſcarcely be afterwards raiſed to a
mentation, but rather tends to Putrefaction. Hence it ap-
rs, that Alcalies are a greater Obſtacle to Fermentation
n Acids, the former deſtroying or ſuffocating all the Acid.
ierefore,

. All Bodies intirely abſorbent of Acids, if mixed with
nenting Liquors in a proper Quantity, after a ſhort Struggle
Efferveſcence, put a Stop to this Operation; Chalk, Crabs-
, Coral, Pearls, Oyſter-ſhells, Iron, Lead, and Tin, have
Effect.

. Stopping the Veſſel ſo cloſely, that nothing can paſs
r out, provided the Veſſel be ſo ſtrong as not to be burſt
the Force of the included Liquor. This is evident in
Ale put into very ſtrong Bottles, where the Admiſſion
Air converts the Fermentation, ſo long ſuffocated, and pre-
ted, into the moſt violent Efferveſcence, and diſcovers a pro-
ous collected Force. The ſame Thing happens alſo in
ks, for there is a conſtant Struggle and Renitency between
fermenting Body and its containing Veſſel.

. A great Degree of Cold deſtroys all Fermentation, for
er thirty-ſix Degrees of Heat it will hardly make any Pro-
s.

. Nor is too much Heat a leſs Obſtacle to it, which, if it
eeds ninety Degrees, rather diſſipates the active Principles of
mentables, than aſſiſts and quickens them. Hence an Ex-
tion under a greater Degree of Heat inſpiſſates Fluids to a
ree of Denſity, unfit for Fermentation. Boiling has a
h quicker Effect; ſo that the richeſt Juice of Grapes, which
hardly be kept from fermenting, will by quick Boiling loſe
its Diſpoſition to ferment, and be converted into a Maſs
will reſt for Years without Alteration.

. The Separation of the elaſtic Air, by Means of Boyle's
-pump, during the Abſence of which, this fermentative Mo-
intirely ceaſes.

. Laſtly, an extraordinary Condenſation of the ſame Air
the fermentable Matter abſolutely prevents both the Be-
ing, and Progreſs of Fermentation.

XV. After Liquors thoroughly fermented have been kept
Time in a cool Place, together with their Flowers, and
s, and in Veſſels very cloſely ſtopped, and pretty full, and
his Means having acquired more Spirits are proper for Diſ-
ion, it is adviſeable to ſtir them about, and mix them
their Lees, for they will then give out their Spirits in
greater Abundance. But then you ought to take Care that
Lees in Diſtillation do not ſubſide to the Bottom of the
, and being there condenſed and burnt, affect the whole Li-
with an Empyreuma. For this Reaſon the Liquor muſt be
ſtirring with a Stick, till it is ready to boil, by which
ns the Lees being equally mixed, and afterwards kept in
ion by the Heat, there will be a perfect Mixture of the
er Parts with the thinner. By this Method then you will
n the Spirits, as well from the Fæces, as the Liquor itſelf,
will in the beſt Manner provide againſt an Empyreuma.
if the Liquors have reſted ſome Time before the Diſtilla-
, there is leſs Danger of their aſcending in Flatulencies,
ſing out of the Still; whereas, if you go about to diſtil
when they are juſt fermented, the Impetus of Fermen-
n that ſtill remains often carries them up when they come
il violently, and ſo diſturbs the whole Operation. At the
nning, therefore, it is neceſſary to proceed with Caution.

XVI. An Empyreuma is prevented:

By rubbing the Bottom and Sides of the Still with ſome
uious oily Matter, before you pour in the Liquor.

By conſtantly ſtirring the Matter till the ſupervening Heat
s a thorough Mixture, and ſo prevents the thicker Parts
collecting and ſticking to the Bottom.

. Nothing more prevents an Ambuſtion or Empyreuma, than
ng Water briſkly in the Still, and immediately after pouring
ur Liquor at once; for then the hot Vapour filling the Ca-
of the Still, will hinder the fermented Liquor from gather-
nd fixing to the Sides.

XVII. If the whole fermented Matter conſiſting of the
vers, the middle Liquor, and the Mother, which were firſt
kept and diſtinguiſhed, are very carefully mixed before Diſ-
ion, you will extract good Spirits.

XVIII. When your Liquor is heated to ſuch a Degree, as
juſt ready to boil, you muſt beware of the firſt Impetus.
is beſt guarded againſt, by leaving the Still one third emp-
nd covering the Aperture of the Still with a thin Cloth,
e you fix on the Head, and then managing the Fire in
a Manner, that the Drops ſhall fall quick one after ano-
In this Manner your Diſtillation will go on ſafely, and
it is thus continued for ſome Time, it may with due Cau-
be ſomewhat increaſed, ſo as to obtain in the moſt com-
ious Manner all the Spirits. The thinner, and purer Li-
, indeed, as Mead, Wine, and old Beer, do not require ſo
much Caution; but in farinaceous Subſtances, diſtilled after a perfect Fermentation, you cannot be too careful. The former you may at once venture to diſtil in ſuch a Manner, that the Spirits ſhall almoſt run through the Worm in a full Stream.

XXIX. In the Diſtillation of fermented Subſtances in the Manner deſcribed, there firſt comes over an acrid, heating, and pungent Liquor, of a very particular penetrating Taſte, called *Spirituous*, and of an extremely active and volatile Nature, in which it is exceeded by very few Bodies; for a pure alcaline Spirit that flies off in Fumes from Tin, Glauber's Spirit of Nitre, and his Spirit of Sea-ſalt, and a pure volatile alcaline Salt, are all that are known to have a greater Degree of Volatility. This Liquor, when it is very much heated, readily takes Fire upon the Application of Flame to it, and will almoſt totally conſume. Taken internally, it cauſes Drunkenneſs, Stupor, and Apoplexy. In a moderate Doſe it wonderfully raiſes the Spirits. It very ſpeedily heals Punctures, Dilacerations, and Pains of the Nerves. All animal and vegetable Subſtances put into it, are intirely preſerved from Putrefaction, only ſomewhat altered in their Colour. If you diſſolve a little of the fineſt Sugar in it, when it is not perfectly free from Water, the pellucid Liquor thus made, preſerves the moſt tender Bodies. If it is diluted with Water, and then uſed warm as a Fomentation, with Sal Ammoniac and Vinegar, there is nothing, perhaps, that more effectually reſolves Coagulations, diſcuſſes inſpiſſated Humours, prevents the Spreading of a Gangrene, and cauſes a Separation of the unſound Parts, or dries up a Defluxion of thin Humours more effectually. This Liquor is called *Spirit of Wine*, and that Part of it which comes over the very firſt, is called the *Præcurſor*.

XXX. When this Spirit is all drawn off, if you urge the Reſiduum with the ſame Fire, in the ſame Veſſels, you will obtain a Fluid which is leſs volatile, acetoſe, acid, aſtringent, cooling, nauſeous, and fœtid. At the Bottom will remain ſome thick Fæces, which by no Means nor Method can ever be brought to ferment again, and yield new Spirits, though from the Conſiſtence of them one would expect it. But if you expoſe this Reſiduum to a very ſtrong Fire, you may draw from it a fœtid, empyreumatical Oil.

XXXI. If the Lees of any fermented Subſtance after Diſtillation are dried and burnt in an open Fire, they are converted into ſalt Aſhes, from which may be obtained a ſub-alcaline, or alcaline Salt. Hence it evidently appears, that the moſt perfect Fermentation is not able to render volatile that Matter of Vegetables, which is fixed by being burnt, and which is convertible into an eſſential Salt by proper Operations before Burning.

MEAL and MALT, worked together with a proper QUANTITY of WATER, ferment.

I. Having premiſed the general Doctrine of Fermentation, it will be proper to give ſome Examples of it, that the Manner in which both Art and Nature proceed may be underſtood. You are then to obſerve, that there are two different Ways of Operation; by the firſt of theſe Beer, or Wine of Corn, is prepared, and from thence Spirit of Wine; by the ſecond, a Spirit is drawn immediately from fermented Corn, in the ſame Manner as it is from Beer. In the firſt Method, upon ground Malt you pour Water almoſt ſcalding hot, mix them well together, and let them infuſe for three or four Hours, by which Infuſion the Malt will impregnate the Water with its floury Part, which would not have been effected by crude Meal. The Liquor then being drawn off from the Malt, muſt be boiled till it is reduced to a proper Thickneſs; and this Decoction, in this State, is emollient, looſens the Belly, purges, cools, and reſiſts Inflammation. If, when this Liquor is cool, you mix with it ſome ſtrong Ale-yeaſt, or Grounds, and let it ſtand in a warm Place, in a Veſſel with the Bung-hole open, there will ariſe a violent Fermentation, which being quite compleated, the Liquor is immediately ſtrained cold through a Cloth, and ſtopped up very cloſe in its Caſk, and becomes very good Beer. But in order to preſerve it for a conſiderable Time, and prevent its growing ſour, you muſt add a certain Quantity of ſome very bitter Herbs to it whilſt it is boiling. If this Decoction of Malt then is made ſufficiently bitter, boiled to a proper Thickneſs, perfectly fermented, ſtopped up very cloſe, and put into a Cellar, and, after it has been kept a conſiderable Time, is diſtilled, it will the firſt Time yield as fine a Spirit of Wine as you can obtain from any Sort of Wine by any Art whatever, which will be exceedingly fragrant, nor have any the leaſt diſagreeable Smell. I learnt by Experience that there is ſcarce any Difference betwixt ſuch Beer and the moſt generous Wine, and could not help wondering, that this Art ſhould be very well known and practiſed in all Ages of which we have any Account. Thus Diodorus Siculus tells us, *L.* 1. *That in thoſe Countries, where there were no Vines, King Oſiris taught the Inhabitants to make a Liquor from Barley, which in the Fragrance of its Smell, and Sweetneſs of its Taſte, was not much inferior to Wine.* Herodotus alſo in *Euterpe* mentions an *Ale, or Wine, made from Barley,* Ζῦθος οἶνος ἀπὸ κριθῆς γινόμενος. And Tacitus, *de Mor. Germ.* ſays, *they had a Liquor prepared from corrupted Barley, or Wheat, which reſembled Wine.* And according

ing to Aetius βύνη, ſignifies Barley wetted, till it begins to germinate, and then dried together with the germinating Shoots.

II. The ſame Thing is performed in another and more common Way, as follows: They take of ground Malt fourteen Pounds, of Rye Meal ſeven, which are mixed and worked well together with hot Rain-water, till they are reduced to a Liquid of a moderate Thinneſs; this they put in an oaken Caſk, which is placed in a wooden Cheſt, that it may keep in the Heat of Summer. It ferments briſkly enough, and they leave it to itſelf till the Cruſt, which during the Fermentation is formed at the Top, diſappears, and ſubſides to the Bottom. They then ſtop up the Caſk, and let it ſtand for ſome Time, till the Liquor at the Top becomes clear, and acidiſh, and at the Bottom there is collected a large Quantity of a farinaceous Matter, not glutinous, but fit for Diſtillation.

MALT and MEAL fermented, and then diſtilled into INFLAMMABLE SPIRITS and VINEGAR.

I. Put a Pint of boiling Water into the Still, and make Fire enough to keep it in a State of Ebullition, and then pour in the Malt and Meal well fermented, taking Care firſt to ſhake and mix them very accurately, till the Still be two Thirds full. Then kindle a Fire, and at the ſame Time keep the Liquor continually ſtirring with a Stick, that the thicker Part may not gather at the Bottom, but the Whole continue as thoroughly mixed as poſſible. When it is grown ſo hot as to be juſt ready to boil, fix on the Head, and manage the Fire in ſuch a Manner that the Head may be very hot, and the Spirit may diſtil pretty faſt through the Worm. There comes out a clear, thin, ſpirituous Liquor. This muſt be watched carefully, to obſerve how long it continues to come off, and muſt be kept by itſelf.

II. This being quite drawn off, there riſes an acidiſh, diſagreeable, nauſeous, white Liquor, in which there is nothing of the warm, ſpirituous Taſte of the former, and which, if you draw it any farther, begins to grow fœtid.

REMARK.

This firſt Liquor is that which in the Hiſtory of Fermentation is deſcribed under the Character of a Spirit produced by Fermentation.

The DEPURATION of the SPIRITUOUS LIQUORS produced by FERMENTATION.

I. Take any fermented Spirits that have been once diſtilled, fill a Still two Thirds full with them, and diſtil them with a moderate Fire, ſo as to make them come over in a conſtant, little Stream, or juſt to make the Liquor boil. There will firſt come off a very clear, thin, fragrant Liquor, of a ſpirituous Flavour. Often remove your Receiver, to taſte whether the ſame Liquor ſtill continues to riſe. When this ceaſes, change your Receiver, and keep this Spirit, which is called by the Chymiſts *Rectified Spirit of Wine*, by itſelf in Veſſels very cloſely ſtopped. The Spirits which come over firſt are always the beſt.

II. When, therefore, in the Progreſs of the Diſtillation, there come off acidiſh, white, and watery Liquors, they muſt be taken and ſet apart, that they may not mix with the firſt. Theſe riſe in conſiderable Quantities, and go by the Name of a *Phlegm*, containing but very little Spirit.

III. There remains in the Bottom of the Still a Liquor that is ſomewhat thick, opake, pinguious, acid, of a diſagreeable Smell, and perfectly aqueous with Reſpect to Spirits. When pure Wine is diſtilled in this Manner, this Liquor thus remaining is always red, and of a roughiſh Taſte, which Colour and Flavour are owing principally to the oaken Caſks in which ſuch Sorts of Liquors are kept, where they extract the oily and reſinous Parts of the Wood; for when they are firſt diſtilled, they have neither that Colour, Smell, nor Taſte, but acquire them by ſtanding in theſe Veſſels, and get rid of them again by Rectification.

REMARKS.

I. Hence we underſtand the Method by which theſe Spirits may be ſo depurated as to be obtained at laſt almoſt pure and alone; for the oftener they are rectified in this Manner, the more ſimple they are, depoſiting in every Diſtillation a watery, acidiſh Phlegm: By this Means, however, though you have them gradually purer and purer, yet they will always retain ſome Water.

II. Hence too we learn that the Spirit of Wine, ſold commonly in the Shops, under the Name of *Brandy*, conſiſts of four Parts, intirely diſtinct from one another: For it contains, Firſt, the ſimple fermented Spirits; Secondly, a pure Water, which may be ſeparated from it alone; Thirdly, a certain acetoſe, fermented Acid, which riſes in the firſt Diſtillation of Spirit of Wine, and pretty tenaciouſly remains united with it, but may be accurately diſengaged from it; and, Laſtly, a ſmall Quantity of a ſomewhat fœtid Oil, which always diſcovers itſelf upon mixing Spirit of Wine, ſimple or rectified, with a dry, fixed Alcali, or upon drawing the Spirit from the ſame by Diſtillation. And hence it has happened, that the Chymiſts, not ſofficiently attending to this in their Uſe of common Spi of Wine, have been ſurpriſed with Phænomena which they d not expect, and which were not ſo properly owing to the pu Spirit of Wine, as to other Bodies mixed with it. Bu theſe may be produced by other Cauſes, whereas this Spirit i the Effect of Fermentation alone.

III. There have been Authors of Note among the Chymiſts, who obſerving an Acid almoſt conſtantly intermixed with the Spirits, have hence aſſerted, that theſe Spirits are acid, and a generated from an Acid. But if we conſult Reaſon in the Caſe, it will perhaps appear otherwiſe: And certainly thoſe moſt pu and ſimple Spirits, when they are diſtilled from off a fixed alcaline Salt, are utterly void of all Acids that are known to u and yet they are very good and genuine. I allow, then, th theſe Spirits are not produced, except from Vegetables, and n from theſe, but when they are grown ſomewhat acid by Fermentation; and yet ſo it is, that theſe Spirits are not acid, bu generated from aceſcent Matter. We cannot, therefore, wi Juſtice aſſert, that theſe Spirits are acid or alcaline, but th they are of a peculiar Nature, and like nothing elſe.

IV. This Spirit exalted to its ultimate Perfection, by th Method of Rectification, will ſtill always continue co pounded.

ALCOHOL prepared from FERMENTED SPIRITS, witho any ADDITION.

I. Take any fermented Spirit, eſpecially one that is rectifi and with a gentle Heat, not exceeding a hundred Degre draw it half off in a tall, narrow, glaſs Cucurbit; the H that thus riſes firſt, treat again in the ſame Manner with ve clean Glaſſes, and repeat this, till the Reſiduum that is left the Cucurbit appears as ſtrong as that which is drawn off. Th Spirit is what goes commonly by the Name of *Alcohol of W* and is looked upon as a moſt pure and ſimple Spirit that h nothing heterogeneous, no not ſo much as any watery Phleg mixed with it. This was the Method made Uſe of by the an tient Chymiſts: However, more exact Reſearches made by la Chymiſts have diſcovered, that ſome Water ſtill remains co cealed in theſe Spirits, and to this is owing the ill Succeſs of th Experiments, where *Alcohol* unmixed with Water is neceſſar Beſides, this tedious Operation takes up a great deal of preci Time, for which Reaſon the induſtrious Chymiſts were no Reſt, till they had diſcovered ſome more expeditious Method preparing pure *Alcohol*, which they found might be done in t following Manner:

II. They contrived a Furnace, wherein a pretty large St might be ſet in a Bath of Water, which could receive no m than two hundred and fourteen Degrees of Heat. They fi two Thirds of the Still with common Spirit of Wine, a fitted it with an Alembic that had a long, ſmall, upri Tube, which bent backwards, and had its Extremity in into the Mouth of a Worm. The Diſtillation then begins w making the Water in the Bath boil, which makes the Spirit the Still boil more briſkly; by which Means, the Spirit a being able to riſe to ſuch a Height, and through ſo narrow Tube, will diſtil by itſelf, ſo long as there remains any of it the Liquor. But as ſoon as the pure Spirit ceaſes to come o the watery Phlegm not being able to aſcend, the Diſtillati will be finiſhed: And thus you will have, the firſt Time, a in two or three Hours, as much *Alcohol* as you could obtain the preceding Method in the Space of a Month. No-bo therefore, ſhould be without this Apparatus, who has Occa for a large Quantity of *Alcohol* in his chymical Operations. U on a nice Examination, however, it is found, that even in t Way, there was ſtill ſomewhat, though indeed a very ſ Quantity, of Water, intermixed with the *Alcohol*, which Diſtillation, perhaps, might be carried up by the Spirits. F this Reaſon, I repeated the Diſtillation firſt with the *Al* alone in the ſame Furnace, and I had then an *Alcohol*, w appeared with all the Marks of Purity, but yet was found retain ſome Water. Hence, therefore, I am induced to beli that the Spirit can never, by this Method, be abſolutely ſ rated from the Water, though it muſt be acknowledged, t the Quantity of Water that remains after this Operation as little as poſſible.

III. For this Reaſon, I afterwards performed the Diſtilla in the following Manner: I took the *Alcohol* which riſes the f Time in the Method deſcribed; with this I filled a Still half f and added half a Pound of the pureſt, hotteſt, dryeſt, decrepi Sea-ſalt; then putting on the Alembic, and making all v cloſe, I let them continue thus for the Space of twelve Hours, a gentle Heat, ſo as by no Means to make the *Alcohol* boil. then began the Diſtillation, and the two firſt Ounces of *A* that came over I kept by themſelves, leſt there ſhould be watery Vapour in the Tube of the Alembic, or the Wo which would be eaſily brought away by theſe firſt two Ou The firſt two Thirds of the following *Alcohol* I received in very clean, dry, glaſs Veſſel, and kept by themſelves in Bo very carefully ſtopped. Then I drawed off the reſt as before, kept theſe laſt Spirits alſo by themſelves. There remain the Still a moiſt Salt, which attracted to itſelf the Water

Alcohol, and retained it ſo tenaciouſly, that though acted n by the Heat of boiling Water, it would not part with and ſuffer it to riſe with the *Alcohol*. Nor does the Salt, pre- ed in this Manner, make any Alteration in the *Alcohol*, by xing itſelf with it, becauſe it is decrepitated, and put in hot. this Method, in a very ſhort Time, may be prepared the eſt *Alcohol* for any chymical Purpoſes.

Remarks.

. *Alcohol*, brought to this Degree of Perfection, is the lighteſt id next to Air, perfectly tranſparent, very thin, moſt ple, totally inflammable, without producing any Smoke, or uſing any diſagreeable Smell whilſt it is burning; is exceed- ly volatile, without leaving any Fæces; abſolutely immu- e in Diſtillation; extremely expanſible by Heat; very eaſily oſed to Ebullition by Fire; of a very pleaſant Smell, and of a icular grateful Taſte. All the Humours of the human Bo- that we are acquainted with, it coagulates in an Inſtant, ept the pure Water, and Urine, whilſt it hardens all the d Parts, and thus preſerves both from Putrefaction, or taneous Colliquation: It preſerves the Bodies of Inſects, , Birds, and other Animals that are put into it, from Cor- ion, or Alteration, for Ages, if cloſely ſtopped: With ter, Vinegar, any acid Liquors, Oils, and pure, volatile, line Salts, it ſuffers itſelf to be mixed, and that nearly with equable Mixture; and gummy and reſinous Subſtances it lves. So that we are acquainted with no Liquid, produced r by Nature or the Art of Chymiſtry, that is capable of g united with more Bodies than is *Alcohol*. But in a parti- r Manner it proves an excellent Vehicle for the Spiritus tor of Vegetables, which by uniting with it may be extract- rom its proper Body, retained, and applied to medicinal, other Uſes. The great Maſters of Chymiſtry, diſtinguiſhed he Title of *Adepts*, are ſuppoſed, in their Deſcription of rtificial Preparation of this perfect *Alcohol*, to have ſhadow- ut the Preparation of the Philoſophers Stone: But it is in, that this *Alcohol* owes its Origin to Fermentation alone, can be prepared in any other Manner whatever.

. In the human Body, by its Smell, Taſte, and Vapour, onderfully quickens, gratefully affects, and invigorates the al, natural, and vital Spirits, Nerves and Brain: Hence hilarates the Mind and Senſes, makes a Perſon briſk and and proceeding through various Degrees, at laſt cauſes nkenneſs, which, as it here comes on very ſuddenly, ſo viſe it goes off in the ſame Manner. The Blood, its Se- , and other thin Juices it coagulates in an Inſtant, and e being drank imprudently, it is ſaid to have killed Perſons e Spot. Applied externally, it dries, and corroborates the ls, and coagulates the Fluids contained in them, where- it can penetrate. The Extremities of the Nerves where it reach it inſtantly dries, contracts, and deprives of all Senſe Motion. Hence it appears, how imprudently, and often, unhappily, *Alcohol*, either pure or impregnated with aro- c Spirits, Camphire, or the like, diſſolved in it, and order- be applied hot, and inforced with Friction, is made uſe of Fomentation in chirurgical Caſes. I would adviſe, therefore, cautious upon theſe Occaſions, leſt under a ſpecious Pretence ivification, Calefaction, Reſolution, Diſſipation, and Reſto- n of Agility, you obtain no other Effects than what I juſt aſcribed to theſe Spirits. In Wounds, Ulcers, and other e Diſorders, pure *Alcohol* performs the very ſame Thing, coagulates, dries, and burns the Nerves. It is true indeed, es from the Nerves all Senſe of Pain; but then at the ſame e it deſtroys all their Uſe. And it has the ſame Effect, itigating Punctures or Dilacerations of the ſame Parts. It Bleeding at once by contracting the Veſſels, and coagula- the Blood, where it is applied, but with the concomitant mſtances juſt mentioned. Hence, therefore, it is a very y, and often an excellent Remedy in theſe Caſes, though ys attended with ſome Inconveniences.

. From what has been ſaid then, we learn what Effect *Alcohol* has upon animal or vegetable Subſtances immerſed For it diſſolves into itſelf, and extracts whatever is oily em; whence they become attenuated, contracted, and of- orrugated. In this Manner the Preparations of the Parts imals have often been obſerved to be changed: And aro- Flowers, Leaves, and Fruits are thus affected from the Cauſe. Small Birds in their Feathers, and other little als covered with hard Scales, immerſed in hot *Alcohol*, are ved in their full Beauty, becauſe this Attenuation, though lly happens, is concealed under their Feathers and Scales. Animals being macerated for ſome Time in the pureſt l, till they are thoroughly penetrated by it, and then taken and dried in a hot, but not fervid, Oven, and afterwards to glaſs Veſſels, and intirely debarred from any Commu- on with the external Air, may be kept in their proper for Ages, to the very great Advantage both of Natural Medicinal Hiſtory, becauſe they afford lively and certain cters by which they may be known.

. Since there are infinite, and oftentimes very inviting, ions in which Chymiſts and other Artificers ſtand in need of the true and pureſt *Alcohol*, the leaſt Remainder of Water rendering the Operation unſucceſsful, it is abſolutely neceſſary we ſhould have ſome Marks by which we may be able to diſtinguiſh, whether our *Alcohol* be pure or not: The principal of theſe are,

1. If the ſuppoſed *Alcohol* contains any Oil diſſolved in it, and ſo equably diſtributed through it, that it is no Ways perceptible, then upon the Pouring of Water into it the Mixture will grow white, and the Oil will ſeparate from the *Alcohol*.

2. If any Thing of an Acid lies concealed in *Alcohol*, a little of it mixed with the alcaline Spirit of Sal Ammoniac will diſcover the Acid by an Effervеſcence, for otherwiſe there would be only a ſimple Coagulation.

3. If there be any Thing of an Alcali intermixed, it will appear by the Effervеſcence excited by the Affuſion of an Acid: And as for other Salts, they are ſeldom found in it.

4. But it is a Matter of greater Difficulty to diſcover whether there be any Water intermixed with it; and therefore Chymiſts have contrived certain Methods, by which this may be alſo determined. The firſt was the repeated Labour of ſo many Diſtillations, which they thought ſufficient Grounds for them to preſume that they were in Poſſeſſion of pure ſimple Spirits, without the Admixture of any Phlegm; but, as I took Notice before, I could never by this Method obtain pure *Alcohol*; but it would to the laſt retain ſomething of Phlegm. Secondly, they put ſome *Alcohol* into a very clean, dry Spoon, and, heating it, ſet it on Fire in a Place were there was not the leaſt Wind, and if after the *Alcohol* was burnt out, there was no Moiſture left in the Spoon, they pronounced it pure *Alcohol*. Some more curious Perſons, however, by other Experiments, diſcovered, that by the Action of the Flame, the Water that lay concealed in the *Alcohol*, might be diſperſed into the Air, and conſequently that the Abſence of Water in the Spoon, after the Conſumption of the *Alcohol*, was no certain Proof, that there was none contained in it, before it was ſet on Fire. In the third Place, therefore, they took ſome of the beſt Gun-powder, and drying it very carefully put a little of it into a clean and very dry Spoon, and poured ſome *Alcohol* upon it, which being heated, they juſt ſtirred it in the very Surface, and letting it burn down in a very quiet Place, if the Powder continued dry enough to take Fire by the Flame when juſt ſpent, they concluded that the *Alcahol* was pure: But againſt this Experiment there lies the very ſame Objection as againſt the former. Theſe two laſt Methods, therefore, when they ſucceed, demonſtrate, that the *Alcohol* is in a very great Degree, but not abſolutely free from Water. In the fourth and laſt Place, therefore, there has been another Way diſcovered, by which it may be certainly known whether *Alcohol* contains any Water or not, which is this: Take a chymical Vial, with a long narrow Neck, the Bulb of which will hold four, or ſix Ounces of *Alcohol*. Fill this Two-thirds full with the *Alcohol* you intend to examine, into which throw a Dram of the pureſt and drieſt Salt of Tartar, coming very hot out of the Fire; then mix them by ſhaking them together, and ſet them over the Fire till the *Alcohol* is juſt ready to boil. Being thus ſhaken and heated, if the Salt of Tartar remains perfectly dry, without the leaſt Sign of Moiſture, we are ſure that there is no Water in this *Alcohol*. By intermixing this Salt of Tartar, I have been enabled to diſcover Water in what has been taken for the beſt of *Alcohol*: For I took ſome *Alcohol*, which had burnt intirely away, and had ſet Fire to Gun-powder, and upon putting ſuch an alcaline Salt into it, I perceived by the Moiſture it acquired, that there was ſtill ſome Water in it: And again, I took ſome *Alcohol*, in which there was a fixed Alcali that had remained dry for a long Time, and was ſtill ſo, when I juſt put a Drop or two of Water to it, and though the Salt had continued very dry ſo long, it ſoon after grew moiſt from ſo ſmall a Quantity of Water, and appeared in oily Streaks running down the Sides of the Glaſs.

Hence the ſingular Nature of *Alcohol* is abundantly determined by its individual Properties; eſpecially if to what has been ſaid you add this Obſervation, that ſuch an *Alcohol* is not viſible whilſt it diſtils through the Alembic: For it neither forms dewy Drops like Water, nor runs down in Striæ like ſtrong Spirit of Wine, but it is quite inviſible; which Property was not unknown to the ancient Chymiſts as evidently appears by their Writings. This, then, is the ultimate Effect of Fermentation, for it is ſcarce poſſible to carry this *Alcohol* to any greater Perfection, or, indeed, to make any Alteration in it.

The Production of Alcohol by Alcalies.

I. Becauſe a good Quantity of pure *Alcohol* is often wanted on a ſudden, when there is no chymical Apparatus ready for preparing it, and the Purpoſe may well enough be anſwered, though there ſhould, by Chance, ſome fixed *Alcali* be mixed with the Liquor, the Induſtry of the Chymiſts has found out the following Method of preparing it: To common Spirit of Wine they pour a third Part of its Weight of the pureſt and drieſt Pot-aſh, which preſently ſinks to the Bottom. Upon ſhaking the Veſſel, the Salt immediately grows moiſt, and begins to diſſolve at the Bottom, whilſt a thin red Liquor ſwims at the Top; and the more they are ſhaken, the greater is the Diſſolution underneath, and the Separation upwards; nor is it ever poſſible to make them mix, but as ſoon as ever they come to reſt, they immediately collect themſelves into two perfectly diſtinct Strata. And here the ſtronger the Spirit of Wine is, the greater will be the Quantity of the upper Liquor; and ſo on the contrary.

II. Let the Veſſel reſt for ſome Time, that the Liquors may become intirely ſeparated, and then by a gentle Inclination of the Veſſel pour off the upper Liquor into another clean, dry Cucurbit, taking as much Care as you can, that none of the lower runs in with it. At the ſame Time let there be ready a fixed, *alcaline* Salt, very well dried by the Fire, and let it be put, while it is yet hot, into the Cucurbit, which contains the firſt Spirit that has been once already drained of its Water. Let them be ſhaken together, the Cucurbit being ſtopped, for a conſiderable Time, and you will perceive the dry Salt to contract a little Moiſture; you are then to perſiſt in ſhaking them together, till you obſerve that no more of the Salt will be diſſolved, but that there ſwims at the Top a red limpid Liquor, which will be ſo much the purer, as the *alcaline* Salt was drier and hotter, and the longer it was ſhaken with the Liquor. This done, pour off the Liquor into a tall dry Bolt-head, and caſt therein a little more of the drieſt and pureſt *alcaline* Salt, as hot as may be, and ſet them in an hundred Degrees of Heat, ſhaking them about very frequently; and if the Salt does not then grow at all moiſt, the *Alcohol* will be perfectly freed from its Water; but then it will have a red Colour, a Taſte not ſimple, and a ſomewhat diſagreeable Smell, and by its Effervеſcence with Acids, and its lixivious Taſte, will evidently diſcover the Preſence of a latent *Alcali*.

In this Operation there always appears a pinguious Oil, which ſeparates itſelf from the Spirit of Wine, or the Pot-aſh, or perhaps from both, and has a fœtid Smell. Beſides, the fixed *Alcali* here uſed, by abſorbing and uniting with itſelf the Acid which was in the Spirit of Wine, is altered in its Nature, and at laſt becomes a compound and pretty volatile Salt. Here I found, that when this Salt had been frequently uſed, and ſtill dried after every Operation, it became at laſt almoſt of the Nature of the Terra Foliata Tartari, and intirely unfit for any Purpoſe, where there was required a fixed *Alcali*.

III. *Alcohol*, thus prepared, and diſtilled in a Cucurbit, over a gentle Fire, becomes ſufficiently pure, and fit for almoſt all Purpoſes that require a ſimple *Alcohol*. It is true indeed, there will be ſomewhat *ſubalcaleſcent* ſtill united with it, though this too may be removed, by cautiouſly adding a few Drops of Oil of Vitriol before the Diſtillation, and proceeding ſo long as there is any Effervеſcence excited, and no longer; for if you then diſtil it, your *Alcohol* is reckoned to be pure.

IV. Hence alſo it appears, that the Separation of pure *Alcohol* is not ſo eaſy as ſome People pretend: For in Diſtillation there is a ſomewhat acid, and a watery Liquid, which intimately adheres to the Spirit, and which cloſely unites itſelf with the *Alcali* that is added to it: Therefore, we need not be ſurpriſed, that ſome very curious Experiments, which require the pureſt *Alcohol*, do ſo ſeldom ſucceed. And hence it is plain, that an *alcaline* Salt will often properly diſpoſe *Alcohol* for particular Operations, either as it frees it from its Water, Acid, and Oil, or as it impregnates it with an *alcaline* Quality, and thus improves its diſſolving Power. We muſt have a due Regard, therefore, to all theſe Conſiderations, before we can determine its Effects. *Boerhaav. Chym.*

Thus I have traced the Preparation of *Alcohol* from the Vegetable from which it is generated, through all the ſucceeding Proceſſes neceſſary for its Production. And becauſe all vinous Liquors borrow their intoxicating Qualities, and all their Properties wherein they differ from other Fluids, from the *Alcohol* which reſides in them, I ſhall make ſome Remarks, with Reſpect to the Uſes generally made of them in common Life.

Firſt, then, as vinous Liquors have Effects upon animal Bodies, nearly allied to thoſe of the Gas Sylveſtre, or incoercible Spirit which flies off from fermenting Liquors, it ſeems near a Certainty, that fermented Liquors inebriate, and produce all their deleterious Effects by a Portion of this Gas Sylveſtre reſiding in them.

Hence appears the Imprudence, I ſhould rather ſay Madneſs, of thoſe who take into their Stomachs large Quantities of a Fluid ſtrongly impregnated with the moſt ſubtile and penetrating Poiſon known in Nature, and which we find by daily Experience never fails to diſorder, and if perſiſted in, to deſtroy the animal Machine. The Frequency of this Practice is amazing, and would ſcarcely be credible, if it was not common. I ſhould think myſelf happy, if any Thing I could ſay would put the leaſt Check to this beſtial Crime, to which it is aſtoniſhing there ſhould be any Temptation, for I am ſatisfied, that this alone deſtroys more Lives than the Accidents of War, added to all the Diſtempers with which Providence has thought proper to afflict Mankind; and it is very remarkable, that beſides the Diſtempers produced by drinking ſpirituous Liquors, an habitual Uſe of theſe renders all Diſeaſes from other Cauſes more difficult to cure.

It is certain, that fermented Liquors are deleterious, in Proportion to their Strength, that is, in Proportion to the poiſonous Spirit or Gas they contain. However, though ſmall fermented Liquors do not immediately manifeſt their Effects, yet I think it is not to be doubted, but that an habitual Uſe of even theſe muſt in the End induce an Alteration in the Conſtitution to its Diſadvantage. I am ſenſible, a Habit of drinking theſe Liquors renders them ſomewhat neceſſary, and makes it difficult to leave them off, and ſometimes even dangerous. It is therefore a great Imprudence in People of Condition, to inure their Children to the Uſe of Wine, and other fermented Liquors, from their moſt tender Years.

If we conſider *Alcohol* as acting upon the Stomach only, and at the ſame Time reflect upon what is obſerved above with Reſpect to its Operation on the Nerves, which is, that it dries and contracts them, and deprives them of all Senſation and Motion, we ſhall readily perceive, that if taken in the Stomach, when it is empty eſpecially, they muſt neceſſarily, by their proper Action, take away that Senſation which we call Hunger, and deſtroy that Elaſticity of the Fibres of the Stomach, which is abſolutely neceſſary to the Digeſtion of the Aliment. To theſe Inconveniencies ariſing from the internal Uſe of *Alcohol* it m be added, that it coagulates animal Juices, and conſequently a the Fluids it finds in the Stomach, I mean, thoſe Fluids wh are ſeparated in the Glands of the Mouth, Fauces, and Sto mach, and which are deſigned by Nature to promote the Solution of the Aliment; now when theſe are coagulated, and r dered viſcid, they are utterly unfit to promote the above-me oned Solution, but rather prevent it. Every one that has ſ a Perſon, much habituated to drinking Drams, take a Vomi muſt have obſerved him to diſcharge from his Stomach gr Quantities of a viſcid roapy Jelly.

If we conſider ſpirituous Liquors as a Solvent of the Al ment, we ſhall find it ſo far from being fit to promote this S lution, that it greatly contributes to prevent it, for it har animal and vegetable Subſtances, and hinders their Solutio the Stomach, for the very ſame Reaſons, that it prevents th Putrefaction out of it.

It would be well if ſpirituous Liquors had any Virtues make Amends for the Havock and Deſtruction they make in t World. And, to do them Juſtice, I believe, that rough au red Wines may be of Service for bracing up a relaxed H and promoting Digeſtion vitiated by an accidental Laxity the Organs ſubſervient thereto; and that the more penetra white Wines, well diluted, may be of Service as Medicines. T particular Caſes are taken Notice of under the Article Alca from Hippocrates, and are alſo mentioned under the ſeveral D orders wherein they are uſeful.

But with Reſpect to any Thing more ſpirituous than W there is ſcarcely any Caſe wherein they can be of ſuffic Service to compenſate for the great Miſchiefs they produ inſomuch that every Perſon who drinks a Dram, ſeems to guilty of a greater Indiſcretion, than if he ſet Fire to his Hou and for the ſame Reaſons, Cordial-waters are the moſt da rous Furniture for a Cloſet, particularly as there is ſometh like Faſcination in them, which obliges the Poſſeſſor to Uſe of them, to the Deſtruction both of Health and Intelle

On this Account, I cannot forbear admiring the great W dom of Mahomet, who has ſtrictly forbid his Followers the of fermented Liquors, for better Reaſons than are generally prehended.

However *Alcohol*, and fermented Spirits in general, a good Service externally applied in many Caſes. Thus Spi Wine, eſpecially camphorated, is a very good Addition to mentations deſigned to reſolve Inflammations, whether ex or internal.

Wine uſed as a Fotus, or applied externally, cools, a lays the Heat of the Parts, notwithſtanding it warms internally. Spirit of Wine does the ſame. Pliny ſays, the Nature of Wine to warm the Viſcera taken internally, to cool externally applied. *Harris Diſſert. Chyrurg.*

Hippocrates ſays, that Ulcers ſhould be waſhed with no but Wine. *Galen, L.* 3. *Methodi, Cap.* 4. ſays, Wine beſt Medicament for Ulcers. Dioſcorides ſays, that Wi Lana ſuccida, is a good Application for Wounds and Infla tions. Dr. Harris from his own Experience affirms, linnen Cloths dipped in warm Spirit of Wine, often Burns from ſcalding Water, melted Pitch, Fire, and G powder, better and ſooner than all other Applications. gives an Inſtance of a Boy that was blinded by a Drop of falling into his Eye, and of another blinded by Gun-po who both recovered their Sight the very next Day, by a of warm Spirit of Wine. *Harris Diſſert. Chyrurg.*

Dr. Harris alſo affirms, that warm Wine is the beſt Ap tion for Wounds, Ulcers, and Inflammations, eſpecially of the moſt ſenſible Parts, that are full of Nerves, Tendo

d-veſſels, as the Fingers and Toes, where Inciſions and
ſtures often cauſe great Pain, and endanger a Mortifica-

he Turks, who are ignorant generally of Surgery, unleſs
ps ſome wandering Jew practiſes it amongſt them, foment
Wounds, and waſh them with Wine ſucceſsfully.
angrenes will ſometimes happen from unſkilful Cutting
s, or the Nails of the Toes, eſpecially if they are exaſpe-
with Unguents and Plaiſters. Spirit of Wine and Theria-
e the beſt Topics in ſuch Caſes. *Harris Diſſert. Chyrurg.*
irit of Wine uſed as a Fotus for a ſufficient Time, and up-
me Occaſions repeated, extinguiſhes the Heat of an Ery-
s, ſooner than any other Fotus whatever, whether the E-
elas is cutaneous, true, and genuine, or ſpurious, more
und, and deeper in the Fleſh. *Harris Diſſert. Chyrurg.*
yſipelatous Pains in Wounds and Ulcers are cured by a
of Spirit of Wine. *Harris Diſſert. Chyrurg.*
Veſicatories cauſe great Pains, and endanger a Mortifica-
a Fotus of Spirit of Wine will cure them. *Harris Diſſert.*
urg.
flammations cauſed by Veſicatories, which are attended
violent Pains, and a blackiſh Colour, and which tend to
ngrene, are eaſily cured by fomenting them with a linnen
doubled, and dipped in hot Wine, or Spirits of Wine,
fterward applying ſuch a Cloth wetted with Wine, or
of Wine upon the Part, without Plaiſters, or unctuous Me-
s. *Harris Diſſert. Chyrurg.*
ere is a Species of Colic, which Women are ſubject to,
is extremely painful, and is ſometimes fixed on the right
ſometimes on the left, below the Navel, without Vomit-
Dr. Harris ſays this is cured in a Day's Time, or on the
Day, by an Application of doubled linnen Cloth dipped in
ot Spirits of Wine, and continued a long Time, even
Narcotics are uſeleſs, or ſometimes noxious. *Harris*
. Chyrurg.
is I have frequently found of great Efficacy, in the Caſe
octor mentions. As this Author was a Man of undoubt-
egrity, his Authority has the greater Weight.
e *Alcohol* is the beſt of Stiptics, for being received upon
Tents, whilſt it is almoſt hot, and is preſſed upon a
g Wound, and covered over with a Hogs-Bladder oiled,
emorrhage will preſently be ſtopped; and the Dreſſings
e kept on three Days, in which Time the bleeding Veſ-
ally concrete together. *Boerhaave.*
to the Antiquity of *Alcohol*, thoſe who are ſollicitous a-
aiſing the Character of Homer, by attributing to him all
f Knowledge, are furniſhed with a very good Opportunity
king him a moſt excellent Chymiſt. This great Author,
g of the Wine with which Ulyſſes made Polyphemus
ſays it was given him by Maron, and that it was ſo
that though mixed with forty Times the Quantity of
, yet retained a great Fragrance. If this was not a poe-
xaggeration, Wine like this muſt be ſtronger than any
known at this Day. But, in reality, we meet with no-
like Spirit of Wine before the thirteenth Century, when
eus takes Notice of it. And ſome little Time after, Ar-
de Villa Nova mentions it in very high Terms, under
itle of *Aqua Vini*. It is certain, that the thirteenth and
nth Centuries were remarkable for many conſiderable
eries; but as the Tree of Knowledge brought Death
lly into the World, ſo the Period above-mentioned, toge-
ith an Increaſe of Knowledge, introduced Gun-powder,
x, and Brandy, the moſt pernicious of the three by ma-
grees.
that Set of Alchymiſts in general, who acquired the Name
ts, ſpeak much of Spirits of Wine, as a Thing uſed in
paration of their ſecret Menſtruums; and hence Weiden-
as of Opinion, that we only wanted the Preparation of
ue philoſophical Spirit of Wine, in order to be let into
r Secrets. But Boerhaave ſeems inclined to think, the
which we are acquainted with anſwers the Characters of
ed by the old Chymiſts in every Reſpect, except that
is ſaid to diſſolve Salts, which ours will not do. But he
a Doubt, whether this depends upon our Ignorance of
ue Spirit, or our Want of knowing their Method of pre-
Salts, in order to render them thus ſoluble.

LCOHOL, conſidered as a MENSTRUUM, diſſolves

All true vegetable Reſins.
Moſt Sorts of Gum Reſins.
ure, volatile, *Alcaline Salts.*
ure, fixed, *Alcaline Salts*, when rendered extremely dry.
Moſt ſaponaceous Subſtances.
Sulphurs, when opened by *Alcaline Salts.*

But ALCOHOL will not act upon

Native compound Salts, as Sea-Salt, Nitre, and Sal Am-
c.
Nor Sulphur, unleſs opened by *Alcaline Salts.*

3. Nor Earth, Mercury, Metals, Semimetals, Stones, nor Gems.

ALCOL. *Vinegar. Rulandus.*

ALCOLA. The ſame as Aphtha, in the Phraſe of Avicenna. See APHTHA.

In the Language of Paracelſus, *Alcola* is the Tartar, or Excrement of Urine, whether it appears in the Form of Sediment, Sand, or viſcous Mucilage. Hence

ALCOLITA, is by this Author applied to ſignify Urine. *Caſtellus.*

ALCOLISMUS. The Reducing any Subſtance to fine Particles by Corroſion, or otherwiſe. *Rulandus.*

ALCONE. *Braſs. Rulandus.*

ACOR. *Burnt Copper. Rulandus.*

ALCORE. A Sort of Stone, having Spots in it reſembling Silver. *Rulandus.*

ALCTE. Ἄλκτη. Erotian ſays this is the Name of a Plant mentioned by Hippocrates. Foeſius thinks he means ἀκτή, The *Elder.*

ALCUBD, or ALUMBAIR. Rulandus explains this Butyrum crudum, crude Butter, which Johnſon, and Caſtellus tranſcribe, without any farther Explanation.

ALCUBRITH, ALCUR, or ALUZAR. *Sulphur. Rulandus.*

ALCYONIUM, *Baſtard Spunge.* Is a Sort of ſpungy Plant which is found in the Sea, or upon the Shore, or rather a Froth of the Sea, which is hardened by the Heat of the Sun, and of different Shapes and Colours.

What thoſe Bodies are, which the Greeks call *Alcyonia*, and whence they have their Original, has been a controverted Point among the Botaniſts, and is not yet decided. Pliny writes that they are the Neſts of ſome Sort of Birds, that build in the Sea. Imperatus would have them to be nothing but Bits of Straws and Hair conglobated into a Maſs by the Agitation of the Waters. Schrochius affirms they are produced of Reeds, and their Leaves, and that in ſeveral which he cut open, he found the very Plant, the Reed, rolled up and incloſed in the Middle. Dioſcorides reckons five Species. The firſt is called

Alcyonium durum, Offic. *Alcyonium durum ſive primum Dioſcoridis Imperato*, C. B. 368. Tourn. Inſt. 576. *Alcyonium ſpongioſum Officinarum*, J. B. 3. 816. Chab. 579. Raii Hiſt. 1. 82. Hiſt. Oxon. 3. 654. *Alcyonium ſpongioſum Dioſcoridis, flavum marinum quorundam*, Donat. 11. *Alcyonium primum Dioſcoridis*, Calc. Muſ. 21. *Alcyonium, ſeu eorum ruſcum*, Worm. 48. HARD BASTARD SPUNGE. *Dale.*

It reſembles in ſome Meaſure a Sponge; but it is hard, leavy, and of a ſour Taſte, and diſagreeable Smell, like a Fiſh: It is commonly found on the Sea Shore. *Lemery des Drogues.*

The ſecond is called

Farrago, Offic. Ariſtot. *Farrago auſtralis, Alcyonium ſecundum Dioſcoridis*, C. B. Pin. 368. *Veſicaria marina nigra, Farrago Ariſtotelis quorundam*, J. B. 3. 818. Chab. 580. *Dale.*

It is called by Lemery (*Favago auſtralis*, C. B.) It is light, porous as a Sponge, and ſmells like the Alga. *Lemery des Drogues.*

The third is called

Alcyonium vermiculatum, Offic. *Alcyonium vermiculare Imperati*, C. B. 368. *Alcyonium vermiculare*, Imperat. 639. Hiſt. Oxon. 3. 654. *Alcyonium tertium Dioſcoridis*, Cæſalpin. 608. *Alcyonium vermiculatum purpureum candidum, & flaveſcens*, Tourn. Inſt. 576. VERMICULATE BASTARD SPUNGE. *Dale.*

It is called by Lemery *Mileſium.*

It is in the Form of little Worms, of a purple Colour; ſometimes white, and other Times yellow, and they give it the Name of *Alcyonium vermiculare. Lemery des Drogues.*

The fourth is called

Alcyonium ſtuppoſum, Offic. *Alcyonium ſtuppoſum Imperati*, J. B. 3. 817. Raii Hiſt. 1. 82. *Alcyonium ſtuppoſum*, Imp. 640. Tourn. Inſt. 576. *Alcyonium ſtuppoſum dictum*, Chab. 579. *Alcyonium ſtuppoſum vel quartum Dioſcoridis & Imperati*, C. B. 368. Hiſt. Oxon. 3. 654. THREADY BASTARD SPUNGE. *Dale.*

Called by Lemery *Alcyonium molle.* It is light and ſoft, reſembling greaſy Wool [οἰσυπηροῖς]. *Lemery des Drogues.*

The fifth is called

Alcyonium tuberoſum, Offic. J. B. 3. 817. Raii Hiſt. 1. 82. Hiſt. Oxon. 3. 654. *Alcyonium tuberoſum ficûs formâ*, Imp. 641. Tourn. Inſt. 576. *Alcyonium formâ fructûs alicujus ficûs*, C. B. 368. TUBEROSE BASTARD SPUNGE. *Dale.*

It is called by Lemery, *Alcyonium foraminoſum.* It is ſomewhat like a Muſhroom, ſoft to the Touch without Side, of a ſharp Taſte, but rough within, and porous like the Pumice-ſtone, without Smell.

There are, beſides theſe, a great many other Kinds.

They contain a great deal of Oil and Salt, ſome more than others. *Lemery des Drogues.*

Preparation of Alcyonium.

To calcine any Species of theſe *Alcyonia*, put them in an earthen Pot never burnt, with a little Salt, and having well luted the Mouth, ſet it in the Furnace, and when the Pot is thoroughly baked, take it out, and lay it up for Uſe; it is waſhed like the Cadmia. *Dioſc. Lib.* 5. *Cap.* 136.

All the *Alcyonia* are deterſive and diſcuſſive, and of an acrid Quality; but the Mileſian, or Vermiform, is the beſt; wherefore, when it is burnt, it cures the Alopecia, and cleanſes the Skin from the Impetigo and Vitiligo. That with a ſmooth Superficies is the ſtrongeſt, as not only deterging, but excoriating; but that which is like greaſy Wool, is the weakeſt of all. *Æginet. Lib.* 7. *Cap.* 3.

The firſt and ſecond Sort are proper for the Eryſipelas, the Ring-Worms, the Itch, the Leproſy, and all other Diſorders of the Skin, to take away Freckles from the Face, being externally applied in Powder, or in Decoction.

The third is eſteemed good to excite Urine; to expel the Stone of the Kidnies and Bladder; to remove Obſtructions of the Spleen, and for the Dropſy; it may be taken in Powder, or in Decoction. Being burnt, it makes the Hair grow, if applied to the Part, mixed with a little Wine.

The fourth is reſolvent.

The fifth is proper to clean the Teeth, and if it is calcined with Salt, it makes a Depilatory, or Remedy to deſtroy Hair. *Lemery des Drogues.*

ALDABARAM. A Name for the Seſamoide Bones of the Great Toe. See ALBADARA. See SESAMOIDÆA.

ALEC, or ALECH. *Vitriol. Rulandus. Johnſon.*

ALECHARITH. *Mercury. Johnſon.*

ALECTORIA, or LAPIS ALECTORIUS. From Ἀλέκτωρ, *a Cock*. A Gem fabled to be found in the Stomach of a Cock, ſome ſay of a Capon, after it is four Years old. It is ſaid to be as clear as Cryſtal, or Rock-water, and about the Size of a Bean. Many chimerical Virtues are attributed to this Stone, as that it renders the Poſſeſſor rich, eloquent, and courageous, that it increaſes venereal Vigour, and procures Friends. If a Woman poſſeſſes it, ſome Authors aſſure us, that ſhe muſt of Neceſſity be very beautiful and charming in the Eyes of the Men. Pliny ſays, Milo of Crotona was invincible only becauſe he had this Gem in his Poſſeſſion, and carried it about him in his Combats. It has alſo, as it is reported, the Power of quenching Thirſt, and mitigating Heat, if held in the Mouth. *Rulandus. Pliny. Gul. Menens.*

ALECTOROLOPHUS. A Plant thus diſtinguiſhed:

Alectorolophos, Offic. *Criſta galli*, Ger. 912. Emac. 1071. Chab. 467. Mer. Pin. 31. Rivin. Irr. M. 92. Dill. Cat. Giſſ. 80. *Criſta galli fœmina*, J. B. 3. 436. Buxb. 88. *Criſta galli pratenſis humilior, comâ fuſcâ*, Rupp. Flor. Jen. 194. *Pedicularis ſive Criſta galli lutea*, Park. Theat. 719. Raii Hiſt. 1. 769. Synop. 3. 284. *Pedicularis pratenſis lutea, vel Criſta galli*, C. B. Pin. 163. Tourn. Inſt. 172. Elem. Bot. 141. Boerh. Ind. A. 235. Hiſt. Oxon. 3. 426. *Pedicularis pratenſis lutea, ſive Criſta galli, Herbariorum*, Merc. Bot. 1. 57. Phyt. Brit. 89. YELLOW RATTLE. *Dale.*

Alectorolophos, which among us goes by the Name of *Creſt (Criſta)* has Leaves like a Cock's Comb, or Creſt, many in Number, a ſlender Stalk, and black Seed. *Pliny, Lib.* 21. *Cap.* 5.

Lobel writes, that this Herb is called *Pedicularis* for its poiſonous Qualities, and becauſe it infeſts the Meadows, and is an Enemy to Lice. On the Contrary, Dodonæus calls it *Pedicularis* from its Effect, which is to breed Plenty of Lice upon the Cattle which feed in the Paſtures where it grows. But to me the Leaves of this Plant ſeem, by their Furrows, to be very like the Back of a Louſe, and thence perhaps it took its Name.

From a ſmall, white, ſingle Root, that ſends forth ſome collateral Sprays, and is not deep in the Ground, there ſhoots up a Stalk, for the moſt Part ſingle, a Foot high, ſtiff, ſmooth, ſquare, ſtrait, ſlender, light, oftentimes variegated with black Spots and Streaks, and towards the Top of a purpliſh Colour. It is divided into ſeveral Branches, which ſtand oppoſite, and are encompaſſed by two Leaves, without Pedicles, wide at the Baſe, and growing narrower by Degrees, to the very Top, of a Finger's Length, ſharp-pointed, indented at the Edges, reſembling a Cock's Comb, a remarkable Vein running on the Right and Left, to each Indenture. From the Midſt of the Leaves proceed ſmall Branches by Pairs, or two ſtanding oppoſite. On the Tops of the Stalk and the Branches grow ſmall Flowers cloſe ſet, in the Form of an Ear, or Spike, and proceeding in like Manner from the Leaves, a ſingle one from each Sinus, with very ſhort Pedicles. The Flower-cup is turgid, compreſſed, and cut juſt within the Edge into four acute Segments. The Flowers are monopetalous, yellow, in Shape reſembling a Hood, which incloſes and hides from View a ſlender Style, with four Chives, and their Apices. The Flower falling off, the Cup ſwells into a vaſtly larger Veſicle, which contains within itſelf and compreſſes a large Seed-veſſel, divided in the Middle into two Cells, which hold ſeveral Seeds cloſely compreſſed, and ſurrounded with a membranaceous Border of a duſty Colour. When the Seed is ripe, the membranous Cells on a ſudden fall aſunder and gape wide, and ſhirle wh they are dry.

It flowers in June, and the Seed is ripe in a ſhort Time, a then immediately falls off, and the Plant ſoon after withers aw to the very Root.

It grows chiefly in the barren Sort of Paſtures, and oftentim in Plowed Fields, being of no Uſe, but hurtful in both Situ tions. *Raii Hiſt.*

Boiled with huſked Beans, and ſweetened with Honey, it i good for a Cough. It alſo cures Dimneſs of Sight, for whic Purpoſe they caſt a whole Seed into the Eye, where it cauſes n Diſorder, but takes off the Miſt or Cloud upon itſelf. It change Colour, and from Black begins to turn white, then ſwells, a comes out of itſelf. *Plin. Lib.* 21. *Cap.* 5.

Beſides the Fore-mentioned, Ray enumerates,

1. *Criſta Galli Maſ.* J. B. The Male Criſta Galli of Jo Bauhin. It differs from the Female in Tallneſs, growing ſom times to the Height of a Foot and half, has a ſtronger Stal broader Leaves, and much larger Flowers, is whiter at t Tops, and has hairy Veſicles. It grows together with the Fe male in the Meadows about Geneva.

2. *Criſta Galli ſpicata flore luteo magno Meſſanenſis.* T ſpiked *Criſta Galli* of Meſſina, with a large yellow Flower.

3. *Trixago Apula Unicaulis*, τετράσταχυς (*Tetraſtachys*) C *Criſta Galli ſpicata Flore vario ex albo & purpureo. An An rhinum Folio ſerrato*, J. B. The *Apulian Triſtago* with a ſin Stalk, the *Tetraſtachys* of Columna; the ſpiked *Criſta G* with the white and purple Flower. *Qu.* Whether the *An rhenum*, with a ſerrated Leaf, of John Bauhine?

4. *Pedicularis pratenſis rubra vulgaris*, Park. *Pratenſis p purea*, C. B. *Pedicularis*, Ger. *Pedicularis, quibuſdam Cr Galli Flore rubro*, J. B. RED RATTLE.

The Flowers, as in the common Criſta Galli, ſpring f from lax, ſmooth Veſicles, but not ſo much compreſſed, f rowed, and of a deep Green, a little inclining to Red, a are of a red Colour, ſeldom of a Carnation or White. T upper Lip has a Beak, and conceals within its two Cells four y low Apices, deeply ſet with a purpliſh Style; the lower is de cut or jagged into three exactly round Lobes. The Leaves b ſomething reſembling Filipendula, but are much ſmaller, a more nicely cut at the Edges, are of a green or light red Colo and ſtand on weak, hollow, angulous Stalks, eight or n Inches high. The Root is ſomewhat bitteriſh, white, furr ed, ſhaped like that of Parſley, ſcarce as big as one's l Finger, but runs out in ſmall Fibres. From the Top of t Root ſpring forth broad, thick, ſharp-pointed Leaves, ſerr round the Edges, from the Middle of which the other Le together with the Stalk ariſe. The firſt Leaves of the ne ſprung Plant are ſo like the Oak-fern, both in Shape and Ie ſions, that ſome would take them for the ſame. The Seed of a ſooty Colour, and round, contained in large, falcated V ſicles, which run out with a Sort of Beak.

It grows in Meadows, Paſtures, and on Heaths, whe the Ground is moiſt and boggy, in great Plenty, all o England.

5. *Pedicularis paluſtris rubra elatior. An Pedicularia C peſtris prior ſpecies Trag.* The red, tall *Pedicularis* of Marſhes. *Qu.* Whether it be the firſt Species of the Field *dicularis* of Tragus?

This Herb, if we may believe Tragus, eaten by the Ca breeds ſuch Swarms of Lice about them, that they are no be cured without great Trouble and Danger.

6. *Criſta Galli montana, Floribus pallidis in ſpicam cong* The *Criſta Galli* of the Mountains, with a Spike of Flowers.

7. *Pedicularis major Dalechampii*, J. B. *Alpina Filicis lio major*, C. B. *Major Alpina.* The larger *Pedicularis* of D champius, John Bauhine. The greater Alpine Sort, with Fern-leaf, Gaſpar Bauhine. The greater Alpine Sort of P kinſon.

8. *Filipendula montana altera*, C. B. *Montana mollior a* Park. *Alectorolophus* II. Cluſ. Hiſt. One of the two *M tain Filipendulas* of C. B. The ſofter of the two Mou Species of Parkinſon. The eleventh Species of *Alectorol* in Cluſius.

9. *Pedicularis Bulboſa*, J. B. *Filipendula montana Flore diculariæ*, C. B. *Filipendula montana major albida*, Park. *torolophus Alpinus major* 1. Cluſ. *Filipendula montana*, G The *bulbous Pedicularis* of J. B. The *Mountain Filipe* with the Flower of *Pedicularia*, C. B. The greater *Mountain Filipendula* of Park. The firſt Species of the gr Alpine *Alectorolophus* of Cluſius. The *Mountain Filipendu* Gerard.

10. *Pedicularis Alpina lutea*, C. B. Park. *Alpina Flore teo, Radice nigra*, J. B. The yellow Alpine *Pediculari* C. B. and Parkinſon. The Alpine *Pedicularis*, with a y Flower, and a black Root, of J. B.

11. *Criſta Galli umbellata*, C. B. Prod. *Galli lutea lata*, Park. The umbelliferous *Criſta Galli*, in Gaſpar Bau Prodromus. The yellow umbelliferous *Criſta Galli* of P ſon.

12. C

2. *Criſta Galli anguſtifolia montana*, C. B. Park. The nar-leaved Mountain *Criſta Galli* of C. Bauhin and Parkinſon. *ii Hiſt.*

ALEFANTES. Rulandus explains this by *Flos Salis.*

ALEIMMA. Ἄλειμμα. An Ointment or Liniment, any ƈtuous or greaſy Topic, that has no Wax in the Compoſi-n, to give it a greater Conſiſtence.

ALEION. Ἄλειον. An Epithet applied by Hippocrates to ater. It ſignifies *copious. Gorræus.*

ALEIPHA. Ἄλειφα. It ſignifies the Oil of Vegetables, and of Animals. It farther ſignifies any Sort of medicated Oil, is, Oil impregnated with aromatic, or fragrant Vegetables, pared for anointing the Body, and therefore of ſuch a Conſi-ce as is proper for this Purpoſe; conſequently no Wax enters Compoſition of an *Aleipha*, nor Powders in Quantities ſuffi-nt to render it too thick.

Hippocrates, and all the Antients, abound with Ointments, ich they applied not only as Topics to particular Parts, but h a Deſign of inducing ſome Alteration in the general Ha-as we may learn from their almoſt univerſal Uſe of them ll Diſtempers, both acute and chronical. And it is remark-, that they frequently relaxed the Skin by warm Baths be-the Application of their Oils, with a View of gaining a e eaſy Admiſſion to the Particles of Oil into the Habit.

t is amazing that this Practice which the Antients recom-d ſo ſtrongly, and from which it is evident they found t Advantages, ſhould ſo far have grown into Diſuſe, as to eldom or never taken any Notice of by the Moderns in the e of Diſtempers, though it ſeems to be of Importance gh to deſerve the Regard of every Practitioner. I am id this is not the only Inſtance of a Diſadvantage ariſing a Dependance on Theory, ſo far as to proſcribe from ƈtice whatever has not ſuited with the crude and imperfect s we conceive of the Operation of natural or artificial Bo-without conſulting Experience, the only Thing which ld guide us, and which is capable of determining, whether Theories we form are juſt, or otherwiſe.

think the following Fact will make it highly probable, that ſicians have done extremely wrong, to neglect ſo much as have, the general or particular Uſe of Oils.

he Year before the Viper-catchers diſcovered that the com-Salad Oil was their grand Secret for curing the Bite of a r, I employed theſe People to get a conſiderable Number ipers, in order to make ſome Experiments. According-great many Chickens, and ſome Cats were bitten, ſome hich were cured, and others ſuffered to die of their Wounds. n diſſecting thoſe which died I obſerved, that the Blood long the Courſe of the Veſſel which was wounded by the r, was coagulated like Jelly, looked black, and ſtagnated, the nearer it approached the Heart, the wider was the Coa-ion, Lividneſs, and Stagnation, ſpread. If then the Poi-of a Viper produces deleterious Effects by cauſing a Stag-on of the Blood, it ſeems plain, that Oil muſt cure the rders depending upon ſuch a venomous Bite, by reſolving Coagulations already made, and preventing more from being ed.

is, I confeſs, a Secret to me, how Oil performs theſe ary Reſolutions of coagulated Blood, for I can form no actory Idea of its mechanical Way of acting, in order to uce ſuch an Effect. I am ſenſible it has been ſaid, that the *Spiculæ of the Viperine Poiſon are inveloped and blunted by iſcid Particles of Oil*; but this gives me no Satisfaction, for ny Thing which appears, it may or may not be ſo. But his Reſolution be brought about by any mechanical Means ever, if Oil applied externally is capable of reſolving coa-ed Blood, and of hindering the Blood from running into cretions, in one Inſtance, it occurs to me, that it may bly have the ſame Effect in other Caſes, where the Blood Tendency to ſtagnate and coagulate. And if ſo, univer-nctions may, in an inflammatory State of the whole Blood, great Uſe; as particular Unctions may be, when parti-Parts are inflamed, that is, where the Blood ſtagnates, coagulates. In Confirmation of this, it muſt be remem-, that Relaxing the Solids is the moſt effectual Method of ving Inflammations, and that Oil is known to relax in a Degree.

ence we may form a Judgment of their Opinions who for-he Application of Oils to inflammatory Tumors, where ntention is to diſcuſs, for Fear it ſhould obſtruct the Pores; ough the Pores ſhould be obſtructed by the Application of if theſe Oils reſolve and prevent Coagulations, their good ts will more than over-ballance the Miſchiefs which may from their Obſtructing the Pores.

LELAION. Ἀλέλαιον An Application made Uſe of by n in lax Tumors. It conſiſts of Oil beat up with Salt. s.

LEMA. Ἄλημα. *Boiled Meal.*

LEMBACI. *Burnt Lead. Rulandus.*

LEMBIC. Rulandus explains this *Mercury.*

LEMBICUS. The Derivation of this Word is half Ara-half Greek. It comes from the Word Ἄμβιξ, which is again derived from Ἀμβαίνω for Ἀναβαίνω, *to aſcend*, the Arabic Particle *Al* being added to it. In Latin Seneca calls it, *Miliarium*. In Engliſh an *Alembic*, or *Lembic.*

Before the Uſe of Retorts became ſo common as they have been for ſome Years, the moſt general Way of diſtilling was to put the Matter to be diſtilled into a Veſſel, called *a Body*, and to fit a Head to it, in order to receive the Vapour, which there condenſing into a Liquor, is conveyed by a Canal, called the *Roſtrum*, or *Beak*, from the Head into the Receiver. This Head is properly the *Alembic*, and is called *Alembicus Roſtratus*, to diſtinguiſh it from another Sort of *Alembic*, called *Alembicus Cæcus*, a *blind Alembic*, which is without a Pipe, or Canal, and is deſtined to receive Subſtances of a dryer Nature, which are ſublimed into it out of the Body. Sometimes alſo the *Alembic* is perforated at the Top, in order to permit a Part of the Vapour to eſcape. Thus is *Alembic* properly the Head of a Diſtilling-veſſel, but it is now frequently uſed to ſignify the whole Apparatus.

ALEMBROTH. In a Treatiſe printed in the *Theatrum Chymicum, Vol.* 4. called *Super Tractatulum, Mer Fugi dum bibit*, *Alembroth* is ſaid to be a Chaldee Word, importing *Clavis Artis*, the *Key of Art*. Rulandus explains this by *Sal Mercurii*, or *Sal Philoſophorum & Artis*. Caſtellus ſays it is called alſo *Elembrot*, and *Sal Fuſionis*, or *Sal Fixionis*. Some Sorts of this are prepared artificially, but that from which the others ſeem to have taken their Name is ſaid to be produced naturally in Cyprus, and to be got in the Form and Colour of concreted Blood. *Alembroth deſiccatum* is explained by Rulandus, *Salt of Tartar*. Hence *Alembroth* ſhould ſeem to ſignify a fixed *Alcaline Salt*, either natural, or artificial, which are all very uſeful in opening the Bodies of Metals, deſtroying their Sulphurs, and promoting their Separation from the Ore.

ALEMZADAT. *Sal Ammoniac. Rulandus.*

ALENON. Ἄληνον. Gorræus ſays Aetius calls Oil of Almonds Ἄληνον ἔλαιον.

ALEOPHANGINÆ PILULÆ. A Pill directed by the College, thus prepared:

> Take of Cinnamon, Cloves, the leſſer Cardamoms, Nutmegs, Mace, Calamus Aromaticus, Carpobalſam, or in its Defect Juniper Berries, Schœnanth, yellow Sanders, Galangals, and red Roſe-Leaves, each half an Ounce: Let theſe be groſly powdered, and a Tincture be drawn from them with Spirit of Wine, in a glaſs Veſſel cloſe ſtopped, enough to ſtrain off three Pints, in which diſſolve one Pound of the fineſt Aloes, and to it add of Maſtich and Myrrh in Powder, each half an Ounce; of Saffron, two Drams; of Peruvian Balſam, half a Dram; and reduce the Whole into a due Conſiſtence for Pills, by Evaporation of the ſuperfluous Moiſture over an Heat of warm Aſhes. *London Diſpenſatory.*

" The Quantities of ſome of the Ingredients are ſomewhat " diminiſhed to what they were before. Theſe are the *Pilu-" læ Aromaticæ* of Meſue. Zwelfer is very large in his Ani-" madverſions upon this Compoſition, which in the *Auguſtane " Diſpenſatory* a little differs from this, and he is very elaborate " in its Correction. He directs to draw the aromatic Part of " the Ingredients off by two or three Cohobations with five or " ſix Ounces of Spirit of Wine by a Retort, which is to be " ſaved, and a Decoction made of the Reſiduum in plain Wa-" ter, in which the Aloes is to be diſſolved and evaporated, and " then the Myrrh, Maſtich, and Saffron to be put to it, with " the aromatic Spirit before drawn; or elſe to take ſuch Aro-" matics as have not their eſſential Oils in the Shops, and ma-" nage thus; and put a due Proportion of thoſe eſſential Oils, " which are drawn, to the Whole at laſt, which ſeems to be " the better Way. This is directed in the *Pharmacopœia Re-" gia* with Hellebore, and intitled, *Pilulæ Aleophanginæ Capi-" tales & Stomachicæ*, but they are now out of Uſe." *Quincy's Note.*

This Medicine is imitated from Lampon's Hiera, deſcribed by Galen, *L.* 8. *de Compoſitione Medicamentorum, C.* 2.

ALEORE. Ἀλεωρή. From ἀλέω, to *avoid* or *eſcape*, is uſed by Hippocrates to ſignify that Eaſe which a Perſon finds from the Abatement or Intermiſſion of any Diſtemper; Ἄπεσις γὰρ νούσου κάμνουσι παρέχει μεγάλην ἀλεωρήν, " The Remiſſion of any Diſorder " adminiſters great Eaſe or Relief to the Patient." *Prognoſtics, Sect.* 1.

ALEOS. Ἄλεος. Taken as an Adjective, ſignifies *heaped, crouded, condenſed*, or *continued*, and in this Senſe is uſed by Hippocrates, who, ſpeaking of the Epimenia, ſays, Ἀλλ' αὖθις πολλὰ ἴῃ ἄλεα. " But if they flow in great Quantities and without " Intermiſſion." And a Line or two after, Καὶ ἄλεα ἐπιφέρηται, ἄχρους τε ἔσται μέχρις ἂν οὕτως ἔχῃ. " If they come down very faſt, the " Party will be of a pallid Countenance, ſo long as ſhe is thus " affected." *De Morb. Mulier. L.* 1.

Taken as a Subſtantive, it is interpreted by Heſychius and others, by the Words Θέρμη, Θάλπος, *Heat, Warmth*; and is derived by them from Ἀλέα, *Heat.*

ALES. Ἄλης. An Adjective, which like ἀλὴς, ſignifies *heaped, condenſed, crouded.* In this Senſe it is applied by Hippocrates to the Excrements in the Caſe of Polemarchus's Wife, in the ſeventh Book of his *Epidemics.*

It alſo ſometimes ſignifies *contracted*, as, Τῶν Μητρέων ἀλέων ἐουσέων. "The Womb being contracted." *De Morb. Mulier. L.* 1.

The Chymiſts likewiſe give this Name to a compound Salt.

ALES CRUDUM, *Crude Ales*, is thoſe Drops which often fall in the Night Time in the Month of June. *Johnſon.*

ALESCH. *Alumen plumoſum. Plumoſe Alum.* See ALUMEN.

ALETON. Ἄλητον. *Meal*, as Erotian and Heſychius explain it. It ſeems derived from ἀλέω, *to grind*, and to import the Meal of any Sort of Corn. This Word is frequently made Uſe of by Hippocrates. Thus *de Victus Ratione, Lib.* 2. he ſays, Ἄλητον καθαρὸν πινόμενον ἐν ὕδατι ψύχει. *Pure Meal drank in Water refrigerates.* And a little after he informs us that *Meal*, ἄλητον, *drank in Milk is more ſubject to purge than when taken in Water.* In the ſecond Book of *Epidemics* the ſame Author, ſpeaking of the Œſophagus a little obſcurely, ſays, Ἄλητον ὡς θερμότατον διδόναι, καὶ οἶνον ἄκρητον, *give very hot Meal, and unmixed Wine.* The Interpreters tranſlate διδόναι by *apponito*, as if Hippocrates directed a Cataplaſm of Meal and Wine, which ſeems a Miſtake in this Place, though in others he orders Cataplaſms of Meal (ἄλητον) for particular Purpoſes.

ALEURON, Ἄλευρον, *Meal.* From ἀλέω, *to grind.* It ſtrictly ſignifies the *Meal of Wheat*, but is applied by Hippocrates to the *Meal of Lentils*, or of the *Seeds of Darnel.*

ALEXANDER. A Phyſician of the ſixth Century was named *Trallianus*, from *Tralles*, a City of Lydia where he was born. He was equally happy in all the Circumſtances of his Birth, for Tralles was famous for the Purity of its Dialect, and his Father Stephanus was by Profeſſion a Phyſician, whoſe Tenderneſs probably enforced his Inſtructions, and contributed much to the Advancement of his Son's Studies.

Alexander having been ſome Time taught by his Father, either after his Death, or in Hopes that as every Man of Eminence has ſome Excellencies peculiar to himſelf, the Precepts of another Maſter might afford him new Light, became the Diſciple of another Phyſician, the Father of that Coſmas at whoſe Requeſt he compiled his Book, and made ſuch Advances in Phyſic, as procured him when he engaged in Practice the higheſt Reputation; a Reputation ſo extenſive that not only at Rome, but wherever he travelled, he was conſulted and applied to as the greateſt Maſter of his Art, and became known by the Title of ALEXANDER THE PHYSICIAN.

His Claim to this honorary Appellation appears to have been founded not upon popular Caprice, or ſome ſingle Inſtances of accidental Succeſs, to one or other of which many have been indebted both for their Honours and their Riches, but to extenſive Knowledge, and judicious Practice. He is the only Writer of the later Ages who has ventured to form his own Plan, or who can claim the Character of an original Author.

His Method is accurate and perſpicuous; he begins with the Diſtempers of the Head, and deſcends to all the Parts of the Body in their natural Order. His Account of the Diagnoſtics is remarkably exact, and his Method of Cure for the moſt Part rational and ſalutary.

Without engaging in Diſquiſitions relating to the Materia Medica, Anatomy, or Surgery, he confines himſelf to the Deſcription of Diſeaſes, which ſeems to be his peculiar Excellency, and the Method of Cure, which the Multiplicity of his Practice enabled him to lay down with more Accuracy and Certainty, than thoſe whoſe Learning was leſs aſſiſted by Experience. Of many Caſes he has left exact Hiſtories, with a regular Detail of the Succeſſion of the Symptoms, and the Application of his Medicines.

It is to be obſerved to his Honour that his Omiſſion of Surgery was not the Effect of his Ignorance of that Science, but of his Knowledge of the Art of Writing, and his Conviction of the Neceſſity of one ſimple uniform Plan. He had obſerved how much Digreſſions into remote Enquiries, and a Mixture of different Subjects, had contributed to the Obſcurity of Writings intended to promote Science, and therefore propoſed, as he informs us, to treat of Fractures and the Diſeaſes of Eyes in ſeparate Books.

His intire Omiſſion of the *Diſtempers of Women*, is another Inſtance of the Accuracy of his Method. As thoſe Diſorders proceed from the peculiar Structure and Functions of the Parts, he probably imagined, that they had no Place in a general Treatiſe of Phyſic, and that by enlarging his Scheme he ſhould only perplex it.

Whether he intended another Treaiſe on Female Diſeaſes, or whether he lived to execute his other Deſigns, it is now impoſſible to diſcover; but as he wrote the Books which now remain in his old Age, when he could no longer ſupport the Fatigue of Practice, it is more probable that he did not live to finiſh his Deſigns than that any of his Works could periſh.

He appears through his whole Works to have attended diligently not only the Inſtructions of his Predeceſſors, but to the Precepts of far greater Certainty, the Dictates of Reaſon, and the Evidence of Experience. He ſeems to have adve tured to uſe violent Methods in Extremities, yet not wa tonly to have ſported with Life. He frequently deviates fro the received Practice, and perhaps the Introduction of Steel i *Subſtance* may be juſtly aſcribed to him, ſince it is mentioned b no earlier Author.

Alexander's Learning and Judgment did not exempt hi from ſome Weakneſſes, from which it might be juſtly e pected that either his Reaſon ſhould have preſerved him, or h Experience ſet him free.

He is ſtrongly inclined to believe whatever has been told the Efficacy of Medicines, and ſeems never to ſuſpect eith Weakneſs or Impoſture. Nor is the Power of Medicines t only Object of his Credulity, which extends even to the Effic cy of Amulets and Charms, and he mentions ſome Remedi of this Sort for the Ague, Stone, Gout, and Colic. Tho whoſe Reverence for Antiquity produces in them a Rega even for the Follies and Superſtitions of antient Times, m here gratify their Curioſity with a Quotation from Oſtan one of the old Perſian Magi.

It is uſeleſs either to inquire into the Reaſons of this Deprav tion of *Alexander*'s Underſtanding, or to extenuate his Erro by enumerating the learned and wiſe Men that have be miſled by Superſtition. The Cauſes of Error are innume able, and therefore cannot be particularly pointed out, and produce Teſtimonies in Favour of Folly, is at leaſt to contri bute very little to its Extirpation.

It is probable from ſome of theſe Charms, which conſiſt Paſſages from the Bible that *Alexander* was a Chriſtian; but this Proof of his Religion be allowed, it evinces likewiſe, wh is no Advancement of his Character, that he had learned h Religion with a very ſlight Attention.

Whatever might have been his Character as a Man, he h deſerved as a Writer much more Applauſe than he commo receives, and perhaps he is in Merit the next of the Greek A thors to Aretæus and Hippocrates.

The EDITIONS of ALEXANDER'S WORKS are

In Greek, *Pariſiis apud Robertum Stephanum*, 1548, F *cum Caſtigationibus Jacobi Goupili.*

An old barbarous Latin Tranſlation, in the Opinion Fabricius, from ſome Arabic Tranſlation, under the Title *Alexandri Yatros Practica*, of which there have been many Ed tions, as *Lugduni*, 1504. *4to. Papiæ*, 1512. *8vo. Venetiis*, 15 *Fol.*

Albanus Torinus afterwards put this into better Latin, b this was not a Tranſlation from the Greek, but a Metaphr of the barbarous Tranſlation above-mentioned. It was publi ed, *Baſil. apud Henricum Petri*, 1533. *Fol.* and 1541. *Fol.*

Johannes Guinterius Andernacus tranſlated the Greek i Latin. Of this Tranſlation there have been the follow Editions:

Argentorati apud Remigium Guidonem, 1549. *8vo.*
Lugduni apud Antonium Vincentium, 1560. *12mo.*
Lugduni, 1575, *cum Johannis Molinæi Annotationibus.*

This Tranſlation is alſo amongſt the *Medicæ Artis Princ* publiſhed by Stevens.

Many detached Pieces have alſo been publiſhed amongſt C lections of Authors upon different Medicinal Subjects.

There is a ſmall Treatiſe, Περὶ ἑλμίνθων, of Worms, which aſcribed to *Alexander* by Mercurialis, and is addreſſed by *A ander* to his Friend Theodorus. This is publiſhed amo ſome of the Works of Mercurialis, and is inſerted by Fa cius in his *Bibliotheca Græca*, in Greek and Latin, at the E of his Article of *Alexander.* It is not printed amongſt his o Works.

There were many Phyſicians of this Name before *Alexa Trallianus*, but we know of nothing remarkable relating them.

ALEXANDRIA. A Name of the Daphne (*Bay-tree*) hot, acrid, and bitteriſh; whence it provokes Urine and Menſes. The Daphnoides (*Periwinkle*) has the ſame Quali and ſo has the Chamædaphne (*Spurge-laurel*) which is alſo ea *P. Æginet. L.* 7. *C.* 3.

ALEXANDRI ANTIDOTUS AUREA. *Alexander's den Antidote*, excellent for Defluxions from the Head, fo immediately alleviates the Pain of it, ſtops Tears from the E and cures the Tooth-ach, not only drank but laid on the Pl It perfectly relieves thoſe who are taken with a ſudden Fit o Epilepſy, compoſes the extravagant Geſtures of mad Pe and is admirable for all Kinds of Pain in the Head. It is g for coughing, conſumptive, cardiac, and aſthmatic Pati It wonderfully relieves ſuch as vomit Blood, from ſome ward Eroſion, is good for the Palſy, and Diſorders of Viſcera and Sides, breaks the Stone, cures the Strangury Difficulty of Urine, and all Diſorders of the Uterus; gives lief in Quotidian, Tertian, and Quartan Agues, if taken fore the Fit. Whoever ſhall accuſtom himſelf to this Anti will never be ſubject to the Apoplexy nor Colic. It is pre ed in this Manner:

T

Take of Aſarabacca, Henbane, Carpobalſamum, each two Drams and a half; of Cloves, Opium, Myrrh, Cyperus, each two Drams; of Opobalſamum, Indian Leaf, Cinamon, Zedoary, Ginger, Coſtus, Coral, Caſſia, Euphorbium, Gum Tragacanth, Frankincenſe, Styrax Calamita, Celtic Nard, Spignel, Hartwort, Muſtard, Saxifrage, Dill, Aniſe, each one Dram; of Xylaloes, Rheum Ponticum, Alipta Moſchata, Caſtor, Spikenard, Galangals, Opoponax, Anacardium, Maſtich, crude Sulphur, Peony, Eringo, Pulp of Dates, red and white Hermodactyls, Roſes, Thyme, Acorus, Penyroyal, Gentian, the Bark of the Root of Mandrake, Germander, Valerian, Biſhops-Weed, Bay-Berries, long and white Pepper, Xylobalſamum, Carnabadium (that is, according to the Commentator, Ethiopian Cummin) Macedonian Parſley-ſeeds, Lovage, the Seeds of Rue, and Sinon (a Sort of wild Parſley, according to the Commentator) of each a Dram and half; of pure Gold, pure Silver, Pearls not perforated, the Blatta Byzantina, the Bone of the Stag's Heart, of each the Quantity of fourteen Grains of Wheat; of Sapphire, Emerald, and Jaſper Stones, each one Dram; of Haſle-nut, two Drams; of Pellitory of Spain, Shavings of Ivory, Calamus odoratus, each the Quantity of twenty-nine Grains of Wheat; of Honey or Sugar a ſufficient Quantity. The Doſe is the Quantity of an Haſle-nut. *Myrepſus, Sect.* 1. *Cap.* 1.

LEXANDRI REGIS COLLYRIUM SICCUM, *King ander's dry Medicine for the Eyes*, was compoſed of Saffron, c Nard, and Terra Ampelitis (a Sort of bituminous Coal). s, *Tetr.* 2. *C.* 39.

LEXANDRINUM EMPLASTRUM VIRIDE. A er deſcribed by Celſus, *L.* 5. *C.* 19. and by him recomded as a Drawer.

ke of Plumoſe Alum, one Ounce twenty Grains; Sal Ammoniac, ſeven Drams ſeventeen Grains and a half; Squama Æris, two Ounces forty Grains; of Myrrh and Frankincenſe, each two Ounces, two Drams, forty-five Grains; of Wax, one Pound, ſeven Ounces, four Drams, fifteen Grains; of Colophonian or Pine-roſin, two Pounds, five Drams, fifty-five Grains; of Oil, half a Pint; of Vinegar, a Pint.

LEXANTHI, or ALTINGAT. Rulandus explains this *Eris, Flowers of Copper*, perhaps the Ruſt.

LEXASTHÆ. Ἀλέξασθαι. Erotian and Heſychius ext by the Word βοηθῆσαι, *to bring Aid, repel, ſuccour*; and t is uſed by Hippocrates, Δεῖ οὖν τοῖσιν ἐπιτηδεύμασι τουτέοισιν θαι, *by this Regimen therefore ſuch muſt be relieved. De Vict. Rat.*

LEXICACON. An Amulet, ſaid to be powerful againſt s. From ἀλέξω, *to repel*, and κακὸν, *Evil. Blancard.*

LEXION. This Phyſician lived in the Time of Cicero tticus, and had a great Share in the Friendſhip of both lluſtrious Perſons. He died before Cicero, and was very lamented by him, as appears from what Cicero himſelf to Atticus on that Occaſion: "*O factum male de xione! incredibile eſt quantâ me moleſtiâ affecerit; nec meule ex ea parte maximè quod plerique mecum; ad quem r te Medicum conferes? Quid mihi jam Medico? Aut ſi eſt, tanta inopia eſt? Amorem erga me, humanitatem, ſuatemque deſidero; etiam illud, quid eſt quod non pertimeſcenſit, cùm hominem temperantem, ſummum Medicum, tantus imſo morbus oppreſſerit? Sed ad hæc omnia una conſolatio eſt, ea conditione nati ſumus, ut nihil quod homini accidere poſſit ſare debeamus.*"—*Epiſtol. ad Attic. Lib.* 15. *Cap.* 1.—— at a Misfortune is the Death of *Alexion!* I cannot expreſs deeply I am affected by it; not for that Reaſon which ly afflicts others, their being at a Loſs what Phyſician ſhall apply themſelves to. For what Occaſion have I Phyſician? Or if I had, is there ſo great a Scarcity of ; No,—what I lament is the warm and ſincere Friend, generous, humane Man, and the agreeable Companion. les, what has not one to fear, when we ſee it in the er of a Diſeaſe to ſnatch away, ſo ſuddenly, a Man of Temperance and conſummate Skill in Phyſic? But for theſe Things we have only one Conſolation, namely, we are born into the World on this Condition, that ubmit to all thoſe Accidents to which human Nature is ct."——What Cicero ſays here gives us a very advantadea of this Phyſician. It is a Loſs to the World that no farther Particulars concerning him.

EXIPHARMACA. From Ἀλέξω, *to repel* or *drive away*, ακον, properly *a Poiſon. Alexipharmics.* An *Alexiphar*ns originally to have ſignified a Remedy to expel, or pree ill Effects of Poiſons taken internally, and this is Gaplanation. But ſince ſome amongſt the Moderns had up a chimerical Poiſon, in order to inflame or otherct the imaginary animal Spirits in acute Diſtempers, *Alexipharmics* have been underſtood to mean Remedies adapted to expel this Poiſon by the cutaneous Pores, in the Form of Sweat. Hence it appears, that *Alexipharmics* mean juſt the ſame as *Sudorifics.* I am perſuaded that no Theory was ever introduced into Medicine without very ill Effects upon Practice; but that which paved the Way for *Alexipharmics* has exerted extraordinary Heroiſms, and made uncommon Havock amongſt Mankind.

Hippocrates in his Treatiſe *de Ratione Victus in Acutis*, has the following Paſſage: *Whoever in the Beginning of an inflammatory Diſeaſe attempts the Cure by Cathartics, does not in the leaſt diminiſh the Tenſion and Inflammation of the Part affected; for the Diſtemper in this State of Crudity, will not yield to ſuch Medicines; on the Contrary, this Method of Treatment liquefies and waſtes the ſound Parts, which would otherwiſe reſiſt the Diſtemper; and when the Body is in this Manner weakened, the Diſeaſe gets Ground, till at laſt it becomes incurable.* Though this is ſaid with a great deal of Juſtneſs and Propriety, I am perſuaded it may with ſtronger Reaſon be applied to Sudorifics, that is, to *Alexipharmics*, which frequently do a great deal of Miſchief. And indeed there is nothing in which the lower Claſs of Practitioners in Phyſic make more fatal Errors, than in the Uſe of *Alexipharmics*, which I have frequently known exhibited to young People of plethoric Habits, in the very Beginning of Fevers, and even without previous Evacuations.

About the Year 1723, 1724, or 1725, a Fever appeared with uncommon Violence, and was more univerſal than any I have ever known, and by this great Numbers of working People periſhed, inſomuch that in many Countries ſcarcely enough were left to gather in the Fruits of the Earth; and this Sort of Fever continued for many Years after. In this Diſorder it was remarkable, that a warm Regimen, or hot Medicines, ſeldom or never failed to render the Fever continual, and keep it ſo, bringing on Deliria, and all Symptoms of Malignity; whereas a cool Regimen, with Evacuations by Bleeding, and Purging with Caution, and an intire Abſtinence from hot Medicines, almoſt always brought the Fever to a regular Intermiſſion, and then the Bark effectually took it off. As I had an Opportunity of ſeeing a great Number of Patients under this Fever, I was abundantly convinced, that more died of *Alexipharmics* than of the Diſtemper itſelf.

But that I may not appear ſingular with Reſpect to this Sort of Medicine, I ſhall give the Opinion of the illuſtrious Hoffman upon this Subject, who having juſt before mentioned Cathartics goes on thus:

There is another Set of Evacuants which carry off the more ſubtile Parts of the morbific Matter, by the Pores of the Skin, in a plentiful, leſs offenſive, gentle, and more imperceptible Manner. The Remedies moſt conducive to this are called *Sudorifics*, and by the Greeks *Hydrotics*; by whoſe Operation a ſenſible Moiſture is perſpired through the cutaneous Glands. Of the vegetable Kind the moſt efficacious, for this Purpoſe, are the Roots of a very acrid, penetrating, oily Taſte, as thoſe of Angelica, the different Species of Maſter-wort, Butter-burr, Elecampane, Lovage, Swallow-wort, Valerian, Contrayerva, Virginia Snake-root, Lignum Guajacum, and Saſſafras, with their Barks. In the mineral Kingdom crude Antimony, Regulus Antimonii medicinalis, volatile Tincture of Sulphur, prepared of Quick-lime, Sal Ammoniac and Sulphur, corrected and fixed Sulphur of Antimony, and alſo the Mixtura ſimplex. Likewiſe Venice Treacle, its Eſſence, Spirit, and Water; all Spirits and volatile Salts prepared from the Parts of Animals, particularly Harts-horn, Ivory, and Earth-worms, Spiritus Buffii, Tartar, Silk, Soot, the Eſſences of Woods, and the diſtilled fœtid Oils, as fœtid Oil of Harts-horn diſſolved in Spirit of Wine.

Theſe nobler Medicines, of the ſudorific Kind, owe the Virtue of their Operation to the Power they poſſeſs of increaſing the Syſtaltic Motion of the Heart, and the Elaſticity of the Arteries, as to the Number and Force of their Vibrations, by which Means, a greater Velocity being added to the Circulation, they protrude the perſpirable Matter through the outward and porous Subſtance of the Skin. This they perform either by a ſubtile, acrid, hot Oil, as the Roots above-mentioned, which are alſo called *Alexipharmics*; or by a volatile empyreumatic Salt of an igneous Nature, ſuch as are all the Spirits, volatile Salts, and Oils from Animals; or by an acrid, reſinous Salt, more or leſs fixed, as the Root of white Burnet, Guajacum and its Bark, Contrayerva, Virginia Snake-root; or laſtly, they act, and that very powerfully, by Means of a very fine mineral Salt and Sulphur, by which they rouſe the nervous Fibres to a violent Motion; and for this Purpoſe a very ſmall Doſe is ſufficient. Thus a ſingle Grain of our diaphoretic Mercury, or two or three Grains of fixed Sulphur of Antimony will raiſe a Sweat over every Part of the Body. A Decoction of the Woods, or a Decoction of crude Antimony with the Woods, alſo Regulus Antimonii medicinalis have the ſame Effect.

I. Theſe ſtrong Sudorifics, though given in a larger Quantity, will by no Means raiſe a Sweat, unleſs the Body is prepared for it; that is, unleſs the porous Subſtance of the Skin be ſufficiently open and lax, or unleſs the Blood be enough diluted. Wherefore if any one, in the Cure of a Diſeaſe, thinks Sweating required, it will be neceſſary for him to give the abovementioned Sudorifics with a ſufficient Quantity of ſome Liquid to dilute the Blood; for Example, a weak Tea, or a Decoction of Barley; and that the Pores of the Skin may obtain a due Relaxation, the Perſon to be ſweated ſhould be put into a warm Bed, or hot Stove, or into a Bath, eſpecially a Vapour-bath, that ſo a plentiful Sweat may be excited.

II. Theſe very active Sudorifics rarely find a Place in Medicine, and are not to be adminiſtered except with ſingular Caution. For a Sweat never ariſes in a healthful and natural State, unleſs the Blood is put into an extraordinary Motion; nor when this happens, is it a Sign of Health, like inſenſible Perſpiration, the Matter of which is void of Acrimony, watery, of Kin to the nutritious Juices, and almoſt without either Taſte or Smell, and differs very much from Sweat, which is of a ſalt Taſte, a fœtid Smell, and approaches the Nature of Urine. Beſides, theſe Sudorifics excite a great Commotion, and notable Orgaſm; for they act not with Moderation but Rapidity, whence it comes to paſs, that in Bodies full of Blood, or contaminated Serum, by impelling the Fluids with too much Violence to the ſmall and narrow Veſſels, they bring on dangerous and acute Symptoms, occaſioned by the Inflammation and Redundance of Humours. But they are moſt hurtful where the Primæ Viæ are obſtructed by a Load of vitious Humours, where the Body is coſtive, and when they are adminiſtered immediately after a violent Fit of Anger. By this pernicious Practice, I have known them more than once occaſion arthritic and rheumatic Pains, ſlow and hectic Fevers, which have proved of long Continuance, and been attended with imminent Danger.

III. In all acute Diſeaſes, as inflammatory and ſcarlet Fevers, Sudorifics are to be intirely baniſhed, or, at leaſt, to be adminiſtered very ſeldom, and that with the greateſt Caution. For I have often obſerved that the promiſcuous Uſe of Alexipharmics, as the Cuſtom too generally prevails, has only ſerved to increaſe Heat, Anxiety, and the Violence of the Symptoms. Theſe Remedies are called *Alexipharmics*, as are alſo all thoſe of the theriacal Kind, from a Virtue attributed to them of reſiſting Poiſons and malignant Humours, for which Reaſon they are highly extolled by Phyſicians in the Plague, and other contagious Diſtempers. But the Truth is, they are much more powerful for the Prevention than Cure of theſe Diſeaſes, eſpecially when an epidemical and malignant Diſtemper owes its Birth to an over-wet, foggy, cloudy Seaſon, which has been long deſtitute of the Eaſt and North Winds, or to a Deluge or Inundation of Waters. For in this Caſe it will be much better and ſafer to give them in Wine-vinegar diluted with Water, or to infuſe the ſudorific Roots in Vinegar, which by this Means being impregnated with their *alexipharmic* Virtue, two or three Spoonfuls may be drank in any convenient aqueous Vehicle. The Aqua prophylactica Sylvii is alſo of admirable Uſe at a Time when ſuch Diſtempers are abroad.

It is to be remarked, That the Eaſt and North Winds, by bringing with them plentifully an Acid, render the Air more cool and active, and deſtroy Contagion. See AER.

IV. But Sweating is very ſerviceable in thoſe Diſeaſes which proceed from external Cold, and obſtructed Perſpiration, as in Catarrhs, Rheumatiſms, Fluxes, Stoppages of the Head, Coughs, and glandular Tumors: Alſo when Danger is apprehended from a Perſon's having drank a large Quantity of any cold Liquor, when very hot, or in a Sweat. But then they ſhould be adminiſtered in the Beginning of theſe Diſorders, and in ſuch Caſes Bezoardic Tincture, or Spiritus Bezoardicus Buſſii, mixed with our anodyne Liquor is of excellent Uſe. Nor is a Sudorific of leſs Service in the Beginning of any infectious Diſtemper, taken immediately after a mild Emetic; and for this Purpoſe may be uſed Bezoardic Vinegar, or the Bezoardic Powder, with a little Camphire, which is the chief of *Alexipharmics*.

V. Likewiſe in thoſe Diſeaſes which have their Seat in the porous and fibrous Subſtance of the Skin, and conſiſt of an acrid viſcid Matter, which deſtroys and deforms its Texture, as an inveterate Itch, the Ring-worm, Leproſy, and venereal Puſtules and Ulcers, a plentiful Sweat may be excited to great Advantage, with proper Remedies. The ſame may be alſo practiſed in arthritic and rheumatic Pains in any Part of the Body, for by this Means the acrid, viſcid, and ſtagnating Serum, which adheres to the nervous Membranes, is thrown off and diſcharged. For the ſame Reaſon in all thoſe Diſeaſes which are called *cold*, as in Dropſies of every Kind, the cold Scurvy, Pox, ſettled Gout, Sciatica, Palſy, and others of the ſame Nature, Sudorifics are of great Efficacy; becauſe they promote and reſtore the Elaſticity and contractile Power of the Heart and Veſſels, which in Diſorders of this Kind are very much depreſſed, and increaſe the Circulation of the Blood, for the better Separation of the morbid Matter. But this Courſe muſt be perſiſted in for ſome Time.

VI. Sudorifics always operate beſt, when taken in a ſufficient Quantity of ſome warm Liquid. Celſus, in the ſixth Chapter of his third Book, commends warm Water for this Purpoſe; His Words are theſe, *Si Nota eſt Sudoris venturi, tum dem calidam Aquam Potui dare oportet, cujus ſalubris Effectus eſt, ſ Sudorem per omnia Membra effundit.* 'When you perceive th 'Sweat coming you ſhould give warm Water to drink, which 'hath a moſt healthful Effect, if it excite a Sweat over the 'whole Body.' It is notorious that this is procured in the moſt plentiful Manner by a Decoction of the Woods, whoſe Uſe in venereal Caſes, and other cold Diſtempers, cannot be enough commended. I have alſo known ſeveral Country People hap pily cured of Intermitting Fevers, and Tertian and Quartan Agues, by taking a few Hours before the Fit a Vomit, and immediately after it a Sudorific (obſerving a Regimen) of Rob of Elder, Salt of Tartar, and a few Corns of Pepper, mixed to gether in a Spoonful or two of Brandy.

In the Paſſage above quoted Celſus only adviſes to promote a Sweat when the Marks of one approaching are evident.

Diaphoretics are inferior in their Power of acting to Sudo rifics, but much ſuperior to them in their healthful Qualitie which gently increaſe and promote Perſpiration. Of theſe th chief in the vegetable Kingdom, are the Roots of China, Sarſa parilla, the Carline Thiſtle, and Gentian. Of Herbs, th holy Thiſtle intire, its Seed and all the Preparations from i whether Eſſences, Waters, Extracts, or Salts; Water Ge mander, the Elder, and Dwarf-Elder, with its Flowers, Rob and Water; alſo Fumitory, Scabious, Saffron, the Flowers Marygold, and Opium. In the animal Kingdom, all Bone Horns and Teeth of Animals, whether raſped, or burnt Aſhes and chymically prepared, eſpecially thoſe belonging to t Stag; the Stones, Shells, and Claws of Crabs. Of Eart all ſealed Earths, and different Kinds of Marle, and the Bo Fabrilis. Of Salts, the Salts of Plants procured by Burni and Nitre. Of precious and exotic Stones, the Petra di Po and the Eaſtern and Weſtern Bezoar Stone. Of Minerals chymical Preparations, the Flowers and Milk of Sulphur, C nabar, native, common, and that of Antimony; diapho Antimony, Ceruſs of Antimony, Magiſtery of Antimony, Bezoardic Mineral, Tinctura Temperata of Antimony, p pared from the Regulus and Salt of Tartar, and Poterius's A tihectic. Of Compounds, Goa Stone, which is compou of oriental Bezoar, Tragacanth, and Ambergriſe; Senner Bezoardic Powder, the Engliſh and Pannonian red Pow Dorncrellius's Cordial, our mineral anodyne Liquor, W Vinegar, or diſtilled Vinegar, with Elder Flowers, or Crab S infuſed in it; our Pulvis Polychreſtus Diaphoreticus, The Cœleſtis, Liquid Laudanum, and Wildeganſius's Pills.

The Operation of Diaphoretics is manifold and various; either they act in a privative Manner, by abſorbing and ch ing the Acid in the Primæ Viæ, which, carried into the B depreſſes its Spirituoſity, Fluidity, and inteſtine Motion, which Kind are all the Earths of an alcaline Nature: O imbibing the ſuperfluous Moiſture, and bracing the relaxe bres, as the ſealed Earths, Boles and Marles; alſo Bones Horns, both thoſe burnt and thoſe chymically prepared, the Unicorn Stone: Or by relaxing and mollifying, in D of the Skin, its contracted Superficies by their mild an and vaporous Sulphur, as the different Species of Elder, cially the Flowers, Saffron and its Extract, the Flowers of Poppy or Corn-Roſe, our anodyne, mineral Liquor, the E ſions of Poppy-ſeed, corrected Opiates, particularly the T ca Cœleſtis, Wildeganſius's Pills, and Liquid Laudanum p ed as directed by Sydenham: Or by compoſing and quieting too violent inteſtine Motion of the Blood, as the Remedies nitrous Kind, corrected by being joined with the more fixed phoretics; alſo Spirit of Nitre dulcified, Emulſions of the greater cold Seeds, and the milder Acids, as Juice of L and Vinegar: Or laſtly in a poſitive Manner, by gently lating the Fibres and languid Veſſels, of which Sort a holy Thiſtle, Water Germander, Fumitory, China, S rilla, leſſer Centory, Scabious, Carline Thiſtle, and Ge

I. Now as this Evacuation of the finer Parts of the Matter through the Pores of the Skin, by inſenſible T tion, is of all others the moſt healthful; and as an Obſ thereof is the Occaſion of many Maladies; ſo the Uſe of phoretics, which promote this cutaneous Excretion, is ly very great, univerſal, and almoſt infallible, in almoſt a eaſes, even thoſe which, from their preſent Symptoms, not thoroughly acquainted with; ſo that a Phyſician can Means be without them. For an increaſed Circulation Blood, and an enlarged Perſpiration, are the grand Medi Inſtruments of Nature, by which the morbific Matter Diſeaſe is corrected, digeſted, reſolved, and at laſt thrown the Diſtemper cured without Danger. Particularly in al Diſeaſes, as Fevers and Inflammations of all Kinds, the given in ſome convenient Vehicle, in ſmall Doſes, and c ed for ſome Time, anſwer every Intention of Cure, and Truth the beſt Diſcutients and Purifiers of the Maſs of

II. Becauſe exceſſive Heat, eſpecially in Summer, and leric and bilious Conſtitutions, alſo in choleric and bili vers, dries too much, conſumes Moiſture, and hinders P tion, acidulated and nitrous Remedies, and particularly with Nitre, given in a Julap of diaphoretic Waters and p of Citron-juice, by moderating the too great Heat, and uring a plentiful Diaphoreſis, give great Relief to the Pa-.

I. When through the Violence of any Diſorder the Skin y and without Moiſture, and its Pores become narrow and racted, it is always beſt to join ſome mild Anodynes and An-ſmodics to the Diaphoretics; and in this Caſe our anodyne ral Liquor, mixed to the Quantity of three Parts with one of Spiritus Bezoardicus Buſſii, is of admirable Virtue, as lſo the fixed diaphoretic Powder, a little nitrous, with abar, and one or two Grains of Wildeganſius's Pill, as is eſſed in many Inſtances by Ettmuller, in his Diſſertation e diaphoretic Virtue of Opium.

V. Diaphoretic Powders have this peculiar Property, that not only promote Perſpiration, but alſo often exert a looſen-and remarkably diuretic Virtue. This I can affirm from ifold Experience, that our bezoardic polychreſt Powder, g taken in the Morning or Afternoon, if it meets with Juices in the Primæ Viæ, will give four or five Stools, h in old Men and Hypochondriacs is attended with great antage. The ſame being given at going to Bed, if the Skin t properly diſpoſed to admit of a Sweat, as in the Beginning atarrhs, will work off by a large Diſcharge of Urine; but e the Skin is ſufficiently diſpoſed to a Diaphoreſis, a plenti-weat frequently enſues.

. In acute Diſeaſes and Fevers, where but little Acid is d in the Primæ Viæ, it will be ſafer and of more Ser-to give the fixed and earthy Diaphoretics in a ſmall Quan-and well mixed with Syrup of Citron-juice, or Wine gar, becauſe Vinegar alone will not coagulate with Wa-ut often reſolves and throws off the ſtagnating Blood, eſpe-if joined with Diaphoretics. *Frideric. Hoffman. Medicina-nalis Syſtematica.*

hus Hoffman very juſtly diſtinguiſhes betwixt Sudorifics or ipharmics, and Diaphoretics; Alexipharmics being ſuch icines as excite a great Degree of Motion and Heat, and a iderable Orgaſm in the Body, which tend to extort pro-Sweats, and do a diſagreeable, and prejudicial Violence to re, who is by this Means deprived of a great deal of ore fluid Part of the Blood, which otherwiſe might be of Uſe in preſerving the whole Maſs in a State of Fluidity, romoting the Solution of the ſtagnating, and obſtructing ours, and aſſiſting in the Expulſion of the morbific Mat-t of the Limits of the Circulation; whereas Diaphoretics Medicines endued with a gently ſtimulating, and perhaps tive Virtue, by which they aid and aſſiſt Nature in carry-n her own ſalutary Purpoſes, without any Tendency to t her from her Method, or to do any Violence.

order to account for the very ſudden Effects which ſome ipharmics have in raiſing a Sweat, before they can poſſibly ppoſed to enter into the Blood, we muſt reflect, that Alexi-mics conſiſt of very penetrating and ſtimulating Particles. when theſe act upon the nervous Coats of the Stomach, timulation thereby cauſed derives a greater Influx of the us Fluid (if any ſuch there be) into theſe Nerves, and all correſpondent Branches of Nerves proceeding from the Trunk. Now the Stomach receives a great many Nerves the deſcending Trunks of the Par Vagum, and ſome ches immediately from the Plexus Cardiacus, formed by ame Par Vagum, and ſituated a little above the Heart, which Plexus, the Heart is furniſhed with Nerves. What-therefore ſtimulates the Nerves of the Stomach, muſt alſo the Nerves of the Heart, the Conſequence of which is, the Force and Frequency of the Contractions of the Heart be increaſed, and of Courſe the general Heat of the Fluids lating by Means of ſuch Contraction, becauſe the Mo-and Friction is greater than before. The Blood thus cir-ing with an increaſed Velocity, muſt be impelled more fre-tly and with more Force towards the Surface of the Skin, hence an increaſed Evacuation by the cutaneous Pores. I r from being certain that what is generally underſtood by *Animal Spirits*, or nervous Fluid, really exiſt in Nature, let the immediate Vehicles of Senſation and Motion be ever they will, what I have ſaid with Reſpect to the Stimu-n of the Nerves muſt hold true.

LEXIPPUS, was one of the Phyſicians of Alexander the t, who, as Plutarch informs us, wrote him a Letter of nks, on Account of his having recovered Peuceſtas from a erous Diſeaſe.

LEXIPYRETICUM, Alexipyretos, and Alexi-etum. From ἀλέξω, *to drive away*, and Πυρετὸς, *a Fever.* nifies any Remedy for a Fever.

LEXIR. A Medicine chymically prepared; an *Elixir.* ndus. *Johnſon.*

LEXITERIA. Ἀλεξιτήρια. *Alexiterials.* In Hippocrates, ndeed ſtrictly (Ἀλεξιτήρια) *Alexiteria* ſignifies nothing more *Helps*, or *Remedies.* Thus in the firſt Book *on the Diſeaſes omen*, the Author having mentioned Aſſes Milk and e as proper in a particular State of the Uterus, add καὶ τ' ἄλλα ἀλεξιτήρια, *and other Remedies.* Thus alſo in his Treatiſe *on Regimen in acute Diſeaſes*, having juſt before taken Notice of ſome bad Symptoms ariſing from the continual Uſe of Hydromel in acute Caſes, he ſays, ἀλεξιτήρια δὲ τούτων γεγράψεται, *The Remedies for theſe ſhall be ſpecified.*

But later Writers applied *Alexiteria* to external Remedies againſt the Bites of venomous Animals, and even to Amulets and Charms, directed to be wore with a View of preventing the ill Conſequences of Poiſons, Incantations, and Faſcination.

It is ſaid by ſome Authors, that *Alexiterials* differ from *Alexipharmics* thus: *Alexipharmics* ſignify Medicines againſt Poiſons taken internally; whereas *Alexiterials* are Remedies againſt the Poiſons of venomous Animals inflicted externally. Hence the Word has been ſaid to be derived from ἀλέξω, *to drive away*, or *repel*, and θὴρ, *a wild*, or *poiſonous Beaſt*; but this ſeems without any Foundation, for Ἀλεξιτήρια ſeems to import exactly the ſame as βοηθήματα, *Helps*, *Aids*, *Remedies*, as ἀλέξασθαι is in Signification the ſame as βοηθῆσαι, *to help*, *aid*, *or aſſiſt.* And thus both are explained by Galen.

Our *College Diſpenſatory* give a Water under the Title of *Alexiterial Milk-Water*, and ſome Troches under the Name of *Trochiſci Alexiterii*, *Alexiterial Troches.*

Aqua Lactis Alexiteria, *Alexiterial Milk-Water:*

Take of the Leaves of Meadow-ſweet, Carduus Benedictus, and Goats-rue, each ſix Handfuls; of Mint and Wormwood, each five Handfuls; of Rue, three Handfuls; of Angelica, two Handfuls. Pour three Gallons of new Milk upon the Ingredients when bruiſed, and diſtil in a Bath or a Sand-heat.

Trochisci Alexiterii, *Alexiterial Troches:*

Take of Zedoary-root, of the Virginian Snake-root, and of the Powder of Crab's Claws, each one Dram and half; of the outer Bark of Citrons dried, and of Angelica-ſeeds, each one Dram; of Armenian Bole, half a Dram; and of white Sugar-candy the Weight of the Whole. Let them be all made into a fine Powder, and then, with a ſufficient Quantity of the Mucilage of Gum Tragacanth made in Treacle-water, work them into a Paſte fit for Troches.

Theſe are tranſcribed into the firſt Edition of the *College Diſpenſatory* from Renodæus, much in the ſame Manner as Schroder hath alſo got them in his *Pharmacopœia Medico-Chymicâ*, and it was continued down to the laſt of the *College* without the Emendations here, though much corrected to what it was before. The Virginian Snake-root here is intirely new, and many Things are left out which not only made the Medicine too nauſeous for this Form, eſpecially the Gentian, but alſo leſſened the Proportions of the moſt efficacious Ingredients, and fruſtrated the main Intention, which ſeems originally to have been contrived as a Preſervative againſt peſtilential Contagions. *Quincy's London Diſpenſatory.*

ALEZARAM. (*Lotura Plumbi*) *The Waſhing of Lead. Rulandus. Johnſon.*

ALFACTA. *Diſtillation. Rulandus. Johnſon.*

ALFADIDAM. The *Scoria* of Gold, Iron, or Copper. It alſo ſignifies *Burnt Copper. Caſtellus* from *Rulandus* and *Johnſon.*

ALFASIT, or Aluasit (*Teſta*) *an earthen Pot. Rulandus.*

ALFATIDA. *Burnt Copper*, or (*Laminatura*) the *Lamina or Scales of Copper. Rulandus. Johnſon.*

ALFATIDE. *Sal Ammoniac. Rulandus.*

ALFESERA, or Alphesera, is the Name of a Confection deſcribed by Meſue, and ſaid to be good in ſpaſmodic Affections of the Nerves. From the Arabic Particle *Al*, and the Word *Feſera*, or *Pheſera*, *the Root of the Vitis Alba. Caſtellus.*

ALFOI. *Sal Ammoniac. Caſtellus* from *Rulandus.*

ALFUSA. *Tutty. Caſtellus* from *Rulandus.*

ALGA. A Sea-plant thus named by Authors:

Φῦκος θαλάσσιον, *Dioſcor. Alga*, Offic. Grass Wrack. Ger. Emac. 1569. *Alga, & Ulva*, Chab. 569. *Alga anguifolia vitrariorum*, C. B. 364. J. B. 3. 794. Raii Hiſt. 1. 75. *Fucus marinus, ſive Alga marina graminea*, Wrake, or Sea Weede, or Grasse, Park. 1291. Hiſt. Oxon. 3. 647. Raii Synop. 7. Grass Wrack. *Dale.*

There are three Kinds of *Alga*; one broad, another oblong and reddiſh, and the third white, which grows in Crete along the Sea-ſhore, bears a good Flower, and is not ſubject to Putrefaction.

All the Kinds are of a cooling Nature, and effectual in Cataplaſms, for the Gout, and Inflammations. But they are to be uſed while they are moiſt. Nicander gives the red Sort a Place amongſt the Alexipharmics, and ſome have taken it for the Fucus which Women uſe to give themſelves a falſe Colour, but this laſt is a Root of that Name which ſerves them for the ſaid Purpoſe. *Dioſcor. L. 4. C. 100.* copied by *Oribaſius Med. Coll. Lib. 12.*

Alga, Sea-wrack, called alſo Βρύον θαλάσσιον, *Sea Moſs*, and Φῦκος, is compounded of a terreſtrious and aqueous Subſtance, both cold, for it is aſtringent to the Taſte, and refrigerating to the Touch. *Orib. Med. Col. Lib.* 15. *Cap.* 1.

Taken green and wet juſt out of the Sea, it is an extraordinary Cooler, with a moderate Aſtringency. *Orib. de Virt. Simpl. L.* 2. *C.* 1. *Aetius, Tetr.* 1. *Serm.* 1.

Alga is a Kind of Plant which grows in the Water. There are ſeveral Kinds of it. The moſt Part ſhoot out their Leaves like Graſs, the reſt like Hairs.

The common *Alga* is a Sea Plant, its Leaves are about a Foot and half long, ſmooth, ſoft, and eaſy to break, ſometimes white, ſometimes red, or of an obſcure green, narrow, but ſome narrower than others. This Plant grows in great Quantities along the Shore of the Mediterranean Sea, and elſewhere. The Countrymen dry it, and it ſerves for Fodder for their Oxen and other Cattle, and obtain from it a very good Manure for the Earth.

They alſo make Glaſs of it as with the Kali, for it contains a great Deal of Salt.

It is aperitive, vulnerary, and deſiccative, it is alſo eſteemed good to kill Lice and Flees. *Lemery de Drogues.*

ALGALI. *Nitre. Rulandus. Johnſon.*

ALGAMET. *Coals. Rulandus. Johnſon.*

ALGARAB, or GARAB. *An Anchilops. Avicenna. Sennert. Tom.* 2. See ANCHILOPS.

ALGAROT. See ALGEROTH.

ALGATIA. (*Cibetta*) *Civet. Johnſon.*

ALGEDO. A Name of an Accident which ſometimes happens in a Gonorrhœa, of which Cockburn gives the following Account:

Amongſt the various Accidents that happen in the Courſe of a Gonorrhœa, none is attended with more violent Pain, and more dire Conſequences, than a Running ſtopping ſoon after it appears, which we may properly call the *Algedo*; yet I do not find that any Author has offered any Obſervation of this Kind to the World; which Neglect very much arraigns their Sincerity, or the Accurateneſs, at leaſt, they pretend to, in relating the various Appearances that occur in the Practice of a Gonorrhœa. Muſitanus alone ſuggeſts the Symptom, but injudiciouſly places it among thoſe that precede a Caruncle. For he alledges that we may apprehend a growing Caruncle, *Ex prægreſsâ fœdâ Gonorrhœâ, quâ modò Stranguriam, modò Dyſuriam, jam Iſchuriam infert.* But I have obſerved, that if the Running does not proceed after the common Manner already related, but continues to be in a ſmall Quantity, as it always ſhews itſelf at firſt; or if it ſtops without any ſenſible and obvious Cauſe of an improper Adminiſtration; in that Caſe there is often an intenſe Inflammation on the Glands, and an inſufferable Pain ſtriking into the Anus, ſometimes into the Teſticles, without their being in the leaſt ſwelled, and moſt commonly into the Bladder, which laſt Pain is always attended with a frequent Deſire of making Water; but it is made in a very ſmall Quantity, and with much Difficulty. Theſe Symptoms thus related become very manifeſt from the Nature of a Gonorrhœa, and of the Liquor of the Lacunæ. For let the infected Liquor of the Lacunæ be tied up by Applications or Adminiſtrations of any Kind, or become groſſer on a ſickly Account, ſo that the Stimulus of the Corruption does not excite the Quantity of the Efflux in a due Proportion; in that Caſe the Liquor is ſtill more corrupted, and becomes more ſharp. Now this ſharp Liquor being conſtantly applied in the excretory Ducts of the Glands, to the membranous Coat of the Urethra, excites Pain and an Inflammation.

Pain being thus made in the Urethra, we may eaſily conceive how it is propagated into the Bladder, and other Parts mentioned above; for the Urethra is a continued Duct to the Neck of the Bladder, and the Inflammation is very readily carried its Length, and communicated to the Bladder, and with it the Pain. This is likewiſe the Reaſon that the Vaſa-Deferentia and Veſiculæ Seminales, that open into the Urethra, partake of this Inflammation, and communicate the Pain into the Teſticles: As alſo, that the Pain is conveyed into the Anus by the Means of the accelerating Muſcles of the Penis, which terminate in that Part.

But to explain theſe Symptoms more particularly, that the Deſign we have in curing may become more obvious and direct, we will begin with accounting for the frequent Deſire of making Water; and why it is voided with great Pain, and in a ſmall Quantity. The Reaſon of this Symptom is, that the Neck of the Bladder being vaſtly inflamed, it is vehemently ſtimulated by the Saltneſs of the Water, and by this Stimulating a frequent Deſire of diſcharging it is excited. The Bladder itſelf being alſo inflamed, it cannot be ſo eaſily applied for expelling the Urine, and therefore it is thrown out in a ſmaller Quantity; and, upon both Accounts, is made with great Pain. Moreover the Neck of the Bladder being thickened by the Inflammation, it is opened or dilated with great Difficulty, and therefore the Urine is neither freely expelled, nor without great Pain.

The frequent Irritating the Bladder with the ſharp Urine i the Reaſon why the quick and repeated Pain in making Water is a more conſtant Symptom of the Stoppage of the corrupted Matter, than are either the Pain in the Anus or in the Teſticles, though the Pain in theſe is produced as really by the Pain in the Urethra as that in the Bladder, but not ſo directly. For Pain made in contiguous Parts is occaſioned by the Stimulus or Compreſſion of adjacent Parts that are affected; ſo that the derived Pain is equally owing to the Inflammation, as is the Pain in the Part originally affected. Daily Experience affords us various and ſenſible Examples of Pain derived to a contiguous Part from another that is firſt hurt. A Pain any way produced in a Finger is not only propagated by the common bending Muſcles that may ſend a Branch to ſome Diſtance, and thus be carried directly a great Length up the Arm, but it likewiſe affects other Muſcles in the ſame Contiguity, and reaches farther than the Origine of any of the Muſcles of the Fingers, and may be propagated to Parts very diſtant from that firſt affected with Pain.

But which is more ſurpriſing, contiguous Parts affected mutually by the Inflammation of either, not only receive Impreſſions of Pain from each other, but will even adhere and ſtick to one another. The Adheſion of the Lungs to the Pleura i an Affection of this Kind, as is the Adheſion of an Inteſtine t the Peritonæum, and ſuch Adheſions of many other Parts that have often been found in diſſecting Bodies, eſpecially tho that were morbid or ſickly.

All theſe grievous Symptoms being produced by the retarded Efflux of the Liquor of the Lacunæ, notwithſtanding that i ſharp and corrupted, and commonly flows in a greater Quantit upon that Account; yet as this Liquor is found at preſent in ſmall Quantity, for Reaſons afterwards to be aſſigned, it a quires the greateſt Degree of Corruption poſſible, and that b its not running off in the ordinary Quantity. Now as this ver ſharp Liquor is conſtantly applied to the Urethra by its contin ing in the Lacunæ, which run parallel to its inner Coat, th Pain is rendered more and more intenſe. Our Inquiry there fore muſt be, why this Efflux is retarded, notwithſtanding th the Liquor is more ſharp, or is indued with a greater Stimul a Cauſe we formerly found ſufficient for exciting a Running It will eaſily be believed that Injections and Medicines, that a any thing aſtringent, inwardly adminiſtered have ſuffici Power to check the Diſcharge of the corrupted Liquor; n Medicines of ſuch Qualities are eſteemed ſo ſufficient a Ca that ſeldom any other has been aſſigned for the Interruptio ſo that we may aſſert, that theſe Medicines are ſometimes t Occaſion of checking the free Efflux of the Liquor of the La cunæ, though it be corrupted, and were otherwiſe ſharp enou to produce a Running.

But another Cauſe never yet aſſigned for producing ſuch Stoppage, is when the Liquor of the Lacunæ, even in this corrupted State, acquires an extraordinary Groſſneſs, and that Account becomes incapable to flow, or flows only i very inconſiderable Quantity. This Groſſneſs of the Liquor the Lacunæ is acquired from a Groſſneſs in the Blood it in a great many Diſeaſes, as in a Cold, a Fever, &c. T Way how this Groſſneſs is formed by a Cold or a Fever, is vious from the general Defect of Secretions at that Time; i much that Hippocrates obſerves that Ulcers, and I have ſerved that Iſſues, very commonly dry up in the Beginning o Fever. And in great Colds, when a Fever is generating, in ſeveral other Diſtempers, the Liquor of the Lacunæ is come ſo groſs, that the Quantity of its Efflux is but modera augmented; though it being corrupted it ſtimulates the Gl and their excretory Ducts, and for that Reaſon ought to creaſe its Quantity conſiderably: Hence it is that the Pain, all the above-mentioned Evils or Misfortunes are produced.

Some very good Practitioners, who have been appriſed of t great Danger and Difficulty that ariſes from the ſlow Running this Circumſtance of a Fever, have attributed the Slowneſs o Running, or the Smallneſs of its Quantity, to the Heat of t Fever, which they ſuppoſed did lick up the Matter of the R ning; but this ſlow Efflux is truly an Unaptneſs in the L quors to run off, and that becauſe of their Thickneſs.

Becauſe an inward Shanker ſometimes ſuppreſſes the Runn it may give ſome Suſpicion of its being an Occaſion of this rible Symptom; but Shankers ſeldom give any great Pain, do they infect the Liquor of the Lacunæ till they begin to ſolve; and this Liquor not being infected during the Hard of the Shanker, there is not naturally any Pain produced on Account, or Shankers in the Urethra never produce this p ful Symptom. All this is manifeſt from the Experience of ward Shankers.

From what has been ſaid it plainly appears, that the Inf mation and Pain in the Urethra, in the Glands, Bladder, T ſticles, and in the Anus, are altogether the Conſequences of ſharp Liquor's being pent up in the Lacunæ; and therefo that in curing theſe Symptoms, little or no Regard is to be to the Inflammation in the mentioned Parts, but rather to may make the pent up Liquor flow. Indeed the Folly of deavouring to cure Diſeaſes, by taking Aim at their Sympt conſpicuous in the preſent Caſe, as it can be in any other ſoever: So that Bleeding, Emulſions, and other cool Adſtrations that moſt readily occur to French Surgeons, are of nanner of Uſe. But Bathing, that commonly goes along the former, is of great Uſe; though not for cooling an mmation, as they think, it really ſatisfying the principal and Deſign of unlocking the Lacunæ, and giving a Paſto the ſtagnating Liquor. So vaſtly different is a Practice aged upon Analogy, and a blind Experience, and when our erience is directed by Reaſon.

nd therefore, as the Indication of Cure is always beſt drawn the Nature of the Diſeaſe, I will endeavour to deduce the hod of Cure from the Nature of this Symptom thus exed, which being occaſioned by the Diſcharge out of the unæ being very little or nothing at all; and that upon the ount of the extraordinary Groſſneſs their Liquor acquires, on Account of the preſent State of the Blood, or that the and the Liquor of the Lacunæ are become thicker by the ns of Medicines that bring this Quality of Thickneſs upon Blood. The Method of Cure therefore conſiſts in deſtroying entioned Groſſneſs of theſe Liquors, which will be found eaſily done when this Thickneſs is acquired by Medicines, when it is occaſioned by the Means expreſſed, while I ingated the Symptoms of Inflammation and Pain.

conducting the Practice of Phyſicians for relieving theſe toms, I cannot proceed in the Method of giving the Deand Preſcriptions of other Authors, none other having of this Accident before me, and on that Account we not any Method for curing what either they never obſerved; ey were afraid to relate Symptoms ſo ſurpriſing, and at the Time ſo new, leſt the firſt ſhould caſt ſome Reflection on Judgment in treating, or the laſt on their Skill in diſng them. But as I am ſure that no ſuch Symptom has mentioned among Phyſicians, ſo the Miſtakes I might be in firſt apprehending it, give more Credit to the reſt of elation to Men of Worth and ingenious Phyſicians.

HISTORY I.

August 1716, I was ſent for to viſit a Patient who had been ill of a Gonorrhœa, which had been checked by an Injecmade with Plantain Water, Honey of Roſes, and Sugar of He had it once checked before he brought it from a n Country. As I found the Running of a very green Coand the Glans very much inflamed, I was perſuaded that nflammation was continued from about the firſt Lacunæ to the Neck of the Bladder, ſo that the beſt Courſe was cite the Running.

r this Purpoſe I preſcribed him a Scruple of Æthiops Antialis with ten Grains of Gum Guaiacum, to be taken eveight going to Bed, and in two or three Days the Running aſed, and his Pains vaniſhed.

HISTORY II.

was in Auguſt 1716 that I found the *Algedo*, when a leman put himſelf under my Care to be cured of a Gonor; but finding he was ill of a continual Fever, I recomed it to him to return to his Lodging and to go to Bed.

xt Morning his Running was in a very ſmall Quantity, h it had then appeared five Days; the Glans was prodiy inflamed, and the Fever of a low Sort, that was like to him a Fortnight, or three Weeks.

old him that in his Circumſtances no Method for curing a rrhœa could agree with the Practice of the Fever, excepthat by a proper Injection; but ſomething extraordinary apg in the Running, I was not willing to make Uſe of this Method in a Caſe liable to a great Variety of Accidents, eby both I and the Method might be expoſed to much Ob; and as the Infection could not creep into the Blood by cting to cure it, the ſafeſt Courſe we could take was for g the Fever.

r Matters went very ſucceſsfully while we purſued this , but I was ſurpriſed that the Running did not increaſe as ever came to its State; but was rather leſs, and the Genn begun then to complain of a Pain in making Water, hat he had often Occaſion to make it. In a Fortnight ever went off, but my Patient was not yet in a Condition er upon any Courſe for the Gonorrhœa, which continued as was related at the Beginning. When he had been three r Days about the Houſe, and the Seaſon of the Year warm, s tempted to go out a walking in an adjacent Garden, h the Wind was Eaſterly, and the Garden on the River He took Cold, and the Pain and Deſire of making Wancreaſed ſo vehemently, that he could not ſleep, but ſent next Morning for me.

hen I had conſidered theſe Symptoms, I found the Bladas inflamed, but did not dream of this Inflammation beerived from ſome other Part, and therefore I ordered him lſions, Bathing, to be bled, and Clyſters, on Account of Inflammation. Moreover, the Pain being exceſſive, he imes took Clyſters in a very ſmall Quantity, in which five Grains of Opium, to procure a little Quiet and Reſpite from it. But as theſe Methods and Applications afforded ſmall Relief, I was joined with another Phyſician, who agreeing with me, about the Opinion I had of the Bladder being inflamed, we purſued the former View with Changes of Medicines, and with as little Succeſs.

The Pain darting ſome Time into the Anus, gave the other Phyſician ſome Suſpicion of the Piles, but I thought it paſſed into that Part from the Bladder, as I did believe the Pain he found ſometimes in ſome one of his Teſticles likewiſe did: Nay, after every Day ſuſpecting a new Diſeaſe, this Phyſician, at length, ſuſpected his having a Carnoſity, which I convinced him to be impoſſible in ſo little a Time; yet theſe Differences occaſioned Mention to be made of having Aſſiſtance from a Surgeon, which I readily agreed to, and was mightily pleaſed with the Perſon he named, though he was a Stranger to me, he having a very good Character, both for his Honeſty and Skill.

But before we met, the Diſeaſe ſhewed itſelf, for in the Water, appeared a great deal of Running, and of a Slough; ſo that afterwards we found we could have no other End to purſue, than that of exciting the Running. The Surgeon confeſſed he never had any ſuch Caſe, but that the Matter of the Gonorrhœa had been licked up by the Fever. I added, that the Fever had certainly hindered the Running, as I have formerly explained, together with the mentioned Symptoms of Pain in the Bladder, Anus and Teſticles; but when this Surgeon and I were met alone at this Patient's Lodging, I offered my Opinion about the true Cauſe of all ſuch Accidents, which he generouſly acquieſced in, and told me, he had long entertained a like Opinion. He took Occaſion, likewiſe, to declare to my Patient, that no Method could have been taken for the Gonorrhœa, that would not put him in Danger of his Life, or have ended in the Lues Venerea.

The Method therefore we took to provoke the Running, was by giving mercurial Medicines, and purging them off.

Take Calomel fifteen Grains,
Solid Laudanum one Grain,
Conſerve of Hipps, enough to make a Bolus, to be taken going to Bed, and to be repeated the two ſucceeding Nights.

Take of Gereons Decoction of Senna, four Ounces,
Calabrian Manna, half an Ounce; make a Potion, to be taken the Morning after the laſt Bolus.

He proceeded in this Method almoſt a Month, before he was free from Pain. In all that Time, his Running never was in a great Quantity. He was obliged to perſiſt taking the Emulſions, Broth, and other ſoft Liquors that were formerly preſcribed for the Inflammation, which were proper enough to eaſe this Symptom, though not to cure it. When the Pain and Difficulty in making Water were removed, the ſmall Gonorrhœa was cured by one of the common Forms

HISTORY III.

In the ſame Month of Auguſt, 1716, I received a Letter from a Gentleman in the Country, deſiring my Advice for an intolerable Pain he had when he made Water; and the frequent Deſire he had to make it; which he always did in a very little Quantity. He told me, that he often was afflicted with the Pain in his Teſticles, or in the Anus, when it was not working about his Bladder. He found he had a Gonorrhœa in the Morning, which ſtopped by Noon, and ever ſince that Time he had been tortured with Pain.

Theſe Symptoms increaſed ſo faſt upon him, before he could expect an Anſwer to his Letter, that he forthwith came to London, and made me a Witneſs of his Torment. But as it was manifeſt that the Pain was occaſioned by ſtopping of the Gonorrhœa, and this by an exceſſive Cold; I endeavoured to excite the Running, and that by the mentioned Method of Calomel Boluſes he took four Evenings ſucceſſively, which were afterwards purged off next Morning after he had taken every Bolus. His Drink was as ſoft as we could contrive, but not diuretical, and his Diet was chiefly Broth; yet we found no Manner of Reſpite from theſe terrible Symptoms in a Fortnight. And therefore I ordered mercurial Medicines of greater Efficacy, and that he ſhould take a Bolus every other Evening made with eight Grains of Turbith Mineral; which neither purging nor vomiting him, each Doſe was augmented to fourteen Grains in the Turn of a Fortnight; which very great Doſe would purge him twice or thrice, but never vomited him: I would gladly have put him into a Salivation, rather than have continued in a Courſe of ſo vaſt Doſes of ſo rough a Medicine; but ſome Buſineſs he had then depending did not admit of it, ſo that I was forced to proceed in this Method for a Month or five Weeks before he found any Benefit from it. After that Time he had no Darting into the Anus, he made his Water very freely and without Pain, but he ſuſpected that he ſometimes found a Darting into one of his Teſticles. It ran a little for three or four Days, but it afterwards ceaſed of itſelf.

When our Matters were brought to this Paſs, I had him purged four or five ſeveral Times, intermitting always a Day between the Purging; and after he had taken this Phyſick I ordered him fifteen Grains of Turpeth Mineral twice a Week for a Fortnight. After all, he drank a very ſtrong Decoction of the Woods for ſix Weeks together.

Notwithſtanding the great Quantity of Mercury this Gentleman had taken, which he took as well as the Diet-drink with the utmoſt Exactneſs of Diet, and Manner of Living, he broke out all over his Body four Months after he had finiſhed this Courſe; yet he found nothing to complain of, but that he had at Times a ſmall darting Pain in ſome one of his Teſticles. This Miſfortune put us under the Neceſſity of a Salivation for a more perfect Cure, and his Affairs now favouring this Method, he went ſtraight under that Courſe.

He ſpit about two Quarts every Day for about a Month, and about a Quart in a Day for three Weeks more; in the laſt Part of this Time he felt no Manner of Pain; yet in leſs than ſix Weeks after the Salivation, he broke out again in his Legs and Arms, but was cured by the diaphoretic Mercury of Paracelſus. *Cockburn of a Gonorrhœa.*

ALGEMA. Ἄλγημα. *Uneaſineſs, Pain.* The Word is alſo often uſed by Hippocrates, to ſignify the Diſeaſe whence the Pain proceeds. This Author makes Uſe of the Word in a Multitude of Places.

ALGEMET. *Coals. Rulandus.*

ALGERIÆ, ALGERIE. (*Calx*) *Lime. Rulandus. Johnſon.*

ALGEROTH. (*Mercurius Vitæ*) *Mercury of Life.* A Preparation of Antimony and Sublimate, ſo named from *Algerothos*, a Phyſician of Verona. *Caſtellus.*

ALGOIDES. An aquatic Plant of which Monſieur Vaillant gives the following Account:

Algoides vulgaris, Potamogeton capillaceum, Capitulis ad Alas trifidis, B. Pin. 193. Prod. 101. Raii Hiſt. 1. 190. Nº 12. *Item, Potamogeito Affinis, Graminifolia, aquatica*, Raii ibidem, Nº 13. *Itemque Potamogiton omnium minimum, Graminis Facie capillaceum, Filiculis curvulis binis, ternis, Dorſo dentato*, Hort. Cath. ejuſdem Raii Hiſt. 3. 122. *Potamogeito ſimilis, ramoſa, & ad Genicula polyceratos*, Pluk. Tab. 102. fig. 7. *Equiſetum polygonoides, Aquis innatans, Potamogeitonis tenuifoliæ Facie, ad Genicula vaſculiferum*, Hiſt. Oxon. 3. 621. Nº 20.

It is ſtrange that a Plant, ſo common in our Waters, ſhould not be mentioned in the *Hiſtory of thoſe Plants which grow in the Country about Paris.*

It is to be obſerved, 1. that though Ray be not one of thoſe Botaniſts who love to multiply the Species of Plants without Neceſſity, he has yet made three of this one, as you ſee by the Quotations of the different Synonyma. 2. That though among the Characters he gives of the *Potamogeiton* he had mentioned the Growing of the Flowers in Form of an Ear, and though he had obſerved that thoſe of this Plant, whoſe Structure he did not know, were diſperſed along the Stalks and Branches, yet he ſcrupled not to reduce it under that Kind, from whence he ſhould in Truth have excluded it both in the laſt Edition of his *Synopſis*, and in that of his *Methodus*. 3. If this Author ſaw no more than two, three, or at moſt but four Pods, or Cornicula (ſo he names what I call *Capſula*) at each Joint of the Plant, it was becauſe he had the Fortune only to meet with one or two that happened to be no better furniſhed, for they have commonly five and ſometimes ſix at a Joint.

The *Algoides* is a Species of aquatic Plants, with imperfect and hermaphrodite Flowers. Each Flower proceeds from the Wing of a Leaf, and commonly conſiſts only of a Teſticle, or Stamen, and ſome Ovaries diſpoſed in a circular Order, which become ſo many ſolid monoſperm Seed-veſſels. The Leaves are ſimple, intire, without a Pedicle, and for the moſt Part ſtand oppoſite by Pairs.

We know only one Species of *Algoides*.

It grows at the Bottom of Waters, and becauſe its Leaves reſemble thoſe of *Alga*, I ſuppoſe it took the Name of *Algoides. Memoires de l'Academie Royale des Sciences Ann.* 1719.

ALGOS. Ἄλγος. The ſame as ALGEMA, which ſee.

ALHAGI. This is the *Agul & Almagi Arabibus, Planta ſpinoſa Mannam reſipiens*, J. B. *Geniſta ſpartium ſpinoſum Foliis Polygoni*, C. B. *Spinoſum Syriacum*, Park. The PLIANT THORNY BROOME OF SYRIA.

It riſes a Cubit or more in Height, and is ſet very thick round with a great Number of exceeding ſharp, ſlender, pliant Thorns, on which grow divers Flowers of a purple Colour. When theſe fall off, they are ſucceeded by ſmall, long, rediſh Pods (like thoſe of the Scorpius) full of Seeds of the ſame Colour.

The Inhabitants of Aleppo gather from it a new Kind of Manna, the Grains of which are ſomewhat larger than Coriander.

It is buſhed round with an almoſt infinite Number of ſmall, ſmooth Branches, which diſperſe themſelves from the Trunk in a very beautiful Order, and are for the moſt Part overſpread with Dodder, after the Manner of Thyme. At the Joints of the Thorns grow the Leaves, which are aſh-coloured, oblong, and of a polygonal Shape. The Root is long and of a purple Colour.

The Manna, gathered from this Shrub, is called by the Ar bians *Tereniabin*, or *Trangebin*.

It is found in Perſia, and in the Neighbourhood of Aleppo; alſo about Kacka a City in Meſopotamia.

The Leaves are of a hot drying Nature, and the Natives uſe the Flowers as a Purgative, one Handful of which boiled in Water ſuffices for a Doſe. *Raii Hiſt. Plant.*

ALHANDAL. *Colocynth.* See COLOCYNTHIS.

Our *College Diſpenſatory* directs a Troche under the Name of *Trochiſci Alhandal*, as follows:

> Take of white Colocynth Pulp cleared from its Seeds, and cut ſmall, of Gum Arabac, Tragacanth, and Bdellium, each ſix Drams. Let the Gums be macerated for thre or four Days in a ſufficient Quantity of Roſe-Wate ſo that they may be diſſolved in it; and with the fore-mentioned Pulp let all together be beat up into a Conſiſten for Troches.

"This Contrivance is as old as Meſue, and hath been b "little varied in all the Hands it hath paſſed through; it ſe "originally deſigned by the Gums to deaden, in ſome Meaſu "the violent Operation of the Colocynth." *Quincy's L Diſpenſatory.*

ALHANNA. The ſame as ALANA TERRA, which ſe

ALHASEF, or ASEF. A Sort of Puſtule, called alſo HYDROA, which ſee.

ALICA. A Food much celebrated amongſt the Antie But the various Accounts given of it by different Auth make it ſomewhat uncertain what it was. For ſome repre it as a Sort of Grain, and others as a Sort of Aliment made Grain.

In order to give a juſt Idea of this Aliment, I ſhall in the different Paſſages wherein the Antients have taken No of, and then give the Opinion of Salmaſius concerning it.

The Greek Word is Χόνδρος.

Alica cleanſed is a proper Aliment for the Sick in Fe If the Stomach be firm, and the Belly bound, it is adviſe to give it in Hydromel; but if the Stomach be weak, the Belly looſe, it is beſt taken in Vinegar and Water. *C L. 3. C. 6.*

Alica is in the next Degree to Ptiſan for Goodneſs, and ſome few Qualities in common with it, which are the C that it is highly eſteemed. Viſcidity, Smoothneſs, and Pl ſantneſs of Taſte, are common to them both, but in all o Reſpects Ptiſan exceeds *Alica*; and both of them are ei ſimple or compounded with Honey only. *Aretæus de Morb. L. 1. C. 10.*

The Chondrus [χόνδρος] is made of that Sort of Zea wh is called dicoccos (*double-grained*). It is more nouriſhing binding than Rice, and much more agreeable to the Stom Boiled in Vinegar, and the Parts anointed therewith, it ta off the Lepra [λέπρας] amends the Roughneſs and Scabbineſ the Nails, and heals a beginning Ægilops. The Decoct uſed in a Clyſter, is good for ſuch as labour under a Dyſen accompanied with Pains. *Dioſcor. L. 2. C. 118.*

Alica in other Things is like Chondrus, but binds the B more. *Paulus Æginet. L. 1. C. 73.*

Alica is a Kind of Wheat. We ought to be very careful preparing thoſe ſorbile Liquors which are made of it; for Juice is mixed with Water, and requires a good deal of B ing; whence it is apt to deceive thoſe that prepare it, think it is boiled enough, and ſo preſent it to the Sick are great Sufferers by it, for it ſoon thickens, being of a g viſcid Subſtance. Therefore putting a great deal of Wate it, boil it very well, and ſtir it with a Stick of Dill til be enough, when you may throw in a little Salt, and if you a little Oil at firſt, it will be never the worſe. But for hea Perſons, who by Reaſon of a vehement Gnawing of the S mach, or a ſudden Tranſit of a bilious Humour, may wa hearty Draught, let the *Alica* be boiled till it be quite ſoft, then ſtrained, and then it makes a Liquor like Ptiſan, w is to be drank off. The ſame Way of Preparation is to be with *Alica* after it is ſteeped in Water. *Oribaſ. Galen- Col. Lib. 4. C. 1.*

Alica ought firſt to be macerated in Water, and three E of a Pint allotted to three Pints and a half of Water, and Pints of Milk. Let it boil gently over the Coals, and fi holding the Veſſel in your Hand that it may not burn. obſerve that the Milk is to be poured hot into it, when al boiled enough. *Oribaſ. ex Dieuch. Med. Col. 4. C. 7.*

Alica is is more drying than Wheaten Meal, and there not ſo proper to bring a moderate Inflammation to ſuppura the other, but is better than Wheat for humid Inflammat *Oribaſ. Med. Col. Lib. 14. Cap. 37.*

Alica and Simila are of a very thick and glutinous J *Oribaſ. Euporiſt. Lib. 1. Cap. 19—21.*

lica is a Kind of Wheat, very nouriſhing, and of a gluey e, whether you eat it boiled in Water, or take it in Mul- , or Sweet-wine, or with ſome Aſtringent (which may be er on Occaſion) or eat it fried with Oil and Salt. Some- s Vinegar is put to it; and *Alica* prepared after that Man- we are told by Phyſicians, made a Ptiſan; and ſome ſay a Ptiſan of *Alica* was Food for a ſick Perſon. Some of Antients, as Diocles and Philotinus, call *Alica* thus prepared, *heaten Ptiſan*. Therefore its Name, as well as that of *nium*, is ſeldom to be met with in old Authors, for they it by the common Name of *Wheat*. *Galen. de Aliment.* 1. *Cap.* 6.

lica is like the Seed of Tragum. *Galen. de Aliment. Cap.* 13.

alen, after diſcourſing of the Typha, Olyra, and Zea, ſays, are very many Sorts of Grain like them, though not quite e ſame Kind; ſome of which ſeem to hold a middle Place een Barley and Typha, or between Typha and Olyra, or a and Wheat; ſome come neareſt in Nature to Olyra, s to Barley or Typha; ſome to Wheat, others to Pana- , or Millet. And theſe have Names too; ſome ſimple, at of which *Alica* is made in Italy; ſome compound, as in Cappadocia they call *Gymnocrithos*, that is, *Barley hulled*, what in Bithynia they name *Zeopyros*. *Galen. de Aliment.* *C.* 13.

here is no ſmall Difference in the Kinds of Wheat; for is heavy, denſe, and yellow in its inner Subſtance, affords Nouriſhment, and ſuch as is of a thick and glutinous ; but the light, rare, and of a white Subſtance, nouriſh and generate a Juice not ſo glutinous. Similago and *Alica* ſh much, and are of a thick and glutinous Juice. Such obliged to uſe an attenuating Diet muſt not meddle with ago, but they may feed moderately on *Alica*, either boiled ater, or with Mulſum, or Wine, and that of a ſweet , provided it be yellow, of a thin Body, and neareſt in gth to the *Falernum*. *Galen. de Atten. Vict. Cap.* 6.

ica, white Bread of Wheat, Tragus, Pork, and Eggs, Aliments of very good though viſcous Juice, and afford lent Nouriſhment, where the Stomach is able to concoct , and the Liver to convert the Chyle into Blood. But ey retain their Viſcoſity, the Paſſages of the Liver and , eſpecially where they are ſtrait by Nature, are ſubject obſtructed by them. Therefore the frequent Uſe of them rved to beget a Senſe of Weight, and ſometimes a Pain thoſe Parts. But an Obſtruction of the Liver is accom- d with the Hindrance of the Diſtribution of the Chyle, Plenitude in the Meſeraic Veins and thoſe of the lower , whence there is Danger of a Phlegmon in the Parts the Collection is made, or a Putrefaction of the redun- Humours, which muſt of Neceſſity be concocted and con- d into Blood, or elſe putrefy, as it always happens where make too long a Stay in a warm Place. *Galen. de Succ.* *Cap.* 2.

iſan ſeems to nouriſh ſoon after it is taken, but it affords Nouriſhment and quickly ceaſes; whereas *Alica* nouriſhes , and continues to do ſo for a long Time. *Galen. in Hip-* *Aphor. Com.* 2. *Aph.* 18.

ica is reckoned by Pliny among the vernal frumentaceous , or ſuch as are ſown in the Spring, with Reſpect to Italy, ilium, Panicum, Lens, and Cicer. *Plin. Nat. Hiſt. Lib.* *ap.* 7.

ny, in his *Natural Hiſtory*, *L.* 18. *C.* 11. after entertain- s with an Account of ſeveral Sorts of Bread and their s, with various Ways of dreſſing Grain, and taking No- of the Riſe of Bakers, congratulates his own Country, as carrying the Palm for Fruits, on Account of the fineſt oſt wholeſome *Alica*, which is no where elſe ſo well pre- . It is true, ſays he, it is prepared alſo in Egypt, but carce deſerves mentioning. It is made in ſeveral Places of as in the Diſtricts of Verona and Piſa, but the beſt is in pania.——*Alica* is made of Zea, which we call *Seed*. they pound in a wooden Mortar, leſt the Hardneſs of e Mortar ſhould break it too much, with Peſtles, and inals condemned to hard Labour, as every one knows, are yed in it. To the foremoſt of theſe Mortars ſtands af- an Iron Grate-box, whence the Chaff being winnowed he Grain thus ſtripped of its huſky Part is beaten over . By this Means we have three Sorts of *Alica*, the Small, iddling, and the Largeſt; this laſt they call *Aphærema*. is While they have acquired nothing of that extraordinary eneſs which ſo much recommends them, though the Alex- n are in this State the beſt. But what is really to be ad- , after they have taken ſo much Pains to cleanſe it, they Way to mix it with Chalk, which incorporates with it, ommunicates its Colour and Fineneſs.——Baſtard *Alica* is chiefly of African Zea, which degenerates in that Coun- t has a broader and blacker Ear, and a ſhort Stalk. They it with Sand, and yet can hardly free it from the Hulls, which it ſhrinks to half the Meaſure of the original Grain. they add to it a fourth Part of white Gypſum (Plaiſter) aving well mixed them paſs them through a Sieve that is uſed for Meal. What remains they call *Exceptitious*, and is the largeſt Sort. The reſt is paſſed through a Sieve with finer Holes, and is called *Secondary*. This is paſſed through a third Sieve ſo fine that it will only tranſmit Sand, and has then the Name of *Cribraria* beſtowed on it. There is another Way of adulterating it, which is uſed every where. They chuſe the whiteſt and largeſt Wheat, and having firſt parboiled it, dry it in the Sun, and then ſprinkling it a little, break it in a Mill. Better *Alica* is made from Zea than Wheat.

Alica is an Invention of the Romans, and of no great Antiquity, for if it were, we ſhould not have heard ſo much from the Greeks in Praiſe of Ptiſan. I do not think it was in Uſe in the Time of Pompey the Great, and therefore we find very little written of it by the Diſciples of Aſclepiades. That it is highly uſeful none doubts, whether it be taken diluted in Hydromel, or boiled and the Decoction drank, or eaten as Pulſe. To ſtop a Looſeneſs it is firſt roaſted, and then prepared with Wax. But it has a peculiar Virtue in reſtoring ſuch as by long Sickneſs are reduced to a Cachexy; let a Quarter of a Pint boil gently in a Pint of Water, till the Water be conſumed; then put to it a Pint of Goats or Sheeps Milk, and drink it for ſeveral Days together, and then mix Honey with it. Such Draughts are good to mend a conſumptive Diſpoſition. *Plin. L.* 2. *C.* 25.

Alica was thought to nouriſh much (whence it took its Name, according to Sextus Pompeius, *ab alendo*) ſo that it deſerved to be called full Diet, according to Galen. It generated good Juice, but glutinous, and apt to cauſe Obſtructions; to remedy which Fault, the Antients had various Ways of preparing it; oftentimes they mixed it with Hydromel, ſometimes with ſweet Wine, to make it an arteriacal Medicine, and good for Conſumptions; ſometimes with an Aſtringent for Diarrhœas, or with Pomegranate Seeds, and ſometimes fried it with Oil and Salt. And becauſe χόνδρος, or *Alica*, has nothing in it deterſive or attenuating, if they intended to prepare it for a ſorbile Liquor that ſhould have theſe Qualities, they boiled it not only with Dill, but with Leeks, Penyroyal, Calamint, or Hyſſop. The χόνδρος of the Antients does not ſeem to differ much from our wheaten Preparations, if you except their Chalk and white Mortar. There was alſo a Sort of Bread made of Chondrus, called χονδρίτης, which nouriſhed very much, and did not eaſily paſs off downwards. When we read in Aetius χόνδρος ἄλικος, in Conjunction, he means no more than barely χόνδρος; but ſeems to join the Names, becauſe none ſhould doubt of the Thing ſignified. But it is plain that both he and Paulus have inſerted many Names in their Writings, which were unknown to the Antients, and in ſo doing conſulted Convenience more than Elegance and Propriety. *Gorræus in voce* χόνδρος.

Alica is ſometimes taken for a certain Species of Bread-corn. See Pliny and Celſus [before quoted] but more frequently for a Preparation of Zea, which is called *Seed*. *Alica*, in its large Acceptation, differs from the Chondrus of the Greeks, as the Genus differs from the Species, for the Chondrus was not prepared with Chalk, but with white Mortar and Sand, like the African Baſtard Zea mentioned by Pliny. *Raii Hiſt.*

Χόνδρος is *Alica*, for ſo the Gloſſaries interpret it, *Alica*, χόνδρος. How it was made Pliny explains; "*Alica*, ſays he, is made of "Zea, which we called *a Seed*, &c." So then the Zea was pounded in a wooden Mortar to make *Alica*, not in a ſtone Mortar, leſt the Hardneſs of the Stone might break it too much, for it was only to be huſked, not bruiſed, and was to be beaten till it had loſt all its Coats. This done, the naked Grain was to be pounded, or beaten again, which produced three Sorts; that is, the Leaſt, the ſecond Rate, and the Largeſt. This, ſays Pliny, was called *Aphærema*, ἀφαίρεμα, which was in a Manner only ſtripped of its Coats, the Grain, or Medulla, remaining unbroken; and this was properly the χόνδρος of the Greeks, of which there were three Sorts, but the largeſt was the beſt. So the *Geoponic Eclogues*: Ἐπὰν δὲ ἅμα ἐπιπτίσθη, κοσκίνῳ κοσκινευέσθω ἁδροτέρῳ· κάλλιστος δὲ ὁ πρῶτος σηθεὶς γίνεται χόνδρος, δεύτερος δὲ ὁ ἐπὶ τούτῳ, καὶ ἐλάττων ὁ τρίτος. "After they are huſked or pilled together, they are paſſed through a coarſe Sieve, and the faireſt "is what remains of the firſt Winnowing, *viz.* the Chondrus, "the Secondary, or ſecond Rate, is next, and the third is the "worſt and ſmalleſt." The Author ſays the ſame as Pliny, who expreſſes himſelf more clearly a little after, ſpeaking of the Way of making the Alexandrian *Alica*, he ſays, "They "increaſe it a fourth Part with an Addition of white Gyp- "ſum (Plaiſter) &c." as above. Here this Paſſage of the *Greek Georgics* above-cited is clearly explained. What is called *exceptitious*, *exceptitia*, in the Editions, is *exceptica* in the Copies. It certainly ought to be *Seſtica*, Σηστικὸς, ſo called κατ' ἐξοχὴν, *by Way of Eminence*, which was paſſed with wider Holes, which Pliny called *farinarium*, and the Greek Author ἁδρότερον. Hence it appears, that the Greek χόνδρος is the Roman *Alica*. And the Greeks called it χόνδρος, *Chondrus*, becauſe it was broken into great Fragments, not ground to a Meal. Hence Πυρὸς χονδρώδης in Athenæus, *Corn ground into groſs Fragments*. So χόνδροι ἁλῶν, *Corns of Salt*, χόνδροι λιβάνου, *Bits of Frankincenſe*. Hence alſo χονδρίτης ἄρτος, *chondrite Bread*, ſuch as was made of

Wheat bruiſed or broken into large Fragments like χόνδρος, *Chondrus*.

Though the Nature of the *Chondrus*, or *Alica*, ſufficiently appears from what has been ſaid, ſome have reckoned it among the Species of Grain, as a Sort of Wheat. Paulus Ægineta, χόνδρον σίτου τὸ εἶδος, *The Chondrus, a Species of Grain.* And Galen, τοῦ γένους τῶν πυρῶν ἐστιν ὁ χόνδρος, ἱκανῶς τρόφιμόν τε ϗ γλίσχρον ἔχων τὸν χυμόν. *Chondrus is a Kind of Wheat, ſufficiently nouriſhing, and of a viſcous Juice. Lib.* 1. *de Aliment.* He adds that by the Antients it was called πυρὸν τῇ προσηγορίᾳ, Wheat appellatively. Who cannot but admire ſo much Ignorance in ſo great a Man? He cites Hippocrates, who ſays, τοὺς ἐκ τοῦ χόνδρου κατεσκευασμένους ἄρτους τροφιμωτάτους μὲν εἶναι, διαχωρεῖν δὲ ἧττον, *Bread made of* Alica *was very nouriſhing, but not very eaſy to paſs off.* Hippocrates does not ſpeak this of ſuch a Sort of Corn, but as the Property of a Kind of Meal, properly ſo called from its being coarſly ground. Bread made of this Meal, he ſays, was very nouriſhing. Theſe were called χονδρῖται, *Chondritai*, as the σεμιδαλῖται, *Semidalitai*, were ſo called, becauſe they were made of Semidalis, which alſo was not a Species of Grain, but a Sort of Meal. In Galen's Time the Greeks had left off the Uſe of the Word χόνδρος for *Alica*, and changed it for the Word *Alica*, corrupted ἄλιξ. So that they knew nothing of the antient χόνδρος, and by that Means came to interpret it of a Species of Wheat. *Salmaſius de Homonym. Hyles Iatr. Cap.* 57.

ALICES. The little red Spots in the Skin which precede the Eruption of Puſtules in the Small-pox. *Caſtellus.*

ALICORNU. The ſame with UNICORNU, which ſee.

ALIENATIO MENTIS, is the ſame as DELIRIUM, which ſee.

ALIENUM. In a medicinal Senſe it is applied to any Thing that is foreign and troubleſome to the Body. Sometimes alſo it imports *corrupted*, but *alienatus* is generally uſed in this laſt Senſe.

ALIFORMES PROCESSUS. See PTERYGOIDES.

ALIGULUS. A *Confection. Rulandus.*

ALILAT, or Ἄλιττα, an Arabian Word, ſignifying what the Aſſyrians call Μύλιττα, the Jews לילית *Lilith*, and the Greeks Εἰλείθυια; and is the ſame as *Mater Terra*, and *Filia Lucina*, or *Luna*, the Deity that preſides over Child-birth. Ἀλιλατ is as you would ſay אלילת *Alilath*, whence comes *Lilith*, and alſo the Word לילה *Lailah*, ſignifying the Deity of the Night. Ἄλιττα is as much as to ſay אליתא *Alitha*, which alſo ſignifies a Goddeſs, as well as the Greek Εἰλείθυια, which is much the ſame as איליתויא *Elithuia*. In the moſt ancient Ages, Ἥλιος, or Ϝήλιος, among the Greeks, ſignified *Filius*, a Son. Therefore Εἰλείθυια was the ſame as Κόρη, or *Filia*, a *Daughter*, or *Libera*; as Ἥλιος was the ſame with Κόρος, or *Liber Pater*. nïλ is alſo the Gothic Name of the Sun. The Aſſyrian Μύλιττα, or מולידתא *Molidhetta* ſignifies a *Midwife*; for Women with Child reckon by Moons. *Alilat* therefore is the ſame as *Lucina*.

ALIMA. A Sort of Sand, found in Gold Mines, of which they make Lead. *Rulandus.*

ALIMENTA. *Aliments.* Whatever is taken to nouriſh the Body, from *Alo*, to nouriſh.

The Nature of *Aliments*, in general, may be underſtood by what is ſaid on this Subject under the Article ACIDA, and the Article ALCALI. And the Properties of particular *Aliments* are ſpecified under their reſpective Names.

The Antients, particularly Galen, have been very diffuſe on the Subject of *Aliments*.

As I would avoid being tedious, I ſhall give Hippocrates's own Abridgment of his Sentiments upon *Aliment*, I mean his Treatiſe *de ſalubri Victus Ratione*; and becauſe Galen is too prolix, I ſhall inſert his Doctrine from later Authors who ſeem to have taken great Pains to epitomiſe his Works, not without adding ſome Things from their own Fund. And I ſhall end this Article with ſome Chymical Obſervations made by Mr. Geoffroy the Younger, and by him communicated to the Royal Academy of Sciences.

I attribute the following ſhort Treatiſe to Hippocrates, on the Authority of Galen, who thinks it certainly done by him, or his Son in Law Polybius, though even in the Time of Galen it was ſaid by ſome to be wrote by others either contempory with, or perhaps elder than Hippocrates.

But I muſt remark one Error which was univerſal amongſt the Antients, which is, that they imagined the Blood to be formed from the *Aliment*, in the Liver. But this Piece of Theory has been abſolutely confuted, ſince modern Diſcoveries have made the true Paſſage of the *Aliment*, and the real Method of the Blood's circulating, manifeſt.

With Reſpect to *Aliments*, it muſt be obſerved in general, that it is very little worth their While to conſider the different Qualities of Foods, who uſe Exerciſe daily ſufficient to bring them to the Verge of Laſſitude, who go early at a Night to Bed, and riſe ſoon in the Morning; for all *Aliments* ſupply a good Chyle when perfectly digeſted, by the Aſſiſtan Exerciſe and Regularity. But the Conſideration of Al is a Speculation of great Importance to the Valetudinary, Lazy, and the Riotous.

The Regimen beſt ſuited to Perſons in the ordinary Wa Life [ἰδιώτας] is to eat plentifully, and drink ſparingly in Winter Time. They ought to drink pure undiluted Wine, eat Bread, and to have their Meat all roaſted. Greens are dom or never to be eaten during this Seaſon: By this Meth the Body will be preſerved dry and warm.

In the Spring they ſhould bring themſelves by Degrees drink more, and have their Wine more diluted. Their veg table Food is to be more thin, and leſs in Quantity. Maz to be uſed inſtead of Bread; their animal Food is on the Account to be diminiſhed, and boiled Meats are to ſupply Place of roaſted. They are to be ſparing in the Uſe of Gr till Summer approaches, but feed on the more thin vege Foods, and boiled Fleſh, and ſome Herbs boiled, or raw; Drink in like Manner ought to be much increaſed in Quanti and much diluted. But this Change muſt be brought abou Degrees, that the Tranſition may not be too great and ſudde

In Summer the Food ought to be thin Maza [μάζα μα the Drink plentiful and diluted, and all the Fleſh boiled. this is the Way of Living to be choſen while Summer laſts, order to render the Body cool and moiſt during this hot and Seaſon, which inclines the Body to Heat and Dryneſs. By Management, we guard againſt the Inconveniencies of Summ And by the ſame eaſy Steps as we paſs from Winter to Spri are we to proceed from Spring to Summer, in ſhortening Allowance of dry Food, and increaſing our Meaſure of Dri but juſt the contrary Method muſt be taken as we paſs on f Summer to Winter.

In Autumn our *Aliment* of the frumentaceous Kind [ought to be more in Quantity, and drier; and our ani Food [ὄψα] in Proportion. Our Drink, on the contrary, i be diminiſhed, and to be leſs diluted, that ſo we may paſs over Winter in the moſt commodious Manner, when our Dr comes to be leaſt in Quantity and undiluted, and our Al the moſt copious and drieſt, under which Regimen a Pe ſhall enjoy a good State of Health, and be leaſt ſenſible of Severity of the Weather in this cold and humid Seaſon of Year.

For Perſons of a full Habit of Body, whoſe Fleſh is and their Countenances ruddy, it is moſt adviſable to uſe a Kind of Diet for the greateſt Part of the Year, becauſe Conſtitutions abound with Moiſture. On the contrary, who are lean, whoſe Fibres are dry and tenſe, and whoſe Co plexions are tawny or black, ought to feed on moiſt *Alime* moſt Part of the Time, as being moſt agreeable to the D neſs of their Bodies.

Young Perſons are to chuſe ſuch Meats as are tender moiſt, becauſe their Youth inclines them to Dryneſs, and Fibres are rigid. But Perſons of an advanced Age are to a dry Kind of Diet for the moſt Part of their Time, be Bodies at that Period of Life are ſoft, moiſt, and cold.

In general, our Regimen of Diet is to be accommodat the Age, Seaſon, Cuſtom, Country, and Conſtitution, in a Manner as to always guard againſt Attacks from Heat, Cold; for this is the Way to live ſound, and free from D eaſes.

In Winter you ſhould travel faſt, in Summer ſlow, excep the burning Heat of the Sun. The Corpulent are to travel eſt, and the Lean ſloweſt. In Summer you are to bathe in Winter but ſeldom; and Bathing ought to be uſed frequently by lean than fat Perſons. The Clothing of fat P ple in Winter ought to be the natural Stuff, in Summer ſame dipped in Oil; but lean Perſons are to obſerve the trary *.

Such as are burdened with Fat, and deſire to be thin, to take all their Exerciſes faſting, and afterwards to fit to their vegetable Food, before they have recovered Breath the Fatigue, or are cool, and then to begin with a Dr of Wine, diluted, and not too cold. Their Fleſh ought dreſſed with Seſamum [oily purging Grain, *Dale.*] or grateful preſerved Vegetable, or ſomething of that Kind, to be very fat, that it might the ſooner create a Satiety. B they ought to eat but once a Day, to abſtain from Bathing, lie on a hard Bed, and to exerciſe themſelves in walking as much as poſſible.

Lean Perſons, who are willing to grow fat, ought to rectly contrary to the aforementioned Precepts, and to u Exerciſe upon an empty Stomach.

As to Emetics and Clyſters, obſerve the following R During the ſix Winter Months uſe Vomiting, becauſe Seaſon is more phlegmatic than the Summer Half-year, generates ſuch Diſeaſes as affect the Head, and the Region iaphragm. When it is very hot, make Uſe of Clyſters, en it is very ſultry, and the Body abounds with Choler, is a Senſation of Weight upon the Loins and Knees, ariſe, and griping Pains affect the Belly. The Body then to be refrigerated, and the Humours, which are exalted nd upwards, ought to be drawn down from the higher

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* This Paſſage perplexed Galen very much; but Dacier has taken away the Difficulty, by the Addition of three or four Wo which he is warranted by a Manuſcript in the King of France's Library.

r corpulent Perſons, who abound with Humidity, Clyſ- f a ſaline and thin Subſtance are to be prepared; to dry, and feeble Bodies, fatter Clyſters, and of a thicker Con- e, are beſt accommodated. Theſe laſt are prepared with or the Decoction of Chich-peaſe [ἐρέβινθος] or other like dients, the thin and ſaline Clyſters are made with Brine, -water, and other Things of that Nature.

e Uſe of Emetics is to be regulated in the following Man- Perſons of a fat and full Habit of Body are to vomit upon pty Stomach, after Running or Walking very faſt, about iddle of the Day. For this Purpoſe they may take four es of Hyſſop bruiſed in ſix Pints of Water, with an Additi- Vinegar and Salt, to make it the more agreeable; let them this firſt leiſurely, and afterwards quicker.

ey who are of a thin and weak Conſtitution muſt vomit Eating, in the following Manner: After coming out of t Bath, let them take half a Pint of pure Wine, and then a Meal on Variety of vegetable Food; but not drink ei- t or after Eating, abſtaining from Drinking while a Man un ten Stadiums [about an Engliſh Mile and a Quarter]. mix up for them three Sorts of Wine, which muſt be the e, the ſweet, and the ſour. Let theſe be drank firſt ſoberly, and by ſmall Quantities; but afterwards more d, and by quicker and more plentiful Draughts.

h as have accuſtomed themſelves to vomit twice a Month etter take an Emetic two Days one after another, than fifteenth Day; but ſome obſerve a quite contrary Me-

for thoſe who are ſubject to throw up their Victuals by t, or are coſtive, the beſt Method is to eat often in a Day, f all Kinds of Food; to have their Meat dreſſed all Man- f Ways, and to drink of two or three Sorts of Wine. who are not ſubject to vomit, or who have looſe Bellies, to manage themſelves by a Method directly contrary to the oing.

ants are to be waſhed with warm Water for a long Time, o drink Wine diluted, but by no Means cold. Let their be ſuch as will not breed Inflations, or cauſe the Belly to ; by which Means they will be the leſs ſubject to Con- ns, will grow large, and have a good healthy Colour.

omen ought, in general, to obſerve a dry Regimen; for *liment* is beſt accommodated to the Softneſs of their Fleſh, Wine almoſt pure is beſt for the Womb, and to nouriſh hild therein.

to Exerciſe, Running and Wreſtling ought to be uſed in Winter; in Summer but little Wreſtling, and no Running, much Walking in the cool Air is then very convenient.

hoſe who are tired with Running ought to wreſtle; and who are fatigued with Wreſtling ought to run; for by Means he who exerciſes will procure a Warmth to the ued Part, compoſe himſelf at Leiſure, and afterwards betake lf to Reſt in the moſt agreeable Manner.

a Perſon, during a Courſe of Exerciſes, be ſeized with a rhœa, and his Food comes off undigeſted, he muſt forbear Third at leaſt of thoſe Exerciſes, and eat but half his uſu- llowance. For it is plain, that the Stomach is deſtitute fficient Heat to concoct ſuch a Quantity of Food. Let eat Bread very well toaſted and put into Wine; let his k be very little in Quantity, but of the pureſt and undiluted es, and let him not walk after Meals, of which he muſt but one in a Day, while under this Regimen. By this agement the Stomach will be wonderfully warmed and che- d, and have Strength to digeſt whatever it receives. This of Diarrhœa is moſt incident to ſuch as have firm, hard , eſpecially when they are obliged to live much upon ani- Food, being naturally diſpoſed to this Diſorder, for their and narrow Veſſels are incapable of receiving the *Ali-* . This is a very uncertain Sort of Conſtitution, and rea- o turn either Way, never remaining long ſettled on a Baſis of Health. But they who are of a thinner and more Habit of Body, and more hairy, bear Eating of Fleſh, and in Labour much better, and enjoy their Health much lon- than the others. They who are troubled with Eructations, Inflations of the Hypochondria, from the indigeſted Food e preceding Day, ought to ſleep longer than ordinary, and to themſelves upon ſome new Exerciſe, to drink their Wine , and in larger Quantities, and at the ſame Time to ſhor- heir Allowance of Food; for there are plain Indications, the Stomach, by Reaſon of its Coldneſs and Imbecillity, able to digeſt the great Quantity of Food which it receives. or ſuch as labour under Thirſt, leſs Food, and leſs Exer- with the moſt refrigerating and diluted Wines, are moſt er to be adviſed. They who are afflicted with Pains in the era, whether from Exerciſe, or hard Labour, ought to betake themſelves to Reſt without Eating, and to take a Draught, which, though little in Quantity, ſhall be a moſt powerful Diuretic, that ſo the Veſſels of the Viſcera may not be diſtended through a Repletion, whence Tumors and Fevers ariſe.

Perſons who labour under Diſorders that proceed from the Brain are firſt affected with a Stupor; they make Water often, and have other Symptoms in common with thoſe who ſuffer under a Strangury. Theſe hold them for nine Days, and if there be an aqueous or mucous Diſcharge from the Noſe or Ears there is a Solution of the Diſeaſe, and the Strangury ceaſes. Plenty of white Urine comes off from the Patient without Pain till the twentieth Day, at which Time the Pain of the Head leaves him, but a Dimneſs of Sight remains, when the Patient fixes his Eyes long on any Object.

The Man of Underſtanding knows that Health is the moſt valuable Gift to Mortals, and when attacked by Diſeaſes has Skill enough to baffle them, and be his own Phyſician. Hippocrates περὶ διαίτης ὑγιεινῆς.

The Man who takes due Care of his Health ought to know, above all Things, the Nature of *Aliments*. To ſay ſomewhat then in Relation to this Subject, *Aliments* that have an attenuating Quality open the narrow Paſſages, ſcour off the glutinous Particles that ſtick to Bodies, and incide and attenuate thoſe which are groſs. But if a Perſon accuſtom himſelf for a long Time to the Uſe of them, he is in Danger of being over-run with ſerous and bilious Humours; and if he perſeveres in ſuch a Diet, his Blood, in the End, will become melancholy. For all Foods of this Quality are apt to heat and dry to Exceſs, and by that Means to breed the Gravel in the Kidnies. He muſt abſtain therefore from the continual Uſe of them, eſpecially of ſuch as are of a bilious Nature; for Meats of this Kind are only proper for thoſe who abound with Phlegm, and crude, groſs, and tenacious Juices. Many chronic Diſtempers have been cured meerly by the Uſe of an attenuating Diet. And it is much better to abſtain from Medicine, in Caſes where we may attain our End by a Regimen; as I have known that out of many Perſons labouring under the Gravel, and not a few under the Gout, who have had their Joints laid bare with Tophs, ſome have been perfectly cured, and others much relieved, by a ſtrict Obſervance of the Rules of Diet. Some who have been a long Time afflicted with an Aſthma, or Difficulty of Breathing, have been wholly releaſed from that Diſorder, or had the Intervals of their Fits very conſiderably lengthened. An attenuating Diet reduces an overgrown Spleen, and mollifies an hardened Liver, perfectly cures Epilepſies, if undertaken in the Beginning, and not a little moderates them, when grown inveterate. All that are irritating, or biting to the Taſte, or Smell, are acrid and attenuating; and whatever is nitrous or bitter, the ſame has an inciding Quality. But there is no ſmall Difference, whether any of theſe Simples be adminiſtered in Oxymel, Vinegar, Salt, or Oil. For Vinegar and Oxymel increaſe their Strength, but Oil diminiſhes it. In the Whole, among attenuating Eatables we ſhall find more Medicine than *Aliment*.

Foods of an incraſſating Quality afford much Nouriſhment, provided they are well concocted in the Stomach and Liver; nor do they fail of generating Blood of a good Juice, and yet they cauſe Obſtructions of the Liver and Spleen, and if there be but the leaſt Beginning of an Inflammation in the Viſcera, they greatly increaſe it, as well as Inflations, and ſcirrhous Affections, and generate Abſceſſes. Of this Sort of *Aliments* ſome there are which generate only a thick Juice, as Lentils; others a glutinous, as Mallows; ſome both, as Animals which are covered with a Shell. But it is a ſafer Way, in order to Health, to uſe an attenuating, than an incraſſating Regimen of Diet. But becauſe the former neither affords much Nouriſhment, nor gives Force and Strength to the Fibres, we may ſafely, though with Moderation, at proper Seaſons, indulge thoſe who live by attenuating Food in the Uſe of Meats that generate a thick and very nutritive Juice, eſpecially when they find themſelves to want Nouriſhment. Indeed ſuch as are not concerned in publick Offices, but can uſe much Exerciſe, and ſleep as long as they pleaſe, are enabled by Cuſtom to indulge themſelves in the Uſe of Meats that yield a thick and glutinous Juice, and eſpecially if after a full Meal they have no Senſation of a Weight or Tenſion in the Hypochondria. But ſuch as, through Age or Imbecillity, cannot uſe Exerciſe before Eating, muſt wholly abſtain from ſuch Food, as well as they who ſpend their Lives in Sloth and Idleneſs; for Reſt of the Body is as great an Enemy to Health, as moderate Motion is a Friend.

After all, Meats of a middle Nature between attenuating and incraſſating are the beſt and fitteſt to be choſen, as keeping the Blood in a due Conſiſtence. *Aliments* of this Kind then are moſt accommodated to our Bodies; but ſuch as generate bad Juice are hurtful, and always to be avoided. And you will find it the beſt Way to ſhun Variety in Foods, and the rather if they are of contrary Natures, becauſe they will never be brought to a due Concoction. *Orib. Med. Coll. ex Galeno Lib.* 3. *Cap.* 1.

ALIMENTS of an ATTENUATING NATURE.

Aliments of an attenuating Nature are Garlick, Onions, Leeks, Creſſes, Muſtard, Pepper, Alexanders, Pellitory of Spain, Origanum, Nep, Hyſſop, Water-Mint, Penny-Royal, Thyme, Savory, when they are green; but dried, they become medicinal. And, generally ſpeaking, dried Simples are ſtronger than the ſame green; and what grows on Mountains, or in dry Places, has more Virtue than what is gathered in Plains, or in Gardens. After the fore-mentioned, follow in Order Rocket, Water Parſnip, Smallage, Parſley, Baſil, Radiſh, Cabbage, Beets, Carduus, Eringo, Nettles, Fennel, Coriander, Rue, Dill, Lovage, Cummin, Capers, the Fruit of the Turpentine-Tree, the Seeds of Caraway, of Aniſe, of wild Parſley, of Biſhops-Weed, of Heartwort vulgar, and of Candy, and of wild Carrots, all odoriferous, acrid, and manifeſtly hot Simples. The Seeds of Rue and of Hemp vehemently attenuate, ſo as to become medicinal. Of Corn, only Barley properly belongs to this Claſs, and, though in an inferior Degree, wheaten Loaves baked in an Oven. From the reſt you are to abſtain, unleſs you have a Mind now and then to taſte ſome Peaſe, or Lentils. But we are plentifully ſupplied with attenuating *Aliments* from Rock-Fiſh, and Mountain-Birds; for Animals that live on Mountains are of a hotter and drier Nature, and their Fleſh leaſt pituitous and glutinous. Therefore you may eat Starlings, Thruſhes, Blackbirds, and Partridges, with Houſe-Sparrows, and ſuch ſmall Birds as live about the Vineyards. Of Pigeons, wild ones are better than tame; and obſerve, in general, that Animals which are exerciſed, and live on dry Food, and breath a pure and free Air, are wholeſomer than ſuch as lie ſtill, feed on humid *Aliment*, or are confined in Coops and Stalls. Of Rock-Fiſh, you may eat of the Rainbow-Fiſh, the Cock-Fiſh, the Old Wife, and the Scare, and, in ſhort, whatever is of a ſoft and friable Fleſh. But meddle not with thoſe whoſe Fleſh is hard and glutinous. The Cod-Fiſh is of a ſoft Fleſh, but leſs friable than that of Rock-Fiſh; on the contrary, that of the Mullet is friable, but not ſoft. Therefore let Softneſs and Friability be the two Properties by which you are to judge of the Fleſh of Animals; where theſe are in Conjunction, you may eat to Satiety; when both are abſent, avoid ſuch Fiſh intirely; if either be wanting, you are to eat, in ſuch a Caſe, where better is not to be had, but not to Satiety. Your Cod-Fiſh then, and Whiting and Mullet, and other Sea-Fiſh may be eaten, for Want of Rock-Fiſh, eſpecially with Muſtard, as the Scorpion-Fiſh. There are ſome other Sorts of Fiſh that are endued with one of the above-mentioned Qualifications, but, by Reaſon of an Exceſs in another Property, are to be refuſed. For Eels, and moſt cartilaginous Fiſh, are of a ſoft, but, at the ſame Time, of a glutinous and pituitous Fleſh, and are therefore hurtful to ſuch as have Need of an attenuating Diet. Of cartilaginous Fiſhes, only the Cramp-Fiſh and Turtle are allowed, and may be eaten, when Rock-Fiſh cannot be procured; the Sole and Plaice have the ſame Properties. As to Birds, I do not forbid thoſe who uſe Exerciſe the Eating of Hens, Pigeons, and Turtle-Doves, eſpecially ſuch as live in the Mountains; but they muſt not be freſh killed, but the Day before at leaſt, which I would have obſerved of all Animals whoſe Fleſh is moderately hard. Salted Fiſh attenuate and incide in an extraordinary Manner; of theſe, chuſe ſuch as are naturally of a tender Fleſh, but the cetaceous Kind is to be avoided. Pork ſalted may be ſafely eaten with Moderation. Of autumnal Fruits, ſuch as mollify the Belly can do no Harm; chuſe therefore ſoft Fruits before hard, and refuſe ſuch as ſtay a long Time in the Body; but eat of none to Satiety. Fruits extraordinary ſharp or ſour are contrary to the Regimen propoſed; but the moſt adapted to our Purpoſe are Figs, Walnuts, Fiſtic Nuts, and bitteriſh Almonds. Olives are of ſuch a Nature, that I can neither commend nor diſapprove of them. As for ſweet Things, whether Meats or Drinks, none but Honey, I dare ſay, generates an exquiſitely thin Juice. White and thin Wines cut groſs Humours, and expel them by Urine. Whey is accounted among Things endued with an attenuating Virtue, but Oxymel is much more accommodated to the Purpoſes of an attenuating Diet. *Orib. Med. Col. Lib.* 3. *Cap.* 2. *ex Galeno.*

ALIMENTS of an INCRASSATING NATURE.

Things which generate thick Juices are Loaves baked under the Embers, and ſuch as are not well made, what they call *Tragus*, Cakes made of Flour and Muſt, and thoſe they call *Itria*, and whatever elſe is made of wheaten Meal, without Ferment, or Leaven, particularly Cakes made in a coſtly and artful Manner of the ſame. Beſides theſe, Simila and Alica breed Plenty of a thick Juice, but Amylum moderately. Kidney-Beans are of a thick Juice, and ſo are Lupines, and the inner Subſtance of Lentils, the Seeds of Seſamum and of Hedge-Muſtard, Fiſhes which are called *ſoft*, ſuch as the Kinds of Cuttle-Fiſh, the Polypus, and the cetaceous Kind. The following are of an extraordinary thick Juice: Oiſters, Whelks, the Purple Fiſh, Eſcallops, the ſeveral Sorts of Cockles, kers, and, in one Word, all that are covered with a To theſe we may add Eels, Snails, Deer, and Goat; Pork, Hare, Liver, Kidnies, Teſticles, Brain, ſpinal Udder, Tongue, Glands, this laſt moderately; Milk too boiled, all Cheeſe, but leaſt when new, or made of ſour ſour Milk boiled over the Fire, Eggs boiled to a perfect cretion, and more ſo when roaſted, but moſt of all when are fried in a Pancake; Dates, Cheſnuts, Acorns, Bulbi, neps, Muſhrooms, the Root of Arum, Truffles, Pine- Figs not full ripe, the Pulp of a Citron, Cucumbers freely eaten, unripe Apples. Of Wines, the ſweet generate thick Blood, eſpecially what they call *Defrutum*; and ſo Muſt, and thick and black Wines. *Oribaſ. Med. Col. Lib.* *Cap.* 3. *ex Galeno.*

ALIMENTS of a MIDDLE KIND.

Meats of a middle Nature between Attenuating and ſating are, Bread well made, Hens, Dunghil-Cocks, Partridges, Pigeons, Heath-Cocks, Turtle-Doves, Blackbirds, and all ſmall Birds, Fiſh that live about the near the Shore, or in the Shallows of the Sea, as Sea- Lampreys, Soles; in a Word, all ſuch as do not taſte nor have a rank Savour; ripe Figs, and among Greens grow wild, Seris, which is a common Name to ſeveral for which the Attics have diſtinct Appellations, as Gum Succory, Chervil, and others innumerable. To Claſs of Meats belong alſo wild Sparrowgraſs, with the Shoots of the Dwarf-Laurel and Bryony. And alſo Wines a yellow Colour, ſweet, and pellucid, as thoſe of Chios, Falernum, and the Mountain-Wine of Tmolus; for all generate a laudable and moderately thick Blood. *Idem, Cap.*

ALIMENTS which generate a VISCID JUICE.

Foods generating a viſcid Juice are, Wheat that is rous, denſe, and yellow in its inner Subſtance; but the thin, and of a white Subſtance, has leſs of this Property. alſo and Alica are very viſcid Food, as likewiſe Tendons, the nervous Extremities of Muſcles, the Parts about the the Tongue, all Swine's Fleſh, and Lamb, the Seed of mum, Bulbi, and fat Dates. *Idem, Cap.* 5.

ALIMENTS generating CRUDE HUMOURS.

Green Dates ſo fill the Body with crude Humours, cauſe a Shivering in thoſe who eat them, which is difficult remove. Turneps too freely eaten; teſtaceous Animals of Water, who have hard Fleſh, and have loſt all their ſalt quor by too much Boiling; thoſe you call *ſoft*, as the and Cuttle-Fiſh, and the like, with the cetaceous Kind; Ventricle, Inteſtines, and Uterus of Quadrupeds; hard dules boiled, ſour Milk, Cheeſe, Bread fried in a Pan, Grapes that burden the Stomach; all theſe Foods crude Juice, and fill the Body with raw Humours. *Cap.* 6.

ALIMENTS generating COLD HUMOURS.

They who feed on Cucumbers to a Satiety muſt of ty, and by Order of Nature, fill their Bodies with cold which are not eaſily converted into good Blood. The are generated by the Bellies, Inteſtines, and Uterus of drupeds, by ſour Milk, Muſhrooms, unripe Apples, and *Idem, Cap.* 7.

ALIMENTS generating PHLEGM.

Phlegm, or a merely pituitous Juice, are generated by nervous Parts of Animals, Glandules, boiled Lamb, the rooms called *Amanitæ*, teſtaceous Fiſh whoſe Fleſh is ſoft, ripe Apples. *Idem, Cap.* 8.

ALIMENTS generating a MELANCHOLY JUICE.

Beef, and Goat's Fleſh, but eſpecially that of a He-goat, Bull's Beef, generate a melancholy Juice; much more Fleſh of Aſſes, Camels, Foxes, Dogs, Hares, Wild the Fleſh of terreſtrial Animals ſalted, and their Milts. Sea-fiſh, the Tunny, the Whale, the Sea-calf, the Sea-dog, all the cetaceous Kind, produce the like Humour. To we may add Snails, Cabbage, Buds of Trees pickled, as of the Lentiſk, Turpentine-tree, Bramble, and Dog-roſe. Pulp of an Artichoke and Lentils are very melancholy Of the ſame Quality are Bread made with Bran, and ſuch made of Typha, and other coarſe and bad Sort of Grain; are green Wheat, Aphace, Viciæ [Kinds of Vetches] and and black Wines. *Idem, Cap.* 9.

ALIMENTS generating a BILIOUS JUICE.

The Juice of the Artichoke is bitter, and rarefies the it is beſt therefore to eat the Artichoke boiled. Honey alſo ſily changes into Bile in hot Bodies; which is alſo the all ſweet Wines, and ſweet Food, which ſupply Matter Generation of Bile. *Idem, Cap.* 10.

MENTS generating an EXCREMENTITIOUS JUICE.

ood-Pigeons, Geeſe, except their Wings, all Viſcera, Marrow, Brain, Birds that live near Marſhes, Pools, owlands, Chiches, green Beans, Egyptian Beans, Pigs rrowed, and the Young of all Animals newly fallen from Dams; Animals that lie at Reſt; Fiſh that live in Rivers nding Lakes, and delight in Mud, and all Sea-fiſh of the ous Kind, generate all of them a foul and excrementitious *Idem, Cap.* 11.

ALIMENTS void of EXCREMENTS.

e Necks, Tails, and Wings of Birds, the Fleſh of wild upeds, and ſuch as uſe dry Places, are void of excremen- Matter. *Idem, Cap.* 12.

ALIMENTS full of NUTRIMENT.

Fleſh of Swine, bred up and fatted by Hand, nouriſhes all other Eatables. The Brains of Oxen, their Teſticles, ſpinal and other Marrow, the Wings of Geeſe, and the Wings of Hens, the Bellies of all Birds, Snails, eſpe- after two or three Boilings; all theſe afford abundant ment. Of teſtaceous Fiſh thoſe whoſe Fleſh is hard, as es, the Purple Fiſh, Whelks, and others of the like Sort; Kinds of Lobſters, Cray-fiſh, Crabs, Shrimps, and ſuch with thoſe called *ſoft*, as Polypuſes, the Kinds of Cuttle- nd the like, nouriſh much; of the cartilaginous Kind, amp-fiſh, and the Weaſs, or Old Wife, nouriſh mode- the Thornback, Maid, and Skate, more than theſe, Mullet and Sea-gudgeon leſs. Milk that is thickeſt es more than the thinner. Of Bread made of Siligo ila, the former nouriſhes moſt, and next to theſe what ed with Bran. Boiled Wheat, Simila, Alica, Beans, te Fleſh not firm and cloſe, but of a lax Texture. Chi- nd Kidney-beans nouriſh more than Beans, and Ochri enugreek. Kidney-beans nouriſh as much as Peaſe, s, Cheſnuts, Lentils, ſweet Dates, rich and ſweet Grapes, s, a Sort of Turneps, called *Navews*, and Bulbi, are all ouriſhing, eſpecially after two Boilings. Honey clarified er not only for Nouriſhment, but for the Diſtribution of e; and ſo is Hydromel well boiled. All Wines nouriſh portion to their Thickneſs; therefore red and thick are beſt qualified to breed Blood; next to theſe are the Sweet, and Thick, where theſe Properties unite as be- nd after them the Red, Thick, and Aſtringent at once, that is white, thick, and auſtere, is leſs nouriſhing; and that is both white and thin, leaſt of all. In ſhort, all of a thick Juice, if they are well concocted, afford much ſhment. *Idem, Cap.* 13.

ALIMENTS which yield little NUTRIMENT.

extreme Parts of Animals nouriſh little; which Pro- belongs alſo to the Uterus, Belly, Inteſtines, Tail, Ears, and Suet. Birds nouriſh leſs than terreſtrial Animals; eſh of old Animals nouriſhes leſs than while they are g. The Aliment that Fiſhes afford, breeds a thinner as not being in a ſufficient Quantity, and ſoon digeſted. taceous Fiſh, ſuch as have ſoft Fleſh, as Oiſters, nouriſh Barley-bread, howſoever made, nouriſhes leſs than any ſo does the Polenta that is made of it. The ſame may of Bread mixed with Bran, or any other coarſe Ingre- and of Loti, Amylum, Maza made of Barley, Polenta, Millet, but eſpecially Panic, Rice, green Beans, Poppy- inſeed, Clary, Hips, Juniper-berries, Myrtle-berries, Al- Piſtaches, Plums, Peaches, Apricots, Olives, eſpecially ripe, uts, but eſpecially the largeſt Sort of Walnuts, Jujubes, it of the Cornel-tree, Blackberries, the Fruit of the Straw- ree, Zizypha (a Sort of Jujubes) common Walnuts, Win- rries, Capers, eſpecially pickled with Salt, Cabbage, Beets, ſharp-pointed Docks, Purſlane, Night-ſhade, Radiſhes, s, Muſtard, Creſſes, Pellitory of Spain, all young Shoots ts, Parſneps, Carrots, Carraway Root. Onions, Garlick, Vine-leeks, eaten raw, afford no Nouriſhment, and ttle after two or three Boilings. Pomegranates nouriſh as for Pears, eſpecially the larger Kinds, I have little to them. Gourds afford ſome Nutriment, as do dried Rai- hich are auſtere and not fat.

middle Kind between Foods that nouriſh much and hich nouriſh little, are Kidney-beans, Birds-peaſe, wild s, Chiches, and Figs, which laſt give but a ſmall Mat- Nouriſhment, and contrary to that of other autumnal for they generate a lax Kind of Fleſh, as well as Grapes. tables that are endued, in an eminent Meaſure, with ſome nal Quality, which they loſe in Roaſting, Boiling, or er Way of Dreſſing, afford but a ſmall Pittance of Nutriment to the Body, after they are thus prepared, and none before. *Idem, Cap.* 14.

ALIMENTS of GOOD JUICE.

Among the vaſt Variety of Things we feed on, there is ſcarce any of better Juice than Milk. The beſt Milk is what is juſt drawn from ſound Animals. Poached Eggs are a Meat of good Juice. The beſt are thoſe of Hens and Pheaſants, and the worſt are thoſe of Geeſe and Oſtriches. Birds and Fiſhes are almoſt all of them reckoned to be of good Juice, except ſuch as live in and about Marſhes, and Pools, and muddy Streams, eſpecially if the Water comes through ſome City, where it receives all the Filth of Baths, Kitchens, and common Sewers, or runs by ſome Fuller's Yard, whence it comes impregnated with the Waſhings and Scourings of dyed Cloaths. It is ſafeſt therefore to eat Fiſh that come from the Sea, where there is no Mixture of freſh Water. Such are Fiſh that live in the Sea, and about Rocks, for in Goodneſs of Juice, as well as Deliciouſneſs of Taſte, they far exceed the reſt. As for ſuch as uſe both Waters, as the Pollard, the Sea-wolf, the Cod, the Sea-gudgeon, Lampreys, Crabs, and Eels, you are firſt to inquire where they were caught, and then to judge of them by their Taſte and Smell. Fiſh that live in impure Waters, though fatter than others, are ill taſted, and ſtinking, and mucous, whence they ſoon putrefy. And you may eaſily know by your Senſes, that Fiſh are better or worſe according to their *Aliment*. For Inſtance, the worſt of all Mullets are ſuch as have fed upon Crabs; the Fleſh of others is hard indeed, but of no ill Juice. The Black-cap, Turbot, Bream, Sole, Plaice, and Sea-lizard are of a middle Nature between ſuch as have tender and ſuch as have hard Fleſh, and they afford very good *Aliment* to thoſe who uſe no Exerciſe, or are of a weak Conſtitution; but for ſound and healthy Bodies, ſoft and friable *Aliment* is moſt proper, and generates the beſt of all Juices. Quadruped Animals, if well digeſted, create very good Blood, eſpecially ſuch as are of good Juice, as the Swine in particular;[a] for Pork, both for Savour and Concoction, is a moſt excellent Kind of Fleſh. The beſt is of a middle-aged Hog, for after that Time the older the worſe he grows; and the Fleſh of newly farrowed Pigs is too humid, and generates Phlegm in Abundance. The Dug is of good Juice. The Liver, the Parts about the Lips, the Griſle of the Ears and Snout, and the other Extremities, the Inteſtines, the Uterus, and the Tail, are not of ſo good a Juice as the reſt. The Glandules are next to the Fleſh in Point of Nouriſhment. The Heart is of no bad Juice, the Feet are better than the Ears and Snout; for a Cartilage of perfect Animals can never be concocted, but while it is in Growth, provided it be well broken and chewed in the Mouth, it admits of Concoction. In proportion as the Fleſh of other Quadrupeds is exceeded by that of Swine, their extreme Parts are to be accounted inferior to thoſe of that Animal. The Brain of winged Animals far exceeds that of Quadrupeds. The Fleſh of wild Animals is of better Juice than that of tame. Bread pure and well made is of good Juice; Alica, Ptiſan well boiled, Beans, and Cheſnuts are of no ill Juice. Ripe Figs, ripe Grapes hung up, are not to be condemned. Dried Figs, ſpeedily diſtributed, are of good Juice, but retained long in the Stomach turn to bad Juice, and generate Lice. Eaten with Walnuts they are a very good Kind of Food; but Figs, whether green or dried, eaten with any Thing beſides Walnuts, are hard of Digeſtion. Among Greens, Lettuce breeds good Blood, next to that is Endive. Fragrant Wines are of good Juice; the beſt are thoſe of Falernum, eſpecially the ſweet Sorts, thoſe of Chios, and the ſweet yellow Mountain Wine of Tmolus. *Ibidem, Cap.* 15.

ALIMENTS of BAD JUICE.

All *Aliments* of bad Juice are not of the ſame Kind, for one Sort is cold and phlegmatic, another hot and bilious, and a third atrabilious. My Advice is to abſtain from all Meats of bad Juice, however eaſily concocted in ſome Stomachs. For the bad Juice they generate is collected, and lies hid a long Time in the Veins, and, upon the leaſt Occaſion of Putrefaction, gives Riſe to malignant Fevers.

Meats of bad Juice are Mutton and Goats Fleſh, becauſe of their Acrimony. The Fleſh of He-goats is worſt, next that of Rams, and next to this is Bull's Beef. Of all Kinds the Fleſh of the caſtrated is the beſt, and that of old Animals the worſt. Hare generates a thick Kind of Blood, but is however to be preferred to Beef, or Mutton, or Veniſon, which is of as bad a Juice as either of the foregoing. The Kidnies and Teſticles of old Animals, except the Teſticles of old Cocks, are of bad Juice. The Brain, ſpinal Marrow, Heart, Milt (though Hog's Milt leaſt) all Viſcera, fried Eggs, old Cheeſe, Muſhrooms, and Funguſes, called *Amanitæ*, are of bad Juice; and the ſafeſt Way is to avoid all other Sorts of Muſhrooms. Fenugreek, Lentils, Tipha, [a Grain much like Rye] Oats, and Bread made of them, are of no good Juice. Olyra is as much in-

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ines Fleſh may be agreeable to ſome Appetites, and does not ſeem difficult to digeſt, but it certainly ſupplies an exceſſive bad ment.

ſerior to Wheat, as it exceeds Tipha and Oats. Panic, Millet, and other like Grain, contain no good Juice. Of Fiſh, the Weaver, Gurnard, Hound-fiſh, Scorpion-fiſh, Banſtickle, Mullets, Ruffs, and all of the cetaceous Kind, are of bad Juice. All Summer-Fruits are of bad Juice, but Figs leſs than others. But dried Figs, if too freely eaten, breed no very good Blood, as appears from the Plenty of Lice which is the uſual Conſequence. Unripe Apples and Pears, and the Fruit of the Turpentine-tree are of bad Juice ; and ſo are Artichokes, eſpecially when they are hard, with Cucumbers, Pompions, and Melons, but theſe laſt are not ſo bad as the reſt. The Gourd is better than all of them, though this too, if it happens to corrupt in the Stomach, yields Abundance of bad Juice. Of Greens there is none of a good Juice ; Lettuce, Endive, and Mallows are a Mean between Good and Bad ; next to theſe are white Orache, Purſlain, Beets, and Dock. The Roots of Gardeners Ware, ſuch as have an acrid Taſte, as Onions, Leeks, Garlick, Radiſhes, and Carrots, are of a bad Juice ; of a middle Kind are the Roots of Cuckow-pint, Turneps called *Navews*, and the Roots of Carraway. Baſil is very bad Juice, as well as raw Turneps, Cabbage, and Bulbi, not well boiled ; Leeks, Onions, Garlick, and Vine-leeks, after two Boilings, loſe their bad Quality. But all Greens that are called *Wild*, are of very bad Juice, as wild Lettuce, Gum-ſuccory, Shepherd's Needle, Chervil, Seris, and wild Succory. Thick, fœtid, and auſtere Wines, ſuch as is imported from Bithynia, in large Veſſels, and at a low Rate, are of bad Juice ; for what comes in ſmaller Veſſels is neither good nor bad, but a Mean between both. *Ibidem, Cap.* 16.

ALIMENTS of EASY CONCOCTION.

Food of eaſy Concoction are, Bread made as it ought to be, all Rock-fiſh, the Sea-gudgeon, the Cramp-fiſh, and the Turtle. All Kinds of Birds are eaſier of Digeſtion than Quadrupeds, eſpecially the Partridge, Wood-cock, Pigeons, Hens, Dung-hill Cocks, Pheaſants. The Wings of Geeſe are eaſy to be concocted, but thoſe of Hens are eaſier ; and, in ſhort, the Wings of thoſe that are young and well fed, are of excellent Concoction, but very bad if lean and old. Such as are fed on Whey, the Livers of Geeſe, and others fattened after the ſame Manner, with the Teſticles of Dung-hill Cocks, are very eaſy to be digeſted ; ſo is Pork. Veal is eaſier of Concoction than Beef, and Kid than Goat, and the Fleſh of growing than of declining Creatures. Animals that live in dry Places, are eaſier to be concocted than ſuch as live in moiſt, and Walnuts than Haſle-nuts ; Bulbi, after two Boilings, are eaſily digeſted, as well as poached and ſorbile Eggs, Lettuce, Endive, and Mallows, and boiled Gourd too, when it is not corrupted in the Stomach. Sweet Wine is more eaſily concocted than ſour ; and in general of Things equally wholeſome, the moſt agreeable paſſes beſt off the Stomach. *Ibidem, Cap.* 17.

ALIMENTS of DIFFICULT CONCOCTION.

Goats Fleſh, Beef, and Veniſon, are hard of Concoction ; but the hardeſt is the Fleſh of a He-goat, the next that of a Ram, and Bull's Beef takes the third Place. The Fleſh of old Animals, particularly Swine, is fibrous and dry, and therefore exceeding hard to digeſt. The Ventricle, Inteſtines, Uterus, Heart, Teſticles of adult Animals, and Geeſe, except their Wings, are difficult of Concoction. The Fleſh of Wood-pigeons, Starlings, Blackbirds, and ſmall Birds is hard, that of Ducks and Turtle-doves is harder, but that of Peacocks and Buſtards hardeſt of all. The Gizzards of all Birds are hard of Digeſtion ; and they therefore who eat the Gizzard of an Oſtrich, or of a Cormorant, as imagining it will ſtrengthen their digeſtive Faculty, impoſe upon themſelves, for neither is ſuch Meat digeſted without much Difficulty, nor has it the leaſt medicinal Tendency towards that End they propoſe from it. Snails are hard of Digeſtion, and ſo is ſour Milk, eſpecially to a cold Stomach. Old Cheeſe has the ſame Quality ; but what is new, or made of ſour Milk, is accounted better. The Fleſh of the Purple-fiſh, Whelks, and other teſtaceous Kinds, whoſe Subſtance is hard, are difficult of Concoction. Alſo the Kinds of Lobſters, and Crabs, and others of that Kind, Polypuſes, the Kinds of Cuttle-fiſh, and all thoſe of ſoft Fleſh, Thornbacks, Maids, Skates, Weaver, Gurnard, Hound-fiſh, Scorpion-fiſh, Banſtickles, Mullets, Ruffs, Stock-fiſh, Congers, Sea-eagle, Eggs roaſted, boiled, fried ; boiled Wheat, Tragus, coarſe Meal (which is harder of Concoction than Polenta) Tipha, Oats, Bread made of them, Beans, Peaſe, Kidney-beans, ſmall Chiches, Chiches, Rice, Lupines, Panic, Millet, and ſuch like, Lentils, Colts-foot, Seſamum, Hedge Muſtard, Cheſnuts, Acorns, Apples, Pears, Figs, unripe Services, acid and auſtere Grapes, all Dates, Carobs, Citrons (the outer Rind of which, taken medicinally, helps Concoction, as do moſt Acrids) Baſil, Turneps, and Bulbi, too raw, Parſnep, Carrot, Carraway-root, all Roots of Greens, and Greens themſelves, except Lettuce and Endive, as well as all the foregoing, belong to the ſame Claſs. *Ibidem, Cap.* 18.

ALIMENTS AGREEABLE and CORROBORATIVE to th
STOMACH.

Things grateful to the Stomach are, auſtere Dates, Qui
Olives pickled with Salt (but the beſt are thoſe prepared w
Vinegar) auſtere Raiſins, Grapes preſerved, Walnuts
than Haſle-nuts, and eſpecially if eaten with dried Figs.
prickly Things are moderately grateful to the Stomach.
this Kind are Carduus, the Diſtaff-Thiſtle, St. Mary's Th
the Teaſel, the Tragacanth, the Artichoke, the Root of S
ret boiled, Chervil, and Venus's Comb, which raw or b
is wonderfully grateful to the Stomach ; it will not bear
Boiling. Add to theſe Muſtard, Radiſh, Turneps, C
Pellitory of Spain, Aſparagus, Butchers-broom, the D
laurel, Barberry-ſhrub, and Bryony. The Bulbi and Ca
pickled with Salt, excite an Appetite ; the outer Rind
Citron, taken medicinally, corroborates the Stomach. A
Wine, eſpecially warm, is good for an hot Intemperies of
Stomach. Of medicinal Things, Wormwood and Aloes c
roborate the ſame Part. *Ib. C.* 19.

ALIMENTS DISAGREEABLE to the STOMACH.

Juniper-berries are hurtful to the Stomach, and much
the Fruit of the Cedar, Flower-gentle, and the Seed of the
tex. Beets are ſo diſagreeable to the Stomach, that the p
Eating of them cauſes a gnawing Pain in that Part. Add D
Baſil, Turnep too raw, Blites, white Orache, except it be
with Oil, Vinegar, and Garum. Fenugreek and S
ſubvert the Stomach. Milk turns acid in cold Stomachs,
nidorous in hot ; hence it is juſtly forbidden in Fevers.
drank with Honey excites Vomiting. Pompions not we
cocted uſually bring on bilious Diſorders. They are prop
provoke Vomiting, before they are corrupted, for if a P
feeds plentifully on them, and takes no *Aliment* of a good
afterwards, they will be ſure to give him a Vomit ; the
Property belongs to Melons. All Brains, and Marrow of
are ungrateful to the Stomach, and create Nauſeas. Bla
auſtere, as well as thick and new Wines, eaſily turn acid,
excite Vomiting. Of medicinal Things Southernwood,
wormwood, and Aphronitrum, are diſagreeable to the St
Ibidem, Cap. 20.

ALIMENTS HURTFUL to the HEAD.

Things noxious to the Head are Mulberries, Blac
the Fruit of the Strawberry-tree, of the Cedar, Hemp ſee
Root of Spignel, all Sorts of Dates, Rocket, Fenugreek,
the Seed of the Vitex. Wine that is yellow and auſter
the Head, and affects the Mind, more than what is bla
auſtere. Fragrant Wine alſo flies to the Head, but thi
cauſes no Pain in the Head, nor ſtimulates the Nerve
what they call ἀνώδυνος even eaſeth the Pain of the
which is cauſed by the Juices in the Stomach. Milk
proper for the Head, unleſs it be a very firm one. W
which Grapes have been ſoaked cauſes Head-ach. *Id. C.*

ALIMENTS which cauſe no INFLATIONS.

Peaſe, Kidney-beans, Cummin, the Root and Seed of L
the Seed of the Vitex, and the Fruit of Hemp, cauſe no
tions. To theſe we may add, what would unprepared
Inflations. Beans boiled or ſtewed, Bulbi much or twice
and eaten with Oil, Garum, and Vinegar. Clarified
and Oxymel diſcuſs Inflations. Barley Bread, however
is inoffenſive in this Reſpect. Of a middle Nature be
Aliments which cauſe Inflations, and ſuch as cauſe non
Kidney-beans with ſome Sorts of ſmall Peaſe and Chich
Cap. 22.

ALIMENTS which cauſe INFLATIONS.

Chiches, Lupines, Kidney-beans, Panic, Ochri, Millet,
like, inflate. Beans hulled are more apt to cauſe Inflation
cooked by themſelves than otherwiſe. Maza made of
generates Flatuoſities ; but if it be well beaten and worke
moves the Belly, eſpecially if ſome Honey be mixed w
Malt Liquor and all Juices cauſe Inflations, eſpecially the
nean, that of Satyrion, with the Juice and Root of S
Figs cauſe a ſhort Inflation, becauſe they ſoon paſs th
but when thoroughly ripe, they can hardly be ſaid to d
Harm, no more than dried Figs. Green Dates have
ſame Effect as Figs, or raw Turneps. Milk ſoon breeds
ſities in the Stomach, as well as raw Bulbi, or Honey
purged. Sweet Wines cauſe long Flatuoſities ; but ſuch
both ſweet and auſtere, and are neither diſtributed or d
but remain a long Time in the upper Belly, there gen
flations ; Muſtum alſo is a very flatuous Liquor. *Id. C.*

ALIMENTS of a DETERSIVE, INCISIVE, and A
TIVE QUALITY.

Detergents are Ptiſan, Fenugreek, Melon, Pompion,
Raiſins, Beans, Chiches, eſpecially the black Kind,

n excellent Lithontriptic. Capers are of pretty fine Parts,
ickled in Salt, they become a good Deterſive, and cleanſe
tomach of Phlegm, and open Obſtructions of the Liver
pleen; for which Purpoſes they are to be taken in Oxy-
Vinegar, or Oil, before any other Food. The Juice of
has an abſterſive Faculty, and frees the Liver from Ob-
ions, and eſpecially when eaten with Vinegar and Muſtard.
s too and Nettles belong to this Claſs, with the Roots of
e-Robin and Aſphodel, which are of fine Parts. Bulbi
eterſive, attenuating, and aperitive. On this Account,
nder Shoots of Aſphodel are preſcribed as a ſovereign Re-
in the Jaundice. Onions, Garlick, Leeks, and Vine-
attenuate and cut thick and glutinous Humours; after
or three Boilings theſe Simples loſe their Acrimony, but
their attenuating Virtue. Whey attenuates a thick Hu-
; Figs abſterge; whence in nephritical Diſorders much
el has been voided after Eating of Figs. Dried Figs atte-
and incide; whence they are great Cleanſers of the Reins.
er-Berries cleanſe the Liver and Reins, and attenuate
and tenacious Humours in thoſe Parts. Almonds abſterge
ttenuate, and ſcour the Viſcera, and cauſe a free Expecto-
. Piſtach-Nuts are good to ſtrengthen the Liver, and
anſe it of thoſe Humours which obſtruct its Paſſages. Ra-
s an attenuating Virtue. Honey is of the more attenu-
Nature, as it is collected from hot and dry Plants; ſo
even Hydromel is apt to provoke Spittle. Oxymel pro-
the eaſy Diſcharge of other Humours beſides the thick
lutinous, and cleanſes the Viſcera without Pain or Sick-
and has an admirable Effect in Diſeaſes of the Breaſt and
. Such as abound with thick Juices ought to drink thin
, and if diſtempered beſides with cold Humours, are to
Wine that is old, thin, and acrimonious. Small Wine
tes the Diſcharge of Humours from the Lungs, for it
orates, and dilutes the Juices, and is moderately inciſive.
Wines are proper, in acute Diſtempers, as a Peripneu-
and Pleuriſy, after a Concoction, to provoke Spitting.
Cap. 24.

ALIMENTS which cauſe OBSTRUCTIONS.

lk that contains much Whey can do no Hurt, though you
n it never ſo long; but the long Uſe of Milk that has
Whey, and much Cheeſe in it, is dangerous; for it is
r the Kidnies that are ſubject to the Gravel, and promotes
uctions of the Liver, when it is prediſpoſed to them.
are hurtful in Inflammations of the Liver and Spleen, as
s Figs, not from any peculiar Property, but from the
of ſweet Things, for all ſweet Things are hurtful in
uctions, or ſcirrhous Diſorders of the Liver and Spleen.
r own Nature they can neither do much Good nor Hurt,
Conjunction with deterſive and inciding Simples they
ave a very good Effect. Hydromel is hurtful to the
a under a Tumor, Scirrhus, Oedema, or Inflammation,
e Honey of its own Nature is ſoon changed into a bilious
The Seeds of Poppy ſtop Evacuations from the Breaſt,
ich and ſweet Dates cauſe Obſtructions, and the green
All Sorts of Cakes made of Honey, Meal, and Oil,
hoſe made of Simila, are of an obſtructing Nature, and
nt the Spleen, and generate Gravel in the Kidnies;
n Meal wetted with Milk has the ſame Effect. Alica
hurtful to ſuch as labour under Obſtructions of the Liver,
e ſubject to the Gravel in the Kidnies. Sweet Wines are
nt, and augment Tumors in the Viſcera. *Id. C.* 25.

ALIMENTS of SLOW PASSAGE.

ments ſlow in paſſing are all ſuch as are made of Itria [a
f Cheeſecakes] and Simila, fried Beans, the fineſt Bread,
s pilled, Brain, ſpinal Marrow, Liver, Heart, boiled
t, boiled Eggs, roaſted more, and much more fried;
es, Peaſe, Seſamum, Hedge-muſtard, Acorns, Apples,
Pears, the Fruit of the Carob-tree, ſweet Wine, and
what is auſtere and black without any Sweetneſs; thick
s, and all new Wines. Water is of very ſlow Paſſage.
Cap. 26.

ALIMENTS EASILY CORRUPTED.

ches, Nectarins, Apricots, are eaſily corrupted, and
all Summer Fruits, which being of a humid Nature are
vitiated in the Stomach, if they are not ſoon diſcharged
. Therefore they ought to be eaten before all other
, for by this Means they are ſoon diſcharged, and carry
er Things with them; but if they are eaten laſt of all,
corrupt, beſides themſelves, the reſt of the Food. *Idem,*
27.

ALIMENTS NOT EASILY CORRUPTED.

this Property are the Chemulæ [a ſmall Sort of Cockles]
urple Fiſh, Whelks, and all teſtaceous Animals, whoſe
is hard, and which are uſually preſcribed to ſuch as, by
n of ill Humours, corrupt their Food. They boil them
or thrice in the beſt Water, and take them out into another clean Water as ſoon as they are thought to be ſeaſoned. To this Claſs alſo belong all Sorts of Lobſters, Crabs, Shrimps, and others of that Kind. *Idem, Cap.* 28.

ALIMENTS that LOOSEN the BELLY.

Lentils and Cabbage excite to Stool. Of Fiſhes, almoſt all the teſtaceous Kind are endued with contrary Qualities; for the ſolid Part of their Subſtance is ſlow in paſſing, and binds the Belly, but their humid Part provokes Excretion downward. Therefore if you boil Lentils or Cabbage, or any of the Animals before ſpoken of, and ſeaſon the Decoction with Oil, Garum, and Pepper, and then let any one drink of the ſame, you will ſoon ſee the Effects of a Cathartic: Nay the very Broth of the Sea Hedge-hog, of all ſmall Shell-fiſh, and of an old Cock, moves the Belly. Whoever has a Mind to reap the like Benefit from Cabbage, muſt take it out of the Pot, with the Liquor in which it is boiled, and clap it into Oil and Garum; it muſt not boil long. Coarſe Bread excites to Stool, both on Account of the Quantity of Excrement it creates, and of the deterſive Quality of Bran. The Juice of Fenugreek, boiled with Honey, is good to purge off all corrupt Humours from the Inteſtines, and by its abſterſive Virtue ſtimulates them to Excretion, but the Quantity of Honey muſt be but ſmall, for Fear of a biting Senſation. Salted Olives eaten in Garum, before other Food, have a cathartic Virtue, as well as the Juice of teſtaceous Animals and ſmall Shell-fiſh, which ſome pickle for that Purpoſe with Oil, Wine, and Garum. Milk, the more liquid it is, the more it looſens the Belly. Whey is a great Opener, and you may ſweeten it with as much of the beſt Honey as the Stomach can take, and as much Salt as will make it palatable, and if you deſire it ſhould work more effectually, you muſt add more Salt. The Fleſh of very young Animals, and their Extremities eaſily paſs through the Body. Of cartilaginous Fiſhes, the Cramp-fiſh and Weaſs are moderate Openers. Beets, Docks, Nettles, new Cheeſe with Honey, white Orache, Blites, Gourds, Pompions, Melons, Figs, dried Figs, ſweet Grapes, eſpecially when full of Juice, Mulberries taken on an empty Stomach, and before other Food, very quickly paſs through the Body, and make Way for the reſt: But eaten after a Meal, if they meet with a vicious Juice in the Stomach, they, as well as Gourd, are very ſoon corrupted. New Walnuts looſen the Belly, and ſo will dry ones, if firſt ſoaked in Water, as well as green ones. Plums in their full Moiſture are looſening; dried Plums infuſed in Hydromel that taſtes much of the Honey, though eaten alone, are a ſufficient Purge, and much more if the Hydromel be drank with them. You will be ſatisfied of their Virtue, if you drink ſweet Wine ſome Space of Time after taking them, and defer your Dinner. Mulberries, Cherries, Apricots, Peaches, and all moiſt and aqueous Things, and, in general, all ſuch as are no way remarkable either for Taſte or Smell, if the Belly be free for Dejection, eaſily make their Way through the Body: But if the Belly be otherwiſe diſpoſed, they ſtay behind the reſt, nor excite the leaſt Motion, becauſe they have no Acrimony, nor nitrous Quality.

The Subſtance of theſe laſt *Aliments* is, in ſome Sort, a Medium between ſuch as bind and ſuch as looſen the Belly, inclining very little on either Hand, when they do not meet with a Body very ill diſpoſed for Excretion, or ſtrongly inclined to Diſtribution. Thus ſometimes the Belly is bound, and Hydromel, when there is a quick Diſtribution, does not only excite the Belly to Excretion, but carries off other Foods mixed with itſelf. If the Diſtribution be ſlow, it immediately ſtimulates towards a Motion, becauſe it has ſomewhat of Acrimony. Even Honey itſelf, ſucked from the Comb, looſens the Belly; and Hydromel that has had little or no Boiling paſſes off without Diſtribution. Oxymel more gently ſtimulates the Inteſtines. Sweet Wine is ſomewhat opening, and Raiſin-wine works more effectually.

ALIMENTS of a MIDDLE NATURE between PURGATIVES and EMOLLIENTS.

Aliments of this Kind are, Mercury, dreſſed alone, or with other Greens, and firſt eaten, and then the Pottage drank. Polypody alſo and Herb Terrible, are of the ſame Nature, and the Seed of this latter taken to the Quantity of a ſmall Spoonful purges black Bile. The like Virtue is in the Seed of Holy Thiſtle, bruiſed and taken in Hydromel or Cock-broth, or mixed with Almonds, Nitre, Aniſe, Honey, and dried Figs. *Oribaſ. Synop. L.* 4. *Cap.* 28.

ALIMENTS which BIND the BELLY.

Auſtere Dates and Raiſins, Mulberries, Blackberries, bind the Belly; and, more than theſe, Hips and Sloes. Apples of an aſtringent Taſte are binding, but acid ones meeting with thick Juices in the Stomach, incide and ſeparate them, and by that Means looſen the Belly; but if they are received into a clean Stomach, they render it more bound. Apples of a ſweet Juice, without Acrimony, are eaſily diſtributed; but acrid ones are unfit for Diſtribution, and the watry and inſipid are void of Properties, and good for nothing. What has been ſaid of Apples may be applied to Pomegranates and Pears. Milk boiled till the Whey be conſumed is not looſening, for if you quench fiery Stones in Milk, till the Whey be evaporated, the Remainder is an Aſtringent, and uſually preſcribed when the Inteſtines are afflicted with a growing Pain from the Acridneſs of their Contents. This Intention is better anſwered by quenching red-hot Globes of Iron in the Milk. But Milk ſo prepared eaſily curdles in the Stomach, and therefore it is uſual to put Honey and Salt in it, though Water is better. Nor is it without Reaſon that we pour Water in the Milk, when the ſerous Part is conſumed, for it is not the Humidity of the Whey, but the Acrimony that infeſts the Inteſtines, which we would get rid of. The ſeveral Kinds of Lobſters, Crabs, Shrimps, and ſuch others as are covered with a ſoft Shell are binding, though leſs than ſuch as are incloſed in a hard Shell. But the former have a ſalt Humour, and if this be left behind them in the Water, they prove no leſs aſtringent than Oiſters and other hard-ſhelled Fiſh. Lentils and Cabbage twice boiled, to the Conſumption of their Juice, bind the Belly. When we intend to ſtop a Looſeneſs, we boil Cabbage moderately, then throwing away the firſt Water, pour other hot Water to it, and boil it afreſh till it be dry, taking Care that no Air or cold Water come to it, for there is no making of it quite dry, boil it never ſo much. Pilled Lentils loſe their ſtrong aſtringent Quality, and are of no Efficacy in a Flux of the Stomach; but if you bruiſe them, and give them two Boilings, and after throwing away the firſt Water, put a little Salt and Garum, with ſome palatable Aſtringent, to it, you will have prepared a very pleaſant and wholeſome Food and Medicine. Polenta drank in auſtere Wine, and Rice, are Binders; and ſo are Panic, Millet, fried Meats, Hares Fleſh, auſtere Wine, and yellow auſtere Wine. *Oribaſ. Collect. Medicin. L.* 3. *C.* 31.

ALIMENTS of an ACRID and HEATING QUALITY.

Heaters are boiled Wheat, Bread made of Wheat, Tipha, Oats, Fenugreek, Juniper-berries, ſweet Dates, ſweet Apples, Seſamum, and Hedge-muſtard; theſe provoke Thirſt by their heating Quality. To theſe we may add Hempſeed, ſweet Grapes, ſweet Raiſins, Mallow (which heats moderately) Smallage, Alexanders, Rocket, Garden and Horſe-radiſhes, Muſtard, Creſſes, and Pellitory of Spain.

Food of both an acrid and heating Nature are Parſnep, Carrot, Carraway; theſe are manifeſtly hot. Garlick, Onions, Leeks, Vine-Leeks, are ſufficiently acrid, but after two or three Boilings they loſe their Acrimony. Old Cheeſe is hot, and excites Thirſt. Sweet Wine is moderately hot, and has the ſame Effect. The deep Yellow is hotter than the Black, but the bright Yellow is the hotteſt of all; the next in Degree of Heat is the deep Yellow, then the Red, next the Sweet, and laſtly the White, which heats leaſt of all; but all Wines very long kept are ſufficiently heating. *Id. Cap.* 32.

ALIMENTS of a REFRIGERATING QUALITY.

In the Number of Refrigerants are Barley, howſoever prepared, Millet, Panic, Muſhrooms, boiled Gourds, Melons, Cucumbers, Plums, auſtere and acid Grapes, and auſtere Raiſins. Aſtringent Apples are of a cold and earthy Juice, but the Juice of acid ones is cold, and of fine Parts. The watry and ſuch as have no remarkable Property, Pears, and Pomegranates, and the Fruits of many other Trees, eſpecially ſuch as will not endure to be kept, are of this Claſs. Aſtringent Dates have a cold Juice, and ſo have Lettuce and Endive, though in a moderate Degree, Purſlane, Poppy-ſeeds, which are ſoporiferous, and hurtful if too freely taken, but good for thin Diſtillations from the Head, for which Purpoſe the white is beſt. Myrtle-berries refrigerate, but are no Aſtringents, being endued with an acrimonious Quality. Solanum is an effectual Refrigerant and Aſtringent. Water and ſmall Wines are no manifeſt Heaters, and therefore may the more ſafely be given in Fevers. Wine that is white, auſtere, thick, and new, manifeſtly refrigerates, as well as Vinegar, which being of fine Parts, is therefore more penetrating into the inward Parts than other Refrigerants; on which Account it is an Enemy to the Nerves. Of a middle Kind of Nature between Heaters and Refrigerants are Bread made of the Fruit of the Lote-tree, Amylum, and Grapes. *Id. C.* 33.

ALIMENTS of a DRYING QUALITY.

Lentils and Cabbage are Driers alike, and for that Reaſon dull the Sight, except the whole Eye be moiſt; but the young Buds, or Coleworts, are leſs drying. Of other Greens the Stalk is the drieſt Part. But the Contrary is true of the Radiſh, Onion, Muſtard, Creſſes, Pellitory of Spain, and all thoſe whoſe tender Shoots are acrid. Polenta and the Seed of the Vitex are Driers. Vetches twice boiled, and often thrown into fair Water, make a drying Food; the beſt Sort is the White. Roaſted and boiled Meats yield a drier *Aliment*, boiled Meats a moiſter, fried Meats are of a middle Quality. Whatever is moſt ſeaſoned with Wine and Garum is the drieſt, and whatever has leaſt of theſe, and moſt of Defrutum, and is boiled in ſimple and pure white Broth is the moiſteſt, or if it be boiled only in pure Water it is moiſter than the firſt. But Seeds, Greens, and Plants differ much according to the Ways of ſeaſoning them, and though they are all drying, yet they exert more or leſs of that Quality according to thoſe Ingredients with which they are mixed. *Id. Cap.* 34.

ALIMENTS of a MOISTENING QUALITY.

Ptiſan, boiled Gourd, Pompions, Melons, Cucumbers, green Nuts, Plums, the Fruit of the Sycamore-tree meerly moiſten without Refrigeration, except they be eaten cold. Lettuce and Endive moiſten too, but in a lower Degree. Purſlane, Mallows, Blites, and white Orache, are the moſt watry of all Greens. Moſt Fruits are humid, eſpecially ſuch as will not keep. Lettuce, and Poppy-Seed, green Beans, and green Chiches, moiſten, Water moiſtens and refrigerates, but hot Water both heats and moiſtens. *Ib. Cap.* 34.

ALIMENTS NOXIOUS to the HEAD.

The Fruit of the Sycamore hurts the Head, Blackberries cauſe Head-ach, as do Dates, Rocket, and Fenugreek. Auſtere Wine of a deep Yellow creates Head-ach, and diſorders the rational Faculties, more than black and auſtere Wine. Fragrant Wines have the ſame Effect. *Oribaſ. Medic. Collect. Cap.* 51.

ALIMENTS BAD for the TEETH.

The conſtant Uſe of Milk is bad for the Teeth, and cauſes them to rot, and looſens the Gums. Therefore, before you feed on Milk, waſh your Mouth with diluted Wine; but it is better to put Honey in the Milk. *Id. C.* 37.

In treating of the Qualities of *Aliments*, we are to ſhew firſt the Nature of each Quality in general, and then to ſpeak in particular of thoſe belonging to the various Kinds of *Aliments*.

Of Qualities ſome are ſimple, which ſeem to belong to the peculiar Nature of *Aliments*, others compounded; ſome intenſe, other remiſs; ſome ſo attempered as to conſpire in the ſame Purpoſes with the prime efficient or conſtitutional Quality, others tending a different Way. If we ſhould undertake to ſpeak of Qualities in this Method, a Multitude of Heads would offer themſelves. But waving theſe, and to come directly to our preſent Purpoſe:

Of Qualities, with Reſpect to our Senſe, there is the Sweet, the *Fat*, the *Acid*, the *Aſtringent*, the *Salſuginous*, the Bitter, and the *Acrid*. If we fancy there are more, we ſhall find them, on Examination, reducible to one or other of the forementioned. For aqueous Dulcidities come under the general Epithet of *Sweet*, oily Qualities are comprehended in the *Fat*, and the auſtere and ſour are Species of the *aſtringent* Quality, differing only in Degree. Beſides the above-mentioned there are reckoned the *aqueous* and *frumentaceous* Qualities; not that theſe repreſent any manifeſt Quality to our Senſe, but on Account of our Familiarity with them, by taking the Word in a large Extent, have obtained that Name. The *Vinous* may be ſaid to be a Mixture of Qualities divers Ways concurring, and admitting of innumerable Diſtinctions, as it inclines more or leſs to this or that Quality. The *Frumentaceous* is that Quality, or Property, which belongs to Seeds adapted for Bread, to Pulſe, and others of that Kind. The Aqueous is inherent in Greens, Herbs, Fruits, and ſome Roots which make but a faint Impreſſion on our Senſe. On this Quality we alſo beſtow the Epithet of *cold*, in a large Senſe, comparing it with the juſt and equal Temperament of our own Bodies. The dulci- *aqueous* Quality, as you may call it, ſeems to have loſt juſt as much of the cold Quality of ſimple Water, as it has acquired of Sweetneſs, though by Comparison with an equal Temperament, it may ſtill be accounted, in ſome Meaſure, cold. Both indeed have a Humidity beyond a juſt Proportion, but the exquiſitely Sweet conſiſts in a moderate Temperament, which being intended to a more than juſt Proportion of Heat, loſes as much of a moderate Share of Humidity. The fat and oily are temperate Qualities, and friendly to Nature, and are beſides endued with a Power of relaxing the over-ſtrained Fibres; they ſeem to have the Pre-eminence above the Sweet, in that Concoction is better performed upon them. Both of them by Length of Time acquire much Heat, and loſe as much Humidity. The Sweet in Time degenerate into the oppoſite Quality, Bitterneſs, when their Sweetneſs becomes incapable of Increaſe. The Fat paſſes into the nidorous, and we have no Name for the Senſation they give us under that State. Things dreſſed and concocted by an external Fire are in much the ſame State as thoſe that ſtruggle with and are digeſted by the native Heat, eſpecially where Acridity is predominant. The acid Quality is among the cold ones, and being of fine Parts has a Power of inciding, and moderately attenuating, and is no leſs wont to exſiccate. The Auſtere has a moderate Aſtringency, and cements, and incraſſates Matter, ſtrengthening the looſe Parts, and conſiſting of groſſer Parts, refrigerates and exſiccates. The

Quality, in being rendered more intenſe, paſſes into the Sour, which is made up of ſtill groſſer Particles, and is a more powerful Dryer. The Salſuginous is hotter than the Sweet, and not much drier than the Fat. It ſeems to conſiſt in ſome Meaſure of fine Parts, which attenuate, and conſume ſuperfluous Moiſture. Being intended, or increaſed, it participates of the Bitter, and becomes hot and dry, and prevailing over Salts by its abſterſive Faculty. Again, the Acrid is much the hotteſt and drieſt of all the Qualities, conſiſting of fine Parts, which eaſily ntrude into the moſt profound Receſſes, inciding, attenuating, pening Obſtructions, and conſuming Superfluities.

So much for ſimple Qualities in general, which being ightly comprehended, compounded ones may eaſily be under- ood; for there are a Thouſand ſuch, with their Oppoſites, and iſtinguiſhing Characteriſtics, the accurate Conſideration where- f will inſtruct a Phyſician to apply them as ſeaſonable Remedies their Contraries. Nothing appears more evident than this to Perſon well verſed in the beſt and moſt uſeful of all Arts, ho imagines and forms to himſelf Complications and Diſtinc- ons of Qualities and Temperaments, according to what he ob- rves in Herbs, Fruits, and other more ſimple Bodies, in order qualify himſelf for undertaking the Cure of various and com- licated Diſtempers.

f FRUMENTACEOUS ALIMENTS, and PULSE, with their DIFFERENCES.

The Frumentaceous and other Kinds, contained under the otion of ſimple *Aliment*, are by no Means to be conſidered ter the Manner of Qualities, ſuch as thoſe above-mentioned, nleſs they are found to have ſomething like it in them, but e proved and diſtinguiſhed, every one, by Concoction, Eli- tion, Denſity, or Tenuity. Some are defective in Point of reſſing and Seaſoning, and by that Means hard and diſtaſte- l, and ſlow and difficult of Concoction. Among Animals, me of a greater Bulk than ordinary are harder, and have ore of Earth in them than others, and they differ alſo in eſpect of Health, Age, Diet, and Exerciſe. And all theſe proved by their Suitableneſs to the peculiar Temperament; the ſame Things do not agree with all, but this with that d not with another, Reſpect being had to the Conſtitution, d Employment, ſo far that if a Perſon be ignorant of theſe ifferences, and how to ſuit them to their proper Subjects, he ll in vain ſet about preſcribing a Regimen.

Since then there is a vaſt Variety of *Aliments*, and a much eater in the Ways of cooking them, I think we cannot do tter than begin with the moſt common, and what moſt ortals feed upon. Wheat then (for this is the moſt common od of the human Race) is but one in Kind, but admits of eral ſpecifical Differences and Properties, for one Sort is of eep Yellow, or a denſer Subſtance, or perhaps both; on Contrary, another ſhall be white, ſmall, furrowed, or mp. Hence you may infer Variety of Properties and Effects. e deep Yellow, or Fallow, is reckoned the hotteſt (for ong Things of the ſame Kind this Colour is thought to ſig- y the moſt Heat). The denſe requires moſt Pains in work- and preparing, and yields Plenty of *Aliment*; but the thin ſtriated owe theſe Properties to ſome Defect in their natural wers. Perſons who uſe Exerciſe ought to feed on the moſt d Wheat, as their Perſpiration and Waſte of Spirits from Parts is greater, and for that Reaſon require the ſtronger more ſolid *Aliment*. But for ſuch as lead an eaſy Life, and diſcharged from Labour and Toil, the lighter Sort is moſt venient, and ſuch as is brought to a proper Degree of Ma- ity; for if this be wanting, it is ſo far weak and imperfect. e ought to be taken that it be not tainted with noxious Ef- ia from neighbouring Bodies, of which it runs great Ha- d when repoſited in Granaries, and that it be not mixed with r Grain. And now we are ſpeaking of the lighter Sort, ch beſt agrees with thoſe who lead a ſedentary Life, ought to be ſomewhat particular. To eat green Wheat derately, can hurt but moderately, for being now in its hu- State, there is no Danger of its Adheſion to the Viſcera, it paſſeth off without any Damage. The daily Uſe of it oiled may have very ill Effects; for the crude and in- ſted Maſs very often ſticks to the Viſcera, whence as from impure Spring a Multitude of Crudities are diſperſed over Body. It is much the wholeſomeſt Way to uſe it thorough- leanſed, and well boiled, as we uſually eat it dreſſed with and Fat. Of Wheat well ground, the fineſt Part is called Flour [παιπάλη] and the coarſeſt Part is what they call the n. The Meal then is a Medium between them, and the ilago is more ſolid as well as finer than the Polenta. Of fineſt and whiteſt Part of the Meal they make the Bread d *Siligineus*, from *Siligo*, as the *Similagineus* is made of *Si- go*, and the *Furfuraceous* [branny πιτυρίας] after the finer s of the Meal are taken away. The συγκομιστὸς [miſcella- s] is made after the Bran only is cleanſed off. All theſe are prepared with Salt and Leaven, or without them; and aked either in Ovens, or heated Pans, or in hot Embers. firſt two are called ἰπνῖται, and κριβανῖται, and the other ἐγκρυφίαι, becauſe in Baking they are hidden in the Embers. I think the moſt wholeſome Way of making them is with Salt and Leaven, and that they are beſt baked one of the former Ways, that is, in a ſtanding or portable Oven; for they are much the better for being free from Aſhes, and other Sordes. But the Salt and Leaven are highly ſerviceable, in conſuming whatever is recrementitious, and at the ſame Time imparting a Sort of Concoction, or more elegant Conſiſtence to the Maſs. For unleavened Bread is more difficult of Concoction, and requires much Exerciſe of Body, which does not comport with their Way of living to whom this Advice is directed. The beſt Bread then is the *Siligineous*, becauſe it affords the moſt Nouriſhment; the next to this is the *Miſcellaneous*; the *Similagineous* comes in the third Place, and the worſt of all is the *Furfuraceous*, which yields the leaſt Nutriment, paſſes ſooneſt through the Body, and is eaſily converted into an atrabilious Juice. As the Siligineous conſiſts of the pureſt Part of the Wheat, ſo it yields the pureſt *Aliment* to the Body. The Similagineous, as being cloſe and compact, though it generates good Blood, certainly requires a longer Time for Concoction. The middle Sort between them, or the Miſcellaneous, is moſt ſerviceable as well as harmleſs, for it is not hard of Digeſtion, like the Similagineous, nor affords ſuch an Abundance of Nutriment as the Siligineous, and thereby obſtructs the Paſſages. It is to be obſerved alſo that Bread differs much in Goodneſs, according to the Rate of Baking, which ought to be underſtood of all Eatables that require Dreſſing. Cakes fried in a Pan made of Meal, Water, and Oil, afford much Nutriment, and that of a ſolid Kind; but require a very ſtrong Stomach, and are fitter for athletic Conſtitutions than others, in whom they are apt to breed crude Humours.

Next to Wheat, Barley deſerves to be conſidered, according to the Saying of a certain Author: *Next to Bread of Wheat, give me good Maza* [a Sort of Barley-Pudding]. Barley is leſs nouriſhing, and more abſterſive, than Wheat, and is beſides of a cooling Nature, and exceeds, on that Account, other frumentaceous Fruits. The Cremor prepared of it is very wholeſome both for healthy Perſons who are of an acrid Temperament, and for feveriſh Patients, whom it refrigerates and moiſtens. If to this you add the Cremor of Almonds, they will make together an excellent Kind of Food, light of Digeſtion, and of good Juice, and endued beſides with an attenuating and abſterſive Virtue; in ſhort, deſirable upon all Accounts. The beſt Barley is white, and of a good Body, and does not prove itſelf any Way vitiated by its Smell.

Zea is reckoned among the light Kinds of Food, when thoroughly cleanſed, and dreſſed after the Manner of a Panada. But it generates not the beſt of Blood, nor affords ſufficient Nutriment, much leſs Strength to the Body; however, it deſerves a Place among light Meats. Millet, though like Zea, it nouriſhes little, yet has an Advantage over it, in that it imparts ſome Kind of Firmneſs to the Body, and breeds Flatulencies. Beans, though abſterſive and nutritive, generate a thick Blood, and a Multitude of Flatulencies beſides, and are therefore, as well as the former, forbidden the Weak and Sedentary. But if Neceſſity at any Time requires the Uſe of them, they are beſt when made into a Gruel, which is more abſterſive, and loſes moſt of its Flatulency in the Dreſſing. But if you add thereto ſome of the carminative Seeds [ἄφυσα] or Honey, you will expel much of their ill Qualities out of them. Kidney Beans are worſe, being accounted of a hot and earthy Nature, and Diſturbers of the Brain and Spirits, cauſing unquiet Sleep.

Chiches yield a ſtrengthening and moderately pure *Aliment*, though it be flatuous, and requires a ſtrong Stomach. But the Broth made of theſe is valued, being abſterſive and diuretic, as participating of a ſalſuginous Quality; wherefore this is wholeſomer than the Subſtance of the Pulſe itſelf. Rice is moderately hot and dry, nouriſhing, and obſtructing the Paſſages; but if you allow it a ſufficient Time to work off and be diſtributed, it produces no ill Effects. Lentils are accounted the worſt Kind of Pulſe, generating a thick, earthy, and atrabilious Blood. They bind the Belly, after two, three, or more Boilings, and throwing away the Liquor; but any other Way prepared, are ſaid to increaſe a Looſeneſs. We ſhall take our Leave of the Frumentaceous and and Leguminous Kinds of Food, with obſerving in general, that they are accounted beſt while green, as retaining in that State ſomething of Humidity; but when, by Length of Time, they have wholly loſt this Property, they become groſs, heavy, and earthy. And as much as juicy Things are preferred to dry, ſo much are boiled to be valued above raw, and Things prepared before crude and unprepared.

Of GREENS, and AUTUMNAL FRUITS, with their different SPECIES.

We are to obſerve, in general, that all Greens generate a thin and wateriſh Blood, in Compariſon of other *Aliments*, and that they differ from one another in Quality and Goodneſs of Juice, and in ſome remarkable Property.

Cabbage, in the firſt Place, is a Sort of Food, that is of a moderately hot, but more of a dry Nature. If it be boiled, and its Juice not exhauſted, it looſens the Belly, but if you give it three or four Boilings, or more, ſtill throwing away the Liquor, and then eat it, it has a binding Effect. And this ought not to ſeem ſtrange, for the Juice of Cabbage is of an abſterſive Nature, but its Subſtance is aſtringent. It is too apt to breed an atrabilious Humour, and therefore is to be ſparingly eaten.

Beet far exceeds Cabbage in Goodneſs, for it generates no ſuch bad Humours as the other, and, by the nitrous Quality of its Juice, looſens the Belly; it is accounted of a moderately hot Nature. The Roots yield a ſtronger Nutriment, and breed a much thicker Blood, than the Green, and beſides cauſe Flatulencies, though in other Reſpects they paſs well through the Body, and therefore may now and then be uſed.

Purſlane and white Orache are Greens of a cold and humid Nature, accommodated to hot Temperaments, and the hot Seaſon of the Year. They generate a thin and watery Blood, and are hurtful to cold Conſtitutions.

Endive too is accounted one of the cold Eatables; it breeds a thin Blood, but much worſe than white Orache. In other Reſpects it is agreeable to the Stomach, and ſtrengthens the Liver by its moderately aſtringent Quality.

Lettuce is much colder and moiſter than the former, and generates a thin but florid Blood, if it be well concocted; and procures Sleep by refrigerating and moiſtening the Brain. However it is to be uſed with Caution, leſt it ſhould render the Brain too cold and moiſt, and ſo relax the due Bent of it, which is neceſſary for the Exerciſe of its Faculties.

Wild Radiſh is of an acrid Quality, and therefore medicinal, by inciding and attenuating the Humours in the Stomach and Viſcera; it is hard enough of Concoction. The Garden Species is of a milder Nature in all Reſpects, for which Reaſon the Wild Sort is neglected, and deſervedly, becauſe, like other Acrids, it cauſes an Efferveſcence in the Blood, by communicating its Acridity; unleſs any one has a Mind to uſe it medicinally.

Smallage, Fennel, and others of that Kind, are of an hot and dry Nature; but they provoke Urine, and relieve under Oppreſſions, being otherwiſe difficult of Concoction, and rather to be uſed as Medicines than Food. Leeks, after Boiling, are more approved than Onions, for they loſe much of their bad and acrid Juice in dreſſing. They are eſteemed very hard of Digeſtion, from their fibrous Subſtance, but, by their natural Viſcidity, render the Humours in the Breaſt fit for Expectoration; they are moderately diuretic.

Raw Cucumbers deſerve no better Character, for they generate raw Humours, and are cold and humid to Exceſs, and difficult of Concoction. Pompions are a much better Food, as being allowed to ripen; though theſe, if they are not well digeſted, nor paſs well through the Body, are apt to corrupt in the Stomach, and to communicate their Depravity to the Humours; but their deterſive Quality renders them eaſy to work off, and they uſually carry with them other bad Juices. However they breed but a thin and watery Blood, if they be never ſo well concocted.

Gourds eaten raw are a Medium between Cucumbers and Pompions; boiled it grows better. They afford an *Aliment* of a cold and humid Quality; and though they are much uſed in Medicine, they are good for little elſe, yielding very little Nutriment, but Plenty of watery Humours, eſpecially when they meet with a cold Stomach.

Amanitæ, (a Species of Muſhroom) Muſhrooms, and Truffles are of a cold and humid Nature, and generate thick and crude Juices; they agree with hot and dry Conſtitutions.

Sparrow-graſs is in beſt Repute of all Greens: It creates not the leaſt Moleſtation to the Stomach in Concoction, is moderately hot, conſiſts of fine Parts, and renders the Blood every Day purer; and if any Green provokes Urine, it is ſure to do it. Wherefore I think it adviſeable not only to eat it in the Spring, when it is at the beſt, but to keep it in Pickle all the Year, becauſe it nouriſhes without Diſpute, and generates a pure Blood; and is alſo highly ſerviceable in opening Obſtructions of the Viſcera, and attenuating the Humours contained in them. So much for Greens.

As to Fruits, we ſhall begin with Cherries. Theſe, in general, are cold and moiſt; ſome of them are ſweet and ſoft, others hard and more aſtringent. The firſt are to be choſen, as being more eaſy of Digeſtion, and paſſing ſooner off the Stomach; the other agree beſt with a bilious Stomach, becauſe they are not eaſily corrupted, and beſides corroborate the Stomach by their aſtringent Virtue. But the immoderate Uſe of them, if they are not corrupted together with the inbred Juices, fills the Body with watery Humours.

The beſt Sort of Apples is what they call *Poma Regia*, which are themſelves of a cold Nature; but they are eſteemed Cardiacal, becauſe they repel the ſmoaky and fuliginous Vapours that annoy the Heart, and thence aſcend to the Brain. They are good to ſettle the Head after Drinking, for which Purpoſe the acid ones are beſt, as being of a cooling Nature, and by the Fineneſs of their Parts qualified to penetrate into the inmoſt Receſſes. The moſt valuable Apples are ſuch as will keep during Winter; for acquiring due Maturity by Time, they are much fitter for Uſe, and not ſo eaſily corrupted.

Peaches and Apricots are alſo of a cold and and humid Nature, and, when they are well digeſted, generate a thin and humid Blood. Beſides, it is uſual with them, if they paſs not ſoon off the Stomach, to corrupt; wherefore I would adviſe thoſe who cannot paſs them through their Bodies without Moleſtation, to abſtain from them, unleſs he can warrant the Temperament of his Body to be accommodated to ſuch *Aliment*.

Plums are more commended than theſe laſt, as being quick in Paſſage; but where they are not ſo, which is the Caſe in ſome Conſtitutions, they are alſo liable to be corrupted.

Pomegranates, as well as other autumnal Fruits, yield light *Aliment*, and always generate a thin Blood. They are friendly to the Stomach, and blunt ſharp and gnawing Juices; for which Reaſon they are very helpful, when Heat predominates in the Body, and the Seaſon of the Year calls for Coolers. In other Circumſtances, it would be imprudent to turn Phyſic into Food, eſpecially when the Temperament runs counter to the Dictates of ſenſeleſs Appetite and Cuſtom.

Quinces are an aſtringent Kind of autumnal Fruit, which bind the Belly. This Effect it has on ſome Perſons, when eaten before other Food, and a contrary one, if taken afterwards. Nor is this to be wondered at; for Aſtringents, by compreſſing the Mouth of the Stomach, forcibly protrude the *Aliment*, as we are wont to ſhew the like Effect upon a Bag or Leather Bottle, by ſqueezing them between our Hands, and thereby eaſily getting out their Contents, eſpecially if they are pretty full, and their upper Part ſtrongly compreſſed.

But among all theſe Fruits, the greateſt Aſtringents are Services, Cornels, and Medlars, which are very much uſed in Medicine, and are otherwiſe good for the Stomach from their Aſtringency. But taken as *Aliment*, they generate Blood Way laudable, and where Coſtiveneſs prevails, are very hurtful to the Head, and other Parts of the Body.

Figs and Grapes, conſidered as Eatables, have the Preference before all autumnal Fruits, in that they breed better Blood, and yield more Nutriment. But even theſe are accounted a flatulent *Aliment*, and are ſuppoſed to generate a lax and flaccid Kind of Fleſh, and to be very bad for Scirrhoſities or Obſtructions in the Viſcera. Figs excel the other, in having a peculiar Virtue of purging the Reins of Gravel. Both of them looſen the Belly, though the Stones are binding: By Age they loſe much of their recrementitious Humidity.

Cheſnuts are Fruits of a cooling, drying, and moderately aſtringent Quality, but generate abundance of Flatulencies. It is certain that they nouriſh; Roaſting very much abates the Flatulency, whereas they would otherwiſe ſtick in the Paſſages, and be very hard of Digeſtion.

Walnuts are accounted hot and dry; the conſtant Uſe of them very much affects the Head and Stomach, and they are very difficult of Concoction. They are thought to be wholeſomer when eaten with Figs, becauſe by their Means they are quicker in paſſing through the Body.

Haſle-nuts may indeed be ſuppoſed good for the Stomach, on Account of their Aſtringency; but are, notwithſtanding, very hard to be concocted, by Reaſon of the Cloſeneſs of their Subſtance, which alſo renders them more binding to the Belly.

Almonds ſurpaſs the former in Goodneſs; but eſpecially the Cremor and Oil drawn from them, which are well known to be effectual, as Lenitives, in Stiffneſs or Roughneſs of the Jaws and Aſpera Arteria, and as Pectorals, in evacuating the Breaſt and Lungs of pituitous and viſcid Humours. Of the Cremor boiled, is prepared a ſorbile Liquor, which is both nutritive and aperient, that ſtrengthens the Reins, and thoroughly cleanſes the Thorax and Viſcera, but is not ſo well accommodated to the Stomach. Almonds eaten whole are hard of Digeſtion; but the Cremor of them mixed with Barley cleanſed and boiled, or ſomething of that Kind, and eſpecially Amylum, makes an excellent Food upon all Accounts, being light, and eaſy of Digeſtion, of good Juice, and generating a fine and florid Blood.

Of QUADRUPEDS, BIRDS, and FISHES, with their SPECI

Of Animals, the Species of which are vaſtly numerous, ſome are terreſtrial, others winged for Flying in the Air, and a third Sort live in the Water. Each of theſe may be diſtributed into Ranks or Claſſes, greater or leſſer, according to their different Kinds. And as to Individuals, with Regard to our preſent Purpoſe, a Diſtinction is to be made with Reſpect to Age; for ſome are young and tender, others in full Vigour, others again are worn with Age. Beſides, we muſt diſtinguiſh between wild and tame, or domeſtic Animals, and between thoſe which are uſed to much Exerciſe or Motion, and thoſe that are uſed to little or none.

As for terreſtrial Animals, or Quadrupeds (with which we ſhall begin) they are all accounted hot, beyond a moderate Degree, affording a ſtrong *Aliment*, which generates a thick Blood, which is beſt accommodated to athletic Conſtitutions. Volatile or aereal Animals afford not ſo much, but a far lighter Nouriſhment. They are, in ſome Meaſure, more dry and fibrous

ous, and generate a thin Blood ; but ſuch as uſe the Water
accounted more humid and carnous than the reſt. Aquatile
imals, generally ſpeaking, are far more humid and cold, than
ſe we have been ſpeaking of ; but there is no ſmall Diffe-
e between them ; for there is the ſcaly, the ſoft, the teſtace-
and the cruſtaceous Kind of Fiſh. And of the firſt of theſe ſome
etaceous, and live in the main Sea ; others live about the Rocks
Shores. Again, among theſe, ſuch as are of a larger Bulk,
d a more plentiful, but groſs *Aliment*, whereas the ſmaller
d a more ſcanty, but purer, Meaſure of the ſame, eſpecially
rocky Sort. And there is no leſs Ground for a Diſtinction
e made between them, with Reſpect to their Food. For
Sea-fiſh are univerſally preferred before ſuch as live in
Waters, a Number of Differences will hence ariſe to be
e on the foregoing Account. Fiſh that are Inhabitants of
Deep, and are continually toſſed and daſhed by the Waves,
etter exerciſed, and feed on cleaner *Aliment*, and their Fleſh
er, and more ſolid, than others are able to ſhew ; for which
ons they nouriſh more, and generate a thick Blood. But
that get their Food in the Mouths of Rivers, or in mar-
nd muddy Places, or where Sinks and common Sewers diſ-
e themſelves, may indeed be fat, and ſavoury enough be-
but have nothing good or wholeſome in them. Rock
that live in pure Waters, have much better Fleſh, are
of Concoction and generate a pure and thin Blood. All
Aquatics, as to Goodneſs of Juice, are preferable to many
e ſcaly Kind, as generating a thin and florid Blood : But
are full of Nerves, which makes them harder of Concoction
the reſt, and they are alſo ſuppoſed to be colder, as be-
oid of Blood. Next to the ſcaly and ſoft Kinds of Aqua-
are the Cruſtated, which are eaſier of Digeſtion than the
and generate a thinner and purer Blood. The Teſtaceous
ſs valued, becauſe they are never exerciſed or moved, for
only Reaſon ſome prefer Scallops becauſe they alone, of
e teſtaceous Kind, are endued with a locomotive Facul-
Power of ſhifting from Place to Place. Teſtaceous A-
s breed a thin and watry Blood, and are beſides hard of
tion, and lie long in the Stomach. Many Perſons chuſe
with Scales and Bones, and they may eaſily perſuade me
their Fleſh is drier than that of others. For that a dry
may be found among moiſt is no more abſurd, than to
with a moiſt Thing among dry, of which latter we have
ples among Birds in the Dunghil-Cock and Pheaſant, and
eſpecially in the Gooſe and Duck, and all aquatic Fowl.

w as we have ſaid that terreſtrial Animals conſiſt of an
Subſtance with Abundance of Blood and Juice, and be-
t is preſumed that they impart to us an *Aliment* of the
Nature with themſelves, it would be adviſeable to chuſe
are young and tender, and ſome of the leaſt in Bulk of
Kind, and not too much inured to Labour or Exerciſe.
the Sluggiſh and Unexerciſed are over-run with Humidi-
nd excrementitious Juices, ſo thoſe which are over-work-
ever in Motion, are dry, and of little Subſtance ; Exceſs
e avoided in all Things. And there is a Difference to be
even with Regard to the Members, or Limbs, of the
Animal, for the outer Parts thereof yield a drier and leſs
entitious Juice than the inner, a ſmaller Limb than a
, being ſo formed by Nature. There is alſo a Way of
theſe Animals by Inſpection of their Fleſh, for in Pro-
as the Fleſh of any Animal degenerates from Whiteneſs,
h is the Goodneſs of its Juice depraved. In Animals of
e Species, it is univerſally obſerved that young ones yield
d *Aliment*, the full-grown a firmer, hotter, and drier ;
old ones the worſt of all, and ſuch as increaſes an atra-
and excrementitious Humour, in Proportion to their
and their Meaſure of Exerciſe.

INE, WATER, MILK, EGGS, HONEY, OIL, SOAP,
EGAR, JUICE of UNRIPE GRAPES, POMEGRA-
TES, and SALT, with their different SORTS.

Wines, there is the thick, the thin, the auſtere, and the
and of theſe, one is white, another of a deep Yellow,
hird red, for we need not mention the intermediate or
ng Colours. Again, ſome Wines will bear much Dilu-
ith Water [πολυφόροι], others but little [ὀλιγοφόροι]. The
re moſt nutritive, and generate a thick Blood, cauſing
tions in the Viſcera. Thin Wines, on the contrary,
etic, and generate a thin Blood. Auſtere Wines are
commodated to the Stomach, but nouriſh little ; the
re juſt the contrary. White Wines are not ſo heating
s. The deep Yellow have the moſt Heat, and next to
e the red ; ſmall Wines, that require but little Dilu-
nd are therefore called *Oligophora*, are the loweſt, and
ect the Head. For ſuch as ſtudy only to cheriſh their
and keep them in good Caſe, rich and high-coloured
will beſt anſwer their Purpoſe ; but let ſuch as have their
and the calm and free Courſe of their animal Spirits
Heart, be content with *oligophorous*, which is white and
cept when an extraordinary Chilneſs and low State of
d direct to the Uſe of more generous Liquors.

The beſt Water is ſuch as no way affects the Taſte, nor is ſtanding like thoſe in Pools or Lakes ; or ſtagnates and corrupts, as in Marſhes and low Grounds, that are impervious to the Winds. Spring-water is more commendable, as well as that which is drawn out of Wells, whoſe Waters are in continual Agitation. Next to theſe, in Point of Wholeſomeneſs, are River-waters, if they run pure and unpolluted from common Sewers, and Ditches, that derive into them all the Filth and Sordes of the neighbouring Cities and Country. Rivers that are remarkable for their cold and chilling Quality, or are ſwelled with melted Snows, are eſpecially to be avoided ; likewiſe all ſuch as run foul, have muddy Bottoms, or take their Courſe near ſome hot Spring. The moſt wholeſome Water is that which is ſoon hot, and ſoon cold, and neither affects the Taſte or Smell with any ſenſible Quality.

Milk is to be conſidered as conſiſting of the ſerous, the buttery, and the cheeſy Parts. The ſerous Part, or Whey, is only to be uſed medicinally, as a Cooler, and Looſener of the Belly ; for it nouriſhes little or nothing, but is a Detergent. Butter, being heating, and its Humidity ſuſpected, is noxious to the Stomach ; but generates Blood, if it be well concocted. It ſoon changes into Bile, if it meets with a hot Conſtitution. The cheeſy Part is earthy, hard of Digeſtion, and creates Obſtructions, eſpecially where the Viſcera are already ſtuffed, or the Paſſages ſtrait by Nature. Milk indeed, taken in the Whole, is a nouriſhing Food ; though it affects the Head that is ſubject to Repletion. The Curd cauſes Obſtructions in the Viſcera. Goats Milk is to be preferred, as being of a thinner Subſtance than the Milk of Ewes or Cows. Chuſe your Cheeſe new, and little ſalted ; avoid all other, as being hard of Concoction, hurtful to the Stomach, cauſing Obſtructions, and generating a thick Blood.

Hens Eggs are beſt, next are thoſe of Pheaſants, then of Ducks, and laſtly of Geeſe. The beſt Part of the Egg is the Yolk, which affords pure and plentiful Nouriſhment to the Body ; but the reſt is harder and ſlower of Concoction *. As to the reſt, what has been ſaid of Animals may be ſaid of their Eggs. The Eggs of Fiſhes are far inferior to thoſe of Birds, both for Heat and Nutriment, as their Fleſh, in Goodneſs, is ſurpaſſed by the others. Eggs dried with Salt are hard of Digeſtion, and corrupt the Blood ; and the ſame may be ſaid of all ſalted Meats.

Honey is good for the Aged, and Perſons of a cold Conſtitution, and in the Winter-ſeaſon ; but hurtful to bilious Conſtitutions, or uſed in Summer. For Honey being of a heating and drying Quality, and, from its Gratefulneſs, familiar to the Palate, where it meets with a Temperament as much too cold, beyond a moderate Rate, as itſelf is too hot, they muſt, between them, generate a pure and temperate Blood. But when two Things of the ſame Quality concur, as the Honey and a hot Stomach, the Degree of Heat is augmented, and the Sweetneſs of the Honey converts it into Bile. Some have a Way of clarifying it, and by that Means, blunting its Acrimony, take off much of its Heat. Being ſo prepared, and mixed with ſome other Kinds of Food, in Caſes where Heat is not in Fault, it becomes moſt wholeſome and medicinal, not only nouriſhing the Body, but gently purging the Belly.

Oil is of a moderately hot and moiſt Quality, but uſually diſagreeable to the Stomach, on Account of its Fatneſs, as well as other Things of an oleous and fat Quality. Wherefore though the moderate Uſe of it with Meats has no ſenſible ill Effect, an immoderate Quantity of it, as its Nature is to ſwim uppermoſt, extinguiſhes the retentive Faculty of the Stomach. Oil extracted from Linſeed, being neither ſo hot nor glutinous, and of finer Parts than the other, is more eaſy of Digeſtion, and leſs offenſive to the Stomach. Oil of Almonds ſurpaſſes them both in Goodneſs, being not only of finer Parts by Nature, and leſs incommodious to the Stomach, but an Inciſive, and an excellent Pectoral, and Emollient of the Jaws. Sapa [*Rob made of Grapes*] alſo makes a Part of our Diet, and is not only leſs heating, and more nouriſhing, than Honey, but cauſes not the leaſt Obſtruction, and moderately looſens the Belly.

Vinegar, except in cold Diſorders, is wholeſome Sauce with Meats ; for being of a cold and dry Quality, of the fineſt Parts, and a great Inciſive, it cuts, attenuates, and abſterges thoſe ill Humours which oppreſs and clog the Stomach and Viſcera ; and where any Food of groſs Parts has been received, it is attenuated, and, as it were, elaborated, by the prevailing Force of the Vinegar.

The Juices of ſour Grapes, called *Omphacium*, and of Pomegranates, are uſeful as Medicines, but unneceſſary otherwiſe ; for though the firſt of them be agreeable to the Stomach, yet, as it conſiſts of groſs Parts, is of a cold Nature, and binds the Belly, it muſt be hurtful to ſome Conſtitutions. The Juice of ſour Pomegranates, though it be of pretty fine Parts, a Reſiſter of Bile, and a Cooler eſpecially of an immoderately heated Blood and Liver, yet it is too incommodious to the Stomach to be uſed. The Abuſe of this alſo binds the Belly, for the Acid has always a Mixture of the aſtringent Quality.

Salt,

Author makes a Miſtake in this Place, for the White of Eggs is excellent *Aliment*, for Reaſons given under the Article ALBUMEN.

Salt, uſed to ſeaſon our Foods, is hot and dry, and moderately excites an Appetite. It exhauſts and exſiccates a redundant Humidity. But the frequent Uſe of it is to be avoided, as it is an immoderate Dryer, increaſes Thirſt, and corrupts the Blood. Uſed only as a Preſerver and Reliſher of our Meats, it can do but little Hurt; it is the immoderate Uſe of it that does the Miſchief.

Of the QUANTITY of FOOD.

The Meaſure and Rule of Eating, in all Kinds of Food, muſt be ſuch as comes ſhort of Satiety; for then the natural Heat will prevail, and have Force ſufficient to make a perfect Concoction. It will be adviſable alſo to take our Meaſures from the Strength of the *Aliments*, ſo as when we ſit down to feed upon very ſtrong and nutritive Meats, we take Care to leave off long before our Appetite forſakes us. In Food that affords but ſmall and light Nouriſhment we may freely indulge ourſelves, and approach much nearer to the Bounds of Satiety, for this Sort is ſoon concocted, but the former ſtays long in the Stomach. Our Meaſure of Drinking muſt be regulated by the Dryneſs or Humidity of our *Aliment*. *Theſe are admirable Rules.*

Whether it be beſt to eat TWICE a Day?

For the Preſervation of Health, and the due Supporting and Recruiting of the animal Spirits, my Advice is, that the Proviſion for the Day be divided into three Parts, of which two are to be taken at Noon, and the third a little before Night. For, by this Method, the Brain will have the Benefit of a continual Humectation, Sleep will the more eaſily be procured, and the Spirits being thus cheriſhed by a perpetual Irrigation, will hold out the longer, nor be liable to take Fire, or be refrigerated, with too long Faſting, for either of theſe may happen, according to the Difference of Temperaments and Seaſons. But if Cuſtom contradicts this Rule, and you are loth to ſpend your Time in doing the ſame Thing twice, let Cuſtom, which has brought upon the natural Faculties a Habit of performing this neceſſary Work at ſuch long Intervals of Time without Injury, be obeyed. Beſides, the Spirits are rendered, though leſs firm and durable, yet brighter, by this Management. *Actuarius de Spir. Animal. Nutritione.*

One Regimen of Diet will by no Means ſuit with all Perſons, but muſt differ according to Conſtitution, Habit, and Way of Life, or any other Circumſtance that may require an Alteration. There are a thouſand Differences in Conſtitutions, whether you conſider the Structure of the whole Frame, or only of the Viſcera, and conſequently as many Diſtinctions are to be made in Diet, in order to ſelect what is moſt proper for each Particular. Cuſtom alſo, as an external Principle, will furniſh out a great Variety on this Head. No fewer than theſe, but almoſt infinite, are the various Kinds and Meaſures of *Aliments* that are adapted to Individuals. One likes this, another that; and every one judges of the Fitneſs of an *Aliment* by his Senſe, and the Effect it has upon him, and founds his Choice on Experiments, and the Teſtimony of his Senſes, which are unerring Guides in theſe Matters. As to the Nature of *Aliments*, with Reſpect to Mankind in general, ſome are of good Juice [εὔχυμα], others of bad Juice [κακόχυμα]. The firſt are ſuch as are endued with the Virtue of generating a pure Blood; the other generate Bile, or an atrabilious Humour. Again, ſuch *Aliments* are ſaid to be of a crude Juice [ὠμόχυμα] which naturally generate a crude and pituitous Humour. Moreover ſome Sorts of *Aliments* are eaſy of Conccoction [εὔπεπτα], others difficult [δύσπεπτα]. The firſt of theſe, we ſay, are agreeable to the Stomach, the others diſagreeable and noxious to the ſame. Some looſen the Belly, others bind it, and every Sort is ſuppoſed to be endued with ſome peculiar Virtue or Property, the Reaſons of which are founded in Nature. But when we ſay that this and that Sort of Food are ſo and ſo qualified, it muſt be underſtood with Reſpect to a rightly conſtituted and well tempered Body. Wherefore when you examine the Liſts of *Aliments*, and ſee one conſiſting of Meats eaſy of Concoction, another of the contrary, one Liſt of Emollients, another of Binders, &c. and are ready to object from Experience, that the Event has not anſwered the Virtues aſcribed to them, you are not to impute it to the Ignorance of the Profeſſors in the Art they pretend to, but to an Alteration in the Thing preſcribed, which is produced in it from ſome Perverſion or Diſtemperature of the whole Body, or ſome Part of the Viſcera; for a ſlight Diſorder in the human Frame ſometimes cauſes a great Alteration in the natural Functions; nay, the Redundancy of any Humour may poſſibly work the ſame Effect. Proper Allowances muſt alſo be made for the Seaſon of the Year, for Age, Calling, &c. for theſe may cauſe conſiderable Changes in the natural Diſpoſition. Take Care therefore of Miſtakes, when you ſee ſuch and ſuch Food paſs off eaſily with a Man, another Sort looſen his Belly, and a third have a contrary Effect, and conſider with yourſelf, whether, and how far towards either Extreme, by any of the fore-mentioned Cauſes, he is removed from a moderate Standard; for, obſerving this Caution, you will know how to appoint him a Regimen of Diet, that ſhall move Step by Step with his Advances, and directly counter to the Progreſs of any morboſe Diſpoſition. Contraries, you know, deſtroy one another, and ſo produce a good Effect; and Things alike are confirmed by Union. Upon the Whole, then, *Aliments* ſeem to vary according to the Temperaments they meet with; and if we are not able to explain in what Manner they act, or how we thus become the Subject of their Action, it is enough that we are convinced by Experience, though ſometimes Reaſon may, perhaps, ſucceed in her Enquiries.

The Quantity of Food muſt vary according to Age, Seaſon, Conſtitution, and Nature of the Food itſelf. Young Perſons not full grown, and ſuch as are in the Flower of their Ag demand more Suſtenance; the firſt, as not yet arrived at their juſt Dimenſions, want more than ordinary Nouriſhment; and the latter, becauſe of the Vigour of their natural Heat, and a greater Meaſure of Exerciſe withal, have ſtrong and quick Digeſtions, and therefore require as much Food as the other. But Perſons in a State of Life declining to old Age, muſt dimini their Diet, as their Vigour decays, and their Years incre upon them; for if they load themſelves with more than th natural Heat is able to concoct, Crudities are generated in A bundance, and lay the Foundation of many grievous Diſte pers that accompany them to the End of Life. As to Seaſo if we Regard the Strength of the natural Heat, the Wi requires moſt *Aliment*, next to that the Spring; and a mo rate Quantity agrees beſt with Summer. For in Winter th natural Heat retires inwards, and is ſuppoſed to augment th Force of the concoctive Faculty; but in Summer, it is w kened, and exhales, being called forth, and diſſipated by th external Heat of the Seaſon. The natural Excretions are leſs to be minded, for if theſe do not proceed according to Cu tom, a proportionable Quantity of Food muſt be ſubtract Again, the Nature of Foods, in Reſpect to their Nutrition, a Matter no leſs worthy of Conſideration. Fleſh, eſpecially large and full-grown Animals, is ſuppoſed to be the moſt nu tritive of all Foods. And next to theſe are the younger a ſmaller. Inferior to theſe, in Point of Nouriſhment, are exanguious Meats, and Vegetables in particular, which di alſo as much from one another, in this Reſpect, as they are ſurpaſſed by ſenſitive and locomotive Beings. The ſureſt Ru then is, when the Body wants Nouriſhment, to chuſe ſuch Fo as will beſt ſupply its Neceſſities; when it grows luxuriant, betake ourſelves to Meats of a leſs nouriſhing Kind. If the A petite be voracious, becauſe the extraordinary Heat of the St mach ſoon conſumes, or makes away with whatever comes to it, though the Body ſtands in no Need of Repair; in th Caſe, if nothing contra-indicates, Meats of ſmall Nutriti and of ſlow Concoction, are adviſable. Moreover, ano Conſideration, of no ſmall Importance, is the Perſon's Mea of Exerciſe and Motion. For Bodies accuſtomed to much vehement Motion, ſtand in Need of ſtronger and more cop *Aliment*, than ſuch as are indulged in Eaſe and Reſt. An Thing, not to be neglected, is, Whether the Belly be ſolu and the Pores free for Exhalation in the Bath, for theſe co bute not a little to a good Digeſtion, and conſequently re a ſuitable *Aliment*. To proceed; as the Quantity and Q ty of the Food, ſo the Times and Seaſons for receiving it, to be heedfully regarded. If Concoction be perfected, the S mach is free for a Dinner; but if an Error be committed Concoction, we are to beware of receiving *Aliment* upon Cr ties. For when crude Juices are mingled one among another, may reckon ourſelves very fortunate, (as it rarely happens,) we can diſcharge them upwards or downwards. But it ge rally falls out, that the ill Humours ſettle themſelves in the B ly, or Viſcera, and there breed Vertigoes, Eructations, G pings, and other Diſorders. If the Humours diſcharge th ſelves outwards into the Limbs, they are attended with all Symptoms of a Defluxion, as the Gout in the Feet and J and the conſequent Diſorders. Therefore he that intends a gimen of Diet, muſt not determine himſelf to one or two M a Day, but to eat after perfect Concoction. For two M may be too much for him, and even one, if choſen of imp Meats, and his Digeſtion be vitiated, may be hurtful; b him, however, feed on pure and light Food, and ſuch as i miliar to his Temperament and Diſpoſition. For it m obſerved, that among ſeveral Sorts of Meats, of good J and eaſy of Concoction, ſome are more acceptable than o on Account of a certain grateful Propriety and Familiarity the Stomach and Palate. Hence the ſame *Aliment* is not offered to all indiſcriminately, without the leaſt Variation; ſometimes a Defect in one Food, compared with anoth better Juice, is more than compenſated by the good L of the Appetite towards it. And this ought not to ſeem ſt but very reaſonable, that Food with which our Body is liarized, ſhould prove moſt grateful and nutritive. For there are various Temperaments and Qualities in *Aliments*, very reaſonable and natural, that we ſhould prefer ſuch as with the Diſpoſition of our own Body, or at leaſt of our mach. *Actuarius de Methodo Medendi. Lib.* 3. *Cap.* 12.

Aliment in too great a Quantity, though of good Juice, ally cauſes Crudities, Vomiting, and a Looſeneſs; *Aliment*

s Quantity than Neceſſity requires, renders the Body empty,
n, weak, and unable to perform its accuſtomed Duties for
ant of Spirits. *Aliment* of bad Qualities generates a Cacochy-
, which is known by the prevailing Quality. Again, a
ſon oppreſſed with the Quantity of Food is immediately
ſible of the Hurt he receives; but the Evils proceeding from
od of bad Juice are not felt under a long Time. Hence,
ugh a Man may ſeem to bear bad Diet, and to come off well
unhurt, he cannot be ſaid to have eſcaped whole and unda-
ged, but the Iſſue is to be expected a good while, when the
ſchief at laſt will appear in the Form of a putrid Fever, or
ak out in Scabs, Tubercles, or other pruriginous Affecti-
of the Skin. Wherefore we ought not only to take Care
t our Food be moderate in Quantity, but alſo that this mo-
ate Quantity offend not in Quality, that we may not feel
bad Effects of it hereafter; except in Caſes that require a
dicinal Diet, which ought then to be followed for the
ter Security of the Patient. But an *Aliment* of bad Juice,
yet medicinal, is quite different, as to its Uſe, from *Aliments*
which the Body is accuſtomed. For in ſound and temperate
nſtitutions, that want Nothing which is exceſſive in any Re-
, whatever agrees not in a like moderate Commixture of
Elements, we place under the general Title of *Cacochyma*, or
ments of bad Juice: But *Aliments*, which by their Exceſs in
Quality ſupply the Defect of it in our Bodies, and ſo re-
it to a juſt Temper, we call ***medicinal***. *Actuarius de Me-*
Medendi Lib. 3. *Cap.* 9.

s the preceding Rules of Actuarius are generally excellent,
give many uſeful Hints, I could not deny myſelf the Sa-
ction of inſerting them.

the preceding Pages I have given the Sum of what the
ients have wrote with Reſpect to *Aliments*. I ſhall now pro-
to give the Sentiments of Hoffman, who has treated the
ect more ſcientifically, and has given better Reaſons for his
rtions.

he Health of the human Body evidently depends upon the
ntity and Quality of the Blood and Juices; whence it is
, that all thoſe *Aliments* which preſerve and maintain a juſt
perament, and a due Quantity of theſe, are beneficial to
th, and that ſuch as have a contrary Tendency are to be
oned unwholeſome.

r Blood of a juſt Temperament, and neither exceeding nor
g ſhort in Quantity, as it circulates moſt eaſily through the
, and is clear of all foreign Particles, is admirably adapted
uriſh the Parts and increaſe Strength; ſo that it may be
the real Treaſure of Life.

od of a due Temperament, and benign Quality, by its
eſſive as well as inteſtine Motion, which continue during
hole Courſe of Life, is not only continually waſted, but
iſe acquires a morbid Diſpoſition, and degenerates into an
e and excrementitious Maſs.

perience proves, that the Blood of thoſe who have faſted
s converted into ſaline and bilious Excrements, which are
rged by Stool, Urine, and Sweat, and even loſes that
l balſamic Quality which is neceſſary to Health, and
Maſs of Humours is by this Means rendered ſo thin and
that it becomes intirely unfit for nouriſhing the Parts.
appears ſtill more plainly from continual Fevers, and hectic
ders, the Nature of which Diſeaſes it is to waſte the Juices,
onvert the moſt benign Humours into uſeleſs, ſalt, and
Excrements. Labour alſo, and Exerciſe, becauſe they
nt the inteſtine and progreſſive Motion of the Blood con-
ly, leſſen the Quantity of ſuperfluous Humours, as Per-
f full plethoric Habits experience, to the no ſmall Advan-
f their Health.

auſe the Blood, by its continual Motion, is waſted and
ted into an excrementitious Maſs, utterly unfit for nou-
g the Solids, or recruiting that fine Fluid which ſupplies
dy with Senſe and Motion, it is plain that Life and
cannot be preſerved, unleſs theſe natural Motions be con-
y repaired; and new Juices ſubſtituted in the Room of
hrown out of the Body as excrementitious.

Reaſon is therefore plain, why People ſtand in Need of
al INGESTION and EGESTION, or, in other Words,
ing, Drinking, and Evacuations, for Health cannot long
erved, unleſs the Place of the corrupted Humours diſ-
d be ſupplied by new Juices.

d Foods of a good Quality, as well as Liquors, recruit
Juices; and therefore all thoſe *Aliments* that are nearly
ſame Nature with the Blood, and eaſily mix with it,
to be reckoned amongſt wholeſome *Aliments*.

d and Juices fit for Nouriſhment are of a benign Quality,
e Temperament, and reſembling a Jelly, conſiſting of
arthy, aqueous, oily, and eaſily moveable Particles, tho-
y mixed with each other: Hence all thoſe *Aliments*, which
with a mucilaginous Juice of a due Temperament, are
t for SANGUIFICATION, or the Production of new

Fleſh of young Animals, their Juices, and Broths made of them, eſpecially of young Beef, Veal, and Mutton, afford large Quantity of Jelly, and on that Account are juſtly reckoned among the *Aliments* which are moſt quickly converted into Blood. All Sorts of the Hen Kind and Pigeons, with their Young, are likewiſe well diſpoſed for Nouriſhment, becauſe they afford a more ſubtile Jelly than the animal Fleſh above-mentioned, though in a ſmaller Quantity.

It is worth while to obſerve, that the CLEAN ANIMALS, which, according to Moſes, were uſed by the Iſraelites in their Sacrifices, were principally ſuch as afforded a good and wholeſome Nouriſhment, ſince they abounded more than others with nutritive mucilaginous Juices.

Broths and Jellies made of Fleſh are therefore, not without Reaſon, preſcribed for recruiting the Strength of thoſe who either by large Hæmorrhages or violent Fevers have ſuſtained a Loſs of Blood; and People who feed much upon thoſe mucilaginous *Aliments*, which the French above all other People in the World do, can bear to have Blood taken from them more frequently, and in larger Quantities, than People who are not ſo much accuſtomed to them.

The Chyle is the immediate Matter of the Blood, and reſembles a natural Emulſion made of ſoft, oily, inſipid, watery, and mucilaginous Particles; for this Reaſon all thoſe *Aliments*, into the Compoſition of which Parts reſembling Chyle enter, are proper for nouriſhing the Parts, and producing Lymph and Blood.

Milk, which is nothing but Chyle, is an univerſal *Aliment*, and, in Reſpect of Nouriſhment, to be preferred to all others.

And for this Reaſon Milk is given as the firſt *Aliment*, not only to Children, but to robuſter Animals, that their Bodies may grow the faſter, and acquire Strength and Maturity the ſooner; for Food that is ſolid, of a firm Coheſion, or hard Digeſtion, does not well agree with young and tender Bodies, becauſe the Stomach and Inteſtines have not that Strength and Force which are neceſſary for the Digeſtion and Expulſion of ſolid Foods. Hence a Reaſon may be aſſigned, why ſome People, eſpecially the Swiſs, who are great Lovers of Milk, and make much Uſe of it in Food, grow ſo very large and tall, that ſcarce any Nation in Europe can ſurpaſs them in that Particular. Pliny, Tacitus, Juſtin, Cæſar, and Saluſt give us Accounts of many who by the Uſe of Milk have lived to a very great Age; and Galen, *in Lib.* 5. *Cap.* 7. *de Sanitate tuenda*, mentions a Man who, uſing no other Food than Milk, lived to more than a hundred Years. In Holland, and ſome Northern Countries, and likewiſe in Frieſeland, many uſe Milk for their ordinary Drink inſtead of Beer; and Ovid gives us the Senſe of Antiquity with Regard to Milk in the following Lines, *Lib.* 4. *Faſt.*

Lacte mero Veteres uſi memorantur & Herbis,
Sponte ſua ſi quas Terra ferebat.

All mild Seeds which abound with a milky Juice are to be reckoned among the Claſs of nouriſhing *Aliments*.

Hence appears the Reaſon, why Seeds and Grains of moſt Kinds, ſuch as Barley, Wheat, Oats, Rye, Beans, Peaſe, Almonds, Cheſnuts, Pine-nuts, Fiſtick-nuts, Rice, Mays, and Turkiſh Corn are extremely proper for nouriſhing Animals, and why the Meals of theſe baked into Bread are the principal and moſt general *Aliments* made Uſe of; from this likewiſe one may account for People's being able to live tolerably on Bread and Water only.

Among all other *Aliments* Bread holds the principal Place, nor can we poſſibly want it without injuring Health. Its Uſe is proper at all Seaſons, and accommodated to all Conſtitutions, and may therefore properly be called an *univerſal Aliment*; nor can Fleſh and other Subſtances be taken alone, and without it, ſince in that Caſe they create a Nauſea.

The Texture of the Parts of Bread is admirably adapted to the Nature of the nutritious Juices; for it is mixed with mild, oily, and mucilaginous Particles, and likewiſe with a ſubtile acid Salt, which are very grateful to the Stomach, and quicken the diſſolving Power of the ſalival and fermentative Juices. But as all Bread is not made of one and the ſame Grain, ſo one Kind of Bread is preferable to another with Regard to its healthful Qualities. The beſt and moſt nouriſhing Bread is made of dry Rye-meal, not very white, but mixed with the ſmaller and finer Parts of the Bran. For by a chymical Analyſis, blackiſh coarſe Bread upon Diſtillation affords more Oil, which diffuſes a more agreeable Flavour, and more effectually recruits Strength, than that which is drawn from fine Bread. But that which is made of Barley, Oats, Turkiſh Corn, or even of Acorns or Cheſnuts, is heavier on the Stomach, nor is it ſo effectual for repairing loſt Strength. See BOMPERNICKEL.

Eggs, becauſe they contain a very fine, balſamic, pellucid Lymph, which approaches neareſt to the immediate Matter of Nouriſhment, therefore afford a very ſpeedy Nouriſhment to the Parts.

Eggs afford a very ſpeedy Nouriſhment, if they are new laid and ſoft, according to that Maxim of the *Schola Salernitana*, *Si ſumas Ovum, molle ſit atque novum*, i. e. *If you incline to eat* *an Egg, let it be ſoft, and new laid.* The Yolk contains many unctuous, fat, and ſulphureous Parts; the White, on the other Hand, conſiſts of moiſt, balſamic Parts like thoſe of the Serum, ſo that if any Food is univerſal, this is certainly ſuch, and is in a peculiar Manner adapted to increaſe the ſeminal Liquor. Eggs are of all other Things moſt proper when the Body, either weakened by an Effuſion of Blood, or waſted by the Shocks of a Fever, requires a very ſpeedy Supply of Nouriſhment. For this Reaſon the *Talmud* adviſes poached Eggs for thoſe who have had a Vein opened. They are vaſtly beneficial to old Men, who ſtand in Need of good Nouriſhment, and ſuch as may be eaſily digeſted by the Stomach. I do not, on the contrary, approve of their being uſed by thoſe who have their Stomachs loaded with Bile, or any Collection of acid Humours, becauſe the more Bodies abounding with impure Juices are nouriſhed, the more they are injured by that very Means. They are known to be freſh by their being pellucid when expoſed to a clear Light, and by their retaining their milky Liquor, after having been boiled over a ſtrong Fire.

Cheeſe and Butter are univerſal and moſt excellent *Aliments.*

Since Milk is reſolved into Butter and Cheeſe, and ſince the Butter contains its oily, and the Cheeſe its mucilaginous and terreſtrial Parts, it is therefore plain that theſe two, eſpecially with the Addition of Bread and Water, muſt be a very valuable and univerſal Nouriſhment, fit for Perſons of all Ages and Conſtitutions. The newer Butter is, it is of Conſequence at once the more grateful to the Stomach, and the more conducive to Health; but when long kept, it grows fœtid and rancid. The too great or too frequent Uſe of it, by relaxing the Fibres of the Stomach, weakens its Tone, and excites Nauſeas. Butter joined with Cheeſe is likewiſe very nouriſhing; but Cheeſe ſhould be neither too new, nor too old. If too new, it loads the Stomach, and binds the Belly; if too old, it increaſes the Acrimony and Impurity of the Humours, as it is endowed with a poignant Taſte, and a fœtid Smell.

As the Blood, the nutritive Juice, and in general all the Parts of the Body, are made up of three Elements, viz. Firſt of one which is ſulphureous, oily, and inflammable: Secondly one of an earthy, ſubtile, alcaline Nature, which is nevertheleſs more fixed: Thirdly one of an aqueous; ſo the ſeveral Kinds and Virtues of *Aliments* may be moſt commodiouſly reduced to theſe three Claſſes.

Aliments of theſe three ſeveral Qualities, duly mixed with one another, afford a proper Nouriſhment for the human Body.

The Fleſh of Animals, eſpecially when roaſted, affords the Body its principal Supply of the ſulphureous Part; but it is to be obſerved, that wild Animals are preferable in this Reſpect, to thoſe of the tame and domeſtic Kind, *becauſe their Oils and Salts are exalted by their habitual Exerciſe.*

That the Fleſh of Animals contains more of a ſubtile Oil, than Vegetables, is plain from this, that in the Summer Fleſh very ſoon turns putrid and offenſive, which is not found to be the Caſe with Reſpect to Vegetables.

Vegetables have an Acid in their Compoſition, and their Oils, excepting ſome of the hotter Herbs, are for that very Reaſon ſo much the milder. Animals, on the other Hand, have no Acid in their Compoſition; for all the Parts of them, ſubjected to Diſtillation, yield a ſubtile Oil, and a volatile Salt; and this hot Oil is what principally excites an inteſtine and fermentative Motion in the Blood, and proves the Occaſion of the penetrating and diſagreeable Smell which is felt upon Putrefaction.

The roaſted Fleſh either of wild Beaſts, or wild Fowls, furniſh the Blood with greater Store of a light ſulphureous Subſtance, than boiled Fleſh, or thoſe of tame Animals.

The Fleſh of wild Animals, and wild Fowls, is undoubtedly lighter, more ſubtile and oily, but fraught with a ſmaller Quantity of mucous balſamic Matter, than the Fleſh of tame Animals; becauſe wild Animals uſe more violent Exerciſe, breath a freer and purer Air, and feed upon drier *Aliments.* Add to this, that by the very Roaſting much of the Humidity is evaporated, by which Means the oily Principle diſentangling itſelf from the reſt of the component Parts, and being exalted by the Fire, enjoys its full Liberty, and has the Aſcendant over the other Parts.

Among the *Aliments* which furniſh the Blood with its humid Parts, of Animals Fiſh, and of Vegetables Pot-herbs, the milder Roots, and ſome Summer Fruits, are reckoned the principal.

Fiſh ſubjected to Diſtillation yields much Phlegm, little Oil, and very little volatile Salt. *This Aſſertion is a little too general.* See ALCALI.

Becauſe Fiſh contains only a very ſmall Quantity of Oil and volatile Salt, it does not ſo eaſily turn putrid as Fleſh, and for this Reaſon is generally leſs hurtful in Fevers than Fleſh. *I ſuppoſe Hoffman means River Fiſh, which have Scales.*

To the third Claſs of *Aliments* which ſupply the Blood with its fixed and earthy Parts, belong all Kinds of Grains, as the ſeveral Kinds of Bread, Rice, Peaſe, Beans, Lentils, Cheſnuts, Almonds, Cacao, Cheeſe, &c.

From what has been ſaid it will appear, that all ſuch *Aliments* as are of a mild Quality, and reſemble the Chyle and Blood, are fit for Nouriſhment.

All ſuch *Aliments* therefore as either recede from, or are quite oppoſite to the Nature of the Chyle and Blood, are unfit for Nouriſhing the Parts.

All *Aliments* in which there is too much of an Acid, are improper for Nouriſhment; becauſe Milk and Blood will not mix with an Acid, which is quite oppoſite to their Natures, and induces a Coagulation of the circulating Juices.

Hence the Reaſon is plain why the too liberal Uſe of Sallads, Summer Fruits, eſpecially whilſt crude and unripe, Vinegar, ſour Ale, and Wines that abound with an Acid, are ſo remarkably prejudicial to Health.

No Salt whatever can be mixed with the Blood, Chyle, and Milk, for which Reaſon all Salts, and all Foods too high ſalted, muſt be improper and unfit for Nouriſhment.

Blood and Chyle never incorporate with ſpirituous Liquors, but rather ſeparate from them; whence it is eaſy to judge how detrimental the free Uſe of them is, both to Health and Nouriſhment.

All ſweet Things, as Sugar, and Honey, have no Affinity with the Blood and Chyle, but rather recede from their Nature, ſince they have an exquiſite Taſte which the Blood, Chyle, and nutritive Juices have not.

Though ſweet Subſtances conſiſt of a temperate Mixture of Parts, and may on that Account ſeem proper for Nouriſhment, yet the ſweet Particles are Salts of a peculiar Kind, which are diſſoluble in Water; hence they cannot be joined to the Subſtance of the Parts, ſince they are liable to be diſſolved by the circulating Fluids.

Aliments proper for preſerving Health ought not only to contain a laudable Juice, but ſhould likewiſe be eaſily diſſolved by the Stomach. Hence it is plain, that all thoſe Kinds of Food, which on Account of the Cloſeneſs and Compactneſs of their Texture are with Difficulty diſſolved, are for that very Reaſon leſs conducive to Health.

The Fleſh of old Animals, Fleſh dried in the Smoak, hard Eggs, Sea Fiſh almoſt of all Kinds, and very coarſe Bread, on Account of the rigid and complicated Texture of their Parts, are for that very Reaſon with ſome Difficulty concocted by the Stomach, and converted into Juice and Blood.

As theſe hard and compact Foods require much Warmth, Abundance of fermentative and ſalival Lymph, and a ſtrong Stomach to disjoin and break their complicated Textures, ſo they do not agree but with robuſt Conſtitutions, and People that labour hard; for this Reaſon the Inhabitants of ſome Northern Countries, ſuch as the Swedes, the Norwegians, the Laplanders, the Finlanders, the Weſtphalians, and the Pomeranians are not eaſily injured by Foods of this Kind, becauſe their Stomachs being not only naturally vigorous, but likewiſe ſtrengthened by Cuſtom, eaſily diſſolve and digeſt them.

Of Vegetables, Roots, Fruits, and Herbs, eſpecially if crude, and before they are ſufficiently ſoftened by Boiling, are difficultly concocted by the Stomach, becauſe their fibrous Texture is hard to be diſſolved.

Aliments of the vegetable Kind are for that Reaſon likewiſe heavy on the Stomach, ſince they produce many Flatulencies, which diſturb and diſorder the primæ Viæ.

To this Claſs belong all unripe Fruits, Peaſe, Beans, Turneps, Rape, bulbous Roots, the ſeveral Kinds of Cabbage, Garlick, Onions, Radiſhes, Sallads prepared of Lettice and other Herbs, Pears Apples, Prunes; Honey and Water, Honey, Muſt, and all ſweet Fruits of whatever Kinds; for ſuch is the Nature of theſe that they eaſily run into a Fermentation, or even become ſour, and by Reaſon of their viſcid Tenacity are ſolved into Fumes and Vapours.

The tenacious and glutinous Parts of Animals, among which are the Stomach, the Inteſtines, the Spleen, the Kidnies, the Beaks, the Vulvæ, the Ears, the Skins, and the Claws, are of hard Digeſtion, and with Difficulty yield to the Menſtruum of the Stomach.

Fat Subſtances are with Difficulty digeſted by the Stomach; for if an Acid, with which Vegetables principally abound, be added to them they run into a Coagulum.

Fat Foods require an alcaline Liquor for breaking and disjoining their complicated Textures; for which Reaſon a great Deal of Bile is requiſite to prevent their proving hurtful to the Stomach; for when an Acid in the Stomach attempts the Diſſolution of fat Subſtances, hot ſulphureous Vapours and Eructations are cauſed, which are very troubleſome to the Alimentary Tube.

The more viſcid, rancid, and old, fat Subſtances are, they are for that Reaſon ſo much the worſe. The new and recent are better, and ſooner yield to Solution and Digeſtion.

Hence the Reaſon is plain why the Fat of Beef is not ſo hurtful when uſed in the Preparation of Food, as the Fat of Mutton, or that of the Kid, the Sow, or the Gooſe.

ewiſe may a Reaſon be aſſigned why old Fleſh ſuch as is har- ed in the Smoak, becauſe of the Rancidity which Fat con- ts, and Bacon which has acquired a Ruſtineſs and yellow our, are highly improper for the Preſervation of Health.

n order to the Performance of the Office of Nutrition, it is eſſary that the ſmall Mouths of the internal rough Coat of Inteſtines abſorb the Chyle, and convey it to the Blood; which Reaſon none of thoſe *Aliments*, which either ob- ct, or too much corrugate its Mouths, can be uſed, without ome Meaſure injuring Health.

ince the effete Maſs of *Aliments* drained and exhauſted, by Separation of the Chyle from it, ought by the expanſive and ractive Motion of the Inteſtines to be thrown off from n, it muſt of Courſe follow, that all thoſe *Aliments* are pre- cial to Health which either paſs through the Inteſtines with iculty, ſtop their Motions, or weaken their Tone, and im- their Strength, by ſuppreſſing Excretion ſo neceſſary to lth.

ll *Aliments* that are acid, aſtringent, mouldy, glutinous, d, auſtere, or ſuch as eaſily run into a Coagulum, are for Reaſon prejudicial to Health, becauſe they weaken the Tone he Inteſtines, and by that Means prevent the ſuperfluous es from being diſcharged.

his Characteriſtic of Unwholſomeneſs belongs to all unripe mer Fruits, Pears, Quinces, Pomegranates, Medlars, the ts of the Thorn, and Myrtle, Sea Biſcuits, the Cruſt of d, Bread that is mouldy, hard, too coarſe, or taken warm the Oven, all farinaceous Subſtances, Gruels made of Peaſe, s, Lentils, and Millet, Cakes or Bread not ſufficiently ented, Cheeſe eat too freely, Sheeps Milk, and in fine all y and fat Subſtances; all which *Aliments* do ſtill more rkably hurt the Conſtitution, if Wine, Acids, or cold ors, are uſed along with them; for by this Means they educed into a firm Coagulum, which adheres immoveably e Coats of the Inteſtines, and incruſtates the Orifices of ſmall abſorbent Veſſels; whence proceed copious Flatulen- nd Spaſms.

he Unwholſomneſs of *Aliments* is to be eſtimated from their iring the fermentative and ſolutive Powers of the Stomach, by that Means Crudities are generated.

he Action of the fermentative Juice is impaired and wea- by all fat, oily, and very ſweet Subſtances; by Honey, omel, or Honey and Wine, new Grapes, Summer Fruits, Figs. All Pulſes, farinaceous Subſtances, Gruels made of t, lukewarm *Aliments*, the fibrous Roots of Pot-herbs, e, and curdled Milk, all which are the more prejudicial to h, the greater Quantities of them are taken into an emp- omach.

ery Acid, and every Putrefaction, are prejudicial to Health; or that Reaſon all *Aliments* which eaſily grow ſour or pu- n the Stomach, may be juſtly reckoned unwholſome.

Acid is equally injurious to the Primæ Viæ and to the , for it deſtroys the alcaline and balſamic Quality of the coagulates the Chyle, and retards the Expulſion of the ment. Add to this, that when it is mixed with the Stagnations of the Juices, and Infarctions of the Viſcera, nerated. (This Aſſertion is a little too general. See the e ACETUM.) And when the firſt Organs of Digeſtion are d by putrefied *Aliments*, and the Putrefaction extends it- wards the more internal Parts, it communicates its own iſpoſition to the moſt wholeſome Juices. Among thoſe which by their long Continuance in the Primæ Viæ grow may be reckoned all Summer Fruits, Milk, Honey, al- ll Sorts of Tarts, ſweet Wines of ſeveral Kinds, Muſt, omel, and fermented Bread; and thoſe *Aliments* which grow putrid by a long Stay in the Primæ Viæ are boil- eſh; for of all *Aliments* uſed by us, none have a greater ncy to Putrefaction than Fleſh. Wherefore it is for very le Purpoſes, that Nature in acute Diſeaſes, and in Habits ding with impure Juices, does of her own Accord loath hor Fleſh, and thoſe Phyſicians laudably aſſiſt Nature in ng on her Deſign, who in Caſes of that Nature forbid Patients the Uſe of nouriſhing Broths; for *Aliments* of Kind wonderfully add to the Putrefaction which is the Cauſe of the Malignity. For this Reaſon when Peſ- s or other epidemical Diſeaſes rage, it it adviſable to ab- rom Fleſh, and uſe acidulated Liquors, which ſtrongly Putrefaction, and by that Means prove remarkably ſer- e; but this is to be underſtood of thoſe Conſtitutions are infirm, weakened with Fevers, or loaded with im- uices; ſo that Hippocrates was very juſt in his Obſer- That *the more Bodies abounding with impure Juices are d, the more they are injured*. Corrupted Fiſh, putrid or that of Animals which laboured under any Diſeaſe, f all other Kinds of Food the ſtrongeſt and moſt direct ncy to produce a Putrefaction in the Body. *Hoffman. Me- Rationalis Syſtemat.*

A CHYMICAL EXAMEN of FLESH-MEATS commonly uſed for BROTHS. By M. Geoffroy the Younger. *Memoirs de l'Acad. Roy.* 1730.

Of all *Aliments* thoſe derived from Vegetables muſt be fitteſt for ſick Perſons, becauſe, being leſs complicated with Reſpect to their Elements, they ſeem to bear a greater Analogy to Nature, as M. Lemery has proved in one of his Memoirs. How reaſonable, ſoever this appears, Broths made of Fleſh are eſtabliſhed by Cuſtom, and generally paſs for the moſt wholeſome and neceſſary Food in Caſes of Sickneſs, when it is almoſt the only Diet in Uſe.

It is only by an Examen of the Principles contained in this Sort of *Aliment*, that we are qualified to give it with Diſcretion, ſo that we may avoid on the one Hand the Danger of preſcribing it too freely, in Circumſtances where a ſtrict Diet is almoſt the only Remedy, and yet not be too ſparing on the other Hand, when the Patient exhauſted by long Sickneſs requires a gradual Augmentation of *Aliment* for the Recovery of his Strength. For our Satisfaction in this Point, and that we may know how to adjuſt the Proportions of ſuch Food in whatever Caſes may offer, I have made an Analyſis of ſuch Fleſh-meats as are moſt in Uſe, or contain an *alimentary* Juice which is accounted ſalutary; ſuch as Beef, Veal, Hens, &c. I undertook this Diſquiſition only becauſe the Analyſis of carnous Foods had not been carried ſo far as that of Vegetables.

The late M. Dodart, whoſe Memory is ſo much reſpected by the *Academy*, and who was diſtinguiſhed for his extreme Accuracy, contented himſelf with ſaying, in 1702, That he was of Opinion, with the late M. Bourdelin, that the Fleſh of Animals boiled to a Jelly, and afterwards diſtilled, yielded no leſs Quantity of volatile Salts, than if they had been diſtilled raw. Now as it appeared that none had been ſo careful as to determine the Quantity of the Extract which theſe Jellies left after Evaporation, and what theſe Fleſh-meats had communicated of their Principles to the Water in which they had been boiled, I undertook the Affair, with an Intention to adjuſt that neglected Part according to Analyſes which are already well known. I propoſed to myſelf to diſcover the Quantity and Quality of the Principles of the raw Fleſh-meats which are put in Diſtillation; what Principles they impart to thoſe ſolid Extracts which are made out of them by Ebullition and Evaporation; the eſſential Difference of thoſe volatile Salts which are drawn from them; what Principles are yet further contained in theſe Meats, after they are exhauſted of their Juices, and become dry; laſtly, I ſhall determine, in another *Memoir*, the Quantity of Nutriment that is to be expected from the Bones and oſteous Subſtances in the Dreſſing.

BEEF.

To begin with Beef, I took a thick Piece of the ſame, and having cleared it of the Fat, Bones, Cartilages, and Membranes, had it cut into Slices of a Quarter of a Pound Weight. One of theſe I diſtilled in a Bath Heat, without any Addition; it afforded two Ounces, ſix Drams, and thirty-ſix Grains of Phlegm, or Humidity, which paſſed into the Receiver, and the dry Fleſh, which remained in the Retort, was reduced to the Weight of one Ounce, one Dram, and thirty-ſix Grains. The Phlegm had the Smell of Broth, and had ſome Characters of a volatile Salt, for it precipitated a white Powder from a Solution of corroſive ſublimate Mercury, as is the Manner of pure volatile Salts; and the Phlegm that came over laſt in the Diſtillation gave yet more ſenſible Marks thereof, by precipitating a greater Quantity of the ſame Solution.

The dried Fleſh, weighing as aforeſaid, being placed in the Retort, in a reverberatory Furnace, in order to an Analyſis, afforded a ſmall Quantity of Phlegm, charged with a volatile Spirit, which weighed one Dram four Grains, and after that three Drams forty-ſix Grains of a volatile Salt, and a thick fœtid Oil, which could not be ſeparated.

The Caput Mortuum, or Subſtance left in the Retort, weighed three Drams thirty Grains. It was a black Coal ſhining, and of little Weight, which was calcined in a Crucible over a very ſtrong Fire, and by that Means reduced to Aſhes, which weighed forty Grains. Theſe Aſhes, being expoſed to the Air, imbibed the Humidity which augmented their Weight. They were made into a Lixivium, which being examined afforded no Signs of an alcaline Salt, but of Sea-ſalt, by precipitating a white Powder from a Solution of Mercury in Spirit of Nitre. It cauſed no Change in the Solution of the ſublimate Corroſive, except that, after it had reſted ſome Time, it formed at the Bottom of the Veſſel a Sort of Cloud, in Form of a ſlight Coagulum. Now hitherto we know of no Salts, except thoſe which are of the Nature of Sal Ammoniac or Sea-ſalt, that precipitate a white Powder from a Solution of Mercury in Spirit of Nitre; nor any Thing, except the abſorbent animal Earths that I have obſerved to ſlightly precipitate a Solution of Corroſive ſublimate.

Upon four Ounces of Beef, dried in a Bath Heat, I poured the like Weight of Spirit of Wine well rectified, and let them digeſt together for a very long Time. The Spirit took a weak Tincture from the Fleſh, and extracted from it ſome Drops of Oil, the Colour it had acquired was red, and it had a faint Smell. Oil of Tartar mixed with this Spirit diſcovered itſelf by an urinous Smell. Its Mixture with a Solution of Mercury in Spirit of Nitre turned it white, whence proceeded a yellowiſh white Precipitate. This Liquor afterwards became gritty, from the urinous Sal Ammoniac with which the Spirit of Wine was impregnated. The Experiment of mixing this Spirit of Wine with a Solution of Corroſive ſublimate produced a white Precipitate, which turned a little yellow. In this laſt Caſe there would have been no Precipitation, but for the urinous volatile Salt which entered the Spirit of Wine with the Sal Ammoniac.

Four Ounces of the like Beef being boiled in a Veſſel well cloſed with three Pints of Water, and the Boiling being renewed ſix Times with the like Quantity of new Water, in order to exhauſt as much as poſſible the Juice of the Meat, I put together all the Liquors of theſe Dreſſings, the two or three laſt of which had only a very faint Smell of Veal-broth, evaporated them by a gentle Fire, and towards the End of the Evaporation filtrated them in order to ſeparate the earthy Part; and there remained in the Veſſel an Extract moderately ſolid, which very readily imbibed Humidity from the Air, and was found to weigh one Dram fifty-ſix Grains. Thus the Reſult of this Experiment is, that ſince four Ounces of boiled Beef afford one Dram fifty-ſix Grains of Extract, one Pound of the like boiled Beef muſt yield ſeven Drams eight Grains of the like Extract, beſides eleven Ounces, ſix Drams, ſixty-four Grains of Phlegm, and three Ounces two Drams of Fibres exhauſted of all their Juice. This Produce may vary according to the Feeding of the Animal in good or bad Paſtures, or as the Fleſh we chuſe for the Experiment is freſher or ſtaler. It is to be obſerved, that good Beef boiled will ſcarce ever turn to a Jelly, if we ſtrip the Fleſh of the Membranes, Tendons, and Cartilages. Now by *Jelly* I do not mean the Extract above-mentioned, but what after Boiling becomes of itſelf one clear, trembling Maſs when it is cold.

The Extract of this Beef, which weighed one Dram fifty-ſix Grains, afforded in its Analyſis one Dram two Grains of volatile Salt, which adhered to the Sides of the Receiver, not in Ramifications, as is uſual with volatile Salts, but in flat Cryſtals, ſhaped for the moſt Part like Parallelopipedons. The Spirit and Oil, which came together, after the volatile Salt, weighed thirty-eight Grains. The fixed Salt of Tartar, mixed with this volatile Salt, ſeemed to augment its Force, which might give Room to ſuſpect that this laſt was an urinous Sal Ammoniac, and ſo much the more for that the Cryſtals of this volatile Salt had a near Reſemblance to the volatile Salts of Urine, which are known to be different from other volatile Salts extracted from the Fleſh of Animals.

The Caput Mortuum, or Coal which remained in the Retort, was very light and porous, and weighed but ſix Grains. The Lixivium thereof precipitated a white Powder from a Solution of Mercury, like the Lixivium of the Aſhes of the raw Beef above-mentioned.

The ſix Drams thirty-ſix Grains of the dried Maſs of Fibres, being analyſed after the ſame Manner, yielded two Grains of volatile Salt, in the Form of common volatile Salts, which adhered to the Sides of the Receiver in Ramifications, mixed with a little fœtid Oil, thick enough, but not ſo brown as what was extracted from the boiled Maſs. The Spirit, which was of a citron Colour, being ſeparated from its Oil, weighed thirty-ſix Grains. The Caput Mortuum weighed one Dram ſixty Grains.

The Lixivium made after the Calcining could not alter the Solution of Mercury made with Spirit of Nitre, becauſe, when the Fibres of this dried Beef were analyſed, they were already deprived, not only of all their eſſential Sal Ammoniac, but alſo of their fixed Salt, which is of the Nature of Sea-ſalt; for theſe Salts paſſed off, in a great Meaſure, with the Oils, into the Water, during the long Boiling of the Fleſh. This Lixivium had only a faint Tincture of the Colour of an Opal. The Solution of Corroſive ſublimate proves that there ſtill remains an oily Part. It is known that ſulphureous Subſtances precipitate a black Powder from that Solution, or rather a deep Violet, which begins with an opal Colour.

It appears then by the Analyſis of the boiled Maſs, that there paſſes into the Water, during the Ebullition, a Sal Ammoniac, which we may look upon as the eſſential Salt of this Kind of Fleſh, and which, in the Diſtillation of the Extract, appears under a different Form from what was extracted from the Fleſh diſtilled raw, which was the Method of former Analyſes. And it ſeems probable, that this Salt is the very ſame as is ſeparated from the Blood by Urine after Nutrition, ſince the volatile Salt, which I gained by this Extract, has a near Agreement, as I made appear, with the Salt extracted by Analyſis from Urine. The Salt then produced by the Extraction will be the Product of that natural Sal Ammoniac which is in Fleſh-meats, and is eaſieſt to be ſublimated with that which is afterwards extracted from the Fibres. And we may ſay, after this Operation, th the volatile Salts are almoſt conſtantly the Product of the Fi ſince Principles ſo little ſenſible will diſcover themſelves no fu ther, than as they are diſcloſed by the Violence of the Fire a ing on the Matter by Burning or Calcining, in order to th Formation of the volatile Salts.

I have given a particular Relation of my Operations on Bee that I might give an exact Account of my Labours, which we the ſame on all other Kinds of Fleſh-meats which I examined, ſ that I need not repeat the Proceſs in the Courſe of this *Me moir*.

Veal.

Four Ounces of Fleſh, cut from a Fillet of Veal, and di tilled in a Bath Heat, as the Beef was, afforded two Ounces, ſi Drams, fifty-four Grains of Humidity; the dried Fleſh weighe one Ounce, one Dram, eighteen Grains, after it had yielded a its Principles by Analyſis. The Caput Mortuum weighed tw Drams fifty one Grains; its Lixivium gave Marks of a S Salt, as did the Beef.

Four Ounces of the ſame Fleſh boiled afforded a Subſtan ſomewhat like a Jelly, which was reduced by Extraction two Drams thirty Grains of a pretty ſolid Matter, tho difficult to be dried. The Maſs of the dried Fibres weigh five Drams ſixty-two Grains: So that one Pound of a Fi of Veal contains eleven Ounces, ſix Drams, ſixty-four Gr of Phlegm, one Ounce, one Dram, forty eight Grains of E tract, and two Ounces, ſeven Drams, thirty two Grain Fibres dried, or intirely deprived of their Juice.

By comparing the Products of the firſt Operations made Beef with the like made on Veal, I found the Veal to con more Phlegm than the Beef, by four Ounces eighteen Grai that it afforded forty-ſix Grains more of Extract, and that dried Fibres weighed forty-ſix Grains leſs. Now ſince t dried Fibres weigh leſs than thoſe of the Beef, and ſince m Phlegm and gummoſe Parts are thence extracted, may we preſume that the Liquids which circulate in the Body of Calf, where they ſerve not only for Nutrition, but alſo for Growth of the Animal not yet come to Perfection, co Particles more diſpoſed to become ſolid, than the Liquids c culating in the Beef, where they ſerve only for Nutrition? F the ſame Reaſon the Extract from the Veal becomes firmer th that from the Beef; becauſe it contains a greater Quantity thoſe gummy Particles which are appointed to become ſolid f the Lengthening of the Bones, Cartilages, Tendons, &c. And is impoſſible to give the ſame Firmneſs to the Extract of B unleſs it be boiled with the Bones, Cartilages, and Memb which are nothing, as I may ſay, but a Compoſition of th gummy Particles.

The two Drams thirty Grains of Extract from the V afforded me in the Analyſis one Dram twelve Grains of Sp Oil, and volatile Salt, which laſt had the urinous Chara like that of Beef. The Caput Mortuum left in the R weighed but a Dram.

The five Drams ſixty-two Grains of dried Fibres, f which the Extract was made, being put in the Reverbera afforded one Dram ſixty-ſix Grains of volatile Salt, of Character of common volatile Salts, that is, it was in Ra fications; and one Dram thirty-ſeven Grains of Oil and vola Spirit; the Caput Mortuum in the Retort weighed two Dr eighteen Grains.

Here I take again the Weight of theſe Caput Mortuums, Coals, in which there can be no Miſtake, eſpecially with R ſpect to their Weight. That of the Extract of Beef weighed ſix Grains, that of the Extract of Veal ſeventy-two; ſo t there was a Difference of ſixty-ſix Grains in the Weight of two Coals of the Extracts.

The Coal of the dried Fibres of the Beef weighed but Dram ſixty Grains; that of the Veal two Drams eigh Grains; here is another Difference of thirty Grains.

Theſe two Exceſſes added together make a Total of nin ſix Grains of Parts, conſidered as ſolid, more in the Veal th in the Beef. Theſe ſolid Parts added to the gummy Partic ſpoken of above, which are appointed to become ſolid for Growth of the Animal, being very conſiderably more nu rous in the Veal than in the Beef, might not one conje that if theſe Particles preſerve in our Bodies, when we t them as *Aliment*, the ſame Diſpoſition which they ſeem to h in the Body of the Animal whence they are taken, Veal m be agreeable to Children, becauſe they are growing, and ſick Perſons who are much extenuated, and have underg conſiderable Loſs of Fleſh; and that Beef would better a with adult Perſons and ſuch as enjoy a perfect State of He But I offer this only as a Conjecture.

Mutton.

Four Ounces of Mutton, taken from the Leg, diſtilled in Bath Heat, yielded two Ounces ſix Drams thirty Gra Phlegm.

The Fleſh drained of its Humidity weighed one Ounce Dram forty two Grains, which being placed in a Reverbera

it had been exhauſted of its Principles, left in the Retort a
which weighed but two Drams thirty-ſix Grains; the
vium of which gave Marks of a Sea Salt, that is to ſay, it
not the leaſt Alteration in a Solution of corroſive Subli-
, and precipitated a white Powder from a Solution of Mer-

ur Ounces of the ſame Mutton boiled, yielded two
ns fifty-eight Grains of Extract: Hence one Pound of
Fleſh muſt yield eleven Ounces five Drams thirty-two
ns of Phlegm, one Ounce three Drams ſixteen Grains
xtract, two Ounces ſeven Drams twenty-four Grains of
s, exhauſted of their Juice.
e two Drams fifty-eight Grains, diſtilled in a Reverbera-
afforded about as much volatile Salt as the Beef, and more
the Veal; its Cryſtals took a better Form. The Caput
uum weighed but fifty-four Grains, the Lixivium of which
more abundant Marks of a Sea Salt than the other Fleſh-

e dry Fibres of this Mutton, after the Extract was made,
ed but five Drams ſixty Grains; which evidently proves,
Mutton contains more nouriſhing Parts, and volatile Prin-
than either Beef or Veal, ſince it leaves in its Analyſis
a fixed Matter. The Analyſis of theſe Fibres yielded a
Quantity of volatile Salt in Ramifications, ſuch as always
from the Analyſis of the dried Fibres of Fleſh-meats:
Caput Mortuum weighed two Drams; its Lixivium gave
lender Marks of a Sea Salt with Solutions of Mercury, be-
the greateſt Part of the Salts were volatilized, or paſſed
Sal Ammoniac in the Extract.

CHICKEN.

s being one of the moſt common kinds of Fleſh, eaten
or with other Meats dreſſed with it, I undertook a like
n of it as I did of the others. I took a Chick which
d nine Ounces four Drams forty-eight Grains; after
g it, I boiled it in ſeveral Waters, which produced a Jelly-
xtract, which weighed ſeven Drams thirty-ſix Grains;
ſh and Bones, dried in a Stove, as the other Fleſh-meats,
d but one Ounce ſix Drams forty Grains: Whence the
contained ſix Ounces ſix Drams forty-four Grains of
ity. I diſtilled, ſeparately, in a Reverberatory, ſix
eighteen Grains of the dry Fleſh, and three Drams
rains of the dry Bones, which was all I could get: The
ielded ſome volatile Salt in beautiful Ramifications; the
Mortuum weighed one Dram ſix Grains; the Lixi-
f the Coal gave no Mark of a Salt.
Bones afforded, beſides the other Principles, a ſmall
ty of volatile Salt, of the ſame Figure as that of the other
f Fleſh: The Caput Mortuum, which weighed two
eight Grains, produced nothing remarkable in the
ments made on its Lixivium.
Extract of the Fleſh, which weighed ſeven Drams
x Grains, yielded a volatile Salt of the ſame Figure as
Beef, which however would not come over without en-
the Fire: The Caput Mortuum weighed two Drams
Grains; the Lixivium of it afforded ſome Signs of a

The COCK.

ld Cock, which weighed two Pounds two Ounces ſix
yielded four Ounces ſeven Drams ſixty-ſix Grains
ny Extract, tranſparent, and very dry.

A CAPON.

Fleſh of a Capon, ſtripped of the Fat, and weighing
und ſeven Ounces two Drams forty-eight Grains,
one Ounce five Drams of Extract, which it was diffi-
dry.

PIGEONS.

young Houſe-pigeons, which weighed fourteen Ounces,
an Extract ſolid enough to become dry; it weighed
rams thirty-five Grains.

The PHEASANT.

eaſant, of the Weight of two Pounds, afforded a ſa-
act, which could not be ſufficiently dried to form a ſo-
ct, tho' I left it a long time in the Stove: That Ex-
ighed two Ounces four Drams ſixteen Grains; ſo
Fleſh furniſhes more Extract, than Beef.

The PARTRIDGE.

Partridges, weighing one Pound two Ounces five
yielded one Ounce ſix Drams thirty Grains of Ex-
ſs ſolid than that of the Pheaſant.

The TURKEY.

rkey, weighing nine Pounds, yielded twelve Ounces
ee Grains of Extract, conſiderably ſolid, which could
ried, but always continued oily, and, as it were, re-

The Reſult of all that has been ſaid, is, that the Extract of boiled Fleſh-meats ought to be looked upon as the nouriſhing Part afforded by the Fleſh of Animals in boiling; I don't mean by this, that the Whole of it is concerned in Nutrition, becauſe it contains alſo groſs Particles, which, in the Work of Digeſtion, are ſeparated as uſeleſs by the Organs, in greater or leſſer Quantities, according to the State of the Patient: This being ſuppoſed, we are to make it appear, what Nouriſhment is communicated to a ſick Perſon from the Quantity of a Gallon of common Broth.

If, according to Cuſtom, the Boiling conſiſts of a Slice of Beef weighing a Pound, a Pound and a half of a Fillet of Veal, with half a Capon, which may weigh fourteen Ounces; if all theſe Sorts of Fleſh, weighing together three Pounds ſix Ounces, are boiled in ſeven Pints of Water till reduced to three Pints, in order to make ſix Meſſes, which ought to be a Jelly when the Meat is ſufficiently boiled, theſe ſix Meſſes will contain two Ounces five Drams thirty-four Grains of Extract at leaſt; for the total Extract of all theſe Meats would be more by three Drams twelve Grains, if the Boiling were repeated as I did it, when I had a mind to have out all the nouriſhing Juice; and if the Patient takes the whole ſix in twenty-four Hours, he will conſequently have received about two Ounces five Drams thirty-four Grains of Aliment, which being compared with the whole Weight of Bread and Fleſh, which he may be ſuppoſed to eat in Health, appears to be more than enough: Hence the Vulgar are miſtaken, in imagining that ſick Perſons are not ſufficiently nouriſhed with Broths.

There are Circumſtances in which even Veal-water, or Chicken-water, would afford ſufficient Nutriment to the Patient; for the firſt, which would be made with one Pound of Veal, boiled in four Pints of Water till reduced to half, would contain one Ounce one Dram forty-eight Grains of Extract; and Chicken-water, where the Chick perhaps might weigh nine Ounces four Drams and ſome Grains, affords ſeven Drams thirty-ſix Grains of Extract: You are alſo deſired to take Notice, that the Oil and volatile Salts of theſe Extracts, which are diſperſed in the Boilings, are more diſengaged, and more readily paſs into the Blood, than thoſe which are ſtill embaraſſed in the groſs Fibres of the Meat, and require a long Time for Digeſtion; not to mention, that it is eaſier for this Kind of Aliment, than any other, to unite with the Juices of ſuch Plants as ſhall be thought proper to mix with it, in order to temper and moderate its Action in the Blood.

I ſhall not repeat here the Relations between Extracts of other Fleſh-meats, becauſe I have joined with this Memoir a Table, containing, in Columns, the particular Products of my Operations.

A TABLE *of the* PRODUCTS *of* EXPERIMENTS *made upon* FLESH-MEATS.

BEEF RAW, *diſtilled in Balneo Mariæ.*

	Oz.	Dr.	Gr.
Firſt Water.			
Four Ounces of Beef yielded of the firſt Phlegm	2	6	36
The dry'd Fleſh in Balneo Mariæ weighed	1	1	36
Total	4	0	0
Extract from Beef boiled.			
Four Ounces of Beef yielded of Extract	0	1	56
Weight of the dry'd Fibres	0	6	36
Total	0	8	20
Water, or Phlegm, drawn in Balneo Mariæ	2	6	36
To this muſt be added a ſecond Phlegm, which could not be extracted in Balneo Mariæ	0	1	16
Total of Humidity, or Phlegm, contained in the four Ounces of Beef, 2 Ounces, 7 Drams, 52 Grains.			
Total	4	0	0
The Weight of the ſeveral conſtituent Parts of a Pound of Beef.			
One Pound of ſixteen Ounces contained of Phlegm	11	6	64
Of Extract - - - - - - - - - - - - - -	0	7	8
Dried Fibres - - - - - - - - - - - - - -	3	2	0
Total	16	0	0
Analyſis of the Extract of four Ounces of Beef, which produced 1 Dram 56 Grains.			
Volatile Salt - - - - - - - - - - - -	0	1	2
Oil and Spirit - - - - - - - - - - - -	0	0	38
Caput Mortuum, or Coal, - - - - - - - -	0	0	6
Loſs - - - - - - - - - - - - - - -	0	0	10
Total	0	1	56

Analysis of the 6 Drams 36 Grains of dried Fibres.

	Oz.	Dr.	Gr.
Volatile Salt	0	2	0
Volatile Spirit	0	0	36
Caput Mortuum, or Coal,	0	1	60
Loſs	0	2	12
Total	0	6	36

VEAL RAW.

First Water.

Four Ounces of Veal yielded for the firſt Phlegm	2	6	54
Dried Fibres in Balneo Mariæ	1	1	18
Total	4	0	0

Extract of Veal.

Four Ounces of Veal produced of Extract	0	2	30
The dried Fibres	0	5	62
Water in Balneo Mariæ	2	6	54
	3	7	2
To be added a ſecond Phlegm, not extracted in Balneo Mariæ, or Loſs,	0	0	70
Total	4	0	9
Water, or Phlegm, of the firſt Evaporation	2	6	54
Of the ſecond	0	0	70
Total	2	7	52

The Weight of the ſeveral Diviſions of the Pound of Veal.

The Pound of 16 Ounces contained of Phlegm	11	6	64
Of Extract	1	1	48
Dried Fibres	2	7	32
Total	16	0	0

Analysis of the Extract of Veal, weighing 2 Drams 30 Grains.

Volatile Salt, Oil, and Spirit	0	1	12
Caput Mortuum	0	1	0
Loſs	0	0	18
Total	0	2	30

Analysis of the 5 Drams 62 Grains of dried Fibres.

Volatile Salt	0	1	66
Oil and Spirit	0	1	37
Caput Mortuum	0	2	18
Loſs	0	0	13
Total	0	5	62

MUTTON *diſtilled in Balneo Mariæ.*

First Water.

Four Ounces of this Fleſh yielded of the firſt Humidity or Phlegm	2	6	30
Dried Mutton in Balneo Mariæ	1	1	42
Total	4	9	0

Extract of Mutton boiled.

Four Ounces of Mutton produced	0	2	58
Dried Fibres	0	5	60
Water in Balneo Mariæ	2	6	30
Total	3	7	4
To this add a ſecond Phlegm, which could not be extracted in Balneo Mariæ	0	0	68
Total	4	0	0

Weight of the ſeveral Diviſions of one Pound.

The Pound of 16 Ounces contained of Phlegm	11	5	32
Of Extract	1	3	16
Of dried Fibres	2	7	24
Total	16	0	0

Analysis of the Extract of four Ounces of Mutton, 2 Drams 58 Grains.

	Oz.	Dr.	G
Volatile Salt	0	1	
Oil and Spirit	0	1	
Caput Mortuum	0	0	
Loſs	0	0	
Total	0	2	

Analysis of the five Drams ſixty Grains of dried Fibres.

Volatile Salt, and inſeparable Oil	0	3	
Spirit	0	0	
Caput Mortuum	0	2	
Loſs	0	0	
Total	0	5	

LAMB, *a Pound of the Fleſh without Fat.*

The Extract difficult to be dried, and always moiſt	1	1	

A CHICK, *Fleſh and Bone together, 9 Ounces 4 Drams 48 Grains.*

Phlegm	6	6	
Extract	0	7	
Dried Fleſh and Bones	1	6	
Total	9	4	

Analysis of the 7 Drams 36 Grains of Extract.

Spirit, Oil, and Phlegm	0		
Volatile Salt and Oil	0	0	
Caput Mortuum	0	2	
Loſs	0	0	
Total	0	7	

Analysis of the dried Fibres, being 6 Drams 18 Grains.

Spirit, and a thick Oil	0	3	
Volatile Salt	0	1	
Caput Mortuum	0	1	
Loſs	0	0	
Total	0	6	

Analysis of the Bones of the Chick after boiling, being 3 Drams 9 Grains.

Spirit, Oil, and volatile Salt	0	0	
Caput Mortuum	0	1	
Loſs	0	0	
Total	0	3	

An Old COCK, *Weight 2 Pounds 2 Ounces 6 Drams.*

The dry Extract like a Jelly	4	7	

A CAPON, *the Fleſh cleared from the Fat, 1 Pound 7 Ounces 2 Drams 48 Grains.*

The Extract difficult to be dried	1	5	

Tame PIGEONS, *two weighing 14 Ounces.*

The ſolid Extract in Lozenges	0	7	

A PHEASANT, *Fleſh and Bones weighing 2 Pounds.*

Extract of a ſoft Conſiſtence	2		
Dried Fibres, with the Bones	9		
Phlegm	20		
Total	32		

Analysis of the Fleſh only of the Pheaſant, 4 Ounces.

Phlegm	2		
Spirit and Oil	0		
Volatile Salt	0		
Caput Mortuum	0		
Loſs	0		
Total	4		

lyſis of the Extract of the Pheaſant, 1 *Dram,* 56 *Grains.*

	Oz.	Dr.	Gr.
it and Oil	0	0	48
latile Salt	0	0	36
ut Mortuum	0	0	36
s	0	0	8
Total	0	1	56

dried Fibres without the Bones, 6 *Drams* 36 *Grains.*

	Oz.	Dr.	Gr.
it, volatile Salt, and a thick Oil	0	5	10
ut Mortuum	0	1	12
	0	0	14
Total	0	6	36

RTRIDGE: *Two old Partridges weighing* 1 *Pound* 2 *Ounces* 5 *Drams.*

oily, or fat and humid Extract	1	6	30

TURKEY: *A Turkey of* 9 *Pounds.*

t and oily Extract	12	0	43

LVES HEARTS: *Two Calves Hearts weighing* 11 *Ounces* 4 *Drams.*

ded an Extract which would not turn to a lly, nor be dried	0	3	60

ALF's LIVER, *weighing* 2 *Pounds* 7 *Drams.*

orded of a watry Extract	2	1	60

LVES FEET, *eight Feet weighing* 6 *Pounds* 8 *Ounces.*

	P.	O.	D.	G.
m	3	5	4	45
mmy and dry Extract	0	8	3	27
Bones as they came humid out of the boil- , with the Cartilages	2	10	0	0
Total	6	8	0	0

ſis of 1 *Ounce of the gummy and dry Extract of Calves Feet.*

	Oz.	Dr.	Gr.
and Oil	0	3	0
ile Salt	0	2	18
Mortuum	0	2	25
	0	0	29
Total	1	0	0

o Macreuſes weighing 2 *Pounds* 7 *Ounces.*

ſolid Extract, which grew moiſt at the nge of the Weather	2	1	50

Geoffroy in a Memoir for 1732, purſues his Subject, and ds to the Analyſis of other Subſtances uſed ſometimes by f Aliment, or Medicine:

aving in my former Memoir given the Analyſis of ſome ur moſt juicy Foods, I now proceed to that of the moſt Parts of Animals, which are their Bones; and having, hat Purpoſe, made Choice of the Bones of an Ox's Leg, uſe they contain little Marrow, I ordered them to be fully ſtripped of their Fleſh, and raſped down, taking at the ſame time not to break the inner Lamina, which rs the Marrow: I put a Pound of theſe fine Shavings, dried, into a Pewter Pot, exactly covered with eight s of Water, with which I boiled them five ſeveral times, ng freſh Water at each Boiling, and pouring the Water ach former Boiling into a Veſſel by itſelf: The Shavings eſe Bones were reduced into a whitiſh Kind of Pap, and Broth, loaded with their moſt ſubtile Parts, could not be rated without Filtration, and that too with ſome Diffi-: Being put into a Silver Baſon, in order to evaporate, not thicken into a Jelly till towards the End of the oration, during which no Precipitation happened.

his Jelly, or Extract, dried readily in the Air, and was ed into a gummy, tranſparent, very dry Subſtance, which ed three Ounces three Drams and thirty-ſix Grains: it a gummy Subſtance, becauſe it remained clear and parent, became brittle by being dried, and, as to its ex- Appearance, exactly reſembled the Gum produced by travaſated Sap of Trees.

Ounce and forty-five Grains of this Subſtance, ſubjected ſtillation, yielded three Drams and eighteen Grains of a very white volatile Salt, which cryſtallized itſelf in Ramifications, as other volatile Salts generally do: The Caput Mortuum, remaining in the Retort, weighed only two Drams and thirty-ſix Grains; its Lixivium had ſome faint Characteriſtics of Sea Salt, like the Caput Mortuum of the Beef, mentioned in my firſt Memoir.

‘ Four Ounces of the dry white Paſte which remained upon the Filtre, when ſubjected to Diſtillation by a reverberatory Fire, yielded very little volatile Salt, which was formed into flat Cryſtals of the Figure of Parallellopipeds, like thoſe procured from the Extract of the Beef Broth: The Caput Mortuum lixiviated did, upon Trial, give ſome Marks of a fixed Alcali; and this Subſtance, after a new Calcination in a cloſe Fire, ought to be looked upon as a kind of *Calx*, or Lime: Its Lixivium, attentively examined, left me no room to doubt of its being poſſeſſed of the Characteriſtic of a fixed Alcali, ſince it produced a red Precipitation in a Solution of corroſive Sublimate, like well calcined Hartſhorn.

HARTSHORN:

‘ Hartſhorn managed in the ſame Manner, and in the ſame Quantity with the Bones of Beef, yielded a clear Broth, which became a Jelly as ſoon as cold; after Evaporation it left a gummy Subſtance, which, when dry, weighed four Ounces two Drams and ſixty-three Grains.

‘ An Ounce and forty-five Grains of this Subſtance, analyſed by a reverberatory Fire, yielded only two Drams of volatile Salt in Ramifications, and thirty Grains of a volatile Citron-coloured Spirit, mixed with a little fetid Oil of a deep red Colour; the Caput Mortuum weighed two Drams and thirty-ſix Grains; its Infuſion produced a greyiſh white Precipitatation, in a Diſſolution of Mercury, and in a Solution of corroſive Sublimate.

‘ The Maſs remaining after the ſeveral Boilings, when pretty dry, weighed only nine Ounces three Drams and thirty-ſix Grains: Four Ounces of this Subſtance, ſubjected to an Analyſis, yielded one Dram and eighteen Grains of a volatile Salt, of the ſame Figure with that of the Beef Broth, and, like it, loaded with an Oil and a Phlegm; which, when ſeparated with all poſſible Care, weighed about a Dram: The Caput Mortuum of this Subſtance, which weighed three Drams and twenty-four Grains, gave in its Lixivium all the Proofs and Marks of a Sea Salt; being then freed from the Remains of its volatile Oil, by Calcination, it produced a red Precipitation in the Solution of corroſive Sublimate.

‘ I have made the ſame Experiments upon Ivory, thinking it proper to compare the Reſults of them with thoſe made on other bony Subſtances, ſince Ivory is often uſed in Ptiſans, Broths, and Jellies for the Sick.

IVORY.

‘ A Pound of Ivory Shavings produced a limpid clear Broth, which coagulated in Proportion to its cooling; but, in the Evaporation, it inſenſibly let fall a very fine white Earth, loaded with ſome Quantity of an eſſential Salt, which obliged me to ſtrain the Liquor again: The gummy Part, which remained after the Evaporation of this Broth, now twice filtrated, became more dry, hard and ſolid, than that produced from the Bones of the Beef, but leſs coherent than that produced from the Hartſhorn: This gummy Subſtance weighed four Ounces ſeven Drams and one Grain; and when ſubjected to an Analyſis, it firſt yielded a little Phlegm, then an Orange-coloured Spirit, then a white volatile Salt in Ramifications, which weighed forty-eight Grains; the thick black Oil, which it yielded laſt of all, weighed, together with the Spirit, three Drams and thirty-ſix Grains.

‘ The Lixivium of the Caput Mortuum, which weighed three Drams and twelve Grains, produced a white Precipitation in the Solution of Mercury, and only rendered that of the corroſive Sublimate a little turbid.

‘ The white Paſte remaining after the Filtration of the Broth, afforded no concreted volatile Salt in Diſtillation; it only yielded a Citron-coloured Oil, and a volatile Spirit of a bluiſh Colour: The Whole, taken together, weighed four Drams and thirty-ſix Grains. The Lixivium of the Caput Mortuum, at firſt rendered the Solution of corroſive Sublimate turbid, and at laſt produced a white Precipitation, but produced no manner of Effect upon the Solution of Mercury.

‘ Theſe three Analyſes furniſh us with a very curious Obſervation: One would think it more difficult to extract, by boiling, the volatile Salts from ſolid Subſtances, than from thoſe of a tenderer Nature; yet, in boiling, they depoſit in the Water their Principles, and volatile Salts, ſooner, and in greater Quantities, than the Fleſhes of Animals: For, in my firſt Analyſes made laſt Year, tho' I had ſtripped, if I may ſo ſpeak, thoſe Fleſhes of their Principles by boiling, yet their Fibres, when dry, yielded a conſiderable Quantity of volatile Salt: This, Mr. *Doddard* has aſſerted; this, Experience has confirmed. In comparing the Analyſis of Beef with that of

‘ its Bones, we find, that ſix Drams and thirty-ſix Grains of dry Fibres, that remained of four Ounces of Fleſh, have yielded two Drams of volatile Salt and Oil; whereas four Ounces of the dried white Maſs, produced from boiled Bones, have yielded only three Drams and an half of Spirit, impregnated with a very little fetid Oil, and with ſo ſmall a Quantity of volatile Salt, that it could not be weighed. That which, in the Analyſis of Fleſh Broths, appeared to me an eſſential Salt, probably remains cloſely united to the Bones during their Growth; ſince in the Analyſis of Bones, it does not diſcover itſelf in the ſame Order in which the ſame Salts diſcover themſelves in the Analyſis of Fleſh. An Extract from Fleſh has firſt yielded me an urinous Sal Ammoniac, of the Figure of Parallelopipeds; their Fibres, a volatile Salt in Ramifications, which nevertheleſs was of a more fixed Nature, ſince it was forced out by the Violence of the Fire, which alcalizes it. The Bones of Beef, on the other hand, have, in boiling, freed themſelves of the ramified volatile Salts contained in their Laminæ; and theſe ſame Laminæ, after being long boiled in Water, have yielded an urinous Sal Ammoniac, though in a ſmall Quantity, like that which I have drawn from an Extract of Fleſh. Thus one may conceive, that Bones are more eaſily penetrated by Water than the Fibres of Fleſh, which, by their pliant yielding State, elude, as it were, the Action of that Fluid.

‘ Hartſhorn is at firſt a fleſhy Subſtance, as may be obſerved in the ſmall ſprouting Horns of the Deer; but, in Proportion as the Horn is nouriſhed and augmented, that which before conſiſted of a fibrous fleſhy Subſtance, and a thick Skin, furniſhed with Veſſels, becomes ſo dry, that the Juices not being able any longer to enter it, that Horn falls off, being thruſt out by a new ſprouting Horn. If an Obſervation of the Hartſhorn was not ſufficient to prove it a fleſhy Subſtance, yet the Chymical Analyſis of it would almoſt afford a convincing Proof, that it is ſo; ſince it is a Subſtance which yields Principles, which, of all others, come the neareſt thoſe of Animal Fleſh: Its Extract yields a ſufficient Quantity of volatile Salt, which indeed appears in Ramifications; and the groſs thick Subſtance, that remains after Filtration, yields one Dram and eighteen Grains of volatile Salt of an urinous Nature, which is a conſiderable Quantity, and makes Hartſhorn approach nearer to a fleſhy Subſtance than to that of Bones, ſince thoſe latter furniſh ſcarce any of that Salt.

‘ Ivory is a Subſtance which pretty much reſembles Bones, and like them conſiſts of ſeveral Laminæ, or Plates. If we ſaw Ivory into thin Plates, and boil them in Water, theſe Laminæ, or Plates, may be eaſily ſeparated; for they diſentangle themſelves from one another, and at the ſame time preſerve their almoſt circular Figure. It is probable, that the Teeth of the Elephant have not, at firſt, all that Solidity which we find them endowed with; that they have their Veſſels correſponding to the Pivot which fills the cony Hollow of the Baſe of the Teeth; and that, at laſt, being arrived at their full Growth, which they acquire in the Way of Strata, or Layers, and in many Years, the Veſſels, we now ſuppoſe, are dried up and diſappear. Ivory, upon its Analyſis, yields no other Principles than thoſe of Bones; that is to ſay, all the volatile Salt in the Extract, and almoſt none in the white Maſs, ſtripped of theſe Juices. Ivory contains a greater Quantity of Juice than Bones, but has nevertheleſs a ſmaller Portion of volatile Salt in it: One might aſſign as a Reaſon for this, that the Ivory comes from warm Countries; and that in its Way to the *African* Ports, the Heat of the Climate has inſenſibly diſſipated the volatile Salts.

‘ The Analyſis of a Chicken confirms my Poſition, that the younger the Bones are, the more immediate Approaches they make to the Nature of Fleſh; ſince three Drams and nine Grains of Chickens Bones yield thirty-five Grains of an urinous or an ammoniacal Salt; an Extract of Chicken Broth does not yield its volatile Salt but by means of a ſtrong Fire, and that Salt reſembles urinous Salts; that is, it is of the Figure of Parallelopipeds; whereas that yielded by the Fibres deprived of their Juices, was in beautiful Ramifications, and under a drier Form.

WHEY.

‘ I alſo examined Whey, and for that Purpoſe took twelve Pints of new Milk, without any Mixture; and after curdling it with one Dram of *Runnet*, I put it on a gentle Fire, to produce a more thorough Separation of the Whey, which, after Filtration, weighed eight Pounds; while the Curd in the mean time weighed only two Pounds and ſeven Ounces: After having evaporated this Whey, in *Balneo Mariæ*, almoſt to Dryneſs, (for the Whey does not become thoroughly dry, on the contrary it becomes very ſuddenly moiſt, if taken off the Fire for ever ſo ſhort a time; I ſay, after having almoſt evaporated it to Dryneſs) its Weight was nine Ounces and twenty-four Grains.

‘ This Extract, ſubjected to an Analyſis, yielded Phlegm, an acid Citron-coloured Spirit, and then a pretty thick Oil; there were, in all, four Ounces ſix Drams and thirty-ſi Grains of Liquor, without any Appearance of volatile S The Caput Mortuum, which weighed three Ounces and ſi Grains, being expoſed to the Air, became moiſt, and its Li vium had the Marks of a Sea Salt. As there was enough of to afford its Salt, I had from it cubical Cryſtals like thoſe Sal Gemmæ, or thoſe of Salt regenerated by the Spirit of S upon the Salt of Tartar; and this is a Proof, that there i Sea Salt in the very firſt Juices of Animals. The Caput Mortuum dried, and thoroughly calcined, in its Lixivium had t Marks of an Alcaline Salt, and produced a red Precipitation a Solution of corroſive Sublimate.

‘ As Fiſh are alſo ſometimes uſed in making Broths, I ha examined ſome of them.

CARP.

‘ Upon boiling a Pound of Carp, clear of Skin and Bones, four Pints of Water, like other Victuals, and frequently r peating the Boilings, the Broth, filtrated, let fall a Precipit like that of Beef; when it was evaporated to the Conſu ption of half, and then filtrated afreſh, the dry Extract weig one Ounce and eight Grains.

‘ A Dram and fifty-ſix Grains of this Extract analyſed, order to be compared with the ſame Weight of Extract Beef, yielded half a Dram of volatile Salt, diſtinctly for into Ramifications; its Oil, which was of a yellow brow Colour, and mixed with the Spirit, weighed half a Dr and the Caput Mortuum, in the Retort, forty-eight Gra ſo that there were eight Grains of Loſs.

‘ The Lixivium of the Caput Mortuum produced a w Precipitation in a Solution of Mercury, which is a Proof of being a Sea Salt, and a greyiſh Precipitation in a Solution corroſive Sublimate.

‘ The Maſs of dried Fibres weighed one Ounce ſix Dr and twelve Grains.

‘ Six Drams and an half of this Maſs yielded a Dram an half of volatile Salt in Ramifications; the Oil and the S rit weighed two Drams ſixty Grains; and the Caput M tuum, remaining in the Retort, one Dram ſix Grains; Lixivium produced a white Precipitation in the Solution corroſive Sublimate, but produced no Change in that of M cury.

‘ It is a common Opinion, that Fiſh, being nouriſhed in W ter, cannot contain ſo much nutritive Juice as the Fleſh Land Animals; which we may be aſſured of, by adverting the following Proportions:

‘ Beef has no leſs Humidity than one Ounce two D and ſixty Grains.

‘ Extract of Beef contains thirty-eight Grains of v Salt more than the Carp, and two Grains more of Oil Spirit.

‘ The dried Fibres of Beef, compared with thoſe of the C contain thirty-ſix Grains more of volatile Salt; and the C yields in volatile Spirit, and in fetid Oil, two Drams twenty-four Grains more than the Beef.

PIKE.

‘ Four Ounces of Pike's Fleſh, boiled like the Carp, y two Drams and twenty-four Grains of ſolid Extract: Extract, ſubjected to an Analyſis, yielded forty-ſix Gra a Citron-coloured Oil, mixed with the Spirit; and the tile Salt, which came laſt, was of an urinous Nature, weighed thirty Grains: The Caput Mortuum weighed Dram eleven Grains; its Lixivium produced a white P pitation in a Solution of Mercury, but had no Effect upon of corroſive Sublimate: The dried Fibres, which weighe ly four Drams fifty-nine Grains, yielded two Drams fifty-ſix Grains of Oil and Spirit of a yellowiſh Colour, ſixteen Grains of a volatile urinous Salt: The Lixivium Caput Mortuum, which weighed one Dram fifty G did at firſt produce a white Precipitation in a Solution of cury, then a yellowiſh one, and at laſt the Whole became being poured upon a Solution of corroſive Sublimate, duced a white Precipitation, which, without changing, mained in the ſame State.

FROGS.

‘ Two Pounds of the Fleſh of Frogs, of which I only the Thighs, and the half of the Legs, with the ſmall yielded a white Broth, which afforded one Ounce one and thirty-ſix Grains of Extract, without forming itſelf a Jelly. One Dram and fifty-ſix Grains of this E yielded fifty-ſix Grains of volatile urinous Salt, and then eight Grains of volatile Spirit and Oil ſomewhat thick: Caput Mortuum, which remained in the Retort, w thirty-ſix Grains: Its Lixivium produced no Effect up Solution of Mercury, but produced a white Precipit that of corroſive Sublimate.

‘ The dried Fibres, with their Bones, weighed three O four Drams and thirty-ſix Grains; ſix Drams and t

Grains of theſe Fibres yielded two Drams of volatile Salt
Ramifications, which was very dry, and half a Dram of
rit and Oil of a deep yellow Colour: The Caput Mor-
m, which remained, weighed two Drams: Its Lixivium
duced no Precipitation in a Solution of Mercury, but a
ite one in that of the corroſive Sublimate.

TORTOISE.

A ſmall Land Tortoiſe, which weighed thirteen Ounces
eighteen Grains, being ſeparated from its Shell, the Fleſh,
h the Head, the Feet, and the Tail, ſtripped of the Skin,
ghed eight Ounces, excluſive of the Inteſtines, which were
own away: The Broth produced from them became a lit-
gelatinous; and being filtrated, and evaporated to Dryneſs,
ormed an Extract which weighed five Drams and ſix
ains.

n diſtilling it, I procured from it firſt a Phlegm, then a
iſh volatile Spirit, and afterwards a pretty rich Oil, the
ole together weighing fifty-four Grains: The Lixivium of
Caput Mortuum, which weighed two Drams and twenty-
Grains, produced no Change in a Solution of cor-
e Sublimate; but immediately produced a white Precipi-
on in a Solution of Mercury, and ſoon after a blackiſh
one, becauſe that Lixivium was loaded with Sulphur:
fleſhy Fibres ſeparated from their Juices, and the Bones,
n dried, weighed ſix Drams and forty-eight Grains; in
yſing them they yielded a Phlegm, a Spirit, and an Oil,
hing two Drams and ſixty-ſix Grains of volatile Salt
amifications; the Maſs, which remained in the Retort,
hed only three Drams and forty-ſix Grains; its Lixi-
, like the before-mentioned, only produced a white Pre-
tion in Solution of Mercury.

LOBSTERS.

ur Ounces of Lobſter, pounded and well waſhed, yielded
atinous Broth; the Extract from which, when very dry,
hed two Drams and thirty-three Grains: This Extract
d Phlegm, a little volatile Spirit, a little Oil, and ſo lit-
olatile urinous Salt, that it was impoſſible to collect it in
to be weighed: The Whole, taken together, weighed
Dram twenty Grains; and the Caput Mortuum, in
etort, one Dram: Its Lixivium produced, at firſt, a
Precipitation in Solution of Mercury, which afterwards
ed a grey blackiſh Colour; but produced no Change in
olution of corroſive Sublimate: The groſs Matter from
the Extract was made, when dry, weighed ſix Drams
hirty-ſix Grains; and, when ſubjected to an Analyſis,
d a Phlegm, a Spirit, a fetid Oil which weighed two
s four Grains, and a Quantity of volatile Salt; from
twenty Grains, in a dry Form, and in Ramifications,
procured: The Lixivium of the Caput Mortuum, which
ed only one Dram, produced a yellowiſh white Preci-
on in a Solution of Mercury; but had no remarkable
upon that of corroſive Sublimate.

VIPERS.

the Viper is uſed in Broths, in Powder and in Troches,
examined it with ſuch a Degree of Attention, that one
afely rely on the Detail I am now to give.

eighed very exactly two live Vipers, and their Weight
nted to three Ounces two Drams eighteen Grains:
ff their Heads and Tails, which weighed two Drachms
alf; in cutting them they yielded fifty-four Grains of
; their Skins were taken off, that ſo their Ovaria and
might be got from them: The two Skins, and Entrails,
d four Drams and fifty-four Grains: The two
s, with the Eggs and Livers, weighed one Ounce ſix
and thirty-ſix Grains. There were thirty Grains of
r Evaporation. I then took a Part of another Viper
e up the two Ounces: I made a Broth of theſe Vipers,
the ordinary Manner; which, after Filtration and Eva-
n, reduced itſelf into a gelatinous Extract, which,
ry, weighed one Dram and thirty-ſix Grains.

Fibres and dry Bones, after boiling, weighed three
and ſixty-ſix Grains; ſo there was in two Ounces
Trunks of the Vipers, an Ounce two Drams and
wo Grains of Phlegm.

t I might ſtill, with the greater Accuracy, aſſure my-
the Weight of all the Parts of the Viper, I began to
ny Obſervations upon freſh Vipers; and accordingly
e of the largeſt Kind, which weighed, when alive,
unces ſix Drams and an half.

Head and the Tail, when cut off, weighed, together,
m ſix Grains.

Blood, yielded by the Viper, one Dram eight

Skin, four Drams ſixty-two Grains.

Liver, one Dram fourteen Grains.

Heart, ſix Grains.

Gall-bladder, ſeven Grains.

‘ The Fat, three Drams forty-four Grains.

‘ The Entrails, four Drams ſixty Grains.

‘ The Trunk itſelf, one Ounce three Drams and ſixty-three Grains.

‘ Thus there were, in the Whole, one Dram and fifty-two Grains of Humidity loſt by Diſſipation.

‘ The Trunk, when dry, weighed three Drams ſeventy-one Grains; ſo that it contained ſeven Drams and ſixty-four Grains of Humidity.

‘ The Blood, when dry, ſeventeen Grains and a half; Humidity ſixty-two Grains and a half.

‘ The Heart, when dry, one Grain and a quarter; Humidity, four Grains and three quarters.

‘ The Liver, when dry, forty-three Grains and a half; Humidity, forty-two Grains and a half.

‘ The Gall-bladder, when dry, one Grain and a half; Humidity, five Grains and a half.

‘ The Skin, when dry, one Dram ſeventeen Grains; Humidity, three Drams and forty-five Grains.

‘ The Head and Tail, when dry, twenty-eight Grains and a half; Humidity, forty-nine Grains and a half.

‘ The Trunk of a Viper, whoſe Skin was taken off, and weighed four Drams fifty-four Grains, yielded, by boiling, thirty Grains of a gelatinous Extract. The Fleſh, dried and ſeparated from the Bones, weighed ſixty-ſeven Grains; the Bones, dried, thirty-ſix Grains and a half; ſo that the Trunk of the Viper contained two Drams ſixty-four Grains and a half of Phlegm. We may be readily aſſured, that the ordinary Broth of a Viper, which weighs only four Drams and fifty-four Grains, is only impregnated with about thirty Grains of the Subſtance of the Viper; and that, when one takes the ſmalleſt Doſe of Viper Powder, which is twelve Grains and a half, or three Quarters of a Grain, the Turn of the Balance being ſubject to vary, this is equivalent to thirty-ſeven Grains and a half of recent Vipers Fleſh. We may alſo know, from this Calculation, what we ought to think of the gelatinous Parts, when drawn from the Trunks of Vipers, to be uſed in Troches. For, ſuppoſe we uſe four Ounces of the Trunks of Vipers, whoſe Skins are newly taken off, there may be drawn from them one Ounce fourteen Grains and a quarter Grain of Extract from the Broth, or the dried Fleſh; and there will be found, of what remains, three Drams thirty-three Grains and three quarters of a Grain; and two Ounces three Drams and twenty-four Grains of Phlegm and Moiſture.

‘ A Viper's Liver and Heart, which weighed ſixty-one Grains, yielded, by the Evaporation of the Broth, three Grains of a gelatinous Extract; and the Heart and Liver dried, after boiling, weighed no more than eighteen Grains and a half.

Analyſis of the Extract of Viper Broth.

‘ I took the Extract of the Broth made from two Ounces of Viper, the Heart and Liver included; it weighed one Dram and thirty-ſix Grains: It yielded in Oil, Spirit, and volatile Salt, of the Figure of Sal Ammoniac, fifty-four Grains: The Caput Mortuum, remaining in the Retort, weighed alſo fifty-four Grains; and its Lixivium had the Marks of a Sea Salt. The dried Fibres, and the Bones, which weighed three Drams and ſixty-ſix Grains, yielded in Spirit, in Oil, and in volatile ammoniacal Salt, one Dram and fifty-four Grains. The Caput Mortuum, which weighed only two Drams and ſix Grains, by its Lixivium produced a white Precipitation in a Solution of Mercury.

‘ To make the Analyſis complete, I took the Bones of Vipers, which, by boiling, had been freed of all their Juice, and then of all their Fibres, by waſhing them thoroughly in Water. Two Ounces of theſe Bones, well dried, yielded, when ſubjected to an Analyſis, two Drams and forty-four Grains of volatile Spirit and Oil. The volatile Salt, which had adhered in a dry Form to the Sides of the Veſſel, and which was cryſtallized like the volatile Salt of Urine, was found to weigh ſeventy Grains. By ſtill augmenting the Fire for five Hours, there were twelve Grains of volatile Salt in Ramifications, like that which is drawn from Hartſhorn. I procured eighty-two Grains of volatile Salt, in a dry Form, from two Ounces of Viper Bones, which one would have imagined deſtitute of all their Principles; and this Abundance of volatile Salt is almoſt equal to that which is drawn from the Hartſhorn. The Lixivium of the Caput Mortuum of theſe Bones, did not change a Solution of corroſive Sublimate, but only diſcovered ſome Marks of Sulphur.

‘ This Analyſis of the Bones of Vipers proves, that the Antients were in the right to boil Vipers, in order to draw out their Principles in the Troches deſtined for the *Theriaca*; and that the Bones have nothing noxious, nor even uſeleſs, in that Antidote; ſince being diſentangled, and rendered friable by boiling, they furniſh a Subſtance like Hartſhorn prepared in boiling Water: But what ought to make us regard them as uſeful in this Compoſition, is, that the preceding Analyſis

‘ demonſtrates, that they contain almoſt as much volatile Salt as Hartſhorn.

BREAD.

‘ I ſhall cloſe this Memoir by giving the Analyſis of Bread, in order to ſhew how much Extract, and groſſer Parts, Bread, managed like other Aliments, and prepared by reiterated Boilings, would yield; and afterwards what Principles it yields, when ſubjected to Diſtillation: But I muſt advertiſe the Reader, that the Experiments upon Bread vary according to the Differences of Breads, according as the Meal is fine or coarſe, and the Bread itſelf high or low baked.

‘ I choſe, for my principal Experiments, a kind of Bread which, to me, appeared to have the leaſt Mixture of heterogeneous Subſtances in its Compoſition, as having neither Barm, Milk, nor Salt. I took, at different times, four Ounces of this Bread, which was baked the Day before; I took the Cruſt off, becauſe it might, as well as the Degree of baking, accelerate or retard the drying of it, which is more equally performed upon the Crumb.

‘ Four Ounces of this Crumb, well dried, were reduced to two Ounces ſeven Drams and thirty-ſix Grains.

‘ The Crumb and the Cruſt cut in ſmall Slices, as it were for Pottage, did not diminiſh ſo conſiderably, by reaſon of the Cruſt, which is dry; and four Ounces of the one, and of the other, dried at the ſame Fire, and at the ſame time, weighed three Ounces and ſix Grains.

‘ The Extract of it was made with all poſſible Care, but the Decoction could not be filtrated, though made with a pretty large Quantity of Liquor; ſo I was obliged to allow it to ſettle at every different Boiling, and put the beſt clarified Part of it into a Veſſel by itſelf.

‘ The Decoction, clarified from the Crumb of the Bread, was reduced by Evaporation into a gummy Extract, tolerably tranſparent, and weighing ſix Drams: The remaining Part, after all the Waſhings and Boilings were over, being rendered ſo dry as to break, weighed no more than one Ounce ſeven Drams and fifty-four Grains, or two Ounces within eighteen Grains.

‘ The Bread which had its Cruſt yielded, by the ſame Proceſs, an Ounce two Drams and eighteen Grains of Extract; and the Maſs, remaining after the Boilings, weighed an Ounce four Drams and fifty Grains.

‘ The ſix Drams of Extract, analyſed as above, yielded a Phlegm, an acid Spirit of an Orange Colour, and a fetid Oil, which, together, weighed three Drams. The Caput Mortuum weighed two Drams: Its Lixivium produced a very ſlight Precipitation in a Solution of Mercury in Spirit of Nitre; which indicates a light Ammoniac, or urinous Salt, ſince the ſame Lixivium produced no Effect upon a Solution of corroſive Sublimate.

‘ The dried Paſte which remained after the Boiling, and which weighed two Ounces within eighteen Grains, yielded the ſame Principles which the Extract did; and the Liquors drawn from it, weighed in all ſeven Drams and eighteen Grains. The Caput Mortuum, remaining in the Retort, weighed ſix Drams and forty Grains: Its Lixivium produced no Effect in the Experiments I made with it.

‘ By theſe Experiments we may be aſſured, that in a Pound of ſuch Bread as I have mentioned, and uſed the Day after baking, there will be three Ounces ſeven Drams and forty-eight Grains of Moiſture; ſince that Pound, when dry, will weigh no more than twelve Ounces and twenty-four Grains; and that it will yield five Ounces and one Dram of Extract, which is probably the Matter which, by Digeſtion, is ſeparated from it for the Nouriſhment of the Body, and ſix Ounces and three Drams of a groſs crude Matter.’ *Memoires del Acad. Roy. des Sciences.*

ALINDESIS, ’Αλίνδησις, ’Αλινδὸς, an Exerciſe of the Body, mentioned by *Hippocrates* in his ſecond Book *de Victus Rotione*, ’Αλίνδησις, παραπλησία τῇ πάλῃ διαπρήσσεται. ξηραίνει δὲ μᾶλλον διὰ τὴν κόνιν, ϗ σαρκοῖ ἧσσον. “ Rolling on the Ground has nearly the ſame Effect as Wreſtling; but it dries more, becauſe of the Duſt, and is leſs productive of Fleſh.” And again, in his Treatiſe *de Inſomniis*, Τρίψις δὲ μὴ ἔσω, μηδὲ πάλη, μηδὲ ἀλίνδησις. “ Neither let Friction, nor Wreſtling, nor Rolling in the Duſt be uſed.”

This Exerciſe conſiſted in rolling in the Duſt, after being anointed with Oil.

ALINTHISAR, the ſame as *Vuæ* or *Uvulæ Procidentia*. See Uvula.

ALIOCAB, Sal Ammoniac. It is alſo called *Alemzadar*. *Caſtellus* from *Rulandus*.

ALIPÆNOS, ’Αλίπαινος, ’Αλίπαντος, from *α* Negative, and *λιπαίνειν, to grow fat*. A Word uſed to expreſs external dry Medicaments, or Remedies which had no pinguious Ingredient in their Compoſition; and thus it is explained by *Celſus* in the following Paſſage: “ There are no Plaſters of greater Uſe than thoſe which are immediately laid to green Wounds, and called ἔναιμα by the *Greeks*. For they reſolve Inflam-

“ mations, unleſs very violent, and even then they very
“ abate their Violence, and cloſe and cicatrize thoſe
“ which ſuffer no Inflammation. They are made up of
“ gredients that are hot pinguious, and are therefore called
“ the *Greeks* ’Αλίπαντα.” L. v. Chap. 19. They were
poſed to the Emplaſtra λιπαρὰ, which were made of
Ingredients. *Galen* called them ’Αλιπῆ.

ALIPASMA, from ἀλείφω, to anoint. A Powder
when mixed with Oil, is to be rubbed over the Body, in
to prevent Sweat. *Blancard.*

ALIPILI, Servants attending upon Baths; ſo called
their being imployed to pull off (*Alarum Pilos*) the Hair of
Arm-pits with Tweezers.---*Caſtellus*. For this Purpoſe
alſo applied Plaſters, called *Dropaces*, made of Pitch and
which, being torn ſuddenly off, pulled off the Hair
with them; or they were anointed with certain Unguents
Pſilothra, which had the Power of bringing off the Hair.
the Men who performed this Office were called *Dropaciſtæ*
Alipilarii, and the Women *Picatrices* and *Partiltriæ*.
Hiſt. Med.

ALIPTÆ, (from ’Αλείφω, *to anoint*) Servants belonging
the Baths, whoſe Buſineſs it was to anoint Perſons after
“ This they did at firſt under the Direction of the
“ who was himſelf above this mean Office: Whence they
“ called, among the *Romans*, *Unctores*, or *Reunctores*, and
“ generally of a ſervile Rank, as *Pliny* teſtifies of
“ *Selymbrian*, *Mediaſtinis Reunctoribus vectigal invenit.*
“ received Wages among the ſervile Herd of Anointers.
“ after they had acquired a Dexterity in this very
“ Branch of the Art, they began, by Degrees, to
“ their Dependence upon the Phyſicians, and at laſt
“ it into their own Hands; nor contented with this,
“ firſt the Name of Iatroaliptæ, and ſoon after that of
“ cians.

“ This, at length, brought a Reflection upon
“ general, many Slaves having learnt this Art, which they
“ tiſed in the Houſes of the Nobility, eſpecially among
“ *mans*, at a very low Rate: Whence it comes to
“ many idle People will object to Phyſicians, even
“ Day, that they were no better than Slaves at *Rome*;
“ they cannot fix this Reproach upon any but ſuch as
“ dern Waiters at the Bagnios; for theſe are the only
“ ceſſors of the antient *Aliptæ*, who, while Athletic
“ ciſes were in Faſhion, managed the Buſineſs of
“ Friction, and Anointing.”

Schulzii

The *London Diſpenſatory* directs the following
the Name of *Trochiſci Aliptæ Moſchatæ*, “ Balſamic
“ with Muſk.”

Take of the pureſt Labdanum three Ounces; of
Styrax one Ounce and a half; of Benjamin in
Ounce; of Aloes Wood two Drams; of
Dram; and of Muſk half a Scruple. Let the
rubbed in a Braſs Mortar with an Iron Peſtle,
and rubbed over with an Almond with a little
until by Agitation it becomes diſſolved: Then put
Styrax and Benjamin, which manage the ſame
laſtly, put in the Aloes Wood in Powder, with
and Ambergreaſe diſſolved together, in another
with Roſe Water; and when the whole
almoſt cold, form it into Troches. *S. A.*

“ This is from a Preſcription of *Nicolaus*, and is
“ into the *Auguſtane* and College Diſpenſatories,
“ Dram of Camphire, which is here omitted, as
“ a Flavour very diſagreeable to moſt Perſons.”—
London Diſpenſat.

ALISMA. This is the Ἄλισμα Dioſcorid. in the
Matthiolus. *Arnica* Offic. Schrod. 20. *Arnica*
Buxb. 98. *Arnica Schroderi*, Rupp. Flor. Jen. 141.
nicum ſive Aliſma & Arnica Germanorum, Cod. Med.
ronicum Germanicum, Park. 320. Raii Hiſt. 1. 276.
cum plantaginis folio alterum, C. B. 185. Tourn.
Boerh. Ind. A. 100. Hiſt. Oxon. 3. 127. Buxb. 98.
nicum Germanicum foliis ſemper ex adverſo naſcentibus
J. B. 3. 19. Chab. 339. *Calendula Alpina*, Ger. 603.
740. *GERMAN* LEOPARD's BANE. *Dale.*

Aliſma is by ſome called Alcea, by others
ſome Acyrus, and again by others Lyrus. Its
thoſe of Plantain, only narrower, with the convex
the Ground: It has a ſlender ſmooth Thyrſoidal
Cubit high, and bearing ſmall Heads at the Top;
are thin, and of a white Colour, inclined to a
the Roots are like thoſe of black Hellebore, ſlender,
an acrid and moderate fat Taſte: It delights in a
(*This Deſcription is tranſcribed by* Oribaſius.)

A Dram or two of the Root, taken in Wine,
who have eaten of the Sea Hare, or have been bit by
or drank too much Opium. It is alſo good for the

ntery, either drank alone, or with an equal Quantity of
Carrots Seed; and is of good Efficacy in Convulſions and
ric Fits. The Herb binds the Belly, but provokes the
es, and diſcuſſes Tumours, if applied. *Dioſcorides, Lib.*
. 169.

e have found, by Experience, that the Decoction of the
of Damaſonium, or Aliſma, in Water, being drank,
the Stone in the Kidneys. *Aetius Tetr.* i. *Serm.* i. *Tit.*
ſonium.

ſma is the fourth Species of Doronicum; it is a Plant which
from its Root many Leaves, reſembling thoſe of Plantain,
, ſomewhat thick, downy, and ſpreading upon the Ground.
the Middle of theſe proceeds a downy Stem, which grows
Height of a Foot, or a Foot and a half, bearing Leaves a
deal ſmaller than thoſe at the Bottom; and at the Top a
radiated Flower, reſembling that of Doronicum, or
on Leopard's Bane, but larger: Its Seed is longiſh, and of
piſh, acrid, and fragrant Smell: Its Root is reddiſh, fur-
ed with long Filaments, like that of black Hellebore;
ing under Ground; of a ſharp, aromatic, and agreeable
It grows in hilly Places; it contains a great deal of Salt
il.

s diuretic, ſudorific, and ſometimes a little emetic: It
es coagulated Blood. *Lemery des Drogues.*

s found by frequent Experience to be a Diſcuſſive and a
rary, and is counted the very beſt and only Panacea for
s have hurt themſelves by Falls from high Places.--*Ephem.*
An. 9, & 10. The Country People uſe it, inſtead of
ore, for the Murrain among Cattle.--*Hoff. Cat. Abtor.*
p. 88.

rnefort mentions five Sorts of Aliſma. The firſt is the
repens, foliis gramineis & ſubrotundis. Damaſonium
las emittens ex geniculis. Ranunculus paluſtris, foliis gra-
& ſubrotundis. Petit. Epit. pag. 47. *Damaſonium repens,*
ogetonis rotundifolii folio. Tab. 4. *Fig.* 9. *Act. Ac. Reg.*
19. *Vail.* 46, in the great Lake below the old Caſtle at
rys.--Mr. *Brewer.* The ſecond is the
ſma Cord. in Dioſc. Ranunculus paluſtris, Plantaginis
mpliore. Inſt. 292. *Plantago aquatica latifolia. C. B.*
90. *Plantago aquatica. J. B.* 3. 787. *Plantago paluſ-*
aquatica. Tabern. Icon. 734. Great Water-Plantain.
rnæmontanus has a very good Figure of it; we muſt
nfound it with that which *Lobel* calls *Plantago aquatica,*
etæ aut Plantaginis, flore Gallii albi, as *C. Bauhin* does:
Figure gives a better Repreſentation of the following.
hird is the
ma anguſtifolium umbellatum, capitulis rotundis. Ranun-
aluſtris, Plantaginis folio anguſtiore. Inſt. 292. *Plantago*
a anguſtifolia. C. B. Pin. 190. *Plantago aquatica minor.*
Icon. 734. The leſſer Water-Plantain. I have not
this about *London:* It is common in the Moors about
idge.

muſt not confound the *Plantago aquatica humilis, anguſti-*
longifolia Lob. with this Plant, as *C. Bauhin* has done:
eed but compare the Figures of *Tabernæmontanus* and
to ſee the Difference. The fourth is the
ma umbellatum, foliis anguſtiſſimis. Ranunculus aquaticus,
ginis folio anguſtiſſimo. Inſt. 292.

Root of this Plant is a Tuft of white capillaceous Fibres:
eaves are two or three Inches long, two or three Lines
pale-green, having Nerves running lengthwiſe, pointed,
ed by a pretty long Pedicle, inſipid at firſt, but after-
aſting ſomething like Coriander: The Stalks are uſually
d, naked, one Line thick, terminated by an Umbel of
s, the Rays of which are an Inch and a half long; each
has three Petals, which are almoſt round, pointed, white,
g to a Fleſh-colour, with a yellow Nail: The Empale-
onſiſts of three hollow, yellowiſh-green, ſmooth, ſhining
a Line and half long, pointed, chanelled; each Flower
very ſhort Chives, each loaded with a yellow Summit;
ntal of the Flower is a little greeniſh Button, which be-
fterwards three Lines diameter, and ſuſtains ſeveral cluſ-
eeds, chanelled, one Line long, pointed, of the ſame
with the Leaves.

owers in *July* and *Auguſt:* It varies according to the
I have obſerved it at *Montpelier* a Foot high, and with
three Umbels, one above another.

us's Deſcription of his *Plantago aquatica minima,* would
ell enough with this Plant, if he did not affirm, that the
open into two Parts, and incloſe ſmall Seeds; which
etter with the Damaſonium. The fifth is the
a humile, ſupinum, anguſtifolium. Ranunculus paluſ-
lantaginis folio, humilis & ſupinus. Inſt. 292. *Plantago*
, humilis, anguſtifolia & longifolia. Lob. Icon. 300.
Species is very well repreſented by *Lobel*'s Figure.

STELES, Sal Ammoniac. *Rulandus.*

TURA, Nutrition. *Blancard.*

AFIAL, Antimony. *Rulandus.*

AHEST. See ALCAHEST.

ALE, (*Oleum Gallinæ*) the Fat or Oil of a Hen. *Ru-*

ALKALI. See ALCALI.

ALKALIA, (*Vas*) a Veſſel. *Rulandus.*

ALKALID, ALKES, or ALCOB, (*Æs uſtum*) burnt Braſs. *Rulandus.*

ALKANT, either Mercury, or a kind of Ink. *Rulandus.*

ALKANTUM, burnt Braſs, or a kind of Aromatic, or, according to ſome, Arſenic. *Rulandus.*

ALKANRI, or ALCANRI, the Name given by *Meſne* to a particular Electuary or Confection, now out of Uſe. *Caſtellus.*

ALKARA, or ALCARA, a chymical Cucurbit, called ſo from its Shape, which is like that of the Cucurbita or Gourd. *Rulandus.*

ALKARANUM, *Rulandus* explains this *Duenec viride.* See DUENEC.

ALKASA, the ſame as ALKAZOAL, or ALBOT, which *Rulandus* interprets a Crucible.

ALKAUT, ALMARKASITA, Mercury. *Johnſon,* who by a Miſtake tranſcribes *Alcaut* for *Alkaut,* from *Rulandus.*

ALKAUTUM. *Johnſon,* the literal Tranſcriber of *Rulandus,* alſo miſtakes this for *Alkantum.*

ALKEKENGI. A Plant thus diſtinguiſhed:

Alkekengi, *Halicacabum,* Offic. *Alkekengi Officinarum,* Tourn. Inſt. 151. Elem. Bot. 126. Boerh. Ind. A. 2. 66. Dill. Cat. Giſſ. 83. *Alkekengi Tournefortii,* Rupp. Flor. Jen. 38. *Solanum veſicarium,* C. B. Pin. 166. *Solanum veſicarium vulgatius repens, fructu & veſicâ rubra,* Hiſt. Oxon. 3. 526. *Halicacabum,* Ger. 271. Emac. 342. *Solanum Halicacabum vulgare,* J. B. 3. 609. Chab. 522. Raii Hiſt. 1. 681. *Solanum veſicarium ſive Alkekengi,* Park. Parad. 532. *Halicacabum,* Rivin. *Halicacabum ſive Alkekengi vulgare,* Park. Theat. 462. WINTER CHERRY. *Dale.*

The Root of the Winter Cherry runs creeping in the Earth, ſhooting out in the Spring ſeveral browniſh Stalks about two Foot high, ſomewhat angular, about a Finger thick, and not much branched, beſet with many dull-green Leaves, broad at Bottom, and ending in a ſharp Point ſomewhat waved about the Edges, in Shape like the common Night-ſhade, but larger. The Flowers come forth at the ſetting on of the Leaves, on long Foot-ſtalks, each Flower being a ſingle Leaf, divided into five Segments of a white Colour, with yellow *Stamina* in the Middle; when the Flower falls off, its *Calyx* is extended into a large thin roundiſh Huſk or Bladder, as big as a Walnut, firſt greeniſh, and as it grows to Maturity, of a reddiſh Colour, including a Berry of the Bigneſs and Colour of a red Cherry, containing a great many ſmall flat Seeds in a clammy pulpy Juice. They grow with us in Gardens, where they are eaſily propagated; it flowers in *July* and *Auguſt,* and the Fruit is ripe in *September.* The Leaves and Berries are uſed.

The Leaves are cooling, and of the Nature of common Night-ſhade. The Berries are a ſingular good Diuretic, and uſeful againſt the Gravel and Stone: Being boil'd in Milk, and ſweetened with Sugar, they cure the Heat of Urine, making bloody Water, and Ulcers in the Kidneys and Bladder. They help the Jaundice, by opening the Obſtructions of the Liver and Gall-bladder, and the Dropſy, by carrying off the Water through the urinary Paſſages.

The only officinal Preparation, is, the Trochiſci Alkekengi. *Miller Bot. Off.*

The Berries have a vinous and moſt penetrating Juice, like Wine, or the Juice of Citrons, and are therefore commended in burning Fevers. The dried Berries ground to a Meal, and infuſed in Wine, is a principal Diuretic, and beſides moves the Belly; and is the more beneficial, as there is nothing in our Body but Urine, that inclines to an alkaline Putrefaction; wherefore alkaline Diuretics are to be ſuſpected. Half an Ounce of the dried Berries bruiſed, and taken as Tea or Coffee with Sugar, cleanſes the Reins, corrects grumous Blood, helps the Yellow Jaundice, Strangury, Gout and Dropſy. The Smoke of the Seeds received into the Mouth, makes the Worms drop out of a hollow Tooth in a wonderful manner. *Boerhaave.*

Lemery adds, That it is good for the Nephritic Colic, it is commonly apply'd in Decoction, and dry ſometimes, and ſometimes pulverized.

Alkekengi, is an *Arabian* Name. *Lemery de Drogues, p.* 26.

The Species of this Plant are:

1. Alkekengi *Officinarum. Tourn.* Common Winter Cherry of the Shops.

2. Alkekengi *Officinarum, foliis variegatis. Tourn.* Common Winter Cherry, with variegated Leaves.

3. Alkekengi *fructu parvo verticillato. Tourn.* Winter Cherry with ſmall Fruit, growing in Whorles round the Stalks.

4. Alkekengi *Virginianum, fructu luteo. Tourn.* Virginian Winter Cherry, with yellow Fruit.

5. Alkekengi *Indicum majus. Tourn.* Greater *Indian* Winter Cherry.

6. Alkekengi *Americanum annuum ramoſiſſimum, fructu ex luteo vireſcenti. Houſt. American* annual branching Winter Cherry, with a yellowiſh-green Fruit.

7. Alkekengi *Americanum annuum maximum viſcoſum. Houſt.* The largeſt annual *American* Winter Cherry.

8. Alkekengi *Barbadenſe patulum, parvo flore, fructu amplo, mucrone productiori. Act. Phil. N.* 399. Dwarf *Barbados* Winter Cherries, with a ſmall Flower, and an ample pointed Fruit.

9. Alkekengi *Curaſſavicum, foliis Origani incanis, flore viete ſulphureo, fundo purpureo. Boerh. Ind. alt.* 11. 66. Hoary Winter Cherry from *Curaſſo*, with Origany Leaves, and Sulphur-colour'd Flowers, with purple Bottoms.

10. Alkekengi *Americanum fruteſcens, fructu globoſo rubro, veſica atro-purpurea. Houſt.* Shrubby *American* Winter Cherry, with a round red Fruit, having a dark-purple Bladder. *Miller, Supplement to Gard. Dict.*

The third Species of Alkekengi mentioned by *Miller*, is thus diſtinguiſhed:

Στρύχνον ὑπνωτικόν. Dioſcor.

Solanum ſomniferum, Offic. Ger. Emac, 339. Park. Theat. 345. *Solanum ſomniferum verticillatum.* C. B. Pin. 166. Chab. 522. Hiſt. Oxon. 3. 526. Comm. Flor. Mal. 253. *Solanum ſomniferum Antiquorum.* Alp. Exot. 71. *Solanum verticillatum.* J. B. 3. 610. Raii Hiſt. 1. 682. *Solanum, Alkekengi Mexicanum.* Hern. 296. *Alkekengi fructu parvo verticillato.* Tourn. Inſt. 151. Elem. Bot. 126. Boerh. Ind. A. 2. 66. *Pevetti* Hort. Mal. 4. 113. *Baccifera Indica, floribus ad foliorum exortus, fructu ſulcato decapyreno.* Raii Hiſt. 2. 1632. SLEEPY NIGHTSHADE.

It is cultivated by the Botaniſts, and bloſſoms in *July*. The Root and Fruit are in Uſe: The Root has a ſomniferous Quality, but milder than Opium. The Fruit powerfully provokes Urine, and therefore is preſcribed in hydropic Caſes. Its Decoction eaſeth the Tooth-ach: The Juice of the Root with Honey, cures Dimneſs of Sight. DALE from *Dioſcorides*.

The Winter Cherry is not a Native of *England*; but is cultivated commonly in Gardens for medicinal Uſes.

Alkekengi Leaves are acrid and bitter: They give no Tincture of Red to the blue Paper; but the Fruit gives it a very deep one. It ſeems at firſt to be ſouriſh, but afterwards very bitter; ſo that 'tis probable there may be in the Fruit a Salt, like the *Oxyſal diaphoreticum Angeli Salæ*, mix'd with a little fœtid Oil, but ſo involv'd in the Leaves with Sulphur and terreſtrial Parts, as not to be perceptible.

The Alkekengi is very aperitive and diuretic: *Dioſcorides* made uſe of it for the Jaundice, and Suppreſſion of Urine.

The bruiſing or ſqueezing of three or four Winter Cherries in a Glaſs of Wine, in hydropical Caſes, and Suppreſſion of Urine, is adviſed by *Arnaldus de Villa Nove* and *Cæſalpinus*. In Vintage-time take a ſufficient Quantity of Winter Cherries and Grapes; ſqueeze or bruiſe both together to make a Muſt, tun it up, and take four Ounces of this Wine every Morning for the Gravel. The Juice, thickened to the Conſiſtence of an Extract, has the ſame Virtues. Four or five Cherries ſqueezed in an ordinary Emulſion, drank while in the Bath, is good for Suppreſſion of Urine. *Braſſavola* uſed the Juice of theſe Fruits in the ſame Diſeaſe: He affirms, That one who ſuffer'd exquiſite Pains for three Days, was perfectly cured by it. There are Lozenges prepared of the Fruit of Alkekengi. M. *Lemery* has given an excellent Deſcription of them: This Fruit is uſed in the Syrup of Succory, and the Anti-nephritic Syrup of the Royal Diſpenſatory. *Martyn's Tournefort*.

The Trochiſci Alkekengi, Troches of Winter Cherries, is directed by the College to be prepared thus:

> Take of Winter Cherries three Drams; of Gum Arabac, Tragacanth, Olibanum, Pine Nuts, Sweet Almonds, Starch, Juice of Liquorice, *Armenian* Bole, and White Poppy Seeds, each ſix Drams; of Melons, Cucumbers, Citrulls, and Gourd Seed, each three Drams and an half; of the Seeds of Smallage, and white Henbane, white Amber, *Lemnian* Earth, and Opium, each two Drams; and make them all together into a Paſte, of a due Conſiſtence for Troches, with a ſufficient Quantity of the freſh Juice of Winter Cherries. *S. A.*

This is an old *Arabian* Preſcription, taken originally from *Meſue*. Both the *Auguſtane* and firſt Diſpenſatories of the College have got it conſiderably different from what it is here, and in ſome reſpects alſo different from one another; but this is exactly as in the laſt Edition of the College. *Quincy's Lond. Diſpenſatory.*

ALKERMES. The *Confectio Alkermes* is thus directed by the College:

> Take of the beſt ſcented Roſe-water two Pints, of the Juice of Kermes Berries three Pints, of the whiteſt Sugar one Pound; boil them almoſt to the Conſiſtence of Honey, and then ſtir in the Powders of Cinnamon, and Aloes Wood, both the beſt in their Kind, each ſix Drams, and make into a Confection. *S. A.*

“ This was originally a Compoſition of *Meſue*, but it hath
“ undergone many Alterations amongſt Diſpenſatory Writers,
“ and particularly thoſe of the Faculty of *Montpelier* and
“ *den*, as may be ſeen in the *Pharmacopæia Regia* of
“ but they are all perplexed and injudicious Proceſſes.
“ College at firſt received it into their Diſpenſatory,
“ ing to the original Preſcription; but it hath, upon
“ Reviſe ſince, been altered, until reduced to the ſimple
“ eaſy manner as herein ordered. All the ſuperfluous
“ dients, and troubleſome Parts of the Proceſs, are
“ jected, and nothing retained but what is of ſome
“ to the main Intention, and eaſy to manage: The
“ of the Gold, indeed, may leſſen it in the Eſteem of
“ attributed any cordial Virtues to it on that Score; but
“ they have learned to judge better, they will be more
“ ciled to it, as here ordered, without that
Quincy's Lond. Diſpenſat.

For the Virtues of the CONFECTIO ALKERMES,
KERMES.

Many prefer the ſimple Juice of the *Kermes* to this
fection.

ALKIAN, is defined by the Chymiſts to be that Spirit
nouriſhes and governs a Man, by which his Food is turned
Nouriſhment, and Animal Generation performed, and by
Man himſelf ſubſiſts, or is a mixed Subſtance of all
gether. *Theat. Chym. Tom.* 5. *p.* 135.

ALKIBRIC, ALCHIBRIC, ALCHIBERT, ALGIBIC,
KIBIC, or ALCHABRIC, the ſame as *Sulphur vivum.*
dus. Johnſon calls it *Alkibrie*. In the fifth Volume
Theatrum Chymicum, p. 492. it is ſaid by a certain
Author, to be incombuſtible Sulphur.

ALKIEN. This Word is uſed in the *Theatrum*
Vol. 5. *p.* 170. It is not eaſy to underſtand it by the
tion there given. The Author ſays, *Alkien Terræ eſt*
Animalis: in finibus Terræ in lamina alta ſunt Vires
tione, ſicut Vires Animalis quas vocant Medici Alkien.
Alkien Terræ is that Spirit which carries on all the
performed in the Earth, as *Alkian* or *Alkien Animalis*
in Animal Bodies.

ALKIMIA. See ALCHEMIA.

ALKIN, (*Cinis clavellatus*) Pot-Aſh. *Rulandus.*

ALKIR, Smoke, or Coals. *Rulandus.*

ALKITRAM, (*Pix liquida*) Tar. *Rulandus.*

ALKOEL, a very fine ſort of Lead dug out of the
Others affirm it to be the *Lapis Lazuli*; and others,
Antimony. *Rulandus.* See ALCOHOL.

ALKOL, the ſame as ALCOHOL, which ſee.

ALKOSOR, Camphire. *Rulandus.*

ALKI *Plumbi*, a certain ſweet Preparation from Lead,
haps *Saccharum Saturni*. *Rulandus.*

ALLA, Ale, a Liquor very well known in our own
try, the Nature of which may be comprehended from
ſaid under the Article ALCOHOL. As a ſpirituous
muſt neceſſarily be pernicious, if taken in too large
or too frequently. It is diſtinguiſhed from Beer by the
As Ale, properly ſo call'd, is not kept a ſufficient
the remaining *Gas Sylveſtre* to be deſtroy'd, or
with the Liquor in ſuch a manner as to loſe its
at leaſt a Part of it, this, as an Aliment, muſt be
windy; and we frequently find violent Colics produced
Some, who have drank conſiderable Quantities, in a
Space of Time, of very flatulent Ale, have been
ſtantly kill'd by the extreme Rarefaction of this *Gas*
or incoercible Spirit. Others have fell into the
bus, and difficultly eſcaped with Life.

It muſt, however, be allow'd, that Ale, as an aceſcent
muſt be a very proper Drink, when alcaleſcent Aliments
in Quantities ſuperior to the Powers of Digeſtion.
alſo is eſteem'd by many to be leſs productive of the
Gravel, than Wine, or any other Liquor, Mead

Upon the Whole, Ale well prepared, and kept to a
Age, ſo as to loſe its flatulent Qualities, ſeems to be
ſafer, and perhaps more healthful Liquor, than that
which the Merchants and Vintners are pleas'd to
with, which is to ſuch a Degree ſophiſticated, as to
utterly uncertain, whether a ſingle Glaſs of genuine
on any Terms, to be procur'd from their Cellars.

Lemery makes the following Remarks on Ale and

There are ſeveral Sorts of Beers, which differ from
other, according to their Conſiſtence: For ſome are
thick, and muddy, other clear and fine. Secondly,
to their Colour; for you will find thoſe that are pale,
and red. Thirdly, according to Taſte; for ſome are
and penetrating, others bitter and ſharp, and ſome
moſt as pungent as Muſtard. Laſtly, they differ alſo
ing to their Age: for new Beer hath a very different
from that which is ſtale. Theſe various Differences
from the Way of brewing them, from the different
or Climates, from the Water that is uſed, from the
ſpent about them, and from the Ingredients put in,
Proportions of them.

You are to chuſe that Beer which is clear, of a good Colour, pungent and agreeable Taſte, that ſparkles much when ſtir it, and that is neither too old, nor too new, and out any Sourneſs, according to theſe Lines:

Non acidum ſapiat Cerevisia : ſit bene clara :
Et granis ſit cocta bonis : ſatis ac veterata.

eer is of an opening, fortifying, moiſtening and refreſhing ure: It's nouriſhing enough, and makes People fat, which anifeſt enough in Northern Countries, where moſt People k nothing but Beer, and where they are almoſt all r, bigger, and more vigorous, than thoſe that live in ntries, where Wine is their common Drink. See how School of *Salernum* explains the Effects of Beer.

Craſſos humores nutrit Cerevisia, vires
Præſtat, & augmentat carnem, generatque cruorem.

eer, when drank to Exceſs, makes People drunk; and the cts of it this way, laſt long. When 'tis too new, 'tis y, provokes Venery, and ſometimes ſo operates upon the els, that it cauſes a kind of Gonorrhœa, which indeed ittle dangerous; and this, perhaps, has made ſome People that the Uſe of Beer, is pernicious to the Reins and es; tho' Experience does by no means confirm it, but on ontrary, makes this Drink to be generally very wholſome.

hey extract an inflammable Spirit from Beer, like that of ; they alſo draw Phlegm, black Oil, and a Spirit from hich is nothing but acid Salt, diſſolved in the Phlegm.

r agrees, at all times, with any Age and Conſtitution; ſpecially more with plump and fat People, than others.

REMARKS.

s a Liquor well known, and which by Fermentation has been de vinous: It's made of Barley, Oats, or ſome other Sort Corn, which they reduce into large Meal, of which they e a certain Quantity, put it into hot Water, wherein y boil it for ſome time, till the Liquor has impregnated the ve Principles of the Meal; after which they draw it off, boil it again with Hops in it, or a little Wormwood, or r bitter Plants. When the Liquor is boiled enough, they it much, and pour it backwards and forwards, from one ſel into another, while 'tis yet hot: Then they let it k, in order to which they put Yeaſt or Dregs of Beer it, or ſome other fermenting Matter. Laſtly, when it been well purged and clarified by Fermentation, they put to Tuns or Barrels, and keep it.

vorking of the Beer proceeds from the eſſential Salts of Corn, which rarefy, attenuate, and exalt the oily Parts e ſame Corn. This Fermentation ceaſes, when the Salt ſurmounted the Oppoſition made by the oily Principles; when the groſs Matters have been precipitated into the om of the Veſſel: This Fermentation is ſtill more or full of the Principles of the Corn.

e have, in this Place, but related one Way of brewing , yet 'tis done ſeveral Ways; for we may ſay, that y Brewer has his own Method: It's enough, that we ſhewed that which is moſt common, and moſt in uſe.

or other bitter Plants, which they put into Beer, pro- good Effects therein; they help to rarefy the groſs and us Part of the Corn. Moreover, they hinder the Beer growing ſour; for every body knows, that bitter things ery proper to conſume thoſe that are ſour.

ts of Waters are not alike good for brewing of Beer ; thoſe which are very clear, cold, and vivid, ſuch as and Spring Waters, are to be preferred before others; uſe that, being not liable to ferment, they hinder the from being ſpoiled. In ſhort, if Beer does work at with too much Violence, or elſe if it ferments anew, it has once worked enough, this Fermentation will way for the ſpirituous Parts to fly away; and then the alts which are in the Beer, extending themſelves much, etting the Aſcendency, never fail to make the Liquor our.

it is, that the Beer which is brewed in the Northern tries, as in *England*, *Sweden*, *Flanders*, and ſeveral of *Germany*, is better, and keeps longer, than others. rt, as the Sun has but little Power in thoſe Parts, the rs upon that Account are colder and rawer, and do vigorouſly retain the active Principles of the Corn: by this Reaſon alſo we may perceive, that the Beer d in hot Countries will not keep long, and therefore ot proper to brew any in *Provence*, *Dauphiné*, or *Lan-*

w by Experience, that the beſt Time of the Year for ng of good Beer, is in cold Weather, as the Beginning er End of a Winter; and that that which is brewed mmer, does not keep ſo long.

y be called a liquid Bread, becauſe 'tis made of the of Corn, ſteeped in a deal of Water: This Drink is hing and moiſtening, by reaſon of the oily and balſamic Principles, which the Corn ſupplies it very largely with; it makes People intoxicated, when drank to Exceſs, becauſe it contains many ſpirituous Parts, that cauſe Drunkenneſs in the ſame manner, as other vinous Liquors do, as we have already accounted for.

Beer that is too new, contains much viſcous and acid Phlegm, which not having been ſufficiently attenuated, during the Fermentation of it, cauſes Wind, and rarefies itſelf in the Bowels, by the Heat of the Body: It alſo cauſes Heat in the Urine, and even a kind of Gonorrhœa, by ſticking in the urinary Paſſages, and ſtrongly pricking them. Theſe Accidents are remedied, by drinking a little Brandy, which ſeperates and cuts this viſcous Phlegm, and expels it from the Places where they were lodged: This is the Phlegm which contributes to make the Intoxication, cauſed by Beer, to be longer and more dangerous, than that done by *French* Wine, becauſe it doth, in ſome meaſure, obſtruct the Chanels of the Brain, and bear down the Animal Spirits in ſuch a manner, that it requires a pretty deal of Time, to bring them into their priſtine State again.

The *Engliſh* prepare another Sort of Liquor, which they call Ale; it is yellowiſh, clear, and tranſparent, very pungent and ſubtil: It tickles the Noſe and Mouth of thoſe who drink it, ſomewhat like Muſtard: It's very opening, and more pleaſant to the Taſte, than common Beer. They pretend, that there are no Hops, or other bitter Plants, put into it, and that its Strength proceeds from an extraordinary Fermentation cauſed therein, by the Help of ſome ſharp and pungent Drugs. In the mean time, *Schookins*, in his Treatiſe of Beer, obſerves, that ſome put a few Hop-tops into their Ale, in order to qualify the over Sweetneſs of the Malt.

Mundy, a *London* Phyſician, ſpeaking of Beer, ſays, That when this Liquor is new boiled, many put ſome Birch Boughs into it, in order to make it a little more pungent, and the ſooner drinkable: He ſays alſo, That ſome others put Ground-ivy into the Veſſels, wherein this Liquor is put, by the Help of which, the Liquor is fined in a little Time: They uſually bottle up their Ale, and cork them well: But Care muſt be had, when you drink it, that you open the Bottle by Degrees; for the Liquor is rarefied to ſuch a Degree, when the Bottle is ſuddenly opened, that it flies, and ſo is ſpilt.

Beer in *Latin*, is *Cerevisia*, *à Cerere*, becauſe Corn, which *Ceres* was reputed the Goddeſs of by the Antients, is the Ingredient of which it is made: It's alſo for the ſame Reaſon, that ſome call it *Liquor Cereris*, the Liquor of *Ceres*.

It's alſo called, *Vinum Hordeaceum*, *Vinum Regionum Septentrionalium*, becauſe 'tis made of Barley, and in the Northern Countries uſed inſtead of Wine: It may be alſo ſaid, that it has this Advantage of Wine, that it may be made at all times, that it moiſtens, is more nouriſhing, and marketable. *Lemery on Foods*.

ALLABOR, Alahabar, Alabari, Alchonor, Allarinoch, Alhohonoch, Alrachas, Alastrob, Alomba, Alooc, Alcamor, Lead. *Rulandus*.

ALLABROT, a kind of factitious Salt. *Rulandus*.

ALLANTOIS, from ἀλλᾶς, a Sauſage, or Hogs Pudding, as we call it; becauſe in Brutes it is long and thick.

It has been much diſputed by Anatomiſts, whether the human Fœtus was furniſh'd with an Allantois or not. But Dr. *Hale*, in the *Philoſophical Tranſactions*, and Monſieur *Littre*, in the *Memoirs of the Academy of Sciences*, put the thing out of Diſpute. I ſhall therefore give their Sentiments and Obſervations on this Subject.

I ſhall here give a true and exact Account of a human *Allantois*, as it appeared in two Subjects, ſtill by me; one of which I obſerved ſeveral Years ago, and the other in *March* 1698-9.

Moſt of the Antients allow of one; not from their Experience of it, but becauſe they took it for granted, that Men, and other Animals, were alike, in the *Viſcera*, *Membranes*, *Veſſels*, &c. *Hippocrates* ſays, That Twins lie in *Sinuſſes*, and that the *Uterus* has *Cornua*. *Galen* deſcribes the *Navel-ſtring* to conſiſt of four Veſſels, beſides the *Urachus*, and the *Allantois* to be like a Pudding reaching from one *Cornu* of the *Uterus* to the other. In ſhort, notwithſtanding the Antients might ſometimes diſſect human Bodies, and although *Herophilus* and *Eraſiſtratus* did open live Men and Women, yet it can't be found, what great Uſe was made of thoſe Opportunities. For the Antients Accounts of many Parts, particularly of the *Urachus* and *Allantois*, (as to its Name, Figure, Site, &c.) agree only to their Appearance in *Brutes*. I ſhall ſay nothing of the *Allantois* in Brutes, ſince it is granted by moſt Anatomiſts to be in theſe Animals, and ſufficiently deſcribed by Dr. *Needham*, who alſo firſt diſcovered Part of the *Allantois* in *human* Subjects; but neither he, nor any other, has taken the right Method of finding it intire; and 'tis no Wonder they could not truly deſcribe what they never ſaw. Dr. *Needham* ſays, That after the *Amnios* is cleared, and left fixed to the *Umbilical Rope*, you may divide by the Fingers, or Knife, the remaining Part of the *Involucra* into two *Membranes*. The

Exterior he truly calls the *Chorion*, the *Interior* he takes to be the *Allantois*. But by theſe ways of Separation, you will preſently tear the *Allantois*, and be able to diſcern only ſome ſmall Pieces of it. Beſides, the *Allantois* is at firſt Sight ſo like the *Amnios*, that many who ſuppoſe the *Amnios* double, and that its Coats are eaſily ſeparable, have taken theſe Pieces of the *Allantois* for broken Parts of one of the Coats of the *Amnios*: Whereas having firſt found the Hole whence the Urine came forth, (if the *Allantois* is not too much torn) you may blow up the *Allantois* with a Pipe to its full Dimenſions, and then ſee its true Shape, the *Fundus*, the *Cervix*, the Inſertion there of the *Urachus*, its relation to the other Membranes, *&c.* Be the *Allantois* never ſo much torn, yet this way you may eaſily ſeparate many Inches of it from the *Chorion* and *Amnios*: Which eaſy Separation demonſtrates a Diſtinction of Membranes, ſince no double Membrane can be divided by the Breath alone.

Indeed *Hoboken* and *Diemerbroeck* made it a very eaſy thing to ſeparate the *Allantois* from the other Membranes, only by the Fingers; but 'tis plain from their Deſcriptions, that they never ſaw one intire. Amongſt other Miſtakes, *Diemerbroeck* ſays, That the Urine of a *Fœtus* lies between the *Urinary* Membrane, and the *Chorion*; as though not contained in a diſtinct Bladder, but in a Cavity made partly from the *Chorion*, partly from the *Urinary* Membrane. I confeſs *De Graaf* tells us, That by blowing with a Pipe into a Hole made through the *Chorion*, all the Membranes of the *Secundines* will appear diſtinct. He has alſo delineated an *Allantois*, with the other Membranes, *&c.* as he ſays he found them; yet this Figure muſt be drawn from his own Fancy, and not from any Preparation, for theſe Reaſons: Firſt, Becauſe by this way of Separation, you can only part the *Allantois* from the *Chorion*, but never ſee its true Dimenſions, nor any Appearance of a Bladder, as the *Allantois* is, can be ſhew'd only by blowing into its Cavity, or by finding it full. Yet in this *Figure* no Sign can be obſerved where it was blown up, and tied, *De Graaf* alſo ſpeaking of making a Hole only in the *Chorion*. Nor can this *Allantois* be ſuppoſed full of Urine, becauſe 'tis not of the Shape of a full *Allantois*; and our Author himſelf calls it only the inflated Part of the *Allantois*. However, I can't conceive how the *Allantois* could remain partly filled with Air, (any more than it might with Urine) ſo long as till this *Figure* was drawn, unleſs ſome *Hole* was tied up, whence the Urine came forth, and the Air was blown in. Secondly, Becauſe in this *Figure* the *Umbilical Rope* ſeems to run through both *Amnios*, and the *Allantois*, to its Inſertion on the *Placenta*; whereas the *Allantois* is no-where perforated by the *Umbilical Rope*, nor does it any-where paſs through the *Amnios*, but only runs under it, at the Place of its Inſertion on the *Placenta*. If the *Navel-ſtring* could be allowed to enter the *Amnios*, and to paſs under it to the *Placenta*, why ſhould it not appear (which it does not) under the *Amnios*, as well as the thin Subſtance of the *Allantois*? Again, according to *De Graaf*'s Poſition of the *Secundines*, nothing could hinder a plain View of the Place where the *Navel-ſtring* is ſet on the *Placenta*. This will be eaſily apprehended, by ſuppoſing the Part H, in my *Figure*, (*Plate* 3. *Tab.* 2.) to lie uppermoſt, the *Fundus* G and *Navel-ſtrings* being turned over; for then the *Strings* will run over the *Allantois*, as in *De Graaf*'s Cut, and its Inſertion appear plain on the *Placenta*, which yet can't be diſcover'd in his *Figure*. I am ſure the Whole is irregular, and I take it to be fictitious. As for the *Urinary* Membrane, it ſeems to be the *Allantois* of a *Colt*, (where *Needham* ſays, The *Umbilical Rope* runs through the *Urinary* Membrane) not leſs abſurdly added to the *Secundines* of a *human Fœtus*, than the *Secundines* of a *Whelp* are to a like *Fœtus*, by *Veſalius*.

Laſtly, 'Tis moſt evident, that *De Graaf* knew nothing of the true Shape of this Membrane, and that he had never ſeen one intire, becauſe he conſents to *Needham*'s Deſcription of it as true, which yet is falſe in ſeveral Particulars. For, Firſt, The *Urinary* Membrane does not cover the whole *Fœtus*, (as he affirms) but only that Part of it which reſpects the *Chorion*, and does not lie on the *Placenta*; for the *Allantois* can be extended at fartheſt but to the Edges of the *Placenta*, where the *Amnios* and *Chorion* are ſo cloſely joined by *Fibres*, that no Membrane can come between them. Wherefore, Secondly, The *Allantois* is not every-where faſtened to the *Chorion*. And conſequently, Thirdly, The *Allantois* can't be of the ſame Shape that the other Membranes are of, nor be like the *Allantois* of a *Colt*, which contains the *Fœtus* in the *Amnios*; all which, nevertheleſs, *Needham* aſſerts. In ſhort, Dr. *Needham* had ſeen only Pieces of the *Urinary* Membrane, but never an intire one, and ſo could only gueſs at the Shape, *&c.* of it, from what he had obſerved in *Mares*, and *Glanduliferous* Animals. He might have made a better Gueſs at the Figure, Site, *&c.* of a *human Allantois* from that of a Whelp, which does not every-where encompaſs the *Fœtus*, as he obſerves. *Bidloo*, in moſt of his *Figures* of the *Secundines*, letters ſome *Veſtigia* of the *Urinary* Membrane; but in any of theſe *Figures* you only ſee broken Pieces of one, ſo confuſedly placed, than no *Idea* of its Bigneſs, Shape, or Situation, can be formed from th
I muſt confeſs, that oftentimes the Membranes of the *Secun-*
dines are ſo torn, that no Art can exhibit an intire *Allantois*;
however, among the many *Secundines* that have come und
the Hands of Anatomiſts, ſeveral, no doubt, muſt have be
intire enough for a fuller Diſcovery than they have made, ha
it not been, by their ways of Proceeding, (*viz.* by Kni
Fingers, or blowing under the *Chorion*) impoſſible to diſco
any thing plain, or ſatisfactory, even in the faireſt Subjects.

I come now to anſwer the Objections of thoſe who ſtill de
an *Urinary* Membrane to a *human Fœtus*.

The Difficulty of finding this *Membrane*, is by no means a
Argument againſt the Exiſtence of it: But a Woman that d
big with Child, is ſo fair a Subject for the Diſcovery of th
Membranes, that I wonder *Parey*, having ſuch an Opportunit
could find but two, if he was ſo careful as he ſays he was. D
Tyſon obſerved *three Membranes* ſome Years ago, in a like Sub
ject. After the *Chorion* was divided, and laid aſide, he f
two Bladders, containing Liquors of different Colours, wh
he preſſing one towards the other, did not mix, but rema
diſtinct. This Obſervation fully ſatisfied that great Anato
as to the Exiſtence of an *Allantois*; and its Figure, Tex
Site, *&c.* might alſo have been diſcovered by him, had not
leſs curious Spectators been impatient to paſs on to other P
of the Diſſection.

Some deny a *Urinary* Membrane to a *human Fœtus*, bec
they ſuppoſe the *Urachus* to be impervious, and that there
there would be no Paſſage for the Urine, and conſequently
Need of an *Allantois*. *Needham* indeed ſays, That he c
never find any Sign of a Cavity in the *Urachus*; yet is of O
nion, that by blowing from the *Bladder*, the Air might
forced through a *Human Urachus*, as eaſily as he has often
it through that of a *Whelp*. I don't underſtand why
Needham, and others, ſhould inſiſt ſo much upon an app
Cavity in the *Urachus*, or expect that Air ſhould neceſ
paſs through it upon blowing, and think that otherwiſe it
not be fit for the aſſigned Office; ſince many Bodies, as M
branes, *&c.* will not admit Air, *&c.* yet let Water paſs
through them. It will not ſeem ſtrange, that Water
paſs through the Subſtance of the *Urachus*, if we conſider,
the Cavity of the *Urachus* to the *Navel* is open, as appea
Inflation, or Injections (to ſay nothing of thoſe who are
tioned to have made Water by the *Navel*); and that th
of the *Urachus* is pervious, tho' not plainly hollow, (the
rather ſoaking gently, than running through its more
Tubes) may be gathered from hence: Firſt, That the
ſtance of the *Urachus* (as well as the Cavity of the *Al*
is always found turgid with a Liquor, that in Colour,
and Smell, ſeems urinous. Secondly, That ſince the
Coat of the Inteſtines is demonſtrated to be vaſcular by
Leeuwenhoeck, therefore the mucous Subſtance of the U
may alſo be vaſcular. Thirdly, That Urine may as eaſily
through theſe mucous Veſſels, as other Fluids run throu
cular *Cartilages*, and *Bones*, &c. or the Chyle into *L*
(whoſe Orifices, as *Leeuwenhoeck* obſerves, will ſcarce
of Particles ſo big as 1,000,000,000 Part of a Grain of
the great Cavity of the Inteſtines being open at the ſame
or as eaſily as groſſer Parts of the *Semen* paſs the Tubes
Teſticles, whoſe Cavities are not more perceptible. I a
the Urine is more aſſiſted in its Motion by the *Detruſor*
&c. than any of theſe Fluids can be by the *Heart*, o
Muſcles.

Others will not admit of an *Urinary* Membrane, they
ing it would be uſeleſs, becauſe they imagine, that w
Bladder is full, the Urine muſt be diſcharged at its *Cerv*
not at its *Fundus* by the *Urachus*. But in anſwer to th
Urine can never paſs through the *Cervix* and Urethra,
the *Abdominal Muſcles* contract; becauſe we never voi
naturally, but by the Help of theſe Muſcles, nothing l
able to force open the *Sphincter Veſicæ*. Now it bein
than probable, that theſe Muſcles never act before *Reſ*
no Urine can paſs through the *Sphincter*, before th
breathes. No Reaſon can be given, why the *Abdomin*
cles of a *Fœtus* ſhould voluntarily contract, ſince nei
Quantity nor Quality of the Urine can excite to
Action: For when the Bladder is too full of Urine,
ouze through the lax ſpongy Subſtance of the *Urachus*,
gently preſſed by the *Detruſor* alone. There would ari
Inconveniencies from the voluntary Contraction of the
nal Muſcles of a *Fœtus*, as voiding *Fæces* as well a
into the *Amnios*, which ſhould be more prejudicial tha
&c. Yet if we ſhould ſuppoſe the *Abdominal Muſ*
Fœtus to act, the Urine will however paſs where it
eaſily, that is through the *Urachus*, which is partly op
altogether of ſuch a Texture, as in no wiſe can hinder
ſing of the Urine, much leſs be able to reſiſt a co
Force, as the *Sphincter Veſicæ* can. Beſides, the *U*
not only thus qualified for the Admiſſion of Urine,
the Mother lies down, 'tis almoſt upon a Level with
thra; and what has once paſſed the *Urachus*, cannot

on of the Length, Situation, and peculiar Structure of it. ly, The *Pudendi Clauſura*, ſometimes happening in both s, demonſtrates, that then at leaſt the Urine cannot paſs ugh the *Urethra*.

ionis not finding any *Allantois*, nor an *Urachus* plainly ious, thinks there is no Need of either, on another ount. For he ſuppoſes, that the Blood which ſerves for Nutrition of the *Fœtus*, is depurated from all Excrement. I cannot apprehend, what ſhould make this Portion of the d and Chyle freer from Excrement, than the reſt of the *ſa Sanguinea*. There is indeed no Portion of it, which not contain Parts unfit for *Aſſimilation* and *Nutrition*. Author would have been convinced of this Error, had he opened *Abortions* of five Months old or upwards, their ders being always full of *Urine*, and ſome Fœces conſtantly e Inteſtines. 'Tis difficult to determine when this Separa- of *Urine* firſt begins; but I am apt to think it much ſooner is generally ſuppoſed. *Fig.* 4. *Plate* 3. is the *Allantois* of y ſmall *Abortion*, which I have ſtill by me. Since all the are perfectly formed before *Impregnation*, not very long Impregnation they may begin to perform their Offices. oubt they begin as ſoon as there is Occaſion for any Sepa- n; and a Separation of Urine is neceſſary, when the *Fœtus* t nouriſhed by the *Umbilical Arteries*.

he Exiſtence of an *Allantois* is denied by ſome who grant *rachus*, but will have it convey the *Urine* to between the *os* and *Chorion*. *Diemerbroeck*'s Opinion is ſomewhat like only he would have the Urine lodged between the *Urinary* brane and the *Chorion*. Theſe Men don't conſider, that rine in this Caſe would get into the *Amnios*, as well as *uccus Nutritius* of the *Chorion*, whether imbibed from the *s* by the *Chorion*, or ſeparated by its *Glands*. Such a *Nutritius* of the *Chorion* is granted by the Maintainers of orecited Opinions, as well as by thoſe who deny an *tois* altogether, or ſuppoſe it to have a different Figure, from what *Diemerbroeck* aſſigns it. The Tranſudation iltration through the Membranes) of this *Succus* ſeems likely in *Mares* and *Sows*; for in a *Mare*, the *Chorion* is ined to the *Uterus*, till ſhe is half gone; and in a *Sow*, it ot adhere to the *Uterus*, till near the End of her going young: But 'tis moſt evident, that the Urine of a *Human* is not contained between the *Chorion* and *Amnios*, nor en the *Chorion* and *Allantois*, from the cloſe Connection ſe Coats to one another; alſo from the Obſervation of ives, who often find a Bladder of Water (they call it a ater) offering itſelf before the Child, whereas the Humour *Amnios* is little, and of the *Chorion* much leſs, and of an- Colour, *&c.* at the time of Birth. This By-water is Notice of, as an Argument for an *Allantois* by Mr. *r*, to whoſe Aſſiſtance we owe, that the Figures belong- theſe Papers appear correct.

great *Harvey* will not allow an *Allantois* even to , and fancies the *Allantois* and the *Chorion* to be the Membrane, that has two Names, the firſt from its Shape, her from its Office, or Number of Veſſels. Yet it is from *Galen*, and all the Antients, that they meant two t Membranes by the *Allantois* and *Chorion*. Dr. *Harvey* , that a *Fœtus* does not void Urine, but that the Bladder ns it till the Time of Birth. What was offered againſt 's Opinion, may ſerve for an Anſwer to this alſo. Be- 'twas impoſſible for this diligent Anatomiſt not ſometimes erve an *Urinary* Bladder, he has thought of ways to ſuch *Phenomena*, without granting an *Allantois*. In and Does, he had ſeen as it were a certain Proceſs en the Umbilical Arteries full of Urine. This Proceſs is bt the *Allantois*, though *Bartholinus* calls it the *Urachus*. he thinks what is called by others an *Allantois*, (if it is *Chorion*) is ſome Coat accidently formed from a Redu- on of the Membranes; becauſe (ſince every Membrane le) Nature may, upon a Streight, lodge the Urine be- a Duplicature. Yet he does not tell us how his Dupli- is to be filled, he allowing no *Urachus*. But in ſhort, *inary* Bladder can be no Duplicature of the other Mem- ſince in all Animals it differs from them, as to Figure, e, and in having an *Urachus*, which no other Mem- as; and ſince every Animal that has a Bladder, muſt like Neceſſity for a Receptacle of Urine till born; ſince *Urachus* is ever alike inſerted in the ſame *Species* of ls, and the *Urinary* Bladder conſtantly the ſame, as to pe, Texture, Situation, *&c.* the *Urachus* and *Allantois*, s By-water, can be no accidental or preternatural

2. *Plate* 3. repreſents the Secundines of Twins, to e *Allantois*, and its Relation to other Membranes, *&c.* e Parts were prepared and dried.

A A, Part of the *Chorion* expanded.
B, a Line expreſſing the Edges of the *Placenta*.
C, the *Amnios*, which is united to
he *Allantois*, at
E, the Line of Union.
F, the *Cervix* of the *Allantois*.
G, a Hole at the *Fundus* of the *Allantois*, whence the Urine came forth, and where the *Allantois* was blown up.
H, Part of that half of the *Allantois*, which lies under the Line of Union, and immediately covered the *Fœtus's*, unleſs it is ſuppoſed that the *Amnios* is continued under the *Allantois*.
I I, two Stiles or Probes thruſt under the *Amnios*. They ſupport the *Allantois*, and keep open the *Aperture* of the *Amnios*, whence the *Twins* came forth.
K, Part of the *Placenta*, with ſome Blood-veſſels injected.
L L L L, the Arteries of the *Navel-ſtring* filled with red Wax.
M M, the Umbilical Veins filled with green Wax.
N, a communicant Artery, by the means of which all the Arteries of both Navel-ſtrings were filled at once, and the Veins were filled by one Injection in like manner.
O, a Pin that keeps out the *Amnios*, where, from the Edge of the *Placenta*, it runs partly to the Line of Union or Adheſion, and partly over the *Placenta*.
P, Part of the *Chorion* at the Edge of the *Placenta*, where it runs under the *Amnios* on the *Placenta*.
Q, a Pin, that by a Thread helps to pull open the Aperture of the *Amnios*.
R R R, the *Urachus*, lying between the Arteries.
a a a, Fibres or Veſſels which faſten the *Allantois* to the *Chorion*.

Fig. 3. exhibits a Side-view of the ſame Preparation, that the Inſertion of the *Urachus*, &c. may be better ſeen.

N. B. That *A*, and all the ſame Letters in theſe three Figures, denote the ſame Parts in every one.

S, ſhews the Courſe of the *Urachus* R at F in pricked Lines.
T, Part of the *Amnios* raiſed from the *Placenta*, to diſcover the *Placenta* K and V.
V, that Part of the *Allantois* which is below the Line of Union, near its Neck F.

Fig. 4. ſhews an intire *Allantois* of a very ſmall *Abortion*.

N. B. This *Allantois* was eaſily ſeparated from the other Membranes, between which it lay; and the *Amnios* remained an intire Bladder or Membrane under the *Allantois*.

Now ſome Object, that which is called the Line of Union, can be no real Thing: As to this, I don't know whether the *Allantois* of Twins may not require ſuch a Conjunction to ſuſtain, and keep ſteady, a greater Quantity of Urine; nor can I reſolve, whether the *Allantois* of Twins (like that of a ſingle *Fœtus* in *Fig.* 4.) may not be diſtinct, and ſeparable from the *Amnios*, but was not diſcovered by me to be ſo, thro' want of Skill or Care. However, the Reaſons why ſuch a Line was figur'd, are theſe:

1. Although I uſed more Force, with equal Care, to ſeparate the *Allantois* in this Place, than in any other, (where nevertheleſs the Separation was very eaſy) yet I could not divide theſe Membranes farther than that Line.
2. This Line ſeeming ſo regular, as to divide the *Allantois* into two equal Parts, I could not take it to be the Effect of Chance, or my Separation.
3. The Part H below the Line E E, was alike in Tranſparency to that Part of the *Allantois* D above it; whereas had the *Amnios* been joined to the *Allantois*, (as the Objectors ſuppoſe) the *Allantois* below this Line muſt have appeared thicker than that Part above it, ſince the *Amnios* alone is much thicker than the *Allantois*. 'Tis eaſy, indeed, to conceive the *Amnios* running an intire Bladder, or Membrane, under the *Allantois*, and perhaps it may be ſo; but I think it diſingenuous to conceal what I did obſerve, or to make out by Fancy, what I could not diſcover in Fact.

Others have thought this *Allantois* to be an *Amnios* of one of the Twins belonging to theſe Secundines. This Objection, though it may ſeem plauſible, yet it is of no Force. For, firſt, this *Allantois* is much finer to the Touch, as alſo much more tranſparent, than the other *Amnios*, which ſtill remains ſtiff, whilſt the much thinner *Allantois* ſinks under the leaſt Blaſt of Air, notwithſtanding the Stiles I I, which aſſiſt it. Secondly, This *Allantois* had two viſible *Urachus's*, and is of an Oviform Figure, ſomewhat like the common Cuts of a Man's Bladder (for a true Cut of a human Bladder I never yet ſaw, for it ought to be made much bigger (as it really is) at its *Cervix*, &c.); alſo this *Allantois* no-where touches the *Placenta*, unleſs at the Neck F; but on the contrary, the *Amnios* is of the ſame irregular Figure, as the Poſition, Motion, *&c.* of the *Fœtus* require; likewiſe it covers the whole internal Surface of the *Placenta*. Thirdly, They who make this Objection muſt ſuppoſe ſome Hole in this Bladder, and in the *Amnios*, through which one Umbilical Rope may paſs from the *Placenta* to the *Fœtus*; but ſuch a *Foramen* would be preternatural, becauſe the Navel-ſtring only runs from the *Placenta* to the *Fœtus*, under a Coat taken from the *Amnios*, and lies with the *Fœtus* in the Cavity of the *Amnios*, that is no-where perforated. Fourthly, The Hole at the *Fundus* G was ſcarcely wide enough to receive the End of a Man's Finger, whereas the

Twins did not want ſix Weeks of their full Time. Since therefore a *Fœtus* of near eight Months could not poſſibly paſs this Orifice, this Bladder could not be an *Amnios*.

Nothing in theſe *Secundines* is preternatural, only ſome things were not before obſerved. Hitherto Anatomiſts have not allowed Twins to lie in a common *Amnios*, but ſuppoſed each *Fœtus* to have a diſtinct *Amnios*. The Reaſon of this Opinion might be, that ſome, denying any Urinary Membrane, called every Membrane they found (except the *Chorion)* an *Amnios*; and theſe, finding two Membranes in the *Secundines* of Twins, ſuppoſed them to be two *Amnios's*: That others, granting an *Allantois*, but not diſtinctly diſcovering it, but only two Membranes, alſo imagined them to be two *Amnios's*; both of theſe taking that for the *Amnios*, which might really be an *Allantois*. But ſince one *Chorion*, and one *Placenta*, (the *Placenta* and *Chorion* being ever of the ſame Number) generally ſerve Twins, (nay, ſometimes three *Fœtus's)* why ſhould it ſeem ſtrange, that one *Amnios*, (at leaſt ſometimes) and one *Allantois*, ſhould ſerve the like Number?

I am not ignorant, that *Mauriceau*, and *Diemerbroeck*, think there is an abſolute Neceſſity for every *Fœtus* to lie in a diſtinct *Amnios*, and that otherwiſe Twins in the ſame Membrane would grow together, and make a Monſter. *Aquapendens* farther ſays, That all *Ova Gemelliſica* do produce ſome other ſort of Monſter; yet 'tis moſt certain, that *Ova Gemelliſica* do exclude two perfect Chickens, however not both alive. The great *Harvey*, indeed, thinks it poſſible, that ſuch an *Ovum* may produce a monſtrous Chick, if its *Vitelli* are contained in the ſame Membrane, *&c.* yet does not poſitively ſay it muſt be ſo. For my Part, I cannot ſee any more Reaſon, why Twins in one *Amnios* ſhould grow together, than that the Hands or Heels of the ſame *Fœtus* ſhould grow to its own Body. How can the Humours that lubricate a ſingle *Fœtus*, and help it to move, join two together? Since the Humours are the ſame, and the Parts of the ſame *Fœtus* as tender as thoſe of Twins are, and lie as cloſe to one another, as Twins do. 'Tis very obſervable, that among all Monſters we read of, there are very few which ſeem to be made of two intire Bodies joined together, and that moſt of theſe, upon Diſſection, were found to have but *one Heart*, *one Liver*; whence 'tis moſt plain, that theſe Monſters (and no doubt all others) were originally Monſters in the *Ova* before Impregnation, and not ſo from want of the *Amnios*. Yet *Diemerbroeck* does not a little boaſt of having firſt (as he thinks) found the Reaſon why Twins muſt lie in diſtinct *Amnios's*: But ſince the Matter of Fact (ſometimes at leaſt, as in theſe *Secundines*, there was only one *Amnios*, and two regular *Fœtus's)* is not true, his Argument for a Neceſſity of two *Amnios's* for two *Fœtus's* will never prove valid, even where Twins, and two *Amnios's*, are found. Indeed any Part may be made to grow to any Part, as we ſee in the Cure of Hair-lips, *&c.* but then the Fibres muſt be firſt broke, before there can be any Union. Now I cannot conceive what ſhould naturally break the Fibres of the Twins in the *Uterus*. But although 'tis evident, from what has been ſaid, that Twins may be diſtinct in the ſame *Amnios*, yet there muſt be as many *Urachus's* as *Fœtus's*. In theſe *Secundines* I ſaw two running over the *Placenta*, to the Neck of the *Allantois*, which I communicated to ſome Phyſicians, before the Parts began to grow dry. The *Urachus* paſſes under the *Amnios*, as the other *Umbilical Veſſels* do, and runs from that Part where the *Umbilical Rope* is ſet on to the *Placenta*, ſtrait to the *Cervix* F. S deſcribes the Courſe of that *Urachus* marked R, at F in the ſecond Figure. The other *Urachus* lay about a quarter of an Inch laterally beyond that marked R in the ſame Figure. I mean by two *Urachus's*, two long roundiſh Bodies, of a depreſſed Figure; they ſeemed as big as a Knitting-needle, and were of a darker Subſtance than the *Placenta*, on which they lay; they appear'd, in every reſpect, like that Part of the Navel-ſtring which is allowed by all Anatomiſts to be the *Urachus*, and in like manner ſhrunk in two or three Days from a mucous Subſtance to a mere Membrane: Theſe two are the only intire Urinary Membranes that I have prepared. Yet in the *Secundines* that have come to my Hands, I have ever found three diſtinct Membranes eaſily ſeparable. *Phil. Tranſ. abr. Vol.* 4. *p.* 87 *to* 96.

M. *Littre*, in his Obſervations on a monſtrous Human Fœtus (*Mem. de l' Acad. Roy. des Sci.* 1701. *p.* 115.) ſays, That he found in the After-birth of that Fœtus, beſides the Chorion and Amnios, a third Membrane, of the ſame Make as the two others, and not like a Gut, but exactly what we find in ſome Animals, and call Allantoides. This Membrane he intirely, with his Finger, and blowing, ſeparated from the Amnios, and from the Chorion, as far as where this adheres to the Placenta, and even partly in that Place, but with a little more Difficulty. This third Membrane was a little thinner than the Amnios, but as thick as the Chorion; he could perceive no Blood-veſſel in it, nor any Liquor between that and the Chorion; but betwixt it and the Amnios, there was half an Ounce of yellowiſh mucilaginous Liquor, which, he ſays, was probably the moſt glewy Part of the Urine, which, by reaſon of its Viſcidity, could not run off with the reſt at the Rupture of the Membranes in the Birth. And perhaps it this Matter that remaining between the two Membranes, the thin Part is run off, glues them together, and cauſes to be taken for one. Since this, he ſays, he found the Membrane in ſeveral human Fœtus's perfectly well form by taking hold of it in the ſame manner as he did in the ſtrous Fœtus.

The Uſe of this third Membrane of the After-birth of Human Fœtus is, probably, the ſame as that of the Allanto in Animals where it is found, which is, that the Urine cannot be contained in the Receptacles of the Kidneys, in Ureters, nor in the Bladder, might paſs from the Bladder, the Urachus, to the Cavity formed by the Amnios, and particular Membrane, to be there kept in Reſerve till the of Delivery. *Mem. de l' Acad. Roy. des Sci.* 1701. *p.* 115.

ALLELUJA, a Name for *Acetoſa*, Wood-ſorrel. ACETOSA.

ALLIAR ÆRIS, a Term uſed by Alchymiſts in their ceſs for preparing the Philoſopher's Stone, to ſignify the *Philoſophicum*, Philoſophical Copper: It is alſo called *Mercurii*, Water of Mercury; *Æs Album*, White Copp *Animal Kenkel*, *Lapis & Ovum*, the Stone and the Egg; by innumerable other Names, as appears from *Gulielmus nenſis*, in the ſecond Chapter of his *Lilium de Spinis* *Theat. Chym. Tom.* iv. *p.* 889.

ALLIARIA, a Plant thus diſtinguiſhed:

Alliaria, Offic. Ger. 650. Emac. 794. Raii Hiſt. 1. Park. Theat. 112. J. B. 2. 883. C. B. Pin. 110. Mer. 4. Merc. Bot. 1. 17. Phyt. Brit. 4. *Alliaria Matthioli*, Flor. Jen. 61. *Alliaria*, *Alliaris*, Chab. 281. *Heſperis redolens*, Hiſt. Oxon. 2. 252. Raii Synop. 3. 293. Tourn. 222. Elem. Bot. 190. Boerh. Ind. A. 2. 17. Dill. Cat. 51. *Heſperis ſeparia allium redolens*, Buxb. 155. JACK THE HEDGE. SAUCE ALL ALONE. *Dale.*

ALLIARIA. This Plant has a ſmall woody whitiſh perishing every Year after giving ripe Seed; the Stalks be about two Foot high, ſlender and ſtriated, and a little the Leaves ſtand on long Foot-ſtalks; the lowermoſt are iſh, hollowed in next the Foot-ſtalk; thoſe which grow Stalk are ſomewhat pointed, and waved about the Edges, and tender; being rubbed, they ſmell ſtrong of Onions or lick; the Flowers grow on the Tops of the Stalks, ſmal white, of four Leaves a-piece, and are ſucceeded by long der Pods, including ſmall long Seeds: It grows in Hedge Bank-ſides, and flowers in *May*.

The Leaves are uſed; being hot, and of thin Parts, provoke Urine, and are good for the Dropſy; the Juice with Honey helps old Coughs; they reſiſt Poiſon, and tial Diſtempers; outwardly they are uſed with good Gangrenes. *Miller's Bot. Offi.*

It contains a great deal of Eſſential Salt and Oil.

It is inciſive, attenuating, and deterſive; good for the ous Bites of Serpents, for the Dyſentery, to ſtrengthen mach, and to abate Hyſteric Vapours: It is uſed in *Lemery de Drogue.*

It is eſteemed an excellent Antiſcorbutic, eaten by Sallad.

ALLIGATURA, is uſed by *Scribonius Largus* for a Bandage. *Scribon. Larg. Cap.* 77. *N.* 209. See LIGAT

ALLIOTICUM, (from ἀλλιόω, to *alter* or *vary)* lenical Medicine, which alters and purifies the Blood; ing chiefly of the Roots of Dandelion, Succory, Fennel, Raiſins; with the Herbs Endive, Common Ox-eye, Sorrel, Fumitory, *&c.* *Blancard.*

ALLIUM, Garlick, a Plant well known.

There is in *Ægypt* a mild Sort of Garlick, which is in Gardens, and grows after the manner of Leeks, with Head; this is ſweet, ſmall, and of a purpliſh Colour: other Places it is white, and has a Head compoſed of a plicity of Cloves, called (in *Greek)* ἄγλιθαι, *Aglithai.* is alſo a wild Kind, called ὀφιόσκορδον, *Ophioſcordon.* Garlick.)

Garlick is of an acrid, heating, biting Nature; expels diſturbs the Belly, dries the Stomach, excites Thirſt, and Inflations; will raiſe Bliſters on the Skin, and dull the The Ophioſcordon, called alſo ἐλαφόσκορδον, *Elaph* (Stags Garlick) being eaten has the ſame Effects. taken in Food, expels the flat Worms, and provokes and there is nothing better for the Bite of the Viper, or morrhoids, than to eat Garlick after a Glaſs of Wine, drink it bruiſed in the Wine. Applied outwardly as plaſm, it is good for the aforeſaid Purpoſes, and alſo for of a mad Dog. Taken as Food, it prevents Injuries from of Waters, clears the Voice (ἀρτηρίας λαμπρύνει); raw or boiled, mitigates an inveterate Cough. Drank Decoction of Origanum, it deſtroys Lice and their Burnt and mixed with Honey, and the Parts anointed with, it cures Lividneſs about the Eyes occaſion'd by and the Alopecia; but for this laſt Affliction, there an Addition of Ointment of Nard. Mix'd with Salt s the Eruption of Papulæ; and with Honey it heals the o (ἀλφοὺς), the Lichenes, and Lentigines (φακοὺς), and Boiled with Pine, Reſin and Frankincenſe, and held Mouth, it aſſuages the Tooth-ach; with Fig-leaves and , it makes a Cataplaſm for the Bite of the Shrew-mouſe. oction of the Tops, added as an Ingredient in Inſeſſions, down the Menſes and Secundines. A Suffumigation has the ſame Effect. Pounded into a Maſs with the s of the) black Olive, which Compoſition they call *on*, it provokes Urine, opens the urinary Paſſages, and for Hydropical Perſons. *Dioſcorides*, *Lib.* 2. *Cap.* 182.

lick is recommended by *Celſus* to be eaten before the of the Fit of the Ague, in order to take off the Shiver- *Celſus*, *Lib.* 3. *Cap.* 12.

lick is mentioned, among Cicatricers of Ulcers, by *Ori-* from *Zopyrus.* [*Med. Coll. Lib.* 14. *Cap.* 58.] And it nd dries ſo powerfully as to expel Leeches without any Help. *Orib. de Virt. Simp. Lib.* 2. *ſub Scordon.*

s ſomething medicinal, and of bad Juice in it, which is boiling. The conſtant Uſe of it is to be avoided, eſpe- n hot Conſtitutions; for Eatables of ſuch an acrimonious are only fit for Perſons troubled with pituitous, crude, or glutinous Humours. *Ætius Tetr.* 1. *Serm.* 1. *Orib. Col. Lib.* 2. *Cap.* 27.

Garlick Drawing Plaiſter for all Hardneſſes, Abſceſſes, Strumæ, Tumours in the Groins, Fiſtulas, humid Tet- d hardened Breaſts.

of Wax two Pounds, of Colophony and Stags Mar- each an Ounce and half, of white Nitre eight Ounces, enty Cloves of Garlick, and four Pounds of Oil. Boil Cloves firſt, peeled, in the Oil, till they are quite dry; n ſtrain the Oil, and put thereto the liquefiable Ingre- nts, and afterward the Nitre pounded, and ſo uſe it.

Method of Preparation is as follows:

of Wax, Colophony, Oil, each five Ounces, Nitre an nce and half, Stag's Marrow two Ounces, with thirty oves of Garlick; prepare them as before for a Plaiſter, be uſed eſpecially for Fiſtulas; for it draws out the Hu- ur, which muſt be often wiped away. This alone, with- any other Help, draws, incarnates, and heals or ci- rizes. *Ætius Tetr.* 4. *Serm.* 3. *Cap.* 44.

k, Onions, and Leeks, are remarkable for their Acri- n which account they heat and attenuate the Body, and , thick Humours. After two Boilings they yield a lit- iment, but raw none at all. Garlick is the moſt diſ- and aperitive. The Ampelopraſſum is drier than the s growing wild. *Ægineta*, *Lib.* 1. *Cap.* 76.

or three Drams of Garlick, reduced to a very fine and drank in Wine, is a good Phlegmagogue. *Actua- b. Med. Lib.* 5. *Cap.* 8.

are ſeveral Sorts of Garlick; the firſt is the

lium Offic. Ger. 141. Emac. 177. Park. Theat. 513. t. 2. 1125. *Allium ſativum.* C. B. Pin. 73. Hiſt. 387. Buxb. 15. Tourn. Inſt. 383. Elem. Bot. 304. nd. A. 2. 147. Rupp. Flor. Jen. 122. *Allium vul- ſativum.* J. B. 2. 554. GARLICK. *Dale.*

Root conſiſts of ſeveral Cloves, or ſmall Bulbs, of white Colour, ſet together in a round Compaſs, oſed in one common ſkinny Coat or Cover, having mall Fibres at the Bottom; the Leaves are broad and e thoſe of Leeks; on the Top of the Stalk, which o or three Foot high, ſtands an Umbel of ſmall white d Flowers; the whole Plant, eſpecially the Root, is of ong and offenſive Smell.

k is called the Countryman's Treacle, though it is nigh ſo much in *England* as it is in foreign Parts. It ted a Strengthener of the Stomach and Bowels, an Ex- Wind, and very good for the Colic; in Aſthmas and of breathing, it is a very good Medicine, the Root er preſerved with Sugar, or a ſtrong Decoction of it a Syrup. *Miller Bot. Offi.*

ws in Gardens, and flowers in *June.* The Root is g of a heating, drying, inciſive, aperient and diſcuſ- ty, and an Alexipharmac. Its principal Uſes, inter- ternal, are in the flatulent Colic, Worms, Peſtilence, tone, Itch, Obſtruction of Urine, Dropſy, *&c. Dale.* internally, it is thought to preſerve from the Influence cted Air. It is uſed alſo externally; for, being bruiſed, d to the Wriſts in a cold Fit, or Beginning of an In- Fever. It alſo is good to take away Corns of the g bruiſed and laid upon them.

ole, which they call Shalotes of *Spain*, are the Fruit arlick, which is cultivated in *Spain. Lemery de*

okes Urine, it kills Worms, makes the Voice good ble.

It cauſes Pains in the Head, heats too much, and makes the Humours too ſharp, and over-agitates them: It is alſo pernicious for thoſe that have the Piles, and for Nurſes. *Lemery on Foods.*

Hoffman informs us, that Garlick is an effectual Remedy for that Dyſentery which Sailors contract in *Eaſt-India* Voyages, from the Uſe of putrified Fleſh.

Boiled in Milk, it is a popular Remedy for the Worms.

The ſecond Sort of Garlick is the,

2. *Ophioſcorodon*, Offic. Ger. Emac. 181. *Scorodopraſſum alterum bulboſo & convoluto capite*, Park. Theat. 872. Raii Hiſt. 2. 1120. *Allium ſativum alterum, ſive Alliopraſſum caulis ſummo circumvoluto.* C. B. Pin. 73. Hiſt. Oxon. 2. 387. Tourn. Inſt. 383. Elem. Bot. 304. Boerh. Ind. A. 2. 145. Rapp. Flor. Jen. 122. *Allii genus Ophioſcorodon*, Chab. 201. *Allii genus, Ophioſcorodon dictum quibuſdam.* J. B. 2. 559. VIPERS GARLICK, ROCAMBOLE. *Dale.*

It is planted in Gardens, and flowers in *July.* The Root and Kernel are in Uſe, and it agrees in Virtues with the former, but is of a milder Nature. *Dale.*

The Ophioſcorodon, which is a wild Garlick, is ſtronger than the Garden Sort. *Paulus Ægineta*, *Lib.* 7. *Cap.* 2.

A third Sort of Garlick is the,

3. *Scorodopraſſum*, Offic. Chab. 201. Park. Theat. 872. *Scorodopraſſum primum Cluſii*, Ger. Emac. 180. *Scorodopraſſum dictum*, J. B. 2. 558. *Allium ſphæriceo capite, folio latiore, ſive Scorodopraſſum alterum*, C. B. Pin. 74. Tourn. Inſt. 389. Boerh. Ind. A. 2. 145. *Allium maximum multis porraceis foliis latioribus, ſphæriceo capite ex floribus albis conflato*, Hiſt. Oxon. 2. 387. *Allium montanum majus Anglicum Newtoni*, Raii Hiſt. 2. 1125. *Allium Holmenſe ſphæriceo capite*, Raii Synop. 3. 570. WILD LEEKS. *Dale.*

The Scorodopraſon grows to the Bigneſs of a Leek, and partakes of the Qualities of Leeks and Garlick; and by a Mixture of their Virtues ſerves for the ſame Purpoſes with either of them, though with leſs Efficacy. The Scorodopraſon, boiled after the Manner of Leeks, grows mild and ſweet, and eatable like other Greens. *Dioſcorides*, *Lib.* 2. *Cap.* 183.

This Species of Garlick grows plentifully in *Holmes-Iſland.*

A fourth Species of Garlick is the,

4. *Ampelopraſſum*, Offic. Matth. 552. Comp. 299. Lugd. 1543. Cam. Epit. 323. *Allium montanum bicorne, an Ampelopraſſum*, Raii Cot. Angl. 2. 12? *Allium montanum bicorne purpureum proliferum*, Raii Synop. 3. 169. Tourn. Inſt. 384. *Porrum ſylveſtre vinearum*, C. B. Pin. 72. Tourn. Inſt. 382. Elem. Bot. 303. Garr. 376. FRENCH LACK. *Dale.*

It grows on Hills, in Meadows, and in the Gardens of the Botaniſts, and flowers in *June.* The Root is uſed, and is good againſt the Bites of Serpents, according to *Dioſcorides.*

It has been much doubted, of late, by very good Writers, what Plant is meant by Botaniſts under the Name of *Ampelopraſſum*; one fixing here, another there. They have been led into this Uncertainty by *Dioſcorides*, in his omitting to give a Deſcription of the *Ampelopraſſum.* There are four kinds of Herbs in *Bauhine*, which have had this Name from ſome or other of the Botaniſts, out of which I have choſen the foregoing, as having the moſt Vouchers. *Dale.*

The Ampelopraſon is not ſo agreeable to the Stomach as the Leek, but is more healing, and more powerfully provokes Urine; it alſo brings down the Catamenia; and, being eaten, is good for the Bites of venomous Creatures. *Dioſcorides*, *Lib.* 2. *Cap.* 180.

The Ampelopraſſum differs from the Leek, juſt as the Wild, in all other Kinds, differs from the cultivated of the ſame Kind. *Oribaſ. Med. Col. Lib.* 2. *Cap.* 27.

The Ampelopraſſum is drier than the Leek, as being wild; it is hot and acrimonious in a very high Degree, and therefore hurtful. It is of an inciſive and deobſtruent Quality, but ungrateful to the Stomach. *P. Æginet. Lib.* 1. *Cap.* 76. *& Lib.* 7. *Cap.* 3.

Another Species of Garlick is the

Victoralis, Offic. Schrod. *L.* 4. *P.* 173. *Allium Alpinum*, J. B. 2. 566. Raii Hiſt. 2. 1122. *Allium Alpinum, Victoralis mas quibuſdam*, Chab. 203. *Allium latifolium montanum maculatum*, C. B. Pin. 74. Hiſt. Oxon. 2. 388. Tourn. Hiſt. 388. Elem. Bot. 304. Boerh. Ind. A. 2. 145. *Allium Alpinum latifolium, ſeu Victoralis.* BROAD-LEAVED MOUNTAIN GARLICK. Ger. Emac. 182. Ger. 142. *Allium agninum*, Park. Theat. 872. *Moly Alpinum latifolium maculatum*, Rupp. Flor. Jen. 122. SPOTTED RAMSONS. *Dale.*

It may be met with in the Gardens of the Curious, where it flowers in *June.*

The Root is uſed, being of a heating and drying Quality like wild Garlick, with which it agrees in all its Properties. It is commonly worn as an Amulet by the vulgar Sort of our People, as well as the *Jews*, who are perſuaded that it renders them ſecure againſt infectious Air, and Apparitions. *Dale* (from *Schroder*).

Miller mentions a Sort of Garlick under the Name of *Allium bulbiferum Virginianum*, Boerh. Ind. Alt. Virginian Garlick;

Beſides the above-mentioned, there are ſome others, which go by the Name of Allium, as the

Allium ſylveſtre, Offic. Ger. Emac. 179. Park. Theat. 870. Raii Hiſt. 2. 1117. Synop. 3. 369. Mer. Pin. 4. *Allium ſylveſtre tenuifolium*, Volck. Flor. Nor. 17. Merc. Bot. 1. 17. Phyt. Brit. 4. *Allium campeſtre juncifolium capitatum purpuraſcens majus*, C. B. Pin. 74. Dill. Cat. Giſſ. 112. *Cæpa juncifolia minor purpuraſcens*, Tourn. Inſt. 383. *Cæpa ſylveſtris tenuifolia, prolifera & florifera Rand.* Boerh. Ind. A. 2. 144. CROW GARLICK.

The Medicinal Virtues of this, are repreſented to be the ſame as thoſe of common Garlick.

Moly, Offic. *Dioſcorideum*, Ger. 143. Emac. 183. Park. Parad. 145. *Moly Dioſcoridis parvum quibuſdam*, J. B. 2. 568. Raii Hiſt. 2. 1123. *Moly Dioſcoridis parvum quibuſdam, flore candido*, Chab. 204. *Moly anguſtifolium umbellatum*, C. B. Pin. 75. Boerh. Ind. A. 2. 146. *Moly anguſtifolium umbellatum album*, Hiſt. Oxon. 2. 393. *Allium anguſtifolium umbellatum album*, Tourn. Inſt. 385. MOLY OF DIOSCORIDES.

Dioſcorides recommends this, made into a Peſſary, with Oil of Orris, (or Meal of Orris, for the Copies differ) in Relaxations of the Uterus.

Moly Theophraſti, Offic. *Moly Theophraſti magnum*, J. B. 2. 568. Raii Hiſt. 2. 1122. *Moly Theophraſti magnum, floribus albis ſtellatis*, Chab. 204. *Moly Homericum*, Ger. 144. Emac. 183. *Moly Homericum, vel potius Theophraſti*, Park. Parad. 141. *Moly latifolium liliflorum*, C. B. Pin. 75. Boerh. Ind. A. 2. 146. *Moly latifolium flore albo*, Rupp. Flor. Jen. 122. *Allium latifolium liliflorum*, Tourn. Inſt. 384. *Ornithogalum Indicum latifolium floriferum ſphæricum, colore coloſſino aut albo*, Hiſt. Oxon. 2. 380. MOLY OF THEOPHRASTUS.

The Virtues of this are ſaid to be the ſame as thoſe of the *Moly of Dioſcorides*.

ALLIUM GALLICUM, is a Name in *Marcellus Empiricus* for Portulaca; and alſo, in the ſame Author, for Inula Ruſtica, or Comfrey Root; perhaps the laſt is, by Miſtake, for Alus Gallica, one of the Names of Comfrey in *Gerard*.

ALLOBROGICUM VINUM. An auſtere Sort of Wine, of the Growth of *Savoy* and *Dauphiné*, recommended by *Celſus* in a Reſolution of the Stomach. *Lib.* 4. *Cap.* 6.

ALLOCHOOS, ἀλλοχόος. A Perſon who talks wanderingly, or deliriouſly; in which Senſe it is uſed by *Hippocrates* in his ſecond Book of Epidemics: Οὗτοι πολλῷ μᾶλλον καὶ δύσπνοοι, καὶ διαλεγόμενοισιν ἀλλοχόοι. "Such were much more troubled "with Difficulty of Breathing, and wandering in their Diſ"courſe." But it muſt not be omitted, that for ἀλλοχόοι in this Place, *Galen* reads σιαλοχόοι, which ſignifies thoſe who ſpit much; and that *Erotian* ſeems to approve this Reading.

ALLOCHROEO, ἀλλοχροέω, to change the Colour of the Skin, to appear firſt of one Hue, and then of another. And thus it is applied by *Hippocrates*, in his Treatiſe *de Intern. Affect.* Ἴσχεται ἐν ἡ χολὴ ὑπὸ τῷ δέρματι, κὴ ἐν τῇ κεφαλῇ, ὥς αἶθυς ἀλλοχροέει τὸ σῶμα. "The Bile therefore ſtagnating under "the Skin, and in the Head, immediately changes the Colour "of the Body."

ALLOCOTON, ἀλλόκοτον. *Hippocrates* makes uſe of this to ſignify what the *Latins* expreſs by *alienus*, abſurd, or improper, or unuſual. Thus in his Treatiſe of the Diſeaſes of Women, he ſays, they are perpetually deſiring abſurd or unnatural Food (ἀλλοκότων βρωμάτων).

ALLODEMIA, ἀλλοδημίη. This Word is uſed by *Hippocrates* to expreſs travelling into another Country. Thus in his Treatiſe *de Internis Affectionibus*, ſpeaking of a Fever, attended with an odd kind of Delirium, he ſays, it moſt frequently happens in ἀλλοδημίῃ, *(in peregrinatione)* in travelling, or on a Journey into another Country.

ALLOEOSIS, ἀλλοίωσις, & Alloeoticos, ἀλλοιωτικὸς *(Alteratio)*. An Alteration induced in the Body by a proper Regimen, and proper Medicines, changing it from a morbid Condition towards a State of Health.

ALLOGNOON, ἀλλογνόων, from ἄλλος, *(another)* and γνόω *(to know)*. It imports being delirious: That is, according to the Derivation, knowing, or conceiving Things different from what they are in Reality.

ALLOPHASIS, ἀλλόφασις, from ἄλλος, *(another)* and φάω *(to ſpeak)*. It ſignifies a Delirium: That is, ſpeaking of Things differently from what they really are. Hence ἀλλοφάσσοντες is frequently uſed by *Hippocrates*, to expreſs delirious, or light-headed.

ALMA, or rather HALMA, ἅλμα. A Word which *Heſychius* interprets πήδημα, and ſays it ſignifies τὴν πρώτην τῦ ἐμβρύου μεταβατικὴν κίνησιν. "The firſt Motion made by a Fœtus "in the Womb towards freeing itſelf from its Confinement." It alſo ſignifies Water. *Rulandus.*

ALMABRI, *(Lapis Ambræ ſimilis)* a Stone reſembling Amber. *Rulandus.*

ALMAGER, the ſame with Sinopis, or Rubrica Sinopica, which ſee. It is a red bolar Earth.

ALMAGRA, the *Bolum Cuprum*, *Laton*, the *Stone* *itſelf*,
or the *Terra rubea*, the *Red Earth*. Or, Almagra is th
ſame as Lotum, Lotio. *Rulandus.* It is alſo a Name
the *Sulphur album*, White Sulphur of the Alchymiſts. *Th*
Chym. Tom. 4. *P.* 729.

ALMAKANDA, Almakist, Almariab, Almar
har, Almarcab, *(Lithargyrium)* Litharge. *Rulandus.*

ALMARCARIDA, *(Lythargyrium Argyritis)* Litharge
Silver. *Rulandus.*

ALMARCAT, the Scoria of Gold. *Rulandus.*

ALMARGEN, Armalgol, Almarago, Coral.
landus.

ALMARKASITA, Mercury. *Rulandus.*

ALMARTACK, *(Lytharginus cinis)* Powder of Lith
Rulandus.

ALMATATICA, *(Metallum cupri)* Copper. *Rulan*

ALMECASIDE, Almechaside, Copper. *Rulan*

ALMELILETU, a Word uſed by *Avicenna*, to ex
a preternatural Heat leſs intenſe than that of a Fever,
which may ſometimes continue with Perſons after their R
very from that Diſtemper. *Caſtellus.*

ALMENE, Sal Lucidum, or Sal Gemmæ. *Rulandus.*

ALMETAT, *(Scoria Auri)* Scoria of Gold. *Rulan*

ALMISA, Muſk. *Johnſon.*

ALMISADIR, Almisadar, Almizadar, Amiza
Asanon, Amisadu. *(Sal Armoniacus præparatus)* Sal A
niac prepared. *Rulandus* and *Johnſon.*

ALMISARUB, Earth. *Johnſon.*

ALMIZADIR, *(viride Æris)* Verdigriſe. *Rulandus.*

ALMYRINTHRA, a Word uſed by *Myrepſus.* It i
poſed, by his Commentator, to ſignify the ſame as the
Word Almyra, which is Quick-Lime.

ALNEC, Allenec, or Alcalap. *Tin. Rulandus.*

ALNUS, a Plant thus diſtinguiſhed:

Alnus Offic. Ger. 1294. Emac. 1477. Jonſ. Dendr.
Raii Hiſt. 2. 1409. Synop. 3. 442. Chab. 60. Mer. P
Alnus vulgaris, Park. Theat. 1408. J. B. 1. 151. Merc.
1. 17. Phyt. Brit. 4. Dill. Cat. Giſſ. 55. *Alnus rot*
glutinoſa viridis, C. B. Pin. 428. Tourn. Inſt. 587.
Bot. 460. Boerh. Ind. A. 2. 181. Rupp. Flor. Gen. 265.
16. The ALDER TREE. *Dale.*

Its Leaves reſemble thoſe of the Hazel. The Male F
(or Catkins) are produced at remote Diſtances from the
on the ſame Tree. The Fruit is ſquamoſe, and of a
Figure. *Miller.*

It delights in watry Places. The Bark and Leave
Uſe: The Bark is drying and aſtringent. The green L
apply'd, diſcuſs Tumours, and allay Inflammations: Ta
ternally, they are Vulneraries: Put in the Shoes of Tr
they mitigate Pain and Laſſitude. *Buxb.* Scatter'd in C
bers, while they are green, and the Dew upon them,
after gathered up, they rid the Rooms of the Fleas, w
apt to ſtick to them. *Trag.* The Bark dyes a black C
and may be uſed inſtead of Galls to make Ink. It is
cially apply'd in Inflammations. *Dale.*

It contains a great deal of Oil, and but little Salt,
almoſt all fixed.

Its Leaves are reſolutive, being bruiſed and apply'd
Tumours; it ſerves for a Decoction to waſh Travelle
with after being tired; and, rubb'd upon the Poſts of th
it kills Fleas. The Bark and its Fruit are cooling,
per for Inflammations of the Throat, being uſed as a G
riſm. *Lemery de Drogues.*

Lobel repreſents this Plant in the Figure of the *Aln*
Cluſii, which is very different: *Tragus*, *Geſner*, C.
upon *Matthiolus*, *Dodonæus*, and *Stapel*, confound its C
with the Fruits. *J. Bauhine* diſtinguiſhes them ver
This Author ſuppoſes the little Threads at the End
young Fruit, to be the Flowers of the Alder; but th
more than a Diſpute about the Name. I believe we h
take the Catkins for the Flowers. All theſe Parts
rectly engraved in the *Elemens de Botanique*: The D
Hatters make a beautiful Black with the Infuſion of
the Bark of the Alder: The *Hiſt. Lugd.* relates,
Tincture is made of Vitriol and an Infuſion of the
this Tree: Thus it is probable, the Bark and Fruits
tain the ſame Principles as the Galls; *viz.* a great deal
and Earth. *Tragus* and *Dodonæus* made uſe of its L
Cataplaſm, to ſoften and reſolve Tumours. Alder L
uſed in the *Alps* in Paralytic Caſes, eſpecially when
eaſe has proceeded from an external Cauſe, as lying
Fields or damp Houſes. Thus ſome Sack-fulls of the
either dried in the Sun or an Oven, are ſpread fo
which the Patient lies, being ſufficiently covered with
and other warm Cloaths, till he has ſweated plentifully
Remedy is good for the Rheumatiſm, Sciatica, and
Diſeaſes: Thoſe that have the Pox receive no Be
Martin's Tournefort.

There are two other Species of this Tree in *Eng*
cording to *Miller*, *viz.*

lnus *folio oblongo viridi, C. B.* The long-leav'd Alder. lnus *vulgaris ſub conis ligulis membranaceis rubris donata.* e ſcarlet Alder.

his laſt Sort was found in a Meadow near *Longleet*; but is atter of Doubt, whether it is a diſtinct Species, or ſome dental Variety. *Miller.*

nother Tree, which is alſo called Alnus, is the rangula, *alnus nigra*, Offic. *Frangula*, Volck. Flor. Nor. Tourn. Inſt. 612. Elem. Bot. 486. Boerh. Ind. A. 2. Dill. Cat. Giſſ. 66. Rupp. Flor. Jen. 34. Buxb. 116. ngula, *ſive Alnus nigra baccifera*, Park. Theat. 240. Raii p. 3. 465. *Alnus nigra, ſive Frangula*, Ger. 1286. Emac. . Mer. Pin. 4. *Alnus nigra baccifera*, J. B. 1. 506. C. B. 428. Raii Hiſt. 2. 1604. Chab. 45. Merc. Bot. 17. Phyt. 4. *Alnus baccifera nigra vulgaris*, Jonſ. Dendr. 436. E BLACK ALDER-TREE. *Dale.*

his Tree never grows to any great Bigneſs, but ſhoots into many ſmall Branches, covered with a reddiſh brown ; it bears broad roundiſh, but ſharp-pointed Leaves, about Bigneſs of the Leaves of the Pear-tree, ſmooth, and full ins. The Flowers grow on the younger Branches, on wer Part next the Trunk, ſeveral together, at the ſet-n of the Leaves, being ſmall and white; and are ſuc-d by ſmall round Berries, about as big as *Juniper* Berries, at firſt, then red, and when ripe, blackiſh, full of a iſh Juice, of a bitter Taſte, and having two flat Seeds ry Berry. The black Alder grows in moiſt thick Woods, *Hornſey* and *Hampſtead* Woods, and flowers in *May*; ruit is ripe in *September.*

e inner Bark of this Tree (which is of a yellow Colour, nges the Spittle like Rhubarb) purges ſerous and bilioſe ours pretty ſmartly, and is commended for the Dropſy undice; but it ought to be corrected with proper Aro-, or elſe it will cauſe cruel Griping and Vomiting: Beaten Mortar, and mix'd with Vinegar, it is accounted very or the Itch, the Parts being waſhed with the expreſſed . It is rarely uſed. *Miller Bot. Off.*

e Species of this Alder, according to *Miller*, are

ngula *rugoſiore & ampliore folio. Tourn.* Berry-bearing with a larger and rougher Leaf.

ngula *montana pumila ſaxatilis, folio ſubrotundo. Tourn.* Mountain rocky Berry-bearing Alder, with a round Leaf.

ngula *montana pumila ſaxatilis, folio oblongo. Tourn.* Low ain rocky Berry-bearing Alder, with an oblong Leaf.

ngula *ſemper-virens, folio rigido ſubrotundo. Hort. Eltham.* een Berry-bearing Alder, with a round ſtiff Leaf, com-called the *Hottentot Cherry.*

OE, a Plant thus named.

Aloe is like a Squill, only bigger, and with fatter obliquely ſtriated. It has a tender Stalk, red in the , and not unlike the Anthericos. The beſt comes from but it grows alſo in *Aſia*, tho' the Leaves only of this re uſed for unglutinating of Wounds, for which it is t, even the Juice of it; and for that Reaſon is planted like the greater Houſeleek. Some cut the Stalk, be-Seed is ripe, for the ſake of the Juice; others cut the for the ſame Purpoſe. Sometimes the Juice is found to the Plant like a Tear; on which account it is uſual a Pavement round it, that the Tear might not be ab-n the Earth. We are told that in *Judea*, above *Jeru-* t is of a metalline Nature; but this is the worſt Sort s being the blackeſt and moiſteſt. [*This laſt Circum-* lmaſius *treats as fabulous.*]

is of an inſpiſſating, condenſing, and gently warming It is uſeful for many Intentions, but principally for ſince it is almoſt the only thing of that Nature, s ſo far from being hurtful to the Stomach in any that it ſtrengthens it. The Doſe is a Dram; but in tion of the Stomach 'tis uſual to give the Meaſure of are (about a Dram) in one ſixth of a Pint of warm Water, two or three times a Day, at proper Intervals, on ſhall require. The higheſt purging Doſe is three and it works the better for making a Meal after take-*Pliny* finiſhes what he has to ſay of it, in aſcribing the tues to it, as you have in *Dioſcorides. Plin. Lib.* 27.

Aloe has a thick fat Leaf, like the Squill, of a pretty cumference, and convex on the Outſide. On both the Leaves are here and there ſome blunt Prickles, nd obliquely, and ſeem broken. It ſends up a Stalk Anthericos, [the Stalk of this *Aſphodel*, according to hich bears a Flower and Seed like the Aſphodel. The ant has a ſtrong Scent, and a very bitter Taſte. It ne Root, which runs downward into the Earth, like

s very plentifully, and extraordinary fat and rich, in ence the Juice is exported. It grows alſo in *Arabia*, in ſome maritime Places and Iſlands, as in *Andros*: ed does not yield its Juice freely and copiouſly, but is excellent for conglutinating of Wounds, if bruiſed, and applied to the ſame.

There are two Kinds of this Juice; one ſandy, which ſeems to be the Dregs or Droſs of the pureſt Sort; the other reſembles the Liver. Chuſe the fat, and unadulterated, which is void of Gravel, ſhining, yellowiſh, friable, reſembling the Liver, eaſily moiſtened, and of an intenſe Bitterneſs; but reject the Black, and hard to break. Some adulterate it with Gum-Arabic, which may be diſcover'd by the Taſte, and its coming ſhort of the Bitterneſs and ſtrong Smell of the true; and alſo in that it will not crumble to Duſt between the Fingers. Some will mix Acacia with it.

As to its Virtues, it is an Aſtringent, procures Sleep, dries, condenſes, looſens the Belly, and cleanſes the Stomach. The Doſe is two Cochlearia in cold Water, or Water heated Milk-warm. It ſtops ſpitting or vomiting of Blood, and purges off the Yellow Jaundice, if taken to the Quantity of half a Dram or a Dram in Water. Swallowed with Reſin, or drank in Water or clarify'd Honey, it looſens the Belly. The Weight of three Drams is a complete Purge. Mixed with other Cathartics, it renders them leſs incommodious to the Stomach. The dry Powder ſprinkled [ἐπυπαθὲν, according to the Scholiaſt, for ἐπιπαθὲν] on Wounds, conglutinates them, and heals and cicatrizes Ulcers. It has a peculiar Virtue in Exulcerations of the *Pudenda*, and heals the torn Prepuces of Boys. Mix'd in ſweet Wine, it cures the Condyloma, and Fiſſures of the Arms. It ſtops the Flux of Blood from the Hæmorrhoids, cicatrizes Pterygia, and takes off the livid Marks of Bruiſes and Blows in the Face, being mixed with Honey. It mollifies the Roughneſs of ſore Eyes, and the Itching of the Canthi. Mixed with Vinegar and Oil of Roſes, and the Forehead and Temples anointed therewith, it mitigates the Pain of the Head; and mixed with Wine, puts a Stop to the Shedding of the Hairs. With Wine and Honey, it is good for the Diſeaſes of the Tonſils, Gums, and the other Parts belonging to the Mouth. When uſed in a Collyrium, it is roaſted in a clean white earthen Saucer, and ſtirr'd with a Spoon, till it be equally and thoroughly done. It is uſual to waſh Aloes, by which the ſandy Part ſinks to the Bottom, and is ſet aſide as uſeleſs; and the reſt, which is of a very fat and ſmooth Subſtance, is reſerved for Uſe. *Dioſcorides, Lib.* 3. *Cap.* 25.

Aloes is no violent Purger; is very friendly to the Stomach, like Wormwood. Two Drams in Hydromel are a Doſe; it purges Bile and Phlegm. It may be taken every Day after Supper; for it paſſes off the Stomach, without diſturbing the Concoction of the Food, and cauſes no Thirſt, but excites an Appetite. Bruiſe your Aloes, and with the Juice of Cabbage make it into Pills, of the Size of a Chich-pea or Bean, of which you may take two or three at a time, as Neceſſity ſhall require. You may alſo make it into Pills with Reſin, or clarify'd Honey, eſpecially for thoſe who cannot well endure its Bitterneſs. It is proper alſo to be mixed with Scammony, or any other Cathartic, which is ſubject to lower the Spirits.

It is good for Quotidian Agues, Yellow Jaundice, Pains in the Liver, Nauſea, and Crudities. It is as proper for Women as Men, and would be a very fit Purge for Children, were it not for its Exceſs in Bitterneſs, which Children cannot endure. *Orib. Mad. Coll. Lib.* 7. *Cap.* 27. *Ruffus Epheſius, Fragment. de Med. Purg.*

Aloes is excellent for Ulcers, that are difficult to be cicatrized, eſpecially thoſe in the Pudenda, and about the Anus. *Orib. Synop. Lib.* 7. *Cap.* 11.

Aloes does not purge the whole Body, but is a fine gentle Cleanſer of the Stomach, Belly, and Inteſtines, from Bile and Excrements. For this Reaſon, it is preſcribed to ſuch as have their Heads affected with continual Vapours from the Stomach, as it carries off the Seeds, and deſtroys the Original, of the Diſorder. On the ſame Account it is proper for ſuch as are troubled with ſore Eyes, or are ſubject to a Dryneſs of the Mouth and Tongue, from a redundant Bile, or are afflicted with the Heart-burn, Nauſea, or any weakening Diſorder. It is alſo given to ſuch as are unaccountably pale, and want Evacuation, when a Clyſter, for ſome Reaſons, cannot properly be adminiſter'd. The Doſe is two Drams in Hydromel. It may be taken every Day, either in the Morning faſting, or after Supper. Pound the Aloes, and make it up into Pills of the Size of a Chich-pea, with the Juice of the Rind of Citron, or, for want of that, with the Juice of Cabbage; it may alſo be done with Turpentine, or clarify'd Honey. The Pills ought to be ſwallowed in Hydromel, or a Draught of the ſame ſhould be taken immediately after. Purging Medicines attract, like a Cupping-glaſs, the Cauſes and Seeds of Diſtempers, that infeſt the principal Parts, and evacuate them by the Belly. *Ætius Tetr.* 1. *Serm.* 3. *Cap.* 24. *Actuar. Meth. Med. Lib.* 5. *Cap.* 8.

To purge Bile, give a Dram of Aloes in the Morning. They who preſcribe it in the Evening, or after a Meal, do hurt; for it corrupts the Aliment. In a leſs Doſe, as half a Dram, it only evacuates the Belly of the Excrements. Of all Cathartics, Aloes only is grateful to the Stomach. For ſuch as cannot endure its Bitterneſs, it is prepar'd in Pills. *Ægineta, Lib.* 7. *Cap.* 4.

Medicines are generally hurtful to the Stomach; and for this Reaſon, all Cathartics ought to have a Mixture of Aloes. *Celſus Lib.* 2. *Cap.* 12. *P.* 32. *E.*

The *Arabians* call Aloes in their Language *Sabr*, and ſay, that the *Sabr Al Socothori*, that is, the Aloes of *Zocatra*, excels what they call *Schegeri* and *Hadramuthi*, or the Aloes that grows in the Countries of *Scheger* and *Hadramuth*. *Herbelot Bibl. Orient. Art. Socothorah.*

Edriſſi ſays, That the Aloes of *Zocotra* excels all others; and that *Alexander* the Great, being informed by *Ariſtotle*, of the Virtues of this Plant, tranſported the Inhabitants of the Iſland to *Arabia* and *Ethiopia*, and ſettled a Colony of *Greeks* in their Room, whom he charged with the Cultivation of the Aloe.

The Inhabitants gather the Leaves in *July*, and boil them in great Kettles to get out the Juice, which, after boiling, remains at the Bottom; this they take out, and expoſe it in other Veſſels to the Heat of the Sun, during the Dog-days. *Herbelot Bibl. Orient. Art. Sabr.*

The Plants from which the Aloes, commonly uſed in Medicine, are procur'd, are

1. *Aloe Offic.* J. B. 3. 696. Chab. 541. *Aloe*, C. B. Pin. 286. Raii Hiſt. 2. 1195. Hiſt. Oxon. 2. 414. Tourn. Inſt. 366. Elem. Bot. 294. Boerh. Ind. A. 2. 128. Hort. Beaum. 6. Herm. Hort. Lugd. Bat. 16. *Aloe Dioſcoridis*, Colum. Ecph. 1. 40. *Aloe Dioſcoridis & aliorum*, Sloan. Cat. Jam. 15. Hiſt. 1. 245. *Aloe vera vulgaris*, Munt. Alcod. 17. *Aloe vulgaris, ſive ſempervivum marinum*, Ger. Emac. 507. Park. Theat. 149. *Caraguata Braſilienſibus*, Marcg. 57. *Caraguata tertia*, Piſon. Ed. 1658. 193. *Kadanaku vel Catevala*, Hort. Mal. 11. 7. Tab. 3. COMMON ALOES.

It grows in both *Indies*. The Leaves are the uſeful Part of the Plant; and the inſpiſſated Juice of the *Barbados* Aloe, is called the *Officinal Aloes*. This is ſometimes of a ſhining Black, ſometimes nearly of a Liver-colour, of a ſtrong Smell, and extremely bitter. It is brought to us from *Barbados* in large Gourds. The Leaves are commended againſt Burns. The inſpiſſated Juice has the ſame Virtues as the *Succotrine Aloes. Dale.*

2. *Aloe Guineenſis Caballina vulgari ſimilis, ſed tota maculata*, Commel. Prælud. Bot. 40. HORSE-ALOES.

The inſpiſſated Juice is uſed; the impure, blackiſh, droſſy Part of which is called *Aloe Caballina*; the purer Part, which is of a Liver-colour, is the *Aloe Hepatica*.

The above-named Author calls this Species *Caballina*, becauſe the Leaves, when broken, ſhed a Juice like the Horſe Aloes. *Dale.*

3. *Aloe Succotrina*, Offic. *Aloe Succotrina anguſtifolia ſpinoſa, flore purpureo*, Breyn. Prod. 2. 12. Hort. Amſt. 1. 91. Commel. Prælud. Bot. 40. *Aloe Indiæ Orientalis ſerrata, ſive Succotrina vera, floribus phœniceis*, Hort. Beaum. 5. *Aloe Americana ſerrata, floribus coccineis*, Parad. Bat. Prod. 306. *An Aloe Americana Anonæ foliis, floribus ſuave rubentibus, ex codice Bentingiano*, P. P. Tab. 240. Fig. 4. SUCCOTRINE ALOES.

It differs from the *Horſe Aloes* only in Purity, as ſome think. It has not only a purging, but a heating and drying Quality. It opens Obſtructions, clears the Paſſages, provokes the Hæmorrhoids and Menſes, ſtrengthens the Stomach, kills and expels Worms, and purges bilious and phlegmatic Humours.

The Root of the common *Aloes* is pretty thick, running deep into the Ground, not much divided, but with ſeveral Fibres about it. It has many long, narrow, thick, fat and juicy Leaves, roundiſh on the Outſide, and hollow on the In; the outer Leaves incloſing the inward; they are prickly about the Edges, and ſharp-pointed, of a whitiſh green Colour; from among theſe the Stalk ariſes two or three Foot high, divided towards the Top into ſeveral Branches, on which grow many Bottle-like Flowers, of one ſingle pretty large Leaf, divided at the End into five Segments, of a yellowiſh white Colour; each Flower being followed by a cylindrical Seed-veſſel, divided into three Parts, and containing flat Seed. It grows in *Spain*, *Italy*, and the *Weſt-Indies*. Of this Plant is made the *Aloes Hepatica* of the Shops, or the *Barbados Aloes*, which is brought over to us in Gourds, of a Liver-colour, and a very nauſeous Scent. It is made by gently preſſing the Leaves pluck'd from the Roots, ſtroaking them downwards; by which the bitter Juice, which is contain'd in particular Veins, drops into Veſſels ſet under; and having ſtood all Night, the thin Liquor is pour'd off, and the Sediment is dry'd and harden'd in the Sun, which is our *Aloes*.

The *Aloes Succotrina* is made the ſame way, but from another Species of this Plant; *viz. Aloe Succotrina ſpinoſa anguſtifolia, flore purpureo*, Breyn. *Prodrom.* 2. *Aloe vera minor*, Munting *Aloedar*. This is a leſſer Plant, fuller of Leaves, more neatly made, bearing red Flowers, in Form and Shape like the other, but leſs. The *Aloes* made of this Species comes over from the *Eaſt-Indies* in Skins; the beſt being made in the Iſland of *Succotra*. It is blacker, more ſhining and brittle, and when powder'd, of a fine yellow Colour, not apt to cla together after it is powder'd, and of but little Smell, in Compariſon to the other.

Aloes is a purging Medicine much in Uſe, and chiefly beneficial to cold moiſt Conſtitutions; it is not much given by itſelf, unleſs now-and-then to Children for the Worms; but a main Ingredient in moſt of the officinal Pills, as alſo in the *Species Hieræ Picræ*; it is accounted a good Stomachic, and uſeful to carry off tough and ſlimy Humours from the Bowels and good to mix with Steel to promote the menſtrual Flux. Outwardly, it is ſerviceable in freſh Wounds, a little the fine Powder being put in them; it is alſo mix'd wi other Ingredients, and laid to Childrens Navels againſt the Worms.

Officinal Preparations from *Aloes*, are, *Aloes Roſata*, *Pilul de Aloe lota* and *Aleophanginæ*. *Miller Bot. Off.*

Miller enumerates thirty-ſeven different Sorts of Aloes.

The Succotrine Aloes grows in *Zocatra*, an Iſland in Streights of *Babel Mandel*, where they formerly prepared Aloes by expreſſing the Leaves, and then letting the expre Juice ſtand in a quiet Place, till an oily Subſtance roſe at Top. This Subſtance they took off, and evaporated it to Conſiſtence of an Extract.

The Succotrine and Hepatic Aloes are both very good Purg but they rarefy the Blood, and therefore cauſe Hæmorrh and other undeſign'd Evacuations, to thoſe who are ſubject them. This Medicine ought therefore never to be given Women with Child, or to thoſe who are ſubject to Piles, Again, Aloes, after its purgative Effect is over, is conſtipat and therefore to ſuch Perſons as are inclined to be co Caſſia is preferable. The Doſe is from four Grains to ha Dram. The reſinous Part, extracted by Spirit of Wine, purge violently; and the gummy Part, extracted by Water a good Vulnerary, eſpecially in Ulcers of the Bladder Kidneys. The Tincture of Myrrh and Aloes is uſed to p vent Mortification in Wounds. *Geoffroy.*

Tho' Aloes does not belong to the Claſs of draſtic P tives, it has Strength enough to be ſufficiently cathartic, uſes to excite vehement Commotions in the Maſs of Bl ſo that a few Grains are enough for a Doſe. But if it be ſolved in Water, Rain-water, for Inſtance, and boiled a ſiderable time, its cathartic Virtue is weakened, ſo that no Effect at all, except the Doſe be augmented. *Ho Obſ. Phyſico-Chy. Lib.* 2.

Laxative Preparations of Aloes, both the Hepatic and cotrine, are Remedies of great Efficacy, provided the A by proper Methods, be freed from its foreign volatile and phureous Principle, and ſtript of the Reſin which cloſely heres to the Coats of the Inteſtines. Theſe Preparations be adminiſtered in ſmall Doſes, and mix'd with bitter Ext and mild balſamic Ingredients. For this Reaſon the Pills were perhaps caſually found out by *Becherus*, and which, cording to his Method, ought to be prepar'd of the beſt A cannot be too highly commended, becauſe they gently the Belly, and reſtore the Tone of the Inteſtines, when ened by any Diſtemper, to ſuch a Degree, that other P tives would be prejudicial to them. And tho' theſe Pills duce no conſiderable Effects upon robuſt Conſtitutions, People of plethoric Habits, yet their Virtues are very c derable, and exert themſelves very ſpeedily in Conſtitution turally weak, or ſuch as have been extenuated by Sick and in Women who are either in Child-bed, or who, thro' Fault of the Womb, have their menſtrual Diſcharges in irregular manner. They are likewiſe proper for correcting evacuating crude Humours, when the Digeſtion of thoſe are recovering of a Fit of Sickneſs happens to be bad; are alſo beneficial to thoſe who labour under hypocho Diſorders, whoſe Stomachs perpetually throw up acid C ties. Preparations of Aloes, on the other hand, admi without a proper Corrector, or in large Doſes, put the into a quick Motion; for which Reaſon, plethoric P ſuch as are eaſily wrought upon, or ſuch as are ſubject charges of Blood, ought altogether to abſtain from Aloes, cauſe all aloetic Preparations have this peculiar Diſ attending them, that they excite very painful Hæm and drive the Blood towards the Region of the Loins, and contain'd in the Pelvis. But beſides the Pills of Be there are others not to be defrauded of their Worth, nor ed from Uſe, in which Aloes is made up with other Ingredients, ſuch as the *Pilulæ Tartareæ* of *Schrod Aleophanginæ*, the *Marocoſtinæ*, *Pilulæ de Succino Cr* and thoſe of *Solonander*. *Hoffman. Medic. Rational. Sy Tom.* 3. *Sect.* 2. *Cap.* 5.

The Author might have added the *Pil. Ruffi*, and others in our Diſpenſatory.

M. B

Boulduc, in his Treatiſe of Purgatives, conſiders Aloes icular. It ought to be pure, tranſparent, bitter, and ong Scent. It is reckon'd among the moderate Pur-

M. *Boulduc*'s Analyſis by Extraction, it appears, that *cotrine* Aloes contains ſcarce half the Quantity of Re- ſulphurous Matter, and about a third more of a ſa- bſtance, than the *Hepatic*. As for the Horſe-Aloes, it is ure, and contains ſo much Earth in Proportion to its and Salts, that it deſerves not to be regarded.

different Proportion of the Principles of the Succotrine patic Aloes, might well be the Cauſe of their different ies. As the reſinous Part of Aloes, contrary to other Ca- charg'd with Reſin, is little or nothing Purgative; the ine, which has the leaſt of that Reſin, has been always d to the Hepatic for inward Uſes; and, on the con- the Hepatic, which has more of it, excels as much the on account of its external Uſefulneſs, for cleanſing of ds, and cloſing the Lips of recent Cuts, &c. M. *Boulduc* it, in that reſpect, to the natural Balſams. 'Tis plain , that theſe Effects are the natural Reſult of the reſi- nd balſamic Parts.

Salts of Aloes are very active, and corrode the Extre- of the Veins, where the Fibres are fineſt, whence pro- emorrhages. Therefore it highly concerns us, that the Part, which wants to be reſtrain'd by the reſinous, be arated from it; and yet this is the Caſe in ſeveral Pre- ns of Aloes, when they have not been made by ſkilful They have rejected the reſinous Part, as too groſs, od for nothing, becauſe it kept at the Bottom of the n. M. *Boulduc* aſſures us, that he has been ſeveral Witneſs to the fatal Effects of a free Uſe of *Elixir tatis*, and all Preparations of Aloes, which have either made, or taken to Exceſs.

Boulduc is ſo far from approving a Separation of the from the ſaline Part of Aloes, that, on the contrary, ld have them more ſtrictly united by the Mediation of li, ſuch as the Salt of Tartar. We are not only to ature under Diſorders by Remedies, but lend her our Hand in the Remedies themſelves. *Hiſt. de l'Acad. s Sciences*, 1708.

ALOES ROSATA, Roſated Aloes.

of bright Succotrine Aloes in Powder, four Ounces; the depurated Juice of Damaſk Roſes, one Pint; and geſt them together over a gentle Heat, till the ſuper- ous Humidity is exhaled, and the Remainder is of a Conſiſtence for Pills, *S. A.*

is ordered, in the *Auguſtane* Diſpenſatory, to be done imes over; and in the *Pharmacopœia Regia*, it is di- with an Addition of Diagrydium, and Reſin of Scam- but that is now rejected. The ſame Diſpenſatory alſo nother, with Infuſion of Violets; but this is the moſt of them all, and the only one, that is now uſed in

ILULÆ DE ALOE LOTA, Pills of waſhed Aloes.

of Aloes, diſſolved in the Juice of Roſes, and again piſſated, one Ounce; of the Troches of Agaric, three ams; of Maſtich, two Drams; Syrup of Damaſk oſes, a ſufficient Quantity; to make into a Maſs for ls, *S. A.*

is, in the *Auguſtane* Diſpenſatory, under the Title of *de Aloe lotâ incerti Authoris*, with the Addition of half of the Species *Diamoſchu dulcis*. It hath ſtood alſo me manner in the College Diſpenſatories down to the which hath alſo rejected that Species out of the Num- hat Claſs. *Zwelfer* finds Fault with the Title, becauſe annot properly be ſaid in this Proceſs, nor indeed in any o be waſhed; and directs the Aloes Roſata to be uſed ad. There are many other Compoſitions in this Form loes, in the *Auguſtane*, and other Diſpenſatories, as rly one with Maſtich, from *Nicolaus Myrepſius*; but e quite rejected from amongſt the preſent Officinals. *s London Diſpenſatory*.

EDARIA, cathartic compound Medicines, ſo called oes, a principal Ingredient.

aria of *Philagrius*, gently purging with Honey of

of Aloes ſix Ounces; of Coſtus, Spikenard, Carpo- ſamum, Flowers of Juncus odoratus, each one Ounce; Caſſia, one Ounce; of Agaric, four Drams; of Saf- n, four Drams; the Tops of Centaury, four Scruples; Honey, two Ounces; Juice of Roſes, four Ounces; ithymum, one Ounce; of Rheum, eight Scruples; of arabacca, four Scruples; of Xylobalſamum, ſix Scruples; of Maſtich, eight Scruples. Make them into an Electuary with Honey of Roſes, and let the Doſe be according to the Strength of the Patient.

Another of the ſame, gently purging without any manner of Trouble, and good for Pains in the Joints and Loins, but eſpecially for the Sciatica, and opening Obſtructions of the Liver.

Take of Iſium, (*ſuppoſed to be the black Chamæleon*) eight Scruples; of Agaric, four Drams; of Aloes, two Ounces; of Spikenard, eight Scruples; of Flowers of Juncus Odoratus, eight Scruples; of Saffron, four Scruples; of Caſſia, ſixteen Scruples; of Coſtus, eight Scruples; of Carpobalſamum, eight Scruples; of Honey of Roſes, three Ounces and eight Scruples. Bruiſe them, and make them into Pills with the Honey of Roſes, of which give five after Supper, every Day, or every other Day, as you pleaſe. It is a Detergent of the Stomach and Joints, and chiefly purges Phlegm. You may dine and ſup during the taking of them as uſual.

Another, that purges both Phlegm and Bile.

Take of the Tops of Wormwood bruiſed and ſtrained, and of Aloes very finely powdered, each one Ounce; and with the Juice of Spurge, eſpecially the Myrtle-Spurge, make into Pills of the Bigneſs of a Kidney-bean, of which give three at a time.

Aloedarium from *Philagrius*, purging Bile and Phlegm.

Take of the Medulla, or inner Subſtance, of the Colocynthis, Aloes, Scammony, each five Drams; Juice or Tops of Wormwood, five Drams; with the Juice of Cabbage make them into Pills, of the Bigneſs of a Chichpea, and give one-and-twenty at a time to adult Perſons.

Another, approved by long Experience, which purges three Humours.

Take of Aloes, Epithymum, Scammony, each two Drams; of Colocynthis, Agaric, each one Dram; make them into Pills with the Juice of Cabbage, and give fifteen at a time.

Another, made in the City of *Tyre*.

Take of Scammony, two Ounces; of Aloes, one Dram; of Maſtich, Bdellium, Pepper, Wormwood, each one Dram; make them into Pills with the Juice of Citrons, and the Rind of the ſame, and give ſeven or nine at a time. If you would have them work ſmartly, give the Weight of four Scruples and a half, or more.

The Aloedarium of *Oribaſius*.

This is chiefly deſign'd for ſore Eyes, and principally purges black and yellow Bile.

Take of Scammony, one Ounce; Rind of black Hellebore, one Ounce; Sal Ammoniac, one Dram; Root of All-heal, three Drams; Pepper, Penyroyal, each one Dram; make them up with Water into Pills like a *Grecian* Bean, and give ſeven of them at a time, ſo as they weigh nearly one Dram and a Scruple.

Another of *Oribaſius*.

Take of Aloes two Ounces, of Spikenard, Aſarabacca, Maſtich, Saffron, Xylobalſamum, each ſix Drams; of Caſſia, twelve Drams; of Epithymum, twelve Drams; make them into Pills of the Size of a Vetch, with a Decoction of Penyroyal, and give twenty-one for a Doſe. This cures Quartan Agues. They may alſo be made up with boiled Honey. *Ætius Tetrabib.* 1. *Serm.* 3. C. 105. &c.

ALOFEL, according to *Rulandus*, or ALOFEL, according to *Johnſon*, a Cloth made uſe of to cover a Veſſel.

ALOGOS, ἀλόγως, is an Adverb, uſed frequently when any thing is ſaid to happen without ſufficient Reaſon or Cauſe: Thus when a Fever diſappears without any critical Evacuation, *Hippocrates* ſays it is reſolv'd ἀλόγως, without ſufficient Reaſon, and in this Caſe is ſubject to a Relapſe.

ALOGOTROPHIA, ἀλογοτροφία, from ἄλογος, diſproportionate, and τρέφω, to nouriſh. Unequal or diſproportion'd Nouriſhment, as when, for Example, in the Rickets, one Part receives a greater Degree of Nouriſhment than another.

ALOHAR, ALOHOC, ALOSOHOC, or ALOSOT. Quickſilver. *Rulandus*.

ALOIDES. *Aloe paluſtris*, Offic. Mont. 36. *Aloides*, Boerh. Ind. A. 2. 132. *Aloe paluſtris*, C. B. Pin. 386. Johr. Hod. Bot. Pl. Ign. *Aloe ſive Aizoon paluſtre*, J. B. 3. 787. Chab. 567. *Militaris aizoides*, Ger. 677. Emac. 825. Raii Hiſt. 2. 1324. Merc. Bot. 2. 26. Phyt. Brit. 75. Mer. Pin. 77. *Stratiotes, ſive militaris Aizoides*, Park. Theat. 1249. Hiſt. Oxon. 3. 618. *Stratiotes foliis Aloes, ſemine longo*, Gundelſh. ap. Johr. Raii Synop. 3. 290. *Stratiotes aquaticus Belgicus*, Bod. in Theoph. 436. WATER ALOES, or, FRESH WATER SOLDIER. *Dale.*

It has Leaves like the Aloe, but ſhorter and ſmaller, and ſurrounded with ſhort ſtiff Prickles, with Pods between them, like Crabs-claws, which opening, produce white three-leav'd Flowers, very much reſembling thoſe of Frog-bit (*Morſus Ranæ*, Dale) and bearing ſmall yellow Chives. Its Roots conſiſt of long, round, white Fibres, very like long Earth-worms, or the bigger Harp-ſtrings, which from a ſhort Head, when the Plant puts forth Leaves, ſhoot down towards the Bottom of the Water, but ſeldom reach it. Beſides theſe, it has other Fibres, which run obliquely, and propagate it after the manner of Frog-bit.

It grows in ſlow Streams, and Lakes of Standing-waters, and is often found in large Ditches by Marſhes, with moſt of its Leaves and Flowers above Water, the reſt of the Plant being hid under it.

This Herb, in the Iſle of *Ely*, flowers in *June* and *July*, and ſometimes in *Auguſt*.

The Fibres, with which it is furniſh'd inſtead of Roots, are ſhewn by knaviſh Mountebanks to old Women for Worms, in a Vial full of Water, to make them look the bigger, the Cheats pretending they have brought them away from their Patients, by Virtue of their Medicines. *Raii Hiſt. Plant.*

The Herb is uſed, being accounted among the Vulneraries. *Dale.*

ALOPECES, (Lat. *Vulpes*) Muſcles of the Loins, the only ones of the Back, which grows to the Loins, otherwiſe called ψόαι, Pſoai, and by ſome νευεσμήτερες, (read, alſo νευεσμήτρες, for which ſome ſubſtitute νεφεσμῆτρες) *Ruffus Epheſius*, *Lib.* 1. *Cap.* 30.

ALOPECIA. A Diſtemper attended with Baldneſs, all or moſt of the Hair falling off. It is deriv'd from ἀλώπηξ, a Fox, becauſe this Animal is ſaid to be very ſubject to a Diſtemper which reſembles it.

The Antients, amongſt whom the Diſorder ſeems to have been more common than it is amongſt us, have been pretty long in their Accounts of this Diſeaſe: But as *Sennertus* has collected from them all, I ſhall content myſelf with inſerting his Abridgment, after having given the Sentiments of *Celſus*.

There are two Kinds of Areas, in both which it is common for the outer Skin to grow dead, and the Hairs firſt to wither, and then fall off; and if the Part be wounded, a thin Blood iſſues out, of a fœtid Smell. Both Areas in ſome are of a quicker, in others, of ſlower Growth; the worſt is, what condenſes and pinguifies the Skin, and renders it quite bare and ſmooth.

That called ἀλωπεκία, *Alopecia*, ſpreads itſelf under any Figure, and affects the Beard as well as the Head; the other, which, from its reſembling a Serpent, is called ὀφίασις, *Ophiaſis*, begins from the Back-part of the Head, and creeps about the Breadth of two Fingers, 'till it has extended its two Heads to both the Ears, and ſometimes to the Forehead, 'till both Heads meet in one. The Alopecia comes at any Age, the Ophiaſis ſeldom but to Infants; the firſt is very rarely taken off without Medicine, the other often goes off of itſelf.

Some exaſperate theſe Kinds of Areas by ſcraping them with a Knife, others anoint them with Catheretics mix'd with Oil, eſpecially burnt Paper, dipt in Oil. Others again ſpread over the Place Reſin of Turpentine with Thapſia (deadly Carrot). But there is no better way than to ſhave the Part every Day with a Razor; for in cutting away by little and little the outer Skin, the Roots of the Hairs are opened; nor muſt we deſiſt 'till we ſee the Skin ſet thick with budding Hairs. It is proper to rub over the Place thus often ſhaved with Vitriol. *Celſus*, *Lib.* 6. *Cap.* 4.

Of the ALOPECIA *and* OPHIASIS.

"There is a peculiar Sort of Falling-off of the Hair, called Ἀλωπεκία "Alopecia," and Ὀφίασις "Ophiaſis." It has the Name of *Alopecia*, becauſe ſuch a Defluxion of Hairs often happens to Foxes; and it is termed *Ophiaſis* from the Figure of the ſmooth and bald Parts, which wind about in the manner of a Serpent. In both theſe Affections it is common for the Hair to fall off by Handfuls at a time, ſo as to leave whole Spots quite bare; whence the Diſeaſe has alſo the general Name of *Area*, [a bare Plot of Ground] and *Celſus* treats of Areas, Alopecia, and Ophiaſis, in the ſame Chapter. It took the Name of *Area* from the Areas you ſee in Gardens in the Country; for as theſe are Plots diſpoſed here and there, and are bare and naked, as having nothing growing on them, ſo does the Skin, in this Affection, at certain Places, appear ſmooth and bald.

However theſe Affections differ at leaſt in Figure; for the
pecia has no determinate Form, but, as *Celſus* ſays,
itſelf under all Shapes; but the Ophiaſis creeps winding
Serpent, ſometimes from the Back-part of the Head on
Sides, as far as the Ears, and of the Breadth of almoſt
Fingers; ſometimes it paſſes by the Ears, and extends
creeping like a Serpent, to the very Forehead. Beſides,
Ophiaſis there ſeems to be more Malignity in the Cauſe,
not only the Roots of the Hairs, but the Cuticle itſelf,
roded as far as theſe Roots reach. From what has been
the Alopecia and Ophiaſis may be defined, a Defluxion of
Hairs of the Head, which lays whole Places bare at a
and owes its Riſe to a deprav'd and corrupted Humour,
corrodes the Roots of the Hairs.

The Author of the Treatiſe, *De Medicamentis facile*
bilibus, reckons Alopecia and Ophiaſis among the
which change the Colour of the Hair. But we ought to
Notice, that this Alteration is not a Property of that
of the Hair, which occaſions Areas; but the Change of
lour in the Hair either precedes the Alopecia and Oph
when the Hairs from a vitiated Nutriment firſt turn
and afterwards fall off; or this Alteration happens
Alopecia and Ophiaſis. For when the Hairs ſpring
upon theſe Areas, or bare Spots, they appear white or
as white Hairs uſe to grow upon the healed Spot of a
in the galled Back of a Horſe, which owe their Colo
vitious Nutrition, and the Tenderneſs of the Skin.
hinted alſo by *Celſus*, *Lib.* 6. *Cap.* 1. where he obſerves
the Ophiaſis affects only the Hair of the Head; but
pecia extends itſelf to the very Beard.

The Cauſe of both Affections is a depraved and
mour, of ſome Kind or other, that corrodes the Roots
Hairs; tho' they generally proceed from a ſalt Phlegm,
or putrefy'd. Hence *Galen*, *De Diff. Sympt. Cap.* 4.
that theſe Maladies are the Conſequence of a depraved
tion of the Skin of the Head. The Reaſon why ſome
Alopecia, at other times an Ophiaſis, are occaſioned,
the Hairs ſometimes leave a ſtrait, ſometimes a crooked
is owing to the Quantity and Quality of the Matter:
the Matter be thinner and more copious than ordinary,
rodes the Hairs alike in more and larger Spots;
ſcantier, and mix'd with a groſs Humour, the
Hairs becomes unequal and crooked, becauſe the Humo
ing various and mixed, don't readily take their
forward, but creep obliquely, corroding the Hairs in their

The more remote Cauſes are the Heat of the
Head, and eſpecially a Fault in the firſt and ſecond
by which means ſalt and acrid Humours are generated.
Infirmity is incident to all Ages, but eſpecially to
and ſucceeds the *Tinea*, *Achores*, and *Favi*.

Sometimes this Diſeaſe is produced alſo from
malignant Cauſes, among which *Galen*, *De compoſ.*
Loc. Lib. 1. *Cap.* 2. accounts eating of Muſhrooms,
they contribute much to the generating of vitious and
Humours. Among other Cauſes of this Kind, we may
the Pox, which alſo corrodes the Roots of the Hairs;
malignant and contagious Diſtempers may have
Effect.

The Alopecia is diſtinguiſh'd from the Ophiaſis by
of its Area, and in that it occaſions only a Falling-
Hair, whereas in the Ophiaſis not only the Hairs fall
the Skin is excoriated, and changes its Colour, ſometi
ing whiter, ſometimes paler, or blacker; and if it be
a ſerous Blood iſſues out.

The Alopecia and Ophiaſis differ from the Tinea;
the Ophiaſis the Excoriation in the Skin is but ſuperfic
when it is healed, the Hairs grow again; but in the
Excoriation and Exulceration are deeper, and the Skin
times ſo vitiated, that the Hairs never grow again.

As to Signs of the Cauſes, the kind of peccant
be known by the Colour of the Skin; for the better
tion of which, the Hairs which are left, are to be
and the Skin gently rubbed; and there are other Signs
you may know what Humour abounds in the Body.
Hairs alſo, when they grow again, will ſhew by their
which varies, according to the Nature of the morbific
what kind of Humour is the Cauſe of this Affection.

The Alopecia and Ophiaſis, tho' not attended
Danger, occaſion Deformity; and among the
Slaves, who were affected with an Area, and
Alopecia, were ſold at a lower Price; and, in our
theſe Areas are matter of Diſgrace, as giving a
the Pox.

Whether the Alopecia or Ophiaſis be moſt eaſy to
thors are divided in their Sentiments. *Celſus* and
that the Ophiaſis is ſooner cured than the Alopecia.
Lib. 1. *Cap.* 2. and *Serapion*, *Lib.* 1. *Cap.* 1. ſay the
But *Celſus* ſeems to ſpeak chiefly of the Ophiaſis of
often goes off of itſelf, by the Benefit of Age and
in Adults, indeed in any Age, if the Alopecia and Ophi

together, the latter ſeems on all accounts more difficult re, as owing its Riſe to a groſſer and more malignant nour, that corrodes not only the Roots of the Hairs, but Skin itſelf, which does not happen in the Alopecia.

he more inveterate either of theſe Infirmities is grown, more ſtubborn it is to be remedied; and the contrary.

the Place grow red with Friction, there is Hope of a ; and the ſooner it does ſo, the eaſier will the Cure be; Place grows not red with Friction, 'twill be in vain to pt a Cure.

e worſt Kind of Areas is, where the Skin is thick and h, and abſolutely bald and ſmooth.

opecia and Ophiaſis from a Leproſy, are incurable; from enereal Diſeaſe, are not to be cured, before that Diſtemper noved.

ere is good Hope of a Cure, when the Extremities of the adjoining to the ſtanding Hairs, begin to ſend forth Hairs: he Parts next the ſound ones, are leſs perverted from their l State, and are therefore ſooner reſtored, and begin to ce Hairs.

a vitious Humour abounds in the whole Body, it is firſt to be evacuated; otherwiſe it would continually foment iſeaſe. And ſo if it accompanies the *Lues Venerea*, this muſt firſt be cured, before the other can be removed. a Diſtemperature of the Viſcera, on which depends the ation of vitious Humours, is to be rectify'd. The an- nt Cauſe being removed, the continent or immediate is to be taken off. This *Galen* effects by Repellents and ives; but Care muſt be taken at the ſame time to reſtore in to its natural Temperament.

t then, the whole Body is to be purged by Remedies ac- odated to the Nature of the peccant Humour. After *Galen* preſcribes an Apophlegmatiſm for Evacuation of ad in particular.

to the Matter, while it is yet fluctuating, and in its Be- g, before the Areas are formed, *Galen* makes uſe of ents. This is what *Aviſena* alſo adviſes, when he tells, e Remedies for an Alopecia muſt be ſuch as, by a mode- ſtringency, ſtrengthen the Skin of the Head, in *Septima Tract.* 1. *Cap.* 6. "Theſe Medicines, ſays he, muſt be corroborating and repelling Quality, by which means Head may be guarded againſt the Influx of the malignant tter." But where the Alopecia and Ophiaſis are already , Repellents have no Place, neither in theſe Caſes, nor Itch.

e Areas are already formed, and the Matter lodged in n, Digeſtives are to be uſed. Theſe are to be hot in , of fine Parts, and not too dry; for if they ſhould be ying Nature, they would not only diſcuſs the vitious rs, but alſo what ſhould nouriſh the Hairs. And if the rament of the Skin be too hot and dry, as it is in con- Areas, cooling and moiſtening Medicines are to be in- d with the other Topics.

Remedies which remove the proximate Cauſe of this , are called μετασυγκριτικὰ, "Metaſyncritica" [See rd]. Here, firſt, if any corrupt Hairs ſtill remain, they e drawn out either with Tweezers, or by Dropaciſm; Place muſt be ſhaved with a Razor. Then the Head waſhed with Lye, in which Capillus Veneris, Poly- , Abrotanum, and ſuch kind of Herbs, have been boiled; Waſhing, let the Place be rubbed with a Linen Cloth, ſoft, nor too dry, till the Skin begins to grow red; ich let Topics be apply'd, ſuch as Muſtard, Naſtur- nd Roots of white Lilies, (which laſt are alſo ſaid to he Hairs after Combuſtions) Rocket-ſeed, Nitre, Oil Tar, Sulphur, the Powder and Aſhes of Abrotanum, t of Sowbread, of Hellebore, the Seed of Staves-acre, Dung, and, which are ſtronger than all the reſt, and Euphorbium; theſe laſt, the freſher they are, e they retain of Acrimony, which they loſe by being Choice is to be made of theſe, as ſhall appear beſt ſuited ſe, and due Application is to be made. For not all the s juſt now enumerated are proper for all Areas, at all in all their Degrees, and whether more or leſs inve- for each has its proper Seaſon and Meaſure: To a be- nd ſlight Diſeaſe, a weak Remedy; to an inveterate ng Medicines are beſt accommodated; to tender Bodies, men and Children, gentle Topics; to thoſe of adult and Men, ſmarter ones are to be apply'd.

De Compoſ. Med. Sec. Loca, Lib. 1. *Cap.* 1. has mpoſitions to this Purpoſe, examin'd and approv'd by erience, ſuch as thoſe of *Heras, Crito, Oreſtinus, ulus, Cleopatra, Archigenes, Aſclepiades, Dionyſiodorus,* and others. He himſelf recommends the following:

f the Leaves of Arundo Græca burnt, four Ounces; edghog calcin'd, one Dram; of Mouſe-dung, two ns [in *Galen* it is two Ounces]; pound them in gar, and anoint the Parts affected. Or,

Take of the Aſhes of burnt Reed, Goats Hair burnt, Maidenhair, Bear's Fat, Tar, Cedar-Turpentine, of each an equal Quantity. This he calls an admirable Remedy. Or,

Take of domeſtic Mice burnt, Linen Cloth burnt, Horſes Teeth calcin'd, Bear's Fat, Stag's Marrow, Bark of Reed, of each equal Parts; of Honey, a ſufficient Quantity; make them into an Ointment. Or,

Take of Euphorbium, Thapſia, Oil of Bays, each two Drams; Sulphur vivum, Hellebore, each one Dram; Wax, ſix Drams; melt them up, and mix them together with Oil of Bays, or old Oil, or Tar. This is the ſtrongeſt Medicine of all, and beſt accommodated to the Diſeaſe, when grown inveterate.

In a more moderate Degree of the Diſtemper, a Remedy prepared of Abrotanum, or the Roots of Reed burnt, mixed with old Oil, or Oil of Bays, or Tar, will be ſufficient. Or,

Take of Rocket-ſeed, Naſturtium, Nitre, and mix them with Oil of Bays, or Tar. Or, which is milder, and adapted to Women and Children,

Take of Abrotanum, the Aſhes of the Root and Bark of Reed, Frankincenſe, an equal Quantity; of Bear's Fat, and Oil of bitter Almonds, a Sufficiency. Make a Liniment. If there be Occaſion to make it ſtronger, you may add Froth of the Sea, Sulphur vivum, Ox Gall, Rocket, Nitre, or even Thapſia. Or,

Take of Muſtard, Thapſia, and Seed of Naſturtium, equal Parts; reduce them to a fine Powder, and add thereto Oil of Bays and Reſin, of each a ſufficient Quantity; and make thereof a Plaiſter by the Fire-ſide.

A Multitude of ſuch Remedies are every-where to be found in the Works of *Valeſcus de Taranta*, *Rondeletius*, *Hollerius*, *Trincavellius*, and other practical Phyſicians.

In uſing the ſtronger Kinds of Medicines, obſerve to apply the ſofter and more liquid Sorts, and ſuch as are temper'd with the Mixture of Oils, which moderate in ſome meaſure their Force; and then taking Notice of what Alteration is wrought in the Part affected by the firſt Medicine, increaſe or diminiſh its Strength, as you ſee Occaſion. Now an Alteration may be beſt diſcover'd by attentively obſerving whether the Skin be grown redder, or will redden with a ſtrong or gentle Friction. For the greateſt Care is to be taken, that the Skin be not parched by the repeated Uſe of the ſtronger Medicines. It is farther to be obſerved, with reſpect to compound Medicines, that, if the Parts are quite bare, they are fitteſt to be uſed in a ſolid Form, as by way of Plaiſters; but if the Hairs are not clean gone, more liquid and ſofter Forms, ſuch as Liniments and Ointments, are moſt convenient.

The milder Topics muſt remain Night and Day on the Part, that they might be able to exert their Force; the ſtronger ones, till you can perceive they have made ſome Alteration in the Skin, and Pain begins to be felt. Therefore in uſing theſe latter, the affected Part is to be inſpected once or twice every Day; and if they have had too rough an Effect, recourſe muſt be had to milder ones; and the Part is to be anointed with the Fat of a Gooſe, Oil of Dill, or ſome ſuch Anodyne Medicine; for if the ſtronger Remedies be kept on longer, they will burn the Skin. Thus *Chriſtophorus a Vega* writes, That he had ſeen not a few Perſons, who by the Uſe of too forcible Medicines, were reduced to a perpetual Baldneſs, or remained all their Life-time without a Beard.

A Regimen of Diet is alſo very effectual in the Cure of an Alopecia and Ophiaſis. Such Meats are to be choſen as generate good Blood, and put a Stop to the breeding of ill Humours. Let the Food be ſuch Eatables as contain a good Juice, which may rectify the depraved Fluids. Let the Patient abſtain from Wine till the Body be purged; for Wine ſerves as a Vehicle to carry the detained and corrupt Humours into the Veins. After ſufficient Purging, Wine that is mild, and of a ſweetiſh Taſte, may be indulged, ſince it nouriſhes much, and generates good Blood. A warm Air ſuits beſt with the Patient. *Sennertus, Lib.* 5. *Part.* 3. *Sect.* 2. *Cap.* 4.

ALOPECUROS, from ἀλώπηξ, a Fox, and οὐρὰ, a Tail. It is a Plant thus diſtinguiſh'd:

Alopecuros, Offic. Ger. 81. Emac. 87. *Alopecuros genuina*, Park. Theat. 1166. Hiſt. Oxon. 3. 191. *Gramen Alopecuros ſpica brevi*, J. B. 2. 474. Chab. 186. Raii Hiſt. 2. 1265. *Gramen Alopecuroides ſpica rotundiore*, C. B. Pin. 4. Theat. 56. Boerh. Ind. A. 2. 159. Elem. Bot. 418. *Gramen ſpicatum tomentoſum longiſſimis ariſtis donatum*, Tourn. Inſt. 517. FOX-TAIL. *Dale*.

It is a very tender Herb, with a ſhort Spike of about two Inches, pretty round, and nearly reſembling a Fox's Tail, white and thin. The Huſks that hold the Down are almoſt hid by the Thickneſs of the downy Tufts, and are pretty long-bearded, ſoft, and of a circular Form. The Stalk has many Joints, and grows to the Height of a Cubit, or a Cubit and half, beſet with graſſy Leaves, which are cover'd with very fine ſoft Hair. The Root is ſmall, white, and has abundance of Filaments.

It is obſerved to grow in *Sicily*, at *Baiæ* in *Italy*, and in *Languedoc* near *Frontiane*, chiefly in ſandy Ground, but with a ſhort Spike, and a low Stalk, not above a Foot high, and very ſlender in the upper Part. *Raii Hiſt.* 1265.

I don't find any Virtues aſcrib'd to it.

Ray, beſides the above, enumerates the following Species:

1. *Gramen Alopecuro ſimile Glabrum, cum Pilis longiuſculis in ſpica, Onocordon mihi denominatum*, J. B. *Alopecuroides Major*, Ger. *Phalaroides Majus*, Park. Gr. *Phalaroides majus, ſeu Italicum*, C. B. *& forte etiam Phalaroides ſpica molli, ſive Germanicum*, C. B. Park. THE MOST COMMON FOX-TAIL GRASS. This grows very plentiful in Meadows and Paſtures throughout *England*.

2. *Gramen Aquaticum geniculatum ſpicatum*, C. B. *Fluviatile ſpicatum*, Ger. *Aquat. ſpicatum*, Park. SPIKED FLOTE-GRASS.

3. *Gramini Caudæ Muris purpuraſcenti aliquatenus ſimile*, J. B.

4. *Gramen Alopecurinum minus*, Ger. *Alopecuroides ſpica longa majus & minus*, Park. *Typhoides*, V. *Seu ſpica anguſtiore*, C. B. *Cum Cauda Muris purpuraſcente*, J. B. THE LESSER BASTARD FOX-TAIL GRASS.

5. *Gramen pumilum hirſutum ſpica purpuro-argentea molli, noſtras.* THE DWARF HAIRY FOX-TAIL, WITH A SILVER WHITE SPIKE INCLINING TO PURPLE.

6. *Gramen Alopecuroides ſpica aſpera*, C. B. *Alop. ſpica aſp. brevi*, Park. *Gra. cum cauda Leporis aſpera, ſive ſpica murina.* J. B. *Alopecuroides ſpica aſpera Bauhini.* Ger. Emac. ROUGH-EAR'D FOX-TAIL GRASS.

7. *Gramen Alopecuros ſpica longa tomentoſa candicante*, J. B. *Alopecuros major ſpica longiore*, C. B. Gr. *Alopecuroides alterum radice repente, ſeu Pſeudo-Schœnanthum Monſpelienſium*, Park. *Schœnathum adulterinum*, Ger. GREAT LONG-EAR'D FOX-TAIL GRASS.

8. *Alopecuros maxima Anglica*, Park. *Altera maxima Anglica paludoſa*, Ger. Emac. *Altera maxima Anglica paludoſa, ſive Gramen Alopecuroides maximum*, J. B. Lob. *Adv. part. alt.* GREAT ENGLISH MARSH FOX-TAIL GRASS.

9. *Gramen Alopecuroidi accedens ac Phalaridi, ſpica longiuſcula, folio lanuginoſo*, J. B. *Typhoides molle*, C. B. *Alopecuroides minus*, Ger. Long-ear'd ſoft-leaved FOX-TAIL.

10. *Gramen cum cauda muris, foliis hirſutis*, J. B. *Typhoides culmo reclinato*, C. B. *Alopecurinum majus*, Ger. THE GREAT BASTARD FOX-TAIL GRASS.

11. *Gramen Alopecuros altera Lobelii*, J. B. ONE OF THE SPECIES OF FOX-TAIL OBSERV'D BY LOBEL.

12. *Gramen Alopecuros minos ſpica longiore*, C. B. *Cauda vulpina Monſpelienſium*, Adv. Lobel. FOX-TAIL OF MONTPELLIER.

13. *Gramen Typhoides maximum ſpica longiſſima*, C. B. *Typhoides maximum*, Park. *Typhonum tertium*, Ger. Emac. THE GREATEST CATS-TAIL GRASS. *Raii Hiſt. p.* 1264.

ALOPEX is a Sea-fiſh, mention'd by *Oribaſius*, (*Med. Coll. Lib.* 2. *Cap.* 58.) among thoſe which frequently come up the Rivers into freſh Water, and are hard of Concoction.

ALOSA ſive **CLUPEA**, the Shad: It is a Sea-fiſh, which often travels into Rivers; it grows to the Bigneſs of a Salmon; it is cover'd with large Scales, but thin and eaſy to be pulled off; it is ſharp-ſnouted, and has no Teeth; there appears at the Top of its Head, above its Eyes, a Bone or a Scale on both Sides, which is bright and ſhines; its Tongue is blackiſh, the Back is of a yellowiſh White, the Sides and Belly of a ſilver Colour. This Fiſh loves Salt, and has a delicious Taſte; it contains a great deal of volatile Salt and Oil. When this Fiſh is not very freſh, it has a Taſte ſomewhat acrid, which offends the Gums of thoſe who eat it.

They find in the Head of this Fiſh a ſtony Bone, which is Aperitive, and good for the Gravel and Stone, and to abſorb Acids, being itſelf alcaline.

The Stomach of this Fiſh, dried and reduc'd to Powder, is proper to ſtrengthen the Stomach, being taken inwardly. *Lemery de Drogues.*

It agrees in the Spring, when it is better than in any other Seaſon of the Year, with any Age and Conſtitution, provided it be moderately uſed.

It's ſaid this Fiſh is ſo afraid of Thunder, that the Noiſe thereof many times kills it out of Fear. *Rondeletius* ſays, that he had ſeen ſome of them, by playing on the Lute, run and ſkip about on the Face of the Water.

They pickle Shad to keep, and for the exporting it into other Parts; but 'tis not ſo well taſted as before. *Lemery* on *Foods.*

ALOSANTHI, Flos Salis, Flower of Salt. *Rulandus.*

ALPAM. This is the Siliquoſa Indica flore tripetalo, filiquis teretibus, pulpa abſque ſeminibus repletis. *Raii Hiſt. Plant.*

The Stem of this Plant, which divides itſelf twice or thrice, is covered with a Bark of an aſhy, green Colour, inodorous, and of an acid aſtringent Taſte. The Branches are of a whitiſh Wood, have a green Pith running thro' them, and are diſtinguiſhed into Joints. The Root is red, compoſed of a great Number of capillary Fibres, which diſperſe themſelves on every Side. The Leaves are of a narrow oblong Form, and terminate in a ſharp Point, of a Deep-green on the Outſide, but pale on the Inſide, have their main Rib very much branched, are interwoven with many Veins and Fibres and are ſet ſingle on thick, ſhort Pedicles, which are flat on the Inſide. They have a Smell not ungrateful, and taſte ſome what acrid. The Flowers, which are of a dark-purple Colour and inodorous, grow on very ſlender, round Pedicles, ſome times two or three together, and conſiſt of three broad ſharp-pointed Leaves, which are covered on the Outſide w very white Hairs, and in the Middle have their Stylus divi into three oblong, red Stamina or Chives, that croſs one other. To the Flowers ſucceed the Pods, which are ſhar pointed, round, and full of a carnoſe Pulp, but without Se at leaſt any that are diſcernible.

It delights in ſandy, open Soils; and is found in gr Plenty in *Aregatti* and *Mondabelle*, and many other Places.

It bears Flowers and Fruit, as well at the End of the Y as in the Beginning, and is always full of Leaves.

Any Part of this Shrub, made into an Ointment with Oil a powerful Remedy in caſe of the Scab, and old Ulcers.

The Juice of the Leaves, with Calamus Aromaticus good againſt the Venom of Serpents; and the Root br with Juice of Lemon, tied in a little Knot, and thruſt up Noſe, by way of Errhine, is eſteemed a Specific again Bite of the Serpent called *Regulus*, or *Cobra Capella*. T Poiſon of a young *Cobra Capella* is alſo expelled by the drank in Cow's-milk. For the ſame Purpoſe Cataplaſm likewiſe uſed, made of this Root and Calamus Aromaticus

ALPHABETUM CHYMICUM. *Raymond Lully* preſented the World with a Chymical Alphabet, but to End, and with what Deſign, will be a difficult Matter to cover, eſpecially till it can be underſtood; and till then I beg Leave to give it in his own Words, it being very di to tranſlate what one cannot comprehend.

Significationes Literarum hujus Teſtamenti.

A *Significat Deum.*
B *Significat Mercurium.*
C *Significat Salis petram.*
D *Significat Vitriolum.*
E *Significat Menſtruale.*
F *Significat Lunam claram.*
G *Significat Mercurium noſtrum.*
H *Significat Solem purum.*
I *Significat compoſitum Lunæ.*
K *Significat compoſitum Solis.*
L *Significat terram compoſiti Lunæ.*
M *Significat aquam compoſiti Luuæ.*
N *Significat aerem compoſiti Lunæ.*
O *Significat terram compoſiti Solis.*
P *Significat aquam compoſiti Solis.*
Q *Significat aerem compoſiti Solis.*
R *Significat ignem compoſiti Solis.*
S *Significat lapidem album.*
T *Significat Medicinam corporis rubei.*
U *Significat calorem fumi ſecreti.*
X *Significat ignem ſiccum cineris.*
Y *Significat calorem balnei.*
Z *Significat ſeparationem Liquorum.*
Ƶ *Significat alembicum cum cucurbita.*

ALPHENIC, an *Arabic* Word, which ſignifies candy, or Barley-ſugar. *Blancard.*

ALPHESERA, the ſame as **ALFESERA**, which

ALPHITA, ἄλφιτα, the Plural Number of ἄλφιτ ſaid to ſignify, ſtrictly, the Meal of Barley hull'd and though ſome take it to be the Meal of Barley, as ἄλ cording to their Interpretation, is the Meal of Whe certain, however, that *Hippocrates* uſes ἄλφιτα to ex Meal of all ſorts of Seeds. And *Galen* tells us, It Meal of a moderate Fineneſs; whereas κρίμνα ſig coarſeſt Sort, and ἄλευρα the fineſt; and this Explan the neareſt to Truth.

Ἄλφιτα σεγμένια is alſo mention'd by *Hippocrates*, fies probably Meal made of very new tender Barley, s laid to dry in the Granaries. It ſeems it was the Cuſtom ongſt the Antients, eſpecially thoſe who liv'd in moiſt Situons, to ſet a Poſt erect upon a Floor, and lay their Barley nd it, to dry, ſo that the Heap reſembled a Cone (κῶνος). λφιτα περικώνια then was Meal made of Barley, before it was d to dry in this manner; though *Galen* ſays, ſome took it ſignify Meal made of Barley unparch'd.

Hence ἄλφιτον was alſo taken for a kind of Haſty-pudding, ich the *Romans* call'd POLENTA. It was generally de of Barley-meal moiſten'd with Water, or any other uid, as Wine, Muſt, or Hydromel. This was a very mmon Food, eſpecially amongſt the Soldiery, and therefore may conclude it was eſteemed very coarſe. *Hippocrates* quently orders ἄλφιτα medicinally, without Salt (ἄναλτα). nce

ALPHITEDON, ἀλφιτηδὸν, was apply'd to a Fracture, en the Bone was broken into very ſmall Fragments, like hita.

ALPHUS, ἄλφος, one of the three Species of *Vitiligo*, other being *Melas* and *Leuce*, deſcribed by *Celſus*; in ich, ſays he, the Skin is of a white Colour, with a kind Roughneſs for the moſt part, not continuous, but ſprinkled h ſomewhat like Drops; ſometimes it ſpreads to a conſider- Breadth, with ſome void Intervals. *Celſus, Lib.* 5. . 18.

ome Authors make but two Species of *Vitiligo*, compreding the *Melas* under the common Name ALPHUS.

he *Alphi* bear the ſame Analogy to the *Leuce*, [λεύκη] as Scabies to the Lepra: For the *Leuce* commonly deſcends in the Fleſh, and infects the Hairs with their own Colour, the *Alphus* ſticks in the Superficies; though now-and-then take deeper Root, and alſo change the Colour of the s. The *Alphus*, for the moſt part, is of a milder Nature the *Leuce*, and gives way to moderate Remedies; but n grown inveterate, it approaches more and more to the ure of the *Leuce*, and has Need of the ſame Medicines. *arius, Meth. Med. Lib.* 2. *Cap.* 11.

he Species of Vitiligo called the *Leuce*, is generated from ituitous and glutinous Blood, which by Length of Time mes a whiter Colour. The Alphus has a like Original, does not penetrate the Fleſh, ſticking only about the Skin. Alphus is generated from a pituitous Humour, the black an atrabilious. The Lepra is generated by a Humour ſinks deep within the Fleſh, but the Scabies principally ts the Superficies of the Skin.

ne of the moſt certain Remedies for theſe ſort of Diſtemis to waſh the Parts affected with Lime and Water, made iderably ſtrong or thick, which is done by pouring Water Lime-ſtones waſhed and dried. But the Alphus requires a thin or weak Liquor, the Scabies a thicker, but the a a very thick or ſtrong one. The Root of Tarragon in egar cures the Alphus, being waſhed therewith, and both Hellebores do the ſame. The Decoction of bitter Lupines, e Meal thereof, with Honey or Vinegar, externally uſed, a like Effect. Other Remedies are, the Bark of Caperand Vinegar, Lily-roots and Honey, Onion and Vinegar 'd in the Sun, the Dung of a Lizard, Starlings fed only ice, and the Shell of the Cuttlefiſh calcined. *Oribaſius orb. curat. Lib.* 3. *Cap.* 58.

he Alphus is ſo called from ἀλφαίνω, an old Word, ſignito *change*, becauſe it changes the Colour of the Skin. It the ſame kind of Original with the *Leuce* and *Lepra*, only ot ſo deeply rooted, but like Scales ſticking on the Skin, hite ones being derived from a phlegmatic, the black ones an atrabilious, Humour.

o cure the white and black Alphus:

> ake Fig-leaves, Sulphur vivum, Alum, of each an equal Quantity, and Vinegar, and anoint the affected Parts, it being an excellent Medicine.

r the black Alphus, in particular:

> ake of black Hellebore, and Terra Cimolia, equal Quantities, and dilute them in Water, or Vinegar, to the Thickneſs of Lees of Oil, and therewith anoint the Parts in the Sun, being firſt well rubb'd over.

r the black Alphus, when grown inveterate, and harden'd Callus on the Superficies of the Skin:

> ake of the Root of the black Chamæleon, nine Ounces; Sulphur vivum, two Ounces; Aphronitre, one Ounce: Macerate them in Vinegar, and therewith anoint the Parts in the Sun.

nother moſt effectual Medicine, and ſweet-ſcented withal, follows:

> Take of white Hellebore, eight Drams; Iris, Aphronitre, Coſtus, each four Drams: Macerate them in Vinegar, and ſo rub them on the Parts in the Bath, without mingling any Fat with them.

Another very celebrated Remedy for both the black and white Alphus; *viz.*

> Take of Myrrh, Sulphur vivum, Spuma Nitri, white Hellebore, each two Ounces; burnt Baſtard-ſpunge, an Ounce and an half: Make them into a Waſh-ball, and uſe them in the Bath, or in the Sun with Vinegar.

But here is to be noted, with reference to all that has been ſaid, That Purging ought to precede external Applications. For the white Alphus you may begin with *Galen*'s Hiera, or Pills of Colocynthis and Aloes; and for the black ſort, you may purge with black Hellebore and Epithymum. *Aetius Tetr.* 4. *Serm.* 1. *Cap.* 132.

ALRAMUDI cineritious. *Rulandus.*

ALRATICA, a Word uſed by *Albucaſis*, to ſignify the total or partial Imperforation of the Vagina, whether natural or accidental.

ALSAMACH, or ALSEMACH, the *Arabic* Name for the great Foramen in the Os Petroſum.

ALSECH, Alumen Jamei. *Rulandus.* That is, Alumen Plumoſum.

ALSELAT, Burnt Copper. *Rulandus.*

ALSINASTRUM.

1. *Alſinaſtrum Gratiolæ folio*, Inſt. 244. & *Alſinaſtrum Gallii folio*, Ibid. Found by Mr. *J. Sherard*, on boggy Ground, on the Common juſt by the Road from *Eltham* to *Chiſelhurſt*. *Syn. Stirp. Brit.* 346.

The Roots are compoſed of white Fibres coming out of the lower Joints of the Stalk, and diſpoſed in Whirls. The Stalk is divided on the Inſide, and lengthwiſe, into ten Cells, formed by little membranaceous Leaves, which are placed in Form of a Ray. It is chanelled throughout its Length; and that Part which appears above the Water is pale, the other waſhed with a little Purple, and diſtinguiſhed with Joints, at the Diſtance of two Lines, to which are faſtened eight or ten Leaves, and ſometimes twelve, before the Stalk gets above the Water. Theſe Leaves are diſpoſed in Rays, and are but about one third Part of a Line broad at their Baſe, to eight or ten Lines in Length. Thoſe which appear above the Water, are much broader and ſhorter not much unlike thoſe of the *Glaux Maritima*, C. B. The Flowers grow in the Boſoms of ſome of the Leaves, and conſiſt of four white round Petals, about one half of a Line in Diameter, placed round a Pointal, and oppoſite to the Diviſions of an Empalement, which is cut into four equal Segments. It has four very ſhort Chives ſuſtaining white Summits. The Pointal at laſt becomes a round flat Capſule, ribbed like a Melon, having a Navel on the Forepart, and opening into four Parts to the very Baſe, and diſcloſing many oblong Seeds. It flowers in *July* and *Auguſt*. *Vaill.*

2. *Alſinaſtrum ſerpyllifolium, flore albo tetrapetalo.* Vaill. 5.

3. *Alſinaſtrum ſerpyllifolium, flore roſeo tripetalo.* Vaill. 5. *Martin's Tournefort.*

ALSINE. A Plant thus diſtinguiſhed.

'Αλσίνη, Dioſcorid.

1. *Alſine*, Offic. *Alſine minor*, Park. Theat. 760. *Alſine media*, C. B. Pin. 250. Hiſt. Oxon. 2. 550. Tourn. Inſt. 245. Elem. Bot. 208. Boerh. Ind. A. 209. Rupp. Flor. Jen. 87. Dill. Cat. Giſſ. 41. Buxb. 16. Merc. Bot. 1. 18. Phyt. Brit. 6. *Alſine minor ſive media*, Ger. 489. Emac. 611. *Alſine vulgaris ſive morſus Gallinæ*, J. B. 3. 363. Raii Hiſt. 2. 1030. Synop. 3. 347. *Alſine ſive morſus Gallinæ*, Chab. 449. *Alſine minor media*, Mer. Pin. 5. CHICKWEED. *Dale.*

ALSINE is by ſome called *Mouſear*, becauſe its Leaves reſemble the Ears of Mice: But it has the Name of *Alſine* from [ἄλσος, *lucus*], it delighting in Groves, and ſhady Places. The Herb is like Pellitory of the Wall, but lower, and with longer Leaves, and not at all rough, but being rubbed, ſends forth a Smell like a Cowcumber.

It is of an aſtringent and refrigerating Quality, on which Accounts it is good for Inflammations of the Eyes, being apply'd in a Cataplaſm with Polenta. The Juice of it, inſtill'd into the Ears, eaſeth the Pains thereof; and, in ſhort, it has the ſame Virtues, and ſerves for the ſame Purpoſes, as the *Helxine. Dioſcorides, Lib.* 4. *Cap.* 87.

It grows in Gardens, eſpecially on the Walls. It ſprings in the Midſt of Winter, and withers away in the Heat of Summer. It is weaker than the Helxine, but has a peculiar Virtue in Inflammations of the Eyes. It is good alſo in Ulcers, and Diſtempers of the Pudenda, being apply'd with Barley-meal. [*Farina Hordeacea, by which, no doubt,* Pliny *means the ſame as* Dioſcorides *by his ἄλφιτα, commonly render'd* Polenta.] *Pliny, Lib.* 27. *Cap.* 4.

Chickweed is a ſmall tender Plant, ariſing above half a Foot high, having its weak brittle Stalks growing thick together, which are round, and have two ſmall roundiſh ſharp-pointed green Leaves, growing at each Joint, oppoſite one to the other; on the Top of each Stalk, it bears many ſmall, ſtar-like, white Flowers, of five narrow Leaves apiece, with a green *Calyx* cut into as many Parts under them. The Seed-veſſel is long and round, containing many ſmall, round, browniſh Seeds. The Root is ſmall and fibrous, periſhing after Seed-time. It grows every-where in moiſt Places, and in Gardens too frequently.

Chickweed is cooling and moiſtening, good for Inflammations of the Liver, St. *Antony*'s Fire, Redneſs and Pimples in the Face, being applied to the Parts affected as a Cataplaſm, or Cloths dipp'd in the Juice, laid on, and now-and-then ſhifted; made into a Poultice with Hog's-lard, it helps hot Swellings and Tumours; the Juice dropp'd into the Eyes, takes away Redneſs and Bloodſhot. *Miller Bot. Off.*

It contains a great deal of Phlegm and Oil, and but little Salt.

It is ſweetening and thickening, it ſtops the Flux of the Hæmorrhoides, and it mitigates Pain, being taken in Decoction, and externally apply'd. *Lemery de Drogues.*

It grows in watery Places, by the Sides of Hedges and Paths. The Herb is in Uſe; it refrigerates and moiſtens, and has the Virtues of Pellitory of the Wall, only it has no Aſtringency. It is ſuppoſed to be very nutritive, and therefore a wholſome Food for Perſons in an Atrophy or Phthiſis. *Dale.*

The Chickweed varies according to the Place of its Growth, as *Tragus* has obſerved. The Figure of the *Alſine media*, *Tabern.* repreſents it high and ſpreading, as one finds it in ſhady Places. In *Dodonæus*'s Figure it appears more low, buſhy, and like that which grows frequently in Gardens. I ſuſpect it is the *Alſine marina* of this laſt Author. *J. Bauhin* ſuppoſes this to be the Species which he has named *Alſine Plantaginis folio.* For my part, I do not like *Dodonæus*'s Figure; and it ſeems to reſemble neither *J. Bauhin*'s Plant, nor that of which we are ſpeaking: So that it is a Wonder, that *Lobel* ſhould make uſe of this Figure to repreſent the Chickweed; but he had but a confuſed Notion of it, as *J. Bauhin* demonſtrates. *Thalius* probably ſpoke of this Plant, under the Name of *Alſine minor*; but as he makes ſeveral Species of it, we muſt ſay *Alſine minor foliis oblongis mucronatis*, and not ſimply *Alſine minor*, as *C. Bauhin* has done.

The Chickweed is of an herby Taſte, a little ſaltiſh. *Cordus* found ſomething nitrous in it; nevertheleſs, as it gives a pretty deep-red Colour to the blue Paper, its Salt ſeems to reſemble the Sal Ammoniac, which is natural in the Salt of the Earth, but in this Plant is diſſolved in a great Quantity of Phlegm. *J. Bauhin* affirms, That the diſtilled Water of Chickweed, or the Infuſion of it in Wine, reſtores thoſe who are emaciated, after long Diſeaſes. *Schroder* commends it highly for the Phthiſic. The Uſe of this Plant cures Children of Convulſions; and they give a Dram of its Powder for the Epilepſy. *Solenander* ſays, That its Powder being laid on the Piles, ſtops their immoderate Flux, and aſſuages the Pain. The Juice of Chickweed is vulnerary and deterſive, like the *Sal Ammoniac*, which is good to cleanſe the Mouth, and take away Inflammations. For ſpitting Blood, the Patients muſt eat Omelettes made of this Herb, minced ſmall, inſtead of Parſley. Applied to the Breaſts, it diſſolves the curdled Milk, and diſſipates the too great Quantity of this Liquor. To all theſe Virtues we may add that of cooling, which is attributed to the Chickweed: For the greateſt Part of Remedies cool no otherwiſe, than by quickening the Motion of the Blood, which, becauſe of ſome Obſtructions in the Bowels, ſtagnates, ferments more violently, and heats all the neighbouring Parts. Aperitives are capable of cooling in that Senſe, becauſe they open the Paſſages through which the Liquors ought to circulate. The Antients, who in Remedies inquired more into the Effects than the Cauſes, ought not to be blamed for calling the greateſt Part of thoſe cooling, which are capable of augmenting the Motion of the Humours. Every body knows, that Chickweed is frequently uſed to reſtore the Appetite to Canary-birds, Linnets, and other caged Birds: This Uſe is not new, *Tragus*, *Anguillara*, and ſeveral Authors, have mentioned it.

2. *Alſine Plantaginis folio*, J. B. 3. 364. PLANTAIN-LEAVED CHICKWEED. In ſhady Places, and among Buſhes.

Mr. *Ray* has deſcribed this Plant very well, but he had no Reaſon to ſuſpect, that it was that which *C. Bauhin* calls *Alſine aquatica media*: That of *Bauhin* is very well engraved in *Tabernæmontanus*, and is not often found but along the Brooks, in the *Pyrenees*, and the *Alps*.

The Petals of this are intire; it is the *Spergula Plantaginis folio.* Dillen. Cat. Giſſ. 58.

3. *Alſine minor multicaulis*, C. B. Pin. 250. *Alſine minima*, J. B. 3. 364. THE LEAST CHICKWEED ON WALLS.

J. Bauhin's Figure is tranſpoſed; that of *Tabernæmontanus*, who calls it *Alſine minor*, is not bad. This Plant varies according to the Place where it grows; and I believe there is little Difference between it and that which the ſame Author calls *Alſine petræa minima.* If *Tragus* intended to comprehend it under his four Species of Chickweed, he is miſtaken; for its Flowers are whitiſh, and not blueiſh.

This alſo has intire Petals: It is the *Spergula multicaulis*, Dillen Cat. Giſſ. 58.

4. *Alſine verna glabra*, *floribus umbellatis albis*, Inſt. 242. *Caryophyllus arvenſis umbellatus*, *folio glabro*, C. P. Pin. 210. *Caryophyllus arvenſis umbelliferus*, J. B. 3. 361. *Holoſteum Caryophyllæum arvenſe*, Tabern. Icon. 233.

This laſt Author's Figure is a great deal better than that of the *Alſine verna*, Lugd. *Dalechampius*, however, is the firſt who has aſcribed this Plant to its true Genus. *Fabius Columna* has confounded it with that which he calls *Eufragia Linifolia*, Part 2. 68.

M. Vaillant has obſerved, That the Flower of this *Alſine*, or *Spergula*, has but three Chives; and that the Pointal ends in three Threads, which are expanded horizontally. *Martyn's Tournefort.*

5. *Gramen Leucanthemon*, Offic. Ger. 43. Emac. 4 Park. Theat. 1325. *Gramen Fuchſii ſive Leucanthem* J. B. 3. 361. Chab. 448. *Caryophyllus arvenſis glaber*, *flo majore*, C. B. Pin. 210. *Caryophyllus holoſteus arvenſis gla flore majore*, Raii Hiſt. 2. 1027. Synop. 3. 346. *Holoſte vernum ſeu Gramen Leucanthemum*, Mer. Pin. 63. *Holoſte vernum*, *flore majore*, *Euphraſia Gramen Tragi*, Merc. Bot. 43. Phyt. Brit. 60. *Lychnis arvenſis glabra*, *flore majore*, Hi Oxon. 2. 546. Boerh. Ind. A. 214. *Alſine pratenſis*, *gram folio ampliore*, Elem. Bot. 209. Tourn. Inſt. 243. Dill. Ca Giſſ. 50. Rupp. Flor. Jen. 87. Buxb. 18. *Alſine holoſ glabra*, *folio gramineo*, *flore majore*, Volck. Flor. Not. STITCHWORT.

It grows in Woods, buſhy Places, and Hedges every-whe and flowers in the Spring. The Herb is uſed, which is o refrigerating and drying Quality, and is good for Inflammat of the Eyes. *Dale.*

Dodonæus affirms, That the Fruit of this Species is oblo it appears to me to be rather ſpherical.

The Juice of this Plant, its diſtilled Water, its Leaves a Flowers bruiſed, are good to appeaſe the Inflammation of t Eyes; for which Reaſon *Tragus* calls it *Euphraſia gra* 329.

6. *Alſine pratenſis*, *gramineo folio anguſtiore*, Inſt. *Caryophyllus arvenſis glaber*, *flore minore*, C. B. Pin. *Gramini Fuchſii Leucanthemo affinis*, & *ſimilis planta*, J. B 361. THE LESSER STITCHWORT. Among B eſpecially in a ſandy Soil.

J. Bauhin's Figure is good for nothing at all; that of *Ta næmontanus* is good, under the Name of *Gramen floridum nus*, Icon. 232.

Mr. *Ray* obſerves very well, That the Summits of this S cies are red.

7. *Alſine altiſſima nemorum*, C. B. Pin. 250. *Alſine repens*, *perennis*, J. B. 3. 362. *Alſine major*, Dod. Pempt. GREAT MARSH CHICKWEED. In marſhy P and by the Sides of Brooks.

Mr. *Ray* had Reaſon to believe, that it was the ſame with the *Alſine aquatica major*, C. B. Pin. for the *Alſine ſtris*, Tabern. does not ſeem to be different from the *major* of the ſame Author.

8. *Alſine maxima ſolanifolia*, Mentz. pug. Tab. 2.

This Plant is larger than the preceding; its Leaves waved and notched upon the Edges. Mr. *Ray* believes be but a Variety.

M. Vaillant corrects our Author with regard to the No of the Leaves, and denies that any *Alſine* has notched Le

9. *Alſine tenuifolia*, J. B. 3. 364. FINE-LEAV CHICKWEED. On the Borders of *Triplow Heath* in C *bridgeſhire*.

This Plant intirely reſembles that which *J. Bauhin* de to grow about *Montpelier*; and I believe that *C. Bauhi* deſcribed it under the Name of *Alſine nodoſa Germanica.* 116.

This has intire Petals: I have called it *Spergula te elatior*. It flowers in *May* and *June*.

10. *Alſine verna glabra*, Bot. Monſp. deſc. 14 *tetrapetalos*, *Caryophylloides*, *quibuſdam Holoſteum* Raii Hiſt. 1025. *Alſinella foliis Caryophylleis*, Cat. Gi THE LEAST STITCHWORT. It is common in gravelly Places.

The Flower conſiſts of four white, blunt-pointed two Lines long, and half a Line broad. The Centre Flower is occupied by an oval Pointal, encompaſſed by Chives, with white Summits, and divided at Top in fo Croſs. The Empalement is tetraphyllous. The Fruit is drical and tranſparent, having eight Indentations at the It flowers in *April* and *May*. Vaill.

11. A

Alſine minima flore fugaci, Inſt. 243. *Saxifraga An-*
lſinefolia annua, D. Plot. Raii Hiſt. 1026. Synopſ.
345. ANNUAL PEARLWORT.
Flower of this is like that of the former; but the Pe-
this are very ſoon loſt, whereas thoſe of the former com-
ſtick about the Fruit till it is ripe. The Seed-veſſel of
ens at Top into four or five Segments. It is ſaid to be
about *Hedington* and *Cowley* in *Oxfordſhire.*

Alſine ſpergulæ facie minima, ſeminibus nudis, Inſt. 244.
ga paluſtris Anglica, Ger. Em. 567. *Arenaria*, J. B. 3.
23. Vaill. 7. *Spergula minor, foliis Knawel, flore majuſ-*
lbo, Dillen. Cat. Giſſ. 156. ENGLISH MARSH
FRAGE. In boggy Places it flowers in *July.*

Alſine ſaxatilis & multiflora, capillaceo folio, Inſt. 243.
polygonoides herbacea minor, Laricis foliis capillaceis, ex
iculo plurimis, Pluk. Phytogr. Tab. 75.
Fruit of this Plant (according to Mr. *Vaillant*) opens
ree Parts, from Top to Bottom. The Petals are entire.

Alſine ſegetalis, gramineis foliis, unum latus ſpectantibus.
8.
Petals are entire; the Seeds are very ſmall and brown.
ers in *May* and *June*. *Ibid.*

Alſine ſpergulæ facie, minima, ſeminibus marginatis, Inſt.
lſine ſpergulæ facie, minima, Bot. Monſp. 14. *Spergula*
ſemine foliaceo nigro, circulo albo membranaceo cincto.
. Ox. 2. 351.
herard found it in *Ireland*, in ſandy Places.

Alſine ſpergula dicta major, C. B. Pin. 251. *Spergula*,
722. Dod. Pempt. 537. SPURREY. It is often
mongſt Corn.

Alſine ſpergulæ facie minor, ſive ſpergula minor, floſculo
leo, C. B. Pin. 251. *Spergula purpurea*, J. B. 3. 722.
LE SPURREY. Common in ſandy Places.

lſine folio gramineo anguſtiore, paluſtris, Dillen. Cap.
3. *Caryophyllus holoſteus arvenſis medius*, Raii Synopſ.
347.
is eaſily diſtinguiſhed by its glaucous Colour. I have
in great Plenty on the boggy Grounds about *Gamlin-*
ambridgeſhire.

lſine ſegetalis, gramineo folio glabro, multiflora. D.
Raii Supp. 500.

lſine Hyperici folio, D. Vaillant, Inſt. 242. *Alſine*
uliginoſis proveniens locis, J. B. 3. Lib. 19. 365. *Al-*
tica media, C. B. Pin. 251. *Alſine fontana*, Tabern.
LONG-LEAVED WATER CHICKWEED.
and watery Places.
ers in *May*, *June*, and *July*. Its Flower is but too
Diameter. It has five white entire Petals, ending in a
They are placed immediately upon the Segments of the
nent, which they cover; the Chives are ten in Num-
Pointal is ſurmounted by three Threads, diſpoſed in a
The *Alſine fontana*, Tabern. Ic. 712. reſembles our
tty well. *Moriſon* (H. Ox. 2. 551.) ſays, the Petals
but he is miſtaken. Mr. *Ray* (Synopſ. 348.) is like-
aken; for he affirms, that they are divided in two, to
Baſe. *J. Bauhin* ſays, the Flower has ten white Pe-
ill.

ſine Alpina ſubhirſuta, Linariæ folio, Inſt. 339. *Lych-*
uniperi folio, perennis. Vaill. 121.

ſine paluſtris minima, floſculis albis, fructu Coriandri
Ment. Pug. Tab. 7.

NEFORMIS. A Plant thus diſtinguiſhed:
rmis paludoſa tricarpos, floſculis albis inapertis,
ytog. Tab. 7. Fig. 5. *Alſine paluſtris, Portulacæ*
imilis, Raii Hiſt. 1035. *Portulaca exigua ſive arven-*
ario. J. B. 3. 678. SMALL WATER CHICK-
OR PURSLANE, BY SOME CALLED BLINKS.
ers in the Spring, and is not uncommon in moiſt and
ces. Dr. *Dillenius* ſays, the Flower is monopetalous.
affirms it to be pentapetalous. *Martyn's Tourne-*

ACOSTUM, the Name of a Compound Medi-
eſne, which he recommends much in Fevers at-
h great Heat.

FOR, Camphire. *Johnſon.*

MBUS. *Rulandus* explains this *Lapis rubeus*, that
n Blood.

NUS, the South-Weſt Wind. *Rulandus.*

RIS, ALTARIT, or ALOZET, Quickſilver. *Ru-*

RANTIA, Alteratives. Thus Medicines are called
ce a Change in the Blood and Juices for the better,
ny manifeſt Operation or Evacuation. Alteratives,
muſt generally be either ſuch Remedies as deſtroy
ailing Acrimony in the *Primæ Viæ*, or in the Juices;
h as reſolve Concretions in the Blood-veſſels, and
m, when thus reſolved, to paſs out of the Body by
n, or ſome of the leaſt remarkable Evacuations.
has given us a Diſſertation on Alteratives, which I
as it ſeems worthy of Peruſal.

Since almoſt the whole Duty of a Phyſician conſiſts in ſeaſonably adminiſtering ſuch Things as are proper to preſerve or reſtore Health, and are effectual to relieve the Sufferings of his Patient; and, at the ſame time, in artfully avoiding, whatever may be unwholſome or prejudicial; it is plain, that nothing is ſo neceſſary to accompliſh theſe Purpoſes, to a deſirable Degree of Perfection, as a diſtinct and accurate Knowledge of the Inſtruments by which Health is preſerved or reſtored: Now this Knowledge ſuppoſes not only an Acquaintance with their Efficacy and Virtues, but alſo with their Elements, and Manner of Operation; by which means a Phyſician may be enabled to judge, by ſolid Reaſon, what are the Things, in all the *Materia Medica*, which are ſerviceable or prejudicial, in this or that Diſtemper, to this or that particular Perſon, at ſuch or ſuch a Seaſon, with a due Regard to all other Circumſtances. That he may rightly conduct himſelf in theſe Affairs, and be ready furniſhed with proper Means to anſwer all Emergencies; nothing ſeems fitter, and more conducive to the Purpoſe, than an artful and compendious Diſtribution of all the *Materia Medica*, under certain Heads, according to their Principles, their Way of Operation, and the Effects which, under ſuch and ſuch Conditions, they are qualified to produce.

There are, indeed, many Catalogues and Synopſes of Medicine, and ſome of them compoſed by learned Men; but, if it be allowed to ſpeak the Truth, moſt of them are huddled together in ſuch a manner, as to be rather an Obſtacle than Furtherance to ſolid and rational Pharmacy, and can ſcarce be peruſed, by Men of Skill and Experience in the Art, without Indignation. There you ſhall meet with many needleſs, and almoſt innumerable Claſſes of Remedies; as I myſelf, not long ſince, in a Medley of this kind, reckoned no leſs than fifty, which the Author diverſified, with reſpect to the Parts affected, the Diſeaſes for which they were proper, and their internal as well as external Effects. And theſe very Heads, or Claſſes, are ſo diffuſe, and crowded with ſuch a Variety of Medicines, of a different and manifeſtly contrary Nature, that whoever ſhall confide in them ſo far as to depend upon them, without making a new and accurate Diſtinction, in the Preparation of his Remedies, muſt, of Neceſſity, fall into great Confuſion and Miſtakes.

Wherefore it is my Opinion, that Medicines may be diſpoſed under their general Heads in a far more proper and compendious Way; if we conſider, that whatever is ſubſervient to the Ends of Medicine, is directed in its manner of acting towards the Removal of the Cauſes of Diſeaſes. But in every Diſeaſe there is a Depravation, either in the Motion, or in the Matter which is moved, or even diſpoſes to move: And ſince Motion is exceſſive or defective, either in the whole Body, or ſome Part of it; and Matter is in the Fault, either upon account of its Quantity or Quality; all Remedies muſt, in general, be concerned in the Regulation of depraved Matter or Motion. To Matter vitiated in Quality, we appropriate Alteratives; to Matter offending in Quantity, Evacuants; if, on the other hand, the Motion is defective or impaired, or if the Parts have loſt their proper Tone, reſtorative and corroborative Medicines are to be uſed; and if the Motion is too intenſe and accelerated, or the Parts racked with Spaſms, then, and in that Caſe, ſedative and compoſing Medicines are, of all others, moſt efficaciouſly adminiſtered.

Theſe are the four general Claſſes of Medicines, to which all the Stores, with which bountiful and indulgent Nature has enriched the Art of Phyſic, may be reduced; for, by this means, and by the Aſſiſtance of theſe Helps, all the ſeveral Intentions of the medicinal Art may be exactly and effectually anſwered; ſo that *Hippocrates* has given a Definition of Phyſic, which is, at once, beautiful and truly mechanical, when he ſays, That it is *no more than an Addition and Subtraction ſeaſonably made; a Subtraction of thoſe Things which exceed, and an Addition of thoſe Things which are defective: He who beſt can do theſe two Things, is deſervedly eſteemed the beſt Phyſician; and the leſs a Man is qualified for carrying on theſe two Deſigns, the more ignorant he is of the true and genuine Principles of Phyſic.* De Flatibus, Lib. 3.

Then as to what relates to the Influence and Operation of Medicines, they act directly and immediately either upon the fluid or the ſolid Parts of the Body; ſo that alterative and evacuating Medicines are appropriated to the Fluids, and thoſe of a corroborative and compoſing Quality to the Solids. But as liquid as well as ſolid Bodies, are of different Qualities, ſo they produce their reſpective Effects in different Ways; for ſome Medicines, by their immediate Action, affect that moſt ſubtile and eaſily moveable Fluid which is lodged in the Brain and Nerves, and is the chief Inſtrument of Motion and Senſation, either by augmenting its Quantity, or accelerating its Motion; ſuch as analeptic, cordial, and ſweet-ſcented Medicines; or by quelling and becalming its more violent Motions; ſuch as antihyſteric and anodyne Medicines, Opiates, and Fœtids; which, even when exhibited in very inconſiderable Doſes, produce very ſudden, and almoſt inſtantaneous Effects. Other Medicines operate immediately upon the Blood and Juices themſelves; ſuch as thoſe of the diluting, incraſſating, and attenuating Kind; and alſo, ſuch as are endowed with an abſorbent Quality, or are calculated for ſubduing any corroſive or ſulphureous Acrimony.

Thoſe Medicines which induce a Change upon the Solids, produce their immediate Effects upon the more nervous Parts; ſuch as the Stomach and Inteſtines, which are endowed with a moſt exquiſite Senſation. To this Claſs belong all the medicinal Preparations of Minerals, which produce their Effects when given in ſmall Doſes, reſolve themſelves into Particles of an incredibly ſmall Size, without loſing their Texture and Virtues, enter the minuteſt Receſſes of the nervous Parts, and are with ſome Difficulty waſhed away: Such as, among Emetics, Emetic Tartar; among ſalivating Medicines, White Precipitate; among Sulphurs, the Sulphur of Antimony, prepared in my Method, to which volatile Salts may be added: Other Subſtances ſtrongly ſtimulate the nervous Parts, by that ſubtile cauſtic Salt with which they abound; ſuch as, among Poiſons, Arſenic; among Purgatives, White and Black Hellebore, Gamboge, Roſin of Jallap, and ſome more of the ſame Kind, together with all Inſects, eſpecially Cantharides. 'Tis nevertheleſs to be obſerved, that of Medicines of this Kind, ſome affect particular nervous Parts more than others; for Inſtance, Mercurial Preparations affect the Glands, the Lymphatic Ducts, and the Jaws themſelves; Emetick Preparations of Antimony affect the Biliary Ducts; Preparations of Colocynth, the nervous Coats of the Inteſtines; Hellebore, the Œſophagus, Larynx, and Aſpera Arteria; Cantharides, and other Inſects, the nervous, urinary, and ſeminal Ducts; and, in fine, oily volatile Salts and Sudorifics, prepared of the volatile Salts of Animals, affect the Coats of the Arterial Veſſels. Some others of thoſe Medicines, that are appropriated to the Solids, inſinuate their Virtues more effectually into the muſcular and fibrous, than into the nervous and membranous Parts; among the Number of which are all thoſe Corroboratives, which either abound with a ſulphureous, or with a mild aſtringent, fixed, and earthy Principle.

The whole Body of Medicines in general, is, with Reaſon, diſtinguiſhed in this Manner; and in this Manner are we to form our Ideas of their reſpective Methods of acting, and Manner of operating. I now come to treat of each Claſs in particular: But as the Art of Phyſic, in order to become rational, muſt be built upon moſt evident Cauſes, all obſcure ones being rejected, as *Celſus* ſays, not only by the Phyſician, but alſo from the Art of Phyſic itſelf; ſo that particular Branch of Phyſic which diſplays the Virtues of Medicines, and accounts for their Methods of Operation, is, in my Opinion, to be drawn not from obſcure and too remote Cauſes, nor from the atomical and geometrical Principles of the Magnitude and Figure of the Parts, which are in reality incomprehenſible; but from Cauſes that are evident, immediate, comprehenſible, ſubjected to our Senſes, and made known by Experience. This Method I ſhall at preſent follow, and in my Explication of the Virtues and Powers of Medicines, proceed in a Method that is plain, ſimple, and eaſy to be conceived; but, forbearing to enumerate all the ſeveral Species belonging to each Claſs, I ſhall only touch upon the ſelect ones, ſuch as by their Worth have highly recommended themſelves to Mankind, and, as clearly as I can, explain their Uſes, and Methods of operating. I ſhall begin with Alteratives, which make up the firſt Claſs of Medicines, and are principally employed in correcting Matter that is faulty in point of Quality: But becauſe the Matter to be corrected in Diſeaſes may be faulty in different reſpects, ſo 'tis plain, that there muſt be various Species of Alteratives, adapted to the various Defects of the offending Matter. For Inſtance: If the Juices of a human Body, which, in their natural State, are benign, mild, and balſamic, ſhould either acquire a ſalino-acid, and corroſive Quality, or aſſume a hot, ſubtile, ſulphureous Intemperies, or become thick, viſcid, and tenacious, or over-acid and corroſive; I ſay, in ſuch an Inſtance, Alteratives of four different Kinds ought to be adminiſtered: That is, Abſorbents for imbibing and blunting the Acid; temperating Medicines for checking and mitigating the Rage of the bilious Intemperies; penetrating Medicines for diſſolving and attenuating the thick and viſcid Juices; and, in fine, Demulcents for ſheathing and mitigating the burning and corroſive Acrimony.

In the firſt Kind of Alteratives are included Abſorbents; the principal of which are of Sea Subſtances, as the Mother of Pearl, Cockle-ſhells, Oyſter-ſhells of all the ſeveral Species, Coral, red and white, and the Bones of the Cuttle-fiſh: Of Animals, the Bones and Horns, whether ſubjected to boiling, and ſoftened by Evaporation, (which in Pharmacy is ſtyled Philoſophically prepared) or burnt in an open Fire, their Teeth and Claws, the Shells of Eggs, the Claws and Eyes of Crabs, the Jaws of Fiſhes, the animal and foſſile Unicorn: Of ſubterraneous Subſtances, the *Lapis Specularis*, (or Selenite) Chalk, prepared Cryſtal, Oſteocolla, (or the Bonebinder) all Stones calcined and burned, and various Kinds of Boles, Clays, and ſealed Earths: Of Metals, the Filings of Steel: Of Chymical
Preparations, all Salts prepared by Incineration, *Cineres cl*
lati, (or Pot-aſh) Salt of Tartar, fixed Nitre, urinous Spir
Sal Ammoniac, volatile Sal Ammoniac, the Magneſia al
Tincture of Salt of Tartar, and of Antimony.

'Tis the Nature and Property of all theſe Abſorbents, t
they ſpeedily incorporate with any Acid that falls in t
Way, imbibe it, blunt and deſtroy its corroſive Quality, and
along with it, changed into a third neutral and inoffe
Body. This Effect is plain, from the Example of our extre
ly corroſive Spiritus Nitri fumans, from Oil of Vitriol, S
mate Mercury, Aqua-regia, Aqua-fortis, and other highly c
ſtic Liquors; which, by the Addition of Filings of Iron,
Mixture of an alcaline Salt, or an earthy abſorbent Subſta
loſe the Whole of their acid and corroding Qualities. Bu
though all ſaline and earthy Alcalies agree in this, that
ſubdue any Acid, and change it into a third Subſtance, yet
is this Difference between them, that alcaline or lixivious
are quickly and totally diſſolved in the Body, not only by
Acid, but likewiſe by any aqueous Fluid; whereas earthy
ſtances are not, without Difficulty, entirely diſſolved, as is
in Corals, Filings of Steel, and Quick Lime, which are
thoroughly diſſolved by an Acid, eſpecially of the veg
Kind, but always remain a kind of fixed earthy Subſta
And, which is ſtill more, alcaline Salts, beſides their abſo
Quality, do, after they have, in a manner, embraced the A
acquire a new and additional medicinal Virtue, which is,
of attenuating and colliquating the viſcid, ſlimy, and tena
Juices: They are likewiſe gently ſtimulating, and either
the Belly, or promote a Diſcharge by Urine, or even by P
ration; and are, beſides, attended with this Advantage,
they quickly paſs through the excretory Ducts. But
other alcaline Subſtances, inſtead of being calculated to q
and forward the Secretions, rather prove aſtringent by th
fects, which is uſually the Caſe with Filings of Steel, C
Boles, and ſealed Earths.

1. Since then, as earthy Alcalies are not diſſolved but
Acid, we ought to be cautious in exhibiting them in Di
where the firſt Organs of Digeſtion, the Scene where A
bents produce their principal Effects, are loaded with an
lection of crude and viſcid Juices, leſt they ſhould a
them undiſſolved, and ſo oppreſs the Stomach, deſtroy th
petite and Digeſtion, and render the Belly more coſtive,
ſometimes happened in Fevers of the burning, bilious, a
tic Kind, which were attended with a Decay of the Per
Motion, and of the conſtrictory or retentive Force o
Stomach.

2. On the other hand, becauſe theſe Abſorbents ſo rea
ſtroy and conſume the Acids, and becauſe Acidity is wh
cipally infringes and interferes with the Efficacy of Cathar
Emetics, they are very uſefully, where there is any ju
cion of the Redundance of an Acid, preſcribed before
ing and Purging, by way of Digeſtive.

3. Tho' all earthy Subſtances abſorb and blunt an A
upon account of their different Natures and Textures,
times happens that they produce very different Effects,
as are often contrary to the Intention of the Preſcri
therefore neceſſary we ſhould be very cautious in our C
ſuch as we deſign to uſe: When, for Inſtance, a Phyſic
ſires, beſides an abſorbent Quality, a corroborative and a
Virtue, marine Subſtances are chiefly proper for anſw
Intention, ſuch as Coral, Oyſter-ſhells, the Shells o
and the various Species of Earths, or *Marls*, eſpecially
are generally called *ſealed*. If he deſires a gentler A
Mother of Pearl, and Shells, beſt anſwer his Intention
a Flux of the Seminal Matter is to be reſtrained, the
the Cuttle-fiſh are peculiarly proper for that Purpoſe.
by Abſorbents, a laxative Effect is, at the ſame time,
duced: The Magneſia alba, duly prepared of a Li
Nitre, and which is nothing elſe but a fine Flower of
lime, is to be adminiſtered, which, being entirely di
an Acid, is changed into a bitter Salt of a middle Natu
occaſions a ſpeedy Diſcharge of the Fœces; for this R
of ſingular Efficacy in hypochondriacal Caſes; and whe
Organs of Digeſtion abound with acid Juices, or when
ly is coſtive, when the Effects of diuretic Medicines
produced by Abſorbents, the Claws and Eyes of Crabs,
or Coral, calcined, and *Oſteocolla*, (or *Bonebinder*) are
Caſe moſt efficacious. For procuring a free and plen
ſpiration in any Diſeaſe, the Bones of Animals burned,
loſophically prepared, are, of all other Medicines, the
culated and moſt effectual: And, in fine, for reſolving
nating and condenſed Humours, and the Blood itſelf,
gulated, nothing is more proper than our common
Medicine, which conſiſts of the Eyes of Crabs di
Vinegar, and drunk.

4. Tho' abſorbent Medicines are very ſimple, and,
ſpeaking, very eaſily prepared, yet their Virtues and
are almoſt ſuperior to thoſe of all others; nor can they
ciently commended; for none of all the Tribe of Alte
endowed with ſuch a Power of ſpeedily ſubduing the

of noxious Juices; nor are any of them ſo ſafe and inno- as Abſorbents, where not uſed to Exceſs. Add to this, the Body is very ſubject to be affected by an Acid, eſpecial- thoſe whoſe Bile is deficient; ſuch as Women and old thoſe who lead a ſedentary Life, or drink freely of Li- abounding with an Acid; and in many Diſorders, eſpe- thoſe of the melancholic and hypochondriacal Kind, the tity of Acid in the Body is ſcarce credible: But Acids, eir coagulating Quality, are hurtful to the human Conſti- n, obſtruct the Circulation of the vital Juices, and lay too Foundation for very terrible Diſorders, eſpecially of the ical Kind. 'Tis therefore evident, that Abſorbents are ved with ſingular Virtues, and accommodated to a great ber of Diſeaſes; but they were very ſparingly uſed by the nts, and only brought into Credit by *Helmont* and *Take-* and their two Followers in *Holland*, *Sylvius* and *Bonle-* who aſſigned an Acid as the Cauſe of many Diſeaſes, and ibed Abſorbents for their Cure.

e ſecond Claſs of Alteratives comprehends thoſe Medicines are of a lenient and temperating Quality, ſuch as check ot inteſtine Motion of the ſulphureous Particles of the , and qualify, ſubdue, and cool the ſcorching, hot, and Humours in the Inteſtines themſelves. Of Vegetables, rincipal of this Kind are, the Root and Herb of Sorrel, l-ſorrel, Citrons, Oranges, *China* Oranges, Pomgranates, berries, Barberries, Raſpberries, Cherries, and the of them prepared; and likewiſe Syrups, and Water d from theſe; add to theſe the four great cold Seeds, ecoctions of Oats. Of Animals, Whey, Butter-milk, the of Craw-fiſh, a Decoction of Tortoiſes, thin Decoctions Shavings of Hartſhorn, and Vipers-graſs, with or without , Jellies of Hartſhorn, and Water diſtilled from the gs of Hartſhorn. Of the mineral Tribe, well-purified is the beſt and moſt efficacious, and becomes ſtill better, ored from Aqua-fortis to its former State, by the Addi- f Salt of Tartar. Of chymical Preparations, the eſſen- lt of Wood-ſorrel, Cream of Tartar, Phlegm of Vitriol, rated Quinteſſence of Antimony, *(Clyſſus Antimonij ſul-* *us)* Tinctures of Roſes, Daiſy Flowers, and Violets, phically prepared, with Spirit of Vitriol, are good tem- g Medicines.

mperating Medicines act in three ſeveral Manners; for ither, by their acid Salts, bind up the volatile ſulphureous es, and, by fixing and coagulating them, leſſen in ſome e their inteſtine and gyratory Motions; or they operate expanſive and aerio-elaſtic Quality, ſuch as that which is nt to Nitre; which, conſiſting of an acid and alcaline Salt, ns great Store of ſulphureous Particles, and alſo of a ſubtile ethereal Fluid, by means of which it diſpels the hot Mat- hilſt in a gyratory Motion, and forces it, as it were, from ntre to the Circumference; by its neutral Salt attenuates, s, and ſeparates the viſcid Matter, which is the Matrix t and Sulphur, and, at the ſame time, by its ſubtile Acid the accelerated Motion of the ſulphureous Parts: Or, in Place, they reſtore the Moiſture conſumed by the Heat, r diluting and diſſolving the ſulphureous Parts, and, at the me, leſſen the too great Elaſticity of the Veſſels, upon the Heat, in a great meaſure, depends; as is obſervable Uſe of watery Liquors, Whey, Decoctions of Hartſhorn, Oats.

heſe temperating and qualifying Medicines are of great Phyſic, where-ever a preternatural Heat is to be extin- ; and therefore cannot be wanted in Fevers of all kinds, mations, Spaſms, and grievous Pains, which are almoſt occaſioned by too great, or too hot, a Commotion of od: But nitrous Preparations are deſervedly to be pre- to Acids, which fix and coagulate; for Nitre is not only , but antiſpaſmodic, and relaxes the Rigidity of the it, in like manner, promotes the Diſcharges by Urine ol. Beſides, as other cooling and acid Fluids condenſe gulate, and as Nitre rather colliquates, rarifies, and at- s thick and viſcid Humours, ſo when ſprinkled either in , or diſſolved in Water, upon black coagulated Blood, it it more florid: For this Reaſon, Nitre is not only pre- to Acids in Inflammations, and even in inflammatory which ariſe from a black, coagulated, and pent-up but is likewiſe a noble and efficacious Preſervative againſt mations; becauſe it effectually fuſes and diſſolves the viſ- m, which is to be obſerved in the Blood of thoſe who ect to Inflammations.

n chronical Fevers, ſuch as thoſe of the ſlow and hectic which, for the moſt part, owe their Origin to a Defect or ction in ſome of the Viſcera; and when a Cough, or ſpit- Blood, is joined with them, or when the Lungs themſelves y, not Acids, but nitrous and diluting Remedies, eſpecial- as are taken from the Animal Kingdom, are to be uſed; Whey, the Water, the Decoction, and the Jelly of Hartſ- When alſo a feveriſh Heat accompanies Diarrhœas, Dy- s, or a Cholera-Morbus, cooling Acids are to be abſ- from, and diluting, gelatinous, and mucilaginous Medicines, and temperating and abſorbing Powders, with the Addition of a Grain or two of Nitre, are to be uſed.

In the third Claſs of Alteratives, are comprehended inciding and attenuating Medicines; among which may be reckoned the Roots of White Burnet, Dragons, Sweet Flag, Aſarabacca, Wild Radiſh, Elecampane, Succory, Florentine Iris, Solomon's Seal, Swallow Wort; the Herbs, Leopard's Bane, Brooklime, Scurvy-graſs, Water Creſſes, and *Indian* Creſſes, Dittander, Roſa Solis, Fumitory, Buck-bean, the leſſer Centaury, Hyſſop, Germander, Chervil, Carduus Benedictus, leſſer Houſeleek, the ſeveral Species of Garlick, Leeks and Onions, Guajacum Wood, and its Bark; the Spices Pepper and Ginger; the Seeds of Muſtard, Scurvy-graſs, and Water Creſſes; the Gums Ammoniacum, Galbanum, Sagapenum, Opopanax, Myrrh, Benjamin; of chymical Preparations, Mercurius dulcis, Æthiops Mineral, Flowers of Sulphur, fixed alcaline Salts of Vegetables reduced to Aſhes, eſpecially Salt of Tartar, and of Wormwood; alſo neutral Salts, as the Digeſtive of *Sylvius*, my opening Salt, Sal Ammoniac, Sal Polychreſtum, Epſom Salt, Sedlitz Salt, vitriolated Tartar, Terra foliata Tartari, called alſo Tartarus Regeneratus, Arcanum Duplicatum, a Solution of Crabs Eyes, Nitre, and Sal Ammoniac. Volatiles, as volatile Sal Ammoniac, urinous Spirit of Sal Ammoniac, and Oxymel of Squills, acrid Tincture of Antimony, Eſſence of Gum Ammoniac and of *Indian* Pepper, Reſin of Guajacum, Syrup of Tobacco, of Hedge-muſtard, Fæcula of Arum, *&c.* Medicinal Waters alſo, which, beſides their diluting and opening Virtue, are poſſeſſed of an attenuating and inciding Quality, ſuch as the Waters of *Egra*, *Sedlitz*, and the *Caroline* Baths. As alſo, Infuſions in Form of Tea, which, by their great Store of an aqueous Element, exert their Virtues, disjoin the coaleſcent Globules; and, laſtly, ſweet Whey, which, on account of the ſweet and ſubtile Salt it contains, is deterſive, and opens the excretory Ducts.

Of theſe ſome act upon the fluid, and others upon the ſolid Parts of the Body: Thoſe which affect the Fluids by immediate Contact, are very few in Number, and thoſe either conſiſt of aqueous Diluters, which are very efficacious for fuſing the glutinous and viſcid Juices, or of alcaline, fixed, and volatile Salts, and nitrous Salts; which, when mixed, eſpecially in a liquid Form, with thick and coagulated Blood and Humours, liquify and attenuate them in ſuch a manner, as even to be perceptible to the Eye. All the reſt operate upon the Solids, by augmenting their Tone, their Strength, and contractile Force, and by adding to the elaſtic Powers of the Veſſels, by which means they ſtrongly preſs and agitate the contained Juices, accelerate their progreſſive and inteſtine Motions, and, forcibly and frequently propelling them through the Capillary Veſſels, divide and disjoin the viſcid Juices into ſmall Globules, upon which Fluidity depends. This Action upon the Solids is, in ſome Medicines, performed by a fixed acrid Salt; as the Roots of Arum, White Burnet, Aſarabacca, Florentine Iris, Solomon's Seal; the Herbs, German Leopard's-bane, Dittander, Roſa Solis, and Pepper and Ginger, which are, indeed, of an acrid Smell; but being diſtilled with Water, by an Alembic, neither yield a volatile acrid Oil, nor a Water of an acrid Taſte, which is a ſufficient Proof, that they are of a fixed Nature. Other Medicines, again, produce their Effects by an acrid, ſubtile and volatile Salt; ſuch as Wild Radiſh, Elecampane, Water Creſſes, Scurvy-graſs, Muſtard, and all Kinds of Onions, Garlicks, and Leeks. Some act by their ſtimulating neutral Salts, of which Kind are thoſe Salts whoſe Acrimony, and irritating Quality, are not only diſcoverable by their Taſte, but by their Effects; for which Reaſon, when exhibited in large Doſes, they open the Belly, and prove diuretic. Others produce their Effects by an acrid Salt, which contains many ſulphureous Particles, as is obvious in Gum Ammoniac, Sagapenum, Opopanax, Guajacum, and its Reſin, which, beſides their acrid Salt, contain an Oil, which, upon Diſtillation, they yield in Abundance. Laſtly, ſome Medicines perform their Work by a penetrating, ſubtile, and metallic Salt, as Mercury, eſpecially Mercurius Dulcis, and Æthiops Mineral.

1. The Virtues of attenuating and inciding Medicines are ſo extenſive, that, on account of the great Variety of their Effects, they are uſually ranged under different Denominations; for when tenacious viſcid Humours not only ſtagnate in the Cavities of the Veſſels, but ſtuff up and obſtruct the ſmall Tubes of the Inteſtines and Emunctories, theſe Medicines, by their inciding and attenuating Quality, diſengage the impacted Humours, remove the Obſtructions, and may, for that Reaſon, be called Aperients, ſince they produce the ſame Effect. They alſo deſerve the Name of Anti-ſcorbutics, and Purifiers of the Blood; for ſince the Purity, and good State, of the animal Juices depends upon the due Secretion and Excretion of ſuperfluous and recrementitious Matter, and ſince Secretion and Excretion cannot be carried on, if the ſmall Canals of the Glands and Emunctories are blocked up by viſcid and tenacious Humours, 'tis therefore plain, that thoſe Medicines that are endowed with a Power of inciding viſcid Juices, and removing Obſtructions, muſt not only be Purifiers of the Blood, but alſo

Preſervatives againſt the Scurvy, in which the Juices are of a bad Quality, and loaded with various heterogeneous, viſcid, ſalt, ſulphureous, and ſharp Particles. Since attenuating Medicines produce ſo different Effects, the Phyſician ought to know what particular Attenuants are beſt adapted to particular given Caſes.

2. In Diſorders therefore of the Stomach, and firſt Organs of Digeſtion, for inciding and attenuating viſcid Crudities, the following Medicines are excellently calculated. The Root of Arum, of White Burnet, and of Calamus Aromaticus, Pepper, Ginger, purified Sal Ammoniac, vitriolated Tartar, Arcanum Duplicatum, the digeſtive Salt of *Sylvius*, my aperitive Salt, Salt of Wormwood, Spirit of Salt, ſimple or dulcified, and *Moebius*'s aperitive Tincture; and if crude and ill-concocted Juices are to be evacuated by way of Excrement, the neutral Salts are preferable, eſpecially the Sedlitz, the Polychreſt, and the Epſom Salts, taken in large Doſes, and drank in a ſufficient Quantity of ſome aqueous Vehicle.

3. In Diſorders of the Breaſt, when viſcid Humours are to be attenuated, and thrown up by ſpitting, the moſt effectual are the Roots of Elecampane, and of the Florentine Iris, Roſa Solis, Hyſſop, Germander, Maiden-hair, Gum Ammoniac, Myrrh, Benjamin, Sulphur, Balſam of Peru, Nitrum Antimoniatum, Terra foliata Tartari, Oxymel of Squills, Solution of Crabs Eyes in diſtilled Vinegar, Syrup of Tobacco, and that of Hedge-muſtard.

4. When the Blood is tainted with any thick tenacious Impurity, and by that means the Emunctories are clogged, and the Humours polluted and vitiated by a ſalt, ſulphureous, and ſcorbutic Dyſcraſy, the Medicines chiefly in Uſe, in that Caſe, are, the Wild Radiſh Root, Garden Scurvy-graſs, Water Creſſes, *Indian* Creſſes, Dittander, Brook-lime, the leſſer Centaury, Marſh Trefoil, Carduus Benedictus, Fumitory, the ſmaller Houſe-leek, Muſtard, Gum Ammoniac, Sagapenum, Myrrh, Oil of fixed Nitre, Oil of Tartar per Deliquium; a Solution of Nitre, my Elixir temperatum, Tincture of Antimony, the Eſſence of the Woods, Spirit of Sal Ammoniac, Salt of Wormwood, with Citron Juice; and of medicinal Waters, thoſe of *Sedlitz* and of *Egra*.

5. When grumous Blood, occaſioned by Contuſions, Blows, or Suffuſions, is to be diſſolved and fuſed, the Medicines moſt to be commended, in this Caſe, are Solomon's Seal, German Leopard's-bane, Chervil, Vinegar diſtilled with Crabs Eyes, Terra foliata Tartari, and antimoniated Nitre.

6. In Diſeaſes where the Lymph is become thick, eſpecially from a Venereal Taint, the principal, and moſt efficacious, are Guajacum, Sopewort, acrid Tincture of Antimony, Mercurius dulcis, and Æthiops Mineral, which, if prudently uſed, is of uncommon Efficacy for colliquating and reſolving the viſcid Humours lodged in the Glands and Liver.

I come now to the fourth and laſt Claſs of Alteratives, which comprehends the emollient and ſoftening Medicines, of which the chief are, the Roots of Marſh Mallow, of White Lilies, of Liquorice, and of Vipers Graſs, the five emollient Herbs; Lettice, Bear's Breech, Pellitory of the Wall, the Flowers of Elder, of Melilot, of Mallows, of Mullein, of Yarrow, of Chamomile, of White Lilies, of Borrage, of the Wild Poppy, of the Lime Tree, of the *Ægyptian* Thorn, of Violets, and, moſt of all, Saffron; the Seeds of Flax, (Linſeed) of Fenugreek, of Aniſe, of Quinces, of Flea-bane, of White Poppies, the four greater and leſſer cold Seeds, the Siliqua, Sweet Almonds, Figs, Pine Nuts, Piſtaches, Cherry-tree Gum, Gum Arabic, Gum Tragacanth, Shavings and Jelly of Hartſhorn, Human Greaſe, that of a Dog, of a Capon, the Marrows of their Bones, the Fat about their Omentum, Bones, and Meſentery; the native Oils of Animals, freſh Butter, Cream, Milk itſelf, Cryſtals of Milk, Sperma Ceti, Honey, the Yolk of an Egg, and its White dried, and reduced to a Powder: Of prepared Medicines, Oil of Sweet Almonds, Linſeed Oil, Rape Oil, Oil of the Male Balſam Apple, Decoctions of Hartſhorn, and Vipers Graſs, mixed with the Juice of Citrons, the Ptiſan, Sweet Whey, *Fernelius*'s Syrup of Marſh Mallows, Ointment of Marſh Mallows, ſimple Diachylon Plaſter, that of Melitot, and that of Frog's Spawn.

The Virtues of theſe Medicines are two-fold, the one appropriated to the Solids, the other to the Fluids. In the Solids they relax, ſoften, and render moveable the hard, ſtiff and tenſe Fibres; and, at the ſame time, inlarge and dilate the Chanels of the ſmall conſtricted Veſſels. But in the Fluids, they, by their viſcid Mucilage, bind up, involve, and, as it were, incloſe in a Sheath, the piercing Points of the ſharp corroding Salts, and by that means prove excellent lenitive Medicines; and, when externally applied, they convert into a laudable Pus any Collection of extravaſated Humours, which cannot be reſolved, or taken into the refluent Maſs by the lymphatic Veſſels; ſo that having, by their moderate Warmth, diſſipated the moſt ſubtile Part of the extravaſated Humour, the remaining viſcous Matter is happily diſpoſed to maturate; the Pores being now gently blocked up, leſt too much Moiſture ſhould be exhaled, and the nutritious Juice, of which Pus chiefly conſiſts, being excit to flow more plentifully through the ſmall relaxed Tubes.

1. Theſe lenitive Medicines are of incredible Efficacy, i any one has had the Misfortune to take a cauſtic Poiſon; a ſcarce can more powerful Antidotes than theſe be uſed f checking and ſubduing the Virulence of animal and vegetab Poiſons, eſpecially if abundance of Milk and oily Liquors a uſed as their Vehicles; becauſe theſe not only ſheath up a blunt the ſharp Points of the Poiſon, but alſo relax the Me branes, contracted and rendered ſubject to Spaſms by the vi lent Shocks of the Poiſon; and, by theſe means, they alwa promote the Evacuation of Poiſons either by Vomit, or b Stool.

2. In long and violent Diſtempers, eſpecially ſuch as a from an Acrimony of the Humours, and which prey upon Nerves, Infuſions and Decoctions of theſe emollient Medic are of ſingular Advantage; at leaſt, I have often known C vulſions, attended with Madneſs, ſcorbutic Contractions the Joints, and intolerable Gripes of the Belly, cured with D coctions of Piony Root, Marſh-mallows, Mallows, Pelli of the Wall, Bear's Breech, Flowers of Mullein, of W Lilies, of Elder, of Borage, of Chamomile, and Wild Po and by Figs and Fennel Seed, prepared with Water or Wh but they are to be uſed in large Quantities, and for a long T with the Addition, now-and-then, of a Spoonful or tw Oil of Sweet Almonds, ſometimes bathing in freſh Wa mixed with Milk.

3. Freſh Fat and Greaſe of Animals, eſpecially the Marr of the Bones, which abounds with a very ſubtile Oil, are internally with Succeſs, in a ſharp ſcorbutic Diſpoſition of Humours.

4. In a Dryneſs of the Parts, and when the Joints can ſc move without making a Noiſe, and in arthritic Pains, t emollient Medicines (that is, the Root of Viper's Graſs, E Flowers, Yarrow, Chamomile, the four greater cold Se but eſpecially ſweet Whey, as yet full of the fat little Par of the Cream, or even fat Subſtances, reduced to the Te of Sope, with ſome Alcali) produce wonderful Effects; theſe fat Subſtances are to be uſed when the Stomach is em and not in large, but in frequent Doſes, drinking ſome ſu warm Draught after them.

5. In Exulcerations of the Kidneys, and Diſcharges bloody Urine, which ſometimes happen in the Small-pox, account of the Acrimony of the Humours, Cherry-tree G or even Tragacanth, or the dried White of an Egg, diſſolve Whey, are of ſingular Uſe: But in Diſorders of the B for blunting the Acrimony, which is the Cauſe of the Co and diſpoſing the Matter for Expectoration, the following M dicines are excellently calculated; Decoction of Oats, Spe Ceti, Liquorice, Oil of Sweet Almonds, the Siliqua, Sacc rum Lactis, Saffron, Figs, Syrup of Violets, and Flowe Poppy and Elder.

6. In continual hectic Heats, and if the ſweet Juices, continued ſlow Fever, acquire a ſaltiſh alcaline Acrim Cream and new Butter, on account of their demulcent Q ties, are found to produce excellent Effects.

7. In a Cholera-Morbus alſo, and in a Dyſentery, a Sc a ſcorbutic Decay, a Conſumption, and, in general, where the Acrimony of the Humours gives Riſe to the Diſeaſe, tinous Decoctions of Fleſh, of Bones, and eſpecially of H horn, Calves Feet, and Sheeps Feet, are of ſingular Eff and Advantage, as well uſed internally by way of Drink, injected by way of Clyſter.

8. When the Inteſtines are violently contracted, and Excrements pent up by Flatulencies, emollient demulcent dicines, ſuch as Oil of Sweet Almonds, Whey, Decoctio Oats and Hartſhorn, produce very great Effects; but ſh rather be injected by way of Clyſter, than taken by the M

9. Emollient Flowers and Herbs, if boiled with a ſmall Q tity of Saffron, incloſed in a Bladder, and externally a over the internal Part affected, procure almoſt incredible and Relief, as may be experienced in a Pleuriſy, an Infla tion of the Liver, a Colic, or when the Anus ſuffers b blind Hæmorrhoids.

10. When any extravaſated and impacted Humour is converted into Pus, no Applications can be more properly than Liniments and Cataplaſms, made of emollient Fats, Milk; but eſpecially of the Flowers and Leaves of W Lilies, Saffron, Figs, roaſted Onions, Bean-meal, Yol Eggs, and Honey: But theſe are not to be uſed when Matter is contained in harden'd and ſcirrhous Parts, wh cannot be converted into Pus, unleſs we incline to bring fatal Putrefaction.

11. Mucilages made of the Seeds of Quinces, and bane, with Roſe Water, or Frog's Spawn Water, often immediate Relief in excoriated and exulcerated Parts, att with Heat and Pain; ſuch as the ulcerated Aphthæ i Mouth, blind and painful Hæmorrhoids, a Teneſmus, Dy teries, Gonorrhœas, or a corroding Fluor Albus.

ERCUM, or ALTERCANGENON. The ſame with
YAMUS, which ſee.

EY PLUMBI, or ALKY PLUMBI, (*materia dulcis
bo)* a ſweet Preparation from Lead. Perhaps *Saccha-
urni. Rulandus* and *Johnſon.*

HÆA. A Plant much uſed as an Emollient. It is
inguiſhed.

a, Biſmalva, Ibiſcus, Offic. *Althæa Dioſcoridis,* Breyn.
. 12. *Althæa Dioſcoridis & Plinii,* C. B. Pin. 315.
t. Giſſ. 144. Tourn. Inſt. 97. Elem. Bot. 82. Boerh.
269. *Althæa vulgaris,* Park. Theat. 303. Raii Hiſt.
Synop. 3. 252. *Althæa, Ibiſcus,* Ger. 787. Emac.
erc. Bot. 1. 19. Phyt. Brit. 6. Mer. Pin. 6. *Althæa
malva,* J. B. 2. 954. Chab. 301. *Malva Biſmalva
rum dicta,* Volck. 272. *Malva ſylveſtris, aut paluſtris,
us,* Hiſt. Oxon. 2. 523. *Malva paluſtris mollis & in-
Herman.* Buxb. 207. Rupp. Flor. Jen. 12. MARSH-
OW. *Dale.*

Roots of Marſh-mallows are pretty large, thick,
and tough, and much branched, of a yellowiſh Co-
the Out-ſide, and whitiſh within, ſlimy and muci-
The Stalks grow to be above a Yard high, ſoft and
the Leaves are covered with a ſoft Pile like Velvet, of
iſh-green Colour, more angular, longer, and ſharper
than the common Mallows. The Flowers are alſo
common in Shape, but leſs, of a paler red Colour, and
the deeper coloured Veins; and when they are fallen,
e like Seeds, ſet together in a Round, like Cheeſes.
in ſalt Marſhes, and maritime Places, flowering in

Root and Leaves, and ſometimes the Seed, are uſed.
are mollifying, digeſting, and ſoupling, of great Uſe
Strangury, Gravel, and Stone; in Heat and Acrimo-
rine; againſt ſharp, corroding Humours in the Sto-
d Guts, which ſometimes excoriate them, and cauſe
ries.

are likewiſe balſamic and pectoral, good to help a
Hoarſeneſs, and Soreneſs of the *Aſpera Arteria.* They
ently ordered in Clyſters for the Stone, and in Cata-
d Fomentations againſt Swellings and Inflammations,
aſe Pain; as alſo to ſuppurate and ripen Tumours and
umes.

al Preparations, which take their Name from Marſh-
are, *Syrupus de Althæa*; *Pulvis de Althæa*; and, *Un-
de Althæa. Miller. Bot. Off.*

y adds, it is lenient and aperitive, proper for the Diſ-
the Kidneys, for the acrimonious Humours which af-
Breaſt, and for the Nephritic Colic. *Lemery de*

ound with Leaves more or leſs pointed; they appear a
much ſo in the Figures of *Dodonæus, Cluſius,* and
Matthiolus, Fuchſius, and *Tabernæmontanus,* have en-
with rounder Leaves; and it is, in all Appearance,
Species which the learned Mr. *Sutherland,* Profeſſor of
t *Edinburgh,* has named *Althæa folio rotundiori, ſive
minata.* The Leaves of the Marſh-mallow are ſome-
deed, more or leſs ſingular. *M. Herman* has called
h the angular Leaves *Malva ſylveſtris, aut paluſtris,
us folio anguloſiori. Cordus, J. Bauhin, Moriſon,* and
, have taken the Flower of this Plant to be pentape-
hereas it is really monopetalous.

eaves of the Marſh-mallow are glutinous and inſipid,
no Tincture of red to the blue Paper. Its Roots have
Taſte, but they ſtain it a little.

tinous Juice, which appears to be a Mixture of a great
hlegm, a conſiderable Quantity of Earth, Acid, and
ſo clogs the acrid Salt, that it cannot diſcover itſelf
e Fire; for it is certain, that by a chymical Analyſis,
from the Marſh-mallow a concrete, volatile, and a
ial Salt. The Acid is a little more diſentangled in the
ecauſe they give a faint red Colour to the blue Paper:
leſs, in all Probability, this Plant operates chiefly by
ous Juice, which the Fire entirely deſtroys. By the
of all Authors, it is very lenitive and emollient. By
ge it not only blunts the Points of the corroſive Salts,
elaxing the too much diſtended Fibres, reſtores them
natural Tone, and conſequently cauſes the Pain to
he Root of the Marſh-mallow is employed in lenitive
but it muſt not be mixed till towards the End, for
king it too clammy. Theſe Ptiſans are of great Uſe
t Cough, when the Spittle is acrid and ſaltiſh. In
ts of Water boil four Ounces of the Root of Nym-
d one Ounce of the Root of Marſh-mallow; ſtrain
r through a Linen Cloth, diſſolve in it two Drams of
ryſtal Mineral, or Sal Prunellæ; give a good Draught
nephritic Colic, in a Heat and Retention of Urine,
with a great Inflammation. But when the Inflamma-
r, the Marſh-mallows muſt be omitted, for fear of
the Humours too viſcid. Boil alſo three Pugils of Pel-
d one Ounce of the Roots of Marſh-mallow, in three
Quarts of Water, and ſtrain the Decoction; afterwards add as much Sugar as will bring it to the Conſiſtence of a Syrup, and give it to drink with convenient Ptiſans. For great Inflammations in the Abdomen, after neceſſary Bleedings, make alſo Fomentations with the Decoction of the Leaves, Flowers, and Roots of Marſh-mallows and Violets, the Seeds of Fenugreek, and the Tops of Chamomile and Melilot, and apply the Fœces to the Part affected, in Form of a Cataplaſm. Theſe Decoctions make an excellent Semicupium; give them alſo in Clyſters, with two Ounces of Honey of Nymphæa. The Syrup of *Althæa,* according to the Deſcription of *M. Charas,* is of great Uſe: Dog's-graſs, Pellitory, Aſparagus, and the other Plants mixed with it, ſharpen the Marſh-mallow a little, and make the Syrup proper to provoke Urine, and promote Expectoration. It was with this Intention that the Iris of *Florence* was uſed in the Lozenges of Marſh-mallows. *M. Lemery,* who has made an excellent Choice of the beſt Compoſitions, and reformed them with a great deal of Prudence, quickens theſe Lozenges with the Flowers of Benjamin. Theſe are preferable to thoſe which they call ſimple Lozenges of Marſh-mallows, for this Plant has need of ſomething to ſtimulate it. Thus *Quercetan,* very judiciouſly, has mixed, in his Lohoch of Marſh-mallows, the Flowers of Sulphur, the Powder Diaireos, *&c.* To render the Ointment of the *Althæa* more reſolvent, they have added very properly Fenugreek, Squill, Galbanum; and M. *Lemery* ſubſtitutes, not without Reaſon, the Gum Ammoniac to that of Ivy. The camphorated Spirit of Wine may be mixed alſo with it, when it is given for the Sciatica and Rheumatiſm: For the ſame Reaſon the Mucilage of Marſh-mallows, made with the Seeds of Fenugreek, is preferable to that which is ſimple; becauſe it reſolves by removing the Inflammation; one ought to put this Seed in the Poultis of Marſh-mallows and Milk, to diſſipate or ſuppurate Tumours, according to the Diſpoſition of the Humour. The Cataplaſms prepared with the Roots of this Plant, thoſe of the Lilies and Onions, together with the four Meals, are very good for the ſame Tumours; eſpecially if the camphorated Spirit of Wine, the Spirit of Sal Ammoniac, or ſome other ſpirituous Liquor, is mixed with them. We need not conclude with M. *Seger,* that the Roots of Marſh-mallows are acrid, becauſe ſeveral red and painful Puſtules have appeared on the Part where this Herb has been applied in Cataplaſms. It is more likely, that the obſtructed Matter of Tranſpiration produce theſe Puſtules. *Martyn's Tournefort.*

PULVIS DIALTHÆÆ, *Compound Powder of Marſh-mallows.*

Take of the dried Marſh-mallow Roots five Drams; of *Spaniſh* Liquorice, and Medlar Kernels, each half an Ounce; of Gromwel, Parſley, and Fox-glove, each three Drams; of prepared Crabs Eyes, ſix Drams; of Gum Arabic, two Drams; of the Gums of the Cherry and Plumb Tree, each one Dram: Let them be pounded together, ſo as to make a fine Powder.

This continues as the former Diſpenſatory, and is likewiſe a modern Compoſition; but it is ſeldom preſcribed, and therefore little made in the Shops.

SYRUPUS DE ALTHÆA, *Syrup of Marſh-mallows.*

Take of Marſh-mallow Root two Ounces; of Graſs, Aſparagus, and Liquorice Roots cleanſed, and of ſtoned Raiſins, each half an Ounce; of the Leaves of Marſh-mallows, common Mallows, Pellitory of the Wall, Saxifrage, Pimpinel, Plantain, and the white and black Hellebore, each one Handful; of red Cicers one Ounce; of the four greater and leſſer cold Seeds, each three Drams. Infuſe them for a whole Day in ſix Pints of Water; then boil it to four Pints, to which, when preſſed out and ſtrained, add three Pounds and a half of white Sugar, and boil it up to a Syrup in a Bath Heat. *S. A.*

This Syrup is originally aſcribed to *Fernelius,* and has remained unaltered in all the College Diſpenſatories. If it is not boiled up to a good Conſiſtence, it is ſo apt to ferment in warm Weather, that it is very troubleſome to keep. *Quincey's London Diſpenſatory.*

The *Edinburgh* Diſpenſatory directs this Syrup ſomewhat differently.

Take of the Root of Marſh-mallows two Ounces; thoſe of Aſparagus, Liquorice, and Graſs, of each half an Ounce; the Herb Maiden-hair, an Ounce; the Leaves of Marſh-mallows, Mallows, Pellitory, Pimpinel, Saxifrage, broad-leaved Plantain, and ſtoned Raiſins of the Sun, of each half an Ounce; red Cicers, an Ounce; Spring-water, three Quarts: Boil them together till one Third of the Liquor is evaporated; then ſtrain the Remainder, and add thereto four Pounds of the whiteſt Sugar, and make a

Syrup thereof, according to the Rules of Art, by boiling it in Balneo Mariæ.

This Syrup ought to be made of a high Conſiſtence in hot Weather; otherwiſe it preſently runs into Fermentation, and is ſpoiled in the Capacity of a Syrup. The four greater and four leſſer cold Seeds are here dropped by the Compilers, I ſuppoſe, as being judged foreign to the Purpoſe.

UNGUENTUM DIALTHÆÆ, *Ointment of Marſh-mallows.*

Take of freſh Marſh-mallow Roots bruiſed, two Pounds; of Linſeed and Fenugreek Seed, each one Pound: Let them macerate three Days in eight Pints of Water: Then ſlightly boil them, and preſs out the Mucilage, of which take two Pints; of Neats-foot Oil four Pounds; and let them boil together, until the more aqueous Part of the Mucilage is conſumed; then add of Wax one Pound; of Reſin half a Pound; of Turpentine two Ounces: Let them be again boiled into an Ointment. *S. A.*

This is titled by the *Auguſtane* Diſpenſatory, *Unguentum de Althæa ſimplex*, in Diſtinction from an *Unguentum de Althæa Compoſitum* there alſo given, and both taken from *Nicolaus.* The *London* Diſpenſatory likewiſe received them both at firſt; but the greater Compoſition is very blameable on many Accounts, as may be ſeen by *Zwelfer*'s Animadverſions upon it; and therefore hath it been, for ſome time, juſtly expunged by our College: In that which is here yet retained, the Neats-foot Oil for common Oil of Olives, always before directed, is indiſputably a very good Emendation, becauſe its mucilaginous Quality ſuits it much better to the Intention of the Medicine. *Zwelfer* tells us, that ſome put it in Turmerick Root to beautify the Colour, but blames it for being foreign to the true Intention of the Whole; and it is to be wiſhed, that a much greater Fault was not to be found with ſome Medicine Merchants amongſt us, who, to ſave both Trouble and Charge, put in little or none of the Mucilage, but give their Smell to it by a Mixture of ſome of the Seeds, with which it ought to be made, in Powder. And this Caution, it is hoped, will not be taken amiſs by any honeſt Compounder; becauſe the Compoſition is juſtly deſigned for ſome Purpoſes of Conſequence, and which it may fail in by means of ſuch unworthy Practices. *Quincey's London Diſpenſatory.*

The *Unguentum Dialthææ* of the *Edinburgh* Diſpenſatory is different, in ſome reſpects, from ours.

Take of the Oil of Mucilages, two Pounds; of yellow Wax, half a Pound; of white Reſin, three Ounces; and of Venice Turpentine, an Ounce and a half: Mix them together, and make an Ointment, according to Art.

When the Oil of Mucilages is ready prepared, this is a very compendious Way of making the Ointment of Marſh-mallows:

The OLEUM MUCILAGINUM, *Oil of Mucilages, is prepared as follows.*

Take of freſh Marſh-mallow Root, bruiſed, four Ounces; the Root of white Lily, and freſh Squill bruiſed, of each an Ounce; of Fenugreek Seed, and Linſeed, each an Ounce and half: Steep the Ingredients in a proper Quantity of Spring-water; and afterwards boil them gently till they make a thick and viſcous Mucilage; which being preſſed ſtrongly out, add thereto two Quarts of Oil-olive, and boil it over a very gentle Fire, or in Balneo Mariæ, till the aqueous Moiſture is evaporated; obſerving to keep it continually ſtirring, to prevent its burning.

The keeping this Oil in Readineſs, as an Officinal, will greatly eaſe the Trouble of making ſeveral Medicines, particularly the *Unguent. Dialthææ, Emplaſtr. Diachylon, Emplaſtr. de Mucilaginib. &c.* as we ſhall ſee hereafter.

The Compilers of the *Edinburgh* Diſpenſatory have given another Ointment, called

UNGUENTUM DIALTHÆÆ COMPOSITUM, *Compound Ointment of Marſh-mallows.*

Take of the Ointment of Marſh-mallows, four Ounces; of Gum Ammoniac, diſſolved in a proper Quantity of Spring-water, and ſtrained, an Ounce; of Linſeed Oil, two Ounces. Melt the Ointment and the Oil together; then add the Solution of the Gum Ammoniac, thickened a little over the Fire, and whilſt it yet remains hot; laſtly, boil all together, till the aqueous Moiſture is conſumed, ſo as to make an Ointment.

This is a judicious Compoſition, and not chargeable with the Faults committed by others in ordering the Compound Ointment of Marſh-mallows.

ALTHÆA, by ſome called IBISCUS, is a Species of Mallow, with round Leaves like the Cyclamen, (Sow- and covered with Down. It bears a Flower like a Roſe; Stalk is about two Cubits in length, and its Root of a ſlimy glutinous Subſtance. It took the Name of *Althæa* from (*Remedium*) its manifold and extenſive medicinal Vir For,

A Decoction of it in Wine, or Hydromel, or the Her ſelf bruiſed, is an effectual Medicine for Wounds, Paro Strumæ, Abſceſſes, Inflammations of the Breaſts, Pains the Anus, Bruiſes, flatulent Tumours, and Strains of Nerves, being endued, for theſe Purpoſes, with a ripening diſcuſſive, or a breaking and healing Quality. Being boiled aforeſaid, and worked up with the Fat of a Hog or Gooſe, with Turpentine, in the Form of a Peſſary, it is a Reme Inflammations and Obſtructions of the Womb. The Deco has the ſame Effect, and alſo brings away the Lochia. The coction of the Root, drank with Wine, relieves thoſe w bour under a Difficulty of Urine, or a tormenting Fit of Stone, Dyſentery, Sciatica, Tremblings, or a Rupture. Root boiled in Vinegar, for a Gargariſm, aſſuages the T ach. The Seed, either green or dry, being levigated in gar, cleanſes the Skin from an Alphus, if it be anointed with in the Sun; and, uſed with Oxylæum, prevents the chief from the Bites of venomous Creatures. The ſame fectual in Dyſenteries, Diarrhœas, and ſpitting or vomi Blood. The ſaid Decoction of the Seed is uſually drank Wine, or Poſca, (ὀξύκρατον) by thoſe who are ſtung with or any other little revengeful Creature, and the Leaves little Oil are applied as a Cataplaſm to the Hurt; and the is good in Burns. The Root bruiſed, and laid in Water, is left to ſtand in the open Air, will coagulate the ſame. *coride*s, *Lib.* 3. *Cap.* 163.

Ebiſcus, or *Althæa*, digeſts, relaxes, and mollifies, Inflammations, and maturates ſtubborn Phymas. The and Seed have the ſame Virtues as the Leaves, but are of Parts, and more drying, and appear to be more abſter that they deterge the Alphus, and the Seed breaks the S the Kidneys. The Decoction of the Root, by its aſtr Quality, cures the Gripes and Diarrhœa, and relieves thoſe bring up Blood. *Orib. de Virt. Simpl. Lib.* 2. *Cap.* I. by *Ætius*, *Tetr.* I. *Serm.* I.

The Wild Mallow is gently diſcuſſive, and a little m ing. The Garden Mallow, being of a more aqueous mid Subſtance, is by ſo much the weaker in Virtues. former eaſily paſſes the Stomach, not only on account Humidity, but Viſcoſity, eſpecially when taken with O Garum, mixed with a little Wine, at Meals. The Seed Mallow is the more effectual, as it is the drier. The D molache, too, is a Species of the Mallow, but a greater D ſive than the former; it is alſo called *Althæa.* *Ætius* T *Serm.* I.

Emplaſtrum ex Althæa Polletis, POLLES's Plaſter of Al

Take the Bark of the Root of Althæa, while the Her its beſt State, and pound it in a Mortar. Then re into a Copper or Earthen Pot, and ſprinkle it wi White Wine, that is fragrant and aſtringent, juſt to moiſten it. Cover it, and let it ſtand three Days. pound it afreſh, and ſtrongly preſs out the Juice. done, take of Colophonia twenty-four Ounces; of four Ounces; of Oil and Verdigreaſe, each two Ou the expreſſed Juice of the Plant, two Attic Heminas The Colophonia being firſt melted in the Oil, and ſtrained, boil it over a gentle Fire of Pine Wood, ſti with a Spatula made of the ſame, till being dropt in Water, it conſolidates. Then put in the Wax, and that is melted, take the Pot off the Fire, and after cool, pour in the Juice by little and little, taking any Effervеſcence; for it is ſubject to Ebullitions, overflow the Brim of the Pot. After it has ſtood a remove it to the Fire, and, when it is throughly h in the Verdigreaſe; which done, take it off, and, is cool, work it well with your Hands, that the Ingre may throughly unite.

This Plaſter is good for old and freſh Ulcers, and for of a Dog, or a wild Beaſt. It draws out the virulent of Ulcers. It diſcuſſes Pain and Strumæ, or ſuppu breaks them, drawing the peccant Humour to the Supe and there cauſing it to evaporate, as in the Caſe of L from Blows in the Face. It eaſeth Pains, cleanſes the S and ſcabby Nails, the Lepra and Alphus, in which C not to be taken off till the ſeventh Day. It draws out or other Matters, fixed in the Fleſh; mitigates the In tion, under an Exacerbation of the Gout; diſſolves Tu the Joints and Ganglia; heals the Favi and Ficus; a Infants of the Hydrocephalus; mollifies the Hardneſs Spleen; and is a Lenitive for Cancers that are not ul and reſtrains their threatened Eroſions. Uſed as a Peſ

kes the Menſes, and, apply'd to the Pecten, it expels the
, helps Difficulty of Urine, and relieves under Coſtive-
Diluted with Oil of Roſes, it heals Fiſſures in the Soles
Feet, and cleanſes and incarnates Ulcers of the Teſtes
Pudenda. Prepared without the Erugo, it reſtrains phage-
Ulcers, and is ſerviceable, inſtead of an Embrocation,
actures, as an Anodyne.

ere is alſo a very uſeful Medicine prepared of the Flowers,
are like Roſes, in the following manner: They take the
ers, and cutting off the Bottoms of the Leaves, firſt bruiſe,
hen pulverize them. Of this Powder, they take twelve
of Colophonia twenty-four Parts, of Wax ſix, and Oil
Parts. Prepare them as directed in the former, and work
well with your Hands. It is more convenient for Uſe
the former, and a greater Anodyne. *Ætius Tetr.* 4.
3. *Cap.* 14.

emollient Medicine.

ke of Colophonia, Wax, each one Pound; of Oil and
Juice of Althæa, each two Pints. *Actuarius Meth. Med.*
Lib. 6. *Cap.* 9.

thæa has been the Occaſion, that many have deceiv'd
elves, who preſume they know it, and impoſed upon
, who are credulous enough to take their Word for
or when they would perſuade us, that Althæa is a
on Herb, and known by every body, they prove their
ance by ſo doing, and demonſtrate, that they know no-
of the Matter. The *Greek* Authors, on the contrary,
re to be found in cloſe and ſelect Libraries, aſſure us, that
a is a very ſcarce Plant, and only to be met with in *Aſia*
icily. I ſhall give you their very Words: Ἡ μὲν Ἀλθαία
ως εὑρίσκεται, φυομένη ἐν τοῖς τῆς Ἀσίας τόποις ἢ Σικελίας,
ται δὲ ἐν τῇ Σμύρνῃ ἐν τῷ Σχελίτι ποταμῷ. "Althæa is
eaſily met with. It grows in *Aſia* or *Sicily*, particularly
r *Smyrna*, by the Banks of the River *Schelis.*" *Theo-*
us alſo hints, that it was a ſcarce Herb, when he tells us,
was to be met with among the *Arcadians*, who called it
μαλάχη, "wild Mallows," but the Sons of the Phyſi-
gave it the Name of Ἀλθαία, "Althæa," from the me-
Virtues with which it is endued, *Lib.* 9. *Cap.* 14. Be-
he deſcribes it by ſuch Characters as they are forced to
s they never ſaw, namely, with a yellow Flower: Ἔχει
λθαία φύλλον μὲν ὅμοιον μαλάχῃ, πλὴν μεῖζον καὶ δασύτερον,
καυλοὺς μαλακοὺς, ἄνθος μήλινον. "Althæa has a Leaf like
Mallow, but larger and rougher, ſoft Stalks, and a
wer of a yellow or Honey-like Colour." *Dioſcorides* ſays,
δοειδὲς, "like a Roſe," which we may underſtand to
nt of the Figure of a Roſe, which it may have under a
Colour. *Harpocration* in his Book Περὶ φυσικῶν δυνάμεων,
phyſical Powers," ſays, that the Flower of Althæa is
a Roſe; whether from its Colour or Shape, is uncertain:
σις βοτάνη ἐστὶν, ἣν οἱ μὲν ὀνοθούρην καλοῦσιν, οἱ δὲ ὀνομολόχην·
σι τὸ ῥόδον, ἐξ οὗ τοὺς στεφάνους πλέκουσιν Ἕλληνες ἐν ταῖς
τῶν θεῶν, φύλλα ἔχουσα ὅμοια μαλάχης ἡμέρου· ταύτην
ς καλοῦσιν Ἀλθαίαν. "The *Onothyrſis* is an Herb, which
e call *Onothure*, others, *Onomoloche*. It bears Roſes,
ich the *Grecians* weave into Crowns at the Feaſts of their
ds, and has Leaves like the Garden-mallow; this the
eeks call *Althæa.*" But it is moſt reaſonable to interpret
ὲς [rhodoeides] of the Colour. For ſo πρασοειδὲς [pra-
] means ſomething of a Leek-green Colour; and ῥοδοειδὲς,
oeides] apply'd to Metals, ſignifies a Roſe-colour. In his
ing Deſcription of Althæa, he makes its Flower to be
Roſe: Ἄνθος μικρὸν ἐμφερὲς ῥόδῳ. "It has a ſmall Flower
a Roſe." Therefore by ῥοδοειδὲς he meant the Colour,
an antient Tranſcriber of *Dioſcorides* expreſſed by painting
ower of Althæa of a Roſe-colour. If this be ſo, *Dioſcorides*
have ſpoken of quite a different Plant from the true Al-
for that bears a yellow Flower. Some, I know not
hat Reaſon, ſuppoſe it to be the Abutilon of *Aviſena*;
viſena ſays no more of his Abutilon, than that it was a
like a Gourd; to which his *Arabian* Expoſitors add, that
butilon reſembled a Gourd not only in Leaves, but alſo
Fruit, which is not round, but oblong, and that it was to
nd in the City of *Gaza*. This, you ſee, is very different
the Althæa of the *Greeks*. *Dioſcorides* ſays, that "It is
led *Ebiſcus* by ſome." Why did he not ſay by the *Ro-*
as he uſually does on other Occaſions? For none but the
s called the Althæa *Ebiſcus*, or *Ibiſcus*. The old *Greek*
Phyſicians, in that Part which is wanting in the Editions:
μὲν Ἀλθαία, ὑπὸ τινῶν δὲ Μολόχη, Ῥωμαϊστὶ δὲ Ἔβισκος,
Σαρμάταις δὲ καὶ Γέταις καὶ Θρᾳξὶν Ἄριστις. "It is called
thæa; by ſome, *Moloche*; in *Latin*, *Ebiſcus*; by the *Sar-*
tians, *Getes*, and *Thracians*, *Ariſpis.*" *Neophytus*, Ἀλθαία
βίσκον, οἱ δὲ μαλάχην ἀγρίαν, Ῥωμαῖοι Ἔβισκουμ. "Al-
a is the Althiſcum, ſome call it the *Wild Mallow*, and
Romans Ebiſcum." In the Gloſſary, Ἀλθαία is Hibiſcum;
r Gloſſaries it is, without an Aſpiration, Ibiſcus, *Herba*
thence comes the *Italian Malvaviſco*, for *Malva Ibiſco*,
ich the *French* ſay, *Ibiſco-malva*; for thence comes their *Grimauve*, we placing before what the *Italians* place after. The *Barbarians* call it *Biſmalva*, which is plainly a Corruption of *Ibiſco-malva*.

I don't wonder, that *Pliny*, in the Place where he ſpeaks of Hibiſcus, makes no mention of Althæa, nor ſays any thing of Hibiſcus when he mentions Althæa. 'Tis plain, that he thought them different, as his Manner is in other Caſes. But I can't help being ſurpriſed at his placing Hibiſcus among the Kinds of Parſnip, and ſeeming willing to have it be like a Parſnip, and that in more Places than one. In *Lib.* 19. *Cap.* 5. treating of the Kinds of Parſnips, *Hibiſcum a Paſtinaca Gracilitate diſtat; damnatum in cibis, ſed Medicinæ utile eſt; & quartum Genus in eadem ſimilitudine Paſtinacæ, quam Gallicam vocant, Græci vero Daucon.* "Hibiſcum differs from a Parſnip "on account of its Slenderneſs: it is condemn'd as Food, "but uſeful in Medicine. And there is a fourth Kind, re-"ſembling in like manner a Parſnip, which they call *Gallic* "*Parſnip*, but the *Greeks* name it *Daucus.*" He pretends, that the Hibiſcum differs from a Parſnip only in Slenderneſs, that is to ſay, is more ſlender than a Parſnip, but like in other reſpects. This he repeats in another Place, that is, *Lib.* 20. *Cap.* 4. *Paſtinacæ ſimile Hibiſcum, quod Molochen agriam vocant, & aliqui Pliſtolochiam.* "There is a Reſemblance be-"tween the Parſnip and the Hibiſcum, which is commonly "called the *Wild Mallow*, and by ſome *Pliſtolochia*," which by all is recorded to be like the Mallow, and to be a kind of wild Mallow; but how it ſhould come to look like a Parſnip, I am at a Loſs to imagine, eſpecially of the Pliſtolochia; for this, in another Place, he ranks among the Ariſtolochia's, and makes a fourth Kind of it.

As to Hibiſcum being like a Parſnip, which *Pliny* affirms, I fancy, that I ſee whence he derived his Conceit. He had read in ſome *Latin* Author, that Hibiſcum was a kind of wild Mallow, and paſſed with ſome under the *Greek* Appellation of Moloche Agria, and differed not at all from the Paſtinata, but only in Slenderneſs. Now by the Paſtinata is to be underſtood the Garden Mallow, which is planted *Paſtinato*, "in delved "Ground." All cultivated Things are larger than what are wild, and therefore the wild Mallow was ſlenderer than the ſative, or *paſtinata*, "planted in delved Ground." The Hibiſcum, he ſays, was condemn'd as Food, that is, the wild Mallow; for we are aſſured, that the Garden Kind was formerly eaten. *Pliny* therefore, having his Thoughts diverted another way, miſtook *Paſtinata* for *Paſtinaca*, "a Parſnip." 'Tis certain, and not a little material to the Purpoſe, that the moſt antient Manuſcripts, in that Place, have *Paſtinata* in expreſs Letters; *Hibiſcum a Paſtinata gracilitate differt.* "Hi-"biſcum differs from the Paſtinata in its Slenderneſs;" whereas in other Places, the ſame Copies have the Word Paſtinaca, whole and uncorrupted. The Author from whom *Pliny* borrow'd his Account, doubtleſs wrote, *Hibiſcum, id eſt, agreſtis Malva, a Paſtinata gracilitate differt.* "Hibiſcum, "that is, the wild Mallow, differs from the cultivated, in "Slenderneſs." He omitted the *agreſtis Malva*, and read *Paſtinaca* for *Paſtinata*, as theſe two Letters are often exchang'd for one another, in Words of that Form; for Example, *Securiclata, ſecuriclaca; lingulata, lingulaca; perſonaca, perſonata*, ἡ προσωπῖτις, [Proſopitis] by ſome called *Perſonacia*, "a Perſonation." The Gloſſary has Paſtinatio, φυτὰ, "Paſti-"nation [means] a Cultivation." It is not to be doubted then that ἡ φυτευεὶς, "the planted," cultivated, and Garden Mallow, was properly called *Paſtinata*, "planted in delved Ground." Under the ſame Miſtake he aſſerts every-where, that the Hibiſcum is like a Parſnip.

I formerly took the Alcæa of the *Greeks* to be meant by the Name Hibiſcum; for the Alcæa is a kind of wild Mallow, which ſome, we are aſſured, have confounded with Althæa. For *Neophytus*, under the Name of Althæa, has deſcribed the Alcæa, which he furniſhes with Leaves, ἐπεσχισμένα πρὸς τὰ τῆς ἱερᾶς βοτάνης, "indented like thoſe of Vervain." Now I thought, that *Pliny* had reckon'd this indenting of the Leaves in Alcæa, which he took for Althæa, among the Characters in which it reſembled a Parſnip; but nothing is more certain, than that he fell into this Miſtake in the manner we have related.

The ſame Author, in another Place, thus diſtinguiſhes the Althæa among the other Mallows: *Ex ſylveſtribus, cui grande Folium, & Radices albæ, Althæa vocatur ab excellentia Effectus, ab aliis Ariſtalthæa.* "Of the wild Kinds, that with the large "Leaf, and the white Roots, is called *Althæa*, from its excel-"lent Virtues, by ſome named *Ariſtalthæa.*" An antient Manuſcript indicates, that this laſt Word is not rightly written, by reading *ab aliis Plitolicia* "by others Plitolicia." Hence it appears, that it ought to be read *Pliſtolochia*, which is confirmed by the Manuſcript Index: *Malva Althæa, ſive Pliſtolochia*, "the Mallow Althæa, or Pliſtolochia." In another Place it ſays, that Hibiſcum is called by others *Pliſtolochia*: Perhaps it took that Name from its Virtue in extracting the Secundines, which the *Greeks* call λοχεῖα.

Pliny, in reckoning the Kinds of Ariſtolochia, makes Pliſtolochia the fourth, which is alſo called πολύῤῥιζος, "many-

" rooted;" for thus it is written in the Manuſcript Index: *Ariſtolochia, ſive Climatitis, ſive Cretica, ſive Pliſtolochia, ſive Lochia Polyrrhizoſque, quæ Malum Terræ.* So it ought to be read.

But I never read this Name *Pliſtolochia* in *Greek* Authors, and I am afraid it took its Origin from ſome wrong Reading, either by *Pliny* himſelf, or one of thoſe who uſed to read to him, who haſtily running over the *Greek* Book written in large Letters, and ſlightly glancing on the Words, as is too commonly done, might for ΑΡΙϹΤΟΛΟΧΙΑ read ΠΛΙϹΤΟΛΟΧΙΑ, which is not ſo very remote from the Truth, nor unſuitable to *Pliny*'s Character. For my part, I can give no Account for the Name, the changing it into *Piſtolochia* being contradictory to all the Books; nor can I ſee the Reaſon of this Word πιστολοχία [*Piſtolochia*].

Authors ſay never a Word of the Althæa called *Pliſtolochia*, or *Ariſtolochia*; and I am apt to think, that *Pliny* made this too out of *Theophraſtus*, by wrong reading and pointing his Words. *Theophraſtus*, enumerating the medicinal Herbs which grow in *Arcadia*, has theſe Words: Καὶ ἡ μὲν Ἀλθαία, ἐκεῖνοι δὲ μαλάχην ἀγρίαν, ϗ ἡ ἀριστολοχία, καὶ τὸ σέσελι. "And there is " the Althæa, which they call *Wild Mallow*, and Ariſtolochia, " [*Birthwort*] and Seſeli [*Hartwort*]." *Pliny* read or underſtood the Words, as if they had been written ἐκεῖνοι δὲ μαλάχην ἀγρίαν, ϗ ἀριστολοχίαν. "They call it *Wild Mallow* and " *Ariſtolochia*," where perhaps he read himſelf, or, deceiv'd by his Ears, imagin'd he heard another read ϗ πλιστολοχίαν, " and " Pliſtolochia."

That Place in *Pliny*, where he diſtinguiſhes between μολόχη [Moloche] and μαλάχη [Malache] deſerves our Laughter. The Paſſage, as it ought to be read, *Lib.* 20. *Cap.* 21. runs thus: *Duo Genera earum Amplitudine Folii diſcernuntur. Majorem Græci Molochen vocant in Sativis, alteram ab emolliendo ventre dictam putant Malachen.* "Two Kinds of them are diſtin- " guiſhed by the Largeneſs of the Leaf. The greater is called " by the *Greeks*, *Moloche*, and is cultivated in Gardens; the " other is ſuppoſed to have its Name *Malache* [*Greek* μαλάχη, " ſoft] from mollifying the Belly." But μολόχη [Moloche] is the Word in the *Attic* Dialect, and μαλάχη [Malache] in the others. This is the Rule in the antient Grammarians; but I ſhould rather think μολόχη an *Æolic* Word; for 'tis their Manner to change α into ο; ſo they ſay, ὀνόγυρον [Onoguron] for ἀνάγυρον [Anaguron] which is in the *Attic* Dialect; ὄνωνις for ἄνωνις, βότις for βάτις, and ſo in Hundreds of others; but we ſhall now finiſh what we propoſed. What is commonly called *Malvaviſco*, or *Ibiſcomalva*, is not the Althæa of the *Greeks*, tho' the old *Latins* called this *Ibiſcus*. The true Althæa, at this Day, is unknown to our Botaniſts; for the *Biſmalva*, which is the *Roman Hibiſcum*, is not determined to one thing. Perhaps the old *Romans* themſelves were ignorant of the true Althæa; for what they called *Hibiſcum*, was no other than what is called *Malva-Ibiſcum*; ſo much is certain.

Tho' Althæa be like the wild Mallow, yet, which is ſtrange, *Dioſcorides* has not aſſign'd it a Place among the Mallows, as if he thought it of a different Kind from them. For he deſcribes the common Mallows in his ſecond Book, and defers the mentioning of Althæa to his third Book. What he thus ſeparated, he does not ſeem to think of the ſame Kind, though he ſays, that Althæa is a Species of the wild Mallow.

The ἀναδενδρομαλάχη [Anadendromalache] mentioned by *Galen*, and miſtaken by ſome for the ſame as Ibiſcus or Althæa, is another thing. The Authors of the *Greek* Farriery have theſe Words: Ἔστι δὲ ἑτέρα βοτάνη λεγομένη ἀναδενδρομαλάχη, ὑπὸ τινῶν σαλκίης· ἔστι τὸ φύλλον πλατύτερον ταύτης, τὴν ῥίζαν ὡσαύτως σκευάζονται, καθὼς ἐπάνω γέγραπται χρῆσθαι. "There is another " Herb called *Anadendromalache*, and by ſome *Salcies*; this has " a broader Leaf, and the Roots are prepared in the ſame " manner as before directed." I take this to be the Alcæa of *Dioſcorides*, which the Name σαλκίης, [Salcies] being a Corruption of ἀλκαίη, [Alcæa] plainly intimates. *Galen* does not mention Alcæa, but ſeems to mean the ſame by the Word Anadendromalache. *Salmaſius de Homonym. Hyl. Iatr. Cap.* 42.

Notwithſtanding the Opinion of *Salmaſius* to the contrary, I find moſt Botaniſts eſteem our Althæa to be the ſame as that of *Dioſcorides*.

ALTHANACA, or ALTHANACHA, (*Auripigmentum*) Orpiment. It is alſo called ALTERNET, ALBIMEC.

ALTHEBEGIUM, the *Arabic* Name given by *Avicenna* to a certain Swelling, reſembling thoſe which happen in a Cachexy, and proceeding from a morbid State of the Liver, and an ill Habit of Body. The Swellings are alſo like thoſe which appear under the Eyes, and in the Faces, of Perſons who ſleep over-much. A Tympany is a Diſeaſe of the ſame Kind. *Fabric. Ab Aquapendent. Lib.* 1. *Cap.* 10.

ALTHEXIS, ἄλθεξις, from ἀλθεῖν, to cure or heal. It ſignifies the Cure of a Diſtemper, in which Senſe it is frequently uſed by *Hippocrates*.

ALTHOLIZOI. See ALTOLIZOIM.

ALTIHT. The Name given by *Avicenna* to the *Laſerpitium* of the Antients.

ALTIMAR, AYCAPHER, (*Æs uſtum*) burnt Copper, *Rulandus.*

ALTIMIO, (*Fæx Plumbi*) the Droſs or Scoria of Lead. *Rulandus.*

ALTINCAR, a ſort of factitious Salt uſed in the Purgatio and Separation of Metals. *Caſtellus* from *Libavius.*

ALTINGAT, *Flos Æris,* Ruſt of Copper, Verdigri *Rulandus.*

ALTINURAUM, Vitriol. *Rulandus.*

ALTOLIZOI, a Word mentioned by *Helmont*, which is in a great meaſure unintelligible. In his Treatiſe *De Lithiaſi*, he directs the Ludus of *Paracelſus* to be well contuſed, calcin'd, and boil'd into the Form of an Oil, which is almo expreſs'd by a ſingle Word *Fel Terræ*, or ALTHOLIZOI *correctum*, which he ſays, ſignifies, totally converted into Oil b Ebullition. *Caſtellus* has made two or three Blunders unde this Article. For he calls it *Altolizoim*, whereas *Helmont's* Word is *Altholizoi*, and *Altholizoim*; and he miſtakes in h Explanation *Ludus*, and calls it *Lutum*. See ALKAHEST.

ALTUS. This is uſed ſometimes in a medicinal Se join'd with Sopor, to expreſs a ſound Sleep, inclining to a Lethargy, or Coma.

ALU. See ARE-ALU, and ATTY-ALU.

ALUACH, or ALUECH, pure or refin'd Tin. *Rulandus.*

ALUCO, a Bird mentioned by *Bellonius*, *Aldrovandus*, and *Johnſon.*

It is a nocturnal Bird of Prey, of the Owl Species; they a of different Sizes; for ſome are as big as a Capon, and others the Size of a Pigeon: They are of a Lead-colour ſpotted wi White; their Head is large, black, without Ears, crown with Feathers; their Beak is white, their Eyes are large, black and ſeem to be ſunk in their Heads, becauſe they are furrounded with many Feathers; their Limbs are cover'd with wh Feathers, their Feet are feather'd and arm'd with long Claw which are ſtrong and ſharp; they live in decay'd Building Towers, in Caverns, and in the Hollow of old Oaks; th ramble at Night in the Fields; they live upon Mice, and li Birds; their Gullet is ſo large, that they ſwallow Pieces as b as an Egg; their Cry is frightful; they contain a great deal volatile Salt and Oil.

Their Blood is good for an Aſthma, being dried, pulveriz and taken at the Mouth: The Doſe is from half a Scruple two Scruples; their Brains are eſteemed good for agglutinat Wounds. *Lemery de Drogues.*

ALUDEL. An ALUDEL is a chymical Veſſel uſed in Sublimation. Many of theſe are generally imploy'd in one Operation, in the following Manner: The Matter to be ſublim is put into a Body, or Pot, the ſuperior Part of which is fi into a Hole on the lower Part of an Aludel, and the ſuper Part of the Aludel is received into the inferior Part of the Aludel, and ſo on, till as many Aludels are ſet one upon other, as the Proceſs requires; to the ſuperior Part of the upp moſt Aludel, a Head or Alembic is fix'd, to receive the Ma which ſublimes. So that there is a continu'd Tube form'd the Aludels from the Pot which contains the Matter to be lim'd, to the Head or Alembic which receives it, in the man that a continu'd Chanel is form'd by a Number of Elm P The Uſe of Aludels ſeems to be to remove the Matter lim'd in the Head to a Diſtance from the Fire.

ALUDIT, Mercury. *Rulandus.*

ALVEARIUM, the Bottom of the Concha, or Ho of the external Ear; it terminates at the Meatus Auditor which is the Entrance of the Auris or Ear, ſtrictly ſo ca *Drake.*

It is generally defin'd to be that Cavity where the Ceru or Ear-wax is principally lodged.

ALUECH. See ALUACH.

ALVEOLI, the Sokets in the Jaw Bones, in which Teeth are plac'd, by that ſort of Juncture or Suture, w Anatomiſts call *Gomphoſis*, by Joiners call'd *Pegging.* T Alveoli are lin'd with a Membrane of exquiſite Senſe, w ſeems to be nervous, and is wrapp'd about the Roots of Tooth. *Drake.*

There are uſually ſixteen Alveoli in each Jaw.

ALVEUS. Medicinally it is apply'd to many Tubes or nals, thro' which ſome Fluid flows, particularly to the D which convey the Chyle from the Receptacle of the Chyl the Subclavian Vein.

ALUFIR, *Rubedo*, Redneſs. *Rulandus.*

ALVIDUCA, *Medicamenta*, are purging Medicines.

ALUIS. *Rulandus* calls this *Alafor*, *id eſt Vabs*, wi any farther Explanation. But *Johnſon* explains Alafor, *Sal Al*

ALUM, or ALUS. A Name in *Scribonius Largus* fo *Symphytum* Comfrey.

ALUMBOTI, *Plumbum Uſtum*, burnt or calcin'd L *Rulandus.*

ALUMEN, Alum, Στυπτηρίη. *Hippocrates* recom ALUM in many Paſſages of his Treatiſe of Ulcers, as a p Application for Ulcers, eſpecially thoſe of the depaſcent k (νομάς) ſometimes burnt, and ſometimes not. He thinks *Egy* n the beſt, and next that the *Melian* (that got in *Melos*). his Treatiſe on the Diſeaſes of Women, *Lib.* 1. he burnt ALUM as an Ingredient in an Application he di- r Ulcers of the Uterus. And afterwards in the ſame e he adviſes *Egyptian* ALUM, with ſome other Ingredi- be moiſten'd with Gooſe Greaſe, and then with Wool ade into a Peſſary, and apply'd to the Os Uteri, with a f promoting Fecundity. And in his Epidemics, *Lib.* 1. adviſes *Egyptian* Alum as a beneficial Application in Tumors of the Gums.

s, *Lib.* 6. *Cap.* 19. recommends *Melian* Alum pre- the following manner, as an effectual Application to of the Fingers, which the *Greeks* call πτερύγια· Melt *Melian* Alum in Water, till it acquires the Conſiſtence y; then mix with it a Quantity of Honey, equal in to the Alum when dry, and ſtir them about with a till the Mixture is of a Saffron Colour. With this he Ulcers.

Accounts of Alum we have from *Dioſcorides*, *Pliny*, s and *Ætius*, are as follows:

ſt every Kind of Alum is found in *Egypt*, and among e Metals; for the *Sciſſile* Alum is, as it were, the of the Bolar. It is alſo produced in other Places, as in *Macedonia*, *Liparæ*, *Sardinia*, *Hierapolis* in *Phrygia*, *Armenia*, and many other Countries, as well as Oker. re very many Species of Alum; but the moſt ſervice- medicinal Purpoſes, are the *Sciſſile*, the *Round*, and the and of theſe the beſt is the *Sciſſile*. Again, of this Alum, the moſt valuable is what is freſh, very white, m Gravel, ſmells ſtrong, and is of an extraordinary ncy; ſuch as lies not cloſe compacted like a Clod, nor ad into thin Slices like Chips: but when broken into pulled aſunder, runs out into Filaments, like grey Hairs. he Sort called *Trichites*, [hairy] which grows in *Egypt*. a Stone very like this Alum, but diſtinguiſh'd from it Taſte, which has nothing of Aſtringency. The round that is factitious, is to be refuſed as good for nothing; know it by the Figure. Chuſe what has its Roundneſs ature, is full of Bubbles, is of a white Colour, and lly aſtringent; and has, beſides theſe Properties, a ſort neſs, and is ſomewhat fat, and comes from *Melos* or The liquid Kind ought to be quite pellucid, milky, and of equal Liquidneſs in all its Parts, clear of Sand el, and exhaling a Warmth as from a Fire.

Alums are of a heating and aſtringent Nature, and Virtue of cleanſing the Eye, and clearing it of what- kens the Pupil, and alſo of conſuming fleſhy or other encies that grow about the Eyelids. The Sciſſile is more lued than the Round. They are burnt or roaſted like s. They reſtrain the Putrefaction of Ulcers, and ſtop hages. They compreſs the flaccid Gums, and faſten eeth, if uſed with Vinegar or Honey; mixed with they cure the Aphthæ; uſed with the Juice of Knot- ey are good for Exanthemata and Rheums in the Ears. abbage Leaves, or boil'd Honey, they are effectual in roſy; and are good in warm Water to make a Fomen- r the Itch, Paranychia, Pterygia, and Kibes. Mix'd es of Vinegar and burnt Galls, of each an equal Quan- y are good to anoint phagedenic Ulcers; and with a uantity of Salt reſtrain the ſpreading of Nomæ. Mix'd vum and liquid Pitch, they abſterge all Kinds of Scurf with them; and, uſed in Water, ſcour away all Nits , and are good for Scalds or Burns. They are uſed to edematous Tumours, and to take off the rank Smell of and Pudenda. What comes from *Melos* promotes ion in Women, περὶ τῆς συνόδȣ παρατεθεῖσα τῷ ϛόματι ας, and expels the Fœtus. In ſhort, the Alums are, em, proper for Excreſcences of the Gums, and for the Tonſillæ; and alſo for the Mouth, Ears, and Pudenda, ed with Honey to anoint the Parts. *Dioſcorides*, *Lib.* 123.

is ſuppoſed to be a ſaline Humour of the Earth [*ſal- ræ*]. There are ſeveral Kinds of it: In *Cyprus* they White and the Black, where the Difference in Colour ſiderable, but in the Uſe very remarkable; for the and Liquid are very uſeful in dying Wool of a bright and the Black, on the contrary, in giving it a ſad k one; the latter is alſo ſerviceable in refining Gold. however, generated of Water and Mud, that is, from re of the Exſudation of the Earth. What the Winter gether by uniting Streams, is maturated by the Summer what comes to Perfection ſooneſt, is the whiteſt. It ced in *Spain*, *Egypt*, *Armenia*, *Macedonia*, *Pontus*, and the Iſlands of *Sardinia*, *Melos*, *Lipara*, and . The choiceſt is to be had in *Egypt*, the next in There are two Kinds of this, namely, the Liquid and ; the firſt is preſumed to be good, if it be limpid, and ilkineſs, may be rubbed without emitting an offenſive but a ſort of fiery Sparkles, with a ſenſible Heat: This *Phorimon*, [uſeful] and try whether it be adulterated by the Juice of a Pomegranate, which turns the true Alum black. There is another Kind, which is pale and rough, and dy'd with Galls; for which Reaſon they call it *Paraphoron* [good for nothing].

The liquid Alum is of an aſtringent, hardening, and corroding Quality. Mixed with Honey, it heals Ulcers in the Mouth, Pimples, and Itching. For theſe Purpoſes, they mix two Parts of Honey with one Part of Alum, and manage the Cure in a Bath. It is taken in Pills for Diſorders of the Spleen, and to remove an Itching, and for piſſing of Blood. Mixed with Nitre and wild Fennel Flowers, it cures the Itch.

There is one Kind of concrete Alum, which the *Greeks* call *Schiſton*, that cleaves, and when pulled aſunder, runs into a ſort of grey Hairs, whence ſome chuſe to call it *Trichitis*. This is made out of a Stone, whence it is called *Chalcitis*, ſo that it is a ſort of a Sweat of this Stone coagulated into a ſpumeous Subſtance. This Kind is drying, and not ſo aſtringent as the other; but it is very proper for the Ears, either put into them, or the Part anointed; and alſo for Ulcerations of the Mouth, and for the Teeth, if the Spittle be retained with it. It is alſo an Ingredient in Collyria, and Medicines adapted to the Pudenda of both Sexes. They boil it in Pans till it will melt no longer.

There is another Kind, of an inferior Nature, which they call *Strongyle*, *round*. Of this there are two Sorts, the Fungous, which readily imbibes Moiſture, and is counted good for nothing; and the Pumicous, which is better than the other, and lax and porous like a Sponge, naturally round, bearing pretty much upon the White, has a ſort of Fatneſs, is friable without Sandineſs, and will not give a black Colour. They burn it by itſelf, over a clear Fire, till it turns to Aſhes. All the Kinds of Alum are of an aſtringent Quality, from whence they have their *Greek* Name. *Pliny*, *Lib.* 25. *Cap.* 15.

All ſorts of Alum have a remarkable Tartneſs, and are of groſs Parts; the fineſt is the Sciſſile, and next to this the Round, and the Aſtragaline. The Liquid conſiſts of Parts remarkably groſs, as well as that Sort called *Placitis*, and the *Plinthitis*. *Oribaſ. Med. Col.* 15. *Cap.* 1.

All Alums are extremely aſtringent, drying, and conglutinating: the fineſt is the *Sciſſile*; it is uſually added to other Ingredients in Medicines after they are boiled; for there is no Rule to direct us in the boiling of it. When it changes Colour, it commonly takes a Green. *Ætius Tetr.* 4. *Serm.* 2. *Cap.* 25. *P.* 697. C.

There are three Sorts of ALUM commonly uſed; the firſt is the

Alumen rupeum, Offic. *Alumen rupeum ſive Cryſtallinum*, Ind. Med. 7. *Alumen factitium*, Mer. Pin. 217. *Alumen*, Schw. 362. *Alumen factitium pellucidum*. Calc. Muſ. 169. *Alumen rupeum candidum & pellucidum*, Aldrov. Muſ. Metall. 334. *Commune vulgò*, COMMON ALUM. *Dale*.

The ſecond Sort of Alum is the

Alumen Rochi Gallis, Offic. *Alumen Romanum ſive rubrum*, Ind. Med. 7. *Alumen Rochæ*, Aldrov. Muſ. Metall. 332. Worm. 23. *Alumen rupeum ſeu Rochæ*, Charlt. Foſſ. 9. *Alumen factitium ex præduro lapide ſubrubro confectum*, Calc. Muſ. 169. *Alumen Romanum quibuſdam*. ROCH-ALUM.

It is like the common Alum, only of a pale-red Colour. We have it imported from *Italy*, *Smyrna*, &c. They make it after the ſame manner as they do the common Alum, but without the Addition of Urine and Kali, as I am informed by a Letter from the learned Dr. *Tancred Robinſon*, M. D. It agrees in Virtues with the preceding. *Dale*.

The third Sort of Alum is the

Alumen plumoſum, Offic. Ind. Med. 7. *Alumen plumeum ſive Trichites*, Schrod. 3. 477. *Alumen plumæ, quod Sciſſile Latinis*, Aldrov. Muſ. Metall. 331. PLUMOSE, or FEATHER'D ALUM. *Dale*.

It is ſometimes called *Alumen Iamenum*.

Alumen Catenum is a Name for the *Cineres clavellati*, Pot-aſh.

In order to the underſtanding what the modern Alum, which we make uſe of, is, with Exactneſs, it will be neceſſary to give an Account of its Production; and by this it will appear, that our Alum differs conſiderably from the Alum of the Antients; for theirs was found naturally, without the Help of Art, whereas ours is factitious, and conſiſts of other Ingredients, beſides the concreted Juice, which the Antients called ALUM.

Alum is made of a Stone, of Sea-weed and Urine.

The *Stone* is found in moſt of the Hills between *Scarborough* and the River of *Tees*, in the County of *York*; as alſo near *Preſton* in *Lancaſhire*. It is of a bluiſh Colour, and will cleave like *Corniſh Slate*.

The Mine, which lies deep in the Earth, and is indifferently well moiſten'd with Springs, is the beſt. The dry Mine is not good; and too much Moiſture cankers and corrupts the Stone, making it nitrous.

In this Mine are found ſeveral Veins of Stone call'd *Doggers*, of the ſame Colour, but not ſo good. Here are alſo found thoſe, that are commonly call'd *Snake Stones*: The People have a Tradition, that the Country thereabouts being very much annoyed with Snakes, by the Prayers of St. *Hilda*, there inhabiting, they were all turned into Stones; and that no *Snake* hath ever ſince been ſeen in thoſe Parts.

For the more convenient working of the *Mines*, which ſometimes lie twenty *Yards* under a Surface or Cap of Earth, (which muſt be taken off, and barrow'd away) they begin their Work on the declining of a Hill, where they may be alſo well furniſhed with Water. They dig down the Mine by Stages to ſave Carriage, and ſo throw it down near the Places where they calcine it.

The Mine, before it is calcined, being expoſed to the Air, will moulder in Pieces, and yield a Liquor, whereof *Copperas* may be made; but being calcined, it is fit for Alum. As long as it continues in the Earth, or in Water, it remains a hard Stone.

Sometimes a Liquor will iſſue out of the Side of the Mine, which, by the Heat of the Sun, is turned into natural *Alum*.

The *Mine* is calcined with *Cinders* of *Newcaſtle Coal*, *Wood*, and *Furzes*; the Fire is made about two Feet and an half thick, two Yards broad, and ten Yards long. Betwixt every Fire, are Stops made with wet Rubbiſh, ſo that any one or more of them may be kindled, without Prejudice to the reſt.

After there are eight or ten *Yards Thickneſs* of broken *Mine* laid on this Fuel, and five or ſix of them ſo cover'd, then they begin to kindle the Fires; and as the Fire riſes towards the Top, they ſtill lay on freſh *Mine*; ſo that to what Height you can raiſe the Heap, which is oftentimes about twenty Yards, the Fires, without any further Help of Fuel, will burn to the Top, ſtronger than at the firſt Kindling, ſo long as any Sulphur remains in the Stones.

In calcining theſe Stones, the Wind many times does Hurt, by forcing the Fire, in ſome Places, too quickly thro' the Mine, leaving it black and half burnt; and in others, burning the Mine too much, leaving it red. But where the Fire paſſeth ſoftly, and of its own accord, it leaves the Mine white, which yields the beſt and greateſt Quantity of Liquor.

The *Mine*, thus calcined, is put into Pits of Water, ſupported with Frames of Wood, and rammed on all Sides with Clay, about ten Yards broad, and five Feet deep, ſet with a Current, that turneth the Liquor into a *Receptory*, from whence it is pumped into another *Pit* of *Mine*; ſo that every Pit of Liquor, before it comes to the Boiling, is pumped into four ſeveral Pits of Mine, and every Pit of Mine is ſteeped in four ſeveral Liquors, before it be thrown away; the laſt Pit being always freſh Mine.

This *Mine*, thus ſteep'd in each of the ſeveral Liquors twenty-four Hours, or thereabouts, is of courſe four Days in paſſing the four ſeveral Pits, from whence the Liquors paſs to the Boiling-houſe.

The *Water* or *Virgin Liquor* oftentimes gains, in the firſt Pit, two Pounds Weight; in the ſecond, it increaſeth to five Pounds Weight; in the third, to eight Pounds Weight; and in the laſt Pit, which is always freſh *Mine*, to twelve Pounds Weight; and ſo in this Proportion, according to the Goodneſs of the Mine, and the well calcining thereof. For ſometimes the Liquors, paſſing the four ſeveral Pits, will not be above ſix or ſeven Pounds Weight; at other times, above twelve Pounds Weight, ſeldom holding a conſtant Weight one Week together. Yet many times, Liquor of ſeven or eight Pounds Weight produceth more *Alum*, than that of ten or twelve Pounds Weight, either through the Illneſs of the *Mine*, or, as uſually, the bad calcining thereof. And if by paſſing the weak Liquor through another Pit of freſh *Mine*, you bring it to ten or twelve Pounds; yet you ſhall make leſs *Alum* with it, than when it was but eight Pounds Weight. For what it gains from the laſt Pit of *Mine*, will be moſt of it *Nitre* and *Slam*, which poiſons the good Liquors, and diſorders the whole Houſe, until the *Slam* be wrought out.

That which they call *Slam*, is firſt perceived by the Redneſs of the Liquor, when it comes from the Pit, occaſioned either by the Illneſs of the *Mine*, or, as commonly, the over or under calcining it, as abovefaid; which in the Settler ſinks to the Bottom, and there becomes of a muddy Subſtance, and of a dark Colour. That Liquor which comes whiteſt from the *Pits*, is the beſt.

When a Work is firſt begun, they make *Alum* of the Liquor only that comes from the Pits of Mine, without any other Ingredients, and ſo might continue, but that it would ſpend ſo much Liquors as not to quit Coſt.

Kelp is made of a *Sea-weed* call'd *Tangle*, ſuch as comes to *London* on *Oyſters*. It grows on Rocks by the Sea-ſide, between High-water and Low-water Mark. Being dried, it will burn and run like *Pitch*; when cold and hard, 'tis beaten to *Aſhes*, ſteeped in Water, and the *Lees* drawn off to two Pounds Weight, or thereabouts.

Becauſe the Country People, who furniſh the Work with *Urine*, do ſometimes mingle it with Sea-water, which cannot be diſcovered by Weight, they try it, by putting ſome of it to the boiling Liquor; for ſo, if the *Urine* be good, it will work like *Yeaſt* put to *Beer* or *Ale*; but if mingled, it will ſtir no more than ſo much Water.

It is obſerved, that the beſt *Urine* is that which comes poor labouring People, who drink little ſtrong Drink.

The *boiling Pans* are made of *Lead*, nine Feet long, Feet broad, and two and a half deep, ſet upon Iron about two Inches thick, which *Pans* are commonly new- and the Plates repaired five times in two Years.

When the Work is begun, and *Alum* once made, then ſave the Liquor which comes from the *Alum*, or wherein *Alum* ſhoots, which they call *Mothers*; with this they fill third Parts of the *Boilers*, and put in one third Part of Liquor, which comes from the Pits. Being thus filled up cold Liquors, the Fires, having never been drawn out, will again in leſs than two Hours time; and in every two time, the Liquor will waſte four Inches, and the Boilers filled up again with green Liquor.

The Liquor, if good, will in boiling be greaſy, as it at the Top; if nitrous, it will be thick, muddy, and red. boiling twenty-four Hours, it will be thirty-ſix Pounds then is put into the *Boiler* about a Hogſhead of the *Lees* of of about two Peny-weight, which will reduce the *Boiler* to about twenty-ſeven Pounds Weight.

If the Liquor is good, as ſoon as the *Lees* of *Kelp* are into the *Boiler*, they will work like *Yeaſt* put to *Beer*; the Liquor in the Boiler be nitrous, the *Kelp-Lees* will but very little; and in that Caſe, the Workmen muſt the more and ſtronger *Lees*.

Preſently after the *Kelp-Lees* are put into the *Boiler*, *Liquor* together is drawn into a *Settler*, as big as the made of *Lead*, in which it ſtands about two Hours, in time moſt of the *Nitre* and *Slam* ſink to the Bottom.

This Separation is made by means of the *Kelp-Lees*; for the whole *Boiler* conſiſts of green Liquor drawn from the it is of a Power ſtrong enough to caſt off the *Slam* and but when the *Mothers* are uſed, the *Kelp-Lees* are make the ſaid Separation.

Then the ſaid Liquor is ſcooped out of the *Settler*, *Cooler* made of *Deal Boards*, and rammed with *Clay*. this is put twenty *Gallons* or more of *Urine*, more or cording to the *Goodneſs* or *Badneſs* of the *Liquor*; for Liquor be red, and conſequently *nitrous*, the more required.

In the *Cooler*, the Liquor, in temperate Weather, Days. The ſecond Day the *Alum* begins to ſtrike, and harden about the Sides, and at the Bottom of the

If the Liquor ſhould ſtand in the *Cooler* above three would, as they ſay, turn to *Copperas*.

The Uſe of *Urine* is as well to caſt off the *Slam*, keep the *Kelp-Lees* from hardening the *Alum* too much.

In hot Weather, the Liquors will be one Day longer ing, and the *Alum* in gathering, than when the temperate. In froſty Weather, the Cold ſtrikes the ſoon, not giving time for the *Nitre* or *Slam* to Bottom, whereby they are mingled with the *Alum*. duceth double the Quantity; but, being foul, is Waſhing.

When the Liquor hath ſtood four Days in the *Cooler*, that call'd *Mothers* is ſcooped into a Ciſtern, the ing on the Sides, and at the Bottom; and from *Mothers* are pumped back into the *Boiler* again; ſo five Days the Liquor is boiled again, until it evaporate, into *Alum* or *Slam*.

The *Alum* taken from the Sides and Bottom of the is put into a Ciſtern, and waſhed with Water, that uſed for the ſame Purpoſe, being about twelve Pounds after which it is roached, as followeth:

Being waſhed, it is put into another Pan, with a of Water, where it melts and boils a little. Then it ed into a great Caſk, where it commonly ſtands ten is then fit to take down for the Market.

The Liquors are weighed by the *Troy* Weight, ſo Pint of Liquor muſt weigh more than ſo much Water, many Peny-weight. *Phil. Tranſ. Abr. Vol.* 2.

Somewhat different from this is the Account given *man*, of the Production of Alum at the Works near *Saxony*. As this Author's Experiments and Remarks ALUM are curious and inſtructive, I ſhall inſert them

Of the Generation and Nature of ALUM.

As Vitriol is produced from a ſulphureous Mineral, ſimple or compound, that is, of Iron and Copper, which is, as it were, a kind of white Vitriol, is alſo of a ſulphureous Mineral, partly bituminous, partly Therefore the Acid which is extracted from Alum, be of the ſame Nature and Properties with what is Vitriol, whatever Difference there is in the Earths, or tacles, in which both theſe Kinds of Salts are coagulated the *Caput Mortuum* of Vitriol is of a Metalline, that of an Irony or Copper-like Quality; but the Earth ſeems to be a peculiar Kind of Bole, very ſpungy and

remarkable Agreement between the Acids of Vitriol and
vill abundantly appear from the following Experiments:
itriol of Iron is prepared with Spirit of Alum, and
on, as well as with Spirit of Vitriol; and Aqua-fortis
ell made with Alum as Vitriol and Nitre. Again, if
d of Alum, by the Mixture of alcaline Salt, be con-
nto a neutral Salt, and this Salt, with a little Salt of
and Powder of Charcoal, be melted in a Crucible, there
ced a red Maſs like Liver of Sulphur, in the ſame man-
it uſually happens, when the Acid of Vitriol or Sulphur
by Salt of Tartar, or the alcaline Salt contained in
r common Salt, and converted into a neutral Salt.

Vitriol and Alum be produced, as it were, from the
atter, and from one ſulphureous Matrix, yet each of
s endued with peculiar Properties and Virtues. For
nd Vitriol are very different in Taſte; and the common
leaves no ſuch Aſtringency on the Palate, as is obſerved
n. Again, a Solution of Alum makes no Commotion
cipitation in a Solution of Gold or Silver, which a So-
f Vitriol is known to effect. Nor will a Decoction of
or Pomgranate Flowers, grow black, and be converted
, by the Mixture and Solution of Alum, as we obſerve
when mix'd with a Solution of Vitriol. Laſtly, in
the Acid may be readily ſeparated, by the Help of
om its earthy Principle, in which it is inherent; but
e is otherwiſe with Vitriol.

roceed, in Alum the Acid is very much ſaturated with
h; for an Ounce and a half of Alum, by a vehement
tion, affords ſix Drams and a half of aluminous Earth,
ſipid. That there is a leſs Portion of Acid in Alum
Vitriol, may be known by this, that the Acid of Vi-
turated with a Solution of Pot-aſh, produces a far
Quantity of Sal Enixus, than would be afforded by
on of Alum ſaturated with the ſame Lixivium.

es, the Salt this way prepared of Alum is more ſucceſſ-
looſening and purging the Belly, than what is pre-
f Vitriol, according to the Method of *Tackenius*. And
g ſince I met with a Phænomenon not unworthy to be
which is, That while I was managing and beating this
Mortar, it emitted Sparks in great Plenty, which I
bſerved in any other Salt.

we muſt not paſs over a very fine Experiment of
g's, who with three Parts of Alum, and one Part of
nbuſtible Matter, which turns to a Coal, by a previous
tion, Diſtillation, and Ignition, in a cloſed Veſſel, pre-
Phoſphorus, or ſulphureous Matter, which immediate-
led at the free Acceſs of Air. But this inflammable
cannot be produced with the Acid of Vitriol, nor the
f Salt or Nitre; a plain Indication, that the Acid of
as being more ſubtil, has a freer Ingreſs into the phlo-
arth, than the Acid of Vitriol itſelf. *See below Hom-*
emoire.

it happens, that tho' Alum is known almoſt to every
et its mineral Elements and Preparations are not clear-
rſtood by the curious Naturaliſts. Wherefore I thought
n my Pains in this Place, to ſhew the Way how ſome
ds of Quintals are yearly made at the Village of *Schwen-*
r the City of *Tieben*, five Miles from *Hall*, where are
ntiful Mines of Alum.

this Village are Strata of bituminous Matter, of vaſt
which Matter is the Matrix of this Salt. Theſe Strata
or three Yards deep, whence they dig the Earth, which
blackiſh Colour, and of an aſtringent aluminous Taſte.
mineral Earth be thrown into the Fire, it not only
but emits a ſtrong and fœtid Smell, like mineral Sul-
on Fire. When burnt out, there remains a ſpungy
Maſs of an Aſh-colour.

freſh Mineral Earth is thrown into Heaps, which lie a
expos'd to the open Air; then they remove it into Vats,
for ſome Days extracting the Salt by Affuſions of Wa-
er which, the Lye is convey'd by Pipes into leaden
ns, and boiled. When the Liquor is inſpiſſated by the
ption of one half, they mix it with a Solution of Pot-
his excites a vehement Ebullition with a Spumeſcence,
owder in great Plenty ſubſides to the Bottom. When
ing is cool, they take off the yellow Liquor, that ſwims
Top, and the white aluminous Meal at the Bottom is
d in Water, and boiled anew; the Water, well ſaturated
lt, is poured into great Vats, which ſtand together
p for ſome Weeks. The Veſſels being open'd, Cryſtals
t Bigneſs, in the Figure of an Octohedron, are ſeen
to the Sides.

es this, it is obſervable, that theſe vaſt Heaps of Alum
kindled merely by the Heat of the Sun, and burſt into
ames, which require the utmoſt Care and Pains to ex-
by Affuſions of Water. For when the Salt of the
diſſolved by the Rains, it begins to act upon its bitu-
Earth; ſo that a rapid inteſtine Motion being by this
xeited, not only a Heat and Smoke, but even Flames
uced, almoſt in the ſame manner as it happens when a Maſs, conſiſting of equal Portions of Sulphur and Filings of Steel, is moiſtened with Water, where, in a few Hours, ariſes an Ebullition, the Maſs ſwells, ſends forth a Smoke, and at laſt a ſulphureous Flame aſcends. Theſe Experiments directly lead us to the Explication of the Nature and Cauſes of ſubterraneous Heat.

Moreover, it is worth Notice, that if theſe mineral Earths, after they are deprived of their Salt, are thrown together again in Heaps, and expoſed to the open Air for a whole Year, they become impregnated with a very aluminous Salt, ſo as to ſerve for a new Preparation of Alum, and that for three Years together.

Hence it appears very plainly, that aluminous Salt is regenerated by the Air, and doubtleſs contains ſome univerſal Acid, which with the inflammable bituminous Parts, in Conjunction with the earthy ones, conſtitutes the Salt of Alum; nor do I know any Salt, that can be ſo ſoon regenerated from its exhauſted Mineral Earth; for if crude Alum be calcined by a pretty ſtrong Fire, to ſuch a Degree, that no Mark of Salt remain in its ſpungy Earth, and this Earth be afterwards for ſome Days expoſed to the open Air, it not only increaſes in Weight, but recovers its aluminous Taſte, and makes an Efferveſcence with inſtilled Oil of Tartar *per Deliquium*.

In boiling of Alum, there is alſo one thing worthy to be inquired into, which is, that Alum cannot be brought into any ſolid Form, much leſs reduced into Cryſtals, from its Lye, without the Addition of Pot-aſh, or ſome alcaline Salt. The Reaſon of this ſingular Effect and Phænomenon ſeems to conſiſt in what follows: The Lye of the Mineral Earth is too acid, and too ſulphureous; but becauſe the ſulphureous Liquor, in which the Acid is predominant, is very difficult to be formed into a ſolid ſaline Conſiſtence, there needs the Acceſſion of an Alcali, which partly ſaturates the redundant Acid, and partly imbibes and abſorbs the pinguious and ſulphureous Matter, which hinders Cryſtallization; by which means the Spicula may wedge themſelves the more cloſely together, and form a more perfect Coaleſcence. Formerly, and even now, in other Places where they boil Alum, inſtead of Pot-aſh, they uſe human Urine putrefy'd, becauſe of the urinous volatile Salt, by which the redundant Acid is temper'd; but ſince the Invention of ſo cheap and eaſy an Expedient, Urine is no longer uſed.

The Skilful in Chymiſtry know what Care and Induſtry were imploy'd in finding out ſome Means for volatilizing the fixed Salt of Tartar, ſince *Helmont* attributed a wonderful Efficacy to this Salt in curing Diſeaſes. Hence, that otherwiſe celebrated Phyſician and Chymiſt, *Daniel Ludovici*, in a particular Treatiſe of the *Volatilization of the Salt of Tartar*, communicated to the Public a Method to effect it; for while he was diſtilling crude Alum mix'd with Salt of Tartar, there came forth a volatile urinous Spirit. The good Man, who was perfectly ſincere, believed, that this fixed Salt was render'd volatile; but he was not aware, that Alum, according to the vulgar Method, was prepared by an Addition of human Urine, and that his volatile Salt had no other Original; for when volatile Salt is fixed by the Acid of Alum, and there is afterwards an Acceſſion of alcaline Salt, it is again ſet at Liberty, in the ſame manner as it happens with Sal Ammoniac. Wherefore if the ſame Experiment be try'd upon Alum, which has not been mix'd with human Urine, but Pot-aſh in the Boiling, neither Salt nor volatile Spirit will manifeſt themſelves.

In the laſt Place, I think it proper to adviſe, that the Salt called *Epſom Salt*, which in great Quantities is exported from *England* to many other Countries, and is really a very elegant and ſafe Cathartic, may be prepared of Alum and common Salt. Now whoever undertakes to prepare this Salt from crude Alum, and common Salt, ſuch as it is ſold in the Shops, will come ſhort of his Aim; but whoever tries the Experiment with a Solution of the mineral Earth of Alum, and the Lixivium which remains in the Boiling of common Salt, and proceeds in a right Method, will hardly fail of accompliſhing his Deſire. *Hoffman. Obſerv. Phyſico-Chym. Lib.* 3. *Obſ.* 8.

The way of making ALUM in *Italy* is contain'd in the following Extract, from the Hiſtory of the Royal Academy of Sciences:

M. *Geoffroy* had an exact Information, in *Italy*, of the way of making Roch-Alum at the Alum-Works of *Civita Vecchia*. Near that City are Quarries of a greyiſh or reddiſh Stone, pretty hard, like the Travertin. They calcine it in Kilns, and then boil the Calx in Water over a great Fire. The Water takes out all the Salt that is in the Alum, there ſeparates from it a uſeleſs Earth; and, at laſt, the Water is left to cool, impregnated with a Salt, which, for ſeveral Days together, ſhoots into Cryſtals, like Tartar, about the Caſks, and makes what we call *Roch-Alum*.

Alum is alſo made at the *Solfatara*, near *Puzzoli*, in the Kingdom of *Naples*. The *Solfatara* was formerly a burning Mountain, of which there remains nothing but the Ruins, and a Circle of Rocks, which are of a yellowiſh White, dry, half-burnt, and calcined; from which, in ſeveral Places, there iſſues forth a very thick Smoke. The Natives have it by Tradition, That the Earth, which was between theſe Rocks, and made the Top of the Mountain, ſunk down to a certain Height. After mounting theſe burning Rocks, you deſcend into a little hollow Plain, which muſt have been the Top. It is nearly oval, being one thouſand two hundred forty ſix Feet in Length, where it is longeſt, and a thouſand Feet in Breadth. The Earth of this Plain is a yellow and white Subſtance, all ſaline, and ſo hot, that in ſome Places you cannot ſuffer your Hand long upon it. In Summer the Surface of this Earth is ſpread with a ſaline Flour or Duſt, which they need only to ſweep together, and then ſhovel it into the Ditches, which are full of Water at the Bottom of the Plain; after which, to evaporate the Water, which is impregnated with Salt, and depurated from Earth, they want no other Fire than what burns under the Mountain. The Water is put into large Kettles ſunk in the Ground, which is their only Method. This Alum does not bear ſo great a Price as that of *Civita Vecchia*. They make alſo Sulphur at the *Solfatara*, whence the Place too has its Name.

It appears by all the Preparations of Alum, that the ſame Mine which produces it, produces alſo, or might produce, Sulphur, Nitre, and Vitriol; and perhaps theſe different Minerals are no other at Bottom, than the ſame Principle diſguiſed in theſe four Salts, according as it is mixed by Nature with other Subſtances, or undergoes Operations by Man. M. *Geoffroy* thinks he has Reaſon to conclude, that the Alum of *England* and *Sweden* participates more of Vitriol, and the *Italian* of Sea-ſalt; which Conſideration might occaſion a Variation in ſome nice Operations, and change the Effect of ſome Remedies, which require an extraordinary Preciſeneſs. *Hiſt. de l'Acad. Roy. des Scien.* 1702.

Alum, when united with ſulphureous Subſtances of many ſorts, has a very remarkable Quality of taking Fire itſelf, and communicating it to all inflammable Subſtances, by only being expoſed to the Air. This Diſcovery was made by M. *Homberg*, and farther examin'd by the Gentlemen of the Royal Academy of Sciences, the Particulars of which are contained in the following Papers:

Take four Ounces of Excrement, newly voided, and mix with it the like Weight of Roch-Alum, groſly pounded: Put the Whole into a little iron Pan, which will hold about a Pint of Water, and ſet it in a Chimney over a ſmall Fire of Coals; the Mixture will melt, and become as liquid as Water. Let it boil over a ſmall Fire, and keep ſtirring it with an iron Spatula: Continue this Fire till the Matter be dry: It will grow difficult at laſt to be ſtirr'd, but you muſt continue to roaſt it in the Pan, always ſtirring it, and breaking of it into ſmall Bits, and ſcraping off with the Spatula whatever ſticks to the Bottom and Sides of the Pan, till it be perfectly dry. You muſt, from time to time, take the Pan off the Fire, that it may not grow red-hot; and alſo remove the Matter from the Fire, to prevent its ſticking in too great Quantities to the Pan. When the Matter is become perfectly dry, and in ſmall Crumbs, you muſt let it cool, and then pound it ſmall in a Mortar of Metal. After this, you muſt put it again in the Pan over the Fire, continually ſtirring it. It will ſtill contract a little Humidity, and gather into Clots, which you muſt continue to roaſt, ſtill breaking them as before, till they are perfectly dry; let them cool; then pound them to fine Powder, which muſt be put in the Pan the third Time, and placed over the Fire, and roaſted till perfectly dry. This done, pound it over again to a very fine Powder, which put up in a Paper, to be kept in a dry Place. And this is the firſt or preparatory Operation.

Take two or three Drams of this Powder, and put it into a ſmall Matraſs, whoſe Belly is capable of containing an Ounce, or an Ounce and half, of Water, and whoſe Neck is ſix or ſeven Inches in Length: Order it ſo, that the Powder may take up no more than about one third of the Matraſs; cloſe the Neck of the Matraſs very ſlightly with a Stopple of Paper; then take a Crucible four or five Fingers Breadth in Height, and in the Bottom thereof put three or four Spoonfuls of Sand: Upon this Sand place the Matraſs in the Middle of the Crucible; that is to ſay, ſo as not to touch the Sides. After this, fill up the Crucible with Sand, that the Belly of the Matraſs may be bury'd in it. This done, place the Crucible with the Matraſs in the Midſt of a ſmall earthen Stove, which has the Opening at the Top of about ten Inches wide, and is in Depth to the Grate ſix Inches. Put live Coals all round the Crucible, to half its Height, for the Space of half an Hour; then lay on more Coals, till they reach the Brim of the Crucible. Keep the ſame Fire for a good Half-hour, or till you ſee the Inſide of the Matraſs begin to be red; then augment the Fire by heaping Coals above the Brims of the Crucible, and keep this great Fire for the Space of a full Hour, after which let it alone to go out.

In the Beginning of this laſt Operation there will come thick Fumes through the Neck of the Matraſs, acroſs paper Stopple. Theſe Fumes ſometimes come in ſo Abundance, as to throw off the Stopple, which replaced, and the Fire diminiſhed. Theſe Fumes ceaſe the Inſide of the Matraſs begins to grow red; then is the to increaſe the Fire, without being apprehenſive of Operation.

When the Crucible is cold enough to be taken out Stove without fear of burning the Hand, the Matraſs lifted out of the Sand as far as the Middle of its Belly, to cool for about half a Quarter of an Hour; then it taken quite out, and reſted a Moment on the Sand. you are not in Haſte, or if the Operation be performed Winter, it would be better to let the Matraſs grow in the Crucible before you take it out. 'Tis adviſeable at the ſame time, to put a Cork in the Neck of the inſtead of the paper Stopple, to prevent as much as Ingreſs of the Air into the Matraſs.

If the Matter, which is at the Bottom of the Matraſs, to Powder in the ſtirring, 'tis a Sign that the Operation perform'd; if it form a Cake, which will not Powder at the ſhaking of the Matraſs, it ſhews that the der was not roaſted and dry'd enough, in the iron Pan, the preparatory Operation.

Having ſucceſsfully gone through the Operations, having got your Matter in Powder in the Matraſs, little of it, about the Quantity of a ſmall Pea, upon Paper, and quickly ſtop the Bottle again. In a Moment the Powder has been upon the Paper, it will begin to and at the ſame time to kindle, and will ſet Fire to the or any other combuſtible Subſtance.

If you happen to pour too much Powder out of the you muſt not put it back, tho' it be not yet kindled; would be ſure to ſet Fire to all the Powder in the Hence it appears, that there is no pouring of it Matraſs into another Vial, but it muſt always remain ſame Veſſel where it was calcined.

This Powder is of different Colours, ſometimes brown, red, green, yellow, and even white, according Veſſel in which the preparatory Operation is made, according to the Degrees of Fire given it under the rations. If you mix too much or too little Alum Excrement, the Powder will not kindle.

It kindles in the Day, as well as in the Night, ting one to the Trouble of rubbing, chafing, or even it with any other combuſtible Matter; and in this different from all the other factitious Phoſphori as yet to us; for that made of Urine ſtands in Need of a gree of Heat in order to make it ſhine or kindle. ragdine Phoſphorus* requires a great deal of Heat before produce its Effect. The *Bolognian*, and the *Baldwinus*, only ſhine during the Day, but produce in the Night. The diſtill'd Oils of Cinnamon, Cloves, ſafras, and ſome others, do not kindle without Fire, they be mixed with well rectified Spirit of Nitre. phorus deſcrib'd by me in the Memoirs of the Academy Year 1693. does not become luminous till briſkly ſtruck with ſome hard Body.

I have only yet made this Powder of Ordure or But I am perſuaded it may alſo be made of Urine; believe, that Urine, treated in this Manner, will yield Quantity of its Phoſphorus, than when manag'd in the mon way; and that its *Caput Mortuum*, even after the lation of the Phoſphorus, will yield this Powder.

I have made three different kinds of it. The firſt ſets combuſtible Subſtances, without appearing to be kindled The ſecond not only kindles them, but burns itſelf like And the third, at the ſame time that it kindles other ble Subſtances, flames itſelf like a Wax-candle, according has had more or leſs Fire in its Preparation, or more Alum in its Compoſition.

In order to preſerve this Powder good for any time, it is neceſſary to keep it in a dry, well-air'd have the Bottle well-cork'd, with its Mouth always and to cover it with Paper, or ſome other Subſtance; alſo proper it ſhould be lodg'd in a dark Place, becauſe Light ſpoils it as much as the Humidity of the Air, ſo ſoon.

In order to have a tolerable Idea of the preciſe which this Powder kindles, 'tis neceſſary to remember, a Subſtance ſtrongly calcin'd by the Fire, and that by cination it has loſt all its aqueous Part, and the greateſt its Oil and volatile Salts. By this means it has acquir'd many large Pores, which the volatile Matter driven out Fire have left empty; ſo that the Powder which Calcination, conſiſts only of a ſpungy Contexture of Matter, which has retained all its fixed Salt, and a little fœtid Oil; but the empty Pores retain for ſome of the Flame which enter'd them during the Calcination, in the ſame Manner with quick Lime.

this is the Caſe, we muſt conſider, that the fixed Salt abounds in this Powder, quickly abſorbs, as it common- s, the Humidity of the Air that comes into Contact t. This ſudden Ruſhing of the humid Air into the Pores Powder, occaſions a Friction capable of producing a lit- t, which, being join'd to the Parts of the Flame retain'd ſame Pores, generates a Heat ſufficient to ſet on Fire the Quantity of inflammable Oil which had eſcap'd the Ri- f the Calcination, and which is a Part of the Powder.

Proof of this it may be alledg'd, that when this Pow- ept in a Veſſel that is not cloſely ſtopt, it abſorbs ſlowly, Degrees the Humidity of the Air that reaches it, which ing able to produce a Friction ſufficient to generate a Heat, ſpoils the Powder, ſo that it will kindle no juſt like quick Lime when expoſed to the Air for ſome etains its Heat no longer, becauſe it has by little and bſorbed too ſmall a Quantity of Humidity at a time, ducing a Friction capable of exciting Heat.

k Lime, which contains Particles of Fire, as well as wder, does not produce Heat by the Humidity of the ne, as our Powder does, but it muſt be moiſtened by g Water on it before it has the ſame Degree of Heat. eaſon of this is, becauſe the Lime does not, like our , contain a Salt capable of abſorbing a great deal of Air at a time, the violent Ruſhing in of which might Heat; but Water, when thrown upon it, ruſhes into nly enough to produce the ſame Effect.

the Reaſon why quick Lime does not, like our Pow- duce a Flame, tho' it contracts as great a Heat, is, be- quick Lime there is no oily Matter capable of being by the Heat excited, as there is in our Powder; but l be artificially mix'd with quick Lime, it kindles in the anner.

aid before, that a free Light ſpoils this Powder, tho' in a glaſs Veſſel well ſtopt. The Reaſon of this is, Friction produced by the Ruſhing in of the Humidity ir, is not the only Cauſe of a Heat capable of kindle- Oil contain'd in our Powder: The Particles of Fire has retained in its Pores, contribute alſo ſomething to ct: And as in the Day-time when the Matter of the ways in great Motion perpetually ſtrikes the Powder the Glaſs, it diſengages by little and little that Fire d been lodg'd in it during Calcination; and diminiſhes ch, that at laſt there remains no more of it to join produced by the Friction of the Air's Humidity, and quently render'd incapable of kindling. *Mr. Hom- em. de l'Acad. Roy. des Sciences, Ann.* 1711.

unt of different Subſtances, which, join'd with Alum, make a Phoſphorus. By M. Lemery.

omberg having given us, in the Memoires of 1711, a ion of a new Phoſphorus, made with Alum and Ordure, which being expoſed to the Air ſhone as well as by Night, and ſet on Fire every combuſtible Mat- came near it, and needed not to be rubb'd or chafed t is made of Urine by Diſtillation, it put me upon g whether there were no other ſulphureous Matters f producing the ſame Effects in Conjunction with Alum.

rſt Operation was upon Urine, whence, I thought, to Mr. *Homberg*'s Opinion, the greateſt Quantity of us could be extracted by a well known Method. I d then a good Quantity of Urine to the Conſiſtence Honey: Of this I took four Ounces, which I mix'd like Weight of Roch-Alum pulveriſed in an Iron Pan all Fire, to conſume the Humidity, continually ſtir- breaking it till it was perfectly dry; and when it was educed it to Powder, and kept it in a dry Place.

this I put it in a ſmall Matraſs, of which it took up rt, and ſtopped the Neck with a Stopple of Paper. ok a Crucible, of the Depth of four or five Fingers, ttom of which I put a little Sand, and placed the upon it, and ſurrounded the reſt of the Matraſs with This done, I placed the Crucible in a little Stove, and ire about it of one Degree of Heat for half an Hour. e Veſſel was hot, I augmented the Fire till the Mat- ed, which took up about an Hour and a Quarter. t the Fire go out, and ſtopped the Bottle very well rk, taking care however to let it cool by Degrees uite cloſed it, leſt the Veſſel ſhould burſt, which in- happen'd, when having ſtopped my Matraſs too rarefy'd Vapour which continu'd to aſcend from the inding no Vent by the Neck, burſt a Hole in the f the Matraſs, and moreover deſtroy'd in a manner of the Veſſel, which being pretty thin, the ſooner to the Efforts of the Vapour.

he Matter was cool enough, I poured it upon a d it neither burn'd nor ſo much as heated it. It was Colour.

The ſame Proceſs ſerv'd for all the other Subſtances I try'd afterwards. Blood with an equal Quantity of Alum made a Phoſphorus that kindled pretty quick.

The Yolk of an Egg, manag'd in the ſame manner, made a very good Phoſphorus, but the White did nothing at all.

Cantharides, and Earth-worms, did not ſucceed very well.

Beef, Mutton, Veal, chopp'd and pounded long enough to make them paſs through a Sieve, and mix'd with an equal Quantity of Alum, produced a Phoſphorus like that of Blood.

Among animal Subſtances, Urine, and the White of an Egg, being the only ones that would not ſerve for a Phoſphorus with an equal Quantity of Alum, I try'd what double the Quantity of Alum would do, but without Succeſs.

Afterwards I made Trials whether thoſe Phoſphori, which had ſucceeded with an equal Quantity of Alum, would ſucceed with double the ſame; in which Procedure Blood, the Yolk of an Egg, the ſeveral ſorts of Fleſh before-mentioned, Flies, and Worms, made a Phoſphorus, which ſeemed to me to kindle quicker than when I uſed an equal Quantity of Alum: This gave me the Curioſity to augment by Degrees the Quantity of Alum.

I obſerv'd, that ſix Parts of Alum to one Part of the ſulphureous Subſtances before-mention'd made a Phoſphorus that burnt more briſkly than thoſe of the preceding Trials. Seven Parts of Alum did as well as ſix; but eight had ſcarce any Strength at all, and would not kindle but when it was hot, and juſt taken out of the Fire; and two or three Hours after it was made, would do nothing at all; whereas the others kept their Virtues above eight Days, provided they were well ſtopped.

Ten Parts of Alum to one of thoſe ſulphureous Subſtances never made any Phoſphorus: Urine, and the White of an Egg, never ſucceeded with any Proportions of Alum which produc'd Phoſphorus with other Matters.

From Animals I paſs'd to Vegetables, and began with Seeds. The Flour of Wheat, Barley, and Rye, would not kindle with equal Quantities of Alum, as did the animal Subſtances; but from double to ſeven times the Quantity of Alum, the Phoſphorus kindled better and better, and burnt almoſt as well as that made of Blood, or the Yolk of an Egg.

Honey likewiſe did nothing with an equal Quantity, but ſucceeded very well with ſix Parts of Alum.

The Leaves of Roſemary, Baum, and Senna, made a Phoſphorus with two, three, and four Parts of Alum, but did nothing with five or ſix; but their Phoſphorus did not hold long, and had no good Effect, but when it was a little hot: That of Senna ſeemed ſtronger than the others.

Flowers with three and four Parts of Alum kindled well, eſpecially Roſes.

Woods of Saſſafras and Guaiacum afforded a Phoſphorus: But it muſt be obſerved, that in order to extract one from theſe Woods, the Fire muſt not be ſo great as for other Subſtances; without this Precaution you will obtain nothing.

The Roots of Orris and Rhubarb did not kindle well but with two or three Parts of Alum, and ſucceeded not with more.

As the Phoſphorus is made by means of the oily Subſtance contained in thoſe Bodies, I imagin'd that the Oils ſeparated from the other Principles, might, as well as the other Subſtances above-mentioned, make a Phoſphorus. But I found a great Difference, for they produced nothing with an equal, double, or triple Quantity of Alum; and though, by gradually increaſing, five Parts of Alum to one of theſe Oils afforded a Phoſphorus, yet it was very languid in Compariſon of one extracted from Animals and Seeds. What was particular, they kindled with ten Parts of Alum, which other Matters would not do. 'Tis true, ten Parts of Alum to one did not make ſo good a Phoſphorus as five to one. The Oils I made uſe of were thoſe of ſweet Almonds, Olives, Guaiacum, and Hartſhorn; of theſe the two laſt did beſt.

After this I diverted my Operations to Minerals and Metals, as Iron, common Sulphur, Antimony, golden Sulphur of Antimony, and ſome others. I mix'd them with different Proportions of Alum, but not one of them produced any Flame, nor ſo much as Heat; whence it appears, that to make ſuch a Phoſphorus as M. *Homberg*'s, we muſt have recourſe to animal and vegetable Subſtances.

I ſhall next examine, whether any other Salt may be ſubſtituted inſtead of Alum, in order to make this Phoſphorus.

By the different Analyſis of Salts that are known to us, it appears, that the Acid of Vitriol, common Sulphur, and Alum, are of the ſame Nature, I had therefore a Mind to try if one of theſe might not be ſubſtituted for the other. And as M. *Homberg* had obſerved, that he had rare Succeſs with Colcothar, I fancy'd that Vitriol, which is much more pregnant with Acids, might have more Effect: I uſed it then after the ſame manner as I did Alum, but to no Purpoſe; I could never make any thing even of Colcothar, whatever Trials I made. Perhaps I was wanting in ſome Circumſtances, having ſeveral times experienc'd, that the Succeſs of ſome Operations which I made on Vegetables, often depended either upon a little Variation of the Fire, or the Quantity of Alum.

I next try'd Salt of Sulphur, which is known to be an artificial Salt, compounded of the Acid of Sulphur, incorporated into the Pores of Salt of Tartar, but with the ſame Succeſs. Sea-ſalt, Cryſtals of Tartar, Borax, vitriolated Tartar, and Salt of Tartar, mix'd in different Proportions with theſe Subſtances, had no Effect.

Saltpetre in our Operation did as it uſes to do when mix'd with other oily Subſtances; that is, when the Matter has been warmed, it flew out of the Matraſs with a great Noiſe and Detonation, and conſequently no Phoſphorus was to be made of it: But if to a Phoſphorus made with Alum, and juſt on the Point of kindling, you add Saltpetre well dry'd, at the rate of two Drams to half an Ounce of Matter, which you may mix together very well in the Matraſs; after it is cloſe ſtopped, you will find, that being pour'd upon Paper, the Phoſphorus will burn with much greater Strength, than it did before it was mix'd with the Sulphur.

Laſtly, I was willing to ſee if Acids, diſengag'd from their earthy or metallic Parts, as they actually are in Spirits of Nitre, of Salt, and of Vitriol, would ſucceed better than the concreted Salts from whence theſe Spirits were extracted; but all theſe, together with the Spirit of Alum itſelf, had no better Succeſs than the Salts before-mention'd. *Memoires de l'Acad. Roy. des Scienc.* 1714.

Though a vaſt Variety of oily Subſtances are proper to enter the Compoſition of M. *Homberg*'s Phoſphorus, yet no other acid Mineral is neceſſary to be join'd, than what that Gentleman only uſed, which is Alum. We ſhall give a general Idea of this Phoſphorus, which is of ſuch a Nature, as at all Times, and without any Aſſiſtance, to be kindled by Air alone. For the better underſtanding how this is to be effected, we ſhall make uſe of two known Phoſphori. The firſt which has not the Name, and but imperfectly the Nature, is Lime: It is full of an Infinity of fiery Particles, introduc'd by Calcination, and impriſon'd in an Infinity of little Cells. This Matter, being extremely dry, greedily receives the Water poured on it; and the Water impetuouſly penetrating and opening the Priſons of theſe Particles of Fire, frees them, and ſo cauſes an Effervеſcence, and a very ſenſible Heat, over all the Subſtance of the Lime. This Water kindles this kind of Phoſphorus, not by itſelf, but by the Liberty of Action which it procures to the Particles of Fire.

The ſecond Phoſphorus is the eſſential Oils of *Indian* aromatic Plants, which kindle into a Flame as ſoon as you pour on them acid Spirits well dephlegmated.

In theſe two Phoſphori the Water does not act immediately of itſelf. In the firſt we have already prov'd it; in the ſecond, the Acids alone act on the Oil, which is almoſt entirely void of them; and the Phlegm or Water, in which theſe Acids ſwim, is no more than their Vehicle. This ſecond Phoſphorus only burns, becauſe there is nothing but Sulphurs or Oils that will burn, of which there are none in the Lime; and Oils themſelves will not burn, but when they are animated by ſome Acid. Common Sulphur wholly depriv'd of it would not burn. We are certain then, that an oily Matter, whoſe Acids are ſeparated from it, will be ſet on Flame, as ſoon as Acids of a good Degree of Purity ſhall come upon it, ſo as to penetrate it with Violence.

But if you would have the Matter be kindled by the Air only, the Air will not furniſh the neceſſary Acids; for it either contains them not, or not in a Body ſtrong enough for the Purpoſe. The Acids then muſt be contained in the oily Matter of the Phoſphorus, but in ſuch a manner, as not to be intimately united with it, but only, as it were, mixed with it by ſmall ſeparate Parcels, ſo as to want a more perfect Union.

For this End the Acids muſt be for the preſent ſhut up in their little Cells, but in ſo looſe a manner, that the leaſt Shock will diſlodge them, and make way for their ſudden Irruption into the oily Matter, and Penetration into its moſt intimate Parts. To this Purpoſe the Air will be ſufficient, not of itſelf, but by the aqueous Humidity it contains, that is, by the very ſmall Parcels of Water, which, by diſſolving the Acids that are proportion'd to them, put them on Action. This ſubtle and inviſible Water works the ſame Effect in this Phoſphorus, that the groſs and common Water did in the two others of which we have ſpoken; for beſides putting the Acids in Action, it alſo diſengages the Particles of Fire which the new Phoſphorus requires in the Operation.

Here you have the Syſtem of this Phoſphorus: It is no eaſy Matter to prove by Ratiocination, that ſuch a thing is poſſible to be effected; but as we know by Experience, that it is actually ſo, theſe are probably the Principles of its Formation.

Hence we ſee of what a delicate Nature it is, and how the Circumſtances on which it depends ought to be juſt, and the Quantities of Ingredients nicely proportion'd: For Example, that the oily Matter, which muſt be deprived of its Acids, and the concrete Salt, which is to ſupply the Acids, might be calcined together, there is nothing but Alum which can be concrete Salt, which in ſpite of Calcination preſerves a Qua tity of Acids neceſſary for the Effects of a Phoſphorus, alſo keeps them as looſely confined in their Cells, as the Ma ter requires. This depends almoſt upon an indiviſible Poi The oily Matter having loſt its Acids, which were carry'd by the Fire of the Calcination, there remain their forſa Cells, and it is the Alcali which abſorbs the new ſuperve Acids: Wherefore, that there might be a ſufficient Supply fill theſe Cells, and to penetrate the oily Subſtance, it is nece ſary that the Quantity of Alum be exactly proportion'd to particular Nature of the oily Matter. The more Alcali fixed Salts remain after Calcination, the greater is to be Quantity of Alum; for which Reaſon animal Oils, w have leſs fixed Salt than Vegetables, need a leſs Quantity Alum. *Hiſt. de l'Acad. Roy. des Scienc.* 1715.

M. *Boulduc*, reſolving to make an Examen of *Ebſom* was immediately inclined to think, by ſome Marks, and cially the Swelling of that Salt, when it is begun to be led, in which it altogether reſembles calcined Alum, participated much of an aluminous Nature; to diſcover w he made continual Operations upon Alum combined other different ſaline Subſtances. What ſucceeded beſ Salt of Tartar, or Oil of Tartar *per Deliquium*.

Alum is an acid Spirit, which is impregnated in the B of the Earth with earthy and alcaline Particles, enough to it a concrete Salt. Now Salt of Tartar, pour'd on a S of Alum, being a more powerful Alcali than the earthy ter united with the Acid of Alum, forces them to ſe and the Earth of the Alum precipitates, and there is Union of the Acid of Alum, with the Alcali of T whence reſults a new concrete Salt, entirely diveſted earthy Matter.

After M. *Boulduc* had made ſeveral Trials, and giv Salt all the Perfection he was able to do, he found it reſpects reſembling that of *Ebſom*, only not quite ſo but the Difference was too inconſiderable to be regarded this Salt of M. *Boulduc* had the Advantage of being di of its earthy Part, which the other wanted; for when with the Oil of Tartar, it precipitated a white and earthy M like what was precipitated from Alum after the like M and even ſomewhat more in Quantity. M. *Boulduc*, thought himſelf the Inventor of this Preparation of Alu Salt of Tartar, found it afterwards in *Hartman*. *H l'Acad. Roy. des Scien.* 1718.

M. Geoffroy diſcover'd, that the Baſis of Alum was Earth diſſolv'd by an Acid.

Boles are a ſort of fat, ſoft, brittle Earth. The Pipes in *Holland* which are made of theſe ſorts of Ear the Fragments of our common Pottery-ware, which good deal of Acid, becauſe the Fire which bak'd them, their Pores, afforded true Cryſtals of Alum: And it is obſervable, that theſe Pipes, at the End of two Year forth fine Threads like thoſe of plumoſe Alum, whi and vegetated in the Air. *Hiſtoire de l'Academ. Ro Sciences*, 1728.

M. *Geoffroy*, before quoted, ſays, That

Beſides thoſe Mines which contain Sulphur, Vitri Alum, there are ſome purely of Alum. They w hitherto written upon that Salt, have told us, that which coagulates the vitriolic Acid, is a white Earth fiable, and of the ſame Nature as Chalk.

I have prov'd by Experiments, ſays he, that this dispersed and mixed in very many Subſtances, and eſpe Boles and Clays that are bak'd, ſince they have all affo with the Acid of Sulphur, or the Acid of Vitriol, [Alum] which I had a Mind to imitate: It is no lo priſing then, that there ſhould be Glaſs which produc ſince it incloſed Matter capable of forming it, as ſoo vitriolic Acid ſhould have Strength to make its Way the Laminæ of the Glaſs, where that Earth was l order to join it.

My Experiment for producing Alum, that beſt ſu was thus managed: I took ſome of our common Po ſels that were not varniſhed, but porous and brittle, kled them with Spirit of Sulphur, and they imbib'd perfectly than Earths not baked, becauſe their Pores open. They fermented ſlightly with this Spirit, whi Digeſtion became mucilaginous; and that Mucilag expoſed to the Air, produced Cryſtals of Alum, creaſed by Degrees, and took the moſt exact Figure poſſible for that Salt to have. *Memoires de l'Acad. Ro* 1728.

The factitious Alum is diſtinguiſhed only by the where it is made, into a great many different kinds; in large Maſſes, like Rocks, it is termed Rock or Ro and if it looks like the Fragments of Ice, it is terme or Icy-Alum. Factitious Alum was entirely unkno Antients, but with us is the only kind in Uſe; fo know very little of the natural kinds, which were fo

. M. *Tournefort* found two Species of natural Alum
ſland *Milos*, or *Milo*; one was in *Strata*, or *Cruſts*,
ringent Taſte, and an Aſh-colour, covered with ſome
ary Efflореſcences, which ſmelled like *Aqua fortis*, but
r ſo ſtrongly: The other was the capillaceous or fila-
kind, or true *Alumen Plumoſum*; it was in ſmall
of the Thickneſs and Length of a Man's Finger, and
by beginning at the Ends, be eaſily divided into ſmall
Filaments, reſembling a Tuft, or Pencil; it was
n Water, and melted in the Fire, and of an aſtringent
Even in *Dioſcorides*'s Time, this Alum ſeems to be
ded with the *Lapis Amiantus*; for that Author, talking
ciſſile-Alum, obſerves, that there was a Stone very like
that the way to diſtinguiſh them was by the aſtrin-
ſte of the Alum, which the Stone had not: And he
ave added, That it could not be melted by Fire, nor
l in Water. The Hiſtory of Medicines being after-
uite loſt in the Ages of Ignorance and Darkneſs, the
f the Salt was given to the Stone, and from thence it
it is ſtill found thus miſtaken in ſome Diſpenſatories.
is a ſtrong, aſtringent, acid Drier: The native Alum
little like Aqua fortis, but the factitious has little or
l; when thrown upon live Coals, it riſes in Bubbles,
ts in Water. The Cryſtals of Alum have eight Sides,
ting an hexagonal Pyramid, with the Angles cut off,
are bounded by four hexagonal and four triangular Sur-
A Solution of Alum coagulates Milk, turns the Tinc-
Heliotropium purple, makes no Alteration in the Solu-
corroſive Sublimate, turns the Infuſion of Galls turbid
tiſh; with Salt of Tartar it concretes into a white
m, without any ſenſible Heat or Smoak; and often
ixing this Solution with Oil of Tartar, an urinous
perceived; but this happens only when the Alum has
rified with Urine, as in the *Engliſh* Alum; but there
h Smell in the *Roman*.
luxes of Blood Alum may be uſed inwardly, in the fol-
manner:

Rock-Alum, a Dram; Plantane, and Knot-graſs
ater, of each three Ounces: Add to the Solution,
up of White-thorn, an Ounce: For a Julep, to be
en by Spoonfuls. Or,

of pure Rock-Alum, two Ounces: Melt it over the
re, adding, in the mean time, of the fineſt Powder of
agon's-blood, half an Ounce; and make this Mixture,
ore it grows hard, into Pills as big as a ſmall Pea. The
ſe is from a Scruple to a Dram, every four Hours,
the Flux is ſtopped, and then once or twice a Day
ſome Days afterwards. After every Doſe, the Patient
ght to drink a large Draught of ſome proper Liquor;
t great Care is to be taken not to ſtop the Flux unſea-
ably, and therefore Bleeding ought to go both before
d after it; and Clyſters ought likewiſe to be admini-
red, from time to time, to prevent Coſtiveneſs, which
mmonly follows on taking this Medicine. *Geoffroy*.

thing different from this, in the Proportion of the
ents, is that Pulvis Stypticus mention'd by Dr. *Alexander*
on, of *Montroſe*, in the following Diſſertation:
onius Largus, the *Roman* Empiric, made uſe of ſim-
m in the Evacuations of the Sex exceeding their due
; and I have been told by Ladies, that it has very good

etius improved on this, by adding Sanguis Draconis,
r as a Larva, to make it his own, or to prevent the
neſs of the Stomach, which he might ſuſpect the Alum
ive, I can't determine: But Dr. *Pitcairn*, whoſe Me-
uſt continue as long as Phyſic is known, was the firſt
troduced the Uſe of it into this Country; at leaſt, it
who firſt deſired me to make Experience of it in a Caſe
had reſiſted a great many other Medicines. Its Repu-
kept up many Years, under the Name of Pulvis Hel-
s an Aſtringent, eſpecially in uterine Hæmorrhages;
ſee it inſerted in the *Edinburgh* Pharmacopœia,
Name of Pulvis Stypticus, tho' in ſome different
ion, and different Manner of preparing, from what
commonly uſed. The Diſpenſary Powder being pre-
f a double Quantity of Alum to one of the Gum,
e into a Powder, without being put near to the Fire,
what I have uſed was equal Parts of both, the Alum
irſt melted in a Crucible, and the Powder of the San-
aconis added to it, and then powdered together in a
, poſſibly the Difference of their Effects may, notwith-
g, be very little.
Uſe of both, I think, is now much laid aſide, which
t but regret, ſince I never found any Medicine (and
tried ſeveral) ſo much to be depended on in all the ute-
. I.

rine Hæmorrhages, whether to correct the too frequent Return of the Menſes, or their too great Abundance; to ſtop the Flooding which Women with Child are ſo ſubject to, or to moderate the Flow of too plentiful Lochia. I have tried it in ſo many Caſes with Succeſs, that it would be altogether tedious to give you their Hiſtories.

The Quantity I give of the Pulv. Helvetii is more or leſs according to the Exigencies of the Patient. In violent Bloodings I give half a Dram every half Hour, and ſeldom or never miſs to ſtop it before three Drams, or half an Ounce, is taken.

The Succeſs of this Medicine, in theſe bloody Evacuations, has encouraged me to preſcribe it alſo in the Fluor Albus, that obſtinate, pernicious Diſeaſe of the Sex, in which I have been ſurpriſed at its good Effects. *Edinburgh Medical Eſſays, Vol.* 4. *p.* 38.

When it is proper to prevent or check a beginning Defluxion in a Quinſy, Gargles may be made with Alum, in this manner:

> Take Red-roſe Leaves, and Alum in Cryſtals, of each a Dram: Boil them in eight Ounces of Plantane Water; and in the ſtrained Liquor diſſolve an Ounce of Syrup of Mulberries, for a Gargle.

In Inflammations of the Eyes, the following Collyrium is excellent:

> Let the White of an Egg be ſhaken or beat with a Piece of Alum, till it acquires the Conſiſtence of an Ointment: Spread this upon a Linen Rag, and lay it warm to the Eyes.

Riverius orders this Collyrium to be taken off after two Hours, leſt it ſhould by its Aſtringency ſo far contract the Veſſels, as to fix the obſtructed Fluids in them. Some Phyſicians are of Opinion, that repellent and aſtringent Collyriums ſhould not be applied to inflamed Eyes immediately after the Inflammation appears, leſt the Fluids ſtill in Motion ſhould be fixed in the affected Part, and thereby the Obſtruction be increaſed; but except the Motion of the Fluids toward the inflamed Part be very violent, this Precaution is unneceſſary; and, on the contrary, by increaſing the Strength and Contraction of the Veſſels, theſe Applications enable them to reſiſt the Force of the Fluids, whilſt at the ſame time other proper Means are to be uſed to divert their Courſe another Way, ſuch as Bleeding, Bliſtering, Purging, Cupping, and the like: Beſides, if we ſtay till the Quantity of the obſtructed Fluid is very much increaſed, it is in vain to think of applying Aſtringents, which would ſerve only to condenſe them more, and prevent their being reſolved. In ſcorbutic Diſorders of the Gums, the following Waſh is very proper:

> Take of Camphire, an Ounce; Cryſtal-Alum, two Ounces; Sugar-candy, four Ounces; *French* Brandy, a Quart: Let them ſtand in a quiet Place for two Days, and then ſtrain off the Liquor, and keep it for Uſe.

Alum is by ſome reckoned a great Specific in intermitting Fevers, when prepared in this manner:

> Firſt calcine it in an open Fire; and while it is ſtill hot, throw it into Vinegar, and let it diſſolve; evaporate the Solution, and beautiful Cryſtals will be formed. It is to be taken from a Scruple to a Dram, in a proper Vehicle, before the Fit.

The uſual Preparations of Alum are, Purification, Diſtillation, and Uſtion or Calcination: It is purified by being diſſolved in fair Water, and then by evaporating and cryſtallizing that Solution in the common manner. It is diſtilled like Vitriol, and the firſt thing that comes over is an inſipid Phlegm, then an acid Spirit nearly the ſame with Spirit of Vitriol. What remains in the Retort is a white, light, friable Subſtance, called Burnt-Alum; being Alum deprived of its Phlegm, and ſome Portion of its Acid, and by a new Solution and Evaporation, it will run into Cryſtals, as before Diſtillation. The Phlegm of Alum would be perfectly uſeleſs if pure; but as it contains always ſome Portion of the Acid, and ſome Alum alſo, which ſticks in the Neck of the Retort, it becomes a very uſeful external Application in chirurgical Caſes, for moderating Inflammations, and drying Ulcers. One Dram of Alum diſſolved in ſix Ounces of this Phlegm makes an Alum-water, which is an excellent Detergent for Wounds and Ulcers. The Spirit of Alum is uſed the ſame way as Spirit of Vitriol. Burnt-Alum eats away fungous Fleſh, and is uſefully ſprinkled upon Linen, to abſorb bad Smells ariſing from any Part of the Body. *Geoffroy*.

Alum is thus order'd to be burnt by the College:

Take any Quantity of Alum, put it into a new earthen Pot, and let it burn in it as long as it will bubble up, and raiſe any Steam: When it is cold, keep it for Uſe.

Bates has three Preparations of Alum: The firſt he calls

ALUMEN DULCE, Dulcify'd Alum.

Diſſolve Alum in Water, and coagulate; repeat this three times, that the Alum may be purify'd. This is alſo called Saccharum Aluminis, and is commended in Diſeaſes of the Breaſt, eſpecially if they take their Riſe from mineral and ſubterraneous Exhalations. It gives Eaſe in the Tooth-ach, if applied to the Gums. The Doſe is half a Scruple.

The ſecond is called ALUMEN FEBRIFUGUM, which he takes from *Mynſicht*:

Diſſolve three Ounces of Alum, in one Pint and an half of Carduus-water, ſufficiently ting'd with Dragon's-blood, and ſtrain'd, and then exhale till dry. The Doſe one Scruple before the Fit comes on. It provokes Sweat.

The third he calls ALUMINATUM:

Take Lemon-juice, one Pint; Alum, half an Ounce: Boil and ſkim them. This is of great Service in Redneſs of the Face, and Puſtules, drinking in the mean time the CEREVISIA CATAPSORAS.

ALUNIBUR, *(Luna)* the Moon, or Silver. *Rulandus.*

ALUNSEL, *(Stilla)* a Drop. *Rulandus.*

ALUSAR, Manna. *Rulandus.*

ALUSIA, ἀλυσία, from α Negative, and λύω, to waſh. It ſignifies a Defect, or Neglect of waſhing.

ALUTA. It ſignifies a ſoft thin Leather, us'd to ſpread Plaſters upon. See SCUTOS.

ALVUS, the Belly in general; but the Word is uſed by *Celſus* for the Belly relative to Stools, in much the ſame Senſe that κοιλία, or κοιλίη, is us'd by *Hippocrates*, and the other *Greek* medicinal Writers. Thus *Celſus*, *(Lib. 2. Cap. 41.)* ſpeaking of the bad Symptoms in Fevers, ſays, That when the Belly (*Alvus*) is entirely ſuppreſſed, that is, when there are no Stools, it is a bad Circumſtance; as it is alſo when the Belly is ſo looſe in Fevers, that it will not ſuffer the Patient to reſt in his Bed, provided what is diſcharg'd is very liquid, or white, or pale, or frothy: Moreover it portends Danger, if what is excreted is ſmall, glutinous, ſmooth, white, and paliſh; or if it is livid, or bilious, or bloody, or more than ordinarily offenſive. Thoſe Stools are alſo bad, which after long Fevers are ſincere. See ACRATOS.

The Antients had various cathartic Medicines, and were very attentive to keep the Belly looſe in almoſt every Diſtemper. For this Purpoſe they preſcribed black Hellebore, Polypody of the Oak, (*Filicula*) Squama Æris, called by the *Greeks* λεπὶς χαλκῦ, and the Milk of the Sea-lettuce, which, dropped upon Bread, purges powerfully; or they boiled the Milk of Aſſes, Cows, or Goats, with a little Salt, till it curdled; and then taking away the Curd, preſcrib'd the ſerous Part for a Draught.

But Medicines are generally hurtful to the Stomach, and therefore all Cathartics ought to have a Mixture of Aloes. If the Belly be vehemently looſe, or is too much purg'd, the Body is weaken'd; therefore it is never right to preſcribe Remedies, with that Intent, in any Diſtemper, except it be without a Fever; as when we give black Hellebore to ſuch as are afflicted with black Bile, [*atra Bilis*] or in that Species of Madneſs which is attended with Sorrow, or to thoſe who are paralytic in any Part; but where there is a Fever, and we would have the Belly looſe, it is beſt to preſcribe ſuch Meats and Drinks as are both opening and nouriſhing; and there are ſome Diſeaſes in which purging with Milk is moſt proper.

The beſt Way of procuring Stools, is generally by Clyſters, which *Aſclepiades* cenſur'd, but in ſuch a manner, as not utterly to baniſh them out of Medicine; but in the preſent Age they are much diſuſed. However, it is beſt to uſe the ſame Moderation which that Phyſician ſeems to have followed, and neither to fatigue the Patient by frequent Clyſters, nor to omit giving one, or two at the moſt, when the Caſe ſeems to require it; as when the Head is heavy, in a Dulneſs of the Sight, and in a Diſorder of the great Inteſtine, which the *Greeks* call κῶλον; if there be a Pain in the Belly below the Navel, [*in imo Ventre*] or in the Hip; if there be a Conflux of bilious Juices in the Stomach, or if Phlegm, or any watery Humour, infeſt that Part; if there be a Difficulty of Breathing; if there be no ſpontaneous Motion to ſtool; if the Fœces be nea Outlet, and yet ſtick in the Paſſage; if the Breath of the tient, who is bound, ſmell of the Excrements; if voided be corrupt; if Abſtinence, firſt try'd, has not the Fever; if the Strength will not admit of bleeding convenient, and the proper Time for it is elaps'd; if Patient drank freely before the Diſorder happen'd; if a becomes ſuddenly coſtive, who before was us'd to fre Stools, ſpontaneouſly or accidentally. But this muſt underſtood with theſe Limitations, that we do not admi Clyſter till the third Day; nor whilſt any Crudities nor to a Patient weak or exhauſted by Sickneſs, or whoſe diſcharges freely enough every Day, or whoſe Stools are liquid Conſiſtence. We ſhould alſo beware of giving a in the Violence of a febrile Paroxyſm; for what is then paſſes not through the Belly, but is caſt back, and flies the Head, with much greater Danger to the Patient. nence is to be enjoin'd the Day before, that the Party the fitter to undergo the Operation; and on the ſame ſome Hours before the taking of it, warm Water is drank in order to moiſten the upper Parts; then a Clyſter is injected of pure Water, if a ſlight Medicine will ſerve the or of Mulſa, if ſomething ſtronger be requir'd; for a Le take a Decoction of Fenugreek, Ptiſan, or Mallows; a Repreſſive, a Decoction of Vervain. Sea-water, other impregnated with Salt, is of an acrimonious Qu but its Acrimony is increaſed by an Addition of Oil, Nit even Honey: The more acrimonious it is, the ſtronger Force, but the more difficult to be born. What is i muſt be neither hot nor cold; for either may do hurt. Injection the Patient ought to keep in Bed as much as p and not be too haſty to give way to the firſt Motion, to the Stool when he can no longer contain it. Much this manner are the ſuperior Parts relieved, and the Vi of the Diſeaſe abated, by depriving it of the Matter that ports it: Moreover when the Patient has gone to the S often as Neceſſity requir'd, and is pretty well exhauſted ought to take a little Reſt, and to eat ſomething the Day, that his Strength may not fail him; but whether much is to be indulg'd, is to be regulated according to the or leſs Apprehenſion we are under of the Approach Paroxyſm. *Celſus, Lib. 2. Cap.* 12.

Purging the Belly [*Alvus ducta*] often relaxes the Ri the ſuperior Parts. *Celſus, Lib. 4. Cap.* 3.

Nothing more contributes to the Cure of Deafneſs, bilious State of this Part. *Celſus, Lib. 2. Cap.* 8.

Coſtiveneſs of the Belly for ſeveral Days together, either a ſudden Motion to ſtool, or a ſlight Attack of coming on. *Celſus, Lib. 2. Cap.* 7.

They who are of a looſe Belly in their Youth, are g coſtive in their old Age; and they who are bound in are often looſe when old. A laxer State in Youth, and bound than looſe in old Age, is moſt deſirable. *Celſus, Cap.* 3.

Binders of the Belly are Labour, ſitting in a Chair, clay laid over the Body, Diminution of Food, and eating a Day inſtead of twice, little drinking, and that only full Meal, Reſt after Meals. On the contrary, Things loosen the Belly are walking and eating more than uſu ring after Meat, intermixing Draughts with eating. ought to be obſerved, that a Vomit binds a looſe Be looſens a bound one; and that a Vomit taken immediate Meat binds the Belly, but delay'd till a conſiderable ti looſens the ſame. *Celſus, Lib. 1. Cap.* 3.

The Belly various in its Excretions prognoſticates as when it voids Strigments, (roapy Strings) Blood, green Excrements, ſometimes at different Seaſons, ſo all together, and in a ſort of Mixture, tho' diſtinct under theſe Symptoms Death may not be immediate, however comes on precipitately, when the Excretions are and black, pale, or fat, and exceedingly fœtid. *Celſus, Cap.* 6.

A Whiting [*Aſellus Marinus*] boiled with Dill, ſon'd with a little Oil and Salt, cures all Diſeaſes of the nal Parts, eſpecially of the Belly when infeſted with nious Humours. *Aetius, Tetr. 1. Serm. 2. Cap.* 184.

In Wounds of the Head, a ſpontaneous Excretion Belly portends Death, but the contrary gives Hope of *Caſſii Problem.* 11.

If Conſtipation of the Belly occaſion a Pain in the He it be your principal Care, by a proper Diet, and mild ties, to render it ſoluble. Of theſe there is great Variety among theſe Salt. If Coſtiveneſs be owing to viſc mours, uſe the following Medicine:

Take of Sal Ammoniac, two Drams; of Pepper, phorbium, each a Dram: And give three or four or two or four Drams, in an Egg, or in Ptiſan, Doſe.

the Fault be not in the Viſcoſity of the Humours, make f ſuch Remedies as have Scammony for an Ingredient; ollowing, for Example:

ke of common Salt torrefy'd, three Drams; Pepper, two Drams; Scammony, a Dram. The Doſe is a Cochlearium in an Egg, Bread, or in whatever you pleaſe.

eſe Salts are admirable for opening and purging the Belly, e moſt gentle manner, without Griping or Sickneſs. may ſafely uſe theſe Medicines, and alſo thoſe which have xture of Euphorbium. But if the Belly is too looſe, and ead is in Pain by reaſon of a too great Dryneſs of the , endeavour to reſtrain it by a proper Regimen, and pro- edicines. *Trallianus, Lib.* 1. *Cap.* 11.

ſtiveneſs of the Belly is accompany'd with Heavineſs of Head, Vertigo, a Bitterneſs in the Mouth, with a Diſre- f, and Averſion to, Food. In this Caſe a Clyſter gives diate Relief; for it certainly very much concerns us, he Belly ſhould perform its Office. We meet with ſome at certain Seaſons and Intervals, have the Benefit of neous and copious Evacuations that way, and at the ſame get rid of a Multitude of infeſting Humours, whereby Health is repaired. Others, by a plentiful Diſcharge, by ing of all ſorts of Crudities, have prevented many ening Diſorders. But if theſe Evacuations don't happen ir uſual Seaſons, after they are grown into a Cuſtom ſh'd by Nature, many grievous Diſtempers uſually come ir room. We ought, therefore, by all means, when cuſtomary Excretions fail us, to be provided with the ry Aſſiſtance of Art. The ſame Advice is no leſs proper eſpect to ſtated Hæmorrhages by the Noſe, or Hæmor- l Veins; for if the Blood refrain its uſual Courſe, with- anifeſt Cauſe, either the Paſſages muſt be open'd for it, Redundancy diminiſhed by breathing a Vein, except a great deal of Exerciſe conſumes, or Abſtinence dimi- , the abounding Superfluity: For as too great and immo- Evacuations render the Body weak and cold, and blunt tural Faculties, ſo it is as certain, that the Retention of ught to be eliminated and expell'd, depreſſes, clogs, and s the Mind, and ſupplies Matter for Pains and Diſtem- arise one out of another, which in Proceſs of Time the Strength, and diſſolve the Fabric, of the Body. *rius de Spir. Anim. Cap.* 16.

ll Fevers the Belly ought to be looſe, unleſs Pus be eva- , as it happens in Pleuriſies, Peripneumonies, and Con- ons; for in theſe Caſes, the greater the Evacuations, rſe is the State of the Patient. *Actuarius, Meth. Med. Cap.* 18.

Belly makes not ſalutary Excretions, when they are too plentiful, or various and multiform. The Excretions in Quantity, when they bear too great a Proportion to ment received; and the Cauſe of this is either a medi- uality in the Food, or ſome internal Diſorder. When eeds from the former, it is eaſily remedy'd by Alteration ; but when it is the Effect of ſome internal Affection, be either becauſe the Body receives no Nouriſhment, Inteſtines are irritated by ſome Humour. The Body to be nouriſhed, and falls into an Atrophy, [ἀτροφία] on account of its Dryneſs, or the Obſtruction of the , by which the Aliment is diſtributed over the Body. Caſe then we are to uſe ſuch Medicines as are diſtin- for their moiſtening Quality, in Conjunction with hat attenuate, and open, and cleanſe the firſt Paſſages. ſome internal ſharp Humour affect the Inteſtines, and tate them to the Expulſion of their Contents, we are to ſuch Remedies as are beſt adapted to ſweeten the rs, and blunt their Acrimony. *Actuarius, Meth. Med. Cap.* 6.

etions of the Belly, of the moſt approved ſort, are ooth, brown, or yellowiſh, and anſwering in Propor- the Food received. When they tranſgreſs or change reſpects, they indicate an Alteration in the Tempera- ither of the whole Body, or of the Stomach and In- If the Temperament change to cold, the Excrements whiter, and more humid; if to Heat, they become of or yellower Hue; if they fall ſhort in Quantity, they r diſſipated by too much Exerciſe, or are diverted into ne: But if neither of theſe be the Cauſe of the Defect, the Belly to be oppreſs'd with a Load of Excrements, it wants to be eaſed by a Suppoſitory, or Clyſter. xcretions are more than in Proportion to what is taken e Mouth, it indicates either, firſt, a leſs than uſual and Motion of the Body, or an imperfect Diſtribu- he Aliment; or, laſtly, ſhews the Stomach and Inte- be infeſted with an acrimonious and ſtimulating Hu- In this Caſe, while the natural Colours continue to there is no great Miſchief to be apprehended; but Ex- of divers Colours, bloody, or like Abraſions, or voided with Pain, and a Teneſmus, portend more grievous Diſorders. One thing here eſpecially deſerves our Conſideration, that in all Evacuations, whether ſpontaneous, or procured by Art, if nothing be carry'd off, but what Expediency requires, Nature bears it well, and is refreſh'd thereby; but the contrary Management will be ſure to produce an anſwerable Effect. *Actuarius de Spir. Anim. Cap.* 14.

When more Food is taken into the Stomach than can well be concocted, Plenty of liquid and whitiſh Excretions are made, and ſometimes a ſort of Looſeneſs ſucceeds, during which ſome of the Contents of the Stools remain as they were from the Beginning; others alter their Colour, either into a better, which denotes Concoction, or into a yellow, accompany'd with liquid and bilious Excretions. All this while the Body feels little or no Inconvenience; for when the expulſive Faculty is irritated, and haſtens to diſcharge itſelf of infeſting Humours, it takes this Opportunity of a Looſeneſs, to expel, beſides Crudities, whatever is noxious: Wherefore we ought to be very careful, leſt, while we inconſiderately labour to reſtrain the Violence of the Looſeneſs, we put a Stop to the Current of a Humour which Nature endeavours to diſcharge. Further, it is to be obſerv'd, that ſometimes the Humours conſpire to bring on a Cholera-Morbus, and diſcharge themſelves ſometimes both ways, ſometimes only downwards, by Excretions of an aqueous and bilious Matter, [ὑδατόχολα] which, if ſuffer'd to continue long without Help, bring on a Weakneſs and Lowneſs of Spirits, and even a Coldneſs and Syncope. The whitiſh, milky, and incoherent Contents of the Stools, denote the great Weakneſs of the digeſtive and alterative Faculty, from too great a Refrigeration, as the browniſh and yellow always proceed from a Redundancy of Bile, occaſion'd by an immoderate Heat. Sometimes the Excrements are white and conſiſtent, like thoſe of Dogs, but not often, nor in Abundance. The ſame thing happens in a Looſeneſs, and is a Sign of the Obſtruction of the biliary Duct that leads to the Stomach; whence the Urine generally becomes bilious, the Bile being diverted that way, and is alſo very often diſcharg'd by vomiting. But ſuch Excretions are principally incident to thoſe afflicted with the Yellow-jaundice, becauſe the Bile, which ſhould colour them, is diverted to the Skin. Moreover the yellow, with the brown and reddiſh, receive their Dye from yellow and red Bile, as the æruginous, porraceous, and the cabbage-colour'd, proceed from one kind or other of the ſame Humour. Black Excrements ſometimes are from over-heated and extravaſated Blood, and ſometimes from a deleterious Bile. Sometimes the Stools appear of various Colours, mix'd one among another, which is ſtill worſe than any before-mention'd, becauſe it denotes the Violence and Strength of the Humours.

Now all thoſe Humours which we have mention'd, if voided freely, and without Pain, and on the critical Day, after Concoction, and the Patient finds Relief from their Expulſion, are accounted ſalutary Signs in all reſpects; but if they proceed from contrary Cauſes, a contrary Judgment is to be formed: For a Fainting and Lowneſs of Spirits, Privation of Senſe, and a Delirium, and ſometimes ſudden Death, are their Attendants.

With what has been ſaid may be connected, that Diſorder of the Stomach called the Cœliac Paſſion, which is owing to the Intemperies of the Stomach. For when that Part happens to be affected with too much Heat or Cold, Foulneſs, or Moiſture, and the Intemperies paſſes into the Habit, the Cœliac Paſſion thence takes its Original. In this Diſorder, the Patient is thirſty, and ſomewhat feveriſh, has yellow and brown Stools, and is refreſhed by the Application of Coolers. Some are ſlow of Concoction, are ſeldom thirſty, and have crude Stools. They who ſuffer from an Exceſs of Humidity, are rack'd with Pain, and void nothing but a liquid and paliſh Excrement; but ſuch as labour under this Diſorder, through exceſſive Dryneſs, have ſmall, but colliquative Excretions: Theſe are more thirſty, and more difficult to cure, becauſe they are more ſpent and waſted under the Diſtemper, by the exhauſting of their natural Moiſture. The Vomiting and Looſeneſs together are very troubleſome, and the Vitiouſneſs of the Excretions are Matter of no ſmall Concern; but their Quantity proves of the worſt Conſequence, becauſe when more is excreted, than can well be ſpar'd, the natural Heat exhales at the ſame time; and the Body being exhauſted and dry'd up by a too plentiful Evacuation, ceaſes to receive Nouriſhment. On the other Side, in a frequent Deſire of going to ſtool, commonly called a Teneſmus, in a Diarrhœa, and what is vulgarly called an Hepatic Flux, or a Dyſentery, or Lientery, it is not only the Quantity, but the Malignity, of the Matter excreted, that kills the Patient. For when the Bile becomes effervescent, and very acrimonious, and the Inteſtines ſubject to morbific Impreſſions, the bilious Humour corrodes and abrades them in its Paſſage; and if the Diſorder be ſeated principally in the ſtrait Inteſtine, it is called a TENESMUS, a Word that ſignifies *ſtretching*, becauſe the affected Part is on the Stretch, and is perpetually urged to Excretion. In this continued and violent Straining, there is nothing excreted but ſome mucous, bloody, liquid, and viſcous Contents, which will hardly come away; ſo that by the repeated Labour of often going to ſtool, and riſing from thence, the vehement Solicitation thereto, and the Tenſion of the Part, rather than by the Quantity evacuated, the Strength of the Patient is worn out.

If the Inteſtines are infeſted with an acrimonious Humour, it grates, and ſtimulates to Dejection, which Diſtemper is called a Dyſentery. Here the Part affected is known by the Pain, which never leaves the Patient. If the Pain be felt below the Navel, the great Inteſtines are affected; if above, the Diſorder lies in the ſmall ones. In this Diſeaſe, if the Bile that comes away be not extremely bad, as in the porraceous, and the æruginous, (for the black in the Beginning is mortal) and if there be no great Fever, nor the Body full of putrid Humours, the Patient has not much to fear, eſpecially if the Diſeaſe be ſeated below the Navel; but if the Caſe be otherwiſe, and the moſt remarkable Symptoms of the worſt kind, the Patient is in great Danger. When the Diſtemper lies in the ſtrait Inteſtine, the Excrements of the Aliment, and the Abraſions of the affected Part, are voided ſeparately. But if the Diſeaſe be ſeated higher, the Superfluities of the Food, and the Abraſions from the diſtemper'd Part, come off mix'd together, and ſo much the more, in proportion to the higher Situation of the Malady. When the Colour and Conſiſtence of the Excrements come nearly to thoſe of a ſound State, when the Pains are alleviated, and what comes off from the corroded Parts is leſs in Quantity, and of a better kind, as being voided at longer Intervals, the Phyſician may reaſonably hope, that his Patient is out of Danger: But the contrary ſhews, that the Diſeaſe is exaſperated. While the Diſtemper is moderate, the Abraſions are few, and but lightly tinged with Blood; and the Pains are remiſs, with long Intervals. If the Diſorder increaſes, the Stools are for the moſt part bloody; but if it ſtill riſes to a greater Height, and the Inteſtines begin to be ulcerated, firſt, Blood comes away in Abundance, then carnous Abraſions, which are ſtill larger as they grow worſe, fœtid, and of a Colour next to black. But the worſt Symptom of all in this Caſe is, a Loathing of Food. Hence it is known, whether the Diſeaſe be of a malignant Nature, or otherwiſe.

A Lientery commonly owes its Original to an inveterate Diarrhœa, or Dyſentery, into which one of theſe degenerates, and is the more grievous, as it finds the Patient already debilitated and exhauſted. The Nature of this Diſeaſe is known by its Name; for it levigates and lubricates the Inteſtines, ſo that they can by no means, tho' but for a ſhort time, retain the Food. This Caſe nearly reſembles theirs who labour under a Subverſion of the Stomach, ſo that they can't retain what they eat, but are forc'd to throw it up, in which Diſorder, if the Patient happen to be moleſted with acid Eructations, it is a good Sign, that the Stomach will come to itſelf, and reſume the Exerciſe of its Office. *Actuar. Meth. Med. Lib.* 1. *Cap.* 20.

If the Food does not lie heavy upon the Stomach, nor incommode it by its acrid Qualities; and if the Subſtance and Faculties of the Stomach itſelf, and the Belly, be ſound and vigorous, the Work of Concoction is perform'd in a light and eaſy manner, and none, or but very ſlight, and no way troubleſome, Eructations attend. The Belly, which receives the Aliment after Concoction, not feeling the leaſt Oppreſſion, after it has aſſumed to itſelf the humid Part, at ſome reaſonable Diſtance of Time, diſcharges itſelf of what is ſuperfluous, without Pain, and with no great matter of Trouble. What is thus excreted, is of a ſoft, ſmooth, and ſlippery Contexture, and of a pale, or at leaſt a yellowiſh, Colour, unleſs it has received another Tincture from the Aliments. But further it muſt be obſerv'd, that theſe Contents preſerve ſome Agreement, both in Quantity and Quality, with the Food. For if the Things received by the Mouth, tranſgreſs the Bounds of Moderation in either of theſe reſpects; if the Organs appointed for the Preparation of Aliment be ſubverted, or corrupted, by Meats of undue Temperament, or bad Juice, many and various are the Diſorders that will enſue.

An Oppreſſion from too great a Quantity of Meat or Drink is uſually ſucceeded by Vomiting or a Looſeneſs; or, if it be not carry'd off by Vomiting or Urine, it hinders Concoction, and breeds Crudities. If the Food be endu'd with ſome Quality much beyond Moderation, as with Heat for Inſtance, there ariſes a biting or pricking Senſation, and Uneaſineſs in the Stomach and Inteſtines, Head-ach, with nidorous and unſavoury Eructations. If Cold be too predominant, Flatulencies are excited, and ſour Eructations, or ſuch as indicate the Quality of the Food; with a Fluctuation, and Pains in the Inteſtines about the Region of the Navel (στρόφοι). All theſe Diſorders are compoſed, and Matters ſet to Rights, by Vomiting, or a plentiful Stool, with a ſpare Diet on Meats of good Juice. *Actuarius, Meth. Med. Lib.* 1. *Cap.* 18.

The Belly happens to be bound, when the Excrements are diverted another Way, or are otherwiſe diſpoſed of. In this Caſe there uſually ſucceeds a greater Plenty of Urine and Sweat,
and more is digeſted and carried off by inſenſible Perſpira
While this laſts, no Inconvenience is felt; ſince the Superfl
find a Vent, and no Damage, provided they return to their
per Chanel: But when the Belly is coſtive, and the Excrem
find no other Canals, or Ways, to diſpoſe of themſelves,
ous Pains, and much Uneaſineſs afflict the Patient. For,
this Caſe, either the humid Part of the Fœces, that were
lodged, is exhaled, whence the reſt is hardened; and the In
teſtines being lined with a tough and viſcous Phlegm, the na
ral Paſſage is by that means ſtopped; or the expulſive Fa
languiſhes, and is too weak to perform its Office, either on
count of its being inflamed, or from a Blow received, or
Confluence of ſome Humours. The Conſequences of this
order are, an Averſion to Food, Pains in the Inteſtines,
moderate Eructations; which, at firſt, afford ſome Relie
the Patient. If the Diſeaſe continue long, the lower P
grow cold, and the ſuperior more hot, the Heat contracting
ſelf; then ariſe fœtid and unſavoury Eructations, which
afford the ſame Relief as at firſt. In the Progreſs of the Di
per, the Food is vomited up, mixed with the Humours, and
Communication between the upper and lower Paſſages i
off; whence, as the laſt Act of the Tragedy, the Excrem
are voided by the Mouth, under which Symptom the Ca
reckoned deſperate. This Diſeaſe is called the Iliac P
(εἰλεὸς, *Lat. Convolvulus*) from a Word which ſignifies to
together, or *twiſt*; becauſe the Orbs of the Inteſtines are
together, or twiſted by it, from the Cauſes before related.

The Pains, Inflations, (ἐμπνευματώσεις) and wringing Se
tions, (στρόφοι) which affect the great Inteſtine called the C
ariſe alſo from the forementioned Cauſe; or may be owi
the too frequent Uſe of cold and moiſt Eatables. For,
cold Diet, Phlegm is accumulated in abundance, which
ceived into the Inteſtines, and eſpecially into the Colon;
cauſe its Form and Situation particularly diſpoſe it for ſuch
ception. This Phlegm being burdenſome, on account
Quantity, and of a noxious Quality, and not eaſily mak
Way through the Inteſtine, by reaſon of its viſcous Pro
ſtretches the Part, to the great Pain and Miſery of the Pa
who ſometimes throws up his Food mixed with the Hu
while nothing paſſes through the Body but with much Di
ty; however, after a copious Evacuation of Phlegm, by
of a Clyſter, or ſome other Medicine, the Patient is re
and the Pain mitigated: But if the noxious Phlegm, bei
purged off, ſhould fix its Seat in the Hip or Bladder, a Sc
or Dyſury are formed. If the morbific Humours take
Courſe down towards the Feet, and affect them with
Qualities, and having once taken Poſſeſſion, and paved
Way, the Affection paſſes into the Habit, and the Patie
fers on every Occaſion. The Humours, which are rend
capable of Expulſion by Purging, or Diſcuſſion of any
but diſcharge themſelves upon the Hands and Feet, whe
form the Gout in thoſe Parts, are obſerved to be of a ſi
well as a complicated Nature; but the Humour which,
all others, is beſt adapted to cauſe and maintain the G
generated by a continued Coacervation of Crudities. For
Errors in Diet are every Day committed, and freſh Food
thrown in upon Crudities, a crude Juice is bred between
which not being, either by Art or good Fortune, exp
Vomiting, nor finding a clear Paſſage through the Belly,
times lodges in the Colon, affecting the Part with thoſe
which we call the Colic; ſometimes is thrown upon the
and cauſes the Sciatica; or on the Bladder, whence fo
Dyſury, or Difficulty of Urine; or, in the laſt place, di
itſelf upon the Extremities, where it forms the Gout
Hands and Feet. *Actuarius, Meth. Med. Lib.* 1. *Cap.*

When the Belly is bound, either by binding Medic
Diuretics, theſe Obſtacles being removed with ſmall A
it returns to its Duty. The Remedies, in this Caſe, are
Clyſter or two, and a mollifying or looſening Diet; b
Conſtipation of the Belly ſucceeds an Inflammation cau
Wound of the Inteſtines, the Cure is not ſo eaſy. It
however, be attempted by Emollients, and proper D
I mean when the great Inteſtines are affected; for
times it happens to ſucceed; but a Wound in the
Inteſtines cuts off all Hopes of a Cure: If then any co
ble Obſtruction happens, or ſome Humour falls into
teſtines, whatever may be the Cauſe, the Belly is to be
fied by the daily Uſe of Clyſters, which, in order to
the Inflammation, are to conſiſt principally of Em
ſuch as Oils of Chamomile and Lilies, and Fats of
Gooſe, and Swine; with Herbs of a mollifying Quality
and carefully boiled; for all ſuch Medicines digeſt an
mation, relax the ſtretched Parts, and eaſe the Pain. Th
temper being thus mitigated, we are to betake ourſelves
medies endued with more Acrimony, by which the In
being irritated, might diſcharge themſelves of the
Fœces, together with any crude and pituitous Ma
might be mixed with them. The Paſſage being thus
we may afterwards adminiſter ſome gentle Cathartic

ay be Hens, Rock-fiſh, and Broths of Chich-peaſe; and
ats of a firm Conſiſtence, and hard of Concoction, are to
idden: The Drink muſt be thin and cooling Wines.
e Inteſtines are affected with an Inflammation, from an
of Humours, eſpecially of a hot Kind, we muſt begin
leeding, and end with Clyſters: The Diet muſt be the
before, only a little more refrigerating, and leſs nouriſh-
he Medicines taken at the Mouth, are to be of fine Parts,
an inciſive and emollient Quality: To theſe, Stomachics
e added, which, by reſtoring the Tone of the Stomach,
ee it from the Neceſſity of lying unactive, and enable it
orm its Office to the Body. Fluctuations and Inflations
ections of leſs Moment, but troubleſome enough to the
; however, they may be mitigated by Injection of Cly-
nd dry Fomentations with Millet or Bran. If the noxi-
atus will not yield to theſe Remedies, a dry Cupping-
to be affixed to the grieved Part. Diſcutient Remedies
ompoſed of the Carminative Seeds, are of Service here;
Patient finds ſome ſpeedy Relief from moderately heat-
od, if taken in ſmall Quantities: Bathing alſo, and mo-
Walking, are eſteemed beneficial.
en the great Inteſtine, called the *Colon*, is affected, many
ſome Symptoms attend the Diſorder: In the Beginning
Diſtemper all Food is forbidden, except Broths made on
peaſe and Rock-fiſh, and mixed with Oil of the fineſt
and prepared with Aniſe, Fennel, Dill, or others of the
nd. The Belly alſo is to be looſened by Infuſions of
ry and Beets, or Centaury and Wild Cucumber, or with
s of Chamomile and Dill, and ſuch-like. Thoſe Anti-
lſo which go by the Name of *Colical*, are not to be omit-
When the Pain is remitted, you are to purge with Pills
ocynth and Aloes, or ſuch others as you think moſt
to the Condition of the Sick; and when the Diſorder
, let the Patient take ſome Chicken-broth, and after-
o into the Bath.
e noxious Humour takes its Courſe to the Bladder, or
igh, in the firſt Caſe it cauſes a Dyſury, and in the lat-
Sciatica: This Diſeaſe muſt be treated with Infuſions of
crimonious Simples, and with heating and diſcuſſive Plaſ-
d Cathartics, that properly purge ſuch Humours: The
uſt incline to Heat; and Bathing muſt every Day be
hat the Humours may exhale.
e Humour, by the Strength of the Parts, be driven out
the Feet, or thrown upon the Hands, there is formed
ey call the Gout in the Feet or Hands; and here we are
der whether the Humour be ſimple or complicated. In
this Diſtemper, we are firſt to injoin Abſtinence; the
to be waſhed with Clyſters, if it be needful; and Ce-
Oils and Fats are to be applied to the pained Parts. If
t be violent, it will be convenient for the Patient to
the Bath. And becauſe the Humours are very ſubject
nflux, and to renew their Excurſions into the ſame Parts,
e to be cut ſhort and reſtrained by a proper Diet; and
t predominant of them is to be carried off, or diminiſh'd
ging, or corrected by ſuitable Food; and the Body is
ied with much Exerciſe and Bathing. All Crudities are
oided, and Meats of bad Juice; for which End the Pa-
ght to riſe from Meat with an Appetite, that the Con-
might be the more perfect; and Defluctions, which ge-
Crudities, reſtrained. *Actuarius*, *Meth. Med. Lib.* 4.

r theſe Quotations from *Actuarius*, and thoſe under the
Alimenta, I need not inform the Reader, that *Actuarius*
mirable Author, and that he has ſhewn great Judgment,
, and Knowledge of his Profeſſion, in making his Col-

CE, ἀλύκη, from ἀλύω, to be anxious or uneaſy. It
Anxiety, conſidered as a Symptom of a Fever, and is
Hippocrates in much the ſame Senſe as ALYSMOS. See
os.

PUM, Ἄλυπον. A Plant called alſo ALYPIA, or ALY-
om α Negative, and λύπη, Pain, *Herb-terrible*. In a
r ſent from *Montpellier* to the Royal Academy of
in 1712, Notice is taken of the Alypum of *Montpel-*
hich is there ſaid to be different from the Alypum of
ides. But it ſhould ſeem, by the Deſcription of *Dioſ-*
ompared with that of more modern Authors, and the
al Virtues, that the antient and modern Alypum is the
lant. That the Reader may judge for himſelf, I ſhall
e Accounts of it from *Pliny*, *Dioſcorides*, *Ray*, *Dale*,
above-quoted Memoir.
PUM is a Plant with a ſlender Stalk and a ſoft Head,
ke Beet, of an acrid and viſcous Taſte, and extremely
nd inflaming. Taken in Hydromel, with a little
proves a Cathartic. The leaſt Doſe is two Drams,
ate one four, and ſix the largeſt, in Cock-broth. *Pli-*
. 27. *Cap.* 4.
PUM is a ſpriggy Plant, reddiſh, with ſlender Sprays,
Leaves, and a thin ſoft Flower. Its Root is like that
ſlender, and full of an acrid Juice. The Seed is like that of Epithymum. It grows in maritime Places, and, in particular, very plentifully on the Sea Coaſts of *Lybia*; it is to be met with alſo in many other Places.
. I.

The Seed purges Black Bile downwards, being adminiſtered with an equal Quantity of Epithymum, and an Addition of Vinegar and Salt; but it cauſes a ſlight Exulceration in the Inteſtines. *Dioſcorides*, *Lib.* 4. *Cap.* 180.

It is the ſame with *Alypias*, and is adminiſtered in Aqua Mulſa. *P. Ægineta*, *Lib.* 7. *Cap.* 4. The Doſe is ſix Scruples. *Actuar. Lib.* 5. *Cap.* 8.

Alypum, Offic. *Alypum*, *Herba terribilis*, Mont. Ind. 36. *Alypum Montis Ceti*, Ger. 408. Emac. 506. *Alypum Montis Ceti*, *ſive Herba terribilis Narbonenſium*, Raii Hiſt. II. 1443. *Alypum Monſpelienſium*, Park. Theat. 198. *Alypum Monſpelianum*, *ſive Frutex terribilis*, J. B. I. 598. *Frutex terribilis*, *Empetrum*, *Alypum Monſpelienſium*, Chab. 48. *Thymelæa foliis acutis*, *Capitulo Succiſæ*, *ſive Alypum Monſpelienſium*, C. B. Pin. 463. Jonſ. Dendr. 235. *Globularia fruticoſa*, *Myrti folio tridentato*, Tourn. Inſt. 467. *Elem. Bot.* 371. HERB-TERRIBLE. *Dale.*

It is a Shrub a Cubit or a Cubit and half high, divided into many ſlender woody Branches, covered with a reddiſh, or dark-purple-coloured Bark, and covered with Leaves nearly of the ſame Colour, and about the Size, but not the Shape of the common Myrtle. For beginning from a very narrow Bottom, they continually widen almoſt to the Extremity, where they are ſometimes marked with one or two Dents, making an obtuſe Point. They are thick, ſolid, and of a bitteriſh Taſte. The Flowers generally grow at the Ends of the Branches, and ſometimes hang in Bunches to the Middle. They are of a purple Colour, and conſiſt of thin Scales. According to *Cluſius*, the Flower-cups grow ſingle, and cloſe to the Tops of the Sprays, and conſiſt of Scales, and are about the Size of the inferior Orb of the Flowers of Scabious, or Devil's-bit, containing a hairy and lanuginous Flower of an azure Colour, inclining to white in the Middle, and wholly azure all round it. The Root is of a thick, hard, black, and woody Subſtance. The whole Plant (ſays *Lobel*) is bitter, and has the unpleaſant Taſte of the Spurge Laurel, or the Mezereon, and even a ſtronger, after ſix Years keeping.

It grows plentifully on the South-ſide of the Mountain *Cetus* in *Frontiniac*, where it runs into the Sea; and on many other Declivities of *Languedoc* and *Provence*, that face the Sea and the South. We have obſerved it to grow, in great Plenty, on the Stony Hills about *St. Chamas*, a Town in *Provence*.

It is a very ſtrong Cathartic, and purges Phlegm, Bile, and watery Humours, with no leſs Violence than Spurge (*Tithymalus*); and is therefore to be uſed with Caution. *Ray's Hiſt. Lib.* 26. *Cap.* 8.

It grows on Hills, flowers in the Spring, and the Herb is uſed. It is ſaid to be a violent Purger. *Cluſius* aſſures us, that the Decoction has been given with great Succeſs in the *Lues Venerea*. *Dale.*

ALYPUM.

Tho' the Plant now called by that Name be quite different from what *Dioſcorides* deſcribed under the ſame Appellation, as all who have written ſince him are agreed, I choſe rather to keep its Name entire, and to make uſe of that of *John Bauhine*, than to give it a new one, and ſo, by multiplying Names, to embroil Botany.

Caſpar Bauhine, in his *Pinax*, calls it *Thymelæa Foliis acutis*, *Capitulo Succiſæ*, *ſive Alypum Monſpelienſium*. *Cluſius* has deſcribed it by the Name of *Hippogloſſum Valentinum*; and M. *Tournefort*, in the ſixth Section of his Inſtitutions, has placed it under the Genus of *Globularia*, by the Name of *Globularia fruticoſa*, *myrti folio tridentato*. But its Characters are quite different from thoſe of the *Thymelæa*, or from any of the Species of *Hippogloſſum*, or *Globularia*, as will appear by the following Deſcription.

The *Alypum* is a Shrub about a Cubit high; its Root, which is covered with a blackiſh Bark, is about four or five Inches long, and near an Inch thick at the Neck, ſhooting forth three or four thick Fibres. The Branches, which are covered with a thin Pellicle of a brown-red Colour, are ſlender and brittle. The Leaves are of different Figures, and placed diſorderly, ſometimes in Tufts, ſometimes ſingle, or in Conjunction with another ſmall one at their Boſoms. Some of them pretty much reſemble the Leaves of Myrrh; others, widening towards the Top, run out into three Points in the Shape of a Trident; others again form but one Point. The largeſt are about an Inch long, and three or four Lines broad, of a good Thickneſs, and of a bright Green. Each Branch bears a ſingle Flower, ſeldom two, which are about an Inch in Diameter, and of a very fine violet Colour. They conſiſt of two half Flowers, at whoſe Bottom ariſe a few ſmall white Stamina, with little blackiſh Apices, which terminate in three Points, and are no more than about three Lines long, and one Line broad. Each half Flower bears an Embryo, which, after the Flower is gone, becomes a Seed, adorned with a kind of Tuft. The whole Flower is ſupported by the Calyx, conſiſting of Leaves, lying one upon another like Scales, and no more than two or three Lines long and one broad.

Cluſius relates, that Empirics and Mountebanks, who ſtrolled about in *Andaluſia*, uſed the Decoction of this Plant for the Venereal Diſeaſe, and boaſted of their never-failing Succeſs. And we have Men of this Character in our Parts, who uſe it as a Cathartic, inſtead of Senna. But it were to be wiſhed, that their Avarice might not be attended with theſe fatal Conſequences to which the violent Operation of this Medicine naturally tends, and of which the Name of *Herb-terrible* ought to put them in mind. *Mem. de l' Acad. Roy. des Sci.* 1712.

By theſe Accounts of Herb-Terrible, it ſhould be the ſame as the ἄλυπον, or *Alypum* of *Dioſcorides*, notwithſtanding what the more modern Botaniſts have ſaid.

I find this Plant ſometimes called White Turbith.

ALYSMOS, ἀλυσμὸς, from ἀλύω, to be uneaſy, or anxious. This Word is very frequently uſed by *Hippocrates*, to expreſs that exceſſive Reſtleſſneſs, and Anxiety, which many People feel in acute Diſorders, or otherwiſe, and which will not permit them to remain long in the ſame Poſture, but obliges them to be perpetually toſſing about, in order to find an eaſy Situation; which, however, is not readily to be met with. Every one who has ſeen or felt the Thing, cannot help underſtanding what the *Alyſmos* is by this Deſcription.

Duretus diſtinguiſhes the *Alyſmos*, into the ἀλυσμὸς ναυτιώδης, and the ἀλυσμὸς ἀνέμετος; the firſt is cauſed by a Sickneſs at the Stomach, by ſomething contained in it which irritates; the ſecond by an utter Oppreſſion of the vital Powers.

But the Alysmos, or Reſtleſſneſs and Anxiety, here ſpoken of, may be reduced to four different Species, two of which are Symptoms of a Fever, and two frequently happen without any febrile Diſorder.

Thoſe which happen without a Fever, are cauſed,

1. By ſomething acrimonious contained in the Stomach, which irritates and ſtimulates the Nerves thereof, and conſequently all the Nerves which are Branches of the ſame large Nerves, from whence the Nerves of the Stomach proceed. Hence the Contraction of the Heart is rendered irregular, and therefore the Circulation of the Blood thro' the pulmonary Arteries and Veins, and alſo thro' the Aorta, muſt labour, and be carried on with ſome Degree of Difficulty; whence a perpetual Uneaſineſs and Reſtleſſneſs.

It is obſervable, that any thing which ſtimulates violently, and offends any of the Contents of the Abdomen, may, in ſome Degree, produce the ſame Effect. For a Sickneſs, and Inclination to vomit, are univerſally Symptoms which ariſe, when any of the Viſcera, contained in the Abdomen, ſuffer an uneaſy Senſation; as is remarkable in the obvious Example of the Gravel, or Stone, in the Kidneys, or Ureters.

When it proceeds from ſomething acrimonious contained in the Stomach, the Cure conſiſts in procuring its Diſcharge by Vomit, or other Evacuations; or in correcting the Acrimony by ſomething of an oppoſite Quality; or in diluting plentifully.

But when it is cauſed by any Affections of the Abdominal Viſcera, the original Diſtemper muſt be removed before the Symptom can be expected to ceaſe.

2. The Alysmos is frequently cauſed by Spaſmodic Contractions of the Viſcera, ariſing from too large Quantities of fermenting, fermented, or fermentable Subſtances, taken into the Stomach; or from Hyſterics.

For the Cure of that cauſed by fermenting Subſtances, ſee Cholera Morbus; and of that cauſed by Hyſterics, ſee Hysterica.

But the moſt general Species of this Reſtleſſneſs, and Anxiety, attended with perpetual Toſſings, and frequent Sighs, are thoſe which attend Fevers, and inflammatory Diſorders. Theſe are immediately cauſed,

1. By ſome Impediment to the Blood's paſſing out of the Heart into the Aorta; but more frequently from its difficult Circulation thro' the Lungs.

The Blood is prevented from circulating freely through the Aorta, when the Obſtructions in the ſeveral Branches thereof are become almoſt univerſal.

It is impeded from circulating thro' the Lungs, either when the Branches of the Pulmonary Artery are too dry, or affected too much by Spaſmodic Contractions, to permit the Blood to paſs readily through them; or when the Blood is in ſuch an inflammatory or viſcid State, as to be incapable of circulating through the Veſſels of the Lungs.

Theſe are attended with great Oppreſſion at the Breaſt, a low Pulſe, and Difficulty in Reſpiration.

2. Theſe Anxieties ariſe, when, either from a Viſcidity of the Blood, or a Stricture of the Branches of the *Vena Porta*, the Blood cannot paſs freely through the Liver; hence that which is brought by the Cœliac and Meſenteric Arteries, muſt ſtagnate, and diſtend the adjacent Parts.

This is attended with a great Weight and Oppreſſion at the Region of the Hypochondria; which Parts the wiſer Anti had much greater regard to, than their leſs ſagacious Poſterity.

It is of infinite Importance, both to the Phyſician and P tient, to diſtinguiſh accurately the different Species of Anx above-mentioned, from each other; and to remove their Ca immediately, if that is, by any Ways, practicable. Thoſe p ticularly which accompany Fevers, require our utmoſt Atten tion; for, if ſuffered to remain, fatal polypoſe Concretio Inflammations, and Gangrenes are ſoon excited, (and theſe the Heart, provided the Cauſes reſide in, or nearly affect, Thorax) which are attended with intolerable Oppreſſion Reſtleſſneſs.

But if the Branches of the *Vena Porta*, or thoſe adjacent them, are principally affected, ſudden Gangrenes of the about the Hypochondria, or Putrefactions of the Liver, ar moſt unavoidable, which terminate in a putrid Diarrhœa; which the Stools are extremely offenſive, and have the Ap ance of Blood and Water, and theſe ſeldom or never fa terminate in Death.

Hence the Reaſons are evident, why this great Anxiety, Reſtleſſneſs, which *Hippocrates* calls Ἀλυσμὸς, is, accordi the Doctrine of that great Man, a fatal Symptom, when it pens in febrile and inflammatory Diſtempers; but is leſs gerous when cauſed only by Hyſterics, or the Irritations of thing offenſive to the Stomach: And why, in almoſt every temper, it is the immediate Fore-runner of Death.

Boerhaave lays down a very rational Method of obviating ill Conſequences of theſe febrile Anxieties, by removing immediate Cauſes. This, according to his Doctrine, is to done by reſolving and diluting the Maſs of Blood, by re the Solids, and by moderating the too violent Motion of circulating Fluids. This End is to be attained by drinking tifully, and almoſt continually, warm Decoctions of the naceous Vegetables, rendered ſomewhat acid, and very aromatic, with an Addition of Honey, or Nitre, or both.

Emollient, relaxing, and anodyne Cataplaſms, Fo tions, Epithems, and Plaſters, applied to the Region pally affected, are alſo of great Service, as they reſolve lax.

Frequently repeated Clyſters, prepared of emollient dients, without any Addition of Cathartics, given in ſmall Q tities, and retained long, are of excellent Uſe, as they the ſame ſalutary End.

The Vapour of hot Water, in which emollient Ingr have been boiled, received at the Mouth and Noſtrils continually, is of much Importance; eſpecially when the culation thro' the Lungs is impeded, as it contributes to laxation of the Part, and Reſolution of the Juices.

ALYSSOIDES, a Plant thus named from εἶδος, Form, ἄλυσσον, *Alyſſum*, as being like in Form to the Alyſſum.

The Characters of this Plant, according to *Miller*.

It hath a Flower in Form of a Croſs, conſiſting of four out of whoſe Flower-cup ariſes the Pointal, which aft becomes an elliptical thick Fruit, divided into two Cells by termediate Partition, which is parallel to the demi-elliptic gid Valves, and filled with round flat Seeds, having Borders them.

I do not find, that any Virtues are aſcribed to this Pl

Boerhaave mentions three Sorts of this Plant:

1. *Alyſſoides ſaxatile Creticum, folio angulato,* *laceo. Leucoium ſaxatile, folio viridi, flore purpureo* Cupani. Ind. 137. *Alyſſon Creticum, foliis angulatis,* *violaceo*, T. Cor. 15.

Rocky, Cretic Alyſſoides, with an angulated Leaf, violaceous Flower.

2. *Alyſſoides incanum, foliis ſinuatis*, T. 218. *incanum, ſiliquis rotundis*, C. B. Pin. 201. *Leucoium,* *quis rotundis, flore luteo*, J. B. 2. 931. *Eruca peregrina,* Hiſt. 421. Ic. & Deſc. & Hiſt. 134. *Leucoium mari* *tavinum*, Lob. Obſ. 180. *Leucoium incanum, ſiliquis* *dis ſubrotundis*, M. H. 2. 247. a, b.

Hoary Alyſſoides, with ſinuated Leaves.

3. *Alyſſoides fruticoſum, leucoii folio viridi*, T. 218. Shrubby Alyſſoides, with a green Stock-gilly-flower L

To theſe *Miller* adds a fourth, which is, the *Alyſſoides orientalis annua, myagri ſativi folio*, To Oriental annual Alyſſoides, with a Myagrum Leaf.

ALYSSUM, ἄλυσσον, Madwort, from α Negative λύσσα; that particular Madneſs which is cauſed by the a mad Dog, and not from ἀλύσσω, as *Miller* derives from ἀλύω, according to *Lemery*.

There is a Sort of Alyſſum taken Notice of by *Dio* another by *Pliny*, and a third by *Galen*, which are Botaniſts to be different from each other.

The Alyſſon of *Galen* is thought, by *Dale*, to be *rubium album, foliis profundè inciſis, Flore cærules* (ſee Marrubium) of which *Galen* ſpeaks in theſe T

Alyſſon is an Herb like Horehound, but has ro more prickly round Heads on the Tops of its Stalks. a Flower inclining to an azure or ſky-blue Colour.

athered in the Dog-days, and dried and ſifted, that the f Efficacy may not exhale.

Doſe to a Perſon bit by a mad Dog, is a Cochlearium a Pint) in a Quarter of a Pint of Water and Mulſum, y Days together from the firſt Day; at leaſt for the firſt ays. *Galen de Antidotis, L.* 2. *C.* 11.

of a moderately drying and digeſtive Quality, with ng of Aſtringency, whence it clears the Skin from the and Sun-burns. *Galen de Simpl. Med. Lib.* 6. *Orib. Coll. Lib.* 15. *Cap.* 1. *Paulus Ægineta, Lib.* 7. *Cap.* 3. Alyſſum of *Pliny*, *Dale* takes to be the *Mollugo vulga-* *Parkinſon*, Baſtard-madder, (ſee MOLLUGO) of which eaks thus:

ffers from Madder (*Erythrodanum*) only in the Large- the Leaves and Branches, and took its Name on account reventing Madneſs from the Bite of a mad Dog, being n Vinegar, and bound to the Place. What they ſay of it is wonderful indeed, that as ſoon as the wounded ſees it, the Sanies of his Wound dries up. *Plin. Lib.* . 12.

Characters of Alyſſon, according to *Miller*, are,

Flowers conſiſt of four Leaves, which are expanded in f a Croſs: The Fruit is ſhort and ſmooth, in which tained many roundiſh Seeds.

aave, in his *Index*, takes Notice of twenty different Alyſſon.

yſſon Creticum ſaxatile, foliis undulatis incanis, T.

Alyſſon of *Candia*, with hoary undulated Leaves.

yſſon folio leucoii incano, flore luteo. Thlaſpi Auſtriacum, lio incano, flore luteo. Bocc. H. Mauroc. 171.

yſſon incanum luteum, ſerpilli folio, majus, T. 217. *lyſſon dictum campeſtre majus*, C. B. Pin. 107. M. H. *Thlaſpi minus quibuſdam, aliis Alyſſon minus*, J. B. 2. *yſſum minimum*, Cluſ. H. 133. a.

r yellow hoary Madwort, with a Mother of Thyme Leaf.

's Figure is good; but he is miſtaken in the Deſcrip- he Flower, which is tetrapetalous, and not pentapeta- he affirms: The Figure which *Lobel* and *Tabernæmon-* ve given of this Plant, under the Name of *Thlaſpi Poly- lio*, is bad: I believe they have put, thro' Inadverten- *gonati* for *Polygoni folio*. The laſt of theſe Authors has cond Figure of it, which is much better, and which he *ſpi minus Clypeatum* 2. The Difference of theſe Figures mined *C. Bauhine* to divide this Plant into two Species, ſmall; *Moriſon* has follow'd him in this Point. It is true Plant varies, according to the Place where it grows; but diſtinguiſh them no otherwiſe than as Varieties: For of the ſmaller, ſown in Gardens, produces a pretty nt. *J. Bauhine* obſerves, that *Schwenkfeltius* con- his Plant with the *Thlaſpi anguſtifolium* of *Fuchſius*, the *Naſturtium ſylveſtre Oſyridis folio*, C. B. Pin. 105. s *Tournefort*.

ſſon incanum, ſerpilli folio, minus, T. 217. *Thlaſpi ictum, campeſtre minus*, C. B. Pin. 107. M. H. 2.

hoary Madwort, with a Mother of Thyme Leaf.

in the Opinion of *Dale*, is the Alyſſon of *Dioſcorides*, the laſt-mentioned Author gives the following Ac-

lyſſon is a ſmall Shrub, ſomewhat tough, with round near which grows the Fruit like double Bucklers, ntains a flattiſh kind of Seed. It grows in Hills, and Places.

Decoction, drank, cures the Hiccups that are not at- on a Fever. It has the ſame Effect, if held in the r ſmelled to. Bruiſed with Honey, it cures Freckles, and Sun-burning (ἐφήλια). Pounded and eaten with is thought to cure the Bite of a mad Dog; hung up ouſe it is ſaid to be a Preſervative of Health, and an o Men and Beaſts againſt Witchcraft. Beſides it keeps mpers from Cattle, if tied about them in a red Cloth. *les, Lib.* 3. *Cap.* 105.

s but a Variety of the former.

ſſon parvum, capitulis globoſis, floſculis luteis. Thlaſpi m Smyrnæum luteum. Volk. a.

ſſum fruticoſum incanum, T. 217. *Thlaſpi fruticoſum* C. B. Pin. 108. *Thlaſpi Machlinienſe incanum*, Lob. Cluſ. H. 132. *Thlaſpi capſulis ſublongis, incanum,* 929. *Thlaſpi incanum, flore albo, capſulis oblongis*, M. 2. *Thlaſpi Alyſſon, folio leucoii, latiſſimo aſpero viridi*,

Shrub Madwort.

ſon fruticoſum incanum, flore pleno.

ſon halimi folio ſempervirens, T. 217. *Thlaſpi halimi ervirens*, H. L. 594. Deſcr. 595. Ic. b.

lyſſon with Sea-purſlane Leaves.

ſon vulgare polygoni folio, caule nudo, T. 217. *Burſa minor, loculo oblongo*, C. B. Pin. 108. *Burſa Paſtoria blongis ſiliquis, verna, loculo oblongo*, J. B. 937. *Paronychia vulgaris*, Dod. p. 112. *Burſa paſtoris minor, loculo oblongo*, M. H. 2. 305.

Common Whitlow Graſs.

It is very common on Walls, and in dry Places, in the Spring. Dr. *Dillenius* has obſerved very well, that the Petals are bifid, which is a ſingular Character in the Tribe to which it belongs.

This Plant appears to me very different from that which *Cæſalpinus* calls *Humilis quædam herbula affinis Burſæ paſtoris, foliolis Thymi rotundioribus candicantibus ſubhirſutis, &c.* He deſcribes it to grow common in *Sicily*, and about *Piombino*. *C. Bauhine* was in the wrong to refer it to this, the Leaves of which vary in their Inciſures; but are always very different from the Figure of thoſe of Thyme: Theſe Varieties are repreſented in the *Hiſt. Ludg.* The *Paronychia Alſine folio Lobelii Lugd.* repreſents them with Inciſures: The ſame Leaves are cut in the Figure of the *Myoſotis parva Dalechampii Lugd.* 1318. *Martyn*'s *Tournefort*.

10. *Alyſſon vulgare, polygoni folio, loculo rotundo.*

11. *Alyſſon vulgare, polygoni folio trifido. Burſa paſtoris minor, foliis trifidis, aliquando multifidis, florum petalis bifidis, loculo oblongo*, M. H. 2. 306. *Burſa paſtoria minima, oblongis ſiliquis, verna, loculo oblongo*, J. B. 2. 937.

12. *Alyſſon fruticoſum aculeatum*, T. 217. *Thlaſpi fruticoſum ſpinoſum*, C. B. Pin. 108. M. H. 2. 291. *Leucoium ſpinoſum, ſive Thlaſpi ſpinoſum aliis*, J. B. 2. 931. *Thlaſpi fruticoſum ſpinoſum Narbonenſe*, Lob. Ic. 217.

Prickly Shrub Madwort.

13. *Alyſſon ſegetum, foliis auriculatis acutis*, T. 217. *Myagrum ſativum*, C. B. Pin. 109. *Myagrum majus ſeu ſativum*, M. H. 2. 315. *Myagrum dictum camelina*, J. B. 2. 892. *Myagrum Turcicum*, J. B. 2. 893. *Camelina ſive myagrum*, Dod. p. 532.

Corn Madwort, with auriculated ſharp-pointed Leaves.

Dodonæus is in the wrong to compare this Plant to the Madder. The *Myagrum ſativum* is no more like the Figure of the *Myagrum* 1. *Tabern.* than like the *Myagro ſimilis ſiliqua rotunda, Pin.* It's not ill repreſented in *Camerarius, Fig.* 1. though ill engraved by him under the Name of *Pſeudo-Myagrum*; that Figure, being only a Copy from *Matthiolus*, has the Fruits very ill drawn, and Flowers pentapetalous; which does not belong to any of the croſs-like Flowers. *Martyn*'s *Tournefort*.

14. *Alyſſon ſegetum, foliis auriculatis acutis, fructu majori*, T. 217. *Foliis eſt magis diſſectis dentatis minoribus, fructu longe majore, tota planta humiliore.*

Corn Madwort, with auriculated ſharp-pointed Leaves, and a larger Fruit.

15. *Alyſſon Siculum ſupinum, leucoii folio anguſto, flore albo, odore mellis. Thlaſpi Siculum ſupinum umbellatum, leucoii folio anguſto, flore albo odore mellis, ex* H. Cath. H. Mauroc, 170. *Thlaſpi Alyſſum dictum, campeſtre minus, folio breviori*, Ind. 137. a.

16. *Alyſſon montanum incanum luteum, ſerpilli folio, majus. Thlaſpi montanum luteum, ſerpilli folio, majus*, C. B. Pin. 107. M. H. 2. 292.

I ſuppoſe this is the ſame that is mentioned in *Tournefort*'s Hiſtory of Plants, by the Name of *Alyſſon perenne montanum incanum*.

This is a Plant whoſe Leaves are oblong and white, particularly underneath, rough to the Touch; its Stalks are about a Foot high, Aſh-coloured, garniſhed with many Flowers, compoſed of four Leaves ſet croſs-ways, of a fine yellow Colour: The Flower is ſucceeded by a ſmall flat Fruit in Bunches, divided length-ways into two Cells, full of ſmall round Seed: Its Root is long, woody, dividing, and ſpreading itſelf very much: It grows in mountainous Places.

It is eſteemed aperitive and proper againſt the Bite of a mad Dog. *Lemery de Drogues.*

Its Root is fibrous, white, five or ſix Inches long, about two Lines thick: It uſually ſends forth three or four Stalks, lying on the Ground, ſeven or eight Inches long, hard, woody, reddiſh towards the Bottom, wreathed, divided from the very Bottom into ſeveral ſmall Branches, covered with a white Down, and garniſhed with Leaves of the ſame Colour; their Surface is a little ſhagreened, and they are ſhaped ſomething like Olive Leaves, according to *J. Bauhine*; but they are about five Lines long: the Ground Leaves are much whiter than the reſt, more ſerrated, and ſhorter. The Flowers grow at the Extremity of the Branches, in a kind of Head, and afterwards part upon a kind of Spike two or three Inches long. Each Flower is compoſed of four yellow Petals, two Lines long, almoſt oval at the End; the Chives are very ſlender, charged with yellow Summits: The Empalement alſo conſiſts of four narrow, pointed Leaves, a Line and a half long; and ſoon falling off: Out of the Middle ariſes a flat, round Pointal, ending in a pretty fine Point; it afterwards becomes a Fruit of the ſame Shape, about two Lines Diameter, raiſed in Form of a little Boſs, divided into Cells by a membranous Partition: There are uſually in each Cell two oval, flat, red Seeds, a Line long. The Figure of the *Thlaſpi montanum luteum*, *J. B.* repreſents this Plant well enough, only the Petals are too much cut; and beſides, *J. Bauhine* has not noted whether it be perennial or annual. Our Plant laſts ſeveral Years. That which M. *Magnol* has called *Thlaſpi Alyſſon dictum minus, capſulis majoribus rotundis non foliatis*, is annual, aud its Stalks are leſs crooked: Thus *J. Bauhine*'s Figure ſuits it leſs, than it does that which we juſt now deſcribed; and this Figure is much better than that which *Lobel* has given of it, under the Name of *Thlaſpi ſupinum luteum*. The Capſules of theſe Plants appear, only becauſe the Leaves of their Empalements fall off eaſily. *Martyn*'s *Tournefort*.

17. *Alyſſon Alpinum hirſutum luteum*, T. 217. *Sedum Alpinum hirſutum luteum*, C. B. Pin. 284. *Sedum petræum montanum*, Lob. Adv. 163. *Sedum minus*, 12. *Alpinum*, 6. Cluſ. H. 62. *Leucoium luteum aizoides montanum*, Col. 2. 62.

The yellow Alpine Alyſſon, with hairy Leaves.

18. *Alyſſon argenteo folio, floſculis luteis. Thlaſpi folio majoranæ Ciaſſi. Hoc nomine miſit Ampliſſimus Sherard. Thlaſpi Creticum, majoranæ folio, ſupinum, flore luteo*, H. Maurocen. 171.

Alyſſon with a Silver Leaf, and yellow Flowers.

19. *Alyſſon folio anguſtiſſimo viridi, floſculis albis ſpicatis confertim natis.*

20. *Alyſſon maritimum*, T. 217. *Thlaſpi Alyſſon dictum maritimum*, C. B. Pin. 107. M. H. 291. *Naſturtium vel Thlaſpi maritimum*, J. B. 2. 927. *Thlaſpi centunculi anguſto folio*, Lob. Ic. 215.

All theſe Plants are endowed with a very ſubtile, penetrating and diaphoretic Virtue, by which they expel Poiſon. The ninth and tenth are received, in Medicine, under the Title of Whitlow-graſſes, and have the ſame Virtues as Scurvey-graſs and Water-creſſes. They ſpring up in *Winter*, and flower in *January*; and their Seeds alſo are uſed in Medicine, as Emollients, from which they expreſs an Oil. The thirteenth and fourteenth are alſo called the *German Seſamums*, and the *Myagra of the Shops*. Bruiſed and drank, to the Weight of three Ounces, they are ſudorific and ſtomachic, and a very good Remedy in cold Affections. *Boerhaave, Hiſt. Plant.*

ALZEGI, *(Atramentum)* Ink. *Rulandus.*

ALZEMAFOR, *(Cynobrium)* Cinnabar. *Rulandus.*

ALZILAT, *(Pondus trium Granorum)* a Weight of three Grains. *Rulandus.*

ALZIMAR, *(viride)* green. *Caſtellus* from *Rulandus.*

ALZOFAR, *(Æs uſtum)* burnt Copper. *Rulandus.*

AMA, AME, or rather AMES, ἄμης, a Sort of ſmall Cake. *Aretæus* uſes this Word to compare the Quantity of Hellebore to, which is ſufficient for a Doſe in ſtrong Conſtitutions, when given in a Vertigo: His Words are μέγεθος ἄμης, by which it ſhould be ἄμα, or ἄμη, making ἄμης in the Genitive Caſe. But this properly ſignifies a Sort of Scythe, or Inſtrument, uſed by Labourers: But *Ariſtophanes* uſes ἄμητα in the Accuſative Caſe, which *Suidas* explains, *a Sort of Cake made with Milk*, which ſhould ſeem to be the ſame that *Aretæus* means; and then it ſhould be ἄμης.

AMALGAMA. This, in Chymiſtry, is a Subſtance produced by an Incorporation of Mercury with a Metal: The Chymical Character is *A. A. A.* The beſt Methods of making an Amalgama, are thus ſpecified by *Boerhaave*.

1. Melt ſome of the pureſt Lead in a clean Iron Ladle, and then put into it an equal Quantity of hot Mercury, and ſtir them about with an Iron Rod: Let them grow cold, and you will have a homogeneous Maſs of a Silver Colour, which will be conſiderably hard, but by rubbing will grow ſofter and ſofter: Put this Maſs into a Glaſs Mortar, rub it, and then add to it what Quantity of Mercury you pleaſe, and it will be united to it, as Salt with Water.

2. An Amalgama of Tin is made exactly in the ſame manner; and this will alſo receive more Mercury.

3. Take a Solution of the beſt Copper in Aqua-fortis, ſo much ſaturated with the Metal, that it will diſſolve no more; dilute this, with twelve times as much clean Water: Into the Liquor, when hot, put Plates of poliſhed Iron, and the Copper will be precipitated, to the Bottom, in the Form of a Powder, and the Iron will be diſſolved: Proceed in this manner till all the Copper is precipitated: Pour off the Liquor, and waſh the precipitated Powder with hot Water, till it is perfectly inſipid: Dry the Powder perfectly, put it into a Glaſs Mortar, and, by rubbing, incorporate with it an equal Weight of hot Mercury, and they will unite into an Amalgama; which will alſo receive a farther Addition of Mercury. An Amalgama of Copper, in any other manner, is very difficult to make.

4. Pure Silver, precipitated from Aqua-fortis, may, in the ſame manner, be made into an Amalgama.

5. Diſſolve the pureſt Gold in Aqua-fortis, till it can take up no more; dilute the Solution with twelve times as much pure Water; put into it ſome poliſhed Plates of Copper, and a Powder of Gold will be precipitated t Bottom of the Veſſel, and upon the Copper. Let it in Heat, till the Liquor will no longer be rendered by an Addition of Copper; ſhake the Plates, that all Gold may fall to the Bottom; pour off the Liquor, the precipitated Powder with Water, dry it, and then Glaſs Mortar reduce it to an Amalgama with M and afterwards it will receive more Mercury, like other Amalgamas. Or, take a Mixture of Gold and ver, coppel it with Lead, and, by means of a good ing Aqua-fortis, ſeparate the Silver; then waſh the Powder of Gold that remains at the Bottom, dry it, whilſt it is hot, rub it with Mercury, and it will pre ly be reduced to an Amalgama, which will receive Mercury, as before. All Amalgama's are white, whatever Metal they are prepared.

REMARKS.

By theſe Methods an Amalgama may be made, without Loſs, from all Metals except Iron: There are alſo Ways of doing it, but not without conſiderable Lo Mercury, and Danger from the Fumes: Hence we ſee, Mercury is the true ſolvent Fluid of Metals. Theſe, they are thus reduced to an Amalgama, may be mixed confounded together, and lie concealed among each This Solution of Metals by Mercury, I look upon to Foundation of Alchemy. By theſe means, ſome che Sophiſticators adulterate Mercury with Lead; but, by haling a Grain or two of it, the Fraud is eaſily diſco And thus, perhaps, the Coagulation of Mercury, a by *Paracelſus* and *Van Helmont* to the fixing Fume of and a wonderful fixing metalline Spirit, is brought For if you melt ſome Lead, and when it is begin cool, but is not hardened, you make an Impreſſion Surface with a Stick, and gently drop a little cold Mer in a ſhort time it will acquire a ſolid Conſiſtence: Bu not this happen from the hot Lead's being received in Mercury, and ſo amalgamated, and of conſequence fo a pretty hard Maſs? Certainly, if you take a little fixed Mercury, and, in a proper Veſſel, expoſe it Fire, you will find it ſo. This Art of making Ama has given Riſe to a common Cheat; for if you combi or Silver with Mercury in this manner, by only addin to them in the Fire, you may recover them again, an make a plauſible Shew of producing theſe Metals: Bu take a little of this Mercury, put it into an Iron Ladle, ſet it on the Fire; and then the Mercury flying of leaving the Metal, will at once diſcover the Fraud. theſe Principles depend the Art of Gilding with G Silver.

The Ablution of Metals by Mercury.

Take an Amalgama, rub it in a Glaſs Mortar, the the better, and it will begin to grow black. Pou Water upon it, and continue to rub it, and the will grow black and turbid. Pour this out, add m ter, and rub again, and this will be changed as the Repeat this till the laſt Water, after rubbing, rema You will then have a pure Amalgama, that looks ver. And here all Amalgamas, treated in this make Water thus black, more or leſs, that of Go ever leaſt of all. The Powder that comes away, is dried, is neither found to be Mercury nor Metal Amalgamas of other Metals will ſcarce ever, b waſhing, become perfectly clean, ſo as to comm no more Blackneſs to the Water.

REMARK.

Hence we learn, that pure Mercury, by being mixed w tals, becomes ſo united with them, that ſomething w concealed in one or both of them, is by this means If in this manner you procure a large Quantity of t der from Gold and Silver, as the Matter of both th tals remains exactly the ſame in Weight, without Addition or Diminution, the Powder muſt neceſſarily duced from the Mercury.

There is ſomething very ſurpriſing in this Ablution o tals by Mercury, that the Amalgama ſhould never ceaſe municate this Blackneſs to Water.

AMALGAMATIO. *Rulandus* defines Amalga Calcination of Metals by Mercury.

AMAMELIS, ἀμαμηλὶς, a Fruit mentioned by Hi in his firſt Book of the Diſeaſes of Women, where he them in a Sort of Emulſion he there adviſes for Wom Milk is deficient. It is generally agreed, that the A *Hippocrates* is the ſame as the Epimelis (ἐπιμηλὶς) of rides, which is the SMALL BASTARD MEDLA

There is another Kind of Medlar, which grows ſome call it *Epimelis*, other *Setanium*. The Tree Appl

-tree, only has ſmaller Leaves. It bears a round, eſculent
, with a large Eye, ſomewhat aſtringent, and ſlow in
ing. *Dioſcorides*, *Lib.* 1. *Cap.* 170.

MANDINUS LAPIS, a Gem of various Colours, which
led by *Albertus Magnus* to reſiſt and expel Poiſons. *John-*
lls it, by Miſtake, *Amandicus.*

MANITA, ἀμανίτης, a Sort of Fungus, of which I meet
count amongſt the Antients, except in *Oribaſius*, *Paulus*
eta, and *N. Myrepſus.*

the Claſs of Fungi, the Boleti boiled in Water, as they
to be, become nearly of the Nature of thoſe Aliments
are void of Qualities. They afford but a cold and phleg-
Nutriment, and, if freely uſed, breed ill Juices. Theſe,
d, are the leaſt hurtful of all the Fungi, and the next to
are the *Amanitæ*. As for the reſt, it is ſafeſt to let them
; for many have been poiſoned by them. *Oribaſ. Med.*
Lib. 2. *Cap.* 25.

anitæ, Fungi, and Tubera, (Trubs or Truffles, *Dale*)
of a cold and humid Nature, generate a thick and crude
, and, upon that, agree with a hot and dry Conſtitution.
r. de Spir. Anim. Cap. 6.

thoſe who are dangerouſly ill with eating *Amanitæ*, Bo-
r Fungi, eat heartily of freſh Radiſhes, drinking, between
, ſome moderately ſtrong Wine, ſweetened with a little
y; and let them try to vomit; or let them drink Nitre,
e finely powdered in Poſca. *Myrepſus de Propom. Sect.*
Cap. 171.

ulus Ægineta, *L.* 1. *C.* 77. repeats what has been quoted
Oribaſius.

n't know that it has been determined what Sort of Fun-
ſe were, which *Oribaſius* calls Amanitæ; it ſeems pro-
that they took their Name from the Place where they
produced: But Amanita, as now underſtood, ſeems to
much the ſame as *Fungus Terræ.*

only Fungi, which commonly enter into Food amongſt
the common eſculent Muſhroom, or Champignon, and
orille: The true Champignon is known by its external
neſs, and by being of a paliſh Red within, when very
, and of a more ſaturated Red as it grows larger and older.
are a delicious, but very hazardous Food; for they will
ree with all Conſtitutions, nor always with the ſame Per-
for many who have, all their Lives, indulged themſelves
ing Muſhrooms, have, at laſt, been greatly injured by a
ate Uſe of them: And it is remarkable, that ſome Sea-
oduce Muſhrooms much more unwholſome than thoſe
ed at other Times. *Claudius* the *Roman* Emperor, and
the ſixth, the late Emperor of *Germany*, are both ſaid
loſt their Lives by eating Muſhrooms: And I once was
ſs of a violent Diſorder, which was brought upon a Gen-
by eating Muſhrooms, which had all the Appearances of
good in their Kind, which I had an Opportunity of know-
ecauſe I ſaw them before they were dreſſed, ſaw them
d was in the Houſe with the Patient during his whole

e Morning, at Eleven o'Clock, he eat about a Dozen
ooms of a moderate Size: That Day he eat heartily of
and Bacon, and ſome other Things; and at Night he
moderately as uſual. The next Morning he complained
eat Pain and Uneaſineſs about four Inches below the Na-
d a diſagreeable Aromatic Taſte in his Mouth. The
ntinued all that Day, but moved gradually higher: The
ay the Pain, and diſagreeable Taſte, were the ſame, ex-
t the Pain was got above the Navel; about Noon he fell
violent Diarrhœa, which laſted that Day, and the two
with very few Minutes Intermiſſion. The Day after, his
s got to the Region of the Stomach, and gave him much
neſs; but immediately after drinking a large Draught of
, he vomited plentifully, and brought up the Muſhrooms,
the Appearance of having been digeſted, or undergone
Alteration in the Stomach, and with them the Beans,
and whatever he had eat ſince the Muſhrooms. After
was very eaſy, and recovered immediately.

e heard, that Leeks are eſteemed a Specific againſt the
of Muſhrooms; but I never have known it uſed, nor
ollect my Authority.

ry's Account of Muſhrooms is as follows:

e are ſeveral Sorts of Muſhrooms, which ſpring up in a
e out of the Earth, in Meadows, amongſt Shrubs, and
ghills. The beſt, and moſt ſafe for Mens Health, are
hich grow up in one Night upon a Dung-bed, where
rs have found the Art to make them grow all the Year
they ought to be white above, reddiſh underneath,
rge, plump, tender, eaſy to be broke, and of an agree-
e and Smell. The Muſhrooms that grow in Meadows
very good, as appears by theſe Lines:

------ *Pratenſibus optima fungis*
tura eſt; aliis male creditur.

rooms are reſtorative, nouriſhing, and ſtrengthening;
reaſe the ſeminal Fluid, create an Appetite, and have all
operties that are neceſſary to pleaſe the Palate.
I.

Muſhrooms ſometimes work violently upwards and downwards, cauſe the Palſy and Apoplexy, and often kill with a malignant Quality, which they ſuddenly impart to the Humours. Now-and-then thoſe of them which are looked upon to be the beſt and ſafeſt, ſuffocate and hinder Reſpiration, if taken never ſo little to Exceſs. There are alſo ſome of them, according to the Account given by divers Authors, which poiſon People, if they ſmell to them.

All Muſhrooms contain much Oil, and eſſential Salt.

They agree at no time to any Age or Conſtitution, becauſe they always do more Hurt than Good; and if Uſe be made of them, it ought to be done with much Moderation; and it is neceſſary you drink good Wine upon them.

REMARKS.

It's ſaid, if you ſteep Muſhrooms in Water, and afterwards pour that Water upon the Ground, Muſhrooms ſhall grow there; and this ariſes becauſe the Water is filled with the Seed of Muſhrooms, which afterwards are, as it were, hatched in the Earth; or becauſe that this ſame Water hath diſſolved ſome of the eſſential Salts of the Muſhrooms, which ſerve to dilate and rarify the Seeds of other Muſhrooms, which are ſcattered on the Ground.

It's ſaid, that at *Naples* and *Rome* there are Rocks, and ſtony Places, upon which, if you throw hot Water, Muſhrooms will grow at any time. 'Tis probable, this hot Water ſoftens the Seeds of the Muſhrooms that are in ſuch Places, and opens their Pores, ſo that theſe Seeds more abundantly receive the remote Juices that are proper to extend and make them grow.

Muſhrooms are a Sort of Victuals that you cannot be too cautious of. *Dioſcorides* divides them into two Claſſes, one of which are very dangerous, and may be reckoned of the Number of Poiſons; the other does no Harm: However, we cannot but ſay, that theſe laſt, which are commonly made uſe of, are ſometimes pernicious; ſince we ſee, every Day, whole Families brought to their End by eating them; which gave *Pliny* occaſion to exclaim againſt the Luxury of Mankind, who, to gratify their Appetites, very often run the Riſque of their Lives by eating Foods of that Kind. *Nero* called Muſhrooms βρῶμα θεῶν, that is, the Victuals of the Gods; becauſe the Emperor *Claudius*, whom he ſucceeded, died with eating of Muſhrooms, and was afterwards deified.

There are two different Parts in a Muſhroom, *viz.* the oily, and ſaline, which laſt are of an acrid, volatile, very coagulating and malignant Nature: However, when they are ſtrictly united with the others, they are not ſo dangerous; becauſe they are kept down and embaraſſed: But when there is not a ſtrict Union between theſe two Parts, theſe Salts we have ſpoken of, getting the Aſcendant, produce many ill Effects. For Example; the Muſhrooms commonly uſed by us, ſpring up out of the Earth in a little time; they are preſently to be gathered; for if you let them lie by for ſome time, they become a deadly Poiſon; becauſe their Salts, which, at firſt, were ſufficiently bound up by their ropy Parts, inſenſibly free themſelves from the Fetters that ſhackled them, and, reſuming all their Force, cauſe the Fermentation that is wrought in the Muſhrooms.

Hence we may conclude, that the more oily Parts the Muſhrooms have in them, the leſs dangerous they are; and that thoſe which grow upon Dung-beds cannot produce ſuch bad Effects as the others; becauſe that Bed imparts a great Quantity of ſulphureous Principles to them.

Muſhrooms may alſo be pernicious by their ſpongy Subſtance, which coming to be diffuſed and rarified by the Heat of the Body, preſſes the Midriff, and thoſe Parts which ſerve for Reſpiration, and hinders the Air to paſs into the Lungs; and 'tis from thence that the beſt Muſhrooms, being taken to Exceſs, ſometimes ſuddenly ſuffocate.

When you eat Muſhrooms, you ought to drink a good deal of Wine; becauſe this Liquor, by the Help of the Sulphurs abundantly contained therein, embaraſſes the Salts of the Muſhrooms, and moderates their Operation. Honey is alſo accounted a Remedy againſt the ill Accidents cauſed by Muſhrooms, and, upon this Occaſion, operates in the ſame manner as Wine does.

Here it's to be noted, that if the Muſhrooms do not retain their natural Colour after they are waſhed, but turn either blue, red, or black, they are very dangerous. *Lemery on Foods.*

The Morille is a kind of Spring Muſhroom, as large as a Nut, of an oblong, pyramidal, or oval Figure, ſhriveled, tender, porous, cavernous, or pierced with large Holes, ſomewhat reſembling Honey-combs, of a whitiſh or yellowiſh Colour; ſometimes its Colour is white, inclining a little to red; and ſometimes it is blackiſh.

The Morille contains a good deal of Oil, of Phlegm, and of volatile Salt, but very little Earth. It grows in graſſy moiſt Soils, in Woods, and at the Roots of Trees. It is delicious when uſed as an Ingredient in Sauces; beſides, 'tis of an invigorating, reſtorative Quality, and proper to excite an Appetite. *Lemery de Drogues.*

You are to chuſe ſuch as are tender, of the Bigneſs of a Nut, oval, or oblong, of a yellowiſh Colour, or whitiſh, and full of large Holes like Honey-combs.

Theſe Muſhrooms create an Appetite, are of a ſtrengthening and reſtorative Nature, and of great Uſe in Sauces.

The frequent Uſe of them heats much, and makes the Humours ſharp.

They agree, in cold Weather, with thoſe that are phlegmatic, and ſuch in general whoſe Humours are groſs, and have little Motion; but Perſons of a hot and bilious Conſtitution ought to abſtain from them.

The Uſe of this Sort of Muſhroom is not attended with ſuch bad Accidents as the other; and that, in all Likelihood, becauſe their Salts are leſs injurious and peſtilential than thoſe of the common Muſhrooms; or elſe, becauſe they are more confined and embaraſſed by ſulphureous Principles. *Lemery on Foods.*

Tournefort takes Notice of Eighty-three different Sorts of Amanitæ, which are as follows:

1. *Amanita campeſtris, alba ſuperne, inferne rubens*, Dillen. Cat. Giſſ. 177. *Fungus pileolo lato, & rotundo, livido*, C. B. Pin. 370. *Fungus campeſtris, albus ſuperne, inferne rubens*, J. B. 3. 824. *Fungi vulgatiſſimi eſculenti*, Lob. Icon. 271. CHAMPIGNON, or eſculent Muſhrooms, common in Paſtures.

2. *Amanita Kremlinga alba*, Dillen. Cat. Giſſ. 178. *Fungus pileolo lato orbiculari candicante*, C. B. Pin. 370. *Fungus Sylvarum, eſculentus candicans*, J. B. 3. 828. Found with the former. M. *Vaillant* has repeated this in *p.* 75. under the Name of *Fungus totus albus edulis.* The white eſculent Muſhroom.

3. *Amanita verna, pileo rotundiori, odorato & eſculento. Fungi verni, Mouceron dicti, odori & eſculenti.* J. B. 2. 823.

4. *Amanita alba, pileo inverſo. Fungi albi, pileolo inverſo.* J. B. 3. 847.

5. *Amanita lutea pernicioſa. Fungi lutei pernicioſi, ſub Pinu habitantes.* J. B. 3. 832.

This is engraved in the *Elemens de Botanique*, Tab. 328.

6. *Amanita piperata alba, lacteo ſucco turgens*, Dillen. Cat. Giſſ. 179. *Fungus piperatus albus, lacteo ſucco turgens*, J. B. 3. 825. *Fungi pileolo lato orbiculari candicante*, C. B. Pin. 370. THE PEPPER MUSHROOM.

Found by Dr. *Liſter*, in *Marton-Woods*, under *Pinno-Moor*, in *Craven, Yorkſhire*, plentifully. *R. Syn. Ed.* 3. *p.* 4. I have found it near *Dulwich*, about the End of *October*.

7. *Amanita major, rubeſcens aut ſubfulva, pediculo brevi, lamellis crebris albentibus*, Dillen. Cat. Giſſ. 181. *Fungus lignoſus faſciatus*, Vaill. 61.

Under Oaks in *Auguſt*. *R. Syn. Ed.* 3. *p.* 4.

The Stalk is about an Inch in Length, and as much in Thickneſs, of a dirty white Colour, full and fleſhy. The Head is about three Inches in Diameter, hollowed, reddiſh, with whitiſh Circles. The Gills are ſet pretty cloſe to each other, and are white, as is alſo the Fleſh. It yields a glutinous and acrid Milk. *Vaill.*

8. *Amanita major lacteſcens, pileo ex albo purpuraſcente, lamellis crebris, caule brevi. Fungus lacteus maximus infundibuli forma.* Vaill. 61.

This reſembles, pretty much, the two preceding ones. The Edges are, at firſt, turned down, but afterwards raiſe themſelves ſo as to form a kind of Funnel, from three to nine Inches in Diameter. The Head, Fleſh, and Gills are white, with a little Waſh of Purple. The Gills are very cloſe, and intermixed with ſhorter, and, as it were, half Gills. The Stalk is about an Inch long, and from half an Inch to an Inch thick. The whole Plant abounds with a very acrid Milk. *Vaill.*

9. *Amanita major lacteſcens, pileo ſubfuſco, lamellis fulvis, caule brevi. Fungus lacteſcens prægnantiſſimus.* Vaill. 61.

Its Head is flat, and a little hollowed at the Centre, two or three Inches in Diameter, of a very dirty white Colour, inclining to a Box Colour, unequally indented about the Edges with rounded Diviſions. It is exceedingly full of acrid Milk. *Vaill.*

10. *Amanita lacteſcens fulva. Fungus lacteſcens piperatus rufus.* Vaill. 62.

The Head, Gills, and Stalk are of a reddiſh, or Copper Colour. It yields an acrid Milk. *Vaill.*

11. *Amanita major, pileo ſubfuſco, lamellis albis. Fungus piperatus non lacteſcens.* Vaill. 62.

The Fleſh of this has an acrid Taſte, but yields no Milk. *Vaill.*

12. *Amanita faſciculoſa purpuraſcens arborea*, Dillen. Cat. Giſſ. 180. *Fungus noſtras pediculo brevi, in pileolum didymum abeunte*, Cimel. Reg. Vaill. 62.

The Head is of a bright and ſhining Cheſtnut Colour, the Gills yellowiſh, and the Edges turn down. *Vaill.*

13. *Amanita major paluſtris albida. Fungus albidus, infun*
buli forma, paluſtris. Vaill. 62.

14. *Amanita pileo flavo viſcido, caule rufeſcente. Fungus*
tine flavo limacino reſplendens. Vaill. 62.

The Head is of a Conic Figure at firſt, and afterwards ex-
pands, ſo as to become two or three Inches in Diameter. Vaill.

15. *Amanita major pileo griſeo holoſericeo, lamellis car*
caule albo. Fungus griſeus holoſericeus, pileolo crenelato. Va
63.

The Head is ſometimes five Inches in Diameter, turned
at the Edges like a Saucer. The Stalk is two or three In
long, and about an Inch thick. *Vaill.*

16. *Amanita citrini coloris*, Dillen. Cat. Giſſ. 181. *Fung*
pileolo ſtramineo, Vaill. 63.

17. *Amanita media tota alba. Fungus mediæ magnitu*
totus albus. Vaill. 63.

The Stalk is from an Inch to three Inches in Height,
uſually full, and ſometimes fiſtular, thicker at Top than
Bottom, ſometimes ſtrait, and ſometimes wreathed;
times round, and ſometimes a little flat, with a Furrow
Side, from one to three Lines thick. The Head is from
to eighteen or twenty Lines in Diameter, cut at firſt
Hemiſphere or Cone, which afterwards growing flat,
another Cone, inverted. The Gills are very far diſtant
each other, but the Spaces are filled with half and quarter
proceeding from the Circumference. The whole Plant is
white, and a little ſhining. *Vaill.*

18. *Amanita pileo gilvo, lamellis albis crebris, ſuperne*
gines apparentibus, caule albido. Fungus gilvus, margine
ſimo. Vaill. 63.

19. *Amanita pileo coniformi albo maculato. Fungus*
conico maculato. Vaill. 63.

20. *Amanita plana orbiculata aurea*, Dillen. Cat. Giſſ.
Fungus planus orbiculatus aureus, C. B. Pin. 371. *Fungi*
magni dicti Jaſeran ſpecioſi, J. B. 3. 831.

Found in *Hornſey* Wood by Dr. *Dillenius*, *Syn. Stirp.*
Ed. 3. *p.* 2.

21. *Amanita purpuraſcens, pileo ſurſum repando, caule*
Fungus margine per maturitatem ſurſum rependo. Vaill.

22. *Amanita orbicularis, pileo & lamellis fuſcis*, Dillen.
Giſſ. 184. *Fungus læte fuſco colore.* Vaill. 64.

I have found this near *Dulwich*, in *October*.

23. *Amanita pileo fuſco, lamellis & caule albis. Fung*
fuſco colore, pediculo breviore. Vaill. 64.

24. *Amanita clypeiformis major. Fungi multi ex*
clypeiformes lutei & rubri, J. B. 3. 835.

25. *Amanita clypeiformis minor. Fungus clypeiformis*
C. B. Pin. 373. *Fungi parvi lutei & clypeiformes albi*
J. B. 3. 847.

26. *Amanita faſciculoſa viſcida arborea mollis alba*,
Cat. Giſſ. 187. *Fungi albi lucentes ex uno principio*
radice arborum, J. B. 3. 835.

27. *Amanita faſciculoſa lutea dumetorum*, Cat. Giſſ.
Fungi multi ex uno pede pernicioſi, J. B. 3. 835.
counted above a Thouſand of theſe from one Root. M.
lant has repeated this Amanita in p. 68. under the
Fungi plures ex uno pede, e prunorum radicibus enati, Raii
1. 99. App. 32. 8. *Fungus multiplex parvus luteus, pileolo*
liter convexo, Cimel. Reg. And again, in p. 71. under
ſame Name, where the whole Deſcription is alſo repeated

28. *Amanita colore lacteo. Fungus colore lacteo.* Vaill.

29. *Amanita piperata non lacteſcens viſcida, pileo*
rufeſcente, lamellis & caule albis. Fungus piperatus,
ſcens, coloris braſilici. Vaill. 65.

30. *Amanita obtuſe coniformis cinerea, aut ex livido*
utrinque ſtriata, Dillen. Cat. Giſſ. 182. *Fungus parvus*
culo oblongo, galericulatus ſtriis lividis aut nigris, Raii Syn.
65. In Paſtures on Dung, in *September* and *October*, Syn.
3. p. 8.

31. *Amanita pileo albo, centro rufeſcente, lamellis carn*
albo. Fungus pileolo albo, centro rufeſcente. Vaill. 65.

32. *Amanita parva, pileo viſcoſo, ex albido luteo, lam*
dis, caule longo. Fungus capite hemiſphærico pallide
Vaill. 65. It is common on Cow-dung and Horſe-
September and *October*. M. *Vaillant* ſeems to have
Fungus in p. 71. under the Name of *Fungus parvus,*
oblongo, pileolo hemiſphærico, ex albido ſubluteus. Raii Syn.

33. *Amanita parva verna utrinque ſtriata fuſca, pileo*
coniformi, muſco paluſtri ramoſo majori, foliis membran
tis Vern. innaſcens, Dillen. Cat. Giſſ. 184. *Fungus*
conico pallide cineritio, centro fuſco. Vaill. 65.

34. *Amanita tota alba. Fungus totus albus.* Vaill.

35. *Amanita tota griſea. Fungus totus griſeus.*

36. *Amanita faſciculoſa ſordide carnea. Fungus*
ſordide carneus. Vaill. 66.

37. *Amanita faſciculoſa buxea*, Dillen. Cat. Giſſ.
gus noſtras multiplex, pileolo lato mammoſo. Vaill. 66.

38. *Amanita exigua, ſanguinei coloris*, Dillen. Cat.
Fungus parvus coccineus, Cimel. Reg. Vaill. 66.

Amanita exigua, pileo umbilicato nigro, lamellis nigrican-
Fungus minimus, totus niger, umbilicatus. Vaill. 66.
Amanita minor umbilicata, tota ruſa. Fungus minor,
ſus. Vaill. 66.
Amanita minor, tota citrina. Fungus minor, citrino co-
dunculo flaveſcente. Vaill. 66.
Amanita minor, pileo villoſo fuſco, lamellis ex cinereo
ſcentibus, caule fuſco. Fungus minor, pilei ſuperficie
fuſcis, villoſa. Vaill. 67.
Amanita parva, capitulo conico, violacei dilutioris coloris,
Cat. Giſſ. 181. *Fungus minor Amethyſtinus.* Vaill. 67.
Amanita faſciculoſa, ex fuſco violacei coloris. Dillen.
iſſ. 186. *Fungus major violaceus.* Vaill. 67.
Amanita pileo incarnati coloris, lamellis albidis, caule
imum tuberoſo. Fungus dilute carneus, vel incarnatus.
7.
Amanita major, pileo pallide violaceo, lamellis & caule
Fungus magnus albus, pileolo lato, prona parte ſor-
ruleo. Vaill. 67.
Amanita pileo aurantii coloris, lamellis & caule lividis,
ant. rar. Cent. 1. Dec. 3. p. 31. *Fungus aurantii colo-*
tulo in conum abeunte, Inſt. 559. Near *Fulborn* in *Cam-*
re.
is of a red Orange Colour, and its Head is a perfect

Amanita pileo conico aureo viſcido, lamellis pallide fla-
le aureo. Fungus aureus, capitulo in conum abeunte.
7.
Amanita ex livido albicans, oris intus converſis, Dillen.
iſſ. 182. *Fungus colore caſtaneo, margine per maturita-*
rſum convoluto, Vaill. 68.
Amanita minima, pileo & lamellis cinereis, caule fuſco
Fungus minimus, pediculo conico. Vaill. 68.
Amanita pileo clypeato rufeſcente, lamellis & caule cine-
ungus clypeatus, in medio protuberans. Vaill. 68.
Amanita parva, utrinque ſtriata, pileo coniformi, murini
lamellis & pediculo albis, Dillen. Cat. Giſſ. 183. *Fun-*
ulo mammoſo, centro papillari, Vaill. 69. It is found
res in Autumn. This ſeems to be the ſame with what
lant has called, in *p.* 69. *Fungus pileolo candicante, la-*
ucis, pediculo fuſco ſplendente.
Amanita exigua, incarnati coloris. Funguli incarnati,
inuti, muſco innati. Mentz. Pugil. Tab. 6. Vaill. 69.
Amanita parva, utrinq; ſtriata, pediculo tenui longo
to, pileolo in medio faſtigiato, Dillen. Cat. Giſſ. 183.
res.
Amanita ochro-leuca viſcida, pileo clypeiformi. Fungus
nogeneo pallido, pileolo & pediculo glutine obducto. Vaill.

Amanita griſea viſcida, pileo clypeiformi. Fungus co-
geneo griſeo, pediculo glutine obducto. Vaill. 69.
Amanita arborea mollis, coloris exacte crocei, Dillen.
iſſ. 182. *Fungus pileolo croceo, ſplendoris participe.*
. On Trees and rotten Wood.
Amanita viſcida, pileo expanſo ſordide albo, lamellis can-
le ſolido. Fungus capite expanſo, viſcoſus. Vaill. 70.
Amanita viſcida, pileo primum conico, poſtea plano. Fun-
primum obtuſo, poſtea plano, pileolo & pediculo glutine
Vaill. 70.
this is young, the Head of it is uſually of a dirty
and the Top of a Box Colour: Sometimes it is of a
een, and ſometimes of a Ruſſet. The Stalk and Gills
aſt are of the ſame Colour with the Head; but the
the White and Green are uſually of a Brimſtone Co-
ſometimes waſhed with a little Green. The Stalk
a Brimſtone Colour, with a Tinge of Verdegris to-
Top. *Vaill.*
manita pileo obtuſe coniformi, e cinereo fulvo, lamellis
caule longo firmo ſtriato gracili, caſtanei coloris.
mi equini, capitulo pileum Romanum referente. Vaill.
has been found in Woods in *England* by Mr. *Dale*.
manita pileo cinereo utrinq; ſtriato, caule longo fiſtuloſo.
apitulo mammoſo. Vaill. 70.
manita faſciculoſa, pileo obtuſe coniformi, utrinq; ſtriato
lamellis nigris, caule albo fiſtuloſo. Fungus noſtras
pediculo fiſtuloſo. Vaill. 70. I have often found this
latter End of Summer; it ſoon rots; and is perhaps
with that mentioned by Dr. *Dillenius*, (*Syn.* 7.) un-
Name of *Fungus parvus lethalis galericulatus.* Lob.
manita faſciculoſa, pileo ex luteo fuſco, lamellis virenti-
pallido. Fungus mediæ magnitudinis, pileolo ſuperne
vicante, lamellis ſubtus ſordide virentibus, Raii Hiſt. 3.
gus luteus, pileolo molliter convexo, lamellis viridibus,
eg. Vaill. 71. I found this on rotten Wood in the
ries Garden at *Chelſea* in *October*.
manita exigua candidiſſima, pileo umbilicato. Fungus
albus umbilicatus ſtriatus. Vaill. 71.
manita faſciculoſa, pileo obtuſe conico griſeo, lamellis
le griſeo. Fungus multiplex obtuſe conicus, colore gri-
. Vaill. 71.

66. *Amanita pileo viſcoſo luteo*, Hiſt. Plant. rar. Cent. 1. Dec. 3. p. 31. I ſuſpect this to be the ſame with that which M. *Vaillant* deſcribes under the Name of *Fungus glutinoſus, colore aurantio*, p. 72. The Plant, which I mean, is very common in Paſtures in Autumn.

67. *Amanita ovum referens, humorem nigrum per maturitatem effundens. Fungus Typhoides. An Fungus non veſcus,*' 7. Flor. Pruſſ. 89. *An Fungus albus ovum referens*, D. Doodii, Raii Hiſt. 3. 22. Vaill. 72. On a Moor betwixt *Rood-Lane* and *Somerſet-Bridge* in *Hampſhire*, *Mer. Pin.* I have ſeen it in great Plenty at *Cheſterton* in *May*.

68. *Amanita faſciculoſa, ovum referens, minor, humorem nigrum per maturitatem effundens. Fungus multiplex ovatus cinereus minor.* Vaill. 72.

69. *Amanita orbicularis alba, lamellis & pediculo villoſis, ac veluti farina conſperſis*, Dillen. Cat. Giſſ. 184. *An Fungus minor tenerrimus, farina reſperſus, pileolo ſuperne cinereo, lamellis ſubtus tenuiſſimis nigris*, Raii Syn. Vaill. In Paſtures in *September* and *October*.

70. *Amanita fuſca, pileo infundibuli-formi. Fungus foliaceus vel lamellatus infundibuli forma, fuſco-lividus.* Vaill. 73.

71. *Amanita faſciculoſa, pileo fuſco, lamellis & caule griſeis. Fungus multiplex campaniformis, colore fuſco.* Vaill. 73.

72. *Amanita faſciculoſa, pileo & caule caſtanei coloris, lamellis ex ſordide albo pallide rubentibus. Fungus multiplex campaniformis, colore caſtaneo.* Vaill. 73.

73. *Amanita faſciculoſa, pileo rufeſcente, margine araneoſo, lamellis crebris fuſcis, caule albo fiſtuloſo. Fungus capitulo mammoſo rufeſcente.* Vaill. 73.

74. *Amanita faſciculoſa, pileo ovato ſulcato cinereo, lamellis crebris lividis, caule albo. Fungus mutiplex ovatus.* Vaill. 73.

75. *Amanita ſicca & levis, pileo magno plano orbiculari, pediculo longo, plerumq; bulbiformi*, Dillen. Cat. Giſſ. 180. *Fungus pileolo lato, longiſſimo pediculo variegato*, C. B. Pin. 371. Vaill. 74.

Obſerved frequently in *England* by Dr. *Liſter*; as in *Cheſterton-Cloſe* near *Cambridge*, and in the Woods in *Lincolnſhire*; who alſo experienced it, in eating, to be more ſavoury than the Champignon. *R. Syn. Ed.* 3. *p.* 3.

76. *Amanita pileo lato rufeſcente, micis ſurfuraceis aſperſo, lamellis albis, caule tuberoſo. Fungus pileolo lato, micis ſurfuraceis aſperſo.* Vaill. 74.

77. *Amanita pileo vireſcente, ex pila erumpens. Fungus phalloides annulatus, ſordide vireſcens & patulus.* Cimel. Reg. Vaill. 74.

78. *Amanita pileo lato albido, lamellis candidis ex pila erumpens. Fungus phalloides.* Vaill. 74.

79. *Amanita pediculo bulbiformi, pileo maculato*, Dillen. Cat. Giſſ. 184. *Fungus pediculo in bulbi formam excreſcente.* C. B. Raii Hiſt. 1. 95. Vaill. 75.

80. *Amanita pileo lato puniceo, lamellis albis. Fungus pileolo lato puniceo, lacteum & dulcem ſuccum fundens.* C. B. Pin. 371. Vaill. 75.

81. *Amanita pileo candido, tuberculis flavo-fuſcis variegato, lamellis creberrimis. Fungus colore candido, tuberculis flavo-fuſcis elegantiſſime variegato.* Vaill. 75.

82. *Amanita pileo clypeato caſtaneo, centro ruſo, circulo ſordide albo circumdato, lamellis creberrimis flaveſcentibus. Fungus centro mammoſo ruſo, circulo ſordide albo circumdato.* Vaill. 76.

83. *Amanita minima, pileo aurantii coloris, lamellis ex albo rufeſcentibus. Fungus minimus aurantius mamillaris.* Vaill. 76. *Martyn*'s *Tournefort*.

Something like the Muſhroom is the Truffle, except that it never appears naturally above Ground. Of this there are two Sorts, the firſt ſometimes uſed in Medicine, (ſee BOLETUS) the ſecond much uſed in Food.

The ſecond is thus diſtinguiſhed:

Tubera, Offic. C. B. 376. J. B. 3. 849. Chab. 591. Raii Hiſt. 1. 110. Synop. 20. Sterb. 308. Tab. 32. A. Hiſt. Oxon. 3. 638. *Tubera Matthioli*, El. Bot. 442. Tourn. Inſt. 565. *Tubera terræ*, Ger. 1385. Emac. 1583. *Tubera terræ edibilia*, Park. 1319. TRUFFLES OR TRUBS.

Mr. *Geoffroy* the younger having given ſeveral curious Particulars, relative to Muſhrooms and Truffles, in the following Memoir, it will be of ſome Importance to inſert it.

Obſervations upon the Vegetation of Truffles.

All Subſtances which appear to vegetate, may, generally ſpeaking, be divided into two Claſſes; ſuch as have all the Characteriſtics of Plants, and ſuch as want ſome of theſe Characteriſtics. Among thoſe of the latter Kind, ſome have no Appearance of Flowers; as the Fig-tree, whoſe Flower is thought to be wrapt up in its Fruit: Others want the Appearance both of Flowers and Seeds; ſuch as the moſt Part of Sea Plants, whoſe Seeds are ſuſpected to lie concealed in particular Veſicles, deſtined for the Purpoſe: Others have only Leaves without Stalks, ſuch as *Liver-wort*, *Sea-lettice*, and *Noſtoch*: Others have Stalks without Leaves, ſuch as the *Euphorbium*, the

Horſe-tail, the Sea-oak, Corals, and the moſt Part of ſtony Plants. Laſtly, others have ſcarce any Appearance of Plants, not having viſibly either Leaves, Flowers, or Seeds. Of this kind are moſt *Muſhrooms*, Sponges, Morilles, and eſpecially Truffles, which are likewiſe without Roots. Botaniſts have only ranked them among the Claſs of Plants, becauſe they are obſerved to grow and multiply, not doubting but they contained the eſſential, tho' they were deſtitute of the apparent Parts of Plants; as Inſects have the eſſential Parts of an Animal, tho' their outward Form ſhould have a different Appearance. Having made ſome Obſervations on the *Noſtoch*, I was led to examine the *Truffle* alſo, which is ſtill more ſingular, and, for ought I know, has, as yet, had nothing poſitive advanced concerning it: I ſhall therefore give an Account of the Obſervations I have made upon its Analyſis, and the uncommon Manner of its Vegetation.

This Sort of Plant is only a fleſhy Tubercle, covered with a hard Sort of Cruſt, rough, and ſomewhat regularly furrowed on its Surface, almoſt like the Cypreſs-nut. It does not riſe above the Surface of the Earth, but lies concealed about half a Foot below it. Great Numbers of them are found in the ſame Place, of different Sizes. Some of them are, now-and-then, found of a Pound Weight, or even a Pound and a Quarter: Theſe laſt are but rare, and *Pliny* only mentions their being of a Pound Weight.

Certain it is, however, that ſome of them are very large: They grow in different Countries; and, in *Pliny*'s Time, the moſt valuable were brought from *Africa*. They are now found in *Europe*, in *Brandenburgh*, and ſeveral other Parts of *Germany*; and are very common in *Italy*, *Provence*, *Dauphiné*, *Languedoc*, *Anjou*, and *Perigort*. They grow alſo in *Burgundy*, and ſome of them are found about *Paris*: It is obſerved, that they are ordinarily found in Fields, that are uncultivated, of a reddiſh-coloured Earth, and ſandy, but ſomewhat rich. They grow at the Feet, and under the Shades of Trees; ſometimes about the Roots of Stones, and ſometimes in clear Earth: Their favourite Trees are, either the white or the green Oak; as the *Elm* is that of the Morille. They begin to be found when warm Weather firſt ſucceeds the cold, ſooner or later, as the Seaſon is more or leſs mild; for they have ſometimes been very rare after hard Winters. At firſt they appear only like little round Peaſe, red without, and white within. Theſe Peaſe grow larger by degrees; from that Time they begin to take out of the Ground what they commonly call White Truffles: Theſe are of themſelves inſipid, and People dry them as an Ingredient for *Ragouts*; becauſe they keep better when dried than marbled ones do. 'Tis a common Opinion, that Truffles, which have once been removed from their Places, are never after capable of being nouriſhed; even when put into the ſame Earth from which they were originally taken: But if one leave them there for a certain Seaſon, without diſturbing them, they grow inſenſibly larger; their Bark becomes black, rough, and unequal, tho' they always retain their Whiteneſs within. Hitherto they have very little Smell or Taſte, and can only be uſed in Ragouts. Theſe are always called *the firſt White Truffles*, and are not to be made a different Species from the *marbled* or *black ones*, gathered in the End of Autumn, and even in Winter after the Froſts are begun; for, in my Opinion, they are only the ſame, arrived at different Degrees of Maturity. I look upon the *White Truffle*, in its firſt State, as a Plant which is, at one and the ſame time, Root, Stalk, and Flower, whoſe *Parenchyma* ſwells every Way, and whoſe Parts are inſenſibly unfolded: In proportion as the Truffle ſwells, its Bark becomes hard and furrowed in different Places, that ſo it may convey the more Nouriſhment to the groſſer Maſs: Then the Truffle changes its Colour, and, inſtead of white, it inſenſibly becomes marbled with greyiſh Streaks; and that which was formerly white, now looks like a Congeries of ſmall Pipes, which ſpread themſelves in the Heart of the Truffle, and terminate in the Furrows of the Bark.

The greyiſh Subſtance, which is wrapt up amidſt theſe Canales, when viewed with a Microſcope, appears to be a tranſparent *Parenchyma*, compoſed of Veſſels or little Bladders: In the Middle of this Subſtance appear black round Points, diſtinct from one another, which have all the Appearance of Seeds nouriſhed in that Subſtance, whoſe Colour they have darkened, and in which there remains nothing white, except the Veſſels and ſome Capſulæ. I look upon that white Subſtance as hollow Pipes, becauſe I always ſee them terminate in the Bark.

When the Truffles are arrived at this Degree of Maturity, they are of a very good Smell and Taſte: The Heat and Rains during the Month of *Auguſt* forward their ripening very faſt, which may poſſibly be the Reaſon why ſome Authors have ſaid, that Storms and Thunder firſt produced them. The Truth is, good Truffles are not dug but from the Month of *October* to the End of *December*; and ſometimes to the End of *February* and *March*, when they are, even at that Time, marbled; whereas thoſe gathered from the Month of *April* till *July* and *Auguſt*, are only white. If People neglect to gather the Truffles when arrived at their due Degree of Maturity, they rot; and then
we may obſerve the Re-production of the Truffle, becau
ter ſome time, we ſee ſeveral Bunches of other young T
filling up the Places of the rotten ones. Theſe young T
are nouriſhed till the firſt Colds come on; and if the Fr
not intenſe, they get over the Winter, and furniſh us b
with the white Spring Truffles.

The exceſſive Cold in the Year 1709, is an additional
of what I advance, ſince Truffles were not found till th
tumn of that Year; the moſt forward ones, which ſhould
appeared in the Spring, having periſhed by the Rigour o
Seaſon; whereas they were very common the foregoing
We obſerve neither Hairs nor Filaments of Roots at the
fles, when taken out of the Earth, with which they are c
in ſuch a manner as to leave the Traces of their Bark im
in it, without appearing to have any other Communication
it. They are ſubject, like other Roots, to be eat
Worms. The Worm which preys upon the Truffle, is
ſmall, and different from that which is hatched by its C
tion: Afterwards this Worm forms a kind of Bean, ſhut
a very ſlender Covering of a white kind of Silk; from
ſome time after, comes forth a bluiſh violet-colour
which makes its Way, from the Truffle, thro' the Fu
Clefts obſerved in it. Theſe Flies are infallible Signs, th
are Truffles to be found near the Places where they a
ſerved.

If a dreſſed Truffle has been pierced by a Worm, it m
diſcovered by its being bitter to the Taſte; and by a lit
tention, one may obſerve the Place, where the Hole is,
blacker than the reſt, and that the Bitterneſs is cauſed
ſince the reſt of the Truffle taſtes well. Upon laying o
Place where the Hole is, one may eaſily diſcover the N
the Worm, and a Space round it free from Marbling, o
ferent Colour from the reſt of the Truffle, and reſembl
of rotten Wood. Upon viewing the Surfaces of Truf
a Microſcope, I have found, that certain white Specks,
I ſaw there, were ſo many ſmall Inſects, which prey'd
them. They follow the Furrows of the Bark, that th
the more commodiouſly ſuck their Nouriſhment. Th
ſects are white, tranſparent, and of a round Figure, alm
Mites. They have only four Feet, a ſmall Head, an
pretty faſt. Theſe Inſects are nouriſhed by the nutriti
of the Truffle; for I have found ſome of them lodged
ſame Cell which had formerly been inhabited by the W
They were become, tho' tranſparent, of a Coffee-col
the Place where the Worm had neſtled. It is to be ob
that the Earth which produces Truffles, bears no oth
upon it; for the Truffle abſorbs its nutritive Juice, or m
its Smell deſtroys or prevents the ſpringing of other
This Reaſon appears to me ſo much the more probable, b
the Earth, in which they grow, ſmells perfectly like them
Peaſants in ſome Parts receive Profits ſo conſiderable f
Sale of Truffles, as to render them very induſtrious i
vering the Grounds where they are, ſo that they are m
come very ſkilful at it. They know the Extent of the G
where the Truffles are, by its bearing nothing, and be
of all Herbs. In the ſecond Place, according to the
of the Earth, if the Ground abounds with Truffles, it i
in ſeveral Places. They alſo know it by its being m
than other Earth, by theſe little bluiſh violet-colour
have mentioned, and by another Sort of Flies which a
black, long, different from thoſe produced from the
but which are ingendered by the Corruption of the Tr
like thoſe which are hatched in every other corrupted
There is a Dexterity in digging Truffles without cutt
eſpecially if they are big. The Peaſants have a kind of
ing Stick for digging them. In other Parts they do not
themſelves with ſearching for them, but have recourſe
other Method mentioned by *Pliny*, and other Authors
are known to be very greedy of Truffles; they therefo
uſe of one of theſe Animals, which they train up to
and dig them; but there is a Neceſſity for being very
taking the Truffles they find from them, and giving the
thing in their ſtead, leſt they ſhould be diſcouraged,
over a Purſuit from which they receive no Advantage:
Montſerrat they have Dogs trained up for this very P

Theſe are, in general, the Obſervations I have m
the Trufflle, and its Origin. 'Tis now my Buſineſs
mine the ſeveral Species of it.

Mr. *Tournefort* only admits of two, which he diſting
their Figure. The firſt is round, the Figure of which
ſeen in his *Elements of Botany*, and is the ſame with
preſented in *Matthiolus*, and other Botaniſts: This is t
cies which *Mentzelius*, in his *Pugillus rariorum Pl*
ſtyles *Tubera ſubterranea teſticulorum forma*, or, *The*
raneous Muſhroom in the Form of Teſticles. This Truf
from others, both in its Figure, and its internal Colour,
as this Author ſays, is of a greeniſh Red, like the inn
lour of the Fuz-balls in our Woods; but perhaps, i
opened them at another Seaſon, he would have found t
different Colour. He alſo compares them to another

ce, which changes Colour like them. *Mentzelius* diſ- this Species in the Months of *Auguſt* and *September*, at Seaſon they are not perfectly ripe; he found them in a ce on the Frontiers of *Brandenburg*. According to this nt, we have as yet only two Species of Truffles, which n their external Appearance; and we ought not to look ne Variety of internal Colours, or the different Degrees , as Characteriſtics, or Marks of different Species, ſince ots or Stones they meet with in their Growth, may them into different Forms. The Truffle then appears to be a Plant, and not a conglomerated Subſtance, or rement of the Earth, as *Pliny* thought; and as a Proof Opinion, told a Story of the Governor of *Carthagene*, pon biting a Truffle, found a Piece of Braſs Coin in his But this Circumſtance is no ſatisfactory Proof of his on, ſince the Truffle, in its Growth, muſt by chance cloſed this Coin, as we ſometimes obſerve in certain of whoſe Vegetation we are fully perſuaded. I have to think, that *Pliny* knew not well what to determine ing this Matter, ſince he afterwards tells us, that no s were found about *Mitylene*, in the Iſland of *Leſbos*, hen the overflowing of the Rivers carried the Seeds of rom a Place called *Tioves*, in the main Land of *Aſia*, were Truffles in Abundance. Perhaps we might be multiply Truffles, by trying different Means for rpoſe, ſince we plainly find, that they multiply in the This Reproduction would confirm my Opinion, that ds are incloſed in the Heart of the Truffle, and that it is means, that the Colour of the Parenchyma is ob- This Parenchyma is ſupported by Fibres, which run rly from the Circumference to the Centre, and all in- by white Pipes, which form the Marbling of the Sometimes theſe Pipes extend themſelves, and form Plates, compoſed of tranſparent little Bladders, which erer than the reſt; ſo that, when view'd Sideways, they even white Surface; and when obſerved perpendicular- k Points may be obſerved ſcattered up and down them. Points are the Seeds of the Truffle, I ſhould ſuſpect, white Plates are, as it were, the Flowers of them, it ry probable, that the Flowers, together with the Seed, uded in the Truffle. Tho' the Fibres of the Truffle ſlender, yet the Whole of them, taken together, make rable Reſiſtance, when an Attempt is made to break a longitudinal Direction. The Fibres are more diſtinct- ed in a faded Truffle, than in a freſh one, becauſe the Contexture being wither'd, allows their Bags to be the ily diſcovered, which, upon preſſing them, yield their ; if, on the contrary, theſe Fibres are drawn in a lateral n, they eaſily ſeparate into many fibrous *Laminæ*. As a at theſe are real Fibres, the Place ſpoiled by the Worm, w'd with a Microſcope, appears like rotten Wood; ſo are in this State nothing more than Fibres or Laminæ, Juice, without Veſicles, and without Grains, which be the Seed. We find them, as it were, pierced like the Places, where theſe Subſtances ſhould have been ; whence we may conjecture, that the Worms or ve extracted the nutritive Juice, ſince the Inſects have found there, were of the ſame Colour with that e Truffle where they made their Entrance.

come to the Analyſis of this Plant, I firſt endeavour- cover whence its Smell proceeded; and that I might their Principles by the Action of the Fire, I incloſed them in a Glaſs Cucurbit, covered with its Top, in ad ſuſpended Shreds of Paper, ting'd of a bluiſh Co- the Tincture of *Turnſole*, and others ting'd with the Violets. In leſs than twenty four Hours, theſe latter um'd a beautiful Emerald Colour, whereas the Paper e with the Turnſole, did not change its Colour. This nt confirm'd me in the Opinion I had, that the Smell ore than the unfolding and breaking forth of a *volatile alt*, mixed with ſome Quantity of Sulphur. It alſo Analogy of this Subſtance with Plants and Fruits, y acquire a Smell by the Fermentation raiſed in them, h ripens them. If this Fermentation becomes too e Fruit rots, and yields a Seed perfectly ripe, as may d in Cucumbers, Gourds, and other ſoft Fruits. I ame Circumſtance to hold in the Truffle. It is inſi- e Fermentation has drawn forth its Principles, and nto ſuch a Motion as is ſufficient to render them per- the Smell and Taſte. This Vapour is in the Truffle ed with ſuch a Quantity of volatile Salts, that they emſelves from the very Beginning of the Fermenta- reas in other Plants, Woad alone excepted, the uri- iple does not diſcover itſelf but in the Putrefaction. at I have obſerved with regard to Wormwood, from racted an urinous Spirit, by allowing it to rot. The e Truffle is only agreeable in a certain Degree; for e are many of them together, or when they are ſhut hey ferment to ſuch a Degree, as to ſend forth a hat of Muſk; then they become mouldy and viſcid.

If Truffles are gathered in dry Weather, they keep much longer, eſpecially if Care be taken to lay them at a Diſtance from one another, as People do other Fruits. I believe they might be preſerved a conſiderable time in Oil, which would hinder the Fermentation, by blocking up the external Pores. The Country People pretend, that they are better after the firſt Froſts; which ſeems probable enough, ſince the Cold ſuppreſſes the Fermentation, and thereby qualifies them for being preſerved longer than otherways they would have been. Thoſe who keep them, chuſe for that Purpoſe either Sand or Earth, according as they ſtand in need of Moiſture or Dryneſs.

To continue the Analyſis, I got ſome Truffles, took off their Bark, cut them into Slices, and put them into Water, which became impregnated with the Smell of the Truffle, and was of a naſty greyiſh Colour. I pour'd ſome of this Tincture upon Syrup of Violets, which alter'd its Colour, and aſſum'd a greeniſh Caſt; I pour'd alſo ſome of it upon a Solution of corroſive Sublimate, which it at firſt darkened, and then inſenſibly produced a Precipitate of a dirty White: At laſt, the Water and the Truffles became putrid, of a very ill Smell, and viſcid. I put into ſix Ounces of Spirit of Wine, three Ounces of Truffles, cut and clear'd from the Earth like the former; the Spirit extracted a red Tincture, which had exactly the Smell of the Truffle. This Tincture coagulated the White of an Egg, as Spirit of Wine uſes to do, and produced a white Precipitate in corroſive Sublimate, becauſe of the volatile Salt it contains. When I had ſuffered the Spirit of Wine to ſtand about two Months on the Truffles, its Smell was a little alter'd, and approach'd to that of a Quince. The Slices of Truffle, which I took out of it, were dry and tough like a Horn; and immediately after appear'd white, and cover'd, as it were, with an inſipid ſaline Flower, which did not incorporate with the Spirit of Wine, as we daily obſerve, that volatile Salts do not mix with Spirit of Wine, or at leaſt, that Liquor can only be impregnated with a very inconſiderable Quantity of ſuch Salts. This Tincture of Truffles and Spirit of Wine, thrown into limpid Water, gave ſome Marks of a ſulphureous or reſinous Quality, ſince it a little diſturb'd the Water. After having obſerved the volatile Principles of the Truffles, by the Help of a ſimple Fermentation, I afterwards call'd in the Aſſiſtance of a very mild Fire: For this Purpoſe I put twenty four Ounces of Truffles freſh, entire, and as thoroughly clear'd of their Earth, as they could poſſibly be, into a Cucurbit placed in a Sand Bath. In three Days I extracted two Ounces ſeven Drams and one Scruple of a limpid Liquor, which ſmelled very agreeably of the Truffle. This Liquor turn'd the Syrup of Violets green; but on mixing ſome of it with a Solution of corroſive Sublimate, both Liquors became milky, and aſſum'd the Colour of *Opal*, and then a white Precipitate was inſenſibly produced. In two Days and a half, I extracted five Ounces and ſix Drams of a Liquor, that was equally clear and fragrant, and which produced the ſame Effects as the former. In three Days more, I extracted three Ounces and a half more of a limpid Liquor, of a Smell ſomewhat empyreumatic, which conſiderably whitened a Solution of corroſive Sublimate, and even produced a kind of white and pretty thick *Coagulum*, but did not alter the *Turnſole* any more than the former Liquors, and fermented but very little with acid Spirits. In four other Days, I quite exhauſted the Moiſture of the Truffles, from which I drew, in that time, twelve Drams of a Liquor, which had the ſame Smell with the former, and produced the ſame Effects. I then found the Truffles in the Cucurbit entirely dry, and weighing only nine Ounces and five Drams. I put them into a Retort placed in a reverberatory Furnace, and drew from them, by a mild Fire, three Drams of a Liquor tolerably clear, which turned red after ſome Days, and had a volatile kind of Smell like that of Spirits, which have loſt ſomewhat of their Strength. It turned the Syrup of Violets green, produced no Effect upon Turnſole, but coagulated, and even clotted a Solution of corroſive Sublimate. The ſecond Liquor weigh'd three Drams, was of a milky Colour, and of a Smell like that of the volatile Salts of Animals. The third Liquor weigh'd one Ounce ſix Drams, was very red, and mix'd with a little Oil. Theſe two laſt Liquors produced the ſame Changes as the former, in the Subſtances with which they were mixed.

The fourth Liquor weigh'd ſix Drams, was red, rich, thick, like Butter, and loaded with volatile Salt. This Oil did not change the Tincture of Turnſole.

There was about a Dram of volatile Salt in Cryſtals, loaded with Oil, and eaſily diſſolv'd. The Caput Mortuum weigh'd four Ounces ſix Drams and thirty-ſix Grains. I calcin'd this Subſtance, and after the Calcination perceiv'd, that it was loaded with a great deal of Earth, which by the Force of the Fire had become red. I ſeparated as much of it as I poſſibly could from the reſt of the Maſs, and procur'd of it an Ounce and two Drams; which amounts to the ſame as if I had only analyſed twenty two Ounces and ſix Drams of Truffles; ſo that there only remain'd of the *Caput Mortuum*, after a Subduction of the Earth, three Ounces four Drams and thirty-ſix Grains. After the Calcination of this Subſtance, there only remain'd two Ounces and a Dram of white Cinders, from which I drew, by way of Lixivium, a Dram of ſix'd alcaline Salt, mixed with Earth, and which produced a yellow Oker-colour'd Precipitate in a Solution of corroſive Sublimate. It turn'd the Syrup of Violets into a faint-green Colour, and fermented with Acids. This Analyſis proves, that the Smell of the Truffle depends only on the vaſt Quantity of volatile Salt, which it contains.

As to the Virtues of Truffles, the common Opinion is, that they are hot: *Galen* however, according to *Matthiolus*, looks upon them as indifferent, and the Baſis of all other Seaſonings; and indeed it is to this Purpoſe, that they are uſed in all Ragouts. *Avicen* ſpeaks of them in a manner quite different, and ſays, they ingender thick Humours more than any other Food; that they are of hard Digeſtion, heavy on the Stomach, and that when much uſed, they have a Tendency to bring on an Apoplexy and Palſy. For my part, I believe theſe two Authors may be reconciled, if we conſider two Qualities in the Truffle, which are capable of producing two different Effects: Firſt, they may prove hot of themſelves, by emitting their volatile Salts in the Stomach, or by being mixed with Salt, Pepper and other Spices, which they drink up like a Sponge. In the ſecond place, they may prove of hard Digeſtion, when eaten immoderately by a Perſon of a weak Stomach, in which Caſe they produce bad Effects, ſtagnate and form themſelves into a glareous Subſtance, which diſorders the Stomach, which may be occaſioned by the cold Quality aſcrib'd to them by *Galen*. As a Proof, that the Truffle is of hard Digeſtion, it has this in common with other Fruits, that it grows hard in Spirit of Wine, and is with Difficulty diſſolv'd in Water. I kept one ſix Months in Water, without its being entirely rotten, the Bark ſtill remaining, and not rotten, after all the reſt. *Memoirs de l'Acad. R. des Scien. A.* 1711.

AMARA, Bitters. Of theſe there are many Sorts, eſpecially amongſt Vegetables, of which proper Notice is taken under the reſpective Articles as they occur, and under the Diſorders in which they are uſeful. Let it ſuffice to ſay in general, that Bitters ſeem to exert their Efficacy, firſt, by bracing up the weaken'd and relax'd Fibres of the Organs of Digeſtion; and, ſecondly, by ſupplying the Place of a languid and inert Bile. Hence, in Conſtitutions that require it, Bitters, by promoting the Digeſtion and Aſſimilation of the Aliment, mend the Blood and Juices; and by fortifying both the Solids and Fluids, enable them to perform the reſpective Offices, which are neceſſary to a State of Health.

AMARACUS, 'Αμάρακος, Sweet Marjoram.

The Antients, in the Opinion of *Salmaſius*, underſtood by Amaracus, two different Plants; the greater Amaracus, which is Sweet Marjoram; and the leſſer, which is Marum.

But it has not been eaſy to determine, whether the Amaracus and Sampſucum were the ſame Plant, or different from each other, for Reaſons which will be given in the Diſſertation quoted at the End of this Article from *Salmaſius*.

This Plant is thus diſtinguiſh'd:

AMARACUS *Majorana Sampſuchum*, Offic. *Majorana vulgaris*, C. B. Pin. 224. Raii Hiſt. 1. 538. Tourn. Inſt. 199. Elem. Bot. 168. Boerh. Ind. A. 178. Rupp. Flor. Jen. 190. *Majorana vulgaris æſtiva*, Park. Theat. 11. Hiſt. Oxon. 3. 358. *Majorana major*, or, Great Sweet Marjoram, *Ger.* 538. *Emac.* 664. *Majorana majori folio & ſemine nota*, J. B. 3. 241. *Sampſuchum*, *Amaracus*, *Majorana*, Chab. 419. SWEET MARJORAM.

This Herb has many Branches, which creep on the Ground, with hairy round Leaves, and thin, like thoſe of Calaminth, of a very fragrant Smell, and heating, and folded into the Shape of Crowns.

It was uſual to make this Herb an Ingredient in Acopas and Malagmas, on account of its warming Quality. *Dioſcorides*, *Lib.* 3. *Cap.* 47.

The *Majorana vulgaris*, &c. Sweet Marjoram, is a little ſhrubby Plant, that grows to the Height of eight, and even nine Inches, is thick ſet with lignous Branches, which are of a ſquare Form for the moſt part, ſomewhat hairy, and reddiſh. The Leaves ſtand oppoſite, and are ſhaped like thoſe of Origanum, but of a much ſmaller Size, are covered with a hoary Down, have a fragrant Smell, and a ſomewhat acrid, bitteriſh, aromatic, and grateful Taſte. About the Tops of the Stem and Branches, at the Bottom of the Leaves, and conſequently from the Extremities of the little Sprays, ſhoot forth imbricated Ears, with hairy Leaves compacted like Scales, from the Middle of which proceed ſmall whitiſh gaping Flowers, with a quadrifid Lip hanging down, under a Leaf, that ſtands upright. From the Centre of this gaping Aperture, ariſes a whitiſh Style divided in two. The Seed is like that of the common Origanum, being ſmall, round, and of a dark-red Colour.

It is produced of Seed imported from *Narbonne* or *Provence* in *France*. *Raii Hiſt. Plant.*

Diocles the Phyſician, and the *Sicilians*, called the ſame Plant *Amaracus*, which the *Egyptians* and *Syrians* named *Sampſuchum*. It is propagated both ways, that is, both by Seed and Slip. It is more ſpirituous, and of a ſweeter Odour, th thoſe we have mentioned [Origanum, Thymus, Abrotanu &c.]. It is as full of Seed as Abrotanum. *Pliny*, *Lib.* 21 *Cap.* 11.

The fineſt and moſt odoriferous Sampſuchum, or Amaracu grows in *Cyprus*. With Vinegar and Salt it cures the Bite o a Scorpion, the Place being anointed with it. The Applicatio of it powerfully provokes the Menſes; it is of leſs Effica when drank. Mix'd with Polenta, it reſtrains the Defluxio of Humours to the Eyes. The Decoction cures the Gripe and provokes Urine, and is good for hydropical Perſons. Wh it is dry, it excites Sneezing. There is an Oil made of i called *Sampſuchinum*, or *Amaracinum*, which is warming a mollifying to the Nerves and Uterus. The Leaves, apply with Honey, diſcuſs Lividneſs and Swellings, ariſing fro Blows or Contuſions in the Face, and are good for Luxatio if apply'd to the Place with Wax. *Pliny*, *Lib.* 21. *Cap.* 22.

The beſt Sampſuchum grows in *Cyzicus* and *Cyprus*: Next theſe for Goodneſs, is the *Egyptian*. The *Cyzicenians* call *Amaracus*.

Amaracus is recommended by *Ruffus Epheſius*, and *Oribaſ* as a Purger of black and pituitous Humours. The Doſ four Drams of the Powder in Honey or Oxymel. *Ruff. Fra p.* 127. *Oribaſ. Med. Coll. Lib.* 7. *Cap.* 27.

The Amaracus grows with us in Gardens, and flowers *July*; the Herb and Seed are uſed. It is a Cephalic, and Anti-hyſteric; and on that account is principally uſed in D orders of the Head and Nerves, as well as of the Uterus a Stomach. It provokes the Menſes, uſed in a Peſſary; co forts the Brain, and diſcuſſes the Flatulencies, that moleſ *Dale*.

'Tis of fine Parts, digeſts, and attenuates. Taken any w it helps cold Diſeaſes of the Head and Brain. The Powd the dry'd Herb, taken by way of Snuff, excites Sneezing, draws out Phlegm, and ſtrengthens the Head; the Juice of Leaves, infuſed into the Noſtrils, has the ſame Effect. It rects alſo the Defects of the Thorax, and is friendly to Stomach. Taken any manner of way, it relieves ſuch as l under Diſtempers of the Liver or Spleen; and helps Flatule and other cold Diſeaſes of the Uterus. Drank, it is a Diu and purges watry Humours by Urine; and, chew'd or app it eaſes the Tooth-ach. It is an Ingredient in many Anti

The Oil of it warms and ſtrengthens the Nerves.

Nicolas Cheſneau, M. D. of *Marſeilles*, commends the lowing Errhine, as often experienced by him in the Head-a

> Take of the Root of white Hellebore, half a Dram; of Leaves of Sampſuchus, two Pugils; boil them in Ounces of Water, to the Conſumption of a third P When you uſe it, fill your Mouth with Water, and ting ſome of the Decoction, a little warm, in the Ho of your Hand, draw it up your Noſtrils, when the is very violent, for it exaſperates a ſlight one.

The Water of Majorana helps a Catarrh, if, inſtead o Errhine, you fill your Mouth with Wine, or pure W and taking ſome of the Water of the Herb in the Hollo your Hand, you ſtop one Noſtril, and draw it up the oth far as the Root of the Noſe, or the *Os Ethmoides*. If don't take this Method, the Errhine will not aſcend t aforeſaid Place, but will be diverted and drawn back upo *Fauces*, or *Narium Foramina*.

This Errhine (ſays *Simon Paulus*) my Father uſed wi higheſt Reputation in the Caſe of Prince *Walenſtein*, wh afflicted with a Rheum.

If the Sides of the Noſtrils (*Pinnæ Narium*) or the between the Eyebrows, be anointed with the Balſam of jorana, it has a wonderful Effect in a Catarrh, or rat Rheum (*Coryza*). The Nape of the Neck, (*Nucha*) a Temples, are uſually anointed with the ſame Balſam, no in the aforeſaid Diſorder, but in other cold Diſtempers o Head. Theſe three Obſervations were communicated t *Ray* by Dr. *E. Hulſe*. *Raii Hiſt. Plant.*

The Oil of Amaracus (ἀμαράκινον) is thus prepar'd:

The fineſt Amaracinum is made in *Cyzicum*. It is p of the Oleum Omphacinum and Oleum Balaninum inf with Xylobalſamum, the Juncus Odoratus, and Calam maticus, and ſweetened with Amaracus, Coſtus, Am Spikenard, [νάρδος] Carpobalſamum, and Myrrh, to ſome add Cinnamon, who prepare it more ſumptuouſly. Preparation they make uſe of a Quantity of Wine and which ſerves as well for anointing the Inſide of the as to macerate the powder'd Aromatics.

It heats, promotes Sleep, opens the Pores, [ἀνασ mollifies, kindles a Fervor, [πύρωτικον] provokes U effectual in Putrefactions, [σήπας] and Fiſtulas, and in drocele, after the Operation. It cleanſes and takes a cruſty Scabs round the Edges of exaſperated Ulcers. Difficulty of Urine, if the Patient be anointed with it a Anus, and cures Inflammations of the ſaid Part, and t mo rroids, if anointed in like manner. Apply'd to the Uterus, provokes the Menſes, and diſcuſſes any Hardneſs or œdema- us Tumours which affect it; and, ſpread upon thin Woolen, d apply'd, is good for wounded Nerves and Muſcles. Di- rides, *Lib.* 1. *Cap.* 68.

This is directed in a manner ſomewhat different by *P. Ægi-* a:

Take of Elecampane, [ἑλένιον] ten Pounds; Xylobalſamum, twenty Pounds; Cyperus, eight Pounds; the Flowers of Juncus Odoratus, Aſpalathus, [ἀσπαλάθου] Savine, each eight Pounds; Opoponax, Seeds of Amaracus, each two Pounds; of the fineſt Oil, [ἔλαιον πρώτειον] eighty Pints; fragrant Wine, five Pints; macerate them all in Wine, except the Savine, and then boil them ſix Hours, but the Savine only three. Some add three Ounces of Ærugo, to give it a Colour. *P. Æginet. Lib.* 7. *Cap.* 20.

The Σαμψύχινον, or Oil of Sampſuchum, is thus prepared:

Take of Serpyllum, Caſſia, Southernwood, Flowers of Siſymbrium, Myrtle-leaves, Sampſuchum, of each ſuch a Quantity as you think fit, due regard being had to their Strength, and bruiſe them all together: Then pour on them as much Oleum Omphacinum as ſhall be ſufficient, without over-powering the Virtues of the things macerated in it, and after four Days ſtrain it: This done, take the like Quantity of freſh Ingredients, and macerate them in the ſame Oil, the ſame Length of Time, and then ſtrain it; by which means the Oil will have the more Strength and Efficacy. Chuſe your Sampſuchum of a black Colour, inclining to a Green, very odoriferous, and of a moderately acrid Taſte.

is of a heating, attenuating, and acrid Quality, is good he Occluſion or Diſtortion of the Uterus, and brings away Menſes, Birth, and After-birth, and relieves under Hyſte- It mitigates the Pains of the Inguina and Loins. It is uſed with Honey, becauſe by its vehement Aſtringency ardens the Places. It diſpels Laſſitudes from the Parts nted with it, and is a very uſeful Ingredient in Cataplaſms. ſcor. *Lib.* 1. *Cap.* 58.

aſius *de Homonym. Hyl. Iatr. Cap.* xiii. Of the Amaracus and Sampſuchus.

ἀμάρακος, with the *Greeks*, was not the Name of one Herb : Some Writers, who are neither inconſiderable for Num- or Authority, would have the Sampſuchus ſo called. It ange, that *Dioſcorides* ſhould tell us, that the σαμψῦχος e Copies have it) was called by the *Cyzicinians* and *Sicilians* ακος, and yet make the σαμψύχινον and ἀμαράκινον Oint- s two different things: But theſe Inconſiſtencies are cuſto- with *Dioſcorides*, as I have obſerved. *Heſychius* has it, ῦχος πλείστη, &c. "Sampſuchus grows very plentifully *Egypt*; others call it *Amaracus.*" But ſee, in Anſwer to *Meleager*, one of great Antiquity, who, in that Poem, e he compares each Poet with his proper Flower, makes ῦχος and ἀμάρακος two diſtinct things:

Τῇ δ' ἅμα καὶ σαμψῦχον ἀφ' ἡδυπνόοιο Ῥιανοῦ,
Καὶ γλυκὺν Ἠρίννης παρθενόχρωτα κρόκον.

here was preſent the *Sampſuchus* from *Rhianus*, famous its pleaſant Air, and the ſweet Virgin-colour'd *Saffron*, *Herinna.*" And a little after,

Ἐν δ' ἄρ' ἀμάρακον ἧκε πολυστράτου ἄνθος ἀοιδῶν,
Φοινισσάν τε νέκυν κύπρον ἀπ' Ἀντιπάτρου.

nd there came the *Amaracus*, the Flower ſung by *Poly- atus*, and the mournful *Phœnician Cypreſs*, worn at Fu- rals, from *Antipater.*" *Galen* alſo, and *P. Ægineta*, treat e Amaracus and Sampſuchus in different Chapters, which would not have done, if Amaracus and Sampſuchus had all one. They who are mov'd by the Authority of *Dioſ*- s, to think them the ſame, are not aware of what Streſs to be laid upon it. Nor indeed do they apprehend, that ords, as they ſound, are not levell'd againſt the oppoſite ion, which holds them to be diſtinct Species of Plants, ther, if you take them aright, tend, not a little, to ſup- t. "The *Sicilians* and *Cyzicinians*, he ſays, call that *aracus*, which others call *Sampſuchus.*" This does not them to be the ſame: Himſelf plainly ſhews the contrary, he makes the μύρον σαμψύχινον and ἀμαράκινον different ents. *Diocles*, quoted by *Athenæus*, has ἀμάρακον, ὅ τινες ῦχον καλοῦσι. To confirm this by an Example: Some of *reeks* call τὸ κρίνον alſo λείριον, according to *Dioſcorides* lf, and many more. Nor did this hinder others from Narciſſus by the ſame Name; and indeed more uſed ord λείριον for Narciſſus, than for the Lily, which the called κρίνον. But more than this may be ſaid for Amaracus, which they would have to be *Greek*, but σαμψῦχος an *Egyptian* and *Syriac* Word. *Pliny* ſays, *Diocles* the Phyſician, and the *Sicilians*, called *Amaracus*, what *Egypt* and *Syria* named *Sampſuchum.* So that ἀμάρακον, it ſeems, is the *Greek*, and σαμψῦχον, the *Syriac* Name for the ſame Herb. And indeed this latter Word plainly ſeems to be of a *Syriac* or *Egyptian* Turn; for Σάμψειρα is a City in *Egypt*, and Σάμψα a Village in *Arabia*, and Σαμψαῖοι another in *Judæa*, a Province of *Syria*, which they interpret ἡλιακοί, and σάμψα ἥλιον, whence alſo comes Βαισάμψα on the *Arabian* Gulf, which *Stephanus* interprets οἶκον ἡλίου, "the Houſe of the Sun." The Sun in *Hebrew*, 'tis well known, is called שמש *Shemeſh*, which is the ſame in *Arabic*. There is Mention made of ἀμάρακος in the Writings of *Theophraſtus*, but none of σαμψῦχος. In vain therefore would they draw him over to the Party of thoſe who have inform'd us, that Sampſuchum is the ſame as Amaracus. I don't doubt but the Amaracus of the *Greeks* anſwered to the Sampſuchum of the *Egyptians*; but the *Greeks* called ſomething elſe beſides the Sampſuchus by this very Name. The *Cyzicinians*, who had the beſt, and the greateſt Plenty of Sampſuchum growing in their Territories, called it ἀμάρακος, and ſo did the *Sicilians.* But all the reſt of *Greece* did not agree in that Name; for ſome called ἀμάρακος, *Parthenium*, of which *Dioſcorides* ſpeaks; *viz.* Παρθένιον, οἱ δὲ ἀμάρακον, οἱ δὲ λευκάνθεμον καὶ τοῦτο καλοῦσι (ſo I read it from a very antient Copy). "*Parthenium*, ſome call it *Amaracus*, others "*Leucanthemus.*" Therefore *Pliny* is to be corrected in this Word, *Lib.* 21. *Cap.* 30. *Parthenium alii Leucanthen, alii Tamnacum vocant*; read *alii Leucanthemon, alii Amaracum vocant.* In the Index it is written *Parthenium, ſive Leucanthes, ſive Amaracus.* Λευκανθὲς is the ſame as λευκάνθεμον. *Pliny* adds, *Celſus apud nos, Perdicium & Murarium.* He confounds, as he uſes to do, two Parthenia. The *Parthenium*, which was alſo called *Perdicium*, was different from the *Murarium*, which grew on the Walls. There is a ridiculous Miſtake of *Pliny*'s in what follows, *Flore albo, odore Mali, ſapore amaro.* The *Greek*, from which he tranſlated, reads thus; ἄνθη λευκὰ κύκλῳ, τὸ δὲ μέσον μήλινον, ὀσμῇ ὑπόβρωμον. *Pliny* read μήλινον ὀσμῇ, ὑπόβρωμον, and render'd it *Odore Mali*, which is moſt abſurd. The *Greek* Author means, that the circling Leaves of the Flower were white, but the Middle of the Calyx yellow. This ſort of Parthenium grows not in the Hedges, or on the Walls, but the other, which is called ἑλξίνη. And this Helxine itſelf is homonymous to another Helxine named κισσάμπελος and ἀμερσίνη, which is a Species of Convolvulus. The Parthenium Helxine, or Murarium of *Celſus*, is now called *Parietaria*, [Pellitory of the Wall] by a very antient Name. *Conſtantine* called *Trajan*, *Herba Parietaria*, becauſe his Name was inſcrib'd on many public Buildings. *Ammianus* alſo calls it *Herba Parietaria.* The Authors of the *Hippiatrica*, *Cap.* 390. Σκόροδον Γαλλικὸν καλάκοψον, καὶ σιδηρῖτιν περδίκιον τὴν παρὰ Ῥωμαίοις λεγομένην παριεταρίαν βοτάνην· "Bruiſe *Gallican* Garlick, "and Sideritis Perdicium, called by the *Romans*, *Herba Pari-* "*etaria.*" And *Cap.* 496. Καὶ φύλλον βοτάνης σιδηρίτιδος, ἣν Ῥωμαῖοι παριεταρίαν καλοῦσι: And *Cap.* 562. καὶ πεσσάψαι βοτάνην σιδηρῖτιν, ἣν Ῥωμαῖοι καλοῦσι παριεταρίαν. "And the Herb "Sideritis, which the *Romans* call *Parietaria.*" And ſo in many other Places. Now becauſe there are ſeveral Species of Plants which bear the Name of *Sideritis*, they would be underſtood to mean what the *Romans* called *Parietaria. Paulus Ægineta* has, Ἑλξίνη, οἱ δὲ περδίκιον, οἱ δὲ παρθένιον, οἱ δὲ σιδηρῖτιν, οἱ δὲ Ἡράκλειαν, δύναμις δὲ αὐτῆς ῥυπτική. "*Helxine*, "called alſo *Perdicium*, *Parthenium*, *Sideritis*, and *Heracleia*; "it is of an abſterſive Quality." This was the ſame with the *Urceolaris* of the *Latins* ſo called, becauſe they ſcoured their *Urcei* [Pots] and Glaſſes with it. The *Greek* Hippiatri [Farriers] *Cap.* 520. πρὸς ἀνάπνοιαν, ἤτοι βῆχα, "for a broken Wind, "or a Cough." Βοτάνην, ἣν Ἕλληνες μὲν περδίκιον, Ῥωμαῖοι δὲ οὐρκιολάρεμ ὀνομάζουσι. "The Herb which the *Greeks* call "*Perdicium*, and the *Romans*, *Urceolaris.*" Alſo *Pelagonius*, Βοτάνης περδικιάδος, ἣν Ῥωμαῖοι οὐρκιολάρεμ καλοῦσι. "The "*Perdicias*, which the *Romans* call *Urceolaris.*" The modern *Italians* call it *Vitreda*, from the Uſe it is put to in ſcouring of Glaſſes. An antient *Arabian* Author, who added *Arabic* Nomenclaturas to a very old Copy of *Dioſcorides*, calls this Helxine, *Hasjis Alzagiagi*, that is, *Glaſſwort*, becauſe it was uſed to ſcour Glaſs Veſſels. He adds, in the ſame Place, that it was a Species of *Lebleb*, that is, of a *Convulvulus.* Thus he confounded it with another Helxine, which climbs up whatever is near it. But that it ſerv'd the antient *Greeks* for the ſame Uſe, that is, ſcouring of Glaſs Ware, its Name ſhews us; for they call'd it κλύβατις, *Klubatis*, ἀπὸ τοῦ κλύζειν τὰς βάτεις, or βατιακάς, "from rinſing the Bates or Batiakes," which were a ſort of Drinking-glaſſes. There is a Miſtake in *Apuleius*, *Cap. de Perdical.* of *Ulciolaria* for *Urceolaria. Pliny*, *Lib.* 22. *Cap.* 17. makes the Perdicium Helxine different from the Perdicium Urceolare. "*Helxine*, ſays he, is by ſome "called *Perdicium*, becauſe the Partridges eſpecially feed on "it; ſome call it *Sideritis*, others *Parthenium.*" To this he ſubjoins its medicinal Virtues. A little after, as if he were ſpeaking of another Herb, he begins again thus: "Perdicium, " or Parthenium, (for it is the ſame as Sideritis) is called " among us, *Herba Urceolaris*, by others, *Aſtericum*. Its " Leaves are like thoſe of Ocimum, only blacker; it grows " on Walls, and Roofs of Houſes." He ſeparated them alſo in the Index. "Helxine XII. Perdicium, or Parthenium; " or Sideritis, which is Urceolaris, or Artereum XI." He tranſcribed thoſe Accounts from two Authors, and therefore ſuppoſed they ſpoke of different things. For the Helxine of the *Greeks* is the ſame as Urceolaris, which was alſo called *Abſtergum*, (for ſo it ſhould be read in both the forementioned Places) becauſe it was uſed in abſterging or ſcouring of *Urcei*, " ſmall Veſſels." Helxine, in *Dioſcorides*, which is the ſame as Parthenium, has Leaves like thoſe of Mercury (λινοζώστει). Parthenium, which is the Urceolaris of *Pliny*, has Leaves like Ocimum. They are the ſame thing, for λινόζωστις, or Mercury, has Leaves alſo like thoſe of Ocimum. But *Pliny* ſays, that Helxine has Leaves, that bear a mix'd Reſemblance of thoſe of Plantane and Horehound. How ſo? Why becauſe he confounded the Helxine Sideritis with another Sideritis, the Heraclia, whoſe Leaves are of the Size of thoſe of Horehound.

Parietaria, Urceolaris, Abſtergum, Perdicium, and the Herba Muralis of *Celſus*, are Synonyma of the ſame Herb, which, with the *Greeks*, is that Helxine, whoſe different Names you find in *Dioſcorides*, according to a very antient Copy, as follows: Ἑλξίνη, οἱ δὲ παρθένιον, οἱ δὲ σιδηρῖτιν, οἱ δὲ ἡράκλειαν, οἱ δὲ ὑγιεινὴν ἀγρίαν, οἱ δὲ κλύβατιν, οἱ δὲ πολυώνυμον καλοῦσι. Φύεται ἐπὶ θριγκοῖς ϗ τοίχοις. "Helxine, which goes by the various Names of Parthenium, Sideritis, Heraclia, wild Hygieine, " Klybatis, and Polyonymus; it grows on Walls of Towns or " Houſes." The Reaſon of its Name *Helxine* [from ἕλκω, *to draw*] is taken from its rough Seeds about the Stalk, which ſtick to Clothes. *Pliny* expreſſes it, by lappaceous, [Dock-like] Heads. "Seeds, ſays he, in lappaceous Heads, " which ſtick to Clothes, whence they would have it to be call'd " *Helxine*." He ſeems to call whatever implies a Faculty of drawing and ſticking, *lappacious*. *Dioſcorides* has it, Σπέρματα τραχέα ἀντιλαμβανόμενα τῶν ἱματίων, "rough Seeds, that " take hold of the Garments."

Another Helxine, ἑλξίνη, of a quite different Species, is ſo called, becauſe to whatever it applies itſelf, it uſes to climb up, and twiſt itſelf about it: Ἑλξίνη, οἱ δὲ ἀμερσίνην, οἱ δὲ κισσάμπελον, φύλλα ἔχει ὅμοια κισσῷ, ἐλάττονα δὲ, ϗ κλώνια μακρὰ περιπλεκόμενα ὅπου ἂν τύχοι. "Helxine, by ſome called *Hamerſine*, by others *Ciſſampelus*, has Leaves like the Ivy, but " leſs, which twine themſelves about every thing they meet " with." The *Greeks*, according to their uſual Cuſtom, transfer the Properties of one Helxine to another, without making any Difference. So the Parthenium Amaracum is quite different from the Parthenium Helxine, or Murale, between which *Pliny*, according to his careleſs way, makes no Diſtinction. None then ſhall perſuade me, that he had any Knowledge in Botany, who ſhew'd ſo much Ignorance in his Notions about an Herb ſo very common as *Parietaria*.

Well, but there are alſo two Amaracums; one, otherwiſe called *Parthenium*, another alſo called *Sampſuchum*, which is either an *Egyptian* or *Syriac* Name. However I can hardly believe, that *Galen* and *Paulus*, when they gave us diſtinct Deſcriptions of the Amaracus and Sampſuchum, are to be underſtood of this Parthenium Amaracum; much leſs ſhould I be able to prove, that the Unguentum Amaracinum, which in *Dioſcorides* is different from the Sampſuchinum, was uſually made of this Parthenium Amaracum; for it is an Herb of a very rank Smell. Beſides, when *Galen* ſpeaks of the Preparation of Amaracinum, he intimates as though he would be underſtood of that Sort of Amaracum, which was produced to the greateſt Perfection in *Cyzicus*, and was called by the *Egyptians*, in their own Tongue, σαμψῦχος. But *Neophytus*, under the Name of *Amaracum*, has deſcribed the Parthenium of *Dioſcorides*, and aſcribed to it the ſame Virtues, that *Galen* did to his Amaracum, which he ſeparated from Sampſuchum. Ἀμάρακον, ſays he, οἱ δὲ ἄνθεμιν, οἱ δὲ λευκάνθεμον, οἱ δὲ παρθένιον, οἱ δὲ χαμαίμηλον, οἱ δὲ χρυσοκαλλὶς, οἱ δὲ μαλάβαθρον, οἱ δὲ ἄνθος πεδινὸν· Ῥωμαῖοι σῶλις ὀκούλουμ, οἱ δὲ μιλλιφόλιαμ, Θοῦσκοι καντάρ. "Amaracum is called by ſome, Ἄνθεμις, by others, " *Leucanthemus*, *Parthenium*, *Chamaimelum*, *Chryſocallus*, *Malabathrum*, and *Ground-flower*; by the *Romans*, *Oculus Solis*, " *Millefolia*, and by the *Tuſcans*, *Cantar*;" to which he ſubjoins from *Galen*'s Amaracum, Γαληνὸς ἀμάρακον θερμὸν μέχρι τῆς τρίτης τάξεως, ξηρὸν δὲ τῆς δευτέρας. "*Galen* makes Amaracum to " be hot in the third Degree, and dry in the ſecond." But I have long ſince reſolved with myſelf to give but little Credit to thoſe *Greeks* of the lower Ages; for believe me, who am pretty well acquainted with them, they are not to be truſted. Here this Writer has coupled together ſeveral Flowers of quite different Kinds, as if the Names of Plants were their only Characteriſtics.

Nor can we pay a jot the more Deference to the Opinion of very celebrated Medico-Botaniſts, [ἰατροβοτανικῶν] who would perſuade us, that the *Amaracus* of *Galen* and *Paulus* is no *Sampſuchus* of *Dioſcorides* and *Pliny*, but *Marum*; as if Ga had not made diſtinct Mention of Amaracus and Marum in Compoſition of the Ointment *Hedychroum*, where he alſo us, that *Marum* is of a ſtronger Smell than *Amaracus*. "Th " three, ſays he, are of different Kinds, according to Ga " *viz*. Sampſuchus, Amaracus, and Marum." *Pliny* alſo, 13. *Cap*. 1. in expreſs Terms, makes the Sampſuchinum U guentum to be quite different from the Amaracinum: "T " beſt Sampſuchinum, ſays he, is to be had in *Cyprus* " *Mitylene*, where there is the moſt Sampſuchus." A li after, in the ſame Chapter, he mentions Amaracinum ſepara ly, as a diſtinct Thing, thus: "The Juices of each P " make the celebrated Ointments. The choiceſt of th " Herbs is the Malabathrum; next to this are the *Illyrian* " and the Amaracus of *Cyzicus*." You ſee, that the Sampſuchus is in *Cyprus*, whence comes the Sampſuchin but the greateſt Plenty of Amaracus is in *Cyzicus*, whence have the Amaracinum. But I would beg Leave to obſerve h that by Amaracus in this Place, is not meant Marum. F in the ſame Chapter, Amaracus and Marum are both In dients together in ſome Compoſitions. *Telino Amaracu* *Maron pariter adduntur*. The Royal Ointment alſo, and many more, contain both Amaracus and Marum.

Theſe Inconſiſtencies are owing to the Heedleſſneſs and advertency of Authors, who tranſcribing from different P into their own Writings, took no Care, for the moſt part, diſtinguiſh between things which ought to be ſeparated; on the other hand, made Diſtinctions without Foundation, ſuppoſed a Difference between things which ought to be counted one and the ſame. There is no doubt, but tha Sampſuchus was of the ſame Species with the Amaracus, under a *Greek*, the other under an *Egyptian* Name. Bu this Difference of Names we ought, perhaps, to add an reſulting from the Nature of the Soil. For oftentimes ſame Plant which grew in *Greece*, was of a different Habit Figure from one growing in *Egypt* or *Syria*, as might be ſerved in the Cypreſs and Liguſtrum, and not a few ot And ſo there might be alſo ſome Difference between the S pſuchus and Amaracus as to their Juices, ariſing from their Soil and Air. *Columella* makes *Egypt* the Country of Sa chus, and reckons it among exotic Herbs:

Nataque jam veniant hilari Sampſucha Canopo.
Come Sampſuchus from *Egypt*'s merry Land.

Nicander makes this only Difference between ἀμάρα σαμψῦχος, that Amaracus grows in *Greece*, but the Sa chus is an Exotic. Amongſt Remedies, that are eff againſt the Bites of Serpents, he reckons up Amaracus Sampſuchus ſeparately:

—— μάλα δ' ἂν ϗ ἀμάρακος εἴη
Χραισμήειν, πρασιῇς τε ϗ ἀνδήροισι χλοάζων.

"Let Amaracus, in particular, contribute its friendly Vi " the Herb that flouriſhes in Garden-plots and Terra Here he plainly ſpeaks of that Amaracus which was the Ornament of the Walks and Areas of Gardens. So in a Place, he diſtinguiſhes the medicinal Naſturtium from the mon, in the following Words:

—— πότε φύλλον ἐναλδόμενον πρασιῇσι
Καρδαμίδος, Μῆδόν τε ——

"The Leaf of the Cardamis, that uſually grows in Ga " plots, and the *Median*." He calls it the common Ca which was brought from *Media*. This Place was never ſtood by antient nor modern Interpreters.

Amaracus then was proper to *Greece*, and, as *Nicand* us, was common in Gardens. But a little after, he Sampſuchus, as though it were a different thing from Am amongſt Alexipharmacs:

—— οὐδὲ ϗ ἀκτῆς
Καυλοὺς ἠνεμόεντας, ἰδὲ πτερὰ πολλὰ ϗ ἄνθη
Σαμψύχου.

"Nor (forget) the waving Boughs of the Elder-tree, " good Store of the Branches and Flowers of the S " chum." No Reaſon but this can be given, why he distinguiſh them. That Sampſuchus was not of the Gr *Greece*, the Name itſelf ſufficiently ſhews.

After this manner are Authors to be reconciled, who times make Amaracus the ſame with Sampſuchus, a times ſuppoſe them different. Have we not the like in Liguſtrum? which ſome would have to be the ſam the Cypreſs, others contradict it. We have aſſerted in Place, that Cypreſs is the Eaſtern Liguſtrum, and Li the common Cypreſs; and yet there is no ſmall Diffe tween them both in Figure and Smell.

They who have deſcrib'd the σκευασία, [Preparation] Amaracinum Unguentum, as it is prepared in *Cyzicu*, the Name ἀμάρακος obtains, called it ἀμαράκινον, ho left us in Writing the *Egyptian* way of Preparation of the me Ointment, called it σαμψύχινον, becauſe the Plant had e Name of σαμψοῦχος in *Egypt*. Others tranſcrib'd theſe fferent σκευασίας, "Preparations," into their Books under ſtinct Titles. That *Dioſcorides* did ſo, is plain; though in other Place he had owned, that ἀμάρακος and σάμψυχος ere the ſame, and only differed in the Language. Hence *alen*, and *Paulus*, who followed him, put them aſunder, and umerate them diſtinctly, as if they were really different.

I wonder too, that *Galen* and *Dioſcorides* both write, that naracus was uſually added to the Amaracinum Unguentum. t *Theophraſtus*, in his Commentary on Smells, affirms this pellation of Amaracinum to be Pſeudonymous (ψευδώνυμον) auſe nothing of Amaracus uſed to enter that Compoſition: d 'tis obſervable, that Amaracus is the only fragrant Simple, t is left out in all Ointments by *Myrepſus*. Τὸ δ᾽ ἀμαράκινον χρηστὸν ἐκ τῶν βελτίστων ἀρωμάτων συντίθεσθαι χωρὶς ἀμαράκου, δ᾽ οὐ χρῆσθαι μόνῳ τῶν ἀρωμάτων τοὺς μυρεψούς, οὐδ᾽ εἰς ἓν ον. "Good Amaracinum is compounded of the beſt Aromatics, except Amaracus, which is the only thing of that Kind, that never enters the Compoſition of any one Ointment." Ἀλλὰ ψευδώνυμος ἡ ἐπίκλησις, "the Appellation pſeudonymous," it is called Amaracinum, without a e of Amaracus in it.

With this agree *Servius*'s Notes on the third Æneid: "*Amaracus* was a Boy, that was the King's Ointment-bearer, who happening to fall while he carry'd the Ointments, occaſioned the greater Fragrancy by their Confuſion." Hence eſt Ointments came to be called *Amaracina*. The Ama- um then was ſo called from the Boy Amaracus, and not the Herb of that Name, which had no Place in this Oint-

ophraſtus informs us, that the Amaracinum was made of s. Ἀπὸ ῥιζῶν δὲ τό τε ἴρινον καὶ νάρδινον, καὶ τὸ ἀμαράκινον κόστου τοῦτο γὰρ ὀνομάζουσι τὴν ῥίζαν. "The Irinum and e Nardinum are made of Roots, and the Amaracinum of ſtus; for they call this a Root." At this Rate indeed, the entum Amaracinum muſt be different from the Sampſu- m: But *Dioſcorides* and *Galen* aſſure us, that the Ama- was as uſually added to the Amaracinum, as the Sampſu- to the Sampſuchinum, in Defence of whoſe Aſſertion, ſt that can be ſaid is, that the Preparation of the Ama- m in their Time, was different from what it was in the of *Theophraſtus*. But what ſhall we do with *Pliny*, who s, that the Ointment was made of Amaracus alone, t the Mixture of any other odoriferous Ingredient? Why, l ſay, that he was quite wrong; and, no doubt, he drew ontrary Senſe from theſe Words of *Theophraſtus*; viz. οὐ χρῆσθαι μόνῳ τῶν ἀρωμάτων τοὺς μυρεψοὺς οὐδ᾽ εἰς ἓν He either read theſe Words wrong himſelf, or heard read them ſo, as if they run thus: Τούτῳ δὲ χρῆσθαι μόνῳ ωμάτων ὧδε εἰς μύρον. "This Aromatic is uſed to e up an Ointment by itſelf." But this ſame *Theophraſtus*, enies that Amaracus was uſed in the Compoſition of cinum, aſſures us, that τὸ μάρον, "Marum," was an ent in it: Τὸ δὲ μάρον καὶ τὸ χρῶμα τὸ εἰς τὸ ἀμαράκινον μενον θερμαντικά. "But the Marum, and the Chroma, us) which is an Ingredient in the Amaracinum, are ; and the τὸ μάρον, and τὸ ἀμάρακον, ſeem to have the riginal, and the latter derived from the former, μάρον, and ἀμάρακον; ſo that they are Species of the ſame as appears by the Name. As the laſt deſcended from er by Production, ſo it declin'd, and became inferior Goodneſs and Virtue. The Maron then is better and agrant than the Amaracum, as is acknowledged by

r the Sampſuchus, or Amaracus, then, we are certain aromatic Herb which we call *Majorana* (Sweet Mar- The *Latins* of the loweſt Ages ſo named it, by way ence, to diſtinguiſh it from the leſſer Amaracus, which d μάρον, "Marum." Nor are we to ſeek for any fference between Amaracus and Maron. The more *Greeks* interpret σάμψυχος by μαιωράνα, Majorana, the greater Amaracus, as Marum is the leſſer. This of a ſtronger and more fragrant Smell, according to nd is really ſo. It is commonly called *Franca Majo- French* Marjoram." But, perhaps, this is a Corrup- e *Arabic* Name, of which by-and-by. It is alſo called ἰσόβρυον, *Iſobryon*, becauſe it is covered with a Multi- mall Leaves, reſembling thoſe of βρύον, "Moſs." s, Μάρον, ἢ ἰσόβρυον (ſo it ſhould be read). The dern *Greeks* call it ὀριγανὶς, *Neophytus* Μάρον, ίδα, πόα φρυγανώδης. "Marum, by ſome called is, is a ſhrubby Plant." Calamintha alſo is by ſome *ganis*, which Calaminth, we are told by *Dioſcorides*, Sampſuchus, at leaſt, τῇ λεπτοφύλλῳ, "in Thinneſs es." The Scholiaſt on *Nicander* makes Sampſuchus e Hyſſop. This Hyſſop ſome interpret Caſia, as who writes, that ὕσσωπος, "Hyſſopus," was by s called κασίολα, "Caſiola." Ῥωμαῖοι ὕσσωπον, οἱ δὲ λάτερ, οἱ δὲ κασίολα. "The *Romans* call Hyſſop *Later*, and "ſome *Caſiola*." Some have alſo expounded Sampſuchus in *Latin* by Caſia. Gloſſæ, σαμψοῦχον, *Sampſuchum*, *Caſia*. Theſe Herbs were ſcarce in antient Times, and not to be met with every-where. *Pliny* reckons Marum an exotic Shrub, of the Growth of *Lydia* and *Egypt*; but *Dioſcorides*, that it was πόαν γνώριμον, "a noted Plant," which grew very plentifully in *Lydia*. It appears to be a noted Plant in *Aſia*, the Country of *Dioſcorides*, whoſe Anceſtors were of *Anazarba*. It was ſo little known to the *Romans* in thoſe Times, that *Pliny* makes it a large Shrub, worthy to be mentioned with the Cypreſs and Aſpalathum. "*Egypt*, ſays he, produces alſo Maron, but not "ſo good as *Lydia*. It has larger and various Leaves, but the "*Lydian* has ſhort, very ſmall, and fragrant Leaves." I could venture to lay any Wager, that this *Egyptian* Maron, with the larger and leſs fragrant Leaves, is the ſame with Sampſuchus, or the *Egyptian* Amaracus. For the Marum had ſhort and minute Leaves, and more fragrant than thoſe of the Sampſuchus, which ſome alſo called Marum.

Sampſuchus was very plentiful in *Egypt*; whence the antient Critics have expounded Ναυκρατίτην στέφανον in *Anacreon*, by Sampſuchus. *Athenæus*, Παμπόλλους δὲ οἶδα λέγοντας ἐκ τῆς σαμψούχου στέφανον εἶναι τὴν ναυκρατίτην, πολὺ δὲ τὸ ἄνθος τοῦτο κατὰ τὴν Αἴγυπτον. "I know many who are of Opinion, that "the Garland of *Naucratis* was made of Sampſuchus, which "Herb grows very plentifully in *Egypt*." *Dioſcorides* ſays, that Marum grows in great Abundance about *Tralles* and *Magneſia*, which are Cities of *Lydia*; and *Theophraſtus*, among the Flowers uſed in Garlands, mentions the *Phrygian* Amaracus, which is the ſame with that of *Cyzicus*. *Galen* tells us, that he ſaw Amaracus in *Italy*, but does not ſay ſo of Marum. Therefore Marum, at that time, was found in fewer Places than Amaracus.

In a very antient *Dioſcorides* it is written, that Sampſuchus was called in *Arabic*, *Marzangius*, but Marum, τὸ μάρον, *Marmarhanz*. In *Aviſena* it is written *Marmarhauz*; for it is certain, that Marum is deſcribed by him under that Name, in *Chap.* 465. of the *Latin* Edition. An antient Interpreter reads it *Marmacor*, from the Tranſpoſition of a ſingle Punctum, διακριτικὸν, "diſtinguiſhing Point." From this *Marzangius*, the *Barbarians* hammered out their *Majorana*, as if they would ſay *Marzangiana*. In both the *Arabic* Words you may trace the Term μάρον. There is room for Conjecture, that different Species of Marum are ſignified by theſe two Words. In the preceding Chapter, *Aviſena* reckon'd an Herb called *Maru*, among whoſe Species was found one named *Marmahuki*. *Bellunenſis*, in his Lexicon, remarked, that *Marmacor*, or *Marmahauz*, was an Herb, which the common People at *Venice* called *St. John's Wort*, and that its Seed was called the Seed of *Maru*. But *Marmahauz*, in *Aviſena*, is the Term for the *Maron* of the *Greeks*, as appears from the Deſcription. But what is called *Maru* in that Author, of which *Marmahuzi* is a Species, is another thing. *Alpagus* aſſures us, that it is the Herb St. John's Wort. *Leonicenus* pretends, that the *Bacchar* of the Antients is ſo called by the *Italians*. Whether this be true, I cannot ſay; but this is certain, that moſt of the Remedies, which *Aviſena* relates of the *Almaru*, agree to the *Bacchar*. Of the Species of *Marum*, one, he ſays, reſembles an *Ox's Tongue*, or the Herb *Bugloſs*, yea, is that very Herb. Nay in *Chap.* 436. where he treats of the Bugloſs, he ſays, in expreſs Terms, that its Leaves are like thoſe of the *Almaru*. In a very antient Copy of *Dioſcorides*, λιβανωτὶς, is interpreted *Bezer Almaru*, "the Seed of *Maru*." Among the Species of Libanotis, *Dioſcorides* reckons one, from *Theophraſtus*, which has Leaves like the wild Lettuce. Θεόφραστος δὲ ἱστορεῖ μετὰ τῆς ἐρείκης λιβανωτίδα, θρίδακι ἀγρίᾳ τῇ πικρᾷ ὅμοια φύλλα ἔχουσαν, ῥίζαν δὲ βραχεῖαν φύεσθαι. "*Theophraſtus* relates, that "the Libanotis grows with the common Erica, Heath, and has "Leaves like the wild bitter Lettuce, and a ſhort Root." The Place of *Theophraſtus* is in Book 9. *Chap.* 12. of the barren Libanotis: Ὁ δ᾽ ἄκαρπος ἔχει τὸ φύλλον ὅμοιον θριδακίνης τῆς πικρᾶς, τραχύτερον δὲ καὶ λευκότερον· φύεται δὲ ὅπουπερ εἴρηται πλείστη. "The barren Sort has a Leaf like that of the bitter "wild Lettuce, but rougher and whiter, &c." In this there is a remarkable Corruption, which muſt be amended by the Authority of *Dioſcorides*, who, it is plain, read this Paſſage in *Theophraſtus* thus: φύεται δὲ ὅπου ἐρείκη πλείστη, "it grows where "there is plenty of Heath." This is what *Dioſcorides* expreſſed, by ſaying, that this Libanotis did μετὰ τῆς ἐρείκης φύεσθαι, "grow with the Heath." 'Tis plain, that this is the Libanotis, which *Aviſena* reckons among the Species of *Almaru*, and likens to an Ox's Tongue. As to its having Leaves like the wild Lettuce, the more modern *Greeks* ſay the ſame of their Bugloſs. *Neophytos*: Βούγλωσσον φύλλα μὲν ἔχει ἓξ ἢ ὀκτὼ, μῆκος σπιθαμῆς, ὡσανεὶ ἀγρίας θρίδακος, πλάτος δακτύλων δύο ἢ ἔλαττον. "The Bugloſs has ſix or eight Leaves, a Span long, like thoſe "of the wild Lettuce, of the Breadth of two Fingers, or leſs." This Bugloſs is different from that of the antient *Greeks*, whoſe Leaves are compar'd by *Dioſcorides* to thoſe of Mullein, φλόμῳ, and is nearly the ſame with ours. The Leaf is leſs than the

Breadth of two Fingers. The *Greeks* of the lateſt Ages call'd βυῤῥάγιον what the Antients named βούγλωσσον. The barbarous Nations call'd it *Borrago*.

From what has been ſaid, it appears, that partly Baccharis, and partly Libanotis, were, by *Aviſena*, comprehended under the Appellation of *Almaru*. In another Place, he puts Libanotis under the Title of *Scegiar Mariem*, that is, *The Tree of Mary*, which, he ſays, was alſo called *Buchur Mariem*, that is, *Thymiama Mariæ*. This I would have to be underſtood of the Libanotis uſed in Garlands, which the *Latins* called *Roſmarinus*; but *Aviſena* took it for the other, of which there are three Sorts; and they are miſtaken who comprehend theſe under the Appellation of Roſemary, ſince there is but one Sort which goes by that Name, and ſerves both for Garlands and Suffumigations, and was alſo uſed by the Antients in Ointments.

In an antient *Dioſcorides*, Baccharis is ſpelt the ſame, almoſt Letter for Letter in *Arabic*. There is no mention of this, ſo far as I know, in *Aviſena*. But his Account of *Almaru* is taken partly from this, and partly from the *Libanotis*, which, 'tis pretended, is the ſame with what is commonly called *St. John's Wort*. But this latter is a Name impoſed on ſeveral Herbs in different Countries. The ſuperſtitious old Women, 'tis certain, gather ſeveral Sorts, out of a religious Motive, on St. *John*'s Eve. *Fuchſius* obſerves, that the *Hypericon* was called *St. John's Wort*, by his Countrymen, the *Germans*. There is another Sort, which our Peaſants call by that Name, and a third, which is honour'd by that Title in *Venice* and the *Ferrareſe*.

AMARA-DULCIS, a Plant thus diſtinguiſh'd:

Solanum lignoſum Dulcamara, Offic. *Solanum lignoſum, ſeu Dulcamara*, Park. Theat. 350. Raii Hiſt. 1. 672. Synop. 3. 265. Merc. Bot. 1. 69. Phyt. Brit. 115. *Solanum ſcandens, ſeu Dulcamara*, C. B. Pin. 167. Tourn. Inſt. 149. Elem. Bot. 124. Boerh. Ind. A. 2: 67: Dill. Cat. Giſſ. 82. Rupp. Flor. Jen. 36. Buxb. 306. *Amara-dulcis*, Ger. 279. Emac. 350. *Dulcamara, ſeu Amara-dulcis*, Mer. Pin. 34. *Glycypicros, ſive Amara-dulcis*, J. B. 2. 109. Chab. 114. BITTER-SWEET. *Dale*.

It ſendeth forth woody, brittle, ſlender Stalks, two or three, and ſometimes five or ſix Feet long, which twine themſelves about the adjacent Hedges or Shrubs, or otherwiſe lie flat on the Ground. The Bark of the young Sprays is green, but that of the old ones and the Stalks is rougher, and of a whitiſh or aſh Colour on the Outſide, but of a beautiful Green on the Inſide. The Medulla, or Pith, is a fungous Subſtance. The Leaves ſtand alternately, reſemble thoſe of the Solanum Hortenſe, are of a dark Green, and ſometimes furniſh'd with two Lobes or Auricles at their lower Part, and a Pedicle of about an Inch long. The Flowers grow in ſmall Umbellas, are fœtid, but fine enough to the Eye, being of a cœruleo-purple Colour, and ſometimes white, and divided into five narrow ſharp-pointed Leaves, bending back outwards, in the Middle of which are yellow Chives forming an Umbella. Theſe are ſucceeded by ſoft ſlimy Berries, ſomewhat long in Shape, of a ſcarlet Colour when ripe, of an unpleaſant Taſte, and full of ſmall, flat, whitiſh Kernels. It has a fibrous Root.

It delights in moiſt and watery Places, and therefore is often found about Pits and Ditches. It flowers in *June* and *July*.

Sebizius ſays, that the green Dulcamara bruiſed, and apply'd in Form of a Cataplaſm, mitigates Pains in Womens Breaſts, mollifies their Hardneſs, and diſſolves grumous Milk in them.

It is ſaid to provoke Urine, and to be ſucceſsfully preſcribed againſt the Dropſy.

> Take (according to *Tragus*'s Receipt) a Pound of the Wood of this Plant, cut it into Pieces as big as thoſe you play with at Draughts, and put them with a Meaſure of White-wine into a new Pot, and ſtop it well with a Pot-lid, which has a ſmall Hole bor'd in the Middle of it, and paſte it all round with Water and Bran. Set the Pot over a ſlow Fire, and let it boil to the Conſumption of above a third Part, and uſe the reſt.

An ordinary Glaſs of this Liquor taken in the Morning, an Hour before you riſe, and juſt as you are going to bed in the Evening, purges off the Yellow-jaundice, tho' never ſo inveterate, in a gentle manner, by Stool and Urine.

The Juice of it drank, is ſaid to be good for Ruptures, and Bruiſes by Falls or Blows, being eſteemed as effectual in diſſolving concreted Blood any-where in the Viſcera, and healing the Parts that are hurt. It is held to be uſeful alſo in opening Obſtructions of the Liver and Spleen. *Parkinſon* writes, that whenever he knew it preſcribed, it work'd with ſufficient Violence. And *Prævotius* gives the Decoction of the Wood of Dulcamara the firſt Place among the gentle and kindly Evacuants of Bile.

The following Receipt is from Dr. *Hulſe*:

> Take four Handfuls of the Leaves of Dulcamara ſtee with four Ounces of Linſeed finely pulverized: Boil the in Muſh Wine of *Candy*, or in Hogs Fat, to the Co ſiſtence of a Cataplaſm, and apply it warm.

This Remedy, in the Space of one Night, diſcuſſed a Tumour as big as a Man's Head, and healed deplorable Contsions of the Muſcles. *Raii Hiſt. Plant.*

AMARANTHUS, a Plant thus diſtinguiſh'd:

Amaranthus flos amoris, Offic. *Amaranthus maximus*, C. B 120. Raii Hiſt. 1. 201. Boerh. Ind. A. 2. 97. Tourn. In 234. *Amaranthus paniculâ ſparſâ*, Ger. 254. Emac. *Amaranthus purpureus major, paniculis ſparſis*, Park. Parad. *Amaranthus paniculis procumbentibus, ſemine albo, ſeu Q* Hiſt. Oxon. 2. 602. *Blitum maximum ſive Amaranthus ſemine albo*, J. B. 2. 968. Chab. 304. FLOWER GE TLE. *Dale*.

The Helichryſus, which ſome call Chryſanthemos, o Amarantus, of which they make Garlands to adorn the I of the Gods, has a greeniſh-white, ſtrait, firm Stalk, narrow Leaves, ſet at Diſtances, like thoſe of Southernwood globous Head of the Colour of Gold, a round Umbella of Cluſters of Flowers hanging downwards. It grows in and rugged Places.

The Top, drank in Wine, is effectual in a Dyſury, againſt the Bites of Serpents, is good for the Sciatica and tures, and provokes the Menſes. Drank in Mulſum, it Concretions of Blood in the Belly or Bladder. The W of half a Dram, taken faſting in White-wine diluted, Catarrhs. It is alſo put among Clothes, to preſerve from the Moths. *Dioſcor. Lib.* 4. *Cap.* 57.

Pliny, ſpeaking of the Combat between Nature and L in point of Colours, ſays, we are fairly outdone by the *rantus*: This, ſays he, is rather a purple Spike than a F and has no Smell. What is to be admir'd in it is, that it to be cropt, and ſprings out again fairer, and with more L It bloſſoms in *Auguſt*, and laſts till Autumn; and, ſtrange, after it is cropt, and all the Flowers fallen off, water'd, it ſprings afreſh, and bears Flowers for Winter lands. Its Nature is well expreſs'd in its Name, Am [from α Neg. and μαραίνω, to wither]; for it never *Plin. Lib.* 21. *Cap.* 8.

The *Amaranthus*, or Floramour, grows to be three Feet high, with big chanell'd Stalks ſpread into ſeveral B bearing pretty large broad Leaves, ending in a long P a light, green Colour, and frequently a little reddiſh: Tops of the Stalks grow long Spikes of deep, red, Flowers, hanging downwards, which, if gather'd in keep their Colours a long while; among theſe Flowers the Seed, ſmall, round, and ſomewhat flattiſh, of a white Colour, and very ſhining. It is ſown in Gardens, flowers in *July* and *Auguſt*, periſhing in the Winter. Flowers only are uſed, and that but ſeldom.

They are cooling, drying, and moderately reſtringent from their Colour are ſuppos'd to be good to ſtop Bleedin Fluxes of all kinds, in any Part of the Body. *Mille Off.*

It is cultivated in Gardens, and flowers in *Auguſt.*

It is mollifying and agglutinating, but it is not much uſe of in Medicine. *Lemery de Drogues.*

AMARANTOIDES, *Globe Amaranthus*, or *Ever Flower*, called by the *French L'Immortal*. It is deriv'd 'Αμάραντος, *Amaranthus*, and εἶδος, Form or Shape.

Amarantoides, lychnoidis folio, capitulis purpureis, *Amarantho affinis, altera ſpecies, ſive flore purpureo*, Cent. 1. 110. *Amarantho affinis, Indiæ Orientalis*, *glomeratis, Ocymoidis folio*, H. A. 1. 85. *Gnaphali ocymaſtri folio, flore ex purpureo violaceo*, H. L. *Prægn.*

The Flowers are ſmall, and cut into four Segments, are collected into ſquamoſe Heads; from each of theſe is produced a ſingle Flower. The Ovary in the Bottom Flower becomes a roundiſh crooked Seed, which is co a thin Pellicule or Skin.

There are at preſent four or five Varieties of this P none uſed, as I can find, in Phyſic.

The two beſt Sorts were originally imported from th *Indies*, the reſt we have received from *Barbados*. *Dictionary.*

AMARELLA, a Name given by *Geſner* to th GALA. See POLYGALA.

AMATORIA Febris, the ſame as CHLOROSIS, *Caſtellus.*

AMATORIA Veneficia, the ſame as PHILTRA, ſee. *Caſtellus.*

AMATORII Muſculi, the Obliquus ſuperior, or aris, and Obliquus inferior, are ſometimes *Cowper.*

AMATZQUITL, *ſive Unedo Papyracea Nie*

Súbſtance is light, and not unlike that of the Fig-tree. eaves reſemble thoſe of the Lemon-tree, but are hairy and acuminated or pointed. Its Fruit are as large as *Pontic* divided into white Grains of the ſame Shape and Nature thoſe of a Fig. It grows in warm Countries, ſuch as *la*. A Decoction of the Bark of its Roots is of conſider- Service in feveriſh Diſorders. Its Leaves are only uſeful, e agreeable Shade they form.

MAUROSIS, ἀμαύρωσις, is an Impediment of Viſion, the Patient, without any manifeſt Fault in the Eye, can n nothing at all. It is uſually call'd a Gutta Serena. *rius de Meth. Med. Lib. 2. Cap. 7.*

de St. Yves, *the famous* French *Oculiſt, diſtinguiſhes the Gutta Serena into the perfect and imperfect.*

The perfect GUTTA SERENA.

e Diſeaſe, call'd Gutta Serena, is a total Blindneſs, pro- g from a Palſy in the principal Parts of the immediate of Viſion.

hatever Part of the Body a Palſy attacks, it has different es, which render it perfect or imperfect. The ſame may l of a Gutta Serena, which entirely deſtroys the Sight, leaſt leaves ſo little, that it is of ſmall Service to the ts.

order to give a clear Idea of this Diſeaſe, it ſhall be the t of two Chapters. In the firſt, I ſhall treat of that ſort ich the Sight is entirely loſt: And in the ſecond, of that ich part of it remains.

ere are ſeveral Cauſes which may produce a Gutta Serena: irſt is a light Apoplexy, in which the Humour, inſtead of on the other Parts of the Body, is diſcharged on the Nerves only, by which they are obſtructed, and become tic.

is Diſeaſe depends on other Cauſes, as when ſome other our is filtrated into the Nerves, or by lodging on them a Compreſſion, which hinders their Action; ſo that, er theſe Nerves be obſtructed or compreſſed, either by Pus, or Phlegm, all theſe different Matters may pro- Gutta Serena. If the Blood becomes too ſaline, it gra- cauſes this Diſeaſe by its Saltneſs, which decays and p the principal Organs of Viſion; and, if the Compariſon e admitted, as ſalted Meat grows dry. By this means ght entirely periſhes.

often ſee a Gutta Serena ſucceed acute Fevers, when umour that cauſed them is removed to the Viſual s; a violent Fever, which has too much rarefy'd the in the Veſſels adjacent to theſe Nerves, ſometimes pro- the ſame Effect; when a Venereal Humour is diſcharged e Viſual Nerves, cauſing violent Pains, and the want of a Gutta Serena often follows.

s Diſeaſe commonly begins with violent Pains in the and as they decreaſe, the Diſeaſe increaſes. Several , however, have been ſtruck blind at once, without any s Pain; in others, the Pains accompany'd the Diſeaſe, ſtrengthened gradually, and their Sight diminiſhed daily, ength it totally periſhed.

en a Gutta Serena comes without Pain, and one Eye s attacked, nothing can be perceived by looking at yes, whilſt they are open; but if the well Eye be ſhut, ay obſerve the Pupil of the diſtempered Eye dilate itſelf, poſed to the Light, and it will remain in that State, till ll Eye be opened again; then the Pupil of the diſeaſed ontracts itſelf, in like manner as that of the good Eye, hich the diſtempered Eye borrows its Motion. By this nly, we are aſſured there is no Sight in the diſtempered This Sign is peculiar to this Diſeaſe, and cannot be in a Glaucoma, in which the Pupil continues always . There is likewiſe another Species of *Gutta Serena*, in the Pupil is always contracted, whether the good Eye be r ſhut.

Signs of a Gutta Serena are viſible; for from the In- n of the Eyes, we may ſee whether the Pupil be dilated racted.

ome Muſcles of the Body are called Antagoniſts, becauſe erform oppoſite Motions, ſuch as Flexion, Extenſion, n the ſame manner, amongſt the Motary Fibres of the me ſerve to dilate it, whilſt others contract it; there- hen in a Gutta Serena the Pupil remains dilated, the which ſhould contract it, are paralytic, in the particu- ner I have deſcribed: But if the Pupil be contracted, ibres, which ſhould dilate it, are affected; the Sight is loſt in both theſe Caſes.

utta Serena has been hitherto deemed incurable. I can, ſtanding, produce many Experiments to the contrary. for the moſt part, obſerved that Species to be incurable ſucceeds an acute Fever, when its producive Humour n diſcharged on the Viſual Nerves. If this Humour s but one Eye, there is room to fear, leſt the Fever n the Year, and the other Eye be affected in the ſame manner. I have hitherto obſerved this Miſfortune happen to all thoſe, whoſe Gutta Serena began by a light Inflammation, attended with violent Pains in their Head on the Side of the diſorder'd Eye. This Obſervation has induced me to think, though I never dare attempt it, that by extirpating the decayed Eye, one might prevent the good Eye from falling into the ſame Miſfortune. It would be a great Comfort to the Patient to have his other Eye preſerved from the Diſcharge of this deſtructive Humour, which for the moſt part happens a Year or two after the Loſs of the firſt Eye.

I have cured ſeveral of a Gutta Serena, when they were committed to my Care, in the Beginning. My Method is to bleed them in the Arm, in the Foot, and in the Neck, in Proportion to their Repletion; afterwards I preſcribe them an Emetic, to be taken once or twice in the Interval of two Days.

All Remedies for a Palſy are likewiſe good in this Diſeaſe. A Seaton or Bliſtering-plaſter may be laid to the back Part of the Neck. I find the Cauſtic too ſlow in its Operation, and the producive Humour of the Gutta Serena has Time to thicken, and thus the Diſeaſe becomes incurable.

Twelve Years ſince, a Country Curate, of the Dioceſe of *Paris*, came to conſult me, a few Days after he had been attacked with a Gutta Serena in one Eye. I gave him a Vomit the firſt Day, the next Day he was let Blood in the Neck; two Days after he took a ſecond Vomit, upon which his Sight began to return, and was gradually reſtored by holding his Eye over the Steam of hot Spirit of Wine.

Beſides the Gutta Serena, of which we have now treated, there is another ſort. It generally attacks Maids that are not regular, or Women with Child; and Men are likewiſe ſubject to it, through a Suppreſſion of the Hemorrhoidal Flux. Some Authors aſcribe the Cauſe of this Diſeaſe to an exceſſive Diſtention of the vitreous Humour; and in order to prove their Aſſertion, they pretend the Globe of the diſeas'd Eye is bigger than it ſhould naturally be. I have tried all Means poſſible to diſcover, whether the Cauſe of this Diſeaſe was owing to the pretended Increaſe of Size in the ſaid Humour; but I could never perceive the leaſt Difference from its natural State.

I judge this Diſeaſe proceeds from ſome Humour that is thrown upon the Viſual Nerves, by which they are compreſſed. The Symptoms ſeem to ſtrengthen my Opinion; for the Patients feel a Heavineſs, attended with Pain more or leſs acute, in the back Part of the Globe of the Eye. This ſhews the Optic Nerves ſuffer by ſome Humour which is ſettled upon them, before they enter into the Eye: Beſides, this Species of Gutta Serena is more frequently cured than the preceding; for, without Doubt, it proceeds from a ſimple Compreſſion of the Nerves, and not from the exceſſive Size of the vitreous Humour.

Remedies for this Species of Gutta Serena are, Bleeding in the Foot, and theſe Medicines that provoke the Menſes in Women, and the Hemorrhoidal Flux in Men. To make a Derivation of the Humour from the Eyes, Wood-lice, Eye-bright, either in Subſtance or Infuſion, and Viper-broths, will be of Service.

We find Infants are not exempted from this Diſeaſe, ſince ſome are born blind. At firſt, their Blindneſs does not appear; but as they grow up, it is perceived. I have cured ſeveral with an Ophthalmic Water. Some of theſe Children, at the Age of two Years, had no apparent Signs of Sight. It is to be obſerved, the Pupil of theſe Children, though it has no Movement, is no more dilated than in its natural State; which Obſervation ſhews this Diſeaſe is only a Numbneſs, or Weakneſs, in the principal Parts of the Organ of Viſion.

Of the imperfect GUTTA SERENA.

I call a Gutta Serena imperfect, when the Patients continue to ſee but imperfectly. It has different Degrees, according to the Number of Fibres which are attacked by the Palſy. Sometimes it is only a ſort of Numbneſs in theſe Fibres; ſometimes only half an Object is ſeen, whilſt the other half is not perceived, becauſe only half the Eye can ſee, the other half being paralytic. You may eaſily find out the Degree of this Diſeaſe, by deſiring the Patient to ſhut his good Eye, and look into a Book with his other Eye; for then he ſees only a certain Part of the Page, whereas he can ſee the whole Page with his well Eye.

Sometimes the Fibres are quite emerg'd in the Humour which cauſes the Palſy; then the Patients can only perceive the Light, but not diſtinguiſh Objects. This Diſeaſe is often procured by what we call Vapours. I have frequently ſeen Women deprived of their Sight for the Space of half an Hour, an Hour, and ſometimes for two or three Days. This laſt Caſe is incident to Women, in their Delivery.

This Diſeaſe has the ſame Cauſes with the perfect Gutta Serena, that Species which proceeds from Vapours excepted; but the Humour is in leſs Quantity, for which Reaſon the Eye is not ſo much injured.

I have ſeen Perſons afflicted with this Diſeaſe, from the Uſe of a Pomatum that had repelled a Tetter which was ſpread round their Eyes: They recovered their Sight by the Help of Aperitive Broths, and Sudorifics, which expelled the Tetter: Others have been attacked with this Diſeaſe, from a Cold they have taken in their Head, after a violent Heat.

The Signs of an imperfect Gutta Serena are eaſily known. By examining the Eye, whether the Pupil be dilated or contracted, the Degree of Sight may be ſoon learned; for in either of theſe Caſes, if the Iris has one Quarter of its Movement, we judge that Quarter of the Sight remains; if it has half its Movement, half of the Sight remains.

In the Cure of this Diſeaſe, after the general Remedies, and theſe preſcribed in the perfect Gutta Serena, Viper-broths, or the hot mineral Waters, ſhould be drank, if the Diſeaſe ſeems to proceed from a viſcous thick Humour; but if it is produced by a ſharp thin Humour, the cold mineral Waters are to be preferred.

Let the Eye be held over the Steam of hot Spirit of Wine, or of Coffee; the Steam muſt paſs thro' a Funnel. This muſt be repeated twice or thrice a Day.

I have cured ſeveral Perſons afflicted with this Diſeaſe, by the Uſe of theſe Remedies. I ſhall only relate one Experiment, on account of its Singularity: Eleven or twelve Years ago, a Canon Regular of *Rheims* came to *Paris* to conſult me. I perceived one of his Eyes was ſeized with an imperfect Palſy; there was a Dilatation of the Pupil, which had but a Quarter of its contracting Movement. I was very much ſurpriſed when he told me, if he looked into a Book, his well Eye being ſhut, that he could ſee the perfect Repreſentation of his diſeaſed Eye. At firſt, I judged him to be hypochondriac; but in order to be ſatisfied of the Truth, I deſired him to cloſe his well Eye, and to look into a Book; then I aſked him, What he could ſee in the Page? He anſwered me, That he perceived the Lines like black Strokes, without diſtinguiſhing the Letters; and that, in the Middle, he ſaw the Repreſentation of his Eye. I aſked him, when he aſſured me he ſaw his Eye, of what Colour was the Iris, and the Diſpoſition of certain Rays which croſs it? He anſwered me ſo juſtly, and deſcribed them ſo accurately, that I could not ſee them better myſelf in his Eye. This young Canon was cured in thirty Days, by the Uſe of Purges, cooling Broths, and ſpirituous Applications to his Eye. He ſaw to read perfectly well, and was rid of the falſe Image of his Eye, which was ſo uneaſy to him before.

Mr. *Petit*, of the Academy of Sciences, aſſured me, that he had ſeen the like Diſeaſe. *St. Yves.*

But Amauroſis, ἀμαύρωσις, in *Hippocrates*, does not ſeem to ſignify what we call a Gutta Serena, but only a Dimneſs of Sight, or temporary Loſs of it. Thus, in his firſt Book of Prognoſtics, he mentions Dimneſs of Sight (ὀμματῶν ἀμαύρωσις) amongſt the Signs of approaching Convulſions. And in this Senſe it is generally to be taken in the above-mentioned Author.

To what has been ſaid on the Subject of the *Amauroſis*, it will be proper to add the Sentiments of *Hoffman.*

I.

That ſort of Blindneſs which the *Greeks* call ἀμαύρωσις, and the *Latins* a GUTTA SERENA, is a terrible Diſorder. It is cauſed by an Interception of the Influx of the nervous Fluid into the Optic Nerve, which occaſions a Loſs of Sight; the Eyes, in the mean time, remaining, to all Appearance, unaffected; for if, in this Caſe, you look at the outer Part of the Eye, it appears ſound and entire; nor is there any Defect to be obſerved, either in its Coats or Humours, unleſs that the Pupil appears larger, black, and more dilated than uſual; it likewiſe appears to be ſtiff and immoveable, when the Rays of Light ſtrike upon it: But notwithſtanding all this, the Faculty of Seeing is either quite deſtroyed, or there only remains a Power of diſtinguiſhing Light from Darkneſs.

II.

This Diſeaſe is therefore different from a Vertigo, in which the Patient imagines himſelf in a gyratory Motion, and conſequently ſtaggers; but the Influx of the nervous Fluid is not quite intercepted, but only impaired and diminiſhed, and that not always. The *Gutta Serena* is alſo different from a Cataract; for, in this latter, the Cryſtalline Humcur appears to be opake, and the Pupil, when expoſed to a free Light, is contracted, but in dark Places dilated; whereas in a *Gutta Serena*, the Cryſtalline Humour appears pellucid thro' the Pupil; and the Pupil itſelf, whether in a light or in a dark Place, is neither contracted nor dilated, but remains immoveable.

III.

Nor are the Circumſtances of this Diſeaſe always the ſame; for it ſometimes ſeizes the Patient ſuddenly and unexpectedly, which is generally the Caſe when it proceeds from violent and external Cauſes; ſuch as a Fall from any high Place, or ſevere
Blows on the Head; Inſtances of which may be found in
danus, *Cent.* 5. *Obſ.* 8. and in *Amatus Luſitanus*, Ce
Obſ. 64. At other times the Sight is gradually loſt, wh
generally the Fate of old People, who are affected with
miplegia, or Palſy, and of ſuch as have the Misfortune to
weak and languid Conſtitutions. On other Occaſions th
eaſe is accompanied with Head-aches, Vertigoes, Drow
Noiſe, and Singing of the Ears: And at other times it ap
without any of theſe Symptoms, and only afflicts the P
with Blindneſs. There is likewiſe a periodical *Gutta Se*
which ſeizing the Patient ſuddenly, and laſting for ſome H
goes off, of its own Accord; but its Returns are freq
This is often the Caſe with hypochondriac and hyſteric Per
and with Women in Labour. The *Gutta Serena* is divided
Perfect and *Imperfect*; in the former, not only the Sight,
every the leaſt Remains of Perception of Light, is deſtro
in the latter, Light can be diſtinguiſhed from Darkneſs
this Claſs ſeems to belong the *Viſus dimidiatus*, when th
tient ſees only half the Object; a particular Species of wh
deſcribed by *Chr. Sigiſm. Wolffius*, (in a Diſſertation, *de A*
roſi imperfecta, 1709. *Trajecti*) where the Patient could
ſee the Feet, and under Part of the Trunk of a Man's Bo

IV.

As, in a *Gutta Serena*, the external Parts of the Eye ſee
be free from all manner of Fault, we may reaſonably conc
that the Cauſe of the Diſorder is to be ſought for in the O
Nerve, rather than in the Eye itſelf; and this may be
demonſtrated, by diſſecting ſuch People as, during their L
had been blind in this manner; for, upon accurate Obſerv
we find, that their Optic Nerves were either too much
nuated, flaccid, and, by half, too little (of which ſee
ſtances in *Bonetus*'s *Sepulchretum Anatomicum*, *Lib.* 1. *Sect*
Obſ. 3. and 4.); or ſurrounded and compreſſed by Blood,
vaſated from the Brain, as hath been obſerved by *Wepfer*
Apoplex. Hiſt. 4. or incompaſſed by a hard Tumour, ſu
Bonetus, *Lib.* 1. *Sect.* 18. *Obſ.* 1. takes Notice of, about
Origin. *Pawius*, *Obſervat. Anatom.* 2. obſerved a B
full of a watery Humour upon the above-mentioned Ne
near their Conjunction. *Platerus* found a globular T
near the Optic Nerves of a dead Perſon, who, when alive,
laboured under a *Gutta Serena*; and *Bonetus*, *Lib.* 1. *Sect*
Obſ. 5. found the carotid Artery turgid with Blood,
Place where it enters the Orbit of the Eye.

V.

Almoſt all the Authors, who have wrote upon this S
have judged the *Gutta Serena* to proceed from the Optic N
being obſtructed by a thick Lymph, whereby the ſmall T
of which the Nerve is formed, being rendered impervious,
free Afflux of the nervous Fluid to the Retina, was, of c
either checked, or entirely intercepted; but 'tis not,
proved by Anatomiſts, that Nerves conſiſt of ſmall Tub
Pipes, thro' which their contained Fluids circulate; nei
a thick and tenacious Lymph, but a Fluid, the moſt ſub
all others, and leaſt likely to coagulate, circulated thro
Brain and *Medulla oblongata*. That an Obſtruction o
Nerves ſhould ariſe from this Cauſe, is by no means cr
and much leſs can we ſuppoſe, that an Obſtruction of the O
Nerves ſhould happen from any Matter conveyed to them
the Brain. In all Caſes of this Nature, there muſt be ſo
a Compreſſion of the Optic Nerves as to prevent all Influx
nervous Fluid into them, and by that means induce a Pa
Hence it follows, that the immediate Cauſe of a *Gutta S*
is a Paralyſis of the Optic Nerves. 'Tis now evident, fr
Structure of the Eye, that the Optic Nerve, as ſoon a
entered the bony Orbit of the Eye, together with the P
ſteum, which lines its inner Side, and has diſpoſed of the
nal Covering, which it receives from the *Dura Mater*,
Formation of the *Tunica Cornea*; I ſay, 'tis evident, fr
Structure of the Eye, that after this, by another Me
or Covering, which it receives from the *Pia Mater*,
the *Tunica Uvea*, the *Proceſſus Ciliares*, and Pupil of th
and that its medullary Subſtance conſtitutes that ſoft a
pous Coat called the Retina. Beſides, 'tis well known,
Retina receives the Images of viſible Objects, and conv
thro' the Optic Nerve to the common Senſory, where,
means, the Ideas of Sight, or Viſion, are excited;
equally plain, that, in order to perceive external Obj
certain Tenſion of the nervous Parts is neceſſary; whi
ſion conſiſts in a due Influx of the nervous Fluid: But
a *Gutta Serena*, there is a Paralyſis of the Optic Ne
conſequently of the Retina, the Uvea, and *Proceſſus* C
hence it muſt follow, that theſe Parts are neither
tranſmit the Rays of Light, but the Pupil appears in
dilated, by reaſon of the Relaxation of the *Proceſſ*
Nor is there, in this Caſe, any other Fault to be o
the Eye, ſince the Motion of the Humours, and of th
cles, which ſerve to move the Eyes, is regular and
which may be owing to this additional Reaſon, that th

d Veſſels, conveying the Juices, take their Origins not
the Optic Nerve, but from other Nerves, that are not
d.

VI.

Cauſe therefore which, by compreſſing the Optic Nerves,
s them paralytic, reſides either about their Origin, that
ir *Thalami*, along which they run, or about thoſe Parts
mſelves which enter the Orbits of the Eyes: The Cauſe
ſo lie concealed in the Optic Nerve itſelf, and that too in
od-veſſels, wrapt up in the very Middle of it; the Reali-
which Veſſels, not only our later Anatomiſts, but even
himſelf, *(L. de Cicut. aquat. p.* 127.) have demon-
If theſe Veſſels, which are ſo many Branches, as it
from the Carotids, or any of the reſt of the Branches of
rotids which ſurround the Orbit, ſhould happen to be
with ſtagnant Blood, they preſs upon and diſtend the
ary Tubes of the Nerves; and, at the ſame time, hinder
turn of the Lymph thro' the Veſſels which ſurround the
This ſeems to be the Cauſe of a periodical *Gutta*
which ceaſes upon the Removal of the Stagnation of the
It is, beſides, very probable, that, in a ſpurious Amau-
Serum lodging itſelf within the Coats of the Eye, eſpe-
within the *Tunica Cornea*, is to be looked on as the Cauſe;
h Caſe, the Afflux of the nervous Fluid being too ſlow,
Quantity of it only enters, which leaves no more of the
of Seeing, than is ſufficient to diſtinguiſh Light from
eſs.

VII.

the Diſeaſe now under Conſideration may afflict Per-
all Ages, and of every Sex, when violent external Cauſes
to its Production; ſuch as Blows on the Head, Con-
of the Brain, or any other Accident, that may occaſion
ation of the Humours about the Optic Nerves; yet
arises from internal Cauſes, it generally falls to the Lot
Plethoric, the Phlegmatic, the Cachectic, and the Old,
oſe who have a weak Head, and a frail Syſtem of Nerves,
hro' preceding Exceſſes of Paſſion, long Grief, anxious
too much Watching and Application, unſeaſonable Stu-
reading ſmall Print in a full Light, frequent Debauches;
fine, by being long expoſed to the Cold, or labouring
he Misfortune of an hereditary Weakneſs. This Diſ-
ees with the other Diſorders of the Brain, in this Cir-
nce, that it is founded on the Want of a due Tone and
in the Parts of the Brain itſelf.

VIII.

e conſider the ſecondary and more remote Cauſes of a
erena, they may be properly enough reduced to Reple-
d Inanition. To the Claſs of Repletion belongs that
Serena, which takes its Riſe only from a Stagnation of
more or leſs thick in thoſe Nerves of the Brain which
tiguous to the Optic Nerve. This Species of the Diſ-
not only ſometimes tranſitory and periodical, but even
f a Cure, when it happens not to be of a long ſtanding.
egree of the Diſeaſe is incident, *Firſt*, to thoſe who are
y plethoric Habit of Body, upon their uſing too violent
s, Baths that are too warm, or giving way to immo-
Tranſports of Anger: A Case of this Kind is to be
n *Conſult. Med. Sect. Caſe* 42. *Secondly*, to Women
r Children, either in the Birth itſelf, and then it is occa-
by the violent Conſtrictions of the lower Belly, throw-
Humours up to the Head with uncommon Force; or
e Birth, if it has been difficult, and eſpecially if there has
y Defect in the *Lochial Evacuations*: *Mauriceau*, in
5. *Obſ.* 568. mentions a Caſe of this Kind, which,
was ſoon cured by Bleeding: It is likewiſe to be ob-
that the *Hemicrania*, or Megrim, which ſucceeds Child-
oſt frequently terminates in Blindneſs. *Thirdly*, to
who labour under a Suppreſſion of their Menſtrual
ges, or any hyſteric Diſorder; a Caſe of which kind I
ven in *Conſult. Med. Sect. Caſ.* 44. *Pechlinus* alſo,
Obſ. 24. makes mention of a *Gutta Serena*, which, in
ction with a Head-ach, every Month afflicted a Patient
her Menſtrual Diſcharges defective. *Fourthly*, to thoſe
our under hypochondriacal or hyſterical Diſorders; and
who are racked with violent Spaſms of the lower Belly,
h the Humours are forced up to the Head: Hence is
arkable Caſe which is related of a *Gutta Serena*, which
d a vehement Colic, accompanied with a Conſtipation
elly, which being cured by a Clyſter, the *Gutta Serena*
with removed.

IX.

s a *Gutta Serena*, which ariſes only from a Stagnation
, is tranſitory; ſo, on the other hand, if it continues
ſeizes phlegmatic Patients, or ſuch as are of a bad
Body, by letting fall its ſerous Part, as a Load, on the
it renders the Diſeaſe long, and very often incurable:
I.

It is therefore no unprecedented Thing, that a *Gutta Serena* ſhould ariſe from a *Purple Fever*, the *Itch*, *Ulcers*, or *Achors*, ſtruck back into the Maſs of Blood *(vide Act. Berol. Dec.* 2. *Vol.* 6. *P.* 28.); nor is it ſurpriſing, that Children who are weakly, or abound with Humours, ſhould be ſubject to it; eſpecially in Caſes where the Meaſles have not come out well; or where the Inteſtines abound with Worms. A *Gutta Serena* alſo happens after acute Diſeaſes, malignant Fevers, the Small-pox, or a Phrenitis, the Humours falling, by Tranſlation, upon the Optic Nerves. Sometimes Perſons of a plethoric, or of a bad Habit of Body, become blind by ſtrong Purges or Vomits (as *Guldenklec, L.* 1. *Epiſt.* 20. *P.* 498. has obſerved): But Mercurials, unſkilfully adminiſtered to Bodies abounding with impure Juices, do, of all other Medicines, contribute the moſt effectually to the bringing on this Diſorder, by occaſioning an obſtinate Stagnation of the Lymph.

X.

Theſe Cauſes belong to the Claſs of Repletion; but under the Title *Inanition*, are comprehended all exceſſive and immoderate Profuſions or Diſſipations of the vital Juices, which, as Experience teaches us, are frequently ſucceeded by a *Gutta Serena*, which more eſpecially comes on after great Hemorrhages; and a Blindneſs has been particularly obſerved to follow a plentiful Vomiting of Blood, too great a Quantity taken away by Bleeding from a Woman with Child, and after taking a large Quantity from the Vein of the Forehead *(Bonetus, Lib.* 1. *Sect.* 18. *Obſ.* 2. *App.)*; for while the vital Humour is drawing away, the Veſſels, which are diſtributed thro' the Brain, collapſe, the Secretion of the nervous Fluid is diminiſhed, and thence ariſe Vertigos, *Gutta Serenas*, Faintings, and other Calamities: But what deſerves our principal Attention, is, the remarkable Conſent which, in this Caſe, is found betwixt the Eyes and the genital Parts; ſince we obſerve, that Blindneſs is frequently the Reſult of immoderate and ill-timed Embraces, of which Circumſtance I have made frequent Mention, and related a Caſe of this Nature, *Conſ. Med. Cent.* 2. *Sect.* 3. *Caſ.* 104. For the lymphatic ſeminal Fluid is much of the ſame Nature and Quality with that which is ſecreted in the Brain, and diſtributed through the Nerves; for which Reaſon the more liberal and copious the Excretion of the former is, the more ſcanty and deficient the Secretion of the latter muſt be: Hence the Want of a due Tone in the nervous Parts, Weakneſs of Sight, and even Blindneſs itſelf, uſually follow.

XI.

The *Gutta Serena* is a very terrible and a very obſtinate Diſorder; and 'tis particularly to be obſerved, that if it is a perfect and inveterate one, or ſeizes old and worn-out Subjects, it is ſo far from admitting of a Cure, that the moſt terrible Train of apoplectic and paralytic Diſorders generally ſupervene. This Diſtemper, on the other hand, when of a ſhort ſtanding, when imperfect, or when its Cauſe is only ſeated in the Coats of the Eye, ſometimes admits of a Cure, eſpecially in young and robuſt Patients. That Kind of *Gutta Serena* alſo, which is periodical, and the Effect of a Stagnation of the Blood, yields to Medicines, and may be cured; but that Species of the Diſeaſe which is accompanied with paralytic Diſorders, or other Diſtempers of the Head, generally portends a Danger that can ſcarce be ſurmounted or avoided.

The CURE.

I.

The Cure of the *Gutta Serena* is very hard and difficult; for this Reaſon, that the Force and Energy of Medicines can have but little Influence upon thoſe Parts which lie, as it were, remote, and hid within the Bones of the Skull: But this Circumſtance ſhould not diſcourage the Phyſician from trying the Extent of his Art, and attempting the Cure by a Method accommodated and adapted to the Cauſes of the Diſorder: This he may do by purſuing theſe two Intentions, that of diſcuſſing the ſtagnant Humours, which compreſs the Nerves; and that of ſtrengthening and invigorating the Parts affected.

II.

For obtaining the former, which is indeed the more difficult of theſe Intentions, generous, and what we call *Herculean Medicines*, are to be called in to our Aſſiſtance. Thus, if a ſerous Humour, poured in upon the Brain, ſhould happen to ſtagnate there, which is commonly the Caſe with Patients that are phlegmatic, cachectic, of bad Habits, or who have had Puſtles ſtruck back into their Blood, and eſpecially if the Diſorder be of a ſhort Date, great Good may be expected from the actual Cautery applied to the back Parts of the Head, or the Nape of the Neck; in lieu of which a Seton may alſo be ſubſtituted. Theſe Remedies operate in a two-fold Manner; that is, partly by exciting Pain, for thus they communicate a tremulous and vibratory Motion to the minuteſt Fibres of the Brain; and partly by promoting the Afflux of the Humours to the Parts where the Wound is made, to which they generally drain, they draw off the ſtagnated Juices from the Brain, and Parts affected: And, indeed, if, in this Caſe, any Relief is to be expected, it is rather to be looked for from theſe Remedies, than from Veſicatories and Fontanels.

III.

But if this Malady takes its Riſe from a Stagnation of the Blood, which is the Caſe with Perſons of plethoric Habits, of florid and ruddy Complexions, of full and ſtrong Pulſes, and of thoſe who have any habitual Excretions of Blood retained; I ſay, in theſe Caſes, we are to beware of the afore-mentioned Remedies, and muſt rather begin the Cure by Bleeding. In this Intention, it is very proper to take Blood from the Feet; but 'tis ſtill more uſeful and advantageous to open the Veins of the Forehead, and the temporal Arteries; and, indeed, Nature herſelf ſeems to have pointed out this Method of Cure; for Examples have ſufficiently proved to us, that blind Perſons, who have received Wounds in the Forehead, which were followed by plentiful Hemorrhages, have, by that very Means, recovered the Uſe of their Sight. Leeches may alſo be uſed at proper Seaſons, and even applied to the *Anus*, in caſe an hemorrhoidal Flux is ſtopt. If an Hemorrhage from the Noſe ſhould be ſuppreſſed, a Probe may be thruſt up them, in order to bring it on again, that ſo a ſpeedy and efficacious Vent may be given to the Blood.

IV.

In a *Gutta Serena*, as well as all other Diſorders of the Eyes, it is of ſingular Uſe to keep the Belly looſe, that ſo the ſtagnating Humour in the Head may be drawn downwards: For this Purpoſe, the Medicines to be uſed ſhould not be ſtrong and violent Purgatives, but mild and gentle Laxatives, in Conjunction with Corroboratives, of which Kind are the *Balſamicocephalic* Pills. My balſamic Pills may likewiſe prove uſeful, if made up with *Mercurius Dulcis*, and the *Extractum Panchymagogum* of *Crollius*. Nor are pretty ſharp Clyſters to be deſpiſed in this Caſe; nay, their Efficacy is very conſiderable, if Coſtiveneſs of the lower Belly ſhould happen to accompany the Diſeaſe.

V.

When the Diſorder is very inveterate, and founded on an obſtinate Stagnation of the Lymph in thoſe Veſſels which ſurround the Optic Nerves, then, after the Uſe of the Medicines already propoſed, our only Hopes are placed in ſtrong Diſcutients, eſpecially when uſed internally; of which Kind there are two, which have the Advantage of all others, that *Sulphur of Antimony* corrected in the Manner ordered by me, and Cinnabar; of theſe two the following Powder may be made:

> Take of native Cinnabar prepared, of Crabs-eyes, of prepared Amber, each two Drams; of the volatile Salt of Amber, and of Hartſhorn, each ten Grains: Mix them up into a Powder, which divide into twelve Parts; to each of which, three or four Grains of the Sulphur of Antimony may be added. This Powder is to be taken every Evening, and next Morning an Infuſion of Balm, Fennel-ſeed, and Valerian-root, is to be drank; and if the Diſtemper will not yield to theſe Medicines, we are to have recourſe to a gentle Salivation, by which I have known ſome cured of an Amauroſis.

VI.

Along with the above-mentioned Remedies, external Diſcutients, nervous and balſamic Medicines, are to be uſed: Of this kind Sternutatories have a remarkably diſcutient Quality, and eſpecially volatile Sal Ammoniac dried, and incorporated with Oil of Sage, Oil of Marjoram, and Balſam of *Peru*, ſnuffed up the Noſe; or, which is ſtill more effectual, Extract of Guaiacum Wood, in the Form of Reſin, which remains after an Evaporation of the Decoction of that Wood, and was diſcovered by myſelf. Two or three Grains of this, taken up the Noſe, excite a Sneezing, and powerfully draw the Phlegm from all Parts of the Head. A Bag likewiſe, ſtuffed with Valerian-root, Fennel-ſeed, and Roſe-flowers, and beſprinkled with the Water called, by the *French*, *L'Eau d'Arquebuſade*, may be applied to the Eyes; or the Steam of the Infuſion, mentioned in the preceding Paragraph, may be admitted into them. But, of all other Medicines, my *Balſamum Vitæ* is the moſt powerful, when Part of it is rubbed on the Temples, and Part of it dropt upon Sugar, and ſwallowed down; for, by uſing it in this manner, I have often carried off this Sort of Blindneſs, which has not been of a long ſtanding.

Practical Cautions.

Before Cauteries and Setons be uſed, the Body muſt be drained not only of its too great Quantity of Blood and Humours, but alſo of their Impurities; and the firſt Organs of Digeſtion muſt be cleared of all manner of Impurities: For which purpoſe Bleeding, mild Laxatives, and Medicines that dilute and cleanſe the Blood, are previouſly to be uſed. Th ſame Caution ought to be uſed with regard to Sternutatories for if they ſhould be adminiſtered before the Body and Head ſufficiently purged, they would occaſion a violent Afflux Humours to the Head; but when the Body is duly prepar they are of ſingular Advantage in the Beginnings of the Diſeaſe

II.

Of corroborating Medicines, which are, at the ſame ti poſſeſt of a diſcutient Quality, my *Balſamum Vitæ* is one the moſt efficacious againſt a *Gutta Serena*, eſpecially if it p ceeds from the falling of a ſerous Humour upon the O Nerves of phlegmatic Patients; in which Caſe, I have kn this Balſam applied, upon Linen Cloths, to the Head and F head, about the Beginning of the Diſeaſe, entirely to re the Blindneſs. But greater Caution is to be uſed in Bodies of Blood, where the great Quantity and Congeſtion of B has brought on the Diſorder; for, in that Caſe, Temper and ſuch Medicines as not only diminiſh the Maſs of B but likewiſe check the Rapidity of its Motion, are proper.

III.

As to the Uſe of external Applications, every one mu that they are plainly of no Moment, in a true and inve Amauroſis, becauſe their Virtues cannot reach the Parts ed; but when the Fault is not in the Optic Nerve itſelf, rather in the Eye, and its Humours, or other Parts, then Applications are of conſiderable Importance; the chief of are, either a Fomentation of the Decoction of Valerian Cubebs, and Fennel-ſeed, made with Water and Wine, conveyed into the Eyes, by means of a Funnel for that P or Cataplaſms made after the following manner:

> Take of the Roots of Angelica, of Maſter-wort, and rian, each two Ounces; of the Herb Chervil, G Leopard's-bane, of the Flowers of Elder, Lavende Roſes, each three Pugils; of the Seeds of Fennel a each one Dram and an half; cut and beat them to der, which boil in equal Quantities of Roſe-wat the Water called by the *French L'Eau d'Arquebuſ*

IV.

Sometimes the Cure of an obſtinate Amauroſis is mo ably and advantageouſly attempted by Hunger and Abſ which are principally conducive to this Purpoſe, in imp cacochymic Conſtitutions, and ſuch as abound with B Juices; but this Method previouſly requires the Patien gently, but at the ſame time effectually, purged. If a intended this way, the Patient muſt eat only a little Bread, a little roaſted Fleſh, and Raiſins; he muſt avoid all Wine and Ale, and drink a Decoction of Saſ Liquorice, Raiſins, and Fennel-ſeed; in which Courſe perſiſt for three or more Weeks, as the State of the ſhall require.

V.

There is great Hope of curing a *Gutta Serena*, whi young Girls and Children after the Small-pox, the Me other eruptive Diſorders; for as the Years of Ma proach, and the Menſtrual Diſcharges begin to appear, quits the Patient of its own Accord, or is ſurpriſingly and at this Seaſon there is particular Occaſion for prop to aſſiſt and promote the Menſtrual Diſcharge, a ſingul ple of which Caſe I have given, *Syſt. Tom.* 4. *P.* 1.

Cases *ſtated, and Anſwers.*

A Man, thirty Years old, about ſix Years ago, ex Body to a ſudden Cold, after he had been over-heated Labour, and violent Exerciſe; hence he felt a heavy P Head, and happening, at the ſame time, to get a Co his Right Eye, he perceived the Sight of it to be very whilſt at the ſame time no Fault or Defect appeared ex He therefore had recourſe to various Remedies, Ve Fontanels, Collyriums, and Purgatives, but all to no Before he had remained two Years in this Condition, ſeized with the Itch, after which the Diſorder was vey'd to his other Eye; the Sight of which was not but he alſo perceived Sparks and Atoms dancing before ſaw every Object double with it. He was beſides ha a prodigious Ringing of his Ears, great Weakneſs of the Eructations, and Flatulencies, Coſtiveneſs, and ſpaſm in his Joints; his Complexion was of a livid Colour, ſtill continued to live a ſedentary Life, which called quent Exerciſe of the Mind, and much Writing.

Reflections.

This Indiſpoſition deſerves the Name of a beginning yet, imperfect *Gutta Serena*, and has its Seat in Nerve, and in the Brain; for which Reaſon, no F xternally. It ariſes from the cacochymical Impurity of the Blood and Humours; for daily Experience teaches us, that People of ſcorbutic, cacochymic, and cachectic Conſtitu- ions, are much ſubject to Diſorders of the Eyes from an nternal Cauſe, and that in them the Diſtemper is convey'd rom one Eye to the other. The Itch of the Patient now nder our Conſideration, his bad Digeſtion, his Flatulencies, e Pains in his Joints, and the Singing of his Ears, all con- ur to prove the bad and corrupted State of his Fluids, which as originally brought on by his ſedentary Life, as well as e expoſing of his Body, when hot, to a ſudden Cold: By is means alſo, a Foundation was laid for the Weakneſs of s Sight; for, in Conſequence of this, the repreſſed Humours owed more plentifully to the fore Parts of the Brain, and s Right Eye happening to be contuſed, obſtinately crowded on its Nerves, which were now weakened by the Contu- on. It had been eaſier to have removed this Diſorder, in its fancy, by proper Medicines; but now it is become invete- te, and has gained ſo much Ground, the Taſk is altoge- er difficult. But I am not of Opinion, that we are, for is Reaſon, to loſe our Courage, or give way to Deſpair: is our Buſineſs, rather, firſt to attempt the rendering the ices mild and balſamic, and then to ſet about ſtrengthen- and invigorating the nervous Parts which have been weak- ed. The former of theſe Intentions is anſwered by De- ctions of the Woods, antimonial Tinctures, abſorbent and phoretic Powders, Purgatives made up of the Gums, and roper Regimen, with regard to the Non-naturals. The er is anſwered by Plaſters, made with cephalic and aro- tic Oils, liquid Balſams, and reſinous Gums, applied to Forehead and Temples: Spirit of Wine alſo, ſtrongly pregnated with Camphire, and mixed with Eſſence of uvian Balſam; and, laſt of all, my *Balſamum Vitæ*, are per in this Caſe. If theſe Means, for a conſiderable time ſiſted in, do not anſwer the Intention; and if the vital ces are not, by them, rendered ſufficiently ſweet and bal- ic, it will not be amiſs to raiſe a gentle Salivation, which moſt conveniently done by Preparations of Cinnabar, or hiops Mineral: However, after ſufficiently purging the Organs of Digeſtion by the Cephalic Pills, or any other per Purge, let the Æthiops Mineral be given every Morn- to the Extent of ten Drams, with half a Dram of Sugar, two Drops of the Oil of *Turkiſh* Balm, for three or more eks, as Circumſtances require; and let the Patient have, his Drink, a Decoction of *China* Root, with Raiſins and namon; and uſe, at the ſame time, a proper Diet and imen. By this Method I have known Perſons happily vered, who, by violent Contuſions of the Head, have in imminent Danger of becoming blind, but yet not out the Uſe of Externals.

Case II.

irl, ſeven Years old, of a weak and tender Conſtitution, a livid unwholſome Complexion, which often aſſumed wiſh Caſt, fell into a ſlight Fever, attended with a Pain Back and Head, and with a Vertigo when ſhe ſtood up. third Day, after the Fever ſeized her, her Skin was all over with little red Eruptions; to prevent the farther g of which, temperating and gently expelling Medi- together with a low Regimen, were preſcribed. Not- nding which, theſe Eruptions ſometimes diſappeared; hich Occaſion ſhe complained of Shiverings, and ſome- roke out again, with an intenſe Heat of the Skin: ſhe complained, eſpecially about the ſeventh Day, of an ble Pain in her Head and Eyes; and when ſhe was after- ured of this Diſorder, ſhe was, all on a ſudden, ſo lly deprived of her Sight, that ſhe could ſee nothing at Fault or Defect appeared externally in her Eyes, unleſs Pupil ſeemed to be a little larger, and more dilated, than

REFLECTION.

iſeaſe, which brought on the *Gutta Serena*, was the Fever, a Diſeaſe much incident to Children, eſpecially of cachectic Conſtitutions, who, thro' the Weakneſs ir Stomach, and the Want of Energy in the Bile, con- great deal of impure Serum; for the Purple Fever is oned by an impure and acrid Serum, ſtagnating in the glandular Ducts, which Serum is, by the feveriſh Com- , protruded into the Habit. If the Quantity of this is greater than it ſhould be, or if the Conſtitution is or, which amounts to the ſame, if the Patient be te of ſuch Motions as are neceſſary for expelling it, it happens, that a Taint is even communicated to the Parts by the corrupt Juices, which ſtagnate here and and vellicate them. For this Reaſon we obſerve, that g Coughs, Conſumptions, ſlow Fevers, Diarrhœas, achs and Megrims, not only accompany, but alſo ſuc- his Diſeaſe. Hence 'tis pretty plain, that in the pre- aſe, this Serum falling upon the Head, and eſpecially on the Optic Nerves, brought on the *Gutta Serena*; the Cure of which conſiſts chiefly in purging the Body of the corrupted Maſs of ſerous Humours, which have received a Taint from the Purple Fever, and in draining them from the Head. For which Intention, beſides internal Purifiers of the Blood, diluting Decoctions, Diaphoretics, and Laxatives, I ſay beſides theſe, Veſicatories are of ſingular Service, provided only they be applied betimes; for by drawing the acrid Serum to the Skin or Surface of the Body, they rid the Head of it. Beſides, we are to endeavour by mild and balſamic Stomachics, to reſtore Strength, and a vigorous digeſtive Faculty, to the Stomach, that ſo a generous Chyle, and laudable Juices, may be generated.

Case III.

A Girl nine Years old, who during the whole Courſe of her Life had been troubled with Defluxions of Rheum, Achors, and Tumours of the Glands of her Neck, her Noſtrils being ſometimes extraordinarily dry, was ſeized with a Vertigo, and ſo great Pains in her Back, and Hypochondria, that a Vomiting and Head-ach coming on at the ſame time, ſhe was oblig'd to keep her Bed. Growing better in a few Days, ſhe again expos'd herſelf to the open Air, which was then very cold; but relapſing, ſhe was ſeiz'd with a prodigious Vertigo, a Swelling of her Face, and a ſlight Fever, attended with the Purples. Soon after, being heated by a ſtrong Commotion of Mind, ſhe fell into an epileptic Fit, during which her Teeth ground ſtrongly upon each other, her Eyes were fixed and ſtaring, her Senſes loſt, and her Pulſe vehement and unequal. About an Hour after ſhe had recover'd from this Paroxyſm, ſhe became quite blind, and amidſt the exquiſite and racking Pains of her Head, threw up, by a Vomit, a conſiderable Quantity of bilious Filth. By injecting a Clyſter, and adminiſtering antiſpaſmodic, abſorbent, and diaphoretic Medicines, her Vomitings and Head-ach were render'd leſs, but her Blindneſs remained the ſame for four Days; on every one of which the above-mentioned Paroxyſms return'd. When her continual Watchings bore hard upon her, and her Pains began again to rack her vehemently, in the Evening a few Grains of the Pilulæ de Cynogloſſo were preſcrib'd, upon which ſhe had an eaſier Night than uſual; and when next Morning, ſhe took in an Infuſion, by way of Tea, a little of the Oleum Cajaputi, her whole Body was cover'd with a plentiful Sweat; and ſhe all on a ſudden recover'd her Sight: But an Hour after the Head-ach returning, ſhe was ſeiz'd with a total Blindneſs; and next Day all her Spaſms and Pains being leſſen'd, her Sweat return'd with ſo much Succeſs, that the Patient by means of its long Continuance, was, in ſixteen Days time, reſtored at once to her Sight and Health.

REFLECTION.

1. This Caſe ſhews us what terrible Miſchiefs may be produced by the acrid Serum protruded to the Skin in the Purple Fever, when 'tis retain'd within the Body. It frequently happens, that it lies dormant in the Body for ſome time, and only by ſome accidental Cauſe begins to exerciſe its Tyranny. In the preſent Caſe, two accidental Cauſes concurr'd, the Commotion of her Mind, and her being expoſed to the Cold, by both which violent Spaſms were brought upon the nervous Syſtem; and the Cold affecting the Skin, the noxious Humours were in too great a Quantity driven inwards, and eſpecially towards the Head.
2. The Blindneſs which happen'd in this Caſe deſerves to be call'd Spaſmodic, ſince by Spaſms of the external and lower Parts, the Humours, being driven forcibly upwards, affected not only the Membranes of the Brain, whence the Epilepſy proceeded, but likewiſe the nervous Membranes of the Eyes. Hence it happen'd, that plentiful Sweats coming on, the acrid Serum was evacuated, the Spaſms baniſh'd, and all the other Symptoms remov'd.

Case IV.

An Infant, ſcarce yet a Quarter old, was ſeized with the Small-pox, which not ſuppurating, nor coming out as it ſhould have done, diſappear'd again in three Days time. After this, the State of his Health being bad and inconſtant, he was frequently troubled with Defluxions of Rheum, and before a Year was expir'd, a kind of Hardneſs appear'd in his Abdomen. For removing this Symptom, beſides other Medicines, he had a Vomit given him twice in one Week, by which ſpontaneous Vomitings, and a Looſeneſs of his Belly, were brought on, and continued for ten Days. Then theſe Excretions ceaſing, the Swelling of his Abdomen fell, but a great Weakneſs ſucceeded; notwithſtanding which a good Appetite, and a Habit of ſleeping well, continued long. Laſt of all, he was ſeized with a total Loſs of Sight, his Eyes remaining, to Appearance, without any Defect; his Body, tho' ſufficiently muſcular for one of his Age, was yet ſo weak and languid, that when he was raiſed from his Bed, his Joints ſeem'd, as it were, to collapſe and yield under him; a Trembling frequently ſeiz'd his Left

Arm, his Head ſwell'd, and it was with great Difficulty he could ſpeak. His Belly was ſufficiently looſe, and his Appetite good; but his Noſtrils were continually dry, and frequent Sweats broke out upon him.

REFLECTION.

The Cauſe of the Symptoms, which ſucceed the Small-pox, now at a Stand, is a *ſerous Plethora*, or a great Abundance of thick and impure Serum and Lymph in the Body, which is no uncommon Caſe with moſt Infants. Hence Defluxions of Rheum on the Ears, Noſtrils, Eyes, and Head, are not more incident to Perſons of any Age, than to Infants and Children. In our preſent Patient indeed, the ſtopping of the Small-pox laid the Foundation for the ſubſequent Train of Diſorders; for the excrementitious Humours, which in other Caſes uſe to be thrown off by this Species of Exanthema, being retain'd in the Body, corrupted the ſerous and lymphatic Juices; the Puſtles not being duly thruſt out, by reaſon, probably, of a natural Weakneſs of the Nerves: Hence aroſe the Catarrhs, and the Hardneſs of the Abdomen. And a Tranſlation happening of the ſerous Matter to the Brain, and ſpinal Marrow, hence ſprung paralytic Relaxations of various Parts, as of the Eyes, the Tongue, and the Nerves, which go off to the Feet and Arms.

The Cure of this terrible Diſorder conſiſts almoſt wholly in the Uſe of internal Medicines, which muſt be calculated at once to remove the Viſcidity, and leſſen the Quantity of the Lymph. I therefore think it adviſeable to proceed in the following Method: After purging the Body with a ſufficient Quantity of *Cornachinus's Powder*, let the Patient take every Morning of the Powder made of well prepar'd Cinnabar, five Grains; Crabs-eyes, eight Grains; and of Mercurius dulcis, half a Grain. After uſing this for ſix Days, let a Laxative be again taken. And then, after taking the Powder for ſix Days more, let the Laxative be repeated. Under this Courſe, let the Patient have for his Drink a Decoction of three Ounces of Sarſaparilla Root, of the Bark of Saſſafras Wood, three Drams; of Salt of Tartar, half a Dram, boil'd in a cloſe Veſſel with twelve Pints of Spring-water, which let him alſo drink inſtead of Tea. Let his Food alſo be attenuating, and let him eat no Fleſh, but what is roaſted, and *fine Wheat Bread*, and theſe too in a very ſmall Quantity. After this, for about eight Days, let his Body be put into a Bath of common Water, Wheat-bran, and Pot-aſh; after which, let the Nape of his Neck, and his Os Sacrum, be anointed with Unguentum Nervinum. Internally, let him continue the Uſe of the above-mentioned Decoction; and a little before his Meals, let him drink, in order to ſtrengthen his Stomach, an Elixir made of the Eſſence of white Burnet, and red Gentian, each half an Ounce; Sweet Spirit of Nitre two Drams; and Oil of Mace, Cedar, and Cinnamon, of each ſix Drops. Externally, let him apply to his Noſtrils the dry volatile Sal Ammoniac, impregnated with the unadulterated Oil of Marjoram. I do not in the leaſt doubt, but the Conſequences of this Method will be very good.

CASE V.

A Boy twelve Years old, ſubject for ſome Years paſt to Catarrhs, Heavineſs, and a Cough, a moiſt Seaſon and Northerly Winds coming on, was ſeized with a Fever, attended with a Catarrh, which on the ninth Day was followed with a grievous Pain of the Head and Eyes, and at laſt, a total Blindneſs. No Defect appear'd in his Eyes, unleſs that the Pupil contracted itſelf, and the Boy could but juſt diſtinguiſh Light from Darkneſs; his Appetite was good, and his Stools were regular enough. After, therefore, he had laboured a whole Fortnight under this Diſorder, various kinds of Medicines being uſed to no Purpoſe, he was committed to my Care; and I made uſe of nothing but my balſamic Pills to be taken once a Week, and Linen Cloths ſoaked in my Balſam of Life, apply'd twice a Day to his Forehead and Temples; by which means, accompany'd with the Bleſſing of Heaven, he in a few Weeks recovered his Sight entirely.

REFLECTION.

This Gutta Serena ſeems to be only a Baſtard one, which ariſes from a Defluxion of Serum ſurrounding the nervous Parts, which ſerve for the ſeveral Purpoſes of Sight and Viſion; for the Optic Nerve, inaſmuch as 'tis contain'd in the Brain, is in ſuch a Caſe almoſt free from all Hurt, and as yet brings a moſt ſubtil Fluid to the nervous Parts of the Eye, which being nevertheleſs compreſſed on all Sides by the ſerous Filth, become ſcarce fit for receiving the Rays of Light, and anſwering the Purpoſes of Viſion. Hence, we frequently obſerve, that Infants and Children, who are of too phlegmatic Conſtitutions, or who are troubled with Defluxions of Rheum, labour under ſuch Defects both of Seeing and Hearing, in which Caſe we preſcribe Medicines againſt the Catarrh; but ſince ſuch were in our preſent Caſe uſed to no Purpoſe, nothing remain'd for us to do, but by corroborating and nervous Medicines, ſuch as my Balſam of Life is, to diſcuſs the ſtagnating Juices, and ſtrengthen the weaken'd Parts. *Hoffman, Vol.* 3. *Cap.* 4.

Some Caſes referr'd to in the preceding Diſſertation.

CASE I.

A Man thirty ſeven Years old, of a ſanguine melancholic Conſtitution, had from his Infancy been addicted very much to ſtudy, and reading in the Night; but had applied himſelf that way in an uncommon Degree, for the laſt two Years, having the Education of Youth committed to his Care: For then he ſtudy'd till late at Night, and roſe again by four ne Morning. As he took nothing till Dinner-time, except a Gla of burnt Wine, and as he uſed very little Drink at his Mea he was always inclinable to be coſtive. Having liv'd in th way for about two Years and an half, upon a violent Fit Anger, he was ſeiz'd firſt with a Head-ach, accompany'd wi a Senſation, which is uſually call'd Formication. After whi he became ſuddenly blind, with a Dulneſs of Hearing, falte ing in his Speech, and tenſive Pains in his Right Leg a Arm. Baths for his Feet were immediately order'd; an Vein was open'd in the Left Foot, from which, as wel from that open'd in his Left Arm about a Fortnight be no Blood was diſcharg'd: Upon this, Scarification upon Nape of his Neck, and the Crown of his Head, whic had formerly been accuſtom'd to, but which had been om for the laſt two Years, were preſcrib'd; and for removing Coſtiveneſs, emollient Clyſters were injected: Then his return'd in ſome Degree, ſo that he could ſee better by a lig Candle than one ſees by the Light of the Moon; howeve could not as yet read, but ſtill complain'd of ſmall Clouds fore his Eyes.

I being call'd to a Conſultation, preſcrib'd this Powder of all:

Take of Native Cinnabar prepar'd, Crabs-eyes, and par'd Amber, each two Drams; of volatile Salt of ber, and Hartſhorn, each ten Grains, and mix the into a Powder. Let a Dram be taken for a Doſe.

Then I preſcrib'd the following Pills:

Take of Mercurius dulcis, and of my Pills, each one D of the Extractum Panchymagogum of Crollius, Dram; of Extract of Caſtor, four Grains: Mix; out of each Scruple make twenty Pills.

The Patient took twenty of theſe Pills every Morning three Days ſucceſſively; then for five Days ſucceſſively, Morning and at Night he took the Powder: Then th for three Days more; then again the Powder; and th us'd them alternately.

I alſo ordered him the following Decoction:

Take of Valerian-root, one Ounce; Balm, one Ha Fennel-ſeed, two Drams: Cut and bruiſe them to This Powder is to be us'd like Tea: The Patient receive the Steam of it into his Eyes in the Morning after taking the Medicines preſcrib'd, he is to drin or ten Cups of the Infuſion itſelf.

I alſo preſcribed him my Balſam of Life, and deſired apply it to his Noſtrils, and anoint his Temples with it. order'd him to take eight Drops of it in the Morning, before-mention'd Infuſion. Laſtly, he daily us'd Baths Feet, which reach'd as far as the Calfs of his Legs, ma Wheat-bran and Chamomile-flowers; and by this Co perſiſted in, he in a few Weeks recover'd the perfect U Sight.

REFLECTION.

Blindneſs which comes on ſuddenly, ſeems to be a Pa is occaſion'd principally by the Separation of the from the Blood, and its Stagnation about the Th the Optic Nerves, the Compreſſion of which hi free Influx of the Animal and Nervous Fluid Optic Nerves: Hence ariſes a Loſs of Sight, the of the Eye remaining at the ſame time, to all Ap unalter'd; for outwardly no Fault or Blemiſh ca covered in them. This Stagnation of the Serum principally from the Weakneſs of the Brain, and a Relaxation of its Fibres, which renders the C the Blood thro' this Part ſomewhat more diffic Blood, in Conſequence of this, remaining as it up in the Veſſels of the Brain, lets fall its ſe which being thrown together pretty plentifully Place at the lower Part of the Brain, compreſs one, and ſometimes another, Pair of Nerves;

lepraveor quite deſtroy the Functions of thoſe Parts, to hich the ſaid compreſs'd Nerves are branch'd out and xtended. In the Caſe now under our Conſideration, too ntenſe Application of Mind, frequent and too long proracted Watchings, together with long and obſtinate riefs, had greatly weaken'd the Brain, and the Pairs of erves ariſing from it; for ſuch is the Nature and Tenency of theſe Things, that when they concur and meet gether, they render the Patient ſubject to grievous ead-achs, Melancholy, the Palſy, the Apoplexy, and rowſineſs; to this End contributed alſo the Thickneſs d Impurity of his Blood, together with its Congeſtion the Brain, all which Circumſtances are to be aſcrib'd his too great Abſtemiouſneſs in point of Drink, his Uſe Wine in the Morning, the ſtubborn Coſtiveneſs of his lly, and his intermitting his uſual Evacuations of Blood Veneſection or Scarification. We need not therefore onder, that in ſuch a State of the Humours and Brain, Blood being, by the ſtrong Commotion of Mind, own upon the Brain with an uncommon Force, and naining there, ſhould excite not only the heavy Pain his Head, and Blindneſs, but alſo the pungent and ting Pains in his Right Foot and Arm. But ſince the ſorder was not inveterate, but as yet of a ſhort ſtanding, may eaſily conceive, that there ſtill remain'd ſome Hopes reſtoring the Patient's Sight, provided only proper Medies ſhould be preſcrib'd, and duly and ſeaſonably admired.

nſwering which Intention, beſides Veneſection, Scarifiion, and Purgatives, thoſe Medicines are moſt proper ich attenuate and diſcuſs the ſtagnating Humours, and ive them from the Head, and upper Parts, to thoſe that lower, and leſs noble, and which invigorate and reſtore whole Syſtem of weakened Nerves. But as right meral Preparations, and eſpecially thoſe of the cinnabarine l, duly and ſeaſonably adminiſtred, are very effectual for oving the ſtagnating Lymph, and putting it in a proper tion, even in the remoteſt Parts; and as this Truth is ciently confirm'd, from their Uſe in Venereal Caſes; I , on this Account, us'd them, and that too with arkable Succeſs, in long and grievous Head-achs, Pal- and Epilepſies, not only with an Intention to purge, alſo to promote a Diaphoreſis, which is the more eaſily ght about, by the Patient's drinking at the ſame time n Infuſions impregnated with ſome Subſtance of a diaetic Quality. Having therefore remov'd the Cauſes, attenuated the Humours ſtagnating about the Thalami of Optic Nerves, nothing is more proper than to ſtrengthen corroborate the Brain, and nervous Syſtem, by the Uſe of richeſt Balſamics, as well externally as internally, and to e their priſtine Tone, and Strength, to the relax'd and en'd Fibres; for which Purpoſes my liquid Balſam is ly to be commended. From the Hiſtory, and ſucceſs- Cure of this Diſeaſe, we may infer, that Mercurials, Preparations of Cinnabar, together with the Uſe of Bals, are extremely efficacious for removing Blindneſs, or *utta Serena*, when not old and inveterate; nor is it to oubted, but the like Practice would be attended with ſs in other terrible Diſorders of the Head and Brain, proceed from the Extravaſation and Stagnation of any tity of the ſerous Part of the Blood, provided only ſuch ders are taken in time. *Hoffman, Conſult. Med.* I. *Sect.* I. *Caſ.* 42.

CASE II.

tain Gentlewoman forty nine Years old, who had in ſtitution a Mixture of Choler and Melancholy, having een Years without a Huſband, and had always enjoy'd State of Health, except from her Infancy, ſhe was with a ſmall Difficulty of Breathing. This Gentlehappening to be expos'd to Colds and Hardſhips, had trual Evacuations very irregular, for the Space of two ſometimes they were too copious, ſometimes ſupr three Months, and during the laſt Year they ceas'd Upon this, being often troubled with Inflammations es, ſhe always found means to remove them, till in th of *December* 1726, they return'd with double ccompanied with pungent Pains, and ſeiz'd firſt her d then her Left Eye. Upon this, there enſued a kind tion of the Iris, and a Dimneſs of Sight, which by creas'd to ſuch a Degree, that ſhe became quite incadiſcerning any Object. Her Eyes indeed were free but not altogether without Inflammation; and the Humour of the Right Eye appear'd whiter than in State it ought to do; nor was it as yet plain, wheract, or a Glaucoma, threaten'd the Patient. In ye the Pupil only appear'd to be dilated, and the turbid. For removing theſe Symptoms, various ere uſed, ſuch as Bleeding in the Feet, as well as in Veſicatories, Fontanels in the Nape of her Neck, and Arms, Baths for her Feet, Collyriums, Bags of diſcutient Ingredients apply'd to her Eyes, Purgatives, Mercurials, Sudorifics, Millepedes mix'd with native Cinnabar, and the Spawwaters: But the Symptoms were ſo far from being remov'd by theſe means, that they rather acquir'd new Force, and render'd the Patient very anxious and uneaſy.

REMARKS.

If we look for the immediate Cauſe of this Diſorder, it ſeems to conſiſt partly in a Corruption and Diſturbance of the cryſtalline and vitreous Humours of the Eye, which are naturally pellucid, which Corruption is occaſion'd by an Afflux of thick and impure Lymph, and partly in the Optic Nerves being hurt and injur'd; for theſe, I mean the Optic Nerves, being compreſs'd by the Load of impure and ſtagnating Humours thrown upon them, on that very Account the Acceſs of the nervous Fluid to the Retina is prevented; and the Sight being by this means deſtroy'd, a Gutta Serena is brought on, of which we may be convinc'd by the too great, and almoſt paralytic Dilatation of the Pupil and Iris. Since therefore theſe Symptoms are brought on by too great an Afflux of Humours to the Head and Eyes, and eſpecially to thoſe Parts that are moſt contiguous to the Brain, which is plain from their Redneſs, Pain, and Inflammation; and ſince this Afflux was brought on, and is ſtill encourag'd, partly by the ceaſing of her menſtrual Diſcharges, and partly by her Commotion of Mind, and her being frequently expos'd to Colds, great Care muſt, in the firſt Place, be taken to free the Eyes of the Humours which ſtagnated in them, and to prevent their flowing to the ſame Parts for the future; and then the nervous and membranous Parts of the Eye are to be ſtrengthen'd, and the natural Tranſparency of its ſeveral Humours reſtor'd.

This is no eaſy Taſk in this inveterate Diſorder; at leaſt, the Means commonly preſcrib'd in parallel Caſes, ſuch as Setons, Veſicatories, Fontanels, Mercurials, Collyriums, Diſcutients, Sudorifics, and Purgatives, will all be us'd to no manner of Purpoſe: But you ought not for this to loſe all Hopes, nor lay aſide all Thoughts of recovering the Patient, eſpecially ſince I find, that ſuch Medicines, as both from Reaſon and Experience I have found effectual in the like Caſes, have not as yet been us'd. I would therefore adviſe, that the Patient ſhould have a continual Seton in her Neck, and that her Belly ſhould be kept open; for which Purpoſe, two Ounces of Manna, mixt with one Ounce of Cream of Tartar, and taken twice every Week, will be very proper. She muſt alſo carefully abſtain from drinking any Wine or Ale, inſtead of which ſhe muſt uſe the following Decoction:

Take of Vipers-graſs, of Shavings of Hartſhorn, and of Sarſaparilla, each ſix Ounces; of Fennel-ſeed, and of the ſtellated Aniſeed, each three Drachms; of Liquorice-root, one Ounce: Let theſe be cut, and beat together into a Powder, of which an Ounce and an half is to be boiled in three Meaſures of Water, for Uſe.

A Bag fill'd with Valerian-root, Fennel-ſeed, Roſe-leaves, and impregnated with the Water call'd *L'Eau d'Arquebuſade*, is to be apply'd to her Eyes; and ſometimes ſhe is to ſnuff the following Powder up her Noſtrils:

Take of the dry volatile Sal Ammoniac, one Ounce; Oil of Sage, Oil of Marjoram, and Balſam of Peru, each one Dram: Mix for Uſe.

She will alſo probably receive conſiderable Advantage from an Infuſion, by way of Tea, made of one Ounce of Valerian-root; of the Herbs Balm, Betony, Sage, and Baſil, each a Handful; of Fennel-ſeed, and Cubebs, each three Drams: The Steam of which is to be receiv'd into her Eyes every Morning; and ten Cups of the Infuſion, but leſs ſaturated, are to be drank.

It will alſo be worth the Patient's while, to take a Dram and an half of the following Powder, when ſhe is going to bed:

Take of Cinnabar duly prepared, of Piony-root, of Crabseyes, of diaphoretic Antimony, of prepar'd Amber, each two Drams; and of my Sulphur of Antimony corrected, one Scruple: Mix into a Powder.

She muſt perſiſt in this Courſe for a Month, and every Night uſe a Bath for her Feet made of River-water and Wheatbran; but if theſe things ſhould not anſwer the Intention, I think it adviſable, in order to excite a gentle Salivation, that her Ankles and Knees be twice a Week rubb'd with mercurial Ointment. She muſt alſo ſit three Quarters of an Hour every Day in River-water boil'd up with Wheat and Barley-bran; after which, ſhe is to proceed again in the manner above directed. From this Courſe, if as yet a Poſſibility of reſtoring Health remains, I doubt not but the Patient will find the deſir'd Effects. *Hoffman, Conſult. Med. Cent.* 1. *Sect.* 1. *Caſ.* 44.

Celſus, ſpeaking of Venereal Commerce, gives this remarkable Advice: *Cavendum ne in ſecunda valetudine, adverſæ præſidia conſumantur*; that is, We ſhould be cautious of conſuming wantonly in a State of Health, what ſhould be our Support during Sickneſs.

As I am afraid there are many who do not attend to this Rule ſo much as would be convenient for them, perhaps the following Caſe may be of ſome Importance to ſuch as have not yet utterly deſtroy'd themſelves by an immoderate Purſuit after Pleaſure.

CASE III.

A Weakneſs of Sight proceeding from an exceſſive Effuſion of the Seminal Matter.

A Youth of twenty five Years of Age, of a phlegmatico-ſanguine Habit, and who, from his very Infancy, had a tender Conſtitution, and a pale Complexion, happen'd in the ſeventh Year of his Age to fall into an Atrophy, and to appear conſumptive; which Misfortune was, in all Probability, occaſion'd by his beginning too ſoon to drink Wine: But getting rid of his Diſeaſe gradually, he began to grow apace; and when about fifteen Years of Age, learnt of a wicked School-fellow, the execrable Trick of Maſtupration, a Crime not to be mention'd, much leſs to be practis'd, in a Country where Virtue, Decency, or Politeneſs, have the leaſt Regard paid them. He indulg'd himſelf in this vile and unmanly Practice very frequently, even almoſt daily, from the fifteenth to the twenty third Year of his Age, and applied himſelf at the ſame time to writing in a very ſmall Character; by which means he contracted ſuch an exceſſive Weakneſs of his Head and Eyes, that theſe latter were frequently convuls'd during his prepoſterous Entertainment. About four Years ago, when he was wickedly employ'd in this manner, and his Deſign upon the very Point of being executed, ſome Perſon or other unexpectedly knock'd at his Chamber-door; which Accident put him in ſo much Confuſion, that the ultimate Scene of his Diverſion was left unaccompliſh'd. Upon this, he immediately felt ſo exquiſite a Pain, and ſo vehement a Tenſion in his Teſticles, and Spermatic Veſſels, that he could not walk without the utmoſt Difficulty. The Force of his Genius, and the Sight of his Eyes, ſeemed at the ſame time to be diminiſhed and impaired. Tho' he had the Danger, with which his execrable Practices threaten'd him, full in View, yet after the Pains of his Teſticles were remov'd, he was ſo much infatuated, as to repeat his Crime, and begin afreſh his former Courſe; but he was ſoon after ſeiz'd with the like Pain in his Genitals, and eſpecially in his Teſticles, where the Pain was accompany'd with a very conſiderable Tenſion. By the Uſe of external and internal Medicines, for about half a Year, he alſo got this Diſorder remov'd, but with ſome Difficulty. Soon after he was ſeiz'd with a Swelling in thoſe Veſſels which go to the Left Teſticle. This Swelling appear'd larger than ordinary after his Meals, but was not accompany'd with Pain, unleſs when by his Folly he brought a Stimulus on the Parts; but tho' it was void of Pain, it was attended with another unlucky Circumſtance, for it remains with him to this very Day. To this was join'd ſo great a Weakneſs of his Head and Eyes, that when he was about to read any thing, he ſeem'd to be drunk, and fluſh'd with Wine. The Pupils of his Eyes were extremely dilated, his Eyes themſelves rack'd with darting Pains, accompanied with ſome Degree of Tenſion. His Eyelids ſeemed as it were loaded and oppreſs'd with a kind of Weight: in the Morning they were conglutinated together, and water'd very much; But this was not all, for both Corners of his Eyes, beſides the violent Pains with which they were rack'd, were alſo clogg'd and ſtuff'd with a whitiſh kind of Matter. In this deplorable State he was obliged to give over Reading, and interrupt the Courſe of his Studies, for the Space of ſix Weeks; during which Time he only employed himſelf in Exerciſes and Recreation, and in taking the Medicines which were judg'd proper for one in his Condition: By which means he recover'd ſo far, as to be able to apply himſelf to his Studies, for two or three Hours a Day, which he can ſtill do; but if at any time he ſhould chance to protract his Application, and lengthen out his Studies, beyond their ſtated time, he is immediately ſeiz'd with the above-mention'd Symptoms. Beſides, he was become ſo lean, that his Body was little more than a Skeleton; and tho' his Appetite was good, yet he was indiſpos'd after his Meals, and was affected with a kind of Drunkenneſs. But when he got a juſter Senſe of Things, and had, for almoſt the Space of two Years, abſtain'd from his former Practices, and from all Commerce with Women, he began to be troubled with very frequent nocturnal Pollutions; by which he found his Body gradually more and more weaken'd, and his Strength impair'd; ſo that now what ſeems principal to be regarded, is the Removal of this Imbecillity.

REMAKKS.

We learn from this Account, that Venery, us'd either to ſoon, or too much, not only impairs the Strength of the Body in general, but alſo debilitates the noble Functions of the Brain and Eyes, to ſuch a Degree, that the Loſs becomes almoſt irreparable. But what deſerves our principal Attention in the preſent Caſe, is the particular Time at which his Eyes more eſpecially began to ſuffer from his continued, and almoſt daily, prepoſterous Venery. And indeed I have had an Opportunity of ſeeing a great many Ca where Perſons well advanc'd in Years have by immodera Venery, not only brought upon their Eyes Redneſs, dar Pains, accompanied with Tenſion, a heavy Senſation, as i Weight was laid upon them, and a frequent ſhedding Tears, but likewiſe ſuch a Weakneſs of Sight, that th were render'd incapable either to read or write; and I h found, that in theſe very Caſes, the Pupil was always dil as it is in a Gutta Serena, by reaſon of the weaken'd o Tone of the muſcular and nervous Fibres which ſurround But why need I ſtop here? ſince I myſelf knew two Ca in which a Gutta Serena itſelf was brought on by exc Venery, and a long Series of Grief. Hence it appears, great and ſurpriſing a Conſent there is between the Se Parts, or rather the Spirituous Seminal Fluid itſelf, an Fabric of the Eye, which is compos'd of the fineſt M branes, Nerves, and Muſcular Fibres, as well as the clear and tranſparent Fluids. The Lymphatic Seminal is almoſt of the ſame Nature and Quality with that which is ſecreted in the Brain, and diſtributed through Nerves of the Body; for which Reaſon, the more p the Evacuation of the former is, the more ſcanty and tive the Secretion of the other in the Brain muſt of be. Hence alſo a Reaſon may be aſſign'd, why thoſe Y who begin too early to taſte the forbidden Joys of ſuſtain a conſiderable Loſs of Memory, and are render' for Study; and likewiſe why Perſons farther advan Years, who are exceſſively addicted to Venereal Pl loſe their Strength, and bring on a premature Death

But to return to our Caſe: We find alſo another obſerv cumſtance in it, which is, that upon his leaving th ſtrous Practice, the nocturnal Pollutions appear'd, th ſon of which is very plain; for the more copious a quent the Afflux of the Humours, eſpecially of the S Matter, has been to the Organs deſtin'd for Gen either by the Force of Imagination, or otherwiſe; I more frequent and copious ſuch an Afflux has been, th the Spermatic Veſſels are dilated and relaxed, and the nal Juice, for that very Reaſon, flows into them in Quantity, and lays a Foundation for thoſe wanton Idea Seminal Excretions, which even during Sleep affec of a warm Imagination.

As for what relates to the Cure of the Diſorder now un Conſideration, I preſcrib'd the following Method, proper to be purſued:

Firſt, let a Meaſure of Aſſes-milk, mixed with a th of the *Selter* Waters, be taken every Morning.

And at Night I preſcribed a Dram of the following Pow

Take of Hartſhorn, philoſophically prepar'd, and of bone, each half an Ounce; of Amber prepar'd, Inſtillation of Oil of Tartar per Deliquium, two and of Caſcarilla-bark, one Dram: Mix up into a to be taken in Black-cherry Water.

Before and during this Cure, and after it was com preſcrib'd a laxative Potion, in the following Form:

Take of the beſt Rhubarb, one Dram; of Ma Ounce; of Nitre prepar'd with Antimony, five Boil and diſſolve over a gentle Fire, in ſix O *Selter* Water; and to the ſtrain'd Liquor add th of the Oil of Cedar: Mix for Uſe.

Beſides, I preſcribed for the Patient's ordinary Drink, coction:

Take of red and yellow Sanders, *China*-root, an graſs, of each four Ounces; of Succory-root, of Cinnamon, half an Ounce; and of Ma Drams: Mix together, and beat into a Powder, two Ounces, together with a Handful of are to be boil'd for three Quarters of an Hour, Meaſures of Water.

s, I ordered him to abſtain from ſalt Aliment, and all
natic Subſtances, as alſo from all Liquors of a hot Qua-
; but preſcrib'd him Broths made of Veal, Vipers-graſs,
Succory-roots; and in the Morning injoin'd him to uſe
nfuſion, by way of Tea, made of the Herbs Mint and
n. At laſt the Cure being completed, I order'd him for
e time longer to perſiſt in the Uſe of the above-men-
'd Decoction, and of my balſamic Elixir for the Bowels;
which means I in ſix Weeks freed the Patient from all
Symptoms of his Diſorder, and reſtor'd him to his uſual
lth. *Hoffman*, *Conſult. Med. Cent.* 2. *Sect.* 3.
104.

Case IV.

Gentleman's Daughter, of twelve Years of Age, com-
of Laſſitude, want of Appetite, Weakneſs, and darting
n her Legs and Arms; her Colour at the ſame time was
and ſomewhat reſembling that of Lead. Eight Days
is ſhe was ſeiz'd with a Shivering, which was ſuc-
by a ſcorching Heat, and an exceſſive Pain of her Head
ins. The third Day after this the Meaſles, which then
d to be epidemical, appear'd. She was at the ſame
oubled with a moſt uneaſy Cough; and by reaſon of
tinual Pain in her Head and Eyes, could neither ſleep,
r the now offenſive Light. On the fifth Day the
ns diſappear'd and vaniſh'd almoſt from all the Parts of
ly, but the Pain of her Head and Eyes remain'd; and
been ſo coſtive from the very Beginning of the Diſeaſe,
had no Stool, except when procur'd by a Clyſter.
the Diſeaſe ſeem'd to be thus upon the Decline, ſhe
expectedly ſeiz'd with a prodigious Pain in her Bowels,
ning Heat all over her Body, Thirſt, Weakneſs, and
y of Breathing, upon which the Red-purple Fever,
ted with white or miliary Eruptions, appear'd, and
of her Eyes and Head remain'd obſtinate. The Re-
f theſe terrible Symptoms was attempted by ſuch Me-
s were judg'd proper to allay the Acrimony of the
s, carry off the Spaſms, and promote a gentle and
Eruption: Her Head-ach gradually abating by this
ſhe recover'd her Health. The Force of the Diſeaſe
nquer'd, ſhe ſuffer'd a Diminution of Sight, which
increaſing, degenerated in a Month's time into a
rena; ſo that ſhe was now incapable of diſcerning any
whatever, tho' her Eyes ſeem'd to be in every reſpect
xcept that the Pupils appear'd as large again as they
their natural State. Many approv'd Medicines were
d for carrying off this Diſorder, but all to no Purpoſe.
menſtrual Diſcharges beginning to appear about the
h Year of her Age, her Eyes again became capable
ning a faint and glimmering Light. Upon this, I be-
ulted, adviſ'd, that her menſtrual Diſcharges ſhould
d and promoted by mild Balſamics, that ſhe ſhould
gentle Veſicatory for ſome time, that her Eyes ſhould
ntly anointed every Day with the Fat of Vipers, and
w Drops of my Balſam of Life ſhould now-and-then
her in her Aliment; by which means her Sight was
d totally recover'd, but yet ſo far reſtor'd, as that
ain Attitude and Poſition of her Eyes, ſhe was able
n Objects, tho' in a very diſadvantageous manner, for
ſaw half of them. In every other reſpect her Health
; and not long ago ſhe entered into a married State.

REMARKS.

nall-pox and Meaſles, it is always a bad Prognoſtic,
he exceſſive Pain of the Head and Eyes, which uſual-
es the Patient upon the Eruption, continues through
ſeveral Stages of the Diſtemper; for it generally leaves
Diſorders of the Head behind it, and in the Caſe now
oned left the Patient afflicted with a *Gutta Serena*;
Diſtemper is, indeed, for the moſt part incurable;
Infants it may be diſcuſſed and carried off, and eſpecially
g Girls of tender Conſtitutions, upon the Appearance
r Menſtrual Evacuations, which alter the State of
lids as well as their Fluids, eſpecially if Art be brought
ſt the Efforts of Nature. *Hoffman's Medic. Rational.*
t. Sect. 1. *Cap.* 8. *Obſerv.* 1.

Case V.

oſis, from a globous Tumour in the Brain preſſing the Optic Nerves.

oman, twenty-four Years of Age, was taken with a
Head; a Fever ſoon followed, which being over,
es of his Head-ach ſtill remained, with Want of
Weakneſs of the Head. At length, his Viſion in the
began to be darkened, and a Month after in the Right
ſoon after he became quite blind, no Defect appear-
Eyes. Some time after the poor Man was ſeized
ulſions, which held him, with Intermiſſions, during
r: In the Spring they went off, and were ſucceeded
n, hectic Fever, a Spitting of purulent Matter, and a Phthiſis, which, after long Moleſtation, brought him quite emaciated to the Grave.

The Body being opened, we diſcovered the Defect in his Lungs; but when we came to open the Skull, and examine into the Cauſe of his Blindneſs, by inſpecting into his Brain, we found it moiſtened throughout with a copious watery Humour, and its Forepart, eſpecially on the Left Side, ſwelled: When we had taken off Part of it, there appeared a globous Sort of a Tumour, like a Glandule, or Struma, included within the Subſtance of the Brain, yet ſeparated from it, and contained in its proper hard Membrane, with capillary Veins diſperſed through it. It was bigger than a Hen's Egg, uneven, and ſhaped like a Pine-nut; the inner Subſtance was white and ſmooth, reſembling the White of an Egg hardened by boiling: It was ſomewhat prominent upwards, in form of an obtuſe Cone, but wider at the Baſe, by which it reſted forwards on the Ventricle of the Brain, and preſſed with its Weight, which was fourteen Drams, upon the Origin of the Optic Nerves, which were compreſſed by it. We concluded this to be the Cauſe of his Blindneſs, by intercepting the Paſſage of the Animal Spirits to the Eyes, ſince there was no viſible Obſtruction, or Defect, either in the Eyes, or Optic Nerves. *Bonetus*, *Lib.* 1. *Sect.* 18. *Obſerv.* 1.

Case VI.

An Amauroſis, cauſed by a Veſicle preſſing upon the Optic Nerves, near the Place of their croſſing.

In the Year 1590, I diſſected the Daughter of a Burgomaſter of *Holland*, aged eighteen Years. She had laboured under a Diabetes for ſome Years before her Death, and but a few Days before had been ſeized with this Sort of Blindneſs, in which both Eyes appeared clear; nor was there any viſible Defect either in the Membranes or Humours, tho' the Patient could not ſo much as perceive the Light of a Candle, when held near her Eyes.

Upon opening the Cranium, I diſcovered a remarkable Veſicle, which preſſed upon the Optic Nerves about the Place where they croſs. Upon making an Inciſion in it, there iſſued about half a Pint of very limpid aqueous Matter; for when the Kidneys, through Weakneſs, were incapable of attracting what was drank, there commenced, by an ἀνάῤῥωπος, a Regurgitation to the Head, by which the Veſicle was formed. *Bonetus*, *Lib.* 1. *Sect.* 18. *Obſ.* 1.

Case VII.

In *July* 1622, the Son of one *Nicolas Blewet*, a Peaſant of the Village of *Bietzwyl*, in the Canton of *Soleure*, by Name *John*, about eight Years of Age, fell from a Tree, and received three Wounds in his Head, at the Concourſe and Connexion of the Lambdoidal with the other Suture, but without hurting the Cranium. Immediately he vomited up his Food indigeſted, and loſt his Speech and Senſes to ſuch a Degree, that he was carried home for dead to his Father's Houſe, and remained in that Condition for ſome Days, ſtill vomiting whatever he received. A Barber was ſent for from the neighbouring Town of *Biel*, who only took care to heal the Wounds, not troubling himſelf about Univerſals; however, he cicatrized them within three Weeks. For ſome time the Symptoms, as the Fever, the Nauſea, and the Vomiting, were very grievous; but when after ſome Days they had remitted, and the Patient was reſtored to his Senſes, it was diſcovered, that he was ſtark-blind; and on the twenty-ſeventh of *Auguſt*, the Father brought his Boy to me, imploring my Advice. His Eyes, as far as could be diſcerned by outward Inſpection, had no manner of Hurt; for which Reaſon I ſignified to the Father, that the Fault lay in the Optic Nerves, which, from the very great Concuſſion of the Brain, and the Humours therein contained, were obſtructed by ſome viſcid Matter. I adviſed him, after ſufficient Purging, and Application of Cupping-glaſſes, to apply a Seton to the *Nucha* (Nape of the Neck). The Man carried his Boy home, to conſult with his Wife and Friends about it; whether he will return, I know not; but, to ſpeak freely, I have but little Hopes of his Sight: For I doubt not but the viſcid Matter, confluent about the Optic Nerves, which ſhould have been purged out of the Head, or drawn off to other Parts, in the Beginning, while it was yet in Motion, is, by this time, ſo concreted as to be incapable of being removed. *Hildanus*, *Cent.* 5. *Obſerv.* 8. *P.* 389.

Case VIII.

In *December* 1689, I attended a Woman who had been happily enough delivered of a Child a Day and a half before; but had entirely loſt her Sight twelve Hours after her Delivery. This Woman was of a very full Habit of Body, and had very inconſiderable Evacuations during her Travail, as her Midwife told me, and her Purgations were at this time but inconſiderable; beſides ſhe had a very great Pain in her Head. I therefore had her blooded in the Foot, as ſoon as I ſaw her in this Condition. This ſo ſeaſonable a Remedy, in that urgent Neceſſity, proved ſo beneficial, that the Brain being diſcharged of the Plethora, which was the Cauſe of that ſurpriſing Accident, the Woman recovered her Sight the very next Day. She told me, that a Month before ſhe was brought to bed, ſhe had laboured under ſome convulſive Motions, which probably rendered her more diſpoſed to this laſt Accident, from which ſhe was entirely delivered by this Bleeding in the Foot. But thirteen Months afterwards, being again big with Child, I had her blooded thrice in the Arm, in the Time of her going with Child, and once while ſhe was in Labour, by which Precautions ſhe was entirely preſerved from the Return of that melancholy Accident, and I happily delivered her, on the twelfth of *October* 1691, of a large Male Child, which came the natural Way. *Mauriceau, Obſ.* 568.

AMAZONUM PASTILLUS, *The Amazons Troch*, is thus prepared:

> Take of the Seeds of Smallage and Aniſe, each ſix Drams; the Tops of Wormwood, four Drams; of Myrrh, Pepper, Opium, Caſtor, each two Drams; Cinnamon, ſix Drams; make them into Troches, of which give a Dram for the greateſt Doſe. *Galen* ſays, that he uſed to leave out the Myrrh, and inſtead thereof doubled the Quantity of Pepper.

In Pains of the Stomach it is taken in a Quarter of a Pint of Wine diluted; for bilious Vomitings, in cold Water; to thoſe who throw up their Food, if they be thirſty, and have a Senſation of Heat about the Mouth of the Stomach, or were uſed to drink cold Water, when in Health, it is likewiſe preſcribed in cold Water; if otherwiſe, in warm Water; for the Colic and Gripes, in a Decoction of Myrtle; and for a diſorder'd Spleen, in a Quarter of a Pint of Oxymel. *Ætius Tetr.* 3. *Serm.* 1. *Cap.* 11.

AMBA, a Name for the MANGA, Mango-tree. See MANGA.

AMBAIBA. This is the *Ambaiba Braſilienſibus* of MARGGRAV. *Piſon. Raii Hiſt.*

This Tree is of a beautiful Height, almoſt perpendicular, and in general without Branches, which, in thoſe that have them, grow only at the Top.

The outward Bark reſembles that of a Fig-tree, and conſiſts firſt of a thin aſh-colour'd Cuticle, under which lies a thick, clammy, green Bark. The Wood is white, like that of the Birch-tree, but ſoft, and eaſy to break.

The Trunk is of a moderate Thickneſs, and entirely hollow from the Root to the Top; and this Cavity is divided, or interſected throughout, at every half Finger's Diſtance, by a tranſverſe Membrane, in the Middle of which is a round Hole, about the Bigneſs of a common Pea. It is of a Liver-colour, and red Ants are always found in it. Towards the Top grow the Leaves in a circular Order, as in the *Mamoeira* or *Papa-tree*, each on a thick Pedicle, two or three Foot long, of a Reddiſh-brown on the Outſide, and ſpongy within. The Leaf itſelf is broad, round, and of the Bigneſs of a whole Sheet of Paper expanded, and ſometimes larger, indented with nine or ten Laciniæ or Jags, in whoſe Centre ſtands the Pedicle, from which a reddiſh-brown Rib runs lengthways thro' each of the Laciniæ or Jags, and many prominent Veins obliquely. They are of a very deep Green on the Upperſide, and of an Aſh-colour underneath, and ſeem in the Whole, ſomething of the Colour of Blood mixed with Water, rough like the Leaves of the Fig-tree, and have an aſh-coloured Line or Border round the Edges of the Laciniæ or Jags. The Cavity at the Top of the Tree contains a white, ſucculent, pinguious Pith, with which the Negroes are very ſucceſsful in healing their Wounds.

The Tree receives its Increaſe in this manner: At the Top there is an oblong, ſoliaceous, hoary Capſule, which contains in it one Leaf, and two or three, or four leſſer Capſules. When the outermoſt Capſule opens or unfolds itſelf, the Tree is augmented with a Leaf, and becomes ſenſibly higher. This Leaf, even when wrapt up in its Capſule, is of the Bigneſs of a Trencher; and when the Capſule opens itſelf, is diſcovered beautifully folded up, and upon its firſt Appearance, ſtrikes the Eye of the Spectator very agreeably, being hoary and of a faint-green Colour at the Bottom, and at the Top red and ſhining like *Morocco* Leather. In the Centre of the Leaf, where the Pedicle is inſerted in the ſuperior Surface, ſomething like a reddiſh Star appears, adorn'd with faint Streaks of Green and Yellow, and is probably the Centre of all the Nerves, which being ſhining and of a faint-yellow Colour, are longitudinally diſtributed thro' all the Jags. When the outer Capſule is open'd, the other leſſer ones ſucceſſively unfold themſelves, and preſent us with Leaves of the ſame Kind.

The Flowers come forth on a ſhort Pedicle from the upper Part of the Trunk where the Leaves grow, and hang four or five in a Cluſter like ſo many Sauſages. They are of a cylindrical Form, ſix, ſeven, or perhaps nine Inches long, an Inch thick, hollow within, and their Cavities ſtuffed with Down; they are ſoft, but towards their Surfaces have Kernels of a browniſh Colour; the Flowers falling off, the Kernels grow
ſomewhat larger, and may be eat, when the Huſks, in wh
they are incloſed, are taken off with one's Teeth. Th
Trees grow to great Height in a very ſhort Time.

Without the Aſſiſtance of Flint and Steel, the Braſi
extract Fire from it in this manner: They take the Fruit, o
rather a Piece of the Root of this Tree dry'd ſufficiently f
their intended Purpoſe; in this they bore a ſmall Hole, i
which they thruſt a ſharp-pointed Piece of hard Wood; and b
giving this a quick and rapid Motion, reſembling that of
Piercer, whilſt they hold the Fruit, or Piece of the Root fa
by their Feet, the Attrition of the Parts produces ſuch a De
gree of Heat, as is ſufficient to kindle any combuſtible Ma
that is apply'd to it, ſuch as dry Leaves of Trees, or Cotton

It is rarely found in Woods; but is for the moſt part to
met with in Fields, that have been formerly cultivated.

The fat Juice expreſs'd from the Tops of this Tree, i
Uſe in the Cure of inveterate as well as recent Ulcers.
Leaves, when freſh and tender, or the finer Part of its B
deterge the Part affected, and aſſwage its Pain.

The Juice expreſs'd from its Buds, is of a cooling and a
gent Quality; and when mix'd in a proper Quantity w
Meſs of Gruel made of a farinaceous Subſtance, which the I
call *Tipioca*, ſtops ſuch Fluxes of the Belly, as are occ
ed by a Redundance of Humours preternaturally hot. It c
immoderate menſtrual and ſeminal Diſcharges; and *Piſo* a
that he has experimentally found it to be remarkably bene
apply'd by way of Cataplaſm to the Navels of Women,
laboured under immoderate menſtrual Diſcharges after D
very. *Raii Hiſt. Plant.*

AMBAITINGA. The *Ambaitinga* of *Piſo* and Marg
has Branches of a reddiſh Colour; its Wood is of a pretty
Contexture, and its Leaves, towards their Tops, are of a
and, towards their lower Parts, of a languid Green, and a
the ſame time ſo rough, that ſome Subſtances may be p
with them inſtead of a File. This Tree contains an o
quor of the ſame Uſe and Efficacy with the Juice of the
baiba. It bears a large but ſlender Fruit, about a Hand's-b
in Length, and, when ripe, is ſweet, and may be eaten
Hiſt. Plant.

AMBALAM. This is the Name of an *Indian* Tree,
alſo *Mangæ affinis flore parvo ſtellato, nucleo majore*
It is a high Tree, not ſtretching its Branches upwards
ſpreading them out pretty far in a tranſverſe Direction. I
in ſandy Soils. It has a long Root, from which many
ſpring forth. Its Trunk is ſo large as to fill the Ar
Man. The Wood of it is ſoft, and covered with a thick
Its large Branches are of an aſh, and its ſmall ones of a
Colour, and beſprinkled with a Dew of a Sky-colour. I
conſiſts of a double Pair of leſſer Leaves, terminating w
odd Leaf. Theſe leſſer Leaves are of an oblong-round
their Length is almoſt the double of their Breadth, a
terminate in a ſmall contracted Point. They are of a
Contexture, ſoft, ſmooth, and both their Sides ſhining,
a lively Green on the ſuperior Part, but ſomewhat fainter
neath. From the Middle-rib, the Nerves diſtribute the
in tranſverſe, ſtrait, and parallel Directions. Many
ſprout forth at a time, from the tender Twigs, tha
from the larger Branches. Theſe Twigs, as well as the
are of a bitteriſh acid Taſte, ſomewhat reſembling th
of the Fruit produced by the Mango-tree. Their Smell
wiſe ſtrong and acid. The Flowers are ſmall and white,
ing the Appearance of little Stars, conſiſting of five
ſlender, but pointed Petals, which towards their Extrem
contracted into ſmall Points, and are ſomewhat hard and
In the Middle of the Flower, is a yellow little Heart,
is the Matter of the future Fruit, and is ſurrounded w
twelve, or more *Stamina*, according to the Number
Petals. Theſe *Stamina* are ſmall, ſlender, white, and y
their Tops. From the very Middle of this little Hea
ſix Points, or ſmall Styles, ariſe. When the Buds of the
begin to ſhoot forth, the Tree is ſtript of its Leaves,
mains deſtitute of them all the Time the Bud is flouriſh
reaſſumes its Foliage when the Fruit appears.

The Fruit hangs in Cluſters from the Twigs and Sta
are long, thick, pliant, bended, and of a yellowiſh Aſh
It is of an oblong-round Shape, hard, and reſembling
of the *Mango*. It is of a lively-green Colour, wh
ripe; then it becomes yellowiſh, and is gratefully acid
the Taſte and Smell. Its Pulp may be eaten, and co
it a large hard Kernel, which almoſt fills the whole C
the Fruit, has its Surface wove over in Form of a Ne
whitiſh kind of woody Nerves; and under this Net it
there ſoft, ſo that it will yield to any ſharp Inſtru
'tis hard within. This Tree flouriſhes and bears Fr
Year.

Its Root, us'd by way of Peſſary, promotes the
Diſcharge when ſuppreſs'd. Its Bark, reduced to a
and drank in acid Milk, is beneficial in *Dyſenteries*,
tention is alſo anſwered by its Juice mix'd with Rice,
two Ingredients, that kind of Bread, commonly ca

ves *Apen*, is made. A Decoction of its Wood is given Succeſs in Gonorrhœas; and its Fruit, pounded, and mix'd the Juice of its Leaves, aſſwages Pains in the Ears, if put them.

he *Cat-Ambolam* ſo nearly reſembles this Tree, that Bota- have ſcarce thought it worth their while to ſpend Time umerating the Particulars in which they differ: They tell us, that the Leaves of the Cat-Ambalam are of a er Size, and leſs oblong; that its Fruit is leſs oblong, what rounder and ſmaller; that it has a bitteriſh acid Taſte, s not produced in ſuch Abundance as the former; for Reaſon it is not ſo much uſed in Food. medicinal Virtues are the ſame with theſe of the Amba- *Raii Hiſt. Plant.*

MBAPAIA, the Name of an *Indian* Tree, called alſo OERA, which ſee.

MBARE, *Ambare Indica*, Garc. Acoſt. Trag. *Ambares*, *Arbor Indica*, *foliis juglandis*, *fructu nucis magnitudine*,

a large and thick Tree, growing in the *Indies*; its Leaves large as thoſe of the Walnut, but of a clearer Green, fy'd with many Veins or Nerves; it hath ſmall white rs; its Fruit is as large as a Nut, green at firſt, having a Smell, and a rough Taſte; but as it grows ripe, it ac- a yellow Colour, an agreeable Smell, and a pleaſant Taſte; it is full of a hard cartilaginous Pulp, interwoven nany little Veins; they ſeaſon it with Vinegar and Salt. tes an Appetite, and precipitates the Bile. *Lemery de* *es.*

BARVALIS, this is the Flower of an Herb, which es at a particular Seaſon, when Proceſſions are made thro' lds. It ſeems to have received its Name from the *Latin* *Ambire*, Blancard. Lexic. The Author here means ower of the Herb called *Polygala*, or *Milkwort*. See GALA.

BE, ἄμβη, a chirurgical Inſtrument, taken Notice of pocrates in his Treatiſe *de Articulis*, Sect. 6. Of this given a Figure from *Heiſter*, *Tab.* 31. *Fig.* 4, 5.

Machine conſiſts of a Fulcrum A A, and a moveable B C, which is brought under the diſlocated Shoulder, ed to it by Deligation with ſeveral Fillets, as you ſee ted Fig. 5. This done, the Extremity B of the Lever y and leiſurely to be preſſed downwards, which cauſes r Extremity C of the Lever to move upwards; by means the diſlocated Arm will be extended, and its which had ſlipped out of Joint, will be gently forced up natural Place. This Operation has been ſo frequently l, that the Machine acquir'd a great Name, and is to y called the *Ambe of Hippocrates*. But tho' in thoſe here the diſlocated Arm is protruded downwards, it has es been eminently ſucceſsful, and may ſtill be ſo; yet e Head of the Shoulder falls either on the Inſide or of the Scapula, as is generally the Caſe; and ſince chine only elevates ſtrait upwards, it often fail'd of the Help required; nay further, if the aforeſaid Head by the Strength of the Muſcle, or the Violence of the , be protruded with uncommon Force to the hinder e Scapula, it will not ſufficiently extend, but violent- eſs the Head in its Motion againſt the lower Margin t of the Scapula, to the manifeſt Hindrance of its on into its natural Place; and at the ſame time may d occaſion acute Pains; for which Reaſon, to omit other t preſent, it has long lain neglected by many, or olly thrown aſide. *Heiſter*, *P.* 1. *L.* 3. *Cap.* 7. vi.

in his *Exegeſis*, explains ἄμβη by ὀφρυώδης ἐπανάστασις, nce like a Border; and ſays, that the whole Machine Name, becauſe its Extremity runs out with an Edge Lip or Brim of a Pot towards the interior Cavity, well as the Edge or Border of any thing on the Top nity, are ſignify'd by the Word ἄμβη, *Ambe*.

the ways of reſtoring a Luxation of the Shoulder, the hat follows: Let there be a Piece of Wood of the f four or five Fingers, and about two Fingers, or leſs, in Thickneſs, and two Cubits, or a little leſs, , having one Extremity round, and very narrow and that Part. From the Top of the round Extremity, e a Lip [ἄμβη] a little prominent on one Part, which be towards the Ribs, but towards the Head of the er which being placed, it may be fitted to the Arm- y the Ribs. The Top of the Piece ought alſo to Linen, or ſoft Filleting, glued upon it, to render it

Things being thus prepared, the Head of the Piece truded under the Armpit, between the Ribs and the e Arm, as far inward as poſſible; after which the is to be extended on the Wood, and tied to it above at the Cubit, and at the Wriſt, that it may reſt th the greateſt Firmneſs. But we muſt principally o intrude the Head of the Piece as far as may be Armpit, and beyond the Head of the Arm. This done, a ſmall Beam is to be firmly ty'd acroſs two Poſts, upon which Beam, the Arm, with the Wood to which it is faſten'd, muſt be laid in ſuch a manner, that the Arm ſhall be on this Side, the Body on the other, and the Beam under the Armpit. Then the Arm with the Wood is to be preſſed down on one Side of the Beam, and the reſt of the Body on the other. The Beam is to be ty'd ſo high, that the Body may ſtand on Tiptoe.

This is by much the beſt way of ſetting the Shoulder; for the Operation is exactly by way of Lever, provided the Wood enters beyond the Head of the Arm, the Librations on either Side are very juſt, and the Bones of the Arm in perfect Security. Freſh Luxations are reſtored with a Quickneſs beyond Imagination, and hardly give room for Extenſion; and as for inveterate ones, this is the only way to cure them, unleſs thro' Length of Time, the Socket, that ſhould receive the Head of the Bone, be filled with Fleſh, and the Head of the Arm, by long Continuance under Luxation, has worn itſelf a Place. Yet I am apt to think, that an inveterate Luxation of the Arm will give way to this Operation; for what will the Power of the Lever not move? tho' I don't believe the Bone then reſtored would abide in its Place, but ſlip out again as uſual.

The ſame Effect, after a like Preparation, would be produced by Depreſſion over a Ladder, and the *Theſſalian* Chair would ſerve very well for a recent Luxation. The Piece of Wood muſt be prepared as before, and the Patient placed Sideways in the Chair, and the Arm with the Wood ſtretched over the Back of the Chair; then on one Side the Body is depreſs'd, on the other the Arm with the Wood; and the like may be effected over a folding Door; either of theſe Methods may be uſed as Occaſion requires. *Hippocrat.* περὶ ἄρθρων.

AMBELA, the Name uſed by the *Turks* and *Perſians*, for a Tree thus diſtinguiſhed:

Arbor exotica, *fructu racemoſo*, *Charamais dicta*, C. B. *Charamei Acoſtæ*, *folio pyri*, J. B. *Charamæi*. Purging corner'd Haſel-nuts.

There are two Kinds of this Tree, called *Charamei* by all the *Indians* generally; but the *Perſians* and *Arabians*, *Ambela*. The one is as great as the Medlar-tree, with Pear-tree pale great Leaves, and yellowiſh Fruit, ſomewhat like to Haſel or Filberd-nuts, ending in ſundry Corners, of the Taſte of ſour Grapes, yet more pleaſant, which they pickle up as well ripe as unripe, and uſually eat them with Salt. The other Kind is of the ſame Bigneſs, but hath leſſer Leaves than the Apple-tree, and a greater Fruit, which the *Indians* uſe, being boiled with Saunders, and give the Decoction againſt Fevers. The Bark of the Root of the former Kind, which groweth by the Water-ſides, is chiefly uſed (ſo as it grow far from the Sea) which yieldeth Milk, by taking four Fingers Length thereof, which being bruiſed with a Dram of Muſtard-ſeed, they give to thoſe that are purſy and ſhort-winded; for it purgeth mightily both upwards and downwards: But if a Super-purgation chance thereupon, they give one of the Fruits of Curambolas to help it, or elſe a Draught of the Vinegar of Canara (which is nothing elſe but the Decoction of Rice) ſet by for a Day, two or three, until it grow ſour. The Fruit is familiarly eaten through all Parts, unripe as well as ripe, and pickled, or eaten with Salt and Vinegar to procure an Appetite, putting it to their Meat to give them a Reliſh, by reaſon of its Tartneſs. *Parkinſon's Herbal*, *P.* 1638.

AMBERBOI, the *Turkiſh* Name for the Cyanus Orientalis Odoratus. *Sweet Sultan.*

Mr. *Vaillant*, in the Memoires of the Academy of Sciences for 1718, enumerates the following Sorts of Amberboi:

Amberboi flore purpureo odorato. *Cyanus floridus odoratus Turcicus*, *ſive Orientalis*, *major*, Park. Theat. 481. The Purple Sweet Sultan.

Idem flore incarnato odorato. *Cyanus floridus odoratus Turcicus*, *ſive orientalis*, *major*, *flore incarnato*. H. L. Bat. & J. R. Herb. 446. Sweet Sultan, with a pale Flower.

Idem diſco candido, *cum corona dilute Ianthina*, D. Lippi.

Idem flore albo. *Cyanus floridus odoratus Turcicus*, *ſive orientalis*, *major*, *flore albo*. H. R. Par. The white Sweet Sultan.

Idem flore luteo odorato. *Cyanus floridus odoratus Turcicus*, *ſive orientalis*, *major*, *flore luteo*. H. R. Par. The yellow Sweet Sultan.

Amberboi alterum, *flore purpureo*, *cum corona ampliſſima*. *Cyanus orientalis alter*, *ſive Conſtantinopolitanus*, *fiſtuloſo purpureo flore*. H. R. Par. & J. R. Herb. 446. *Item*, *Cyanus peregrinus*, *Amberboi ſive Emberboi dictus*. Ambroſ. 187. & J. R. Herb. 446.

Idem flore candicante, *cum corona ampliſſima*. *Cyanus orientalis alter*, *ſive Conſtantinopolitanus*, *flore fiſtuloſo candicante*. H. R. Par.

Idem flore luteo, *cum corona ampliſſima*. *Cyanus orientalis*, *flore luteo fiſtuloſo*. A. R. Par. 75.

Idem foliis magis diſſectis. *Cyanus orientalis major*, *foliis magis diſſectis*, *flore luteo*, *ex Aleppo*. Hiſt. Oxon. 3. 135. No. 8.

Amberboi erucæ folio, majus. Jacea foliis erucæ lanuginoſis. J. R. Herb. 444. *Jacea major exotica, ad foliorum margines ſpinulis donata.* Pluk. Tab. 39. Fig. 3.

Amberboi erucæ folio, minus, D. Lippi.

Monſieur *Lippi* found this laſt Sort betwixt *Alexandria* and *Roſetta*. There is a Figure of it in the Memoires of the Royal Academ. of Sciences for 1719. with the following Deſcription:

The leſſer Rocket-leav'd Amberboi has a ſingle Root a little bent, two or three Inches in Length, about the Thickneſs of two Lines at the Neck, inſenſibly diminiſhing till it comes to end in a Thread, and from Space to Space ſhooting forth capillary Fibres. The Bark is of a dirty White, covering a ligneous Subſtance of a whiter Colour.

From this Root ariſes a Stalk from nine to eleven Inches in Height, ſending forth Branches at Intervals; it is about two Lines thick at its Origin, leſſening by Degrees to the Extremities of the Branches and their Sprays, which have no more than a third, or a quarter of a Line in Thickneſs. This Stalk is ſolid and ſubſtantial, of a pale-green Colour, ſlightly ſtriated in its whole Length, and beſpread with dirty white Hairs, the longeſt of which don't exceed a Line. When cut, the Inſide appears of a clearer Green, and whiter than the Bark.

The Leaves of this Plant are of a muddy Green, deeply enough colour'd above, but paler under. They are almoſt flat, thin, without a Pedicle, diſpoſed in alternate Order, and covered with whitiſh Hairs. The great Leaves adorn the Bottom and Middle of the Stalk, and the principal Branches; the ſmaller Leaves ſet off the reſt. All the Branches, and ſmaller Boughs, proceed from the Boſom of a Leaf. Among the great Leaves, which well enough reſemble thoſe of a kind of Rocket, ſome are three Inches or three Inches and a half in Length, and an Inch, or fifteen Lines in Breadth, being very deeply jagged on each Side, ſome into four, others into five Lobes, from ſix to ſeven Lines in Length, and from three to four in Breadth, each indented alſo in ſeveral Places, a little rounded, and terminating in a yellowiſh-green, and, as it were, dry Point, which is very ſhort, and not prickly. The two great Lobes, which jointly terminate each Leaf, are alſo indented like the others. The wavy and indented Wings, which are obſerved in ſome Places of the Stem and the Branches, ſeem to belong to theſe Leaves, being nothing but Appendages to their Lobes. Moſt of the ſmall Leaves keep well enough the Figure of the great ones, though their Lobes are not ſo much indented. Among the Leaves, that adorn the Tops of the Branches and Sprays, ſome are from two to nine Lines in Length, and from half a Line to a Line and half in Breadth; ſome of them alſo have a ſingle Indentment, others have none, but are entire, reſembling the Leaves of Linaria (Toad-flax).

The main Rib of all theſe Leaves, as well as the Fibres, which it communicates to their Lobes, are of a whitiſh Green; they form Ridges above, and rounded Ribs underneath.

The Flowers have hardly any Smell, are of a gridelin Colour, and are ſurrounded with hermaphrodite Fleurets. The Stalk, Branches, and Sprays, produce no more than a ſingle Flower at each Extremity, which is diſtant ſometimes ſix Lines, ſometimes an Inch and half from the laſt Leaf.

The Diameter of each Flower is about nine Lines, of which the Diſk commonly takes off two Lines and an half, or three Lines. The Diſk conſiſts of fifteen or eighteen regular and hermaphrodite Fleurets, three Lines long, ſtanding out of the Calyx two thirds of a Line, which is nearly the Length of the Indentments of their Pavilion, and the half of their Depth; the other half, which is white, and their cylindrical Tube, which is about a Line and half long, and almoſt one fifth of a Line in Diameter, are ſunk within the Calyx. The Pavilion is alſo cylindrical, cut with five equal Jags, of a gridelin Hue, opens very little, and is no more than about half a Line in Diameter. The Extremities of the five Cuts, or Jags, roll and curl up on the Inſide. From the lower and inner Part of the Pavilion, ariſe five Stamina, whoſe Apices unite in one cylindrical ſtriated Tube, a Line and half in Length, and a quarter of a Line in Thickneſs, ſunk half a Line within the Mouth of the Pavilion: This laſt is white, but the reſt, which appear above the Mouth, is of a purple Colour.

The Bottom of each Fleuret reſts upon a white Ovary, about half a Line high, and a third of a Line thick, the Head of which is adorned with an antique Crown, which is much about the ſame Height. From the Head of the Ovary proceeds a capillary Trunk, which paſſing through the Fleuret, and the Tube, comes out at laſt from the latter about half a Line, including its two Horns, which are of a gridelin Colour.

Ten or a dozen barren and irregular Fleurets, reſting each on a falſe Bud, commonly form the Crown of this Flower. The Tube of each Fleuret is white, cylindrical, of the Length of two Lines, and above one fifth of a Line in Diameter, wholly ſunk in the Calyx, and terminating in a Pavilion, from three and a half to four Lines in Length, and two in Breadth in its Fore-part. This Pavilion is a ſort of a Mouth, almoſt cloſe, whoſe upper Lip is regularly cloven on this Side the Origin the Pavilion, into three Laciniæ nearly equal, and ſometim into two. The lower Lip is entire, more ſhort, though conſiderably, than the upper, and a little wider than its Di ſions.

The Placenta is cover'd with white Hairs, of the Length two Lines, or two Lines and a half, amongſt which the Ova are lodged.

All theſe Parts are contained in a ſcaly Calyx, ſhaped li Pear, about four Lines in Length, and two and a half three Lines in Diameter in its thickeſt Part, which is tow the Baſe. The Scales are oblong, entire, green on the B white on the Edges, covered with whitiſh Hairs, and ter nating in a little dry Beak, about a Line in Length, an the Colour of Wood, whoſe Baſis is brown. Theſe S ſhine like Silver, on the Side towards the Cavity of the C The largeſt are not above two Lines and a half in Length, the Beak to the Unguis or Bottom, and almoſt a Li Breadth.

The Ovaries, when throughly ripe, are of a conic Fi the Colour of Wood, hairy, chanelled according to their Le which is no more than a Line, and not half ſo much in Di at the Baſe, which ſupports an antique Crown. This C is open a Line and half; its Rays are white, ſhining, u the longeſt being two thirds of a Line, and the ſhorteſ a fourth Part. At the Point of the Ovary may be obſer ſmall Cavity, in which was articulated a fiſtulous N whence proceeds an umbilical Cord, which affords Nu to the Seed contained in that Ovary.

This Plant is annual, flowers in *June* and *July*, and ripe Seed at the Beginning of this laſt Month.

Having chewed the Leaves, I found them at firſt of agreeable Taſte, after which, they left ſomewhat of a Savour in the Mouth.

The Juice of the Root, Leaves, and Flowers, tur Paper red. *Memoires de l'Acad. Roy. des Scienc.* 1719.

AMBIA *Monard.* Is a yellow liquid Bitumen, ſi like *Tacamahaca*; it flows from a Fountain ſituated *Indian* Sea.

It is reſolutive, ſtrengthening, and lenitive; it cures T and the Itch; they alſo uſe it againſt cold Humours; it ſame Properties as the Gums Caranna, and Tac *Lemery de Drogues.*

AMBIDEXTER, ἀμφιδέξιος. It imports the b ſtrong, ready, and adroit, with the Left Hand, as w Right, as if the Perſon had two Right Hands. Th *pocrates* pronounces, never happens to Women. A *Sect.* 7.

AMBLOSIS, ἄμβλωσις, a Miſcarriage. See Abor

AMBLYOGMOS, ἀμβλυωγμός, from ἀμβλὺς, dull neſs of Sight.

This Word is frequently made uſe of by *Hippocrate* in his Book of Prognoſtics, he takes Notice of this D Sight, together with Coruſcations of Light ſeeming to fore the Eyes, amongſt the Symptoms of an approach morrhage, in continual Fevers, and genuine Tertians *(Prædict. L.* 1. 18.) he mentions a Noiſe in the Ears, pany'd with *Dimneſs of Sight*, and a Senſe of Heavine Noſe, as the immediate Forerunners of a violent D a burning Fever.

Sometimes this Author makes uſe of the Word ἀμ Amblyoſmos, to expreſs the ſame thing. *Galen* indeed ἀμβλυασμὸς, a Miſcarriage; but *Foetius* thinks it a M ἀμβλωσμὸς, Ambloſmos, in which he ſeems to be right

AMBLYOPIA, ἀμβλυωπία, from ἀμβλὺς, dull, the Eye. In *Hippocrates* it ſignifies that Dimneſs which old People are moſt ſubject to; and in this S uſed *Aph.* 31. *Sect.* 3.

But *Paulus* and *Actuarius* uſe this Word to ex Amauroſis, or Gutta Serena.

The ἀμβλυωπία, *is an Hebetude, or Dulneſs of Sight* has a manifeſt, but not viſible Cauſe. For ſince n Tunics nor Humours of the Eyes appear to be a Fault muſt neceſſarily lie in the Defect or Interceptio viſual Spirits, cauſed either by a preceding Precluſion ſtruction of the Nerve, that convey'd the Light, Brain being in part diſorder'd; any of which Cauſes ent to ſtop the Courſe of the Spirits: Whence the in the ſame State as Candles, which are full and co all the neceſſary Requiſites, and want nothing but illuminate them. *Actuarius de Meth. Med. Lib.* 2. C

AMBON, ἄμβων the Edge, or Margin of thoſe or Sockets, into which the prominent Parts of Bon ſerted in ſome Sorts of Articulation, as in that of into the Acetabulum. *Caſtellus.*

AMBRA is the common Name which the *French* have for *Succinum* or *Electrum. Ambra* alſo is Word, which the ſame People uſe, to ſignify what the call *Ambar*; but this is a thing quite different from

ore, though they would have the ſame Name to belong
n both, yet, for Diſtinction ſake, they have of late
his latter Kind of Ambra, *Ambergriſe* (Ambra griſea).
ence this Term *Ambra*, uſed by us for *Succinum*, is de-
I know not; for the *Arabians* call it *Karabe*, as you
in an old *Latin-Arabic* Gloſſary, *Karabe Succinum.* A
Lexicon in the *Vatican* has it, Κάραβε, τὸ ἤλεκτρον.
re it is alſo written κέραμε, and in another κάραμε. *Avi-*
ures us, that it is a *Perſian* Word, which ſignifies *an*
r of Straws; ſo indeed it is in the *Latin* Tranſlation:
iſena, ſpeaking in *Arabic*, does not ſay, that it is a *Per-*
ord; and the *Arabic* Term in his Book is written
with *Kef*, not *Kaf*, as it is in the old Gloſſary. He
at it attracts Straws, and Bits of rotten Wood, and
took its Name in *Arabic*, *Kerabe*, which ſignifies *an*
r of Straws.

Greeks, however, 'tis certain, called Amber ἅρπαξ,
ax," on the ſame Account. *Pliny*, *Lib.* 37. *Cap.* 2.
Amber: "In *Syria* the Women make Whorles of it,
call it *Harpaga*, "Snatcher," becauſe it ſnatches to
Leaves, Straws, and Edges of Garments."

Amber is a Species of Bitumen, is generally agreed;
too by the *Arabians* is reckoned among the Kinds of
n. *Alchar*, or *Alchir*, in *Alpagus*, is the Matter of a
Vein, fluid, and like Pitch, which bubbles out of the
like Water out of a Spring, in the Country of *Bagaded*;
oon as it gets above Ground, becomes thicker than liquid
being condenſed by the cold Air; the *Arabians* com-
call it *Char*. He plainly deſcribes to us ſome liquid
, or Naphtha. The ſame Author, under the Word
Kar, informs us, that it is ſomething which is like
that it flows from Springs in the Territories of *Bagaded*,
he ſame as *Chur*, or *Kur*, to which Word he refers us.
Adkar, is the *Naphtha*, which the Antients inform
d out of Springs in the Country about *Babylon*, after
ner of liquid Bitumen. In *Arabic* it is called *Kar*, or
and is the very ſame with νάφθα, (Naphtha) and called
rabians alſo *Nafth*. As to the Opinion of *Alpagus*,
is the ſame with *Chur*, I don't doubt but it was
ly ſo pronounced. For after the ſame manner they
h inſtead of *aſſach*, and *uſnen* for *aſnan*, and ſo of an
Number of others. But under the Word *Chur*, to
referr'd us for a fuller Explication of *Kar*, he ex-
, according to the Opinion of the *Arabian* Interpreters,
Sordes, that ſtick to the Walls of Bee-hives. This
uite a different thing from the *Kar*, which is a kind of
itumen, and is written otherwiſe; *viz.* *Kaar*, with
dle Syllable *Ain*, not *Elif*. They call the πρόπολις,
e) of the *Greeks*, and Wax itſelf, by that Name,
ay ſeem to be derived from Κηρὸς, or Καρὸς, "Ceros,
ros." *Bellunenſis*, at the ſame Paſſage, adds, that ac-
o ſome Writers, *Kar* is to be taken for Bdellium, in the
anon of *Aviſena*, in the Chapter of *Dadi*, where he
t in its ſtead, there were put two thirds of a Pound of
ut in the *Arabic* you don't read *Kur*, but *Luz*, or
at is, *an Almond*; inſtead of which, the Interpreter
have read *Kur*, which in that Place can ſignify nothing
rpoſe. *Kur* is a *Furnace*, or *Fire-place*, and ſome
r a Hive; but a Hive is called *Kouvarah*, the Plural of
Kouvarath; from whence perhaps, the later *Greeks*
Κυβέρτη, and Κύβερτον, (Kuberte, and Kuberton) for
e. *Heſychius*: Κύψελον, Κύβερτον μελισσῶν, "*Cypſe-*
Hive of Bees." But the Sordes which ſticks to the
Bee-hives, is not called *Kur*, but *Kar*. Some render
But the Propolis, or Sordes of Bee-hives, is by *Avi-*
d *Almum*, of which he makes two Sorts, the *Pure*,
lack. The pure *Mum* is ſpoken of the waxen Cells
the Bees ſtow their Honey; and this is the true Wax.
n antient *Arabian* Author interprets the Κηρὸς of *Di-*
y *Almum*. Others call Wax *Xemba*, which was the
en by ſome to the *Propolis* of the *Greeks*, called by
Almum alaſnad, "black Mum," that is to ſay,
. This is a Subſtance found about the Mouths of
, and may be ſaid to be Κηροειδὴς, "ſomewhat like
" rather than Κηρὸς, "Wax."

ume our Diſcourſe on the *Karabe*, or *Succinum*, it
at Agreement with Bitumen. *Serapion*, we know,
he Opinion of ſome Authors, ſays, that the Bitumen
was called the *Karabe of Sodom*, and was the Gum
s. This was the Aſphaltum, or Piſſaſphaltum, which
bout the Bodies of the Deceaſed, and called *Mumia*.
ſe Carcaſes, eſpecially thoſe of the poorer Sort, were
with Bitumen, hence one Name came to ſerve both
umen and the Funerals, of which it was a principal
e Apparatus. *Strabo*, *Lib.* 16. Χρῶνται δ' Αἰγύπτιοι
πρὸς τὰς ταριχείας τῶν νεκρῶν. "The *Egyptians*
haltus for embalming of the Dead." The *Mumia* of
the Piſſaſphaltus.

once of Opinion, that the Word *Mumia*, for a
us prepared, was a Corruption of the *Greek* ἀμωμία, "Amomia;" for the Antients did, for the moſt part, embalm Carcaſes with Amomum. Hence we meet with *Triſte Amomum*, "mournful Amomum," in *Statius*; and *Craſſis lutatus Amomis*, "bedawb'd with thick Amomum," in *Perſius*, of the dead Body placed in order to be carry'd forth; and in *Ovid* we read *Oſſa Pulvere Amomi condita*, "Bones "ſeaſoned with the Powder of Amomum." The old Scholiaſt alſo, in a very antient Copy of *P. Ægineta*, at the Word ἄμωμον, "Amomum," remarks, that it is what the *Arabians* commonly call *Momia*, Ἄμωμον ὃ λέγεται μόμις. In *Myrepſus* μουμία, "Mumia," ſignifies the Sanies of a human Carcaſe. In his Antidote *Athanaſia*, αἷμα ἀνθρώπου τεθνεῶτος· ἐν δὲ κέκληται παρ' Ἰταλοῖς μουμία. "The Blood or Sanies of a dead "Perſon is called by the *Italians Mumia*.

But I have now another Notion of the Etymology of *Mumia*. *Mum* is a *Perſian* Word, which ſignifies *Wax*. *Aviſena* diſtinguiſhes between the *pure Mum*, and the *black Mum*. His *Almum alſaf*, is the pure bright Mum, and the *Almum alaſnad*, is the black and dirty Mum; ſo he calls the Propolis of the *Greeks*. His old Expoſitor interprets it by the Sordes which ſtick to Bee-hives, or rather are the Foundation of the Work, and the Rudiments of Wax. What is almoſt Wax, is called *Propolis*, and by *Aviſena*, *Black Mum*. The κόμμωσις, (Commoſis) and πισσόκηρος, "Piſſocerus," is a ruder and more unfiniſhed Work. This latter is a kind of diluted Wax, with which the Bees overlay their Structures. The *Commoſis* is the firſt Foundation and Cruſt, which is ſpread before all other things. *Pliny*'s Words are to be read thus, partly from the Copies; *viz.* *Commoſis cruſta eſt prima, ſaporis amari*; *Piſſoceros ſuper eam venit picantium modo, ceu dilutior cera e vitium populorumque mitiore commi.* "The firſt Cruſt is the Commoſis, "which is of a bitter Taſte; over this comes the Piſtoceros, "like a Layer of Pitch, being a more diluted kind of Wax, "which the Bees make of a milder Gum of Vines and Pop-"lars." Κόμμωσις, (Commoſis) is ἀπὸ τῆς κόμμεως, "from "Commis." *Heſychius* interprets it διάχρισιν τοῦ σμήνους, "the "ſmearing of the Hive." By *Ariſtotle* it is called κώνησις, (Koneſis) that is, Pication, (doing over with Pitch); for κῶνος, or κώνη, ſignifies liquid Pitch. *Dioſcorides*: Πίσσα ὑγρὰ, ἣν ἔνιοι κῶνον καλοῦσι, "Liquid Pitch, which ſome call *Conus.*" Others name it κώνη, "Cone," by which Name it went among the *Greek* Veterinarii, or Horſe-phyſicians; as in *Cap.* 176. ἀσφάλτου, κώνης, ἀμμωνιακοῦ, and *Cap.* 843. ὄξους φυσήματος, κώνης πιτυΐνης, ἀμφότερα ὁμοίως συμβαλὼν χρῶ. "Take Vinegar, of the "Reſin of the Pine-tree, and the liquid Pitch of the ſame, "and apply them to Uſe;" and in many other Places. Hence the κωνίας οἶνος; "Wine ſtopped up with Pitch," of *Hippocrates*, which *Galen* expounds by πισσίτης. And hence alſo κωνῆσαι πίθον, "to pitch a Hogſhead," and ἀκώνητον ἀγγεῖον, "a Veſſel not pitched."

To go on, what *Aviſena* calls *Black Mum*, is by other *Arabians* called *Car*, which ſome however interpret *Piſſaſphaltus*, and *Bitumen*, as *Alpagus* obſerved. But it is written otherwiſe when it ſignifies Bitumen, as thus, *Kar*; and for Wax, and Propolis, *Kaar*. With the ſame *Arabians*, *Kefer* is Bitumen; but moſt think *Charabe* a Species of Bitumen, and to flow out of Springs in the ſame manner.

Now from this *Mum* aforeſaid, I doubt not, but the Word *Mumia* is derived. For moſt Nations uſed Wax in embalming and medicating Bodies for Interment, eſpecially the *Babylonians*, who in moſt things had the ſame Cuſtoms with the *Perſians*. *Strabo*: Θάπτουσι δ' ἐν μέλιτι, κηρῷ περιπλάσαντες. "They bury their dead Bodies in Honey, having firſt cover'd "them over with Wax." The ſame was practis'd in *Greece*: We read at leaſt, that the like Treatment was once uſed to the dead Body of a *Greek* Man. *Cornelius Nepos*, of King *Ageſilaus*: *Ibi eum Amici, quo* Spartam *facilius perferre poſſent, cera circumfuderunt, atque ita domum retulerunt.* "There his "Friends, that they might the more conveniently tranſport "his Body to *Sparta*, cover'd it all over with Wax, and ſo "brought it home." Moreover it was a cuſtomary thing with the *Arabians*, to uſe indifferently the Names of all Things which ſerved for the ſame Uſes, and to put one Name for another. Thus *Kitran*, which properly ſignifies the Pitch of a Cedar, is by ſome interpreted Bitumen. Thus again, they made no Diſtinction in their Notions between the Fucus-marinus, the Scarlet-worm, and Madder. After the ſame manner Bitumen, becauſe it was uſed by various Nations, as well as the other, in ſeaſoning their dead Bodies, had by them the Appellation of *Mumia* beſtow'd on it, which is a Word derived from *Mum*, that is, Wax; ſo they took *Karabe*, which properly is *Succinum*, to ſignify alſo Bitumen. The *Karabe of Sodom*, in *Serapion*, is Bitumen, or Funeral-gum, as he calls it, the *Almumiai*.

Some antient Authors affirm, that Amber works out of Springs, like Bitumen, the Truth of which is warranted by modern Diſcoveries, ſeveral Writers aſſuring us, that Amber is gotten out of the *German* Sea; and that it riſes from Springs in the Sea itſelf, after the manner of Bitumen.

But of all the Opinions of Antiquity about Amber, the *Arabians* ſeem to approve of that alone, which, deriving its Authority from the Fable of *Phaeton*, makes it to be the Tears of the Black Poplar. The Truth of this they every-where aſſert in their Writings. 'Tis certain, that the Black Poplar weeps a kind of Gum. *Pliny* ſays, that the Bees make their Piſcoceros, (pitchy Wax) which is a clearer ſort of Wax, of the milder Gum of Vines and Poplars. *Dioſcorides* calls this milder Gum of the Poplar Αἰγείρου ῥητίνη, "the Reſin of the "Poplar." Moſt of the Antients believed, that the Tears of the Black Poplar falling into the *Po*, there concreted and made the Amber. *Dioſcorides*, of the Black Poplars: Ἱστορεῖται δὲ τὸ ἐξ αὐτῶν δάκρυον κατὰ τὸν Ἠρίδανον ποταμὸν καταχεόμενον πήγνυται, καὶ γίνεται τὸ καλούμενον ἤλεκτρον. "It is reported, "that their Tears running into the River *Po*, condenſe, and "become what they call Amber." All the Gum of the Poplar does not turn to Amber, but only that which falls into the River, and there concretes in the Water, and acquires the Hardneſs of a Stone, by virtue of the Cold. Whether the *Arabians* believed, that Amber was ſo generated, or confounded all the Gum of the Poplar and Amber together, they never ſpeak of Amber, which they call *Karabe*, than as the Tear of the Poplar. The *Arabians* call the Poplar *Haur*, and ſometimes *Haur Rumi*, that is, the *Roman Poplar*. The *Latin Aviſena*, *Cap*. 349. renders *Haurus*, *the Tear of the Poplar*: *De Hauro*, id eſt, *Populi Lacryma*. He takes the Name of the Tree for the Tear; as, on the other hand, *Cap*. 375. in his Tranſlation, he makes *Karabe*, which is the Amber, or Tear of the Poplar, to be the Poplar itſelf: *De Karabe*, *id eſt*, *Populo*. So alſo the Tranſlator of *Serapion*: *Haur Rumi*, *id eſt*, *Karabe*. So χαλβάνη (Chalbane) ſignifies as well the Gum, as the Shrub from whence it is produced; and the ſame may be obſerv'd in other Particulars.

From the Premiſſes, I can hardly make a Doubt, but that this *Haurus* was, by the barbarous People, firſt chang'd to *Habrus*, and afterwards corrupted into *Hambrus*, to ſignify Amber: So from the old Word *Abiga*, "Expeller," which was the Name by which the *Latins* call'd the Chamæpitys of the *Greeks*, becauſe of its Efficacy in expelling the Fœtus, the ſame Barbarians coin'd their *Ajuga*; but later Ages, inſtead of *Abiga*, pronounced *Aviga*. An old Expoſitor of the *Arabian* Nouns has it, *Aurum Romanum*, *id eſt*, *Archiroſa*, *cujus Gummi dicitur Karaba*. Read, *id eſt*, *achiros*, or *acchiros*, from αἰγειρός (Aigirus, a Poplar).

'Tis certain, that the Name *Ambri*, for Succinum, (Amber) is not of *Greek* nor *Arabic* Original. The *Arabians* call it *Karabe*, the antient *Greeks* ἤλεκτρον, "Electrum," the more modern βερενίκη, "Berenice." From this Berenice the Barbarians hammer'd out their *Vernix*, which is their Term alſo for another kind of Gum; for ſo they call'd the Gum of Juniper, becauſe it was ſo much like Amber. *Aviſena*, *Cap*. 273. ſays, the Karabe was like Sandarach; ſo they called the Vernix. Some even made Karabe the ſame with Sandarach, as *Serapion* aſſures us, *Cap*. 366. *De Karabe*. Hence the Barbarians, as I ſaid, call'd the Sandarach *Vernix*, which was the Name the later *Greeks* uſed for Electrum. *Neophytus*: Βηρύλλιος λίθος, ὀπὸς ἐστι τοῦ δένδρου, ἐστι δὲ τὸ λεγόμενον βερενίκη. "The Beryl Stone is the Juice of a Tree, or what they call "Berenice." The ſame Author, on the Word Ἤλεκτρον: Ἄλλοι δὲ φασιν ὅτι τῶν αἰγειρῶν ἐστὶ κολλῶδες. "Others ſay it is the "Glue of the Poplar."

Perhaps, beſides the Similitude of the Gums, the near Affinity of the Names in *Arabic*, was a Cauſe of their being confounded. For the Poplar is called *Raur*, whoſe Gum is the ἤλεκτρον, or βερενίκη; and the Juniper is called *Harar*, and its Gum Sandarac. And yet, which is ſtrange, in the *Arabic Aviſena*, we always read *Giauzi*, and not *Haur*, for a Poplar. *Giauzi* indeed with him ſignifies ſimply a Walnut-tree; but he always puts *Giauz Alrumi*, that is, the *Roman* Nut-tree, for the Poplar.

The Gum, commonly called Vernix, is written in *Arabic Sandarus*, in *Aviſena* with the Letter *Sin*. And in the Chapter of *Karabe* it is called *Alſandaruc*, which is alſo pronounced Sandarac; for *Elif* and *Vau* are often chang'd one for another in *Arabic* and *Hebrew*, for which Reaſon the Tranſlators always render it *Sandarac*. The Karabe, that is, Amber, and this Sandarac, are ſo much alike, that they often exchange Names. *Aviſena*, in the Chapter of *Caucamum*, writes the ſame things upon Sandarac, which he afterwards repeats almoſt *verbatim* of the Karabe, in his Account of *Lacca*. This, as I ſaid before, is what the Barbarians called *Vernix*, by a Corruption from *Berenice*, which with the later *Greeks* ſignifies Electrum.

But the Sandarach, which is the Gum of a Tree, agrees in nothing but Name with the metalline Sandarach, which the *Arabians* call Zarnig; nor are we to ſuppoſe, that the *Arabians* made that Name, which with them ſignifies the Gum of a Tree, out of the Name of the metalline Sandarach.

The Antients had another Sandarach, which was the Food of Bees, and gather'd by them from the Juice of Trees, after the manner of Gums; of which *Pliny* ſpeaks, *Lib*. 2. *Cap*. 7. which Paſſage is thus to be read: *Præter hæc convehitur* thace, quam alii Sandaracham, alii Cerinthum vocant. erit Apium, dum operantur, Cibus, qui ſæpe invenitur in rum Inanitatibus ſepoſitus, et ipſe amari Saporis: Gignitur tum Rore verno, et Arborum Succo, Gummium modo, minor, Auſtri Flatu nigrior, Aquilonibus melior, et rubens, rimus in Græcis nucibus.* Menecrates *Florem eſſe dicit, nemo præter eum.* "Beſides theſe, they convey thither "thace, which ſome call Sandarach, others Cerinthus. "is what the Bees feed on while they are at Work, being "found in the empty Spaces of the Combs, and is of a "Taſte. It is generated of the Spring-due, and the "Trees, after the manner of Gums; it is diminiſh'd by "South-weſt Wind, grows blacker with a South Wi "is meliorated and redden'd by a North Wind, and is "plentiful on Almond-trees. *Menecrates* ſays it is a "but he is the only Perſon who ſays ſo." This Sand from Gum, and is a ſort of Glue. *Varro*, we know, that the Matter with which the Bees glew together tremities of their Combs, is called *Erithace*, and is a thing from the *Propolis*, having the virtue of alluring The *Greeks* expound it by τροφὴ μελιττῶν, "the Food "Bees"; σανδαράχη, (Sandarache) is the ſame thing; is κήρινθος, (Cerinthus) which is as much as to ſay waxlike Subſtance). *Heſychius*: Κήρινθος, ἡ λεγομένη ἐστι δὲ τροφὴ, ἣν παρατίθενται ἑαυτοῖς αἱ μέλισσαι. "Ce "which is called Erithace, is the Food which the Be "aſide for themſelves." *Menecrates* rather fancies it Flower, and is follow'd in his Opinion by *Virgil*, who Cerinthe as a Flower or Herb grateful and attractive Bees:

> *Trita Meliſphylla, et Cerinthæ ignobile Gramen.*

"Bruiſed Meliſphyllon, and the ignoble Herb Ce And *Pliny* himſelf, who here cenſures *Menecrates* Account, elſewhere enumerates *Cerintha* among thoſe and Flowers which are grateful to the Bees; and *Cap*. 12. gives a Deſcription of it. *Theophraſtus* *Lib*. 6. *Cap*. 7. reckons κήρινθον, (Cerinthum) amo Herbs uſed in Garlands (*Herbas coronarias*). Nothing from beſtowing the ſame Appellation on an Herb, *Cerago*, which others call ἐριθάκη, (Erithace). This a gluey ſort of Gum, with which the Bees conglut extreme Borders of their Combs. Of this ſpeaks follows:

> *----- tenuia Cera*
> *Spiramenta linunt, Fucoque et Floribus Oras*
> *Explent, collectumque hæc ipſa ad Munera Gluten,*
> *Et Viſco et Phrygia ſervant Pice lentius Ida.*

"They beſmear the ſmall Spiracles with Wax, and fill "Space between the Extremities of their Combs with "and Flowers; and keep in Store, collected for the "Purpoſes, a Glue more tenacious than Bird-lime, "Pitch of *Phrygian Ida*." That this Paſſage muſt be ſtood of the Erithace, we are taught by *Varro*, *Lib*. 3. he thus ſpeaks of Bees: *Extra Oſtium Alvei obturant qua venit inter Favos Spiritus, quam* ἐριθάκην *appellant* "Without the Door of the Hive they cloſe up all "the leaſt Breath of Air can come between the Comb "what the *Greeks* call ἐριθάκην." With this *Erith* ſmear over and ſtop up the Spiramenta, that is, the by which the Air can come between the Combs. underſtands this Place of the Poet, as concerning Propo takes the Fucus to be a kind of Wax, which the Bees ſtead of Glue, and is called *Propolis*. But of the Poet in the ſame Place thus ſings:

> *----- Et lentum de cortice Gluten*
> *Prima Favis ponunt Fundamenta, deinde tenaces*
> *Suſpendunt Ceras. -----*

"They lay the firſt Foundations of their Combs "ſlimy Glue of a Bark, and afterwards erect their "waxen Structure." *Servius*: *Græci* πρόπολιν *vocant*, *orem Cera, quæ vix poteſt Ferro frangi, quam Gummi Arborum.* "The *Greeks* call it Propolis; it "than Wax, and can ſcarce be broken with a Hammer. "Bees gather it from the Gums of Trees." The or Erithace, is alſo a Glue, and comes from the Gum and the red is the beſt. Thence, we may be ſure, *Sandaruc* of the *Arabians*; for of Σανδαράχη, (Sand they made *Sandaruc*, changing *a* into *u*, as they do Words. Thus of στοιχάδος, they made Aſtuchudos; *Greek* τύμπανον, they coined *Tambur*, for *Tambar*; commonly change *n* into *r*, and *p* into *b*: Thus nounce φιστοὺκ (Phiſtouk) for φιστὰκ, (Phiſtak) from πιστάκιον (Piſtacion).

Some will have this Sandarac of the Bees to be the but they are wrong in their Etymology. The Vern βερενίκη (Berenice) of the *Greeks*, by which Name r, (*Succinum*) or the Gum of the Poplar. *Pliny*, we , ſays, that the Bees gathered Piſſoceros from the Gum of s, but the Erithace, or Sandarac, from the Gum of the nd-tree. I ſuppoſe it is called Sandarac for no other n but its ſandarachine Colour. *Pliny* ſays, it is black- y a South Wind; and perhaps this is the *black Mum* of a, by which Name he expreſſed the *Propolis* of *Dioſ-* . But they confound Things; nor is it ſo ſtrange, here is a Permutation of Names in this Caſe. *Karabe*, id, with the *Arabians*, ſignifies Amber, or the Gum of plar; and they ſay it reſembles the Sandarac, or Vernix; is properly the Gum of the Juniper. The Sandarac of ees is from the Gum of the Almond-tree. In an old itor of *Arabic* Names, *Karabe* is noted to be the Gum ree called the *Roman* Walnut-tree. The Author fol- the Reading which you every-where meet with in *Avi-* f *Giauz* for *Haur*. But *Aviſena* diſtinguiſhes that Tree he Walnut-tree by the Adjective *Rumi*; for he calls the , not the Walnut-tree, *Giauz Alrumi*; tho' if it be 'd literally Word for Word, it ſignifies the *Roman* Wal- e, which was the Name he uſed for the Poplar. Others *Haur*, and, with the Addition of a *Nun*, *Hauron*, which Poplar.

Haur and *Hauron* the *Barbarians* corrupted into *Avrum* *rum*, and from thence, in a little time, into *Ambram*, to the Tear of the Poplar, or Amber.

for *Hambar*, or *Ambar*, as it is a different Name, ſo it s another thing. The *Greeks* of the latter Ages, as *Choniates*, *Simeon Sethi*, and others, write Ἄμπαρ r). *Aetius* alſo mentions it, and calls it ἄμπαρ (Ampar) antient Copies, not ἄμπρα, (Ampra) as it is in the s. We call both ſorts *Ambra*, but that which is not *ccinum* we commonly diſtinguiſh by an Adjective ſigni- he Colour.

n't remember, that I have read *Ambra* to mean Succi- later *Greek* Authors, nor do the *Arabians* call it by me. For which Reaſon I can't but ſuſpect a Remark *ſius*, in *Myrepſus*, on the Compoſition of the ſeventy- Plaiſter, concerning the Difference of the *Ambar* and in theſe Words, "*Ambaris*, *Exag.* 2. *Moſchi* *p.* 2. *Ambræ*, *Exag.* 3." I don't find this Com- in the original *Greek*, and *Fuchſius* ſeems to have pon a bad Copy, or not to have fully comprehended aning of the Writing, which he had the Misfortune not in almoſt an infinite Number of Places. *Leo Africanus* That the Whale is called *Hambara* by the Inhabitants and *Morocco*; which perhaps gave Riſe to a received among moſt of the *Greeks* and *Arabians*, that *Ambar* Dung or Spawn of the Whale. Hence it is, that in dical Gloſſes of the later *Greeks*, we every-where find interpreted, Ἄμπαρ μυρεψικὸν κόπρος ἰχθύος, "the ferous Amber is the Dung of a Fiſh;" and φώκης a, "the Excrement of a Whale." The ſame way of g induced Multitudes to believe, what many alſo that Frankincenſe grew on Mount *Libanus*, becauſe *ks* called Frankincenſe λίβανος, (Libanos) which is ne of a Mountain in *Syria*; and ſome even at this would fain perſuade us, that this Mountain is at this ed *Lebnon*, from the *Syriac* Word *Lbunto*, which ſig- ankincenſe; whereas the *Syriac Lbunto* for Frankin- plainly a Corruption of the *Greek* λιβανωτὸς (Libanotos). incenſe had been of the common Growth of *Syria*, ents had not differ'd ſo much about the Shape of that hich was hardly known to them. 'Tis certain, that no-where at this Day but in *Arabia*; and *India* does uce it, though the Antients make mention of *Indian* cenſe. Συρίας λιβάνου καπνὸς, "the Smoke of *Syrian* incenſe," is mention'd in the *Bacchæ* of *Euripides*, but ſame manner as *Malabathrum Syrium*, *Myrrha Syria*, things, which we are well aſſured, were never of the of *Syria*.

nt and modern Authors are not agreed about the kinds r, nor about its Colours, Differences, and Marks of s. The *Portugueſe* Writers make three Species; the which is the white; the *Puabar*, which is white ith black, or, the brown; and the *Minabar*, or hich, they ſay, is devour'd by the Whale: The firſt he beſt, the ſecond next, and the third worſt of all. *thi* deſcribes the beſt Sort as red and fat, the next in is the brown, and the worſt Characteriſtic is that of , which is gather'd of the Whales that have been the Springs of Ambar. Καὶ τὸ μὲν κρεῖττον, ſays he, ρὸν ϗ λιπῶδες· ἀναδίδεται δὲ ἐν τινὶ πόλει Σιλαχὴτ ῃ· τὸ δὲ ὑπόλευκον ἐν τινὶ παραλίῳ πολιχνίῳ τῆς Ἀραβίας Σίχνη ὀνομαζομένῳ· τὸ δὲ ὑποδεέστερον ϗ άγεται ἐξ ἰχθύων ἀπογευσαμένων τῶν τοῦ ἄμπαρ πηγῶν. eſt is the red and the fat, which is exported from a lled *Silachet*; the whitiſh comes from a little mari- ity of *Arabia Felix*, called *Sichne*; and the pooreſt hich is the black, is gathered from Fiſhes which I. "have been taſting of the Springs of Ambar." The beſt, he ſays, is brought from *Silachet*, a City of *India*, where it riſes out of Springs. *Aviſena* alſo calls the higheſt-prized Ambar *Alſelehetti*, that is, which comes from the City, or Country, *Selehet*, which is the very ſame that the *Nubian* Geographer places in the ninth Parallel of the firſt Climate, calls *Selehet*, and makes an Iſland of *India*. This is *Simeon*'s Σιλαχὴτ or Σελαχὴτ, (Silachet or Selachet) for the *Greeks* commonly expreſs the *Arabic* He by X (Ch); as Ταμαρχένδι (Tamarchenti) in the *Græco-Arabic* Lexicons ſtand every-where for *tamar Hendi*. What bears a lower Rate, but next to the beſt, *Simeon* tells us, ſprings up in a City of *Arabia Felix*, called Σίχνη (*Sichne*). In other Copies I find it written Σύχρα λεγομένη, "called *Suchra*"; and ſome cite it, *è Senchri Felicis Arabiæ*, "from *Senchri* in *Arabia Felix*." I know not whether it be the Place which *Serapion* calls *Zing*; only he places it in the Weſt, far enough from *Arabia Felix*, *viz. in Terris Zing in Occidente*, "in the Territories of *Zing* in the "Weſt." He muſt not however be underſtood to mean *Africa* or *Barbary*, but a maritime Tract of *Ethiopia*, where *Moſambique* lies, which abounds with *Ambar*, and is ſituate Weſt of *India*; now the *Arabians* call the *Ethiopians Zing*. *Simeon* calls the maritime City of *Arabia Felix* Σίγχη (Sinche); the *Zengi* in *Alpagus* are the weſtern *Ethiopians*. But *Serapion* differs from others in his Characteriſtics of the beſt Ambar, which, he ſays, is of a Sky-colour, and makes the white to be the cheapeſt and worſt of all, tho' others prefer it to the reſt. But, in Truth, there is no Ambar of a ſky-blue or azure Colour; and it ſeems a Fault of the Tranſlator. The *Arabic* is *azarac*, which they render ſea-green, (*glaucus*) grey, (*cæſius*) and azure, (*cæruleus*) of the Colour of the Firmament. According to *Alpagus Zarach* is the Colour of the Heavens; however it can have nothing to do here, when we talk about the Colours of Ambar: They alſo take notice, that it ſignifies changeable and pale. Hence comes *zaracha*, *paleneſs*; and this is the true Signification of the Word in this Place. *Simeon* terms it ὑπόλευκον (hypoleucon); we commonly call it a grey or grizel. *Aviſena* calls it *Alazarac*, which his Tranſlator rightly renders of *Aſh-colour*. *Aviſena* gives the Preference to *Selehetican* Ambar, which has its Name from an Iſland of *India*, which *Garcias* wrongly ſuppoſes to be *Zeilan*. The ſecond Place in point of Goodneſs, he ſays, belongs to the Ambar *alzarac*, that is, the Aſh-colour'd. As to the *Selehetican*, which is moſt eſteemed, he does not tell us of what Colour it was, at leaſt in the *Latin* Edition. And it is obſerved by *Alpagus*, in his Expoſition of *Arabic* Names, that the *Arabian* Interpreters are ignorant of the kind of the Ambar Alſeleheti, as well as its Colour; at which I can't but wonder. If there were no more in the *Arabic* Copy, than in the *Latin* Verſion of it, yet it might eaſily be gueſs'd, from what others have related, that the *Selehetican* Ambar, to which *Aviſena* aſſigns the Preference, was white, ſince moſt ſet the higheſt Value upon Ambar of that Colour, tho' *Aviſena* does not mention it. We might alſo conjecture, that it was red, as well as *Simeon*, who makes the τὸ κίῤῥον, "red," the moſt valuable. Nor is *Aviſena* againſt it; for he only aſſigns the third Place to the Citron-colour'd, which in *Arabic* he calls *Alaſafar*, that is, χαλκόχρουν, Copper-colour'd. The Citrine is a very watery Colour, but the κίῤῥος (cirrhus) is ruddy or red. *Aviſena*, among the Characteriſtics of the beſt and choiceſt Ambar, does not only name *Selehetican*, which was all that his Tranſlator obſerv'd, but prefix'd two other Words expreſſing the Properties it ought to have, *viz. alaſciheb*, and *alkavi*, to which he adds as a third *Alſeleheti*. This laſt Epithet is taken from the Country, the two former ſignifying other Qualities which belong to it. *Alkavi* imports *firm* and *robuſt*, which I underſtand of that Ambar which is leaſt friable, and moſt reſiſts a Separation; ſuch is that which is endu'd with a fat ſort of Viſcidity. This is the λιπῶδες (lipodes) of *Simeon*, which he ſets down as a Mark of the moſt valuable Ambar. *Garcias* commends that for the beſt, which, pierced with a Needle, ſheds out a good deal of an oily Liquor; this is the λιπῶδες, "fat;" what is eaſily broken cannot be ſuch. I take *alaſciheb* for *ruddy*, according to the ſame *Simeon*, who calls it κίῤῥος (cirrhus). The Word is derived from *Seiheb*, which ſignifies a Flame or Lamp, and in the Alcoran is put for a Star. It might alſo be taken for *white*, as it expreſſes the τὸ λαμπρὸν, "lucid," which the *Greeks* alſo put for *white*. But *Simeon* has handſomely expreſſed *Aviſena*'s two Epithets of the beſt Ambar by thoſe other two, κίῤῥος ϗ λιπῶδες, "ruddy and fat." If he took them from the *Arabians*, 'tis plain that he underſtood *alaſciheb* to ſignify *rutilus*, "ruddy." Among modern Writers, *Manardus* informs us, that in chuſing the beſt Ambar, we are to take ſuch as borders a little upon the red, and that the white is not ſo good. But I ſuppoſe he had this from *Simeon*, whoſe ὑπόλευκον, whitiſh or grey, λευκόφαιον, (leucophæon) he did not rightly expreſs by *album*, "white." This is the *azarac* of the *Arabians*, which properly ſignifies party-colour'd, or ſprinkled with black and white, and is from the *Hebrew* זרק, *Zarac*, "to ſprinkle." So the τὸ ποικίλον, (*various*) is by the *Greeks* called ῥαντὸν, ἀπὸ τοῦ ῥαίνειν (*ſprinkled, from the Verb ſignifying to ſprinkle*). The *Latins* ſay *ſparſum*, (*ſprinkled*) whence *Sparſo ore* in the Comic Poet. And in the Gloſſes: *Aſperſus*, εἶδος ἰχθύος καταςίκτου (*the Aſperſus is a kind of a ſpotted Fiſh*); and *ſparſa Tempora, ſparſum Caput*, "ſprinkled Temples, ſprinkled Head," denote τὸν μιξοπόλιον (*a Man whoſe Head is ſprinkled with grey Hairs*); in which Senſe alſo we read the Verb *zarac* in *Hoſea*: They are miſtaken then, who render it azure or green.

Serapion taken Notice of but two Kinds of Ambar, *viz.* that which his Tranſlator calls ſky-colour, (*cœlinus*) and the white, of which the firſt was the beſt. Perhaps the Word in *Arabic* for Sky-colour was *alaxiheb*, as it is in *Aviſena*, and the old Tranſlator rendered it *ſtellinum*, from the Colour of the Stars, or *cœlinum*, as we have it. As for the white, I doubt not but it was the ſame with what *Simeon* calls *Hypoleucum*, (ὑπόλευκον) and *Aviſena azarac*, that is, an aſhy white; for *Garcias* is miſtaken, when he writes, that the whiteſt Ambar is condemned by *Serapion*, who ſays ſimply *white*, not whitiſh, or inclining to white.

But we are, in a manner, forced to render the *Arabic* Word *alaxiheb* white, by the later Accounts of three different Species of Ambar, under as many different Names, *viz. Perambar*, *Puambar*, and *Penambar*. The firſt of theſe is the white, and the beſt of all; the ſecond is the aſh-coloured, which is next in Goodneſs and Price; and the third Sort is the black, which is the cheapeſt, and worſt of the three.

We meet with *candida Sidera*, and *candida Flamma*, "white "Stars, and white Flames," whenever we read the Poets; and this is literally true. But *candens*, "ſhining," for *candidus*, "white," is alſo uſual, and from thence *Candela*, ἡ λαμπάς, (*a Candle*) takes its Name. So alſo, in the *Greek*, λαμπρὸν (*lucid*, or *ſhining*) is uſed for *candidum* "white," as λαμπρὰ ἐσθής, (*a ſhining white Garment*) and λαμπρείμονες (*Candidates*). The *Arabic* Word ſignifies a Star, or Lamp, from whence comes the Term for a white Colour. They who underſtood it, as *Simeon* did, of a ruddy, (*rutilus*) preſented us with an Ambar dreſſed up in Red, of which there is none extant at this Day, from a Miſunderſtanding of the Word.

Braſſavolus takes the yellow Amber, out of which Handles for Knives are made, for Succinum. Another learned Phyſician, in his Definitions, under the Word ἤλεκτρον, (*Electrum*) cites *Serapion*, where he treats of Ambar, as tho' there were no Difference between this Ambar and the Electrum, which they call the Ambra of the Shops. *Scaliger* alſo, in his Notes upon *Garcias*, does not ſcruple to call *Ambarum* by the Name of *Succinum*.

They are all of them moſt groſly miſtaken: The two Ambras are both of a different Nature, and derive their Names from a different Original. In one thing they agree, *viz.* in that they are ſaid to riſe out of Springs after the manner of Bitumen. The Succinum alſo is of a fragrant Smell, and the white Sort extremely fragrant, according to *Pliny*; for there is the white, the yellow, and the waxen: Yet, for all this, the *Ambarum* is a quite different thing from the *Ambra*, which is called *Succinum*. Nor muſt we imagine, that *Aviſena* and *Simeon Sethi*, when they mention the yellow or citron-coloured *Ambarum*, confound it with the common *Ambra*.

We have already ſhewn, that the Name *Ambarum*, to ſignify *Succinum* or *Electrum*, is not extant in any *Greek* or *Arabian* Author of conſiderable Antiquity. Moreover, all the Moderns, who have given us Relations of Voyages to the new World, mention only three Sorts, and as many different Colours of Ambarum, or Ambar, which are, the white, the aſh-colour'd, and the black; of theſe the white is the moſt valued, and the black the leaſt eſteemed. *Simeon Sethi*, inſtead of the white Ambar, makes the κίῤῥος, (*ruddy*, or *gold-coloured*) to be the moſt precious; as to the reſt, he agrees with the others; for his ſecond Sort is the ὑπόλευκον, (*whitiſh*) and his third and laſt Sort is the μέλαν (*black*). *Ferdinand Lopez*, as well as the reſt, reckons three Sorts of Ambar, but differs a little in their Names, of which he gives an Explication. They are the *Ponahambar*, the *Coambar*, and the *Maniambar*; the *Ponahambar* is the white, which is in higheſt Eſteem; the Word ſignifies *Golden Ambar*, and this Sort bears a greater Price than the others, being very ſcarce, and gathered with much Difficulty: This is plainly the Κίῤῥον ἄμπαρ (*the red Ampar*) of *Simeon*, and is called *Golden*, I ſuppoſe, not from the Colour, but the Price, as *Lopez* clearly hints, and as it is expreſſed in the Language of the Natives by *Ponambar*; and perhaps this deceived *Simeon*, who might underſtand *Golden* to mean the Colour: Some call it *Porambar*, and interpret it of white Ambar: So, again, what others call *Puambar*, is by *Lopez* called *Coambar*, which he interprets *Water-Ambar*; becauſe, by its long and violent Agitation on the Waters, it has loſt much of its Virtue; this is of an Aſh-colour. The third is the *Maniambar*, which ſignifies *Fiſh-Ambar*; for it is devoured by Whales, and after ſome time brought up again by them, unconcocted, whence its Blackneſs is contracted: And this agrees alſo with *Simeon*'s Opinion, who ſays, that the Fiſhes which drink of the Fountains of Amb caſt it up again coloured black.

There is mention made of κάκαμπαρ (*Cacampar*) in *My* *ſus*'s Plaiſters, *Compoſ.* 3. ξυλαλόης, κάκαμπαρ, ξυλοβαλ ξυλοκασίας, &c. ------ *of Lignum Aloes, Cacampar, Xylob* *mum, Caſſia Lignea, &c.* What Reaſon *Fuchſius* had to t late *Cacampar, Betony*, I cannot ſo much as gueſs; but ho it likely, that the Author would put *Betony* among exotic A matics? But I have obſerved of *Fuchſius*, that he every-w takes the Liberty of changing what he does not underſt which is a Practice ſcarce tolerable in a Man of Letters, moſt unpardonable in a Phyſician, on account of the Miſc which uſually reſult thence to the infirm Part of Mankind. am apt to ſuſpect, that we are to underſtand by it ſome kin Ambar; and perhaps it is what *Lopez* tells us the Natives c *Coambar*. The *Greeks* ſeem to have pronounced κάκα (*Cacampar*) inſtead of κάαμβαρ, (*Caambar*) or κόαμβαρ (*C* *bar*). We muſt, however, acknowledge, that κακα (*Cacamparis*) is a Word that often occurs in *Myrepſus*, an Interpretation that will hardly agree with any Speci Ambar: For in his Antidote διὰ κυδωνίων, (*of Quinces*) C 37. he explains it by δροσοβότανον, (*Droſiobotanon*) κάκα ἤτοι δροσοβότανον (*Cacampar* or *Droſiobotanon*); and Ca in his Antidote againſt the Dyſentery and Colic, γαρυο κάκαμπαρ ἤτοι δροσοβότανον (*Cariophylli, &c.*) In the An of *Caſtor*, which is the twentieth in *Fuchſius*'s Edition, the ſame with the above quoted, *Cap.* 27. we read, in *ſius*'s own Verſion, *Lauriolæ Campi, id eſt, Betonicæ* (of L reola of the Field, that is, Betony): He had as good ha nothing. The *Greek* reads, λαυρίολε, ἤτοι κάκαμπαρ, ἤτ σοβότανον (*Laureola*, or *Cacampar*, or *Droſiobotanon*). Word *Laureola* wants to be explained in the *Greek*: Som it for the Mezereon of the *Arabians*, which is ſomethi different from Betony: *Droſiobotanon* is, properly, the H Dew; for Dew, in vulgar *Greek*, is called δροσία (*Dro* find, indeed, Betony ſo called and explained in m Lexicons; and a very antient Copy of *Dioſcorides* info that it was called, by the *Romans*, ῥοσμαρίνα (*Roſemary*) antient *Greeks* called it ψυχρότροφος (*Pſychrotrophos*, *with Cold*); becauſe it loves to grow in cold Places: Lat called it δροσοβότανον, *from Dew*, whence came the Name *Roſmarinus*. But why the ſame later *Greeks* ga the Name of *Cacampar*, I know not; and it ſeems to *Arabic* Word. However, it does not appear worthy of among the Aromatics and Exotics in Plaiſter the third; ſtands there without any Expoſition, which *Myrepſu* omits; for where-ever you read κάκαμπαρ (*Cacampar*) you meet with its Explication adjoined, with an ἤτοι τανον (*that is, Droſiobotanon*).

There is, in the ſame Author, another Word, κίκεμπαρ, or κικέμπαρις (*Cicempar*, or *Cicemparis*); always mentioned among the Aromatics, as in the fir dote of *Caſtor*: Στύρακος καλαμίτου, κικέμπαρος, (*of Styrax Calamita, Cicempar, and Cinamon*); and in his *Antidotus plenus Archenticus*, κιναμώμου, γαρυοφύλλ λόης, κικέμπαρις (*Cinamon, Cariophyllum, Xylaloes, C* The ſame Author often uſes ἄμπαρ for *Ambar*. The now is, What is meant by this *Cicempar*?

As for *Fuchſius*, he always paſſed over what he did n ſtand, with great Aſſurance: But, concerning the Or Ampar, *Simeon* ſpeaks thus, Τὸ ἄμπαρ ἐν διαφόροις βλύζ καθάπερ πηγαὶ ἐλαίου τε καὶ ἀσφάλτου (*Ampar guſhes out i* *Places, like Springs of Oil*, (ἔλαιον) *or Aſphaltus*). T is commonly cited, πηγελβίου καὶ ἀσφάλτου. Hence a l thor took Occaſion to augment his Lexicon with the of the *Græco-barbarous* Term Πηγέλβιον, (*Pegelbium*) he gives no Explication, and 'tis no Wonder he di ſome Copies I found it written καθάπερ πίττης, ἀσφάλτου (*like Pitch, Oil, &c.*). The *Greeks* often c Bitumen by the Name of Oil; yet I don't doubt bu might be better read πετρελαίου τε καὶ ἀσφάλτου (*Petr* *Aſphaltus*). The later *Greeks* called *Naphtha* by the *Petrelæum*, of which there are Springs as of the which is a Sort of liquid Bitumen.

The *Nubian* Geographer is of the ſame Opinion Ambar, who ſays, that under the ſeventh Parallel Climate there lies a native Vein of Ambar, which from Springs in the Bottom of the Sea, as the Naph the Country of *Babylon*; and that they ſometimes ments of it a hundred Pound Weight, which is the the *Arabic* Word KINTHAR, from the *Latin* C *Centenarius*. *Garcias* relates, that they once foun ment that weighed three thouſand Pounds.

The aforeſaid Geographer calls the Fountains, Naphtha works out, *Hit*, and ſays it is a Place in the of *Babylon*. Here, by the way, we may take N Miſtake of *Aviſena*, in tranſlating *Dioſcorides*: The thor defines Naphtha, Βαβυλωνίου ἀσφάλτου περιήθημα, λευκόν (*a Percolation of* Babylonian *Aſphaltus, of a* dds, that they find alſo a black Sort: Here *Aviſena* makes ge Interpolations, for want of taking the true Senſe of his or. "The white Naphtha, he ſays, is a Species comonly known, but the black is the *Babylonian*, or ſome her Sort of Pitch, paſſed through a Strainer." But the ing of the *Greek* Author is, that the Naphtha is a *Baby-* liquid Bitumen, melted down in a manner, and ſtrained gh the ſecret Canals of the Earth, and flowing out of ains, Wells, or Caverns. *Aviſena* himſelf expreſſed the thing, when he ſaid, that the black Naphtha was *Saſua albabeli vageirohe*; which the Tranſlator rightly rendered, *olation of* Babylonian, *and other Sorts of Pitch.* But this be the Meaning of *Dioſcorides*, who, by περιηθημα , ſimply intended liquid Bitumen; as Things which are ed and paſſed through a Strainer, become the more liquid; thing goes through but the moſt liquid Part, the thick culent remaining behind. This the *Greek* Author affirm'd of the black as the white. Beſides, it is to be obſerved, *ioſcorides* did not ſay διάθημα, (*Diathema*) but περιήθημα *thema*). Things which are ſimply tranſmitted through, d διηθεῖσθαι (*Dietheiſthai*); but περιηθεῖσθαι (*Periethei-* s another Thing: That whole Country was bituminous; ld therefore indicate, that this Bitumen was diſperſed all that Territory, in a looſe and indeterminate manner, ained through the Veins of the Earth; and in ſome cer- aces was liquefied, and did bubble and work out; and s the Naphtha. Thus we are to ſuppoſe, as I may ſay, thema, (*a ſtraining all around*) or Vent-holes all over ntry for this *Babylonian* Bitumen.

Aviſena thought, that the white Naphtha proceeded from al Vein, but the black was the *Babylonian*, or ſome other Pitch, defœcated by paſſing through a Strainer: Whereas *rides* ſpoke this peculiarly of the white Kind, that it was thema of the Aſphaltus, and particularly of the *Baby-* The *Greeks* called this Sort of Bitumen ἔλαιον Μηδείας Medea). *Socion*, on Fountains, ſays, Τὸ δὲ κατὰ τὴν ὕδωρ φασὶν εἶναι Μηδείας, καὶ πεφαρμάχθαι καυστικοῖς ις, ὃ ῥεῖ μὲν ἐκ πηγῆς τινος (*They ſay, that about* Suſiana *Vater of* Medea, *which is medicated with cauſtic and ble Drugs; it flows out of a Spring*). He ſays it is called *phtha*); and ſo it is read in the Epitome of *Strabo*, d in *Conſtantine de Imperio*, viz. πηγαὶ ἄφθας (*Springs ha*).

of the Antients were of Opinion, that there are Springs ottom of the Sea, like thoſe of Naphtha, which throw ar; and this, as it is the moſt common, is alſo the moſt Opinion, and beſt accounts for thoſe Fragments of the Oyſters, and other teſtaceous Fiſh, which are ſo often cloſed in it, having ſtuck to it before its Humour was d, juſt after the ſame manner that you ſee Ants, and ptiles, in Succinum, which were caught and detained nacious Humour before it was congealed; for this alſo to riſe out of Springs, as well as the Naphtha, Bitud Ambar. And ſo much for the Difference between nd *Ambra*, which does not conſiſt in Names, (for we both *Ambra*) but in the Things themſelves, which r in their Natures, and derive their common Name erent Originals. *Salmaſius de Homonymis Hyles Ia- p.* 101.

Of AMBERGRISE. ---- *Ambra Griſea.*

, by the preceding Diſſertation, that, with reſpect to ſe, as it has alſo happened in moſt other things, the have made few Miſtakes, but what have been adopted oderns, and broached with an Air of diſcovering ſome- , with very little Variation. Thus Ambergriſe is, in nt from *Batavia*, printed in the *Philoſophical Tranſ-* id to be the Product of a certain unknown Tree, e Roots it flows into the Sea. In another Diſſertation be the Combs of a Sea Inſect, ſomewhat like a Bee. Suppoſition of its being produced by a Whale ſo the Author of the following Memoir ſeems to ima-

w found out, that this Ambergriſe is an Animal Pro- nd bred in the Body of the *Sperma-Ceti* Whale, to what is found in ſome Animals of the Land, as the , or *Taiacu*, the Muſk-deer, the Bezoar-ſheep, and hibious Animals, as the Muſquaſh, *&c.* who have ble Scent in a particular *Cyſtis*, or Bag. I am apt to which firſt gave Occaſion to the Notion of *Amber-* the Production of the Whale, was, becauſe it was nſiderable Quantities on the Shores of the *Summer-* d among the *Bahama's*, where the dead Whales are wrecked and broke up with the Sea, and the Amber- floating, or on the Shore; but here again, the Ingevery lately, were at a Loſs, and divided in Opinion; they agreed it to come from the Whale, yet ſome the true and proper *Semen*, being found only in the Root of the *Penis*, near the Teſticles; others again was the Ordure or Excrement of the Whale.

The beſt and moſt exact Account of Ambergriſe, that I have been able to procure, I very lately received from one Mr. *Atkins*, now an Inhabitant of *Boſton* in *New England*, who uſed the Whale Fiſhery for ten or twelve Years together, and was one of the firſt that went out a-fiſhing for the *Sperma-Ceti* Whales, about the Year 1670, and then began to diſcover the Ambergriſe; and being a ſober ingenious Man, what he ſays may ſafely be depended on; though, for Subſtance, I have had it from ſeveral of the Whale-men.

His Relation, which was taken a few Days ſince from his own Mouth, is as follows:

The Ambergriſe is found only in the *Sperma-Ceti* Whales, and conſiſts of Balls, or globular Bodies, of various Sizes, from about three Inches to twelve Inches Diameter, and will weigh from a Pound and an half to twenty-two Pounds, lying looſe in a large oval Bag, or Bladder, of three or four Foot long, and two or three Foot deep and wide, almoſt in the Form of an Ox's Bladder, only the Ends more acute, or like a Blackſmith's long Bellows, with a Spout running tapering into and through the Length of the *Penis*, and a Duct, or Canal, opening into the other End of the Bag, and coming from towards the Kidneys; this Bag lies juſt over the Teſticles, which are above a Foot long, and is placed lengthways at the Root of the *Penis*, above four or five Foot below the Navel, and three or four Foot above the *Anus*. This Bag, or Bladder, is almoſt full of a deep orange-coloured Liquor, not quite ſo thick as Oil, and ſmelling ſtrong, or rather ſtronger of the ſame Scent with the Balls of Ambergriſe, which float and ſwim looſe in it; the Inſide of the Bag is very deeply tinged with the ſame Colour as the Liquor, which may alſo be found in the Canal of the *Penis*; the Balls ſeem to be pretty hard while the Whale is alive, inaſmuch as there are many times found, upon opening the Bag, large concave Shells, of the ſame Subſtance and Conſiſtence, that have ſcaled off from them, and the Balls themſelves ſeem to be compoſed of ſeveral diſtinct Coats, incloſing one another, ſomething like the Coats of an Onion.

As to the Number of Balls, Mr. *Atkins* never found above four in a Bag, and in the Bag, where he found one that weigh'd twenty-one Pounds, which was the largeſt he ever ſaw, there was no other.

He further ſays, that to one *Sperma-Ceti* Whale that has any of theſe Balls, there are two that have nothing but the deep orange-coloured Liquor, aforeſaid, in their Bags. This Remark confirms what another Whale-man told me, That the Ambergriſe was found only in ſuch *Sperma-Ceti* Whales as are old and well-grown. It is the general Opinion of the Whalemen, that the Ambergriſe is produced only by the Male, or the Bull *Sperma-Ceti* Whale. As to this Particular, Mr. *Atkins* ſays, he never ſaw, nor certainly heard of, a *Sperma-Ceti* Female taken in his Life, the Cows of that Species of Whales being much more timorous than the Males, and almoſt impoſſible to be come at, unleſs when haply found aſleep on the Water, or detained by their Calves. This is certain, the Boats can never come near them, when they are awake, they are ſo very ſhy and fearful.

Mr. *Atkins*'s Method of getting the Ambergriſe out of the Whale, was thus; after the Fiſh is killed, he turns the Belly upwards, and fixes a Tackle to the *Penis*, then cuts a Hole round the Root of the *Penis*, thro' the Rim of the Belly, till he comes to the Entrails, and then ſearching for the Duct or Canal at the further End of the Bag, he ties it pretty near to the Bag, and cuts the Duct off beyond it; upon which he draws forth the *Penis* by the Tackle, and the Ambergriſe Bag entirely follows it, and comes clean and whole out of the Belly.

The Rev. Mr. *Prince* of *Boſton*, who took the preceding Relation from Mr. *Atkins*, apprehends the Bag aforeſaid to be the urinary Bladder, and the Ambergriſe Ball to be a certain Concretion, formed out of the greaſy odoriferous Subſtance of the Liquor aforeſaid contained within it. As for my own Part, I dare not pretend to give any Opinion upon the Point, but content myſelf with relating Matter of Fact. *Phil. Tranſ.*

This Account embroils the Origin of Ambergriſe very much; for it makes it nearly certain, that Ambergriſe, or ſomething very like it, is an Animal Subſtance; and yet, by the beſt Inquiries that have been made, it appears, that Ambergriſe muſt belong to the Mineral Kingdom, which the following Obſervations from *Hoffman* put beyond Diſpute.

The Origin of *Ambergriſe* is a Point that has been long debated amongſt Phyſicians and Naturaliſts, ſome maintaining it to be the Product of the Animal, others of the Vegetable Creation.

Some aſſert that it is the Dung of ſome Oriental Bird; and as a demonſtrative Proof of their Opinion, ſhew the Claws and Fragments of the Beaks of Birds, that are often found incloſed within its Subſtance, which, being committed to the Fire, emit the Odour of an empyreumatic volatile Salt; which Sort of Smell is almoſt peculiar to Bodies that derive their Origin from the Animal Kingdom.

Others, on the contrary, attempt to prove, that *Ambergriſe* is a kind of Honey, which is made by the Bees in the Rocks by the Sea-ſide; and being afterwards attenuated and digeſted by the Heat of the Sun, becomes a Subſtance of that Fragrancy as we find it.

But theſe Errors may be ſoon detected by plain chymical Experiments; for all Dung of Animals, and Honey too, admit of a Solution in aqueous Menſtruums; but obſtinately reſiſt the moſt highly rectified Spirit of Wine.

Some of the Moderns have thought it to be a peculiar kind of Reſin, or Tear, diſtilled from ſome Tree, as yet unknown to us, in the *Eaſtern* Parts of the World, and afterwards tranſferr'd to the Sea, where, acquiring a more perfect Digeſtion by the Heat of the Sun, and by the Sea Salt, it conſtitutes a reſinous Body of that Nature.

But, beſides many other Reaſons, what directly thwarts and overthrows this Opinion, is, that all reſinous Bodies of Vegetables will admit of an eaſy Solution and Extraction, in the highly rectified phlogiſtic Spirit of Wine; whereas the contrary is true of Ambergriſe, which is very difficult to be diſſolved in ſuch a Spirit. Beſides, it is obſerved, that inflammable Bodies, produced from the Earth, as Amber, Bitumen Judaicum, and Sea Coal, are alſo difficult of Solution, and are by no means readily united with a very ſpirituous Liquor.

Theſe things conſidered, we agree in Opinion with thoſe who hold, that *Ambergriſe* is to be reckoned among the Species of Bitumens, and owes its Riſe to the Earth, out of whoſe Bowels it is torn, and waſhed away by the Violence of the Waves, and carried into the Sea; for it is found in greateſt Quantities in the Sea about the Iſland of *Madagaſcar*, where the ſubterranean Parts are believed to be pregnant with that kind of Bitumen.

Since it is ſo difficult, as we have obſerved, to make a Solution of Ambergriſe, for this Reaſon we have never yet met with any genuine Solution of it in the Shops; for it is generally prepared with Muſk, or Oil of Cinnamon, or Oil of Roſes, or even with Civet; by which means we are, indeed, furniſhed with an Eſſence of a very grateful Smell, which alſo has its Virtues and Uſe; yet participates but little of the Ambergriſe, which remains in a manner untouched: For theſe Reaſons we think ourſelves obliged to lay down ſome Characters of the genuine Eſſence of Ambergriſe, as follows:

Firſt, It ought to be prepared only of Ambergriſe, and not mixed with the Solution of any other thing.

Secondly, It muſt undergo an almoſt entire Solution by the Menſtruum.

Thirdly, If this Eſſence be dropped into an aqueous Liquor, it will, of neceſſity, turn milky, after the manner of all Oils and Reſins that have been diſſolved.

Now it is prepared in the following manner: Let the Spirit of Roſes, perfectly dephlegmated, be, not only once, but twice at leaſt, drawn off from Salt of Tartar, which is burnt and calcined in a vehement Fire. By this means there is produced a Spirit, which, by its penetrating Quality, enters into the inmoſt Subſtance of the Ambergriſe, and ſo ſeparates and reſolves its oleous Contexture.

This Solution, or Eſſence, of Ambergriſe, is deſervedly placed at the Head of ſtrengthening Remedies, and ſuch as corroborate the debilitated Syſtem of the Nerves; and, of conſequence, has the Preference of all ſuch Medicines as are appropriated to Diſtempers which proceed from a Decay of Strength in the nervous Parts. For it does not ſo fill the Head with Vapours, or excite Commotions and Agitations in a weak Body, as does the common Preparation of Ambergriſe, which is made with a Mixture of Muſk or Civet, whoſe Fragrancy is found, by Experience, to be of ſuch a Nature as to incommode weak Perſons of both Sexes, who are ſubject to ſpaſmodic Affections. *Hoffman. Obſervat. Phyſico-Chym. Lib.* 1. *Cap.* 18.

This has the Appearance of being, by much, the beſt Preparation of Ambergriſe I have met with, and is very likely to be poſſeſſed of the Virtues which the illuſtrious Author attributes to it.

It is obſervable, that as Ambergriſe and Amber have much the ſame Original, and are both remarkable for their friendly Influences upon the Nerves, it is poſſible they may be nearly allied to each other.

Ambergriſe is thus diſtinguiſhed:

AMBRA-GRISEA, Offic. Mer. Pin. 219. Park. Theat. 1566. Sibb. Phalain. 42. *Ambra*, Aldrov. Muſ. Metal. 430. Worm. Muſ. 33. *Succinum griſeum*, *Ambra-griſea vulgo*, Charl. Foſſ. 15. *Ambra-griſea*, *ſeu ex albo griſea*, Dougl. Ind. 6. *Ambra-griſea*, Monſ. Exot. 12. *Ambra cinerea*, Ind. Med. 7. AMBERGRISE. *Dale*.

It is a ſolid, ſebaceous, or fat Subſtance, not ponderous, of an Aſh-colour, variegated like Marble, and marked often with white Specks.

There are two Kinds of Ambergriſe, the Aſh-colour and Black. The firſt is to be preferred, when cleared of all Filth, with a ſtrong Smell, and light, and which, being pricked with a hot Needle, drops a fat odorous Juice. The Black is leſs eſteemed, as being mixed with Earth or Mud, or adulterated, according to ſome.

The Glebes of Ambergriſe are ſometimes found ſo bi to weigh above two hundred Pounds. It is gathered in g Quantities about the *Molucca* Iſlands, in the *Indian Sea*, is frequently found on the Shores, both in the *Eaſt-Indi* in *Africa*. Pieces of it are likewiſe met with on the Nor Coaſts of *England*, *Scotland*, *Norway*, and *Ireland*, b thrown aſhore by the Tide.

Ambergriſe melts by Fire into a gold-colour'd or ye Reſin.

In diſtilling Ambergriſe, we get firſt an inſipid, then a Liquor or Spirit, and a yellow Oil of a moſt penetrating S with a ſmall Portion of acid volatile Salt, like Salt of A a black, ſhining, bituminous Matter remaining in the Re From whence it is plain, that Ambergriſe conſiſts of ſu latile Parts, intangled in other thicker Parts, both ſali bituminous.

This Drug is very much uſed by Confectioners and Perf in giving a fine Smell to their Preparations; and is recom ed by Phyſicians as proper to raiſe the drooping Spirits, ſ ply the Defect thereof, and to accelerate their Motions. B it is both a cephalic and cordial Medicine, enlivens the and is very effectual in Faintings, and all other Affecti the Head and Nerves. It is thought to be very inſtru in prolonging Life, and in producing ſuch Effects, as ar ceſſary for Generation. This Opinion prevails chiefly the Eaſtern Nations.

It is uſed both outwardly and inwardly. The D Subſtance, is from one to four Grains, taken in a poach or in a Glaſs of Wine with Sugar and Spices. The Ti extracted with Spirit of Wine, is given from one to ten This Tincture is either ſimple or compound. The Tincture is made by only diſſolving the Ambergriſe in S Wine, and then ſeparating the Solution from the Fæce compound Tincture is very fragrant, and is prepared manner:

> Take Ambergriſe and Sugar-candy, of each two D Muſk, twelve Grains; Civet, two Grains; S Wine, four Ounces: Digeſt them in a Glaſs Ve ſome Days, and then decant the Liquor, and keep Uſe. The Doſe is from one Drop to eight or ten, in *Spaniſh* Wine, Cinamon-water, or any other Li

Riverius commends Ambergriſe as a Strengthene Stomach, and as a Specific in the *Fames Canina*; and he orders it in hypochondriacal Melancholy, after Purging due Uſe of diluting Liquors, for reviving the native He exhilarating the Spirits. It is however to be obſerved, Perfumes, and ſtrong Smells, are hurtful to hyſterical and thoſe in Child-bed; and the ſame thing is remarked hypochondriacal Men; for at this time, few People c Perfumes, or ſtrong fragrant Smells; and for that Re Compoſitions uſed by former Phyſicians, in which A was an Ingredient, either alone, or joined with Muſk, almoſt quite laid aſide. Sweet Smells, though of hyſterical Women, are, nevertheleſs, of great Service applied by way of Fumigation to the Uterus. Amb an Ingredient in the *Pulvis Diambræ* of *Meſue*, th *Aromaticus Roſatus* of *Gabriel*, the *Pulvis Lætifican laus Præpoſitus*, the *Pulvis contra Peſtem*, or Be *Renaudæus*; in the *Electuarium Diaſatyrion* of Char *Tabellæ Magnanimitatis*, and *Apoplectic Balſam* of th and in the *Confectio Alkermes* and *Hyacinthi*, whe complete; for in theſe Compoſitions, both the Amb Muſk, are often ordered to be left out. *Geoffroy*.

Ambergriſe is ſometimes counterfeited by mix Muſk and Civet, with Storax, Labdanum, and Aloe

And ſometimes it is adulterated, by mixing with the above-mentioned Perfumes, and a great deal of B dried.

Of AMBER, *properly ſo called.*

The Accounts we find of the Origin of Amber in moires and Hiſtory of the Royal Academy of Sc thus:

'Tis commonly believ'd, that the yellow Amber, the Sea of *Dantzic*, [the *Baltic* Sea] is the Gum of that grow on the Shores of that Sea, from which the Water. But M. *Tournefort* has a Letter from an Account, that yellow Amber is found in the C moſt naked and barren Rocks in *Provence*. Th Reaſon to believe, that this Gum is not a Veget Mineral; and that the Amber of the Sea of *Dantz* fall from Trees, but is carried thither by the Torren *de l'Acad. Roy. des Scienc.* 1700.

M. *Galland*, of the Academy of Inſcriptions, co foregoing Account. For he found yellow Amber at on the Sea-ſhore, in a Place where nothing of a Tree where the Sea is bounded by nothing but very f which are daſh'd upon the Sea in foul Weather. T Amber then muſt have been looſen'd from the Cle Rocks, and ſo have fallen into the Sea. *Ibid.* 1703.

Marquis of *Bonnac*, the *French* Envoy extraordinary to g of *Sweden*, having ſeen, in a Piece of Ground near , belonging to M. *Grata*, Poſt-maſter General of ſome foſſile yellow Amber, of the ſame Nature with found on the Sea-ſhore, began to conſider it more at- y than before, and to queſtion whether it were formed roth of the Sea, as it was commonly thought. The l Primate of *Poland*, who was with him, had the ſame y, and told him, it would be good to know the Opi- he Academy of Sciences upon the Matter. M. *de Bonnac* o *Paris*, and immediately the Academy took care to ll the Diſcoveries, that had been made in the Affair; they had done all that lay in their Power, ſent the f it in the following Memoire.

Memoire concerning yellow Amber.

e fineſt yellow Amber, and in the greateſt Quantities, om the two *Pruſſias*, the Academy Royal of Sciences ibly be leſs acquainted with the Subject than they who the Honour to conſult them. They will, however, icate what they know, and add thereto ſome Reflec- hey won't trouble themſelves with what Authors have about it, ſuppoſing it to be well known, and that it is ompilation which is requeſted of them.

Caſſini and *Maraldi*, having in 1700. travell'd into hern Provinces of *France*, in order to employ them- out the Prolongation of the Meridian of *Paris*, diſco- ne Mines of Jet, and a kind of yellow Amber, in a n of *Languedoc*, called *Bugarach*, diſtant from the Sea even thouſand ſix hundred Toiſes, [about two and iles] and ſeparated from it by other very high Moun- ome take Jet, as well as yellow Amber, to be a Species num. The Inhabitants of *Bugarach* uſe their yellow o burn in their Lamps. It is pretty like a Reſin, and rd as that of *Pruſſia*. Near the Mines of *Bugarach*, gs of Salt-water, which form a little River. We are ibly aſſured, that yellow Amber is alſo found in *Sicily* Sea-ſhores, along the Coaſts of *Agrigentum*, *Catanea*, *ata*; and in the Iſle of *Corſica*, and alſo at *Bologna* about *Ancona*, and in *Umbria*, in the open Fields, and Diſtance from the Sea.

conſider'd with what the Marquis has written, that he himſelf taken up, on the Grounds of M. *Grata*, which ted from the Sea by great Woods and Heights, Am- reſpects like that which is found on the Sea-ſhore, iſive in the Caſe, and a ſufficient Reaſon to conclude, Subſtance is always produced by the Earth.

this, we ſee ſmall Animals incloſed in Amber, and always terreſtrial Animals, as Flies, Ants, *&c.*

er to be better aſſured, it might be proper to examine, he terreſtrial Amber have all the Characters and Per- the Amber found on the Sea-ſhore; for it might not ble, that the Sea, by its Salt, might give a finiſhing the Formation of this Matter, and lend it the laſt Concoction.

g then, that Amber was always produced by the Queſtion is, Whether it be a vegetable or a mineral

er heard it ſaid, that in *Pruſſia* there are any Trees h Succinum diſtils in form of a Reſin, or ſomething And yet it ſeems more natural, that Ants and Flies, ſometimes ſeen in it, and are a certain Sign, that it liquid, ſhould be incloſed in a Reſin, that diſtils from han in a Mineral formed in the Earth. To ſolve this , we muſt ſuppoſe, that Succinum, like Petroleum, om a Rock, or at leaſt, that the Amber in which Animals are envelop'd, has continued liquid for ſome the Surface of the Earth.

r we believe Amber to be a Vegetable or a Mineral, none to atteſt, that ever they ſaw it liquid, or ſo ft. It muſt however have been in that State, and ſed to Sight, at the time when theſe little Animals ht in it.

alyſis of this Compound by the Chymiſts of the Aca- s not entirely determine to what Kind it belongs. ys find a very ſmall Quantity of aqueous Liquor, lls like Amber when 'tis rubbed, a good deal of acid t, and the like of Oil, which is partly white like the rtly red, and partly very black, according to the Fire given it in the Diſtillation. The Caput Mor- ht, ſpongy, black and ſhining, which being calcin'd Fire, goes away almoſt entirely in Smoke, without ny fixed Salt.

y Difference in the various Kinds of Amber is, that anſparent, or the whiteſt, afforded more Oil, and t, and a leſs Caput Mortuum, than the muddy or theſe laſt never afforded any fixed Salt, tho' they f a Caput Mortuum.

of Amber ſmells like a bituminous Oil, which ſeems at Amber is a Bitumen; but there are Reſins which have the ſame Smell, and ſome, as Benzoin, which yield an acid volatile Salt; but we know of none from whence we can, at the ſame time, obtain a fixed Salt, and an Oil of a bituminous Odour. Hence the Academy is inclined to believe, that Amber is a Bitumen, and conſequently a Mineral.

It appears from what has been ſaid, how far the Academy ſtands in need of Information, before they can preſume to determine more preciſely in all that reſpects Amber. It will be proper to know in particular,

1. Whether there be any Salt-water, or vitriolic Water, near the Places where they take up Amber.
2. Whether it be uſually envelop'd or mixed with any Earth, or particular Subſtance.
3. If there be any Marks to diſtinguiſh the particular Places in the Earth, where the Amber is to be found.
4. Whether the foſſile Amber be any way different from what is taken up on the Sea-ſhore.
5. Whether they gather white from the Earth as well as yellow; and, whether it be the Air, or the Heat of the Sun, that changes the Yellow into Black.
6. Whether black and yellow Amber are ever both found in the ſame Place.
7. Whether we can be certain of what we are told by *James Hartman*, in his Account of the Amber of *Pruſſia*, and by *Bartholinus* concerning that of *Denmark*, that it is found under a kind of foliated Earth, like the Barks of Trees, and is accompany'd with a ſort of foſſile Wood, in which, however, neither Pith nor Fibres, Joint nor Bud, can be diſtinguiſhed. *Hiſtoire de l'Acad. Roy. des Scienc.* 1705.

But the following Obſervations on Amber from *Hoffman*, a Phyſician who had very good Opportunities of examining the Subject, put the Origin of Amber beyond Diſpute.

The Earth, that rich Storehouſe of Nature, contains in its Bowels not only Metals, Minerals, Stones, Earths and Salts of various Kinds, but alſo cheriſhes within its Boſom Bodies of a ſulphureous, fat, unctuous, and tenacious Subſtance, which paſs under the general Name of *Bitumen*.

The Nature of Bitumen does no way belong to the common and mineral Sulphur; for this will by no means be reſolved into Oil or Spirit, by Diſtillation; but Bitumens diſtilled in a Glaſs Veſſel afford Oil and Spirit, beſides an exhauſted and ſluggiſh Earth. Even the Vapour, as well as the Smell, emitted by mineral Sulphur, are manifeſtly unlike the Exhalations from bituminous Bodies.

The principal Diſtinction of Bitumens is into the noble and ignoble Kinds, and both theſe are either dry or fluid. Within the Claſs of the noble Kind, are comprehended *Ambergriſe*, and *Succinum*, or Amber; among thoſe of the other Kind, are Stone-coal, Pit-coal, Terra Ampelitis, and Aſphaltum, which however are very different from one another, both in Conſiſtence and Goodneſs. To this Claſs alſo belong Naphtha and Petroleum, which are a fluid Subſtance, by which Property they are diſtinguiſh'd from the reſt, which form a ſolid Maſs.

As to Amber in particular, it is produced plentifully in *Pruſſia*, which is famous for being the proper and native Country of it. Though this Bitumen be generated in the Earth, there is plenty of it found in the *Baltic* Sea, by the Shore of *Sudwic*, where it ſwims on the Water, and is carry'd along by the Waves, whence it is taken up in Nets. The Places moſt remarkable for Amber, are the Villages of *Fiſch-hauſen*, *Groſſ-ducſtein*, *Wernichen*, and *Palmoniet*. Nor even is this Amber produced from the Sea, but, in tempeſtuous Agitations of the Waters, is waſhed out of the Bowels of the Earth by the Waves, and at laſt thrown towards the Shores. Very properly then may this bituminous Body be reckon'd in the Claſs of Minerals; for it is a Product of the Earth, and is contained within its proper Veins, as well as Pit-coal, or other Minerals.

The Courſes of theſe Veins were diſcovered ſome Years ago, by Order of King *Frederic*, in the following manner: In digging they firſt met with Sand, which being removed, the next thing that offer'd, was a Stratum of white Clay; digging under this, they opened a ligneous Stratum, that ſeem'd to be compacted of old Wood, which, however, could be ſet on Flame. Under the Bottom of this Stratum, in moſt Parts, they found Ore of Vitriol, which being expoſed to the open Air, ſhot forth in Flowers of Vitriol, free from the leaſt Tincture of Copper, and like thoſe which proceed from the *Heſſian* Iron Ore.

At laſt digging ſtill deeper, they came upon a Stratum of Sand, which proved very fortunate; for out of this, in ſeveral Places, with convenient Inſtruments, they extracted Abundance of choice Amber. For it is a thing worthy Obſervation, that Sand is uſually the Matrix of Amber; ſo that where they find a great Bed of Sand in the Boſom of the Earth, they are not without Hopes of meeting with Amber. After the ſame manner do they get it out of the Sand in the Marquiſate, near *Kuſtrin*; and in the Territories of *Stolpen* and *Dantzic*, it is alſo found in Lumps.

Hence appears the Falſity of the old Fable, which would have us believe, that Amber is the Reſin of Trees, which diſtils from their Bark into the Sea, and is there digeſted by the Heat of the Sun into a Body of that Kind.

The Manner in which this Bitumen is generated, ſeems to be this: From that bituminous foſſile Wood, which we juſt now mentioned, by the Acceſſion of the ſubterranean Heat, there diſtils an Oil much like Naphtha or Petroleum, which in penetrating the ſubjacent Strata, paſſes through the Vitriol Ores, where by mixing with its Acid, it is coagulated into a Subſtance of a reſinous Form. The Reaſonableneſs of this Opinion will appear from the following Conſiderations:

1. That Amber at its firſt Growth was liquid, may be proved from its being often ſeen conglobated by Nature itſelf into a round Form.

2. Sometimes Inſects of various Kinds ſtick and are included in Pieces of Amber, which they could never have been, if the Matter in which they are circumvolved, had not been liquid.

3. We may conclude, that Amber is a Concretion of an Oil much like Petroleum, becauſe Oil of Amber comes near to Petroleum, both in Smell and Virtue, and both of them are equally difficult to be diſſolved by the moſt rectify'd Spirit.

4. *Charlton*, a very ſagacious Obſerver of Nature, in his Treatiſe of Foſſils, affirms, Pieces of this Bitumen have been frequently found, which have held Naphtha and Petroleum included within them.

5. The acid Salt of Amber is of a very fixed Nature, and not inferior in Virtue to the Acid of Vitriol.

6. What will afford great Light in this Affair, is that phyſical Experiment, in which it is obſerved, that all diſtilled Oils, ſcarce one excepted, and amongſt them aromatic Oils, being mixed with Oil of Vitriol, or pretty ſtrong Aqua-fortis, condenſate into a reſiniform Maſs, which, held to the Fire, is readily ſet on Flame.

7. Beſides, foſſile Woods and Coals, by Diſtillation and Rectification, yield an Oil, very like Oil of Amber and Petroleum.

8. Laſtly, the very Diſpoſition of the Strata, which we have related, is a good Proof in this Matter. The firſt of theſe is ligneous, the ſecond vitriolic, and the laſt compoſed of Sand, at the Bottom of which lies the Amber, ſcattered here and there in Bits.

There is moſt Plenty of Amber along the Shore of the *Sudwic* Sea, eſpecially when a tempeſtuous North Wind blows; for it ſeems probable, that the Sea penetrating by ſome ſecret Paſſages into thoſe ſubterranean Places where the Amber is nouriſhed, by violent daſhing and breaking againſt them, ſeparate from time to time Pieces of this Bitumen, and carry them away with it.

Amber is of various Colours; the beſt is reckon'd the pellucid, quite free from Spots, and which bears the higheſt Price. For this the *Chineſe* give its Weight in Gold, and make their Idols of it after an elegant and maſter-like Manner. I lately ſaw a convex burning Speculum, made of this pellucid Amber, in the manner of one made of Glaſs, which the Landgrave of *Heſſe* keeps in his Cabinet of Curioſities. Next to the pellucid is the white, after that the yellow, and laſtly, the brown, which is the worſt Amber of all. No leſs various are the Prices; for the larger and purer, ſo much the dearer are the Pieces; and the more pellucid they are, the more are they valued.

They talk much of a black Sort of Amber, which yet is no-where to be met with, and ſo is only believed upon common Report. Inſtead of this, they ſell a black and ſolid Foſſile, which is a kind of Aſphaltum, and dug out of the Coal-mines in *England*, and made into ſeveral Utenſils for the Uſe of the Inhabitants.

If Amber be pulverized, and mixed with an equal Quantity of Sand, it will afford by a Sand Diſtillation, in a Glaſs Retort, an extraordinary Quantity of Oil, inſomuch that at leaſt ſix Ounces of Oil may be had out of one Pound. If the Fire be augmented to an intenſe Degree, towards the End of the Operation, a Salt of an acid Taſte will be left in the Neck of the Retort, which being ſeparated from the Oil, and again ſublimated, is what we commonly call the volatile Salt of Amber, tho' it be not of a remarkably volatile Nature, ſince it cannot be raiſed but by a vehement Fire. Perhaps it obtained that Name from its Subtilty, which it has in common with the volatile Salt diſtilled from the Parts of Animals, by augmenting the Fire, after the Oil has been exhauſted.

It is obſervable of this Oil of Amber, that it does not ſo intimately unite with the moſt rectify'd Spirit, as do other diſtilled Oils, ſince it is never entirely diſſolved, but only ſome of the more ſubtil Parts of the Oil paſs off into Spirit, which is a Sign of its being mixed with a good deal of mucilaginous Subſtance, which after a gentle Evaporation, and ſtirring with a Stick in an open Veſſel over the Coals, preſents itſelf in View. If Oil of Amber be mixed with Water, and diſtilled over again in an Alembic, it becomes much more penetrating; and being made into a Plaiſter with other Ingredients, has been more than once, by our own Experience, found efficacious in diſcuſſing hard and inveterate Tumours of the Glands. What

remains in the Veſſel after Diſtillation, is a crude and
laginous Maſs.

We ought to ſay ſomething too of the Solution of
Indeed I could wiſh, that we knew a Method, which
of, to reduce ſmall Pieces of it by Melting, to a bulky
without deſtroying its Contexture. But ſince I have R
doubt, whether there be any ſuch Method of Prepara
ſhall here endeavour to explain what we know by Expe
with reſpect to this Solution.

In the firſt place, Amber is almoſt totally diſſolved
ſtrong Lixivium boiled with it. This Lixivium is pre
the cauſtic Salt of Regulus of Antimony, which is ma
melting two Parts of Nitre with one Part of Regulus of
mony, in a Crucible over a ſtrong Fire. This Salt mixed
Amber in equal Quantities, by a moderate Decoction in a
ficient Quantity of Water, almoſt entirely diſſolves it;
what is worth Obſervation, the Lixivium, which wa
of a very cauſtic Savour, loſes much of its Acrimony
becomes more temperate; the Reaſon of which perhaps
be, that the lixivious Salt is broken and tamed by the
lodged within the Amber, which, being by this means
to a Liquor, becomes an excellent Medicine in Obſtruc
the Viſcera, and for Promoting Excretions of all Kin
conſequently for chronic Diſorders.

Some Notice muſt alſo be taken of the Solution of
for mechanical Purpoſes, that is, for preparing a mo
ent Verniſh, which the Artificers make a great Secret of

They take one Pound of powder'd Amber, which th
in a proper unglaz'd earthen Veſſel over a Charco
and pour it, whilſt fluid, upon an Iron Plate; the
powder it again when concreted, and afterwards
it entirely in an unglaz'd earthen Veſſel, adding to
Linſeed Oil, prepar'd and boil'd with Litharge, a
wards Spirit of Turpentine. With this they incr
ſels of Wood and of Metals, and afterwards poliſh
being firſt carefully and artfully dried.

From this Proceſs it readily occurs, that Amber c
much aqueous and mucilaginous Humidity, of which
be depriv'd by Liquefaction; and after this, the Li
and Spirit of Turpentine find an eaſy Ingreſs into the
reſinous Mixture remaining. Nor is a ſubtil diſtill'd O
adapted to diſſolve the Amber, without being temper
an expreſs'd Oil, which evidently ſhews, that the Sub
Amber, beſides its reſinous Particles, has ſome which
cilaginous.

Laſtly, I cannot excuſe myſelf from relating a very
Experiment, which I ſome Years ago made with A
put ſome powder'd Amber in a Glaſs Veſſel, and pour
it twice the Weight of Oil of Almonds; I then pla
Glaſs in one of *Papius*'s Digeſtors accurately made, w
one third full of Water, and placed on its Cover very
and then put under it a moderate Fire for above an H
took the Veſſel out, when it was cool, and found the
diſſolved into a gelatinous, pellucid Maſs, with a ſmal
tity of fluid Oil upon it.

By this Experiment we diſcover clearly, that expre
can do a great deal towards diſſolving the firm Textur
we find in Amber; and this is principally brought abo
the Elaſticity of the included Air is increaſed, and the
cles of Oil are violently forced into the ſmalleſt Pores
Amber, by the Heat of *Papius*'s Machine. *Hoffman* O
Phyſico-Chym. L. 2. *Obſ.* 23.

Many great Virtues are aſcribed to Amber, eſpecia
taken inwardly, in a cold State of the Brain, and in C
in the Head-ach, ſleepy and convulſive Diſorders, in
preſſion of the Menſes, hyſterical and hypochondriac
tions, in a Gonorrhœa, Fluor Albus, and Hemorrhag
Doſe is from a Scruple to a Dram, in a poached Egg
other proper Vehicle.

Take, for Inſtance, of Amber finely powdered, or
to an Alcohol on a Porphyry, Conſerve of red R
Roſemary Flowers, of each half a Dram; Syrup
chas, a ſufficient Quantity for a Bolus; to be
the Morning, to check the Flux of Rheum,
its Acrimony in Colds in the Heads, Catarrhs,
ning at the Noſe.

Take prepared Amber, Camphire, and Dragon's-
each a Dram; Syrup of dry'd Roſes, a ſufficie
tity to make an Opiate; of which, the Quan
Dram is to be taken every Morning, in a G
after due Preparation of the Body.

Take prepared Amber, and prepared Millepedes,
two Drams; Myrrh, half a Dram; Conſerve
Flowers of white Dead-nettle, one Ounce an
Syrup of common Yarrow, a ſufficient Quantity
Opiate; to be taken in the Quantity of two Dr
a Day in the Fluor Albus.

e of prepared Amber, a Scruple; Sperma-ceti, and
erra Japonica, of each fifteen Grains; Syrup of Ground-
y, or of Diacodium, a ſufficient Quantity to make a
olus, in a Spitting of Blood, or an habitual Cough, pro-
eding from an acrid Phlegm.

e of Amber, half a Dram; Caſtor and Myrrh, of each
elve Grains; Saffron, ſix Grains; Conſerve of Worm-
ood, or Extract of Rue, a ſufficient Quantity to make
Bolus, in hyſterical Suffocations, and in a Suppreſſion
the Menſes.

rnally, Amber is uſed as a Fumigation, in Cataplaſms,
cuphæ, in Diſorders of the Head or Brain. The
of it, received at the Mouth, are often found ſucceſs-
beginning Quinſies, a Falling-down of the Uvula, or
g of the Tonſils from a Catarrh.

PREPARATIONS of AMBER.

Preparations of Amber are, firſt, prepared Amber,
ſo called, which conſiſts in reducing it to an impal-
owder upon the Porphyry; and this Powder is much
le to the Magiſtery of Amber. Secondly, the Tincture
er, with tartariz'd Spirit of Wine, which may be taken
few Drops to a Dram. With this Tincture is made
tile oily ſuccinated Salt; by mixing equal Parts thereof,
the common volatile oily Salt, and then digeſting them
tle Heat. This new Tincture is cordial and diaphoretic,
ſurpriſing Efficacy in ſleepy Affections, Catarrhs, hy-
Diſorders, Palpitation of the Heart, Fainting, Ob-
s of the Menſes, and Palſies. The Doſe is from a
ps to a Dram, in Tea, Wine, or any other convenient

nally, the Sutures of the Cranium, the Nares and
, are anointed with it, in Catarrhs; the Scrobiculum
in Faintings and Palpitations; and the umbilical Re-
hyſterical Affections. *Geoffroy.*

Hoffman's TINCTURE *of* AMBER.

ragrant Oil of Amber, which is very agreeable and
to Nature, and endued with a ſtrengthening and bal-
rtue, is ſo firmly and cloſely united and connected with
trial and acid Parts, as it is a ſubterraneous Reſin, that
, without great Difficulty, be ſeparated from them.
e need then of a Key to open thoſe Cloiſters, in which
ureous Parts are confin'd, and to releaſe them from
terogeneous Corpuſcles with which they are fetter'd:
moſt convenient Inſtrument for this Purpoſe is an
alt ſtrongly calcin'd.
herefore, very exactly, Salt of Tartar, with an equal
of choice Amber reduced to a very fine Powder, and
eon a ſufficient Quantity of Spirit, to the Height of
ers above it. After a previous Digeſtion, let a Diſtilla-
ade out of a Glaſs Cucurbit with a Sand Heat, and
be drawn off a Spirit impregnated with the moſt
fragrant Oil of Amber, which, though it be in itſelf
ith an extraordinary ſtrengthening Virtue, will yet
much better Purpoſes, by contributing towards fur-
s with an excellent Tincture.
anſparent Amber is to be choſen before that which is
r dark-colour'd, as conſiſting of a ſofter ſulphureous
Let this be bruiſed and levigated in a Mortar to a
Powder; into which, being placed on a Marble Stone,
of Tartar per deliquium, and mix them very carefully
ome to a Paſte, which muſt be dry'd gently. This
ur thereon a ſufficient Quantity of the Spirit prepared
and then digeſt them in a Glaſs Veſſel, or Vial cloſe
ith a gentle Heat.
means we obtain the moſt generous and efficacious
f Amber; a Remedy highly to be valu'd, were it
ccount of its moſt grateful Taſte and Smell.
oſt convenient way of taking it is by inſtilling ſome
it into Sugar, or Syrup of Pinks, or of the acid Juice
. The Morning is the uſual time when Perſons take
roborating the Stomach, Head, and a weak nervous
rinking afterwards ſome Cups of warm Liquor, as
Chocolate; it may alſo be taken at Dinner in ſweet
t provokes the Menſes, but reſtrains the Fluor Albus,
excellent Medicine in rheumatic Diſorders.
markable, that this Eſſence dropp'd into Water, is
itated like other Eſſences or Solutions of Oils and
d, that a few Drops of it, inſtill'd into a large Quan-
ater, impregnate the Whole with the grateful Odour
; which is a ſtrong Proof, that a Medicine of this
hich ſo amply diffuſes itſelf through the leaſt Cor-
Water, is of very fine Parts, and by Conſequence
its Way into the very innermoſt Fluids and Solids
dies; ſo that a ſmall Doſe may be expected to pro-
ſiderable Effect. *Hoffman. Obſervat. Phyſico-Chym.*
ſ. 17.

Somewhat different from this is Boerhaave's *Tincture of Amber.*

Reduce the beſt tranſparent yellow Amber to fine Powder, in order to increaſe its Surface; grind this Powder in a Glaſs Mortar, with the alcaline Oil of Tartar *per deliquium*, the longer the better, that it may become a thin, well-wrought Paſte; put it into an urinal Glaſs, dry it in a warm Furnace, and reſolve it in the open Air for ſeveral times; for it is hard to be penetrated. At length the Matter being well dried, put it into a tall Bolt-head, with a very long and ſlender Neck; pour pure Alcohol thereon, to the Height of three Inches above it; ſhake them together, and ſimmer them on the Furnace for ſome Hours, as may thus be commodiouſly done. The Tincture will become red, and when cool, and grown clear by ſtanding, ſhould be carefully decanted from its Fœces, into a clean Glaſs, kept cloſe ſtopped. In other reſpects proceed as before, till almoſt the whole Body of the Amber be taken up in the Tincture. This may alſo be prepared in the ſame manner by the means of Alcohol alone, without Alcali, though to better Advantage with it.

REMARKS.

Hence we ſee, that Alcalis have a Power of gaining Entrance for Alcohol, into a Body brittle like Glaſs, whoſe wonderful, reſinous, and particular Nature, no one has hitherto particularly explained; but in the Compoſition thereof, a foſſile Acid, and a Petroleum, or ſomething like them, ſeem to concur; whence it is difficult to diſſolve. Its Tincture, however, is neither acid, alcaline, nor oily, but holds the whole Subſtance of the Amber diſſolved. It is of a bitteriſh aromatic Taſte, wonderfully refreſhing, having a perfectly reſtorative Fragrance, and ſome Degree of Stypticity. When well made, it in the Winter-time grows thick, and depoſits a kind of mealy or ſomewhat reſinous Subſtance, which ſhews how richly impregnated it was with the diſſolved Amber; but when warm Weather returns, it again grows clear, and takes up the Powder it had let fall. If one half of the Alcohol be drawn off from this Tincture, the remaining thick Part depoſits a kind of powdered Amber, which, being collected ſeparate, is of a highly aromatic Taſte, and Odour. It is very ſurpriſing, that this Subſtance ſhould be ſo equally, and almoſt totally, diſſolved in Alcohol, without any obſervable Separation of its Principles; yet at the ſame time acquire ſuch noble medicinal Virtues, as were not before found in the entire Amber; eſpecially, as by Diſtillation it is divided into ſuch different Parts, each of them of a different Virtue and Nature, as we find by its Analyſis.

And hence again we ſee, by a manifeſt Example, that chymical Productions may differ incredibly, as they are obtained or prepared with a different Menſtruum, or in a different Manner. And hence alſo we ſee how very different Principles may lie concealed in a certain Compound, without giving any Sign of their being there, or of manifeſting their own Nature; and this, though the Compound be very ſubtilly divided, either by Trituration, or a Menſtruum. And hence again it appears, how much a ſimple Diviſion, made by a Menſtruum, without any Extraction of the Principles, may produce new Virtues.

This Tincture has an incredible Efficacy in all thoſe Diſtempers, which proceed from too great a Mobility of the immediate Inſtruments of the human Affections, Spirits, and nervous Syſtem; and particularly from a Relaxation of the Parts, through Weakneſs. And hence it proves of wonderful Service in hypochondriacal, hyſterical, languid, cold, watery Caſes, and Convulſions often proceeding from them. So that Mr. *Boyle* and *Helmont* have for this Reaſon placed it among the nobleſt Anti-ſpaſmodics, and Anti-epileptics, when the Diſorder proceeds from thoſe Cauſes. The Doſe is from ten to eighty Drops, three times a Day, in *Spaniſh* or *Canary* Wine.

The Method of making the Oil, volatile Salt, and Spirit of Amber.

Take of coarſe Amber in fine Powder, one Pound; of Tobacco-pipes, Bricks, Sand, or Bole, alſo in fine Powder, three Pounds; mix them well, and with the Mixture fill a Retort half full, ſet it in a Sand Furnace, fit to a Receiver, (not luted) make to it a Fire of the firſt Degree for one Hour, increaſe it to the ſecond, and ſo keep it two Hours; then to the third, in which keep it four Hours. In the firſt Degree, ſome of the acid Water, we call Spirit, with a little of the fineſt Oil, will diſtil. In the ſecond, the Spirit and Oil will continue dropping, and ſome of its volatile Salt will riſe into the Neck of the Retort. The third will elevate more Salt, with a groſſer Oil; and if the Fire be inlarged to the fourth Degree, it will raiſe a thick Balſam. As the Salt riſes into the Neck of the Retort, it ought to be ſcraped out with a clean flat Stick, and put upon brown Paper to ſuck up the Oil : The Salt by this means will be white ; and if it be deſired more fine, it may be diſſolved, filtred and evaporated, and it will leave a very white Salt. When the Diſtillation is over, and all cool, ſeparate the Oil and Spirit by a Funnel, or other ſeparating Glaſs. If the Oil is deſir'd to be rectify'd, it may be put into a long-bodied Retort, and placed in Sand, and by gradually raiſing the Fire to the ſecond Degree, there will diſtil a fine yellow, and clear Oil : But if a pure white and ethereal Oil be deſired, it muſt be put into a Cucurbit, with three times the Quantity of Water to that of Oil (with which the Veſſel muſt not be quite half full) ; and then fit on the Head and Receiver, and gradually bring the Fire to the ſecond Degree, or ſo as to make the Oil and Water bubble ; and there will diſtil a pure ethereal Oil, which muſt be ſeparated as before. Separate the Water from the Oil that is left in the Retort ; and becauſe it will be impregnated with ſome Salt, put it into the Receiver, into which was made the firſt Diſtillation, and ſhake it well to rince out the Salt. Then pour all into a Cucurbit, fit to it a Head and Receiver, give a gentle Fire to evaporate the Water, till the Drops fall a little acid ; then let it cool, and put to it the Spirit, which, ſeparated in the firſt Diſtillation, rectify them together, and there will be a Spirit of Amber.

We have included three Medicines in one Proceſs, becauſe they ſo naturally ariſe out of the ſame. The rectify'd Oil is ſometimes internally preſcribed in nervous Caſes, joined with Spirit of Sal Ammoniac, or of Lavender, or other Liquors, from five to fifteen Drops. The thicker Oil is moſt uſed externally in fixed rheumatic Pains and Aches, as alſo to paralytic Limbs ; but ſome commend it inwardly in old Gleets, and ſay it anſwers even when the beſt Turpentine Balſams fail. The Spirit is uſed much to the ſame Purpoſe, both internally and externally, from ten Drops to one Dram in any convenient Vehicle, inwardly ; and outwardly, rubbed in by itſelf, or mixed with other ſuitable Liquors. But the volatile Salt is the main Part, and ſo much in uſe, that the other are of little Value with reſpect to it ; the Demand for this being vaſtly greater than for the other, in proportion to what every Proceſs neceſſarily produces of each. This is a moſt admirable cephalic Detergent. It extremely attenuates, cuts and penetrates into the moſt remote and minute Receſſes, whereby the whole nervous Syſtem is, as it were, new ſcour'd. Its chief Tendency in Secretion, and what it carries along with it, is by Urine. In the convulſive Deliriums of Fevers it is mightily preſcribed, and is reckoned not inferior to any thing in ſuch Intentions ; becauſe, beſides its peculiar Efficacy upon the Nerves, it alſo conduces much with Alexipharmacs to promote a Diaphoreſis : In all chronic Caſes likewiſe, as Epilepſies, Palſies, and the like, it is ſcarce ever left out of Preſcription : The Doſe is uſually from three Grains to fifteen. This Salt has further one uſeful Property, which ſeems attended to but by few, and that is, quickening the Operation of ſome Cathartics, eſpecially of the aloetic and reſinous Kind. A few Grains, with any of the milder officinal Pills, as Ruffi, and the like, will make them briſker by much in Operation, and yet rather milder ; and this it ſeems to do, by dividing the Parts of thoſe Medicines ſo readily in the Stomach, that they begin to exert themſelves ſooner than they otherwiſe would.

The great Conſumption of this Medicine, in Compariſon to what the Amber produces of it, and the Price, upon that account, it bears, is ſo tempting to the Avarice of the preſent degenerate Race of Chymiſts, that it is moſt abominably adulterated ; and therefore not to be truſted to from any Hands, but thoſe who make it for their own Uſe. Some of theſe, once otherwiſe inſpired Philoſophers, ſophiſticate it with Sal Ammoniac, with Nitre, ſome with Cream of Tartar, and others, with Salt of Coral.

The firſt of theſe Cheats may be diſcovered by a ſtrong urinous Scent, if it be rubb'd with Salt of Tartar ; the ſecond by its nitrous Taſte ; the third by Solution in clear Water : For the Salt of Amber will much ſooner diſſolve than the Tartar, and therefore manifeſtly leave that behind to View ; and the laſt is diſcoverable by trying it upon a red-hot Iron ; for the genuine Salt will fly away, the Vinegar, which the Coral had abſorb'd, will be deſtroy'd, and nothing but an inſipid Earth be left upon the Iron.

This Salt much beſt fits the Forms of Boles, Pills or Electuaries for taking ; becauſe in Juleps and Draughts, in which ſometimes it is inadvertently order'd, it is extremely nauſeous ; the genuine Salt having a mixed Reliſh of Salt and Sulphur, which in a liquid Form lies ſo naked to the Palate, that it often urges the Patient to reject it by Vomit immediately after taking. *Quincey's Diſpenſat.*

Many Chymiſts endeavour to recommend their Salt of Amber, by its extraordinary Whiteneſs, and this is generally a Sign of its being adulterated ; but if genuine, it is much the worſe for being depriv'd of all its Oil, which makes it look brown.

The volatile Salt is diuretic, and eſteemed a Specifi
ſterical, convulſive, and ſpaſmodic Complaints, take
ten Grains to half a Dram ; and with that is prepared
cinated Liquor of Hartſhorn of *Michael*, very much
mended in the epileptic Fits of Children. This Liquor
by diſſolving as much Salt of Hartſhorn and Salt of A
Spirit of Hartſhorn, as the Menſtruum will take up.
Oil is uſeful in hyſterical, cephalic, and nervous Co
taken inwardly, from two to twenty Drops. Externally
uſed in the Gout, Palſy, and Catarrhs, by rubbing it
Part affected ; with it is prepared the ſuccinated Balſam
phur ; and it is an Ingredient in the *Emplaſtrum Magn*
Angelus Sala.

Amber is an Ingredient in the *Trochiſci de Carabe*, in
Pilulæ de Succino, in *Charas*'s Stomach Plaiſter, and
diaphoretic and ſtyptic Plaiſters. *Geoffroy*.

Succini Poteſtates. Powers of Amber.

Take Oil of Amber, one Ounce ; volatile Sal A
half an Ounce ; grind the Oil and Salt well tog
little Mortar ; pour to them Spirit of Wine
half a Pound ; and put them afterwards into a B
invert a little Glaſs to make it fit for Circulation
well the Joint, and put it in warm Sand, to
Digeſtion for four or five Days, ſhaking it two
times every Day, in which time the Spirit of W
have imbibed the Oil and Salt ; ſet it by, and
cool, put it in a Phial well ſtopp'd, for Uſe.

This has the Virtues of the Oil, and is fitter for
tion internally, becauſe it better mixes with any V
the Conveniency of taking. Its Doſe is from ten
thirty or forty. *Quincey's Diſpenſat.*

Boerhaave's *Analyſis of Amber.*

Take a capacious Glaſs Retort, with its Neck
as to leave an Orifice two Inches wide or more ;
Pieces of common Amber, well cleanſed from Sand,
other Foulneſs, ſo that it may fill two thirds of the
Apply a large Receiver, and lute the Juncture with the
Luting ; diſtil in a Sand Furnace, with a Degree of
little greater than that of boiling Water ; thus there
over a copious, thin, limpid Oil : Continue this
Heat, ſo long as any Oil comes over, and keep it
Then apply the Receiver again, and cautiouſly raiſe
till a ſecond Oil begins to riſe, which will be yellow,
Quantity, and ſtill tranſparent : Proceed patiently
ſame Degree of Heat, ſo long as this Oil comes over
it continues to do for a conſiderable time ; but for the
of the Operation ; this alſo might be kept ſeparate.
again, raiſe the Fire gradually, till a white, ſaline
Matter appears in the Receiver, but particularly in the
then gradually raiſe this Fire a little, and continue it
till no more of this Matter comes over ; but the Fire
be increaſed too quick, otherwiſe the volatile Salt
with the groſs Oil, that ſhould follow after, and th
great meaſure loſt therein. It is beſt to remove the
take out the Productions, and keep them ſeparate ;
the whole time, that this volatile Salt runs, a re
comes over, ſtill almoſt tranſparent. The Fire being
creaſed to the utmoſt, there comes over a groſs,
Oil, thick like Turpentine. When this is riſen, i
Suppreſſion be given, the whole black Matter now
flatulent, riſes into the Neck of the Retort, and
into the Receiver, in form of a hard, black Maſs ;
the Neck of the Retort is not left wide, it will be
up, and the Glaſs be burſt in a dangerous manner,
Noiſe, and often a firing of the Matter. But if,
Fire of Suppreſſion was uſed, a large Quantity of
thrown upon this laſt Remainder, it will divide the M
cauſe it to come over, without Danger, in a black
Form. There remains at the Bottom of the Ret
ſmall Quantity of brittle Fœces, of ſcarce any Sig
that the whole is volatile. If the Operation be ca
formed, ſo many different Productions are obtain
may be purified by a new Diſtillation, and be rend
limpid ; but the volatile Salt, collected by itſelf,
acid. And this is the only Method, that I know,
true Acid is obtained in a ſolid ſaline Form ; for
Inſtance thereof in any other vegetable, animal,
Subſtance. Tartar indeed is acid, but as it is ſcarcely
in Water, does not deſerve the Name of a Salt. Oil
brought to an extreme Degree of Purity, ſhoots,
time, into tranſparent ſolid Cryſtals ; but immediately
again, and appears fluid as ſoon as the Cold is a
niſhed ; but the Salt of Amber long continues the ſame

REMARKS.

Amber thus appears to be a very particular Body ; its
ſembles the foſſile Oils of Petroleum, Naphtha, and

the Remainder, after the firſt or ſecond is come over,
y reſembles Jet, and the acid Salt ſeems ſomewhat vitri-
But the ſame thing, concreted, wonderfully differs from
Parts, into which Chymiſtry reſolves it. Who would
, that Amber, its Powder, its liquid Solution in Alcohol,
owder precipitated from its Tincture with Water after
llation, and then waſhed; the Oils, Salt, and Colo-
y after Diſtillation, proceeded from the ſame Matter?
could know the proper Virtues of each, and who, by
g them together again, could recompoſe Amber? The
being purified by a repeated Diſtillation, have a ſharp,
mic, exciting, diaphoretic, diuretic, emmenagogic, and
hyſteric Virtue, and when externally uſed, by way of Li-
nt, are very ſerviceable in reſtoring contracted, weak,
ytic, torpid Limbs: The volatile Salt is gratefully acid,
mic, unctuous, penetrating, preſervative, and ſtimula-
to the Nerves and Spirits, being a true, volatile, acid,
Salt, and therefore a capital Anti-hyſteric and Diuretic;
ially, if purified by a ſecond Diſtillation. *Boerhaave's*
iſtry.

e is a Drug very different from thoſe above-mentioned,
is called *Liquid-Ambar.* It is thus diſtinguiſh'd:

ID-AMBAR, *Offic. Cluſ. Exot.* 302. *Jonſ. Dendr.* 353.
t. Ind. Occid. 222. *C. B. Pin.* 502. *Park. Theat.*
Raii Hiſt. 2. 1848. *Liquid-ambar reſina arboris*
dictæ, foliis hederæ, odore Styracis liquidæ, J. B. 1.
Liquid-ambari arbor ſive Styracifera, aceris folio, fructu
le, (i. e.) *pericarpio orbiculari ex quamplurimis apicibus*
tato ſemen recondens, Pluk. Almag. 224. Phytog. Tab.
chiocotzb Quahuitl, ſeu arbor Liquid-ambarum Indicum,
96. *Styrax aceris folio*, Raii Hiſt. 2. 1848. *Styracem*
, vel Styrax arbor Virginiana, aceris folio, Breyn. Prod.
Platanus arbor Virginiana, aceris folio, potius Platanus
na Styracem fundens, Ejuſd. 2. 1799. *Platanus Vir-*
Styracem fundens, Herm. Par. Bat. Prod. 366. *Acer*
mum odoratum, Herm. Cat. Hort. Lugd. Bat. 641.
D AMBER.

ows in *Virginia*, *New-Spain*, and other Places of the
dies. The Part uſed is the Reſin, which is a fat liquid
ce, of the Conſiſtence of *Venice* Turpentine, yellow
to red, of an acrimonious Taſte, aromatic and fra-

ts and moiſtens, reſolves and opens Obſtructions, and
mollient and Ripener. Its principal Uſe is in Ob-
s and Hardneſs of the Womb, in hard Tumours, &c.
migations, and the like.
ndez ſays, that this Balſam diſtils from a Tree, either
ouſly, or from a Wound. Some break up the Branches
ll Bits, and, boiling them, ſkim off the Oil that riſes
Liquor, which they ſell for the true Balſam; and this
s thought by ſome to be the liquid Storax commonly
he Apothecaries and Druggiſts.
ROSIA. The Ambroſia, which ſome call Botrys, others
miſian Botrys, is a ſmall Shrub, three Spans high, very
anched, with ſmall Leaves at the Bottom of its Stem,
e of Rue, and its Sprays thick ſet with ſmall Seeds,
Cluſters, which never flower. The Plant has a vi-
grateful Smell. The Root is ſlender, and two Spans in
In *Cappadocia* they weave it into Garlands.
the Virtue of reſtraining and repelling the Courſe of
ours from any Part; and, uſed in a Cataplaſm, is a
ringent in the like Caſe. *Dioſcorides, Lib.* 3. *Cap.*

mbroſia of the later *Latins* is different from the Am-
Antiquity, as *Strabus* himſelf acknowledges in thoſe
his *Hortulus*:

d procul Ambroſiam, vulgo quam dicere mos eſt,
gitur, laudata quidem; ſed an iſta ſit illa,
us in antiquis celeberrima mentio libris,
dubium ex multis.

t far off is erected Ambroſia, as 'tis commonly called,
rb of good Value; but whether it be the ſame with
nbroſia ſo much celebrated in antient Books, is doubt-
many accounts."

ays, that Ambroſia is a Name of no fixed Signification,
able to more Plants than one. Some called the Botrys
Jeruſalem) by this Name. *Dioſcorides* reckons Am-
ong the στεφανωμάτικα (*Coronarian*) Plants; and
at the *Cappadocians* uſed it to make themſelves Gar-
λεπλέκονται δὲ ἐν Καππαδοκίᾳ στεφάνοις (*in* Cappadocia
it into Garlands). But *Nicander* tells us, that the
on of *Coronary Ambroſia* was by ſome beſtowed on the
s:

ῖνα, [illegible] ρια δ᾽ ἄλλοι ἐπιφθέγγονται ἀοιδῶν,
ὲ καὶ ἀμβροσίην.
I.

"Lilies, which ſome of our Poets call *Liria*, and others
"*Ambroſia*."

Athenæus himſelf puts the ſame Interpretation upon ἀμβροσία, (*Ambroſia*) in the hiſtorical Commentaries of *Caryſtius*, thus: Καὶ ἀμβροσίαν δὲ ἄνθος τι ἀναγράφει Καρύστιος ἐν ἱστορικοῖς ὑπομνήμασι γράφων οὕτως· Ὁ Νίκανδρος φησὶν ἐξ ἀνδριάντος τῆς κεφαλῆς Ἀλεξάνδρου τὴν καλουμένην ἀμβροσίαν φύεσθαι ἐν Κῷ (Caryſtius, *in his hiſtorical Commentaries, makes Ambroſia to be a Sort of Flower, when he writes, that* Nicander *affirms, that what they call Ambroſia grows out of the Statue of* Alexander'*s Head in the Iſland of* Coos). The Coronarian Ambroſia of *Nicander*, in the *Georgics*, is a Lily; but I don't know whether we ought to underſtand the fore-mentioned Paſſage as relating to the ſame Flower.

The greater Houſe-leek, or Sempervivum, is alſo called Ambroſia, as *Dioſcorides* aſſures us in the following Words, which, on the Authority of a very antient Manuſcript, are thus to be read, rejecting all other homonymous Terms, which are certainly ſpurious: Ἀείζωον μέγα ὠνόμασαι διὰ τὸ ἀειθαλὲς τῶν φύλλων· οἱ δὲ βούφθαλμον, οἱ δὲ ζωόφθαλμον, οἱ δὲ ἀμβροσίαν καλοῦσι (*The great Sempervivum is ſo called becauſe its Leaves are always green; ſome call it Buphthalmus, ſome Zoophthalmus, and others Ambroſia). Salmaſius de Homonym. Hyl. Iatr. Cap.* 62.

The modern Ambroſia is thus diſtinguiſhed:

AMBROSIA, Offic. Ger. 950. Emac. 1108. Raii Hiſt. 1. 164. Chab. 376. *Ambroſia hortenſis*, Park. 88. *Ambroſia hortenſis lanuginoſa*, Hiſt. Oxon. 3. 4. *Ambroſia maritima*, C. B. 138. Tourn. Inſt. 438. Boerh. Ind. A. 2. 102. *Ambroſia quibuſdam*, J. B. 3. 190. *Ambroſia foliis Abſynthii odoratis, humilior*, Herm. Hort. L. Bat. 32. OAK OF CAPPADOCIA.

It is a Plant which puts forth a ſingle Stalk about a Foot high, dividing itſelf into many Branches, in form of a little Shrub: Its Leaves are cut like thoſe of Wormwood, and are whitiſh; its Flowers are ranged along the Branches; every one of them is a Sort of Noſegay, conſiſting of many yellowiſh Florets, which produce no Seed; the Fruit grows upon the ſame Footſtalks as the Flowers, but ſeparately; and every one of them contains an oblong blackiſh Seed: Its Root is as long as one's Hand, woody and ſmall. All the Plant yields a ſweet Smell, and an aromatic Taſte, a little bitter, but agreeable. They cultivate this Plant in Gardens; it contains a great deal of exalted Oil, and but little Salt and Phlegm.

It revives the Heart and Brain; it ſtops Fluxions, it reſolves and fortifies; it is preſcribed internally and externally. *Lemery de Drogues.*

The Herb is in Uſe, which is of a repelling and reſtringent Quality, *H. Ox.* It has an aſtringent Virtue, ſays *Galen.* It is a Plant of a very fragrant Scent, hot and aromatic. *Boerh. Hiſt. Plant.* 569.

The Shortneſs of the Deſcription *Dioſcorides* has left us of Ambroſia, has given no ſmall Occaſion for Diſpute and Controverſy among Authors. *Nicander*, as is obſerved above, takes it for a Species of Lily; *Cordus*, for Southernwood; *Tabernæmontanus*, for Mugwort; *Matthiolus*, for a kind of Naſturticum; *C. Bauhine*, and his Followers, with whom we agree, to the Plant above-mentioned. *N. B.* The Catalogue prefix'd to the *London Diſpenſatory*, does not diſtinguiſh Ambroſia from the Botrys, but makes them both Synonymies of the ſame Plant. *Dale.*

Ambroſia, with the Antients, was called τὸ τῶν θεῶν βρῶμα (*the Food of the Gods*); either becauſe Mortals did not eat of it, or by eating became immortal; its extraordinary Fragrancy recommending it to the Gods themſelves. *Raii Hiſt.*

Beſides the common Sort deſcribed by *Lemery*, *Ray*, in his Appendix, mentions a ſecond Sort from *Herman. Cat. Lugd. Bat.* which he diſtinguiſhes by the Denomination of,

Ambroſia foliis Artemiſiæ inodoris, elatior, and gives it the following Deſcription:

It ſhoots up with Stalks, three or four Feet high, bearing Leaves leſs than thoſe of the common Sort, and nearly reſembling the Leaves of Mugwort, deeply jagged, green on the upper Part, but pale on the lower, and of no ſenſible Smell. The Flowers on the Tops of the Spikes, or Ears, appear very ſmall, are greeniſh on the Outſide, but blackiſh within; and are, every one, ſucceeded by a ſingle ſtriated Seed, very like that of the common Sort. It is propagated by Seed ſent from *Venice. Raii Hiſt. Append.*

Another Plant alſo called Ambroſia is the following, which happens to be an Ingredient in Mrs. *Stevens*'s Remedy for the Stone.

AMBROSIA CAMPESTRIS, Offic. *Ambroſia campeſtris repens*, C. B. Pin. 138. *Coronopus Ruellii*, Ger. 346. Emac. 427. Mer. Pin. 30. Raii Hiſt. 1. 843. *Coronopus recta vel repens Ruellii*, Park. Theat. 502. *Coronopus ſylveſtris, ſive Naſturtium verrucarium*, Cod. Med. 41. *Coronopus Ruellii, ſeu Na-*

ſturtium verrucoſum, J. B. 2. 919. Rupp. Flor. Jen. 67. *Coronopus Ruellii*, *Cornu cervi alterum vulgi*, Merc. Bot. 1. 31. Phyt. Brit. 31. *Naſturtium verrucoſum*, *Coronopus Ruellii*, Chab. 290. *Naſturtium verrucoſum*, *capſulâ bivalvi*, *aſperâ*, *ſeu hirſutâ*, Hiſt. Oxon. 2. 302. *Naſturtium ſylveſtre*, *capſulis criſtatis*, Tourn. Inſt. 214. Elem. Bot. 183. Boerh. Ind. A. 2. 12. *Naſturtium ſupinum*, *capſulis verrucoſis*, Raii Meth. A. 98. Synop. 3. 304. Dill. Cat. Giſſ. 162. *Naſturtio affinis monoſpermos*, *capſulâ verrucoſa*, Pluk. Almag. 262. SWINES CRESSES. *Dale*.

Ruellius's Buckſhorn, or Swines-creſſes, hath many ſmall and weak ſtraggling Branches, trailing here and there upon the Ground, ſet with many ſmall cut or jagged Leaves. The Flowers grow among the Leaves, in ſmall rough Cluſters, of a whitiſh Colour; which being paſt, there come in its place little broad and flat Pouches, in which the Seed is contained. The Root is white, thready, and in Taſte like the Garden-creſſes. *Gerard*.

AMBULATIO, Walking. Reckoned by *Celſus* among other Exerciſes which are ſerviceable in an Imbecility of the Stomach, ſuch as reading with an audible Voice, Exerciſes at Arms, or with the Ball, and Running. Concerning Walking, he ſays it is better when diverſify'd by aſcending and deſcending, than in a ſmooth and even Plain, becauſe it ſtirs the Body more, except it be very weak. It is better alſo to walk in the open Air, than under Piazzas; and better in the Sun, if the Head will bear it, than in the Shade; better in the Shade of Walls and green Hedges, than under a ſhady Roof; and, laſtly, better ſtrait forward, or in a right Line, than winding about. *Celſus*, *Lib*. 1. *Cap*. 2. Elſewhere (*Lib*. 6. *Cap*. 6.) he recommends much Walking in Dimneſs of the Sight.

It is generally ſaid, that Riding is a more healthful Exerciſe than Walking, which appears to me an Aſſertion a little too general. For Walking is much more effectual in promoting an Increaſe of muſcular Strength, and in imparting to the Fibres a due Elaſticity, than Riding. But where any of the Viſcera are much obſtructed, and a Patient is too weak to ſupport ſufficient walking Exerciſe, there Riding may be more beneficial. Upon the Whole, it may be ſaid, that Walking is beſt for the Preſervation of Health, but Riding for the Cure of Chronical Diſtempers; for in thoſe that are acute, neither is adviſable.

AMBULO. This is the Name of a Diſeaſe, which has the Epithets *Flatulentus* and *Furioſus* beſtowed upon it. It is likewiſe called *Flatus furioſus*. It is an Inflation or Diſtention, attended with Pain, and variouſly periodical. It takes its Riſe from ſubtile Vapours, forcibly ſhooting themſelves up and down through the various Parts of the Body, as it is deſcribed and propoſed, in a particular Caſe, by *D. D. Joh. Michael*, *Prax. Clinic. Special. Caſe* 19. *Caſtellus*.

AMBULON, called by *Ray*, in his Hiſtory of Plants, the *Ambulon* of *Scaliger*. This is the Name of a Tree growing in the Iſland *Aruchit*, the Bark of which ſends forth a Fruit reſembling Sugar, and of the Bulk of a Coriander-ſeed. *Raii Hiſt. Plant*.

AMBUSTA, Burns. Theſe require Remedies that are deterſive, in a moderate Degree, without a manifeſt heating or cooling Quality. For this Reaſon, Earth of Chios, white Lumberſtone, Earth of Candy, and any Sort of light Earth, moiſtened with Vinegar, not very acrid, or Water, and applied to the affected Part, are very proper Medicines, and prevent the Eruption of Puſtules. A whole raw Egg, immediately applied, is alſo very good in ſuch a Caſe; for it moderately refrigerates, and dries without Mordacity. Anoint alſo the Place with Ink, *(it is not known what Sort of Ink the Author means)* or Frankincenſe, diluted with Water, or ſpread it over with boiled Lentils bruiſed, or bitter Vetches.

For Burnings by hot Water, before Bliſters ariſe, waſh them with the Water of pickled Olives, and apply the Olives themſelves, bruiſed, with Polenta; or anoint the Place with plumous Alum pounded with Vinegar, or with Bull's Gall infuſed in much Water; or waſh it with Lye, Garum, or Brine; or anoint the ſame with the Roots of Lily, Hyacinth, or Narciſſus, bruiſed with Oil of Roſes, and reduced to a ſtrigmentitious Conſiſtence.

Marcellus has left us the following Preſcription for ſuch Caſes:

Dip a Woollen Rag in Honey, and, covering it with Barley, burn it; then, with eight Drams of the Aſhes, mix four Drams of Ceruſs, eight Drams of Butter, of Wax, Fat of a Goat, and Oil of Roſes, each ſixteen Drams. But if the Bliſters are riſen, apply Sumach, and Polenta bruiſed; or Quick-lime, mixed with Cerate, and tied up in Linen. If the Part be ulcerated, cover it with bruiſed Leeks, or apply Purſlane bruiſed with Polenta; or burn Pigeons Dung, wrapped in Linen, and uſe the Aſhes diluted with Oil; this is an admirable Remedy. The Bark of the Pine or Fir Trees, dried Maidenhair, and burnt Myrtle-leaves, pulverized, are good to ſtrew on the Place.

Either of theſe is proper alſo, in Compoſition
rate.

The following are good Remedies:

Take of the dried Root of Alkanet, pulverized, four
white Wax nine Onces, Oil of Roſes eighteen
mix them. Or, prepare Ceruſs, with a modera
tity of Stags Marrow. *P. Ægineta*, *Lib*. 4. *Cap*.

A Cerate for Burnings and Eryſipelas is prepared
Ounces of white Wax, three Ounces of Oil of Roſes,
Ounces of Pellitory of the Wall. After the Inflam
gone, or, if it continues long, before the Part becom
apply a Cataplaſm of crude Barley-meal. If the Place be
livid, let it be ſcarified, and the Cataplaſm the long
and the Part waſhed with freſh Water, and ſometi
Sea Water, and Brine; and theſe may be ſometimes
with the Cataplaſm. *Idem*, *Lib*. 4. *Cap*. 21.

Whenever this Misfortune happens make no Delay,
the firſt Earth that comes to Hand, and apply it moiſt
Water, and afterwards waſh the Place with warm
then take Verdigriſe, and Spuma Argenti, of each
Quantity, bruiſed, with Wine and Oil, and anoint
with a Feather, not touching it with your Hand, bu
over it a Piece of fine Linen Cloth. If Bliſters ariſe
them in the Beginning; but if they have been ſuffere
den, break them, and apply a Cerate. For this Pur
following Paſtil may be prepared, and reſerved for Uſe
caſion:

Take of Alum four Drams, Frankincenſe two
bruiſe them, and make them up with Water in
Or, take of white Lumberſtone two Ounces,
Frankincenſe, burnt Miſy, each ſix Drams;
up as the foregoing, and uſe them both with
Bliſters ariſe, apply Sumach and Polenta, bruiſ
gar, or Hog's Gall boiled; or anoint the Place
with the Juice of Henbane, and the Bliſters
away. If the Part be excoriated, and ulcera
the Leaves of Beet, boiled in Wine and bruiſed,
the Juice of Beet into liquid Cerate of Oil
much as it will imbibe: The juſt Proportion
Parts of Oil to one of Wax, and as much Juice
cient. Uſe this, and you will admire the Effe

The following ſpeedily cicatrizes the Sore:

Take of Ceruſs, Spuma Argenti, Barley burnt
each one Ounce; Wax four Ounces, Oil of
Oil of Myrtle, nine Ounces; mix the Barley
liquid Cerate, and add thereto the Spuma Ar
Ceruſs, bruiſed in a Mortar with Wine. *Actu*
4. *Serm*. 2. *Cap*. 64.

To make Hair grow on the burnt Place,

Roaſt Fig-leaves in an earthen Pot, and apply
Cerate, in the manner of a Plaiſter. *Actua*
Med. *Lib*. 6. *Cap*. 8.

It may not be thought improper, that we account
Ambuſtion, a kind of Inflammation; for not only
Signs and Symptoms, but generally the ſame Events
both. We call that Hurt which the Body receives,
Fire itſelf, or from Bodies put in a violent Heat and
cence by the Fire, *Ambuſtion*, *Uſtion*, or *Aduſtion*
among the Cauſes of Ambuſtion, we are to reckon
Fire itſelf, but every heated Body, as well hard B
Inſtance, glowing Coals, hot Iron, or other Meta
and liquified by the Fire, as Gunpowder, and ferm
ſuch as hot Water, Beer, Wine, Oil, Spirit of Wi
like.

As ſoon, then, as any thing of this Nature is ap
Body, there follows of neceſſity a Corrugation and
the Fibres and little Veins, with an Effuſion of the
Humours into the adjacent Parts, where they ſtagna
rupt. But as Ambuſtions, cauſed by ſolid Bodies,
conſtantly more grievous than what are received fr
ſo the Miſchief is univerſally proportioned to the
Vehemence of the Combuſtion, juſt as it is in al
tions.

Now Burns may, not improperly, be divided into
The firſt and leaſt ſeems to be, when the Part
Pain attended with Heat and Redneſs, and ſucce
time by a Puſtule. The next Degree is, when,
buſtion, there is an immediate Eruption of Puſt
grievous Pain. The third Degree is, when the Sk
jacent Fat are burnt in ſuch a manner, that they
to a Cruſt. The laſt is, when the Ambuſtion
that it penetrates and deſtroys almoſt every thing
the very Bone. The third Degree reſembles a G

celus: Whence it alſo appears, that Ambuſtions resemble Inflammations, and are known, in their Degrees, by nearly the ſame Signs.

ent of Ambuſtions depends partly on the Degree, e Uſe and Excellency of the Part affected. For the ous the Ambuſtion, or the more noble the ſuffering nore is the Danger to be apprehended. Therefore it lighter Evil, if the Hand or a Finger contract a n a Scald by Fire, than if the Eye be thus affected, ighter manner; for ſo tender and noble a Part of the ardly bear Ambuſtion, without Danger of loſing the e are, beſides, to eſtimate the Miſchief by the Inve- Extent of the Ambuſtion; for the deeper the Fire ted the Body, or any Part of it, or the wider its the greater is the Evil to be accounted. Thus when Body has, tho' but ſlightly, felt the Flame of a Fire, powder, or boiling Liquor, it is a very bad Misfor- the miſerable Patients being unable to ſit, or lie, or eaſon of their moſt acute and intolerable Pains, a muſt neceſſarily come on, with a febrile Diſorder, t laſt by a Sphacelus, which terminates in Death; fatal an Event is rather to be expected in Infants s; for the firſt are deſtitute of Strength and Patience, Sagacity to chuſe the moſt commodious Situation. the deeper the Ambuſtion reaches, the more threat- Danger. Ambuſtions of the Face are very much to , not only on account of Deformity by Eſchars, but as they often cauſe the Eyelids to grow together. If happens to be burnt, the Patient is almoſt ſure to wry-necked, without convenient Aſſiſtance. As to uſtions, it will be eaſy to paſs a Judgment on them has been ſaid, after throughly conſidering the Nature cted Parts.

mbuſtion is not unlike an Inflammation, with reſpect , ſo the Method of Cure in both is much the ſame. re happens a ſlight Ambuſtion, or one of the firſt e moſt proper Medicines, on all accounts, are Re- of which there are two Kinds principally to be the *aſtringent*, and the *emollient*. Mild Aſtringents of Wine, either the common Sort, if good, or r alſo camphorated; let the Part affected be im- this Spirit, or be carefully fomented with Linen t therein. This is much recommended by *Sydenham*. oſt the ſame Efficacy are Vinegar lithargiriſed, and pickled Cabbage, or Oxycras boiled with Salt, and in the ſame manner as Spirit of Wine, before Oil of Turpentine alſo is to be had in Readineſs, the Part is to be timely and frequently anointed. In would not be improper, in ſuch a Caſe, to hold the , ſuppoſe a Hand, or a Finger, to the Flame of a to the Fire, and to keep it as near, and as long, as an be ſuffered; or alternately to preſent and remove Senſe of the Pain and Heat be remitted. For by not only the ſtagnating Blood, by the mere Vehe- the Fire, is reduced to its former State, but alſo nd other grievous Symptoms, are very ſeaſonably ; and ſo the firſt Degree of Ambuſtion is, for the with no great Difficulty, healed; eſpecially if the above adviſed are, at the ſame time, applied.

y almoſt to this, but equally proper and efficacious, is d of Cure by *Emollients*. By this means whatever is , or corrugated, among the ſmaller Veins and Fibres, , and conſequently the natural and free Circulation od through the ſame is reſtored, and thereby thoſe mptoms, which might otherwiſe have happened, are Water of a moderate Degree of Heat, and accom- o the Senſation of the afflicted Part, is of no ſmall this Caſe, by dipping a folded Linen Cloth therein, ng it to the Place, and now-and-then moiſtening it the Senſation of the Heat and Pain wears off by De- this warm Water uſes to be more effectual when Marſh-mallows, or Mallows, or Mullein, Linſeed, , Seeds of Quinces, and other ſuch emollient Medi- fter this, ſome of the moſt proper emollient Cata- hich are either prepared with the before-mentioned made up of any other common Pulp, are to be pro- frequently applied as hot as the Patient can bear; ulps have a mollifying Virtue. Beſides theſe, there nt Oils (*a*) of known and ſufficient Virtue; ſuch as nſeed, Oil of ſweet Almonds, of Olives, of white Henbane, and others of the like Kind. Theſe are n Linen, and ſo applied; or by frequently anointing y means of a Feather, when they grow dry. And, muſt not omit taking Notice of *Mynſicht's* Ointment tions, which is an excellent Lenitive, and prepared of Olives, or Linſeed, mixed with the White of an applied in the ſame manner as the reſt; the Muci- inces is very good alſo in this Caſe. But it is to be nce for all, with reſpect to the Medicines hitherto preſcribed, that they are of little or no Service, unleſs frequently renewed: And if the Burn happens to be in the Face, it will be convenient to wear a Sort of Linen Maſk, well fitted, for the more commodious Application and Retention of the Medicines upon the Part, and to keep it always moiſt. If the Miſfortune happens in the Neck, to prevent a Wryneſs, you muſt have recourſe, by way of Precaution, to a peculiar Sort of Bandage, called by the Surgeons FASCIA DIVIDENS. See FASCIA.

In the ſecond Degree of Ambuſtion, which is attended with a Bliſter, it ſeems improper to open the Veſicles, or cut the Skin already lacerated, becauſe of the vehement Pain to which it uſually puts the Patient: But the beſt way, in theſe Caſes, for the moſt part, is, with all the Haſte poſſible, to apply one or other of the before-mentioned Medicines, which of them comes firſt to Hand, as warm Water, burnt Wine, or Spirit of Wine, and to be very frequently renewing of the ſame. For by this means not only the Heat and the Pain are mitigated, but the Skin, tho' ſeparated from the Cuticula, or Scarf-ſkin, is preſerved almoſt without any Blemiſh. If the Pain continues, lenitive Remedies are to be uſed: Here the moſt celebrated Topics are Oil of Linſeed, *Mynſicht*'s Ointment for Ambuſtions, Unguentum Nutritum, Ointment of Litharge, or Diapompholyx; with theſe you muſt very often anoint the Place, or ſpread them on Linen, and bind them to the Part affected. As the Pain and Heat gradually decreaſe, ſome proper Plaiſter, as that of red Lead, ought to be applied, in order to ſmooth the Skin, and reſtore the Cuticula. If this ſecond Degree of Ambuſtion be more intenſe than ordinary, and affects a great Part of the Body, it will be neceſſary forthwith to take away ſome Blood, in proportion to the Meaſure of the Ambuſtion, even till the Patient faints, in order to prevent Exulcerations, Deformities by Seams, and perhaps a Gangrene; after which a ſtrong Cathartic muſt be adminiſtered. Outward Topics are ſuch as have been already preſcribed: For Infants, where Bleeding is not ſo convenient, Purging muſt be iterated, for the ſake of Revulſion. As to the reſt, a very ſtrict Regimen of Diet is to be obſerved in Ambuſtions, as well as in other painful or dangerous Wounds and Inflammations; wherefore the thinneſt and ſmalleſt Drinks, and ſorbile Liquors, are highly proper in ſuch a Caſe; for whatever is heating, or taken to Intemperance, has very pernicious Effects, as it increaſes the Pain and Heat. The celebrated *Digby* thought nothing more effectual in aſſwaging the Heat ariſing from Ambuſtion, than Spirit of Salt, taken to the Quantity of ten or fifteen Drops, either alone, or inſtilled in ſome Liquor. All theſe Things being readily and carefully provided and adminiſtered, as before directed, it is ſurpriſing with what Succeſs the affected Parts are comforted, cheriſhed, and reſtored, and all the miſchievous and threatening Conſequences avoided.

As to the third Degree of Ambuſtion, in which a Cruſt or Eſchar immediately overſpreads the burnt Part, it can hardly, or rather not at all, be cured without a Suppuration. If the Misfortune happens to the Face, our principal Care and Concern ſhould be to preſerve that Part from unſeemly Blemiſhes remaining after the Cure. In this Circumſtance, therefore, we are to avoid almoſt all Kinds of Ointments and Plaiſters, however they come recommended as the rareſt Secrets, and the moſt powerful Medicines for Ambuſtions. For it is to be fear'd, that, while they dry the Wound more than is requiſite, they ſhould contract the Skin and Fibres, and by that means induce a very deforming, or, at leaſt, an unſeemly Eſchar. Wherefore there is nothing for which we ſhould be more careful, than, with all the Speed we can, to remove that corrupt Cruſt, and the Matter included under it; but how to effect this, in the moſt commodious way, is a difficult Point to hit. To tear them off by Violence with the Hands, or cut them away, is far from being beneficial to the poor Patient: But if there be any Remedies at all, which are qualified to work a happy Cure upon an Ambuſtion, there are none, within the Compaſs of my Obſervation, that are more proper for the Purpoſe than ſuch as are compoſed of Emollients. Whatever therefore of this kind, among thoſe we have adviſed, can ſooneſt be got ready, is to be ſpread upon folded Linen, and applied hot to the Place, and very often renewed, till the hard Cruſt, looſening by Degrees, be at length ſevered from the quick Fleſh. If any thing be ſeparated, and lie looſe, it muſt be removed and taken off by the Volſella, as often as the Place is dreſſed, which muſt be two or three times a Day, and the remaining Part of the Cruſt muſt be anointed with Butter: Fomentations alſo are, upon no Account, to be omitted. This Part of the Cure takes up two, and ſometimes three or four Days. All the Cruſt being reſolv'd in the manner preſcribed, our next Care is to cleanſe and agglutinate the Wound. The firſt Intention is anſwered by ſome mild digeſtive Ointment, together with Honey of Roſes; and the agglutinative Part is performed by the Ointment of Diapompholyx, or of Litharge, or the Emplaſtrum ad Ambuſta, which are the moſt common and celebrated Medicines for this Purpoſe. But if any Plaiſters, or Ointments, are applied upon

pretty

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y, *Lib.* 23. *Cap.* 4. *recommends Oil of Myrtle for Ambuſtions.*

pretty hard Cruſts, it is very much to be feared, that, by reaſon of the Conſtriction of the adjacent Parts, and an Exaſperation occaſioned by the Acrimony of the Matter, or Sanies, ſome conſiderable and deforming Eſchar will remain. However, if any Perſon ſhall undertake the Cure after this Method, which is the common way of Surgeons, he ought to be adviſed, that, except the Cruſt ſhall fall off the ſecond or third Day, he is to make frequent Inciſions in it, as in Gangrenes, in order to let out the Matter that lies under it; and, after Bleeding and Purging, which are neceſſary in the firſt Place, the Fomentations, before recommended, are to be carefully uſed, in order to mollify and totally reſolve the Cruſt. An exact Regimen of Diet is found to be more neceſſary in this than in the former Method of Cure. To reſtore the Skin to its priſtine State, there is no Remedy to be compared with frequently fomenting the Part affected, as it grows well, with the Steam of hot Water. If the Reſtoration of the Skin goes on but ſlowly, it will not be amiſs to promote the ſame by the Application of Wax, and the Oil of Eggs.

As to the fourth, which is the higheſt and moſt deſperate Degree of Combuſtion, where the Burning has penetrated to ſuch a Depth as to corrupt and mortify all before it, almoſt to the very Bone, all Remedies are vain and uſeleſs; and there is no way left to aſſiſt the Patient, but by ſpeedily cutting off the affected Limb, as is done in a Sphacelus. *Heiſter*, *Lib.* 4. *Cap.* 15.

The following Method of curing Burns is recommended in the *Philoſophical Tranſactions*.

I can affirm, that in all Burnings, by Fire or otherwiſe, and the Pains occaſioned thereby, I have not yet met with any better and ſurer Medicine than this following:

Take Spirit of Earth-worms, with rectified Spirit of Wine, twelve Ounces, mixed with two Ounces of Camphire.

No ſooner is a Bandage, or Compreſs, dipped into this Spirit, applied to the affected Part, but it will give inſtant Relief, and ſo effectually check the Inflammation, that it will creep no farther: But the Application of it muſt be continued till the Pain is quite gone, and the Ulcer, if there hath been any, is dried up. If the Exulceration is got deeper, and the Wound muſt be kept open, two Ounces of Camphire, diſſolved in Oil of St. John's-wort, mixed with a Pound of the common Unguentum Ceruſſæ, applied according to Art, will quickly and effectually heal it, as I have often experienced.

There are, in the *Hiſtory of the Royal Academy of Sciences*, two remarkable Inſtances of Cures performed by accidental Burns, which muſt not be omitted.

Of Cures performed by Burning.

CASE I.

Some violent Pains of the Head have been ſuddenly and unexpectedly cured. A Lady of thirty-five Years of Age, and of a good Conſtitution, laboured under a continual Head-ach, and was ſeized with ſeverer Paroxyſms, which returned regularly once in eight or ten Days, and laſted ten or twelve Hours with ſuch Violence, that ſhe ſometimes appeared ſtupid, and ſometimes furious. The Seat of her Pain was principally in her Forehead, and her Eyes, which were now become very red and ſparkling. Her grand *Paroxyſms* were accompanied with a *Nauſea*, and terminated by vomiting up a viſcid Matter, white, ſoft, and inſipid, which, in the very Concluſion of the Fit, was followed by a green, but very bitter Water. During the Paroxyſms ſhe could eat nothing, but had a very good Appetite at other times; and had not loſt her natural good Plight of Body, notwithſtanding the long Continuance of her Indiſpoſition.

Mr. *Homberg*, in vain, preſcribed a vaſt Quantity of Medicines for three Years ſucceſſively. Opium was the only one which could, for a few Hours, relieve her ordinary Head-ach; but her Paroxyſms were entirely Proof againſt its Virtues.

One Night, when ſhe felt a Fit coming upon her, and was going to Bed, ſhe had an Inclination, before ſhe lay down, to ſee whether her Eyes were much inflamed or not. Accordingly as ſhe was looking at herſelf in a little Pocket Looking-glaſs, the Flame of a Wax-candle, which ſtood by her, ſet Fire to her Night Head-dreſs, which was made of pretty thick Cloth; being all alone, and not adverting to what had happened, the Fire burnt all her Forehead, and a Part of the Crown of her Head, before ſhe could call People to extinguiſh it. Mr. *Homberg*, who was forthwith called, ordered ſome Blood to be inſtantly taken from her, and treated the Burn in the ordinary manner, the Pain of which ceaſed in a few Hours: But the Paroxyſm, which was expected, did not ſeize her; even the ordinary Pain of her Head diſappeared almoſt from that very Moment, without the Help of any other Medicine than the Burning; and ever ſince that Accident happened, which is now about four Years, the Lady has enjoy'd a perfect State of Health.

CASE II.

A Phyſician of *Bruges* has communicated to Mr. a Caſe of the like Nature, of which he himſelf was a A Woman who, for many Years, had her Legs extraordinarily ſwelled, and very painful, found Ea bing them with Brandy before a Fire, every Night ing: One Evening the Fire accidentally catched with which ſhe had rubbed the Parts affected, and very ſuperficially; upon which ſhe applied ſome O the Burn, and all the Waters, which diſtended her Thighs, diſcharging themſelves by Urine in the the Swelling returned no more. 'Tis great Pity ſhould not more frequently act the Part of a Phyſici *may add, ſtill a greater, that Phyſicians will not Leſſons taught them by Chance).* Accident has, taught this Sort of Remedy to many barbarous Na uſe it with Succeſs; and, perhaps, the rather, that it affords them an Opportunity of ſhewing their Co *Homberg*, who was born in the Iſland of *Java*, ſays, bers that when the *Javans* were afflicted with a ce or painful Flux of the Belly, which ordinarily proved uſed ſometimes to cure themſelves by burning the So Feet with hot Irons. If they have a *Panaris*, which is a Paronychia, a Diſeaſe incident to the Fingers, they ſelves by ſoaking the Finger affected in boiling W times, and letting it remain in the Water for an In each Immerſion; and Mr. *Homberg* himſelf, follow Caſes the Cuſtoms of his native Country, cured h *Panaris* in this very manner. In the Relations of we have Accounts of a great many Maladies which cure by Burning; and, without going ſo far, we our this Remedy to Horſes, Hounds, and Birds of Prey, it muſt be owned, our Delicacy will not allow us to ourſelves, which is perhaps the Reaſon why we lab laſting Diſorders, which, by this means, might be ſhort.

The Delicacy of the *Europeans* could not long p to uſe that kind of DOWN, brought by the *Spaniards* *rica*, which cured the GOUT when burnt on the Pa Mr. *Homberg*, nevertheleſs, ſaw a Burgeſs of *Amſter* by the Uſe of this Medicine, freed himſelf of a Fit o in ſeven or eight Days, which uſed to laſt two or thr and the Returns of his Paroxyſms were rendered leſs

Mr. *Homberg* thinks, that Burns may perform Cu different manners; either by putting the peccant Hu quicker Motion, which makes them fly off through or by rendering them more fluid, which, in Effect, with the former; or, thirdly and laſtly, by deſtroyi the Canals which bring the Humours, in too great to the Part affected. *Hiſt. de l' Academie Royale An.* 1708.

AMEDANUS. The Alnus vulgaris is thus *Creſcentius*.

AMELANCHIER, a Name for a ſort of Bilbe by *Parkinſon*, *Vitis Idæa tertia Cluſii*. THE HONEY SWEET WHORTS. See VACCINIU

AMELLUS: This is the Name of an Herb whi Name from the River *Mella* in *France*, on the Bank it grows in great Plenty.

Virgil numbers this amongſt the Plants which are able to Bees. *Georg.* 4.

Eſt etiam flos in pratis, cui nomen Amello
Fecere agricolæ, facilis quærentibus herba.
Namque uno ingentem tollit de ceſpite ſylvam
Aureus ipſe: Sed in foliis, quæ plurima circum
Funduntur, violæ ſublucet purpura nigræ.
Sæpe Deûm nexis ornatæ torquibus aræ.
Aſper in ore ſapor: Tonſis in vallibus illum
Paſtores, & curva legunt prope flumina Mellæ.
Hujus odorato radices incoque Baccho,
Pabulaque in foribus plenis appone caniſtris.

Some Botaniſts ſay, it is the *Caltha Paluſtris*. O it is a Species of the CONYZA, or of the ASTER M According to *Dale*, it ſhould be the *Aſter Atticus*.

AMELPODI, a Name given to four different T grow in the *Indies*.

The firſt is the *Amelpodi*, H. M. or *Arbor Ind floribus umbellatis tetrapetalis*.

The Root of this is eſteem'd by the Inhabitants *nate* where it grows, to be an Antidote againſt the B pents, if worn about them.

The ſecond is the *Belutta Amelpodi*, or *Frutex ἄκαρπος, foliis binis adverſis, floribus pentapetalis unguibus luteis*.

The Root of this, bruis'd, and taken with Wat againſt the Bites of Serpents; and is eſteem'd a good the Gout.

third is the *Sjouanna Amelpodi*, or *Frutex Indicus Pen-*
, gemina Bacca, Calyce excepta.
Root of this is recommended againſt the Bites of Ser-
d Scorpions.
fourth is the *Karetta Amelpodi*, or *Baccifera Indica flo-*
bellatis, Fructu rotundo tricocco.
ecoction of the Leaves of this Tree are eſteem'd a Re-
r the Colic.
Root, if only worn in a Purſe, is ſaid to be an Antidote
he Bites of Serpents.
the Leaves and Roots boil'd in Oil of Olives, a Lini-
prepar'd, which is ſaid to be excellent for reſolving
umours. *Raii Hiſt. Plant.*
NE, common Salt. *Rulandus.*
NENOS, ἀμενηνός, from α Negative, and μένος,
, weak, feeble. It is frequently us'd by *Hippocrates*
enſe.
NTIA, Madneſs. See MANIA and DELIRIUM.
NTUM, Sciſſile Alum. *Rulandus.*
RI, Indigo. See ANIL.
THODICUM, Immethodical. *Blancard.*
THYSTA PHARMACA, ἀμέθυϛα φάρμακα, from
ive, and μέθυ, Wine. Medicines which either pre-
take away, the inebriating Effects of Wine. *Galen*
ſitione Pharm. L. 2.
THYSTUS, a precious Stone, thus diſtinguiſh'd:
yſtus, Offic. Kentm. 48. Boet. 162. Charlt. Foſſ.
orm. 99. De Laet. 24. Aldrov. Muſ. Metall. 966.
62. Calc. Muſ. 189. Geoff. Prælect. 84. Mont.
. THE AMETHYST.
precious Stone, of a violet Colour, which ariſes from
e of red and azure; and it is found in *India*, *Arabia*,
Dale.
d, beautiful, ſhining, tranſparent, precious Stone, of
here are ſeveral Species; ſome are white, others red,
a violet Colour: It comes from the *Indies*. 'Tis
d, that it prevents Drunkenneſs, being worn on the
or bruiſed and drank in Powder; but this Virtue is
ginary. However, hence it receives its Name. See
YSTA.
ood to ſtop a Looſeneſs, and to abſorb the acid Parti-
n too much abounding in the Stomach, which Virtue
common with other alcaline Subſtances.
y adds, that the Chymiſts have endeavoured to extract
s from theſe coloured Gems; but it is not certain
ever they ſucceeded; or if they did, what the Uſe of
ctures is. *Geoffroy.*
TRIA, ἀμετρία, among the *Greek* Phyſicians, was
the ſame Senſe with the *Latin* Words *Immoderantia*,
deratio. It is in general a Receding in any Degree
ue Temperament. *Galen.*
, the Name of a Fiſh, reckon'd by *Aetius* among
e of a hard Fleſh. *Aetius, Tetr.* 1. *Serm.* 2.
ſays, it grows ſo faſt, that you may perceive it every
Nat. Hiſt. Lib. 9. *Cap.* 13.
NTUS
Boet. 382. Geſn. de Lap. f. 6. Aldrov. Muſ.
657. *Amianthus*, Worm. 55. Calc. Muſ. 286.
346. Charlt. Foſſ. 23. *Lapis Amiantus*, Matth.
Laet. 118. *Amianthus, ſive Aſbeſtus*, Ind. Med. 8.
-FLAX. *Dale.*
miantus Lapis is generated in *Cyprus*, and is a Stone
le Alum. As it may be drawn into Threads fit to be
hey work it into Cloth, only fit for Show, which,
the Fire, takes indeed the Flame; but inſtead of be-
med, comes out the purer and brighter. *Dioſcorides*,
ap. 156.
ed as an Ingredient in Pſilothra, [Medicines to take
Paul. Æginet. Lib. 6. *Cap.* 3. And *Myrepſus*
enter the Compoſition of his Citron-ointment for
of the Skin. *Sect.* 3. *De Unguentis, Cap.* 42.
lieved to be effectual againſt all manner of Witch-
ecially ſuch as proceeds from Women. *Schroder in*

ys it has a particular Prevalence againſt the Sorceries
ans. *Lib.* 36. *Cap.* 19.
o ſaid to reſiſt Poiſons, and to cure the Itch.
re of the Amianthus will appear from the following
tions, collected in the Abridgment of the Philoſophical
tions.

Marco Antonio Caſtagna, Superintendant of ſome
Italy, hath lighted, in one of them, upon a great
of that lanuginous Stone called *Amianthus*, which he
to prepare, as to render it like either to a very white
o a very white Paper, both which reſiſt the moſt
re. The Skin was covered with kindled Coals,
took Flame; but being taken out, after it had been
a while, the fiery Colour preſently diſappeared, and
it became cold and white again as before; the Fire, it ſeems, paſſing only through, without waſting or altering any thing of it; whereas ſome of the hardeſt and ſolideſt Metals, as Iron and Copper, reduced to very thin Plates, and kept as long in the Fire as this Subſtance was, would caſt Scales. Again, this Skin, being made as thin as Paper, doth not only yield that antient and ſo much admired *Amianthus*, but is alſo perfecter than that which comes from *Cyprus*, and not inferior to that which ſometimes, though but ſeldom, comes out of *China*. This Paper was alſo try'd in the Fire, and there it remain'd likewiſe without any viſible Detriment, or without the leaſt Change of its firſt Whiteneſs, Fineneſs, or Softneſs. Of the ſame Matter this Artiſt hath wrought a Wick, never to be conſumed as long as 'tis fed, nor altering its Quality after the Aliment is waſted away.

The *Lapis Amianthus*, or *Linum Foſſile Aſbeſtinum*, is found in no ſmall Quantity in *Llan-Fairyng Hornwy*, in the Northern Part of *Angleſey*, where it runs in Veins through a thick Stone, in Hardneſs and Colour not unlike Flint. Theſe Veins are generally a Quarter of an Inch deep, which is the Length of the *Amianthus*, and is ſeldom longer, but often ſhorter. It is compoſed of a lanuginous Matter, exactly reſembling that of pappous Plants; but ſo cloſely compact, that till you draw a Pin, or any ſuch ſharp thing, croſs the Grain of it, it appears only a ſhining Stone, there being not the leaſt Filament of Lint to be perceived in it. In its natural Form, ſome of it looks whitiſh, and ſome ſtraw-coloured, but all ſhining; but if pounded in a Mortar, the Brightneſs diſappears, and the Whole becomes whitiſh. *Note*, that above and beneath the Veins there is a very thin *Septum* of terrene Matter, betwixt the *Amianthus* and the Stone whereto it adheres. I put a ſmall Quantity of the Lint in the Fire, which grew red-hot; but tho' it remained there a Quarter of an Hour, I could not perceive that it was any thing conſumed. I twiſted alſo ſome of it in the Form of a Wick, and dipping it in Oil, it gave as good a Flame as other Wicks, till the Oil was conſumed, the Wick remaining of the ſame Proportion as at firſt. Being ſatisfied it was incombuſtible, I pounded ſome Quantity of it in a ſtone Mortar, till it became a downy Subſtance; then I ſifted it thro' a fine Searce, by which means the terrene Parts (being reduced to a Powder) came thro' the Searce, the *Linum* remaining. I then brought it to a Paper-mill, and putting it in Water, in a Veſſel juſt capacious enough to make Paper with ſuch a Quantity, I ſtirred it pretty much, and deſired the Workmen to proceed with it in their uſual Method of making Paper, with their Writing-paper Mould, only to ſtir it about ever before they put their Mould in, conſidering it as a far more ponderous Subſtance than that they uſed; and that conſequently, if not immediately taken up after it was agitated, it would ſubſide. Paper thus made of it, proved but very coarſe, and too apt to tear. But this being the firſt Trial, I have ſome reaſon to believe it may be much improved.

I here ſend you the Account of the *incombuſtible Linen-cloth*, which I received from one *Conco*, a natural *Chineſe*, reſident in the City of *Batavia*, in the North-eaſt Parts of *India*, who by means of *Keayarear Sukradana*, (likewiſe a *Chineſe*, and formerly chief Cuſtomer to the old *Sultan* of *Bantam*) did, after ſeveral Years Diligence, procure from a great *Mandarin* in *Languin*, (a Province of *China*) near three Quarters of a Yard of the ſaid Cloth; and declared, that he was credibly informed, that the Princes of *Tartary*, and others adjoining to them, did uſe it in burning their Dead; and that it was ſaid, and believed by them, to be made of the under Part of the Root of a Tree growing in the Province of *Sutan*, and was ſuppoſed, in like manner, to be made of the *Todda-trees* in *India*; and that of the upper Part of the ſaid Root near the Surface of the Ground, was made a finer Sort, which, in three or four times burning, I have ſeen diminiſh almoſt half. They report alſo, that out of the ſaid Tree there diſtils a Liquor, which not conſuming, is uſed with a Wick made of the ſame Materials with the Cloths, to burn in their Temples to Poſterity.

A Handkerchief, or Pattern of this *incombuſtible Linen*, which was ſhewn the *Royal Society*, was a Foot long, and juſt half a Foot broad.

There were two Proofs of its reſiſting Fire given at *London*, one before ſome of the Members of the *Royal Society* privately, *Aug.* 20. 1684. when Oil was permitted to be poured on it whilſt red hot, to enforce the Violence of the Fire. Before it was put into the Fire this firſt Trial, it weighed one Ounce ſix Drams ſixteen Grains; and loſt in the Burning two Drams five Grains.

The ſecond Experiment of it was public before the *Society*, *November* 12. following, when it weighed (as appears by the Journal of the Society) before it was put into the Fire, one Ounce three Drams eighteen Grains. Being put into a clear Charcoal-fire, it was permitted to continue red-hot in it for ſeveral Minutes: When taken out, though red-hot, it did not conſume a Piece of white Paper, on which it was laid. It was presently cool; and upon weighing it again, was found to have loſt one Dram ſix Grains.

December 3. Mr. *Arthur Baily*, one of the Fellows of the Royal Society, preſented them with a Piece of this Linen, in the Name of Mr. *Waite*. At the ſame time, the ſame Mr. *Baily* preſented Dr. *Plot* with another Piece of it, which being brought to *Oxford*, the Experiment was again repeated on it, *December* 16. it being put into a ſtrong Charcoal-fire, in the *Natural Hiſtory School*, in a full Meeting of the *Philoſophical Society* of that *Univerſity*; where after it had continued red-hot for ſome conſiderable Time, it was taken forth again little altered when cold, ſaving that it ſeemed a little whiter and cleaner than before.

This kind of Linen-cloth was eſteemed by the Antients, though then more common, and perhaps better known, than 'tis yet amongſt us, equally precious with the beſt of Pearls.

Nor is it now of mean Value even in the Country where made, a *China Covet* (that is a Piece twenty-three Inches and three Quarters long) being worth eighty *Tale*, that is thirty-ſix Pounds thirteen Shillings and Four-pence.

The Reality of ſuch a Being has been doubted or deny'd by very good Authors; who, though they owned ſuch a Mineral as *Amianthus*, out of the woolly Part whereof this ſort of Linen was always antiently ſaid to be made, yet queſtioned the Poſſibility of its having been actually done. But *Pliny* ſays expreſly, (and I dare believe him in any thing he ſpeaks of his own Knowledge) that he himſelf had ſeen Napkins thereof, which being taken foul from the Board at a great Feaſt, were caſt into the Fire; by which means they were better ſcoured, and looked fairer and cleaner, than if they had been waſh'd in Water.

And beſides the Teſtimony of ſeveral curious Perſons in all Ages, we have now ſeen a Piece of this Linen paſs the fiery Trial both at *London* and *Oxford*.

This lanuginous Mineral is called from its ſtrange Qualities, ſometimes *Amianthus*, *quod in Ignem injectus non μιαίνεται*; the Fire being ſo far from defiling it, that it rather gives it a Luſtre.

It is called *Aſbeſtos*. And,

Salamandra; in *Engliſh*, *Salamander's Wooll*. I ſuppoſe from the *Thryalides*, or *Candle-wicks*, ſaid to be antiently made of it, which being put into Lamps of inconſumable Oil, would never waſte, or go out; which I take to be the true Reaſon of the Impoſition of theſe Names upon it, whether there ever were any ſuch Lamps or not.

From a pungent Quality, *Agricola* ſays, it has on the Tongue without Aſtringency, it is called *Alumen*, having the diſtinguiſhing Epithet *Plumeum* added to it, taken from its downy Filaments, to diſcriminate it from all the reſt of the *Alums*. *This is however a Miſtake*; *for the Alumen Plumeum is a very different thing.*

From the light-grey Colour of its lanuginous Parts it is called by ſome *Polia*; by others *Corſoides*; and, from its Likeneſs to the hoary Fibres of ſome ſort of Matweed, *Spartapolia*.

From the Capacity it has of being ſpun into Thread, it is alſo called *Linum*, with ſome diſtinguiſhing Epithet taken either from its Quality, ſuch as *Aſbeſtinum*, or *Vivum*; or from the Place where found in general or particular: It being called in general *Linum Foſſile*; in *Engliſh*, *Earth-flax*; and in particular, *Linum Indicum*, *Creticum*, *Cypricum*, and *Carpaſium*, or *Caryſtium*. But beſide the Places that have given theſe Epithets to it, it is alſo found in *Tartary*, at *Namur* in the *Low-Countries*, at *Eisfield* in *Thuringia*, amongſt the Mines in the old *Noricum*, ſomewhere in *Egypt*, and in the Mountains of *Arcadia*; alſo at *Puteoli*, and lately in ſome other Mines in *Italy*; and it has been yet latelier met with in a ſmall Iſland, and belonging to *William Robinſon*, Eſq; called *Ynis Molroniad*, that is, the Iſland of *Sea-Calves*, in the Pariſh of *Llan-Fairing Hornwy* in *Angleſea* in *Wales*.

It is commonly by the *Lithographers* reckoned among Stones; but I rather ſhould judge it a *Terra Lapidoſa*, or middle Subſtance between a Stone and an Earth. But whether the one or the other, it is made of a Mixture (I gueſs) of ſome Salt or other, a pure Earth without Sulphur, coagulated in the Winter, and hardened to Perfection by the Heats in Summer; which Salt *Johannes Heſſus* proves by a very cogent Argument to be *Alumen Liquidum*, deſcribing it, as *Matthiolus* alſo does, to be of a whitiſh lacteous Subſtance, ſomewhat inclining to yellow, that ſweats out of the Earth, and ſmells like rotten Cheeſe; whereof having gathered a Quantity at *Puteoli*, together with the other Species of *Alum*, and kept it a while by him, when he came to look on it again, he found it to have loſt the Smell, and a great Part of it changed into *Alumen Plumeum*, the ſaline Part, I ſuppoſe, ſhooting into Threads, and the pure Earth uniting them, as found in the Places whereever generated, whether ſweating from the Earth, as *Pliny* and *Matthiolus* would have it, or percolated through Rocks, as we find it in *Wales*, the Veins of it there running through a Rock of Stone, in Hardneſs and Colour not unlike Flint, and

yet ſeems to be made of ſuch *Alum*, as that of *John Hæ*
Puteoli was, ſome of it being ſtraw-coloured, as if
retained the Yellowneſs that his liquid *Bitumen* was
have, which is a Colour not given to it by any Author,
of it being ſaid to be white, or cineritious, ſome of it red,
ſome of an iron Colour, as *Agricola* tells us; and I have
of the *Cyprian* by me, ſent from *Aleppo*, by Dr. *Robert*
ington, whereof ſome is of a light-blue or pearl Colour,
ſome of it has a Caſt of Sea-green.

But however the whole mineral Subſtances found at
Places may differ in Colour, yet I do not find but the
Part of them all ſeems to be much the ſame, *viz.* of a
ſilver Colour, the Threads very fine and ſlender, yet very
derous, the ſmalleſt Particles of them thoroughly wet,
in Water, as I alſo found a very ſlender Thrum of the
buſtible Linen given me by Mr. *Baily*, which Mr.
brought from *India*, would alſo do; which renders it very
bable, that it is not a Vegetable, but a mineral Subſtance
withſtanding the Informations of *Conco* and *Keayarear*
dana, mentioned in Mr. *Waite*'s Letter; I ſay, render
bable, there being ſeveral Woods, ſuch as *Box*, *Red*
Perſian Wood, &c. that will ſink in Water.

Marcus Paulus Venetus acquaints us, that it is found
tary, in a certain Mountain, in the Province of *Chinch*
and made into Cloth, as he was informed, by one *Cur*
Turk, who was Superintendant of the Mines in that C
after this manner: The lanuginous Mineral, or *Am*
being firſt dried in the Sun, is next pounded in a braſs
and the earthy Part ſeparated from the woolly, which i
wards waſhed from all Filth whatever, that may ſtick
ſo, being thus purged, is ſpun into Thread like other
and after wove into Cloth, which, if foul or ſpotted,
cleanſe, he ſays, by throwing it into the Fire for an
time, whence it will come forth unhurt, as white a
Which very Method (as *Strabo* deſcribes it) ſeems alſo
been uſed in ordering the *Cretan Amianthus*; only w
Addition, that after it was pounded, and the earthy Part
from the woolly, he ſays it was combed, and ſo does A
which argues there was ſome of a greater Length tha
have yet ſeen.

Of this Linen, as *Pliny* informs us, Shrouds were
uſed at the Royal Obſequies, to wrap up the Corps in,
the Aſhes of their Bodies might be preſerved diſtinct fro
of the Wood, which made the Funeral Pile: And the
of *Tartary*, as *Keayarear Sukradana* was credibly i
(and I have it well confirm'd from other Hands) do
at this Day for burning their Dead. It muſt be ackno
it muſt diminiſh every time it undergoes the Violence
Fire; yet this hinders not, but it may and will do t
vice divers times before it be render'd altogether uſeleſs
of the Antients are ſaid to have made themſelves Clo
particularly the *Brachmans* amongſt the *Indians*. Th
for the perpetual Lamps of the Antients were alſo
this Subſtance; and we are told, that *Septella*, Cano
lan, had Thread, Ropes, Net-works, and Paper, of it.
Antonio Caſtagna, who lately found this Mineral ſome
Italy, knows how to prepare and render it tractable
which he can thicken, and make thin, to what D
pleaſeth, and maketh it thereby like either to a ve
Skin, or a very white Paper. We have alſo made Pa
Welſh Amianthus lately here at *Oxford*, which will
Fire and Ink well enough, the Ink only turning r
Violence of the Fire.

Signior *Campani*, after ſome Account of the Nam
Aſbeſtus Stone, mentions four Sorts, of which he h
mens in his *Muſeum*. The firſt ſent from *Corſica*
long, of a woody Form, of half a Palm Length and
whitiſh Colour, ſomething inclining to a reddiſh. T
of a ſilveriſh lead Colour, ſofter, and ſhorter ab
Inches; this was from *Seſtri di Ponente* in *Ligur*
third (which is the worſt of all) is like Scales or *La*
upon another, (as he repreſents it like an Onion) of a
Earth-colour, with ſome white, black, and dark-
interſperſed, ſcarce two Parts of an Inch *Roman* lo
fore fitter for making of Paper, than ſpinning or wea
fourth Sort, given him by Signior *Boccone*, found in
næans, ſome whereof were a *Roman* Palm long; its F
tho' longer, were yet thicker and rougher: He ſays
he heard of another ſort in the *Volaterranean Mount*
he tells us, He kept it for three Weeks in a Glaſs-
but found it unaltered; but it would not preſerve a S
in it from the Fire; whence he concludes the *Ami*
nothing in the Fire, becauſe it does not burn nor
in the handling it waſtes, though not much, as he f
exact Balance. Laſtly, He proceeds to ſhew the
ſpinning it, which he tried thus: Firſt he laid the
Water (if warm the better) for ſome time to ſoak;
opened and divided with the Hands, that the earthy
fall out of it, which are whitiſh like Chalk, and
thready Parts together; this makes the Water thick a

peated ſix or ſeven times with freſh Water, where it
opened and ſqueezed, till all the heterogeneous Parts
ed out, and then the flax-like Parts are collected, and
Sieve to dry.
s four Sorts of *Amiantus*, he found that from *Corſica*
ng long and ſoft; and the *Cyprian* worſt; where, by
, he doubts whether his was of the beſt Sort, ſince
ian was commended by *Pancirollus*, and others which
s. But to come more cloſe to the way of ſpinning it,
ſhews a Method diſcovered to him, which was thus:
Amiantus, cleanſed as before, between two Cards,
they card Wool with; where let it be gently carded,
clapt up in between the Cards faſt upon a Table or
take a ſmall Reel, made with a little Hook at the
d a Part to turn it by, ſo that it may eaſily be turned
this Reel is to be wound over with fine Thread; then
ſmall Veſſel of Oil ready, with which the Fore-finger
mb are conſtantly to be kept wet, both to preſerve
from the corroſive Quality of the Stone, and render
ents thereof more ſoft and plyant: Thus by twiſting
ad upon the Reel about, with the *Aſbeſtus* hanging out
rds, ſome of it will be worked up together with it;
and little, this Thread may with Care be woven into
Sort of Cloth; and by putting it into the Fire, the
and Oil will be burnt away, and the incombuſtible
main. But finding this way of uniting the Stone with
ad very tedious, inſtead of the Thread he put ſome
n a Diſtaff; and by taking three or four Filaments
beſtus, and mixing them with the Flax, he found they
ſily be twiſted together; and the Thread thus made
re durable and ſtrong; ſo that there is no Need of
which rather breaks the Filaments, than does any
pen only, and ſeparate the Filaments, after waſhing,
able, and take them up with the Flax, which is ſuf-
As to the making of Paper, he ſays, in the waſhing
, there will remain ſeveral ſhort Pieces in the Bottom
ater; and of theſe, after the common Method, Paper
ade. He concludes with the beſt way of preſerving
, or any other thing made of the Stone, when made;
on of its exceeding Dryneſs, it is very apt to break
; this is by keeping it always well oiled, which is
Preſervation for it; and when the Cloth is put in the
Oil burns off, and the Cloth comes out white and

Ground of *Francis Gordon* of *Actundore*, in the Shire
n, near the *Highlands*, on the Side of a Hill of a
d of Ground, ſomewhat inclining to what we call
a very ſmall Brook, and hard by it, in the Bounds of
elve Yards, I found a great many of theſe Stones,
ot in Length, which appeared plainly like Wood; but
could not perceive any Foot-ſteps of Wood there-
ither could any of them be found, except in that very
Ground, I could not be perſuaded they were petrified
Then I went to cut up the Ground about the Place
Knife, where I found likewiſe ſome Pieces of the
d, very near the Superfice, I got ſeveral Pieces of a
atter, which my Knife could not cut; this I imme-
ged to be an incombuſtible Matter, as it proved after-
en I tried it by the Fire. And, becauſe I thought it
always eſteemed certain Filaments that came off the
anthos, I reſolved to obſerve more narrowly the Pro-
it.
I found ſome Pieces of the Stone very hard in the
nd the fibrous Matter on the Out-ſides and Ends, I
ed to believe, that the Flax came from the Stone;
finding ſeveral Pieces of the Flax ſo condenſed and
ether, that, at firſt, they appeared to be hard Stones;
little wet, the Filaments were eaſily parted from one
many more I got, ſome leſs, and ſome more, con-
o the Nature of a Stone; and all of it, both that
condenſed together, and what was not, was lying
Inch within the Ground, parallel with the Surface,
ven with the Fibres of the Roots of the Graſs, that
o me much more probable to believe, that the Lint
the Stone, than the Stone into the Lint; eſpecially
Part of the Stones appeared ſo tender and brittle on
, that it's hard to believe how they could turn into
Subſtance of Flax. The Stones are of different
e are white, the Colour of the Lint, and of a very
ce, ſo that they may be eaſily cut with a Knife
lunting it; others are much mixt with a whitiſh
t moſt of them are of a greyiſh Colour, and very

e Production of the Flax, I think it's hard to deter-
s Place; becauſe the greateſt Quantity I found of it,
as I ſaid before, about an Inch at moſt within the
parallel with the Superfice, interwoven with the
he Graſs, without any Root of itſelf, but alike at
, as if it were cut with a Knife. The Ground
is found is of a greyiſh Colour, about one Inch or two thick; under which there is a black Earth, for a Foot in Depth: So that I could find nothing, in the Places where moſt of it was got, that I could rationally conclude to produce it. But in ſome other Spots I found much of a talkiſh Sand, and ſome Pieces of Flax near to it; as alſo Pieces of the Stone much whiter than the reſt, and very like Talc; which would incline one to believe, that it was produced of it: Yet there being no Appearance of any Talc in the other Places, where moſt of it was found, I can ſcarce conclude any thing about the Production of it.

But whatever way it is produced, though I have not examined what has been writ and ſaid of that *Linum* by many, yet it ſeems to me, by what *Pliny*, *Aldrovandus*, and *Olaus Wormius* write concerning it, that this which I found in *Scotland*, is not inferior to any they ſpeak of; for, generally, they make it very ſhort; whereas ſome of this I found five, ſix, ſeven, and ſome eight Inches long.

As for the making of it into Cloth, they all conclude it very hard, which I confeſs is true; yet it may be ſeen, by the Experiment I have ſhewn, in making Yarn of it, that Cloth may be made of it alſo; for the Difficulty is much greater in one than the other.

A ſingular kind of Stone was dug out of a Quarry in the Highlands of *Scotland*, which, after the Rubbiſh, which lies not very deep, is done away, lies horizontally in a Bed endued with parallel Fibres, with few Interſtices, ſoft at the Beginning, and eaſy to be ſmoothed and poliſhed without any Tool, but rather with Sand, or another hard Stone of a bluiſh Colour, which afterwards hardens ſo, that it reſiſts the Injuries of the Air, or Prejudice of Fire. When firſt the Quarrier began to dig it, he was at a mighty Loſs; for endeavouring to cut and raiſe it, after the ordinary manner, with Wedges, and other uſual Inſtruments, it broke and crumbled all to Pieces: But afterwards obſerving more narrowly the Duct of its Fibres, ſo to ſpeak, he endeavoured to cut it with Spades lengthwiſe; and by this means he procured Stones as big as he had a mind, which ſmoothed very eaſily along the Tract of their Fibres; but when cut tranſverſe, no Means nor Methods could render them ſmooth, but their Surface remain'd unequal as the Extremities of a Piece of Wood. Altho', as I ſaid, this Quarry has but few Interſtices, yet in thoſe it has the true *Aſbeſtos*, of a whitiſh ſilver Surface, conſiſting of ſeveral *Faſciculi* with parallel Fibres, like to thoſe of the muſcular Fibres of ſalted Beef, eaſily ſeparable from each other, pure white, till it becomes ſo ſmall as the fineſt Flax, and ſo ductile, that it may be ſpun into the fineſt Thread, whereof it were eaſy to make the incombuſtible Cloth, ſo famous for Shrines among the Antients. In other Places of thoſe Interſtices, was likewiſe to be obſerved a reddiſh Subſtance, near to the Colour of *Sanguis Draconis*; but whether fibrous or not, I cannot inform you, ſince the Gentleman could not ſhew me any of it; but added, he believed it might be good for Dying. I got a ſmall Parcel of the *Aſbeſtos* from him, and he told me, if he had known its Value, he could have preſerved ſome Pounds of it. I am ready to think the ſecond Kind was fibrous too, which might make a very beautiful Cloth, being ſtriped with the other. This whole Quarry may be ſaid to be *Aſbeſtos* of different Colours, the bluiſh being of a much coarſer, and the white and red of a finer Grain. *Phil. Tranſ. Abr. Vol.* 5.

AMICULUM, this was a kind of Covering uſed by the Boys for concealing their *Pudenda*, when going through their Exerciſes naked in the *Gymnaſium*, or Place appointed for that Purpoſe, *Rhodius Diſſert. de Acia.* It is alſo uſed in the ſame Senſe with the Word AMNIOS, which ſee.

AMIDUM, the ſame as AMYLUM, which ſee.

AMINÆUM VINUM, Wine of *Aminæ*, called afterwards *Falernum*, in *Italy*. Polenta, prepared of roaſted Barley, and drank in auſtere *Aminæan* Wine, is ſaid by *Ætius*, to dry the Belly. *Tetr.* 1. *Serm.* 1.

Among Wines, the *Aminæan* claims the Preference, on account of its Strength, and the Spirits and Generoſity it acquires by Age. *Pliny Nat. Hiſt. Lib.* 14. *Cap.* 2.

Columella ſays, the *Aminæan* Vines were the moſt antient, that is, the firſt taken Notice of; and the *Italians* were probably firſt acquainted with theſe Vines; for *Italy* did not originally produce Vines; the Inhabitants were therefore obliged to tranſplant them from the Country of the *Amminei*, a People of *Theſſaly*. According to *Macrobius*, the Falernum was antiently called *Aminæan* Wine; but it ſhould rather ſeem, that the Falernum was of the Vintage of a particular Place; and that the *Aminæan* Wine was that made from the *Aminæan* Grape, in whatever Part of *Italy* it was produced; though the Falernum ſeems to have been made from this Sort of Grape, which the Soil of that Place might probably agree with better than any other. In Confirmation that the *Aminæan* Wine was not the Produce of any particular Place, but a Wine made of a particular Sort of Grape, it muſt be remark'd, that *Galen* takes Notice of *Aminæan* Wine, which was produced in *Naples*, in *Sicily*, and in *Tuſcany*.

It was the Character of the *Aminæan* Wine, that it was, when new, auſtere, acid, and rough, but that it improv'd prodigiouſly by Age; for, when old, it was remarkable, for its Spirit, Strength, and Generoſity; and conſequently, it was then excellent in Imbecilities of the Stomach, as *Galen* obſerves.

Virgil diſtinguiſhes the *Aminæan* Wine from the *Falernum*, in the ſecond *Georgic*:

-----*Quo te Carmine dicam,*
Rhætica? Nec cellis ideo contende Falernis.
Sunt etiam Ammineæ Vites, firmiſſima Vina.

This Sort of Wine and Grape were by moſt of the *Latin* Writers called *Ammineæ* and *Amminium*, as in *Virgil*, not *Aminææ* and *Aminæum*.

AMINÆUM ACETUM. *Rulandus*, and his Tranſcriber *Johnſon*, ſeem to think this White-wine Vinegar; but it ſhould rather be Vinegar made of the Wine deſcribed above, or ſtrong Vinegar in general.

AMINIA, the Name by which the Natives of *Braſil* call the *Hylon Braſilianum* of *J. B.* and which the *Portugueſe* call ALGODON. *Margrav.* It is a Species of Cotton-tree.

AMMA. See HAMMA.

AMMI, Biſhops-weed, of which there are two Sorts, the Modern, and the Antient. The Modern is thus diſtinguiſh'd:

Ammi vulgare, Offic. Ger. 881. Emac. 1036. Raii Hiſt. 1. 455. *Ammi vulgatius*, Park. Theat. 912. *Ammi majus*, C. B. Pin. 159. Tourn. Inſt. 304. Elem. Bot. 254. Boerh. Ind. A. 57. *Ammi vulgare majus, latioribus foliis, ſemine minus odorato*, J. B. 3. 27. Hiſt. Oxon. 3. 295. *Ami, Ammi, Amium* & *Ammium*, Chab. 285. COMMON BISHOPS-WEED. *Dale.*

This Plant grows about two or three Foot high, with ſtrait, round, chanell'd Stalks, on which grow long-winged Leaves, encompaſſing the Stalk at Bottom, compoſed of three ſmaller Diviſions, of long, narrow, crenated *Pinnæ*; on the Tops of the Stalks grow pretty large Umbels of ſmall white Flowers, conſiſting of five Leaves apiece, whereof two or three are uſually bigger than the reſt. The Seed is ſmall, about the Bigneſs of Parſley-ſeed, of a hot fragrant Taſte. It grows not wild with us, though *Parkinſon* affirms, that it grew wild about *Greenhith*, in *Kent*; but it has been found by nobody ſince his Days: In the warmer Countries it is common enough, flowering in the Summer, and dying after it has perfected its Seed, which is the only Part of the Plant in Uſe.

The Seeds of Biſhops-weed are of a drying warming Nature, good to expel Wind from the Stomach and Inteſtines, and prevent the Colic; they are diuretic, provoke Urine and the Menſes. *Mill. Bot. Off.*

It is cultivated in Gardens, and flowers in *June* and *July*. The Seeds are ſmall, ſtriated, leſs than thoſe of Parſley, of a light Red inclining to an Aſh-colour; of a bitteriſh, acrid Taſte, and of a fragrant Smell; they are ſold in our Shops inſtead of thoſe of the *true Biſhops-weed*. It is one of the four leſſer hot Seeds. *Dale.*

The Ammi of *Dioſcorides*, and the antient Authors, is thus diſtinguiſhed:

Ammi verum, Offic. *Ammi Creticum*, Ger. 881. Emac. 1036. Park. Theat. 912. *Ammi alterum, ſemine apii*, C. B. Pin. 159. *Ammi odore origani*, J. B. 3. 27. Raii Hiſt. 1. 455. Hiſt. Oxon. 3. 295. Chab. 385. TRUE BISHOPS-WEED. *Dale.*

Ammi is by ſome called *Ethiopian Cummin*, by others *Royal Cummin*; but ſome tell us, that *Ethiopian* Cummin is of a different Nature from that of Ammi. The Seed of this Herb is well known to be much leſs than Cummin-ſeed, and of the Taſte of Origanum. Chuſe what is clean, and free from Bran.

It is of a heating, cauſtic, and drying Quality. Drank in Wine, it cures Gripings of the Inteſtines, Difficulty of Urine, and the Bites of venomous Creatures; it alſo provokes the Menſes. It is mixed with Veſicatories of Cantharides, in order to prevent the Strangury. Apply'd in a Cataplaſm with Honey, it takes off the livid Marks of Blows in the Face. Drank, or the Skin anointed with it, it cauſes a pale Colour. Uſed in a Suffumigation with dry'd Raiſins, or Roſin, it purges the Uterus. *Dioſcorides, Lib.* 3. *Cap.* 70.

Pliny ſays the ſame, and adds, that *Hippocrates* called it *Royal Cummin*, becauſe he thought the beſt grew in *Egypt*. The *Alexandrians* uſed it in their Bread, and in Sawces. It aſſwages Inflammations of the Eyes. Mixed with Linſeed, and the Quantity of two Drams drank in Wine, it cures the Sting of a Scorpion; and taken with an equal Quantity of Myrrh, is particularly ſerviceable againſt the Bite of the Ceraſtes. They ſay the Smell of it, at the time of Coition, promotes Conception. *Nat. Hiſt. Lib.* 20. *Cap.* 15.

This is rarely to be met with in the Shops, the former ſupplying its Place: It uſed formerly to be brought from *Turkey*; the Plant which bears it is ſmaller, the Leaves narrower, and more divided; it bears Umbels of white Flowers, and Seed ſomewhat like the common, but leſs; of a more aromatic Smell and Taſte, ſomewhat like *Origanum*; esteem'd to have greater Virtue and Efficacy than the *Miller. Bot. Off.*

It is brought from *Alexandria* in *Egypt*. The Seeds ſmall, ſtriated, leſs than thoſe of Parſley, of a Yellow to Red, of an acrid aromatic Taſte, and of a fragrant It is ſeldom or never found in our Shops. It is Inciſive, rient, and a Drier; is effectual in Pains of the Colon and rus, Inflation of the Stomach, and Obſtructions of the and Menſes. *Dale.*

Theſe Seeds afford a great deal of eſſential Oil, and Salt.

They are Anti-hyſteric, Carminative, and Cephalic; Poiſon; and are one of the four leſſer hot Seeds. *Drogues.*

AMMION, ἄμμιον, Cinnabar. See CINNABAR, and NIUM.

AMMITES, *ſive* AMMONITES, is a ſandy which is found in different Sizes; for there are ſome as a Nut, ſome as big as Peas, ſome the Size of and others of the Seeds of Poppy or Millet. Theſe little reſemble the Eggs or Spawn of Fiſh; ſome are called *tes*, and others *Meconites*. Thoſe which are as big are called by ſome *Mineral Bezoar*, becauſe they are in Shells, or little *Laminæ*, like the Bezoar, and they the ſame ſhining Colour, or a little redder; they are upon the Mountains near *Bern*, in *Switzerland*.

They are ſoon reſolved into Sand, of which they They are called *Ammites*, from ἄμμος, Sand. *Drogues.*

AMMOCHOSIA, ἀμμοχωσία, a kind of Remedy ing the Body, which, for that Purpoſe, muſt be the Sand, which muſt be heaped upon it. The Sand be very hot, and of the Sea, if it can be had; for is more humid.

But Salt is more efficacious for the ſame Purpoſe and better for the Patient to lie down in, with ſome ſtance ſpread under him. But the Salt muſt be no three Palms in Depth; for otherwiſe its Virtue diſperſed.

It has alſo the ſame Effects as ἡλίωσις, INSOLATION, ſee.

Oribaſius, Lib. 10. Cap. 8. *Coll. Med.* tells us, Fomentation with Sand is accommodated to ſuch as der the Colic, Aſthma, Gout, Cachexy, Dropſy, thoſe who are afflicted with chronical Diſtempers; and except Infants, are fit Subjects of this Fomentation: further, that it ought to be adminiſter'd in the hotteſt the Summer, at Sun-riſing, on the Shore, in the moſt Sand, which has deep Pits ſunk in it, where the Patient himſelf, and lie with his Head covered from the Sun- Covering before his Eyes, and a Sponge, dipp'd in cold held to his Face.

Ætius alſo mentions this ἀμμοχωσία. *Tetrat.* 1. *Cap.* 9. as does *Celſus, Lib.* 3. *Cap.* 21. for the Dropſy. *Dioſcorides, Lib.* 5. *Cap.* 167. ſays, that on the Sea-ſhore, heated with the Sun, dries the Bodies who are hydropical, if they are covered with it, Head.

Galen made uſe of this ἀμμοχωσία, for the Wife of labouring under a Fluor Albus, as he writes, *Lib. de* *ad Poſthumum.* And *Pliny, Lib.* 22. *Cap.* 25. tells *Sextus Pompeius* uſed the ſame kind of Remedy for the
"He ſtood, ſays he, above his Knees in Wheat; and
"being thus dried, he found himſelf wonderfully
"which time he uſed no other Remedy."

Hen. Stephanus, inſtead of ἀμμοχωσία, reads is alſo called ψαμμισμός. *Gorræus.*

AMMOCHRYSOS, ἀμμόχρυσος, from ἄμμος, χρυσός, Gold.

AMMOCHRYSUS, is a Stone ſometimes hard, generally crumbles betwixt the Fingers like Sand; its ſometimes red, ſometimes yellow, intermixed with Talc, the Colour of Gold; ſo that it ſeems to be Gold in Powder. This Stone is found in *Bohemia*, many other Places. It is only uſed to put on Writing *des Drogues.*

AMMOCHRYSOS is alſo a Name given to a Mud of a golden Colour, found in the Chanel of mineral Waters, in *Friſeland*. *Caſtellus.*

AMMODITES, a venomous Serpent, a Cubit in which is its utmoſt Size, being never deſcribed larger, of a ſandy Colour, and marked all over the Body Spots; its Tail is extremely hard, and divided in Part. Some give it the Name of *Cenchria*, that is, becauſe its Tail is hard like Millet. It has wider the Viper, and though it reſembles that Reptile in reſpects, is eaſily diſtinguiſhed by the Colour; for the yellowiſh.

Bite of the Ammodytes is generally followed by ſpeedy
but if this does not happen, Blood comes from the
and the Part ſwells. Soon after Sanies works out,
ſucceeded by Heavineſs of the Head, and Swooning.
he Symptoms are moſt favourable, the Patient does not
e three Days, tho' there are Inſtances of ſome who
ived till the ſeventh Day. The Bite of the Female
e quicker Death.
in ſuch a Caſe, is to be ſought, firſt, from the common
s, as Cupping and Scarifying the Places all about the
Conſtriction of the Parts above it, and laying open
und with the Knife. Proper Medicines are, Mint
Hydromel; Caſtor, Caſſia, and the Juice of Mug-
ken in Water. Theriaca alſo is to be taken, and ap-
the Hurt; drawing Plaiſters are to be uſed; and after
ch Cataplaſms as are proper for the Cure of eating
ding Ulcers. *Ætius, Tetr.* 4. *Serm.* 1. *Cap.* 25.

MONIACUM, ἀμμωνιακὸν. Ammoniac.
rabians call the Chryſocolla, *Lezac Aldeheb*, which
he ſame as the *Greek* χρυσόκολλα, that is, a Ferrumi-
Soldering] of Gold. They gave this Name alſo to
nmoniac, as *Aviſena*, on the Word *Aſſac*, aſſures us;
on he ſhews for it is, becauſe Books and Papers are
it; for it gives a gold Colour to Books and Papers on
is laid, or is uſeful in the gilding or laying on of Gold
ſame. This is *Aviſena*'s Sentiment; the Gum itſelf,
, of Ammoniac, he calls *Aſſac*, or *Azac*. *Alpagus*
that among the vulgar *Arabians* it goes by the Name
and indeed, an antient *Arabian* Botaniſt, in an old
les, renders the Tree of Ammoniac *Segjar Aluſſac*;
the Tree *Aluſſac*. In *Serapion*, *Raxach* is read, by
on, for *Haxach*; the *Spaniards* call it *Aguaxaque*.
a calls the Tree *Altarthub*, or *Altarthut*; the *Greeks*
alled *Agaſyllis*; καλεῖται δὲ αὐτοῦ ὅλος ὁ θάμνος ἀγα-
" the whole Shrub that bears it is called *Agaſyllis*."
des. *Pliny*, tho' by Miſtake, ſays it is called *Metopium*.
er of its Names in *Neophytus*, are κριόθεος, and ἡλίου
the firſt of which is an Epithet of *Jupiter Ammon*, to
hey gave the Name of κριοκέρατος, "Ram-horned;"
Reaſon of its other Appellation, he ſays, was becauſe
was much expoſed to the Influence of the Sun. We
ly call it *Armoniac*, inſtead of *Ammoniac*. Some learned
s have doubted, whether we have the true Ammoniac
ntients, and not without Reaſon; for our Ammoniac
the Characters by which the Antients deſcribe theirs;
ertain, that Kind of it which they call θραύσμα, or
" ſuch as is in Lumps or Fragments," is ſcarce to be
in our Days. The Reaſon of the Name was, be-
was broken after the manner of dry Sorts of Gums,
rts did not conſiſt of a tenacious Glue. *Dioſcorides*,
its Characters, would have it to be " like grumous Bits of
enſe," λιβανωτίζον τοῖς χόνδροις, which *Serapion* erro-
nderſtands with reſpect to Smell. It was pure and
ithout Sordes, and of a yellow Colour; *Dioſcorides*
χρουν, " of a good Colour." They called another Sort
ραμα, or φυρατὸν, " mixed or blended," becauſe it was
inous, eaſy to be made into a Maſs, and full of Impuri-
Earth or Sand. This is what we now commonly meet
he Shops, and the *Greeks* had no other in the Time of
, who accommodating the Words of *Dioſcorides* to
n which he lived, makes two Kinds of one, ſpeaking
ρεῖττον δὲ τὸ εὔχρουν καὶ ἄξυλον, λιβανίζον τοῖς χόνδροις,
πυκνὸν, μηδεμίαν ἔχον ῥυπαρίαν· " Chuſe what is of
Colour, without Chips, &c." This is the θραυστὸν
ὸν, " the brittle Ammoniacum," of the Antients.
diately adds, καὶ τὸ ῥητινίζον, τῇ ὀσμῇ σφοδρὸν, πικρὸν
γεύσει· καλεῖται δὲ τὸ τοιοῦτον ἐρυματῶδες. " and the
s, of a ſtrong Smell, and a bitter Taſte; this Sort is
the *tractile*." He thought that the Ammoniacum of his
ecauſe it was reſinous, and of a viſcous, ropy Fatneſs,
ame as that of *Dioſcorides*, which he would have to be
τοῖς χόνδροις, " in Lumps like Frankincenſe:" but
from being true; for it is one thing to be ῥητινῶδες,
s;" and another thing to be λιβανῶδες, " like Frank-
." This is dry and brittle, the former fat and juicy.
ies as have a Ropineſs, and can be drawn out like
Birdlime, may be called ἐρυματώδη, " tractile;" but
, " the brittle," are properly ſuch as, being broken,
d into ſmall Bits and Fragments, and cannot be drawn
ads. Thus he made one of two very different things;
he contrary, made a Diſtinction where was no Diffe-
r he immediately ſubjoins λιθῶδες ἢ γεῶδες φύραμα,
xed has Earth or Stones in it." The Ammoniacum
rides, which, he ſays, is called φύραμα, is the ſame
fat and reſinous, which, on account of its Viſcoſity,
aſily worked up into a Maſs. *Pliny* has it, *Genera*
Thrauſton *maſculi Thuris ſimilitudine, quod maxime*
alterum pingue ac reſinoſum, quod Phyrama *appellant.*
are two Kinds of it, the *Thrauſton*, [brittle] which
Male Frankincenſe, and moſt valued; the other a fat

" and reſinous Subſtance, which they call *Phyrama*, [a Mix-" ture]." The Tear, which is of a pinguious Ropineſs like Roſin, being too liquid to ſtick to the Tree, falls to the Ground, and there gathers Filth, by taking hold of Bits of Woods, and Sand, and incorporating with them into one Maſs. This is the λιθῶδες, " ſtony," and γεῶδες, " earthy," Ammoniacum of *Dioſcorides*, and the fat and reſinous Ammoniacum of *Pliny*, which is called *Phyrama*. What concretes on the Tree, like Frankincenſe, is not only dry, but pure, and free from Filth. *Neophytus*, who ſaw no other Drop of Ammoniacum uſed in his Time, more than what we ſee now, thought the liquid and the reſinous were the ſame with the concrete, and again ſeparated the viſcous and fat from the reſinous, which was a Complication of Abſurdities. The *Greeks* univerſally call it Ἀμμωνιακὸν θυμίαμα, " Ammoniac Perfume," becauſe it ſerv'd them for that Uſe, tho' it be of a ſtrong and rank Scent. *Dioſcorides* ſays, καστορίζον τῇ ὀσμῇ, " ſmelling like Caſtor;" *Neophytus*, τῇ ὀσμῇ σφοδρὸν, " of a ſtrong Smell." *Galen* ſays it has κορίου ὀσμὴν, " the Smell of Coriander." But I think it ſhould be read καστορίου, " of Caſtor," inſtead of which they wrote by way of Compendium, κορίου, " of Coriander." *Pliny*, amongſt Odours and Spices, reckons Ammoniacum, with the Juncus, and Calamus Aromaticus, and ſweet-ſcented Moſs. But 'tis no more ſtrange, that this Gum ſhould have a Place among ſweet Odours appointed for Perfumes, than that Galbanum ſhould be reckoned among the Spices, that compoſed the ſacerdotal Perfume, *Exod.* xxx. 31. which conſiſted of Stacte, aromatic Onyche, and Frankincenſe. In *Hebrew* it is called חֶלְבְּנָה, *Chelbena*, whence comes the *Greek* χαλβάνη. Galbanum was alſo an Ingredient in Ointments, and eſpecially in the Ointment of Almonds uſed among the *Egyptians*, which for that Reaſon was called μετώπιον, " Metopium," a Name for Galbanum. Of the Ointment of Almonds, the *Greeks* thus write: Αἰγύπτιοι τοῦτο τὸ ἔλαιον ἐξευρηκότες μετώπιον αὐτὸ προσηγόρευσαν, ὅτι χαλβάνην λαμβάνει· τὸ δὲ φυτὸν ἐξ οὗ γίνεται ἡ χαλβάνη καλεῖται μετώπιον· " The *Egyptians*, who invented " this Oil, called it *Metopium*, becauſe it contained Galba-" num; for the Plant whence Galbanum is generated is ſo " called." Now the Scent of Galbanum is not much different from that of Ammoniac, if it be true, as *Dioſcorides* ſays, that Galbanum uſes to be adulterated with Roſin, huſked Beans, and Ammoniac. So that *Pliny* changed Names, when he ſaid, that the Tree of Ammoniac was called *Metopium*, which, according to others, is a Name for Galbanum. Some will have the Tree, that ſweats Ammoniac, to be an Herb. The Author of *Actuarius* upon *Dioſcorides* has it, Πόα ἐστὶν, ὅθεν Ἀμμωνιακὸν θυμίαμα· " It is an Herb which produces the Ammoniac " Perfume." This is raſhly offering Violence to the Words of *Dioſcorides*. *Serapion*, quoting *Dioſcorides* by Name, and ſeeming to ſpeak his very Words, relates, that they make an Inciſion in the Root of this Plant, and ſo extract the Tear; where 'tis plain he took it for an Herb. *Pliny* calls it a *Tree*, and ſays, that the Tear diſtils from it after the manner of Roſin; by which he muſt mean, that it flows ſpontaneouſly. *Dioſcorides* calls it, δένδρον ναρθηκοειδὲς, " a ferulacious Tree," and θάμνος, " a Shrub;" nor indeed do Frankincenſe and Myrrh diſtil from great Trees. There is no mention of a Root in a very antient Copy, tho' the Editions have it thus: Καλεῖται δὲ ὅλος ὁ θάμνος σὺν τῇ ῥίζῃ Ἀγασυλλὶς, " the whole Shrub, " with its Root, is called *Agaſyllis*." There is no need of a Root here, and no ſuch thing is authorized by this excellent Manuſcript. And 'tis downright falſe, that Ammoniac ſweats from the wounded Root of an Herb, as *Serapion* maintains. Authors of the greateſt Antiquity declare, that it flowed ſpontaneouſly.

In the medicinal Lexicons of the *Greeks*, I find γομφίτην and γόμφιτον, [Compacter or Faſtener] to ſignify this Ammoniac ſweet Gum, in the ſame Senſe perhaps with the *Arabic* Appellation, *Lezac Aldeheb*, which, according to *Aviſena*, belongs to Ammoniac, and is properly that, by which Gold ſticks to Gold. Now γομφῶσαι, is " to compact," and γόμφοι σύνδεσμοι, " Gomphi are the Ligaments," by which Wood adheres to Wood. Wooden Pegs were alſo called by this Name [*Gomphi*]. The Gloſſaries, or Lexicons, have it, γομφίτης, Λιβυκὸν θυμίαμα, " Gomphites is the *Libyan* ſweet Gum;" and γόμφιτον τὸ θυμίαμα, " Gomphiton ſignifies the ſweet " Gum."

Nicander, in his Alexipharmacs, puts Ἀμμώνιον, [Ammonium] for Ammoniacum, in the following Verſes:

——ἐν ᾗ ἐπαρκὲς
Θάλπε βαλὼν χύτρῳ Ἀμμώνιον.

" Throw into the Pot a ſufficient Quantity of Ammonium, " and let it heat." It is corruptly read σκαμμώνιον, [Scammonium] and wrongly underſtood to be Scammony, that is, the Juice of Scammony; but this the ſame Author a little before called δάκρυ κάμωνος, " the Tear of Kamon, [Scammony];

——τό τε δάκρυ νεοβδάλτοιο κάμωνος.

" and the freſh-expreſſed Tear of Scammony." Κάμωνος is put for σκάμωνος, as μάραγδος for σμάραγδος, [Maragdus for Smaragdus]. The Juice is σκάμωνιον, " Scamonium, " the Herb σκαμωνία, " Scamonia. " Therefore Ἀμμώνιον, [Ammonium] and Σκαμμώνιον, [Scammonium] are two different things.

Sal Ammoniac, ἅλας Ἀμμωνιακὸν, took its Name from the ſame Place. The *Greeks*, eſpecially the more modern ones, in their medicinal Lexicons, are very much divided in their Opinions upon this Subject. The *Saracenic* Gloſſary of *Ephodius* renders the *Arabic* μίλχ, [Milch] by Ammoniacum. Μίλχ, τὸ Ἀμμωνιακὸν ἅλας, " Milch is Sal Ammoniac." *Milh* is an *Arabic* Word, which ſignifies Salt. The *Greeks* change the *Arabic* Aſpiration into a ſtronger, and expreſs it by their χ, *ch*. Thus they ſay, ἄλχαννα, " alchanna, " for alhanna, &c.

Some there are who ſeem to have appropriated the common Appellation of *Salt*, κατ' ἐξοχὴν, " by way of Eminence, " to Ammoniac; of which the old Interpreter of *Aviſena* gives a Hint, by thus expreſſing his Title: *Of Sal Ammoniac, that is, of Salt.* In the *Arabic* 'tis *Nuxader*, a Word that has its proper Meaning, and is remote from all Signification of Salt. Of all Kinds of Salt, *Dioſcorides* approves of the Foſſile [Rock-ſalt] as of moſt Efficacy, and among the Foſſile, of Sal Ammoniac; ſo that 'tis no wonder it took the proper Name of *Salt* on account of its Excellency. Others of the more modern *Greeks* call it ἅλας τζαπαρικὸν, " that is, foſſitious Salt;" for τζάπα [tzapa] and τζάπιον [tzapium] ſignify with them an Inſtrument to dig with, τὸ ὀρύγιον, [Orygium]; with the *Latins*, *Sappa*, which is a Word we yet retain; and hence comes the Verb *Sappare*, " to ſap. " *Nicomedes*, the Iatroſophiſt, in his Lexicon, has: Ἅλας ὀρυκτὸν τὸ γαγγραινόν. Ἅλας Ἀμμωνιακὸν τὸ τζαπαρικόν. Ἅλας Καππαδοκικὸν τὸ Ἀρμένιον. Ἅλας ταριχευτὸν τὸ θαλάσσιον. " The foſſitious Salt is " the ſame as the Gangrinum, Sal Ammoniac is the Tzapari- " cum, the *Cappadocian* Salt is the ſame as the *Armenian*, and " the Salt for ſeaſoning is the Sea-ſalt. " You ſee he diſtinguiſhes the foſſitious Salt from the tzaparicum, ſuch as he makes Ammoniac to be; tho' *Dioſcorides* makes Ammoniacum to be a Species of foſſitious Salt; and, to ſpeak the Truth, the Tzapa of the *Greeks* is not properly an Inſtrument with which they dig the Earth, but ſuch as they cut Stones with in Quarries. Sal Ammoniac, we are told by *Serapion*, is pulled out of hard and tranſparent Stones; for which Reaſon there is need of a Sappa, [a ſort of Pick-ax] to get it out, and to cut it, which Inſtrument the old *Latins* called *Upupa*, becauſe it has a ſharp End like the Beak of a Lapwing. The Gloſſaries have it, *Upupa*, ὀρύγιον [Orygium]. A very celebrated Phyſician, and well exerciſed in theſe Studies, rejects the Opinion of *Serapion*, principally, on account of his making Ammoniac derive its Name from the Sands out of which it is digged, being concreted into Cruſts and Laminæ. The Abſurdity of this Opinion may be evinced ſeveral ways: Firſt, no conſiderate Perſon would derive Ammoniacum, ἀπὸ τȣ̃ ἄμμȣ, " from " Ammos, " [the Sand] but ἀπὸ τȣ̃ Ἄμμωνος, " from Am- " mon, " for the ſame Reaſon as Gum Ammoniac, which cannot be thought to takes its Name from Sand, tho' *Pliny* be alſo of that Opinion. Ἄμμων, " *Ammon*, " himſelf indeed, took his Appellation from the Sands; but *Regio* Ἀμμωνιακὴ took its Name from *Ammon*, who had a very famous Oracle in thoſe Parts; and whatever was diſcovered therein worthy Obſervation, was called Ἀμμωνιακὸν, " Ammonia- " cum. " *Pliny* tells us, that the Ammoniac was dug out of large Caverns. *Leviſſimus intra ſpecus ſuos, in Lucem univerſam prolatus incredibili Pondere ingraveſcit.* " Though " it be very light within its own Caverns, it increaſes in " Weight after a ſurpriſing manner when it is produced in " open Light. " And he gives us his Opinion why it was called Ammoniacum: *Nam & Cyrenaici Tractus nobilitantur Ammoniaco, & ipſo, quia ſub Arenis inveniatur, appellato.* " The " *Cyrenean* Territories are celebrated for producing Sal Am- " moniac, ſo called, becauſe it may be found under the Sands." A ridiculous Reaſon! No, it has its Name from being found in the Ammoniac Region, ἐν τῇ κατ' Ἄμμωνα Λιβύῃ, " in " *Libya*, about *Ammon*, " which was a Part of the Country of *Cyrene*. Nay, ſometimes, not only the inland Parts, but all *Libya* come under this Denomination. Thus *Stephanus*: Ἀμμωνία ἡ μεσόγειος Λιβύη, καὶ αὐτὴ δὲ πᾶσα ἡ Λιβύη ȣ̔́τως ἐκαλεῖτο ἀπὸ Ἄμμωνος, " *Ammonia* is midland *Libya*, and ſome- " times the whole Country of *Libya* is ſo called from *Ammon*." We may conclude then, that Sal Ammoniac has its Name from the Country *Ammonia*, and not from the Sand; for then it would be called ἀμμικὸς or ἀμμίτης, " ammicus or ammites." *Pliny*, in the ſame Place, tells us: *Quo Exemplo poſtea inter Ægyptum & Arabiam, etiam ſqualentibus Locis, cœptus eſt inveniri detractis Arenis, qualiter & per Africæ ſitientia uſque ad Ammonis Oraculum.* " In which manner they began afterwards " to diſcover it in the Deſarts between *Egypt* and *Arabia*, by " removing the Sands, as they do alſo in the dry and barren " Parts of *Africa*, as far as the Oracle of *Ammon*. " 'Tis certain, that in the Country of *Ammon*, where the Soil was all ſandy, the Caverns, that were dug under the Sands, yielded Sal Ammoniac; but in other Places, where was no was probably dug out of the Earth, or even from Hills. *Lib. 31. Cap. 7. Effoditur & è Terra, ut palam eſt densato in Cappadocia. Ibi quidem cæditur Lapidum rium modo. Pondus magnum Glebis, quas* Micas *vulg lat.* " It is dug out of the Earth in *Cappadocia*, as " known, being a condenſed Humour. They cut it " manner of the Lapis Specularis. The Lumps, " call *Micæ*, are very ponderous. " You will ſay *padocian* is not of the ſame Kind with the *Ammonian*, both are reduced under the Kind ὀρυκτῶν ἁλῶν, " Salts, " which is *Pliny*'s Opinion. *Dioſcorides* Kinds of Salt, τὸ ὀρυκτὸν, τὸ θαλάσσιον, καὶ τὸ λιμναῖον " foſſile, [Rock-ſalt] the Sea-ſalt, and what comes " Marſhes. " But this laſt may be included under the mination of Sea-ſalt. He comprehends Sal Ammoniac the foſſile Kind, tho' it be in ſome reſpects a proper itſelf, and of a peculiar Nature, according to the Sun and Soil. Obſerve the Words of *Dioſcorides*: Τῶν ἐνεργέστερον μέν ἐστι τὸ ὀρυκτόν· τȣ́τȣ δὲ κοινῶς μὲν τὸ λευκὸν καὶ διαφανὲς, πυκνόν τε καὶ ὁμαλὸν τῇ συγκρίσει τὸ Ἀμμωνιακὸν τῷ γένει, εὐσχιστὸν δὲ, καὶ εὐθείας τὰς ἔχον· " Of Salts, the foſſile is of the greateſt Vir " of this Kind, in general, what is free from Stones " and pellucid, and of a denſe and equable Subſtance, " ticular, that Sort of it called *Ammoniac*, which " cleave, and has ſtrait Fiſſures. " Amongſt the racters of the beſt foſſile Salt, it is requir'd, that it and pellucid. Sal Ammoniac had both theſe. Sal Ammoniac: *Similis eſt colore Alumini quod Schiſt longis Glebis, neque perlucidus, ingratis ſapore, ſed utilis.* " It is like the *ſciſſile* Alum in Colour, and " Pieces, not pellucid, has an unſavoury Taſte, but " in Medicine. " As to its not being pellucid, I whether he is to be credited. *Dioſcorides* makes Whit Tranſparency two Properties of the beſt foſſile Salt, to aſcribe them both to Ammoniac. And *Pliny* little after, ſays, that the *perſpicuous*, [perſpicuum] the pellucid, is the moſt valued: *Probatur quamma ſpicuus, rectis Sciſſuris.* " The moſt perſpicuous, " Sciſſures, is in Eſteem. " By *perſpicuous*, we unde τὸ διαφανὲς, " Pellucidneſs, " as when we ſay, *perſ nis, perſpicuum Vitrum*, " a perſpicuous Stream, a " Glaſs. " Thus the Gloſſaries: *Perſpicuum*, διαφανὲς " Perſpicuous, that is, diaphanous, pellucid. " Whe mits the Image, and can be ſeen through, as was ſpeaking among the Antients, is perſpicuous; for contradicts himſelf. He dreſſed up his Account from Authors; in one he found, that Ammoniac was Alum in Colour; this is white indeed, tho' not pell appears divided into Fragments like grey Hairs. imagin'd, that it was in long Pieces, but not pell another Author he read, that τὸ διαφανὲς, " the dia was moſt valued; this he here renders *perſpicuous*, the ſame as *pellucid*.

Aviſena gives us three Characters of the beſt Sal A which are, τὸ εὐσχιστον, " Readineſs to cleave, " " Pellucidneſs, " and a Colour like Cryſtal; which render'd by the Tranſlator, from the *Arabic Albeluri lior ex eo, qui eſt ut Borax, clarus, cryſtallinus.* " " of it is like Borax, clear, cryſtalline. " There is of *Borax* in the *Arabic*, which is the Word the *Bar* for *Chryſocolla*, a Subſtance which has no Relation tude to Sal Ammoniac.

In the *Arabic* Edition, there are three Epithets which gives to the beſt Sal Ammoniac. The firſt anſwers *Greek* εὐσχιστον, eaſy to be divided; the ſecond is the which *Aviſena* always tranſlates the διαυγὲς, diaph *Dioſcorides*; the third is Albeluri, which the Interpre lates *Cryſtallinum*, with better Reaſon than others the *Arabic* Belur, *Beryl*.

But they were led into this Opinion by the mere the Word, as tho' *Belur* was made out of *Beryl*, by poſition of Letters; but the Uſe of the Word ſhews trary. The beſt Beryls are of a pure ſea-green Colo Chryſoberylli are another Sort, of a glittering Brigh has a Caſt of the Colour of Gold. Bilur, in *Ara* ſignify *a white Gem*; for the Ammoniac λευκὸν and " *white* and *pellucid*, " is compared to a *bilurin* yet it cannot be *cryſtal*; for no ſuch thing is generated but the *Nubian* Geographer writes, that *Bilur* is many Places of *India*; for Inſtance, in *Sarandib*, *India*, under the eighth Parallel of the third Clima he ſays, they find the beſt and largeſt *Albilur*. I fendering this Word *Beryl*, as a learned Tranſlator for the Reaſons above-mentioned. I rather incline to nion of thoſe who interpret the *Hebrew* שהם *Albilur*, which almoſt all the Interpreters take to be Gem, that takes its Name from its Whiteneſs, reſem of a human Nail, though it is ſaid to be of ſeveral is a ſort of Marble alſo, which goes under that Name ſame Reaſon. *Paulus Sibentiarius*:

> Ὅσα τ' ὄνυξ ἀΐνηκε διαυγάζοντι μετάλλῳ
> Ὠχειόων ἐρίτιμα,

[Rays] as the Onyx, precious in its Paleneſs, emitted its ſplendid Body."

ntient *Arabic* Verſion renders βήρυλλον "Beryl," in calypſe *Bilur*. Certainly if *Bilur* be a Beryl, it muſt rſtood of that kind of Beryl, which is one of the laſt ated Stones, and ſaid to be like Cryſtal. It can be no an a cryſtalline and white Gem, that goes by this Name the *Arabians*; for that kind of Salt which is commonly *al Gem*, is ſaid, by *Aviſena*, to be like *Albilur*. 'Tis that this was white and pellucid, for which reaſon the *ians* called it *Salem Gemmæ*, "the Salt of the Gem," they ſhould rather have called it *Salem gemmeum*, "a -like Salt;" ſo *gemmeus Miles*, "a Gem-like Man," ay of Cheſs, in *Martial*, is put for *vitreus*, "one of ," which Poet often calls Glaſs by the Name of Gem, unt of its Brightneſs and Tranſparency. The Word Gem in the *Arabic* Text, according to the Tranſlator of , is *Darani*; in which Term I ſee nothing that anſwers otion of Sal Gem. Does it not come from the *Hebrew* , which ſignifies a *Parian* Stone, and white Marble? this foſſile Salt, which they call Sal Gem, is of a Marble- iteneſs and Splendor. In *Myrepſus* you find σαλτζέμε *me*) for the *Latin Sal Gemmæ*.

antient *Arabic* Gloſſary I find *Callaſticus*, which I read *cus*; ὁ χαλαστικός. We know what the Phyſicians mean *aſtica*, which are ſuch Medicines as have a mollifying, , diſcuſſing, digeſting, and reſolving Virtue. *Aviſena*, Place, ſeems to enumerate and diſtinguiſh the Kinds of their proper Virtues and Faculties, rather than from r Difference in Nature, or Place of Growth. The firſt ions has an aſtringent Virtue, ſuch as is in Nitre: An- e ſays, (as he is rendered by the Tranſlator) is of a ittle Contexture; and a third excavated; theſe I don't nd, tho' he uſes the ſame Word *excavated* for a kind of ughout the Chapter. *Alpagus*, in his Lexicon, inter- *Imperial Salt*: What it is I can't ſay. Perhaps it ſhould *rabic* Word which implies a Faculty of ſeizing and car- f, from a Verb of the ſame Import with the *Hebrew* *bataph*, which ſignifies to ſnatch and carry away by By this, perhaps, he underſtands τὴν σμηκτικὴν δύναμιν, abſterſive Virtue," which exerts itſelf in carrying deterging and abſterging. An antient *Arabian* Inter- renders the λίθος μολυβδοειδής, *Lapis Plumbarius* of *ides*, by a Word which leaves us in doubt whether he a Salt of an azure Colour, or the *Armenian* Colour, e had ſomewhere read was reckoned, by the *Greeks*, the Kinds of Salt. Indeed *Zoſimus Panopolitanus*, by ος κυανȣ̃ Ἀρμενικȣ̃, "of an *Armenian* azure Salt," ſeems of a ſort of Paint of that Colour: So *Serapion* informs Chryſocolla was a kind of Salt. There are alſo purple nd yellow Salts: Let us ſuppoſe then, that *Aviſena* calls e Salt by this Name; yet I cannot be diſſatisfied with jecture, that the Place ſhould be read by a Word im- he σμηκτικὴ δύναμις, "abſterſive Faculty." What im- y precedes confirms me in it; for what the Tranſlator *rare and brittle*, I would have interpreted *biting*, from which ſignifies to *bite* and *corrode*. *Pliny* ſays of Salt: *ndo verò mordens*, *adurens*, *repurgans*, *extenuans*, *diſſol-* "In Medicine it is of a biting, cauſtic, cleanſing, atte- ng, and diſſolving Quality."

na next mentions another kind of Salt, which he calls , or *Drani*. The Author of the old *Latino-Arabic* ry, renders it χαλαστικόν, "relaxing:" Therefore gives this Name to a Salt that is endued with an emol- d diſſolving Virtue, which *Dioſcorides* calls διαχυτικὴ "a diſſolving Power;" *Pliny*, *diſſolvens*, "diſſolv- " ſuch eſpecially is the foſſile Salt, or Sal Gem; for reſt is moſt effectual in diſſolving, which is the Opinion *na* himſelf. He goes on to tell us, that there is another ich he calls *Naphthi*: By this is underſtood Naphtic Salt, kes its Name from *Naphta*, a kind of liquid Bitumen; , they ſay, which *Galen* calls *Sodomitic* Salt. I queſtion they are in the right; and we are to examine if the may not bear another Senſe. Perhaps the Author that kind of Salt which *Dioſcorides* calls ἐσχαρωτικός, rotic;" *Pliny*, *adurens*, "cauſtic." The *Arabians* by the Name of *Nafta*, a Veſicle, Bladder, or Tuber- n the *Greek* ἄφθα, "*Aphtha*;" which is explain'd μάτι ἕλκη, and φθοὶν, "Ulcerations in the Mouth." 'Tis that the *Greeks* put *Aphtha* for Bitumen; as in *Conſtan- Imperio*, πηγαὶ ἄφθαν ἀναδιδȣ̃σαι, "Springs yielding tha." This a learned Gentleman renders Springs which lcerations; whereas it means Springs running with tumen, or Naphtha. So then *Aphtha* is put for *Naphtha*; and the *Arabians*, on the contrary, put *Naphtha* for *Aphtha*, which ſignifies the Veſicle, or Bladder of an Ulcer. Hence *Sal Naphthi*, ὁ ἐσχαρωτικός, "eſcharotic," which by its cauſtic Quality raiſes Ulcers and Aphthæ on the Skin, and induces Eſchars. *Aviſena* obſerves nearly the ſame Order with *Dioſcorides*, in aſſigning proper Qualities to the different Kinds of Salt: Δύναμιν δὲ ἔχȣσιν οἱ προειρημένοι ἅλες πολύχρηστον, στυπτικήν τε καὶ σμηκτικὴν, καὶ ἀποκαθαρτικὴν, καὶ διαχυτικήν· ἔτι δὲ καταστατικὴν, καὶ ἰσχνωτικὴν, καὶ ἐσχαρωτικὴν, τῷ μᾶλλον καὶ ἧττον διαφέροντες· "The fore-mentioned Salts have many uſeful Qualities, being indued with an aſtringent, abſterſive, cathartic, "and diſcuſſive Virtue; together with a Power of repreſſing, "attenuating, and raiſing an Eſchar, being more or leſs efficacious according to their different Kinds." The eſcharotic Salt, then, of *Dioſcorides*, is the *Naphthi* of *Aviſena*, render'd literally *Veſicatory*. Tho' the modern Phyſicians call thoſe ſcorching Medicines Veſicatories, which they will have to be of a milder Kind than Eſcharotics and Cauſtics; yet the *Greeks* often confound them, and call thoſe Topics, which raiſe Veſicles on the Skin, and induce a Cruſt over the ſcorched Part, by the general Name of Cauſtics and Eſcharotics. 'Tis certain that there is to be found a Salt indued with a Faculty of ſcorching the Skin, cauſing an Itching, and raiſing Puſtules. *Strabo* calls ſuch Salts Κνησμώδεις ἅλας, "Itching Salts," ſome of which Kind, he ſays, are to be found in a certain Lake of *Atropatene*, a Province of *Media*, which burns the very Clothes that are waſhed in it. Λίμνην δὲ ἔχει τὴν Σπαῦτα, ἐν ᾗ ἅλες ἐπανθȣ̃ντες πήττονται· εἰσὶ δὲ κνησμώδεις καὶ ἐπαλγεῖς· ἔλαιον δὲ τȣ̃ πάθȣς ἄκος, ὕδωρ δὲ γλυκὺ τοῖς καταπυρωθεῖσιν ἱματίοις, εἴ τις κατ' ἄγνοιαν βάψειεν εἰς αὐτὴν πλύσεως χάριν· "It has a Lake called "*Spauta*, in which are Salt Springs, which concrete. Theſe "Salts raiſe a troubleſome Sort of Itching, which is cured by "Oil. The Water burns Clothes that are inadvertently "plunged in it, in order to be waſhed; in which Caſe they "have recourſe to freſh Water." *Strabo*, *Lib.* 11. That Salt muſt needs be very ſcorching and eſcharctic, or, at leaſt, as the Phyſicians ſpeak, *veſicatory*. Veſicatories are properly ſuch Topics as do not only raiſe a Redneſs, but Ulceration of the Skin, with Veſicles and Puſtules, in *Arabic*, as I ſaid, call'd *Naphthi*. The *Arabians* commonly inſert an *N* in the Middle of Words; but to this Word, which is taken from the *Greek*, they have prefixed it, ſaying *Naphtha* for *Aphtha*. *Aviſena* ſays that Sal Naphthi is black, which is the Colour of Gunpowder, in a *Greek* Epigram called *Ethiopian* Powder, which is nearly the Name commonly given to Naphthic Salt. *Aviſena* informs us, that it is of that Colour on account of the Naphthicity which is in it. He calls it, in *Arabic*, *Naphthia*, by which I underſtand a Faculty of burning, and raiſing a Bliſter: Thus, in the ſame Author, *Nitroſia* is Nitroſity; and there are other Words of a like Turn. He ſays, that it contracts this black Colour from its fiery and aduſt Nature; and that it loſes this Quality when it is burnt, and returns to the Nature of Sal Gem. Indeed all Salts, when burnt, loſe their Acrimony, and rather acquire a diaphoretic Quality, which is accounted a principal Property of Sal Gem: Οἱ δὲ κεκαυμένοι διαφορȣ̃σι μᾶλλον· "Salts, "when burnt, are the more diaphoretic." *Paulus Ægineta.* *Aviſena*, in the ſame Place, adds, that the *Indian* Salt was black, not on account of its Naphthicity, like the Naphthic Salt, but in its proper Subſtance. 'Tis doubtful what Sort he here calls the *Indian Salt*. The antient *Greeks* called their Sugar *Indian Salt*, becauſe they found it in Canes, concreted after the manner of Salt. The ſame Author, *Lib.* 4. *Cap. Of the Roughneſs of the Tongue, in feveriſh Patients*, mentions a Salt which was brought from *India*; this appears to be the Sugar of the Antients; nor is it ſtrange, that *Aviſena* ſhould reckon this among the other Kinds of Salt, tho' it be of a very different Nature; for thus, under the Head *De Atramentis*, "Of Inks," he ſpeaks of the *Indian* Colours, becauſe the *Greeks* called them μέλαν Ἰνδικὸν, "*Indian* Ink." Moſt of our later Writers ſeem to underſtand the Paſſage of *Aviſena*, where he treats of the Differences of Salt, and, among the reſt, mentions *Indian* Salt, to be meant of this Salt. For *Braſſavolus* writes, that the Sugar of the Antients, which themſelves inform us was a kind of Salt found upon Canes, was not imported to us at this Time; but that the Sugar commonly called *Candum*, "Sugar-candy," ſupplied its Place; and that the Druggiſts commonly uſed, inſtead of it, I know not what Sort of Drug, which was black on the Outſide; becauſe, it ſeems, the *Indian* Salt of *Aviſena*, as he informs us, was black. But this very thing is the cleareſt Proof, that the *Indian* Salt, of which *Aviſena* treats in that Chapter, is different from that *Indian* Salt which he mentions in another Place, on the Authority of the Antients, and is no other than Sugar: For that *Indian* Salt has the Colour of common Salt, as *Aviſena* himſelf, in his Chapter *De Aſperitate Linguæ*, expreſly ſays. And the *Greeks* alſo tell us, Ἅλς ὁ Ἰνδικὸς χροιᾷ μὲν καὶ συστάσει ὅμοιος τῷ κοινῷ ἁλὶ, γεύσει δὲ μελιτώδης· "The *Indian* Salt, for Colour and "Subſtance, is like the common Salt, but taſtes like Honey." But the common Salt is not black, but rather white. *Pliny* alſo tells us, that Sugar (which is the *Indian* Salt of the Antients)

tients) was white, and concreted after the manner of Gums. Therefore *Aviſena*, in his Chapter of the Kinds of Salt, muſt be underſtood to mean the true *Indian* Salt, not the Sugar of the Antients, which was, 'tis true, a kind of Salt; for Sugar is white, but this Salt of *Aviſena* black. *Meſue* alſo mentions this Salt, and tells us, that the Naphthic and *Indian* Salts are to be preferred before all others. *Strabo, Lib.* 5. relates, from *Clitarchus*, that in *India* there are Quarries of native Salt, where the Salt grows again, like Stones, in many Places. Speaking of the remarkable Things of the Iſland of *Ilva*, Τῦτο δὲ παράδοξον ἡ νῆσος ἔχει, ϗ τὰ ὀρύγματα ἀναπληρῦσθαι πάλιν τῷ χρόνῳ τὰ μεταλλευθέντα, καθάπερ τὺς πλαταμῶνάς φασι τὺς ἐν Ῥόδῳ, ϗ τὴν ἐν Πάρῳ πέτραν τὴν μάρμαρον, ϗ τὺς ἐν Ἰνδοῖς ἅλας, ὥς φησι Κλείταρχος. "There is one Thing very remarkable in "this Iſland, which is, that the Pits which are digged are fill'd "up again in time, as they ſay the Canals are in *Rhodes*, and "the Marble Quarries of *Paros*, or thoſe of Salt in *India*, as "*Clitarchus* relates." *Pliny* writes, that the ſame Sort of Salt is found in *Oromenus*, a Mountain of *India*, which he ſeems to take from *Clitarchus: Sunt & Montes nativi Salis, ut Indus Oromenus, in quo Lapicidinarum modo cæditur renaſcens; majuſque Regum Vectigal ex eo eſt quam ex Auro atque Margaritis.* "There are alſo Mountains of native Salt, like *Oromenus* in *India*, where they cut it like Stones out of Quar"ries, and it grows again; and it yields a greater Revenue to "their Kings than Gold and Pearls." But, perhaps, the *Arabians* called this Salt *Indian*, not from the Country, but the Colour; as they ſay *Indian* Myrobalans, becauſe that Sort is black; and *Indicum Colorem*, τὸ μέλαν, "Ink, *Indian* Colour." However, there are two homonymous Kinds of *Indian* Salt of a different Nature; namely, the Sugar of the Antients, which is the *Indian* Salt of the *Greeks*; and the *Indian* Salt of the *Arabians*.

To return to Sal Ammoniac; the *Barbarians* put *Armoniac* for it, as they do Gum *Armoniac* for *Ammoniac*. Hence *Pandectarius* calls this Salt *Armeniac*, as if it came from *Armenia*. I don't doubt that they dig Salt in *Armenia*, but then it is different from Ammoniac. At preſent we don't know what Sal Ammoniac is: Some conjecture that it is made of Camels Urine, concreted by Art. This ſeems probable to a very learned Man, becauſe, as he ſays, it is imported at *Venice* from the *Eaſtern* Countries, where are innumerable Herds of Camels: This deſerves to be laughed at; true Ammoniac comes rather from the *Weſtern* than the *Eaſtern* Parts of the World; for they dig it in *Ammonia*, a Country of *Cyrenean Africa*. It is of the ſame Kind, indeed, as Rock-ſalt, and Sal Gem; but is ſuppoſed to have a peculiar Property from the Nature of the Place. Sal Gem is as white and tranſparent as Sal Ammoniac. *Herodotus* ſays, there are Mountains or Hills of Salt beyond the Country of *Ammonia*, whence they dig Salt, *Lib.* 4. Μετὰ δὲ Ἀμμωνίας, διὰ τῆς ὀφρύης τῆς ψάμμου δι᾽ ἀλλέων δέκα ἡμερέων ὁδοῦ, κολωνός τε ἁλός ἐστιν ὅμοιος τῷ Ἀμμωνίῳ "Ten Days Jour"ney beyond *Ammonia*, upon the Edge of the Sands, runs a "Ridge of Hills of Salt, which is like the Ammoniac." Hence it appears, that Sal Ammoniac does not take its Name from the Sand, but from the Country *Ammonia*. *Serapion* tells us, that it is extracted from hard and clear Stones; which Expreſſion has been criticized by a very learned Phyſician, though without Reaſon; when he informs us, in the ſame Place, that it is imported from the Country of *Coraſan*; this muſt not be accounted the true Sal Ammoniac, which can only be brought from the Country of *Ammonia*, where it is produced, and whence it takes its Name. The *Coraſan* Salt is of the ſame Kind, but not the ſame with Ammoniac. He tells us, in the ſame Place, that it is of ſeveral Colours, as black, white, and party-coloured; but the antient *Greeks* deſcribe an Ammoniac of but one Colour, which is white, and pellucid like Cryſtal; and in this they are followed by *Aviſena*, who reckons but one kind of Ammoniac; of which Kind, and of this perhaps the blackeſt, is what the *Arabians* called *Milch hendi*, *Indian* Salt. *Salmaſius de Homonym. Hyl. Iatr. Cap.* 111.

Of GUM AMMONIAC (*or* HAMMONIACUM).

AMMONIACUM (Gum Ammoniac) is the Juice of a ferulaceous Plant, (νάρθηξ) which grows in that Part of *Libya* which lies about *Cyrene*. The whole Shrub and Root together are called Agaſyllis.

Chuſe what is of a good Colour, free from Chips and Gravel, in ſmall Lumps like Frankincenſe, pure and denſe, clean from Droſs, ſmelling like Caſtor, and of a bitter Taſte. This ſort is called *Thrauſma* (Lump or Fragment); but that which is mixed with Earth or Stones, *Phyrama* (Miſcellany). It is generated in *Libya*, near the Temple of *Ammon*, being the Juice of a ferulaceous Tree.

It has a mollifying, drawing, heating Quality, diſcuſſive of Hardneſſes and Swellings. Being drank, it looſens the Belly, and brings away the Fœtus. A Dram of it, taken in Vinegar, waſtes the Spleen, and helps the Gout and Sciatica. It gives Relief alſo in the Aſthma, Streightneſs of Breath, (ὀρθοπνοϊκοῖς) Epilepſy, and Humidity of the Thorax, if made into an Eclegma with Honey, or taken in the Juice of Ptiſan. It exp bloody Urine, abſterges white Specks in the Eyes, (τὰ ἐν ὀφθαλμοῖς λευκώματα) and takes off the Roughneſs of the Ski Levigated in Vinegar, and applied, it mollifies the Hardneſs o the Liver and Spleen. Applied in a Cataplaſm with Honey, o mixed with Pitch, it diſſolves Tophi generated about the Join Mixed with Vinegar, Nitre, and *Cyprine* Oil, for an Acopo and the affected Parts anointed therewith, it relieves thoſe wh labour under Laſſitudes, or the Sciatica. *Dioſcorides, Lib.* *Cap.* 98.

Pliny gives much the ſame Account of it as *Dioſcorides*.

In that Part of *Africa* which borders on *Ethiopia*, amon the Sands, diſtils the Tear of Hammoniac, taking its N from the Oracle of *Hammon*, near which grows the Tree ca *Metopion*, whence it flows in manner of a Gum or Re There are two kinds of this Hammoniac, one called *Thrau* like Male Frankincenſe, which is moſt valued; the other i and reſinous, and named *Phyrama*. It is adulterated with S as if it were contracted in its Growth; for which reaſon, which is in the ſmalleſt and pureſt Lumps bears the higheſt Pr which is forty Aſſes (about three Shillings) the Pound. *Pl* *Nat. Hiſt. Lib.* 12. *Cap.* 23.

Hammoniac mollifies, heats, diſcuſſes, diſſolves. Mixed Collyriums it clears the Sight, and takes off the It Specks, and Albugines of the Eyes, eaſeth the Tooth eſpecially if burnt. Drank, it is good for the Aſthma, Ple riſy, Infirmities of the Lungs, Bladder, bloody Urine, Sple and Sciatica; and, prepared with an equal Quantity of P or Wax, and Oil of Roſes, is a proper Medicine for the Jo and the Gout. Applied with Honey, it ripens Pani, draws Corns, and mollifies Hardneſſes. Prepared with Vinegar *Cyprian* Wax, or Oil of Roſes, it is very ſucceſsfully appl the Spleen; and with Vinegar, Oil, and a little Nitre, is ctual in Laſſitudes, the Parts being throughly anointed th with. *Idem, Lib.* 24. *Cap.* 6.

Directions for the Management of Gum Ammoniac in Plaiſ

Ammoniac is put in when the Boiling is half over. If Plaiſter is prepared for bleeding Wounds, the Ammoniac be macerated in Wine or Vinegar. If it be a ſoft Plaiſter, as is prepared for the Anus, levigate the Gum in Water, add it to the other Ingredients, after they are boiled. *Ori* *from Antyllus, Synop. Lib.* 2. *Cap.* 61.

Ammoniac is to be added in the midſt of the Boiling, if it can be pounded and ſifted, put in the fineſt Powde not, let it be macerated in ſome Liquor, as Wine and V gar, if it be to make a Plaiſter for bleeding Wounds; Strumæ or Fiſtulas, with Vinegar only; if it be for Plaiſter, ſuch as is prepared for the Anus, let it be in W and poured to the reſt when they are cooled, to preven Effervefcence, and then boil them again together. *Tetr.* 4. *Serm.* 2. *Cap.* 25.

Gum Ammoniac is thus diſtinguiſhed amongſt the Mo

AMMONIACUM, Offic. C. B. Pin. 494. Raii Hiſt. 2. Chomel. Plant. Uſu. 182. Math. 2. 803. *Ammoniacum*, Bot. Offic. 30. *Gummi Ammoniacum*, Schrod. 4. 184. *Ammoniacum*, Park. Theat. 1544. Ger. 898. Emac. *Dale*.

AMMONIACUM is ſo called, becauſe the Plant produced it, was ſuppoſed to grow about the Temple of *ter Ammon* in *Libya*. It is a Gum brought to us from and *India*, and is thought to be got from a Species of there being often Seeds and Pieces of a ferulaceous Plant amongſt it. The beſt is that which is in little Lumps, iſh on the Outſide, and white within, apt to clog togethe from Droſs, and eaſily diſſoluble.

This Gum is opening, attenuating and cleanſing, clear the Lungs of viſcid Phlegm and Stuffings; and th of great Service in Aſthmas, and Shortneſs of Breath; in nervous, hyſteric, and hypochondriac Diſorders; ou ly applied, it is ſuppurating, ripening, and diſſolving, for hard Swellings, and ſcrophulous Tumors. Officinal rations from it, are *Pilulæ de Ammoniaco magiſtrales*, *plaſtrum ex Ammoniaco. Miller Bot. Offi.*

This Gum contains Plenty of eſſential or volatile Oil, Phlegm and Earth.

It reſolves, digeſts, and is aperitive; proper for Ha the Spleen, Liver, and Meſentery; opens Obſtructions, vokes the Menſes, and is uſed both internally and ext *Lemery de Drogues.*

Geoffroy adds it as a good Emmenagogue, when given a Scruple to half a Dram; and is very proper to be mi Preparations of Steel, and Flowers of *Sal Ammoniac*, in Boles. *Geoffroy.*

Preparations of Gum Ammoniac.

Pilulæ de Ammoniaco Magiſtrales: Magiſterial Pill
Ammoniacum.

Take of Gum Ammoniacum, prepared with the Vi Squills, two Ounces; of Succotrine Aloes, one Ou

half; of Myrrh, Maſtich, and Benjamin, each half an
unce; of Saffron, and Salt of Wormwood, each two
rams; of Syrup of Wormwood, a ſufficient Quantity
make them into a Maſs for Pills.

e were not received into any of the Diſpenſatories of
llege before, but ſeem to be taken from the *Auguſtane*
ſatory, where they are aſcrib'd to *Quercetan* for their
; the Variation here from that is very little. *Zwelfer*
ſo much Vinegar to be uſed in the Diſſolution of the
as not to want any Syrup to bring it to a due Con-
He alſo greatly blames the Lixivial Salt in this Com-
, not only as foreign to the Intention of the Whole,
auſe it ſpoils its due Conſiſtence for Pills, by taking
s Tenacity, and making it crumble, as all ſuch Salts
to adheſive Subſtances. This Compoſition is given by
much in the ſame manner as it is continued here.

laſtrum ex Ammoniaco. The Ammoniacum Plaiſter.

of the ſtrained Gum Ammoniacum, ſix Ounces; of
llow Wax, and Reſin, each five Ounces; of the ſim-
Melilot Plaiſter, Ointment of Marſhmallows, of the
ls of Bays and Orrice, and Venice Turpentine, each
Ounce and an half; of Gooſe-fat, one Ounce; of
Ammoniac, of Briony-root, and the Root of Orrice,
h half an Ounce; of Galbanum, and Bdellium, each
o Grains: Let them boil together, ſo as to make into
Plaiſter.

hath paſſed through all the Editions of the *London Diſ-*
, without any great Alterations. It requires a good
Care and Skill to compound it well. All the things
of melting ſhould be ſo managed together and ſtrained,
other things ſifted in, in fine Powder. But this is not
ſed, and but rarely made.

Lac Ammoniacum. Milk of Gum Ammoniac.

of the pureſt Gum Ammoniac, three Drams: Diſ-
e it in ſix Ounces of Hyſſop-water cold, in a cold
rtar.

oonful of this is to be taken frequently in Difficulties of
g. *Bates.*
what different from this is the *Lac Ammoniacum*, or
Ammoniaca, Ammoniac Milk, or Emulſion of *Quincy.*

fine Gum Ammoniac, three Drams: Diſſolve in
ill'd Vinegar, half an Ounce; Rheniſh Wine, two
nces; and Hyſſop-water, four Ounces: Strain it for
e.

Doſe of this is a Spoonful three or four times a Day,
g to the Exigency of Symptoms. It not only expecto-
d relieves the Breath that way, but is alſo good in the
Siccum, or Spaſmodic Aſthma, where common Pecto-
nothing; as it has peculiar Influences upon the Nerves
es.

Ammoniac, from the Memoires of the Academy of Sciences.

is not a Drug more common than Sal Ammoniac,
pretty ſurpriſing, that we do not exactly know from
ts it comes, nor after what Manner it is made. For-
e had it by the Way of *Venice*, which made it be-
at it came from thence, but now we know the con-
t comes from the *Levant*, and probably a great Part of
Egypt; but we do not know from what Province of
nt, nor from what Part of *Egypt*.
Chymiſt knows, that it is an urinous volatile Salt pene-
an Acid, and he knows how to imitate it. For this
different Proceſſes, of which M. *Geoffroy* the younger
a particular Account. 'Tis uſual to put one Part of
Salt to five Parts of Urine; moſt add thereto half a
Soot. Mr. *Lemery*, and the late Mr. *Homberg*, put
This Mixture being put in a Veſſel, there is ſubli-
hite, rarefy'd, farinaceous Subſtance, of a looſe and
ontexture, which is the Sal Ammoniac. The Mat-
rifes by Sublimation under that Form, they call
But M. *Lemery* aſſerts, that this is not the Way of
al Ammoniac in the Places from whence it comes.
orm'd into round flat Cakes larger than an ordinary
d three or four Fingers thick, conſiſting of Cryſtals
mns, which are diſpos'd in the Direction of its Thick-
his Figure and Diſpoſition are manifeſtly thoſe of a
tter infus'd in Water, and after Evaporation cryſtal-
remaining at the Bottom of the Veſſel, where it
ts Figure, which is directly contrary to Sublima-
ſides, the Sal Ammoniac which we make is not dif-
ake the Figure of the Veſſel into which it is elevated,
because it is in farinaceous Flowers, which have very little Coheſion; whereas the Cakes which are ſent to us are very hard and compact. In ſhort, if Sal Ammoniac were made in the *Levant* as it is made here in our Furnaces, a vaſt Quantity of Salt, of urinous Matters, of Wood, Coals, Utenſils, and Workmen, would be neceſſary; and all this, added to the Charge of tranſporting it, would make this Commodity, which is diſperſed over all *Europe*, very dear, whereas it is ſold at a moderate Price. For this laſt Reaſon M. *Lemery* believes, that Sal Ammoniac is made in the *Levant* with as little Labour and Coſt, as Salt in our Salt-marſhes, which is as much as to ſay, that it is made by a ſimple Evaporation preceded by ſome Lotions, which ſerve to purify the Matter. It is poſſible, that there may be Mines of Sal Ammoniac, as well as Sal-Gem; and there is found ſome Sal Ammoniac form'd in Mount *Veſuvius*. If there are Earths naturally impregnated with common Salt, and at the ſame time well water'd with the Urine of Animals, and the Heat of the Sun be very great, it is eaſy to conceive, that the Fermentation cauſed by the fervent Heat will unite the Acid of the common Salt with the urinous Salt, and ſo produce Sal Ammoniac. That of the Antients was probably formed after this manner in *Libya* and *Arabia*. But theſe Places are not frequented enough at preſent, ſo that there is no Care taken to collect the Sal Ammoniac. It was always certain, that ſeveral Earths, and old Plaiſter, have afforded Signs of Sal Ammoniac; and ſo much the more as theſe Earths were more ſmoaky, and the Plaiſter the older. 'Tis true there is but little Salt to be got out of them, but there is a great Difference betwixt our Sun and that of *Egypt*. Perhaps too it is neceſſary, that the Earth, which yields plenty of Sal Ammoniac, ſhould be barren, and incapable of producing any Plants which might attract that Salt for their Nouriſhment. This laſt Thought gave Occaſion to a Notion of M. *Lemery* for making this Salt common in any Country; which is, that it may be extracted from Plants: Some Plants in theſe Parts are, without all Queſtion, full of it; others are replete with Vitriol or Saltpetre, and, in a Word, with all the Kinds of concrete Salts.

Whatever Truth there may be in theſe different Conjectures, 'tis very certain, that in thoſe Places whence we have the Sal Ammoniac, the Materials of which it is made muſt be very plentiful; and it is more than probable, that if it be made by Art, the Operation is very ſimple and eaſy. *Hiſt. de l'Acad. Roy. des Scienc.* 1716.

Of all known Subſtances there is not one, in my Opinion, that affords ſo much volatile Salt in a Body as Sal Ammoniac. They mix this Salt with Salt of Tartar, or with Lime, and diſtilling them with a moderate Fire, extract thence, as every one knows, the Spirit, and the volatile Salt; for the Lime, or the Salt of Tartar, detaining the acid Part of the Sal Ammoniac, give Room for the volatile Part to diſengage itſelf, and to be ſublimed. Fifteen Ounces of Sal Ammoniac, mixed with twenty Ounces of Salt of Tartar, afford ten Ounces of volatile Salt, which are two thirds of the Sal Ammoniac analyſed; beſides which, they extract three Ounces and an half of Spirit. The Caput Mortuum weighs twenty Ounces and an half, that is, half an Ounce more than the Salt of Tartar which was uſed. Hence it appears very probable, that the three Ounces and half of the Spirit of Sal Ammoniac proceed partly from the Phlegm in the Salt of Tartar, which Phlegm diſſolves as much as poſſible the volatile Salt of the Sal Ammoniac united with a very penetrating Sulphur; for it is not probable, that fifteen Ounces of Sal Ammoniac analyſed contain but half an Ounce of Acid. The Salt of Tartar always retains a great deal of Phlegm. How dry ſoever it appears, it grows very humid; and if it be placed over the Fire in an iron Kettle, in order to be dry'd anew, and uſed quite hot as it comes off the Fire, before the Air has penetrated it, the volatile Spirit of the Sal Ammoniac can ſcarcely be diſengag'd. *M. Tournefort, Mem. de l'Acad. Roy. des Scien.* 1700.

Spirit of Wine poured on Spirit of Sal Ammoniac, or Spirit of Silk, immediately produces a very conſiderable ſaline Concretion, which in the latter is manifeſtly ſeparated into thick Concretions of Salt; but in the Spirit of Sal Ammoniac the volatile Salt is extremely divided, ſo that it is ſomewhat difficult, at firſt Sight, to know whether it be a ſaline or ſulphurous Maſs: This gave Occaſion to name it *Offa Helmontii*; but 'tis ſoon prov'd to be all ſaline, for it entirely diſſolves by an Affuſion of Water: It ſeems manifeſtly to diſcover itſelf by the intolerable Smell. *M. Tournefort, Memoires de l'Acad. Royal. des Sciences*, 1700.

Of all Salts Sal Ammoniac moſt intenſely cools the Water in which it is diſſolved, whoſe Coldneſs equals that of Water ready to freeze. And once indeed it happen'd, while I was diſſolving a conſiderable Quantity of this Salt in Water, that ſome Drops fell out of the Matraſs in which I made the Diſſolution, and froze, ſo that the Straw on which the glaſs Veſſel was placed, being wet, ſtuck to it for ſome time: This was in the Summer, when the Weather was pretty hot.

The great Coldneſs of the Solution of Sal Ammoniac does not proceed from the Difficulty of diſſolving it, for it is diſſolved with more Eaſe than other Salt; and Sea-ſalt, whoſe Solution is difficult, and very ſlow, leaſt of all cools its Diſſolvent. It ſeems, on the contrary, as if the Readineſs of the Diſſolution were the Cauſe of that exceeding Cold.

Sal Ammoniac is known to conſiſt of a ſea Salt, and an urinous Salt, one very eaſy, the other very difficult to be diſſolved.

Among cold Solutions may be reckon'd the Experiment made by the late M. *Homberg* before the Company, which ſerves to prove, that the Coldneſs of Sal Ammoniac is perform'd as follows:

They take a Pound of corroſive Sublimate, and a Pound of Sal Ammoniac; they pulverize them apart, and then mix the two Powders very carefully; after this they put this Mixture in a Matraſs, and pour upon it three Pints of diſtilled Vinegar. After well ſtirring it, the Mixture becomes ſo exceeding cold, that you can hardly hold the Veſſel in your Hands for any conſiderable time in Summer. When M. *Homberg* made a great Quantity of this Mixture, it was ſometimes frozen.

We ſee in this Experiment a greater Cold produc'd than by a Diſtillation of Sal Ammoniac in common Water; this Exceſs of Cold is cauſed by the corroſive Sublimate, which by itſelf is not at all, or very little, diſſoluble in diſtilled Vinegar. Hence it happens, that the fluid Parts of the diſtilled Vinegar having readily penetrated the Parts of the Sal Ammoniac, and having already loſt much of their Motion, coming afterwards to engage in the Pores of a Body which they cannot diſſolve for want of ſufficient Action, ſoon loſe that little Activity which they had left, and fix themſelves, if not all, at leaſt the greateſt Part of them; and this Inaction of the Liquid excites exceſſive Coldneſs.

If on a Mixture of four Ounces of Oil of Vitriol, and one Ounce of Sal Ammoniac, you caſt a Spoonful of common Water, at the time when the Fermentation is at its Height, and the Cold the greateſt, and the Thermometer deſcends quickeſt, the Fermentation ceaſes, and the Cold very ſpeedily changes to a very conſiderable Heat, which conſiderably raiſes the Liquid in the Thermometer. *M. Geoffroy, Mem. de l'Acad. Roy. des Sciences*, 1700.

M. *Lemery* had a Salt taken from Mount *Veſuvius*, which they call natural Sal Ammoniac. It was of a compact Subſtance, pretty ponderous, and very white, the Inſide cryſtalline; it would not attract much Humidity from the Air, had no Smell, was of an acrid ſaline Taſte, and very like that of Sal Ammoniac. He made ſeveral Experiments with it; among the reſt, he mix'd it with three times as much Spirit of Nitre, and made an Aqua Regia of it, exactly like what is made of the common Sal Ammoniac. He found it to have ſeveral Effects of Sal Ammoniac, and alſo of Sea-ſalt. He ſuppoſes that his Salt of *Veſuvius* is no other than a foſſile Salt, which is diſſolv'd by the Sea, and ſublimed to the Top of the Mountain by ſubterraneous Fires. *Hiſt. de l'Acad. Roy. des Sciene.* 1705.

A Memoire addreſs'd to the Academy concerning Sal Ammoniac, and by M. Lemere, *Conſul at* Grand Cairo, June 24. 1719.

Concerning Sal Ammoniac, I ſhall obſerve, 1. The Matter. 2. The Veſſels that contain it. 3. The Diſpoſition of the Furnaces. 4. The Manner of working. And, 5. the Quantity and Uſe of that Salt.

1. The Matter is pure Soot, and nothing elſe; but ſuch a Soot as is ſwept from Chimnies where they burn Turfs of the Dung of Animals fed with Straw, which is the common Fuel in this Country, where they have no Wood. Theſe Turfs, which are impregnated with alcaline and urinous Salts, communicate to the Soot certain Properties which it could not be expected to receive from the Smoke of Wood and Coal, and yet are abſolutely neceſſary for the Production of Sal Ammoniac.

2. The Veſſels which contain the Matter are exactly of the Figure of Bombs. They are great round glaſs Bottles, a Foot and half in Diameter, with a Neck two Fingers in Height. They caſe over theſe Bottles with a fat Earth, and fill them with Soot to four Fingers ſhort of their Neck, which continues void and open. They contain each about forty Pounds of Soot, which at the End of the Operation yield ſix Pounds of Sal Ammoniac. Soot of an extraordinary Quality affords above ſix Pounds; what is worſt, affords leaſt.

3. The Furnaces are built like our common Ovens, except that their Vaults open with four Clefts in a Row lengthwiſe; upon each Cleft are four Bottles, which are placed in ſuch a manner, that the Bottom of the Bottle being ſunk in, and expoſed to the Action of its Flame, only the Neck of the Bottle remains expoſed to the Air; the reſt of the Cleft is ſtopped up, and well cemented. Every Furnace then contains ſixteen Bottles; and every great Laboratory conſiſts of eight Furn diſpoſed in two Rooms, ſo that it employs at once a hun and twenty-eight Bottles.

4. In each Furnace, for three Days and Nights toge there is kept up a conſtant Fire made of the Dung of An mix'd with Straw. The firſt Day the groſs Phlegm of Soot exhales in a thick Fume by the open Neck of the Bo The ſecond, the acid and alcaline Salts, being ſublimed, ciate towards the Top of the Bottle, where they touch Neck, and, uniting, coagulate. The third Day the Coagu continues, depurates, and is perfected. In the mean ti Maſter makes a little Hole in the Side of each Bottle, below the Neck, to ſee if the Matter be bak'd enough, there be nothing more to be ſublimed. After he has Obſervations, he ſtops the Hole carefully with the fat and opens it from time to time. At laſt, when the W brought to the Point at which it ought to ſtand, he away the Fire, breaks the Bottles, ſhakes off the Aſhe the Bottom, and takes the round, white, and tra Maſs, of the Thickneſs of three or four Fingers, that to the Neck, which is what they call Sal Ammoniac.

5. In two Towns of *Delta*, near one another, a from the City of *Munſoure*, there are twenty-five great ratories, and ſome ſmall ones, which make every Year hundred or two thouſand Quintals [Hundreds] of Sal niac. In all *Egypt* beſides there are but three Labor more, two of which are alſo in *Delta*, and one in *Cairo*, which do not produce above twenty or thirty of this Salt.

Sal Ammoniac is principally uſed by Whiteners of Veſſels, Goldſmiths, Caſters of leaden Shot for Game, a noted Drug with the Chymiſts and Phyſicians. *Sicara*, a Miſſionary, and an Eye-witneſs, ſays they add Sea-ſalt and Urine of Beaſts. *Mem. de l'Acad. Roy. des Sc*

The Plague at *Marſeilles* having interrupted all Co to the *Levant*, obliged us to have the Drugs we wanted *Holland*, among which was the *Indian* Sal Ammon ported by the *Dutch Eaſt-India* Company. This Sort in the Figure of a Sugar-loaf, with the Top cut off largeſt of theſe Loaves are nine Inches in Diameter at and three Inches and a Quarter at the Top, and elev and an half in Height. They are not one ſolid Maſs, low on the Inſide towards the Baſe, and this Cavity Cone ſeven Inches and an half in Diameter, and Inches and an half in Height.

It appears by the Largeneſs of theſe Loaves, comp thoſe of *Egypt*, that they work up this Salt in much Maſſes in the *Indies*; for theſe laſt weigh fourteen Pounds, whereas the others weigh but four or five.

Their Conſiſtence is nearly the ſame, which ſhe they are produc'd by a Sublimation not much differ indeed the Difference lies only in the Figure which from the ſubliming Veſſel. The *Indian* Loaf is ma Shape of a Cone, and it appears to be adapted to which contains the Matter, both at Top and by th There is alſo Reaſon to believe, that this Salt is ſubli this Form, as the moſt commodious for ſo heavy We find, in ſubliming Sal Ammoniac in our Reto it riſes in the ſame manner along the Neck, and there itſelf in the Form of a Cone.

From the Manner in which I conceive theſe Veſſels juſted, it is eaſy to imagine how it is poſſible to work tity of Matter in them ſufficient to afford fourteen Pounds of ſublimed Salt; for one might fill the Ret times during the Sublimation, by an Aperture made poſe at the Top, as it is in our tubulated Retorts.

The Loaves of Sal Ammoniac made in *Egypt* Smallneſs to their being ſublim'd to the very Top of that contains the Matter, which is of a Capacity limited. The ſame alſo gives them the Figure of a C upſide down, for that is the Shape of the Ball or which they are ſublim'd.

Another Advantage that ariſes from the Figure of Sal Ammoniac is, that its Superficies is cleaner, and Impurities, becauſe all the fuliginous Vapours, which ing the Operation, have a freer Paſſage to the Top of and are readily ſeparated by cutting off that Top Loaves are formed.

Around the Circle which terminates the Loave Marks of five or ſix Holes which were made during ration, by way of Precaution, to afford means for ſubliming, to arrive at the Top, and there ſolidly by letting out the rarefy'd Air and Fuliginoſities, hinder the Sublimation.

The Veſſels in which this Salt is ſublim'd are of G I have found Bits of it ſticking on the Surface of as I have obſerv'd them alſo on the common Sal Am

The outer Surface of the *Indian* Sal Ammoniac c ſolid Cruſt, five or ſix Lines thick in the ſtrongeſt

bly diminiſhing to an Inch and an half from the Baſe,
it unites with that which immediately encompaſſes the
y of the Loaf. Both the internal and external Cruſts
mpoſed of Laminæ, which are tranſparent, horizontal,
very cloſe one upon another. The interior is the moſt
rent, as being moſt expoſed to the Action of the Fire,
confounds two or three Laminæ together; but in pro-
n as theſe Laminæ are diſtant from the Cruſt, they loſe
Tranſparency, and 'tis eaſy to obſerve the Number of
which conſtitute the Body of the Loaf.

may readily know by the Gradation of theſe Strata after
manner they are formed, and united together by the
ation. The firſt which ariſe ſtick to the Sides of the
where they are harden'd by the Heat of the Reverbe-
which covers the ſubliming Veſſel; they afterwards cloſe
icken by the Acceſſion and Union of ſaline Laminæ.
this manner is formed the cryſtalline Cruſt which covers
ole Loaf on the Outſide.

ſaline Maſs, which is elevated in a great Quantity by
olence of the Fire, diſpoſes itſelf all around this Cruſt
eedles; theſe are much obſtructed in their cloſing and
ſing by the Thickneſs of the Maſs, which being conſi-
augmented covers the intermediate Laminæ from the
of the Fire. At laſt the Point of the Cone is clos'd
Quantity of Matter which ſublimes very briſkly; ſo
Fire then acts with Vigour on the laſt Strata that were
d, and preſſes and hardens them extremely. And this
forms the interior Cruſt, and the void Space about the
of the ſublim'd Cone. This Space takes alſo the Fi-
f a Cone, becauſe the Fire drives the Matter with its
Force upwards, and diſperſes it on all Parts towards the
f the Veſſel. As it is thinner, and lies cloſer towards
ſe, a Cavity is form'd, which leſſens continually as it
wards the Top, where it ends in a Point, becauſe the
ould be remov'd no farther.

ou cut a Loaf of Sal Ammoniac in Quarters, you may
between the interior and exterior Cruſts no leſs than
r eight Strata of different Degrees of Denſity.

the greateſt Thickneſs is towards the Top of the Loaf;
Reaſon for making Holes, as I ſaid, in order to clear
rt, which would otherwiſe be filled too ſoon.

make a Compariſon between the *Indian* and *Egyptian* Sal
niac, it appears, that they are of the ſame Compoſition;
to their Qualities, and the Uſes to which they are ap-
there can be no great Difference between them.

t of the *Indies* has the Advantage of being pretty clean
mpurities on the Surface, and having only its Top of
Alloy than the reſt; ſo that upon the whole Maſs there
e leſs waſte than in the *Egyptian* Loaves, which are
d with more Impurities in proportion to their Bigneſs.

ng been already particular on the Compoſition of this
ſhall now ſpeak of its Decompoſition, and firſt give
bſervations on the manner of taking from it the
urinous Salt, ſo well known by the Name of *Engliſh*

the ſame Salt which is the Baſis of the Sal Volatile
m of *Silvius*, and therefore was always known to the
ſts. It was not call'd *Engliſh Salt* becauſe the *Engliſh*
e Inventors of it, but only becauſe they made the Uſe
ore frequent, and, as I may ſay, brought it into Faſhion.
its penetrating, tho' not diſagreeable, Smell; beſides,
g correcled by different Perfumes, extracted from odo-
Plants, whence it took their Names, as tho' it really
ed from them; its dry Form, which render'd it the
o be carry'd in the Pocket in little Bottles, with its Uſe
ours and Faintings, brought it in Vogue among the
who are Lovers of Novelties, and eſpecially of what
from foreign Countries.

700. M. *Tournefort* publiſhed in the Memoires of this
ny, that it was poſſible from fifteen Ounces of Sal Am-
to extract ten Ounces of volatile Salt, beſides three
of Spirits; but I have found by working on the ſame
at it contains a much greater Quantity, which I have
eans to diſcloſe, and to ſublime in the Form of a Salt,
hick, and tranſparent; in Fact, I extract from one
of Sal Ammoniac above thirteen Ounces of volatile
a dry Form, that is, above Three-fourths; whereas
rnefort from fifteen Ounces did not extract above Two-
which yet is more than any Chymiſt did before him.

ſſes for certain Matter of Fact, that Salt of Tartar and
moniac, mixed together, emit an urinous Smell; but if
care firſt to dry them well, there will neither urinous
tile Vapour exhale from them. The Humidity of the
nough to moiſten the Salt of Tartar, and make it fit
pon the Sal Ammoniac, which it is then known to do
mell. If you take care then to ſecure this Mixture
overt from the Moiſture of the Air, you may keep it
ays in a Veſſel well ſtopped, and yet no urinous Spi-
fly off from it; ſo that to extract the volatile Salt of a good Dryneſs from Sal Ammoniac, you muſt avoid as much as poſſible too much Humidity.

M. *Lemery* was in the Right to ſay, that Spirit of Wine was ſo far from diſſolving the volatile Salt, that it contributed much to its Preſervation, whereas Water did nothing but reſolve it into Spirit. I don't ſay, that in order to extract the volatile Salt dry as it ought to be, we muſt abſolutely reject every Kind of Humidity; for then we ſhould obtain nothing but ſimple Flowers, which can never make a ſolid Maſs.

The Method in which I beſt ſucceeded was as follows: Firſt, I took Sal Ammoniac the moſt purify'd, and pulverized very fine; then I took ſome alcaline Salt, as Salt of Tartar, Salt of Aſhes of old Lees of Wine burnt, or ſome other like it, which have been purefy'd by Calcination, Lixiviation, and Evaporation; after this I calcined it again, in order to take away its Humidity as much as poſſible; then I pulverized it, and paſs'd it hot through a Sieve. I took care likewiſe to dry the Sal Ammoniac very well, even till it ſmoak'd. I then weighed Part of it, and three times as much of alcaline Salt, while it is yet hot: In this State the two Salts can perfectly mix without diſcovering any Volatility; they are put into the Retort, which is ſtopped very carefully, and there left twenty-four Hours, without any Emanation from them, like what uſually proceeds from a Mixture of Sal Ammoniac with Salt of Tartar. I pour into the Retort, for every Pound of Sal Ammoniac, two Ounces and an half of Spirit of Wine, taking care immediately to ſtop up the Retort very cloſely, to retain the volatile Salts, which are ſure to fly off, as ſoon as the Humidity, which the Spirit of Wine brings with it, diffuſes itſelf among the Salts.

It is adviſeable to leave the Whole in a ſort of Digeſtion, tho' in the Cold, and to ſtir the Salts in the Retort, in order to make way for the Spirit of Wine to diffuſe itſelf, to penetrate, as much as poſſible, the ſaline Parts, and to excite a ſort of Fermentation. After twelve Hours of Digeſtion, I unſtop the Retort, and adapt to it two Receivers, the firſt of which has an Aperture at each End, in order to preſerve a Communication between the Retort and the ſecond Receiver: The Joints are well luted; and while the Lute dries there is an additional Time for Digeſtion. Then you put Fire by Degrees, in order to make a very gentle Sublimation by the Heat of the Reverberatory. At firſt there exhales a little of the Spirit in Vapours, which it almoſt immediately condenſes againſt the Surface of the firſt Receiver; what paſſes into the ſecond remains liquid, and at laſt all the firſt Receiver becomes furniſhed with volatile Salt, which ſticks firmly to its Surface in Form of a Cruſt, and is more or leſs thick in proportion to the Quantity of Salt which is ſublimed.

When no more comes off, the Veſſels are unluted, and a Separation is made of the Liquor contained in the laſt Receiver, and that which may perhaps remain in the firſt. The Whole together gives back very nearly as much Spirit of Wine as was uſed. All the volatile Salt takes a dry Form, very ſolid, except a ſmall Portion of it, which appears like Snow, becauſe found in the Receiver mix'd with Spirit of Wine. There remains yet ſome volatile Salt in this Spirit; for after ſome Days it depoſits the ſame in the Form of Needles, as it happens in Cryſtallizations of Salts under the common Operations. And if this Liquor be again emptied in another Bottle, it will in Length of Time depoſit ſtill more Salt like ſolid Cryſtals of different Figures; but the firſt are very fine.

This Salt, as well as other volatile Salts, is capable of Rectification. The moſt convenient Method for all Sorts of volatile Salts is to rectify them in the ſame ſort of glaſs Veſſel, ſet in Balneo Mariæ, where the Heat is very gentle and equal; and, on that account, preferable to a Sand-heat.

In making this Rectification, it will be proper to mix with this Salt thoſe eſſential Oils, with which we would have it perfumed, becauſe by this Method none are communicated but the moſt ſubtil and moſt fragrant Parts.

The Method I have deſcribed is alſo the moſt proper to determine, to the greateſt Nearneſs, how much of the volatile is contained in Sal Ammoniac, and the Portion of acid Salt, by which this volatile is retained. This will now appear, by comparing the Matter which I uſed, with the Product of my Operation.

I took three Pounds of alcaline Salt, one Pound of Sal Ammoniac, and two Ounces and a half of Spirit of Wine; the Whole made together a Maſs of four Pounds two Ounces and a half.

From this I extracted, in a dry Form, thirteen Ounces and three Drams of volatile Salt, and one Ounce five Drams and a half of Spirit, beſides one Ounce and half a Dram imbib'd in the Papers, that I put about the Joints of the Veſſel. This makes in all ſixteen Ounces one Dram of volatile Salt, from which muſt be deducted two Ounces and a half of Spirit of Wine, which I uſed, and there will remain thirteen Ounces five Drams of volatile Matter, which one Pound of Sal Ammoniac yielded by my Operation.

The Caput Mortuum, which remained in the Retort, weighed three Pounds one Ounce, tho' I had uſed but three Pounds of alcaline Salt for a Medium; hence I had Reaſon to conclude, that this Ounce of Overplus was the Weight of acid Salt contained in a Pound of Sal Ammoniac, and which ſeparated from it, in order to unite with a fixed alcaline Salt. Now the ſixteen Ounces one Dram of volatile Subſtance, found in the Receivers, with the three Pounds one Ounce, that remained in the Retort, make but four Pounds one Ounce and one Dram; and all the Matter which I uſed, weighed four Pounds two Ounces and a half.

Here then I fall one Ounce three Drams ſhort of my Weight. A Waſte which muſt needs ariſe from the volatile Matter that evaporated, the Loſs of which I could not prevent with all my Precautions.

Adding this one Ounce three Drams, to the thirteen Ounces five Drams of volatile Salt, found as well in a dry Form as otherwiſe, the Sum is fifteen Ounces of volatile Salt ſublimed by my Operation. I may then conclude, that in one Pound of Sal Ammoniac there are fifteen Ounces of volatile Salt, united and incorporated by Sublimation, and only one Ounce of acid Sea-ſalt. This great Quantity of volatile Matter contained in Sal Ammoniac, will perhaps appear a Paradox in Chymiſtry.

M. *Tournefort*, who went farther than others, extracted, as I obſerved, from fifteen Ounces of Sal Ammoniac, but ten Ounces of Salt, and three Ounces of Spirit, which could ſcarce contain above ſix Drams of volatile Salt. But beſides his not extracting as much volatile Salt as he might have done by his own Method, for want of uſing a ſufficient Quantity of Medium, he took no Account of what volatile Matter might be loſt in the Operation.

It might be objected, that this extraordinary Quantity of volatile Salt which I extract from Sal Ammoniac, was not abſolutely contained in it, and that it might poſſibly proceed from the alcaline Salt, which ſerved as a Medium, and was partly volatilized in the Operation.

But ſince it is impoſſible to extract the Ammoniac volatile Salt, without an alcaline Medium, muſt only what is extracted by other Methods, tho' in leſs Quantities, paſs for the *Sal volatile* of Ammoniac?

Beſides, by verifying my Weights, in which I uſed the utmoſt Exactneſs, I found in the Retort the Weight of the Alcali, which I uſed for a Medium, and one Ounce over and above for the acid Salt, which might be contained in the Ammoniac. There is no Appearance then, that the alcaline Medium was volatilized, becauſe in that Caſe I ſhould have found the Weight diminiſhed in the Reſiduum. I cannot think then, that any one will ſay, that this Diminution was ſupply'd by the acid Salt of the Ammoniac, which ought to be ſuppoſed more than an Ounce to the Pound, ſince M. *Tournefort*, who in his Operation extracted much leſs volatile Matter, found the Weight of the acid Salt to be but half an Ounce, which certainly is not enough for fifteen Ounces of Sal Ammoniac, as he was well convinced; accordingly I obtained almoſt twice as much from the ſame Quantity. It is half a Dram of acid Salt for an Ounce, and by the Obſervations which I have made, it does not appear, that any more can be ſeparated.

For Proof hereof, the Calcination of my Mixture of Salt of Tartar with Sal Ammoniac, afforded me preciſely the very Proportion of the ſame acid Salt, as I had found after Sublimation, as you ſhall ſee by what follows:

That I might take all manner of Precautions, I choſe two Crucibles exactly alike, in each of which I put three Drams of Salt of Tartar, with one Dram of Sal Ammoniac, ſuch as I had uſed in my Sublimation, and a proportionable Quantity of Spirit of Wine. I urg'd them with an open Fire, in order to force from them their volatile Salt. Upon weighing the Reſiduum, I found it, both in this and the other Crucible, augmented exactly three Grains.

On the other hand, I had put in a third Crucible ſix Drams of the ſame Salt of Tartar by itſelf; and after giving them the ſame Calcination as I did to the others, for it was done at the ſame Time, and by the ſame Fire, I found the Reſiduum diminiſhed juſt three Grains, that is, a Grain and half for three Drams.

But in the Calcination before-mentioned, of the Mixture of Salt of Tartar with Sal Ammoniac, inſtead of diminiſhing a Grain and a half, I found it augmented by three Grains; therefore the Reſiduum of this Calcination is, in reality, augmented in Weight four Grains and a half.

Now theſe four Grains and a half can be no other than the Weight of the acid Salt contained in the Body of the Sal Ammoniac, of which it made exactly the ſixteenth Part. I can aſſure you, that Sal Ammoniac is a Compound of ſuch a Nature, that of ſixteen Parts there is but one detained in the Medium, and the other fifteen conſiſt of Volatiles, as I had already proved by my Sublimation.

I took but a ſmall Quantity of Matter for Calcination,
I might have the Weight more exact; and the Reſiduum
this Operation agrees, you ſee, to the utmoſt Nicety,
the Weight produced by the Reſiduum of the Sublimation
conſiderable Maſs.

This Augmentation of Weight in the Intermedium
from a Portion of the Acid of the Sea-ſalt contained
Sal Ammoniac, ſince from the Reſiduum of this Calci
we extract by Lotion a cryſtallized Salt of a cubic
which is a Shape peculiar to the Cryſtals of Sea-ſalt.

If any one now ſhould object, that this Sea Acid,
was mixed with the Ammoniac, might itſelf, in part,
tized, I ſhall appeal to my Obſervations, which aſſure
that in analyſing Sal Ammoniac, every thing becomes
except a ſixteenth Part, which is retained by the Me
M. Geoffroy, Cadet, Mem. de l'Acad. Roy. des
1723.

Theſe are the Accounts we have of the Origins
different Species of Sal Ammoniac. But it is ſcarcely
that ſo prodigious a Quantity of Soot, as to make fifte
dred or two thouſand Quintals a Year, can be furniſhed
Country, eſpecially *Egypt*, which is a very warm C
and where they only uſe Fires for culinary Uſes, and
Bagnios.

We muſt therefore ſurely conclude, that the *Egyptians*
make Sal Ammoniac, have had the Addreſs to keep the
thod of doing it a Secret from the *Europeans*; and th
make uſe of ſome other Ingredients beſides Soot.

Very good Sal Ammoniac is certainly to be made
any Soot at all. For I am well informed, that at the Sal
moniac Works, carried on ſome Years ago at *Newcaſtle*,
Rule for making it was thus:

> Take of the Bittern, that is, the Liquor which dra
> common Salt whilſt making, one Gallon; and of
> three Gallons; let them ſtand together forty-eight
> to ferment, and ſubſide; then draw off the clear
> and evaporate in leaden Veſſels to Cryſtallization,
> lime theſe Cryſtals, when dry, in proper Veſſels,
> very good Sal Ammoniac will be produced.

I am farther informed, that from one hundred W
Salt made from the Bittern, commonly ſold under the
of *Epſom* Salt, and three Hogſheads of Urine, fifty-ſix
of Sal Ammoniac may be procured.

From all theſe Accounts of Sal Ammoniac, it app
be a neutral Salt, conſiſting of a volatile alcaline Salt,
Acid. The Native ſeems to be thus generated: Wh
mels, or other Animals, depoſit their Urine in the
Sands of *Africa*, the Heat of the Sun, during the Day,
all the Humidity evaporate; in the Night, the Acid
Air is attracted by the alcaline urinous Salt, till it is
neutraliz'd, and forms the antient Sal Ammoniac, or
reniacus, which would be waſted in Vegetation, if
was not utterly barren.

In Imitation of this, all the different Sorts of Sal Am
are made, by uniting an urinous Salt with ſome ſort of

But it muſt be remark'd, that Sal Ammoniac is a very
Subſtance from moſt of the Preparations made from it;
alcaline Salts are mixed with the crude Sal Ammoniac
abſorb the Acid, which renders the Sal Ammoniac
and then the volatile urinous Salts, ſet free from the
riſe in Diſtillation.

Boerhaave's Character of Sal Ammoniac is, that it
all animal Subſtances from Putrefaction, and its Bri
trates into the moſt intimate Parts, and is the nobleſt A
Attenuant, Reſolvent, Stimulant, Errhine, Sternutatory
phoretic, Sudorific, Antiſeptic, and Diuretic.

Proceſſes upon Sal Ammoniac from Boerhaave. *Sal A*
neither Acid nor Alcaline.

Into a clean Glaſs put ſome very pure *Sal Ammo*
ſolved in three times its Weight of the pureſt Water,
tred till it becomes a limpid Brine, and heat it to an
Degrees. Into different Portions of this, pour ſuc
Vinegar, Spirit of Nitre, and Spirit of Sea-ſalt, and th
not appear the leaſt Sign of Efferveſcence, nor does th
grow turbid. In the *Sal Ammoniac*, therefore, there
cali. Upon pouring in Oil of Vitriol indeed, there a
Fume, and ſome degree of Motion; but this is owing
other Property of it, which will be more conveniently
hereafter; for whilſt the Oil of Vitriol lays hold of the
Alcali of the Salt, it renders the acid Spirit of the
volatile. Upon the ſame Brine, in another Veſſel,
fix'd Alcali, and there no Efferveſcence will be exc
there immediately ariſes from it a very penetrating, vo
caline Smell. This Salt, therefore, is neither alcaline n

REMARK.

moniac agrees with the Salt of our Humours, becauſe it
ſ no Effervescence, either with an Acid, or an Alcali,
upon the Effuſion of a fixed Alcali, it preſently gives
ts volatile alcaline Part, with a very pungent Smell.
does this Salt act in the human Body, or any-where
with an acid or alcaline Virtue, but with the more pe-
ting one of common Salt. That this is the Caſe, appears
its Effects; but by this in particular, that if *Sal Am-*
c is mixed either with Spirit of Nitre, or *Aqua fortis*,
l communicate to it a Power of diſſolving Gold, or
rt it into *Aqua Regia*, which nothing can effect but
tain-ſalt, *Sal Gem*, and Sea-ſalt: In this reſpect, there-
it is a ſemi-volatile Sea-ſalt.

Sal Ammoniac ſublimed into Flowers.

ſome *Sal Ammoniac*, reduce it to Powder, dry it, and
a Pound of it into a Cucurbit made of *Heſſian* Earth,
l almoſt of a cylindrical Figure. Fix on a very large
ad, and cloſe the Joints with Clay and Sand work'd
ether in equal Quantities. Place them in a Sand Fur-
e in ſuch a manner, that the Beak of the Alembic
y decline a little downwards, that if any Water ſhould
ne off firſt, it may run out of the Head into a Bottle
lied to the Beak. Let the Cucurbit be covered with
d, almoſt to the loweſt Limb of the Neck of the Head,
l let there be raiſed under it a Heat of a hundred and
Degrees, to be continued till all the Moiſture is di-
ed into the Bottle. Then changing the Bottle, gradu-
increaſe the Fire till the Alembic begins to be clouded
h a white ſnowy Subſtance, and keep it up in that
gree, without ſuffering it to diminiſh, for the Space of
t or ten Hours. Let all grow cold, remove the Sand,
take out the Cucurbit and Alembic very gently, leſt
Salt in the Alembic ſhould be ſhaken out. Lay the
urbit in an horizontal Poſition upon a Table; with a
ife take the Lute clean off; wipe off the Sand, Duſt,
Lute from the Cucurbit and Alembic; and then whilſt
continue in this Situation, very gently draw off the
mbic, and it will be full of a fine, light, ſublimed,
vy Salt, of which too there will be a good deal upon
upper Rim of the Cucurbit. All this Salt being re-
ed, and put into a very dry, clean, hot Glaſs, with
de Mouth, you will find about the upper Part of the
urbit, a white, thick, denſe, compact Cruſt, of the
Salt, but which did not aſcend into the Cavity of
Head, but ſtopp'd and fix'd here. Take this off with
ſharp Edge of a Knife, and put it into a Bottle as be-
. Then very gently turn the Cucurbit upſide down
a clean Paper, and there will fall out a pretty deal of
firſt white Flowers, which dropped off in moving the
els, and which, if they are perfectly pure, may be
d to the former. At the Bottom of the Cucurbit,
will then appear a few black, ſaline *Fæces*, which
be ſhook out, but are of no great Uſe, yielding only
tter, black, fœculent Matter. When the firſt Part
re by itſelf, it is called the true Flowers of *Sal Am-*
ac, the *Aquila alba Philoſophorum*, and the *Aquila*
ymedem in cœlum Jovis rapiens in ſublime. The other
which was at the upper Part of the Cucurbit, goes by
Name of *Sublim'd*, or *Rectified Sal Ammoniac*. If
Flowers, or ſublim'd Salt, are diſſolved in Water,
excite Cold, like the Salt itſelf. If you diſſolve them,
the Solution, and mix Acids with it, there is no
rveſcence produced, except upon pouring in Oil of
iol. Nor does it cauſe any Effervescence with a fix'd
li, but immediately emits ſuch a Vapour, as is de-
ed above. If you repeat this Sublimation of *Sal Am-*
ac, it gradually riſes with more and more Difficulty,
t laſt it becomes almoſt fixed, tho' it ſtill retains its for-
Qualities.

REMARK.

ave a Salt of the Nature of Sea-ſalt, but ſemi-vola-
r it is not ſo volatile as to riſe with the Heat of
Water, nor yet ſo fixed as Sea-ſalt. When it is
rified, it loſes that Clearneſs which appeared, in
eaſure, in the common *Sal Ammoniac*. By Subli-
it does not acquire an alcaline Quality, in which
ar, it differs from Salt of Urine; but it remains juſt
as, only of a more beautiful Colour. It has this
ul Property, that whilſt it thus riſes dry in a cloſe
it carries up with it almoſt all foſſile, vegetable, and
Subſtances; and by this Sublimation, ſurpriſingly at-
them. Hence it is called the *Piſtillum Chemico-*
the ſame Attenuation can ſcarcely be accompliſhed
other means. And if theſe are ſublimed with *Sal*
ac, a conſiderable Number of times, they at laſt
fixed with it, and thus often give Riſe to the
fineſt Medicines, as *Paracelſus* found in Colcothar, rendered very pure by Water, and then rubbed with Sulphur, and ſublimed with this Salt.

Sal Ammoniac with Quick-lime, yields a fiery Spirit.

Take ſome very dry Flowers of *Sal Ammoniac*, put them into a clean hot glaſs Cucurbit, and pour upon them an equal Quantity of Lime reduced to Powder, as expeditiouſly as poſſible, in a dry, hot, iron Mortar, taking care that the Flowers are well covered with the Lime. At the ſame time have by you a clean dry Alembic, properly fitted for this Purpoſe, ſo that the fine exhaling Corpuſcles may be immediately confined; for the very Moment, that theſe two Bodies come to touch one another, though they were at Reſt, and inodorous before, there inſtantly ariſes a Vapour from them, than which perhaps there is not one more acrid, or violent in Nature. Fixing on the Alembic then, and luting it cloſe, diſtil this Mixture, with a gentle Sand Heat, into a Bottle, applied to the Beak of the Alembic, and you will by this means have a very ſmall Quantity of a Liquor the moſt volatile and acrid of any yet known, though not alcaline. If you then increaſe your Fire to a conſiderable Degree, the *Sal Ammoniac* will not be ſublim'd; but by means of the Lime, the whole Mixture will become fixed; and if it ſhould be afterwards put into a Crucible, and urg'd with the ſtrongeſt Fire, it will not leave the Veſſel, and become volatile: But when it comes to be cold, if it happens to be broken in the Dark, whilſt it continues dry, it will emit a Light like Phoſphorus.

Diſſolve ſome pure powder'd Sal Ammoniac in triple its Weight of Water; then take Quick-lime, triple the Weight of the Sal Ammoniac; put it into a large glaſs Cucurbit a little heated, and pour upon it the Brine of the Sal Ammoniac, and clap on your Alembic, and lute it as expeditiouſly as poſſible with a thick Lute, made of Linſeed-flower, and apply a very large Receiver to be luted with the ſame. There will ſuddenly be excited a Heat, Æſtuation, and moſt violent Ebullition, diffuſing an incoercible Spirit, which would burſt the Veſſels, unleſs the Lute a little gave way; for the *Impetus* of it is ſo great, that it hiſſes and blows like a Wind through the Lute, diſperſing a Smell all round; and at the ſame time a Liquor in great Plenty, and with ſurpriſing Speed, diſtils into the Receiver. When this ſpontaneous Heat of the Mixture is abated, let the Veſſels be luted cloſer, raiſe a little Fire under them, and gradually diſtil to a Dryneſs. Let the Spirit thus produced be ſtopped up very cloſe in a Bottle, and kept under its proper Title. In the Bottom there will remain a new and ſurpriſing kind of Body, which being dried with a ſtrong Fire, appears almoſt of a glaſſy Nature, but gradually puffs up in the Air, tho' it does not diſſolve like *Sal Ammoniac*; but is reſolv'd into ſandy Grains.

REMARK.

Here is another Inſtance of an Agreement betwixt the proper Salt of the human Body, and *Sal Ammoniac*; you ſee a Liquor produced from dry inodorous Bodies, that affects the Organs of Smelling, more than any thing elſe; you obſerve alſo the Generation of Spirits, which are vaſtly, and, as it were, ſpontaneouſly active, in the greateſt Degree of Cold; and here you have a Spirit not alcaline, but extremely acrid, and next to Fire in Acrimony. It muſt be confeſs'd however, that if this Spirit, as it exhales through the Air, meets with a volatile Spirit of Nitre, they will in Conjunction produce white Fumes. This Proceſs alſo furniſhes us with a new *Species* of Phoſphorus; and here you ſee a Fixation, in ſome meaſure, of *Sal Ammoniac*.

Sal Ammoniac, diſtill'd with a fix'd Alcali, yields alcaline Spirits, and a volatile alcaline Salt.

Take of the drieſt Flowers of *Sal Ammoniac*, ten Ounces; place them in a glaſs Retort, mix therewith of the pureſt dry Salt of Tartar, reduced to a fine Powder, three Ounces; and ſhake them well to mix them perfectly: Immediately there will ariſe a very acrid, alcaline Vapour, for which Reaſon you muſt immediately apply a large clean Receiver. Place the Retort in a Sand Furnace, and gradually raiſe the Fire to the greateſt Degree. There will be ſublimed a very pure, white, ſimple, volatile, alcaline Salt, which being impatient of Reſt, will fly off as ſoon as expoſed to the Air, and make its way out of Veſſels, through almoſt every thing they are ſtopped with, except Glaſs. With all Acids, it cauſes a moſt violent Effervescence, and combines with them into a neutral Salt of a particular Kind, according to the Nature and Origin of the Acid. This Salt, on account of its prodigious Fugacity,

city, can ſcarcely be manag'd or reſtrain'd; nor is it eaſy to take it out of the Receiver in a ſolid Form. At the Bottom of the Retort will remain a fix'd Salt, which cannot be ſublim'd with the greateſt Degree of Fire.

Or, To ten Ounces of the Flowers, add three Ounces of Salt of Tartar; pour thereon nine Ounces of Water, ſhake them, and diſtil them immediately through various Degrees of Heat, into a Receiver, accurately luted on to the Retort. Immediately a fine moiſt Vapour will aſcend, which will be quickly congealed on the concave Surface of the Receiver, into a ſolid Salt, and will proceed in this manner every Moment. When the principal Part of the Salt is thus come over, it will begin to be diſſolved by a Liquor leſs volatile, and more watery, than the former Salt. Then remove the Receiver, and applying another, urge the remaining Salt in the Bottom with a ſtronger Fire, till it becomes quite dry. This done, take the Liquor, and put it into the former Receiver, and ſhake it till the Salt is attenuated, and almoſt diſſolved; then put them into a clean glaſs Vial, which ſtop very cloſe with a glaſs Stopple. By this means you will have a Salt at the Bottom, and a Liquor at the Top, which is a true, moſt ſaturated, volatile, alcaline Spirit: But if there remains no ſolid alcaline Salt at Bottom, it is a Sign that the Spirit is not very much ſaturated, but watery, and in a great many Experiments will not anſwer. At the Bottom of the Retort will be left a fixed Salt.

REMARK.

The *Sal Ammoniac*, as ſoon as it comes in Contact with the fixed Alcali in this Operation, is, from the Diſpoſition of its own Nature, and the Aſſiſtance of the Fire, divided into two Parts, perfectly diſtinct, though both ſaline; one of which conſtitutes a very acrid, alcaline, igneous, volatile Salt, which is the pureſt that can be prepared by Art, and at the ſame time the moſt ſimple, and therefore reckoned the Standard of volatile Alcalis; under which the other Kinds may be reduced, and accordingly diſtinguiſhed. The true volatile alcaline Spirit of *Sal Ammoniac*, therefore, is a Water containing in it as much of the pureſt alcaline Salt as it is capable of diſſolving. To this too, as their Head, may be referr'd all other volatile alcaline Spirits. No other volatile alcaline Salts or Spirits are ſo pure and ſimple as theſe, being all tainted with an Oil, on which account they act in a very different manner. But, in this Property, *Sal Ammoniac* agrees with the Salt of Urine; for that Salt and Spirit cauſe a ſudden and violent Efferveſcence with all Acids. If a Veſſel, containing this Salt or Spirit, is left open, and another ſet by it, full of ſtrong acid Spirit of Nitre, there is preſently excited in the Air a pretty conſiderable Efferveſcence, ariſing from the Concurrence of the volatile Alcali, and Acid, exhaling from the Veſſels. If this Salt is applied to the Skin, and ſo covered with a Pitch Plaiſter, that it cannot fly off, as ſoon as ever it comes to be heated, it cauſes an intolerable Pain, and produces the higheſt Inflammation, with a black Gangrene of the Part, ſo that no Poiſon acts with more Violence. Do thoſe Phyſicians, therefore, act wiſely in recommending this Salt or Spirit to be attracted, by full and free Smelling, to the olfactory Nerves, the *Membrana Pituitaria* of the Noſe, and the extremely tender Veſicles of the Lungs? A topical Inflammation and Corroſion ſeem, in ſuch Caſes, much to be feared. Both this Salt and Spirit become ſtill more acrid and fiery, if they are ſublimed again from a freſh, pure, dry Alcali. *Boerhaave*'s *Chymiſtry.*

The dry Salt of this Proceſs, is what we uſually call

Sal Ammoniacum Volatile: Volatile Sal Ammoniac.

Some, inſtead of Salt of Tartar, put Lime; and others Chalk, or common Whiting. It is uſed for Pocket Smelling Bottles; but *Boerhaave*, as we ſee, with the greateſt Appearance of Reaſon, condemns the Cuſtom of ſmelling to theſe Salts, as highly pernicious. Some put Aromatics into the Retort, which gives it a more agreeable Smell. It is preſcribed in malignant Fevers as a Sudorific, in the Form of a Bole, with other convenient Ingredients; for it is not fit for Powders, its Volatility ſoon waſting it: In Pills it will ferment, and it does ſo in Boles; but there it does not deſtroy the Form and Conveniency of taking. The Doſe is from five Grains to ten.

Ten or twelve Grains of this Salt will ſaturate half an Ounce of diſtill'd Vinegar; which, with ſome ſimple and compound Water, and a little Syrup, make a Draught not diſagreeable, and very uſeful in Fevers.

The firſt Proceſs, directed by the College to be made with Sal Ammoniac, is the

Flores Salis Ammoniaci: Flowers of Sal Ammoniac.

Equal Quantities of Sal Ammoniac, and common Salt, are decrepitated together, and then ſublimed into Flowers, wh are very volatile.

The Doſe is from ſix to ſixteen Grains.

The *Flores Salis Ammoniaci Martiales*, (chalybeated Fl of Sal Ammoniac) are to be made thus:

Take of Sal Ammoniac, one Pound; of the Filings of ten Ounces: Let them be rubbed together, and di in a Retort with a large Neck, in a reverberatory raiſed by degrees. When the Veſſel is cold, ſweep ou ſublimed Flowers, and keep them in a Bottle for The Doſe is from ſix to ſixteen Grains.

Theſe, thrown into *French* Brandy, or common Proof rit, make the *Tinctura Martis Mynſichti*, as now direct the College; and the *Ens Veneris* is much the ſame being uſually Colcothar and Sal Ammoniac, ſublimed ther.

The *Spiritus Salis Ammoniaci*, " Spirit of Sal Ammo is thus made:

Take of Salt of Tartar, and Sal Ammoniac, each Pounds: Powder theſe ſeparately, and when the mixed, put them into a large Cucurbit, pouring upon ſix or eight Pints of Water: Then diſtil in a Sand and the pure Spirit will come over, with a gentle Fi this Spirit be rectified in an higher Cucurbit, a mo volatile Salt will ſublime into the Receiver. The D from ten to ſixty Drops.

This is alſo directed various ways, but none eaſier an ter than this: It is alſo made the Baſis of many other me Spirits, deſcribed at large by ſome Writers, tho' none of thought worth Inſertion here, becauſe quite out of Uſe.

Some, to add a greater Quickneſs of Scent, uſe Li Salt of Tartar, which in external Applications, particu the Noſe in Swoonings, may be preferable to the other in internal Uſes cannot be ſo good. The latter may be from the former, by its leaving upon the Veſſel, in whi kept, a white Coat. Some (it is ſaid) make it likewi Cheapneſs ſake, with Brine, Urine, and Lime; and thereto a ſmall Portion of a fœtid Oil, which comes over making the *Spiritus Cornu Cervi per ſe*, they ſell it for Spirit of Hartſhorn.

The Aqua Regia, with which ſo many Experime made, particularly in diſſolving Gold, is from Sal Am and Nitre together; tho' it is moſt expeditiouſly m digeſting, in a Sand-heat, *Sal Ammoniac* in Spirit of N the double Aqua-fortis, till it be diſſolved; but it hath Concern in Medicine, as not to require any farther here.

But the moſt celebrated Medicine now in the Shops, this Foundation, is the

Spiritus Salis Volatilis Oleoſus: The oily Spirit of vola generally called Sal Volatile:

Which is thus prepared:

Take of Cinnamon two Ounces; of Mace half an O of Cloves one Dram; of Citron-peel one Ounce half; of Sal Ammoniac, and Salt of Tartar, ea Ounces; of Spirit of Wine twelve Ounces: M diſtil in a Sand-heat. The Doſe is from ten to a Drops, or more.

This is now become one of the moſt common Med the Kind; its Invention is not older than *Sylvius de* to whom it is aſcribed. But though Sal Ammoniac, a vial Salt, are the principal Ingredients, yet the Aroma much varied at Pleaſure, that very few make it alike ever, now a Standard is given by proper Authority, it be kept to; that a Phyſician may know what to truſt he preſcribes it.

But one great Rule, in a Compoſition of this ſeems not to be duly attended to; and that is, in Choice matics, which ſhould be not only fragrant, but light tile in their natural Production; ſo that ſuch things a *rum Syriacum*, Marjoram, Thyme, and the like, ſuitable Ingredients than Cloves or Mace, whoſe Oi heavy, groſs, and adheſive, to riſe ſo conveniently Sal Ammoniac. The Goodneſs of this Medicine is its Fragrancy and Quickneſs of Scent, and Softneſs to for theſe Properties ariſe from the Goodneſs of the A and the volatile Salts being covered with them; whe they are not good, or not in a ſufficient Quantity, poſition will be urinous, and very diſagreeably punge Taſte. In making this Medicine with a ſlow and a great deal of Salt will harden to the Top of the which may be ſcraped off, and preſerved for Smelling or any internal Uſes, where Medicines of ſuch Prope

; it is both much leſs cauſtic, and more cardiac, than
tile Salt of Hartſhorn, which is commonly directed.
Spirit of Sal Ammoniac is now but little uſed internal-
uſe the Gratefulneſs of the Sal Volatile Oleoſum gains
reference; and this is commonly ordered with Spirit of
r, or of Caſtor, to be doſed out by Drops into ordinary
: And when this is ſent in Draughts or Juleps to a Pa-
very neceſſary Caution is to be obſerved, which is, not
it in Company with any red Syrups or Tinctures;
it changes them into a very unſightly green Colour.
Things are ſometimes externally directed in Embroca-
they ſuit alſo well enough in unctuous Subſtances, pro-
much Warmth is not given them before they are uſed,
that will exhale them; and this way they give a more
ing Quality to Compoſitions, and agree well with warm
nts, and ſuch things as are commonly preſcribed in
and ſuch-like Affections. *London Diſpenſatory*. *Quin-*
lections.
Spiritus Salis Ammoniaci ſuccinatus, "Spirit of Sal Am-
iac, with Amber," is made ſeveral Ways.
r digeſt a Pound of Spirit of Sal Ammoniac with an
of Amber; or,

Sal Ammoniac, and Amber, each five Ounces; Salt
Tartar, ſix Ounces; Spirit of Wine, and Spring-
ter, each eight Ounces.

is reckoned to be cephalic, and exceedingly well ſuited
rvous Indiſpoſitions; but it is ſomething unpleaſant. Its
from ten Drops to forty.
ONIS CORNU, *Ammon*'s Horn. A Foſſile of an
ur, found in the Shape of a Ram's Horn. *Rulandus*
tes fifteen Sorts of it.
ONITRUM, *ἀμμόνιτρον*, from *ἄμμος*, Sand, and
itre, that is, in *Pliny*'s Senſe, the lixivious Salt of a
egetable. *Pliny*.
is a Maſs compounded of Sand, and a fixed alcaline
making Glaſs. The Moderns call it *Frit*.
ONIUS, a Surgeon ſurnamed *Lithotomus*, from his
a way to cut the Stone, when it was too big to be
without Danger of a Rupture of the Neck of the
His Method was to grapple the Stone, with a Hook,
as to hold it faſt, that it might not roll back; then
a Steel Inſtrument, of a moderate Thickneſs, ſlender,
t in its Fore-part; and bringing the Stone to bear in a
ſture, cleft it with a Stroke of his Inſtrument, being
tious of wounding the Bladder, either by the Inſtru-
ſplintered Stone. *Celſus*, *Lib*. 7. *Cap*. 26.
ONII COLLYRIUM, otherwiſe called COLLY-
YGIDIUM.

of Cadmia, waſhed, ſixteen Drams; Ceruſs, waſhed,
ike Quantity; Caſtor, ſix Drams; *Indian* Nard, four
ams; Stibium, waſhed, forty Drams; burnt Copper,
ſhed, fifteen Drams; Roſes, twenty Drams; Squama
ris burnt, five Drams; Aloes, ſix Drams; Caſſia, four
ams; Myrrh, ſix Drams; *Indian* Thorn, three Drams;
Lapis Schiſtus, four Drams and a half; Saffron, ſix
ams; Lead, burnt and waſhed, eight Drams and a
f; Opium, three Drams; Acacia, forty Drams; Gum
abic, forty Drams. Make them up with Water: It is
of the moſt celebrated Remedies.

roper to be uſed in the Beginning of a Cataract, or In-
ion, and for all kinds of Exulcerations and Purulen-
he Eyes; for a *Confuſio* and *Chemoſis* (ſee the Words);
iſlocation of the Bulb of the Eye; for an inveterate
alon, (a growing of the Tunica uvea over the Sight)
hyloma (ſee the Word); it deterges, incarnates, and
Unguis (a Collection of Pus in the Black of the Eye,
igure of a Man's Nail). It is an excellent Promoter of
ſuch Perſons as, through Pain of the Head or Eyes, or
er Cauſe, want that Benefit, ſupplying the Place of a
c Medicine. It may be uſed with an Egg, or with
r Water, and made thinner or thicker, as the Patient
or leſs delicate of Senſation. *Aetius*, *Tetr*. 2. *Serm*. 4.
3.
A ALCALIZATA, in the Phraſe of *Paracelſus*, is
which runs through Lime-ſtone, and is conſequently
ated with ſome of its Particles. *Paracelſus de Tartaro*
s C. 2.
dus calls it AMNIS ALCALISATUS.
IOS. The internal Membrane which ſurrounds the
It will be impoſſible to form a competent Idea of the
without knowing at the ſame time the Nature of the
embranes, and their contained Fluids. For, as *Need-*
erves, theſe Subjects are ſo cloſely connected, that it
difficult to treat of them ſeparately: For who could
Account of the Membranes, or diſcourſe of their Uſes,
manner of Accuracy, if he were not to deſcribe the

Humours contained in them? Or, what better Way can there be to diſcover the Nature of the Humours, than by a diligent Examination into the Figures, the Veſſels, and Connexion of the Membranes?

The Membranes are very different in various Animals, in Number, Figure, and Situation. In ſome there are three, in others four, and in an Egg we can reckon ſix; for after we have opened the outer Membrane, which adheres to the Shell at the blunt End of the Egg, we find another of the ſame Colour and Conſiſtence, which ſubtends the Cavity, and very ſtreightly embraces the Egg: I doubted a long time whether this latter Membrane was a new one, or a Duplicature of the firſt; but, at laſt, I found it was a new one, and might be ſeparated throughout the whole Compaſs of the Egg. This then being cautiouſly removed, there immediately appears the Membrane of the thinner Albumen, conſpicuous for its Veins and Arteries, if inſpected ſome Days after Incubation. This Liquor being let out, we meet with the Membrane of the Colliquamentum, or Amnios of the Chick, in which the Chick ſwims. After this come the thicker Albumen, and the Vitellus, inveſted with their peculiar Membranes; theſe are under the Chick, in the Bottom of the Egg.

In cotyledoniferous Animals, which may more properly be called glanduliferous, there are three Membranes; and ſo there are in Sows and Mares: The ſame Number are in placentiferous Females, and, among the reſt, in Woman. All theſe have only two Humours, which gave Occaſion to the great *Harvey* to miſtake, in aſſerting, that the Allantois was nowhere to be found. For my own Part, after I have taken off the Chorion, which immediately contains no Humour, but ſerves for the Diſtribution of the Veſſels, and for ſupporting and ſtrengthening the other Membranes, I immediately find what may very truly be called an Allantois; and I have often taken it from the Fœtus of Cows, Deer, Swine, and Sheep; and blowing it up like a Gut, have hung it up in my Chamber, to be ſeen and handled at Pleaſure. It was therefore owing to the Imperfection of human Nature, that ſo great a Man ſhould labour to baniſh out of all Belief, and the Nature of Things, a Membrane that was viewed, deſcribed, and delineated by ſo many Anatomiſts. As for *Everhard*, beſides his being prejudiced by the Authority of *Harvey*, he had the Misfortune to be concerned with none but thoſe little Animals called Coneys; in which, tho' there are four Membranes, as will by-and-by appear, yet they do not readily offer themſelves to Sight, except to thoſe who, from beholding the like in larger Creatures, know where to look for them.

In Dogs, Cats, Coneys, and perhaps other placentiferous Creatures, there are four Membranes, and three Humours; for I have always hitherto obſerved, that the Number of Membranes exceeds that of Humours.

In our Account of theſe Matters, we ſhall begin with Sheep and Oxen, and other glanduliferous Creatures, as well becauſe the Art itſelf took its Origin from them, as appears by the Writings of the Antients; and thence the Names were transferr'd to other Animals, by too ſtrained a Catachreſis, as becauſe they are moſt eaſily procured, and eſpecially near Shambles, always ready for Inſpection.

In theſe Animals then, we firſt meet with the Chorion, which, when you have ſeparated the red fleſhy Caruncles from the uterine Glandules, appears all over variegated with theſe Caruncles as with ſo many Roſes. Beſides, a great Part of the umbilical Veſſels ſpread themſelves over it, and are continued to the before-mentioned Caruncles. Theſe Veſſels alſo ſcatter Plenty of Capillaries throughout the Chorion, which probably imbibe the Humour, at leaſt ſecundarily, and for the proper Uſe of the Chorion; that is, to maintain its Softneſs and Humidity, without which it would adhere to the Uterus. For tho' in Cows and Ewes, thoſe little Placentas are copiouſly diſtributed all over the Membrane, yet, in Does, there are commonly but ten; that is, five in each Wing, which are ſituated in the lower and narrower Part of it; tho' there are conſiderable Branches of Veins and Arteries, which proceed as far as the oppoſite Region of Conception; where, by their Structure, Situation, and Magnitude, they ſeem to imbibe a Humour. And, in Sows, the Chorion does the Office of the Placentulæ before-mentioned, during the whole time of Geſtation; for there appears no other way of conveying nutritious Juice to the Fœtus. In Mares alſo, during the firſt Month, this Membrane is ſingle, and ſerves for the aforeſaid Uſes; but in Proceſs of Time, it conſiderably thickens, and forms fleſhy Caruncles of the Size of a ſmall Pea; but theſe, at laſt, run together, and are conjoined in ſuch a manner, that the whole Chorion ſeems to have degenerated into a very broad Placenta, interwoven with Millions of Veſſels, which ſend forth innumerable Capillaries to the internal Membrane of the Uterus, which however remains ſingle. In a Woman alſo this Membrane is, at firſt, without a Placenta, which yet ſoon grows, and connects the Conception to the Womb: When the Placenta is grown, the Chorion itſelf is beſt diſcovered by ſlightly wounding it with the Hand near the Placenta, and then pulling it off with the Fingers; it will appear thick, ſoft, and interſperſed with ſmall Veins; but all the larger Veſſels end in the Placentas. The Caſe is the ſame in Coneys; in Dogs and Cats the Fœtus is divided in the Middle, as it were with a Girdle, in ſuch a manner that we muſt look for the Chorion on both Sides of it, as tho' it were double.

The Uſe of the Chorion is eaſily underſtood, from what has been ſaid: It ſuſtains the umbilical Veſſels, and the Caruncles aforeſaid, in glanduliferous Animals; and both in theſe, as well as others who are without Glandules, imbibes a nutritious Juice, in theſe immediately, in the other ſecundarily. But in the placentiferous, almoſt all the greater Veſſels direct their Courſe to the Placenta, and only ſome minute Veſſels diſperſe themſelves in this Membrane; ſo that the alimentary Liquor it may poſſibly receive, ſeems only ſufficient for its own Moiſtening and Nouriſhment. However, the Chorion, both in theſe and other ſorts of Animals, includes within its Compaſs all the other Membranes, as well as the Humours, and the Fœtus itſelf, and defends them; but contains no Liquor of its own within its Cavity.

In ſtripping off this Membrane, you are to be very cautious, that you do not wound the ſubjacent Membranes. The ſafeſt way is to take hold of one of the Caruncles with your Hand, and, lifting it up, cut a ſmall Hole in the adjacent Chorion, large enough to receive two Fingers; then, laying aſide your Knife, tear it gently by degrees with your Fingers; carefully obſerving, all the while, whether any thing of a Duplicature, or a very fine whitiſh Membrane, offers itſelf, tho' in an obſcure manner, to your Sight; for if there does, it is the Allantois, which it highly concerns you to preſerve entire: But when you have proceeded a little farther, it will appear turgid with its own Humour, and render the Operation more eaſy; but if any Liquor ſhould happen to run out, you may be ſure, that there is a Rupture, either of this Membrane, or the Amnios. The Chorion being thus ſkilfully taken off, the Allantois is, at the ſame time, in a manner, ſeparated from the Amnios, which may eaſily be perfected whenever you pleaſe, if you have divided them as far as the Cord; but there it is to be left alone with its Urine, till the Amnios and Fœtus being opened, you may have Acceſs to the Bladder.

The Amnios is interſperſed with Veſſels, almoſt in the ſame manner as the Chorion, and receives all the umbilical Branches, which do not paſs into the Chorion. This being opened, ſhews you the Liquor in which the Fœtus ſwims; which our famous *Harvey* proved to be abſolutely nutritious, both from its Taſte and Conſiſtence, and from its being the ſame as is found in the Ventricle of an Embryo. This Membrane is often over-run with pinguious Concretions, which ſeem to be gathered from the Liquor within it; and, in a Cow, the Cord of the Embryo near its Root ſwells with a ſort of glandulous Aſperities. This is meant of Females with Cotyledons; as for the placentiferous, there is another Method of Diſſection, of which by-and-by.

We are now come to the Fœtus; and upon opening the Abdomen, we may take a View of the Umbilical Veſſels. Here we ſhall only take Occaſion to obſerve, that the Bladder, being wounded, diſcharges the ſame Liquor, in every reſpect, as is contained in the Allantois; and you may, at pleaſure, force this Liquor, by Preſſure, from the Allantois into the Bladder; or by fitting a Pipe to the Bladder, blow into the Allantois; nay, even before the Fœtus is opened, if you raiſe the Membrane a little, and ſqueeze it in your Hand, it will emit the Humour through the Bladder and the Penis; which is enough to prove the Communication between them.

The Allantois deſerves a particular Notice, as well becauſe its Exiſtence has been hitherto controverted, as for its remarkable Variety in different Animals. For in the glanduliferous Kinds, as Ewes, Cows, Does, it grows to the End of the Cord, and ſeems to be a ſort of an Elongation and Dilatation of the Urachus, of the Figure of a Gut, and reaching, on both Sides, to the Extremities of the Uterus within the Chorion, and filling the Cornua. In Sows, which are multiparous, and have an Egg appointed for each Fœtus, this Membrane reaches to the Extremities of that Egg, and, on both Sides, is ſhaped like a Gut; whence it took its Name *Allantois*, or *Allantoides*.

In Mares the Caſe is ſomewhat different; for this Membrane, in them, is every-where connected with the Chorion, and contains, within itſelf, the whole Fœtus with the Amnios: It ſhews plain Marks of an Urachus, which ſeems rather to proceed from the Amnios, and to be a ſort of Duplicature of it, folded outward, as far as the Bladder; to which it will eaſily tranſmit a Breath, or the Point of a Bodkin. You muſt look for its Perforation in the Cord, which twiſting itſelf to a remarkable Degree, is, Part of it, diſperſed over the Amnios; the reſt, united, paſſes through this Cavity, and is, at laſt, inſerted in the Chorion, and there divided into innumerable little Branches, by which the Chorion is ſo increaſed in Thickneſs, that it ſeems to deſerve the Name of a Placenta. In this Animal alſo, as well as in glanduliferous Kinds, the frequent Concretions which ſwim in the Liquor of this Membrane, are worth Obſervation, which ſeem, at firſt Sight, to be Fat, or little Bits of Fleſh;
but, pulled abroad with the Fingers, are dilated into a
membranaceous Subſtance, and ſeem to be Coagulations of
of ſoft and glutinous Urine.

We proceed now to placentiferous Animals, in wh
urinary Membrane is of quite another Figure. In theſe
then, the urinary Membrane varies according to the An
In a Woman it ſurrounds the whole Fœtus, almoſt af
ſame manner as in a Mare, growing every-where to the
rion: In Dogs and Cats it is the ſame; but its Dupli
near the Divarication of the Cord, conſtitutes a Cavity be
it and the Girdle, which is deſigned for the fourth Me
Indeed, I judge a Mare to be a middle ſort of Animal, be
placentiferous and glanduliferous Animals; ſhe agrees wi
former, in that the Urine quite ſurrounds the Fœtus,
there be no Placenta in the Beginning, yet, in Proceſs of
there grows one to ſuch Dimenſions as to embrace the
Fœtus: And, indeed, that thick Chorion almoſt deſer
Name of Placenta, barely on account of the Veins, wh
diſperſed over its Subſtance in as plentiful a manner a
human Placenta. To this I add, that there is nothing
anſwers to it on the Part of the Dam, as is uſual in the
liferous Kinds. However, this it has in common with
ruminating Creatures, namely, to be connected to the
by carneous Ligaments; and that this Thickneſs is no
derable before the ſixth Month. But this, by this way.
Allantois in Coneys is of another Figure, that is to ſay,
dal, and has a Placenta for a Baſe; whence it grows
by degrees, till it comes to the firſt Parting of the U
Veſſels, where it ends in the Urachus; for the larger Me
in which the Amnios ſwims, does not ſeem to be the
as we ſhall ſee by-and-by.

It may be inquired, concerning this Membrane deſc
placentiferous Animals, whether it be really urinary,
Perforation of the Urachus is leſs manifeſt in them, tha
glanduliferous Kinds. And as to the human Concep
freely own, that I could never diſcover the leaſt Sign of
Canal in the Cord, by any tranſverſe or oblique Section,
turing it a thouſand Ways. But the very ſame things
in a Dog, where, tho' I could by no means find out the
I was convinced, that there was a Paſſage, by frequently
mitting Wind through the ſame. I confeſs, that I cou
obtain a human Fœtus incloſed in the Uterus, tho' I h
ſected the Secundines very frequently, and not a few E
where I don't, in the leaſt, doubt but blowing would h
ceeded as well as in the others. For I look upon, as D
ſtration, that Argument of *Spigelius*, which aſſerts, th
muſt needs be furniſhed with an Urachus and Allantois,
Reaſon, namely, that he is under an equal Neceſſity wi
Animals, of having a Repoſitory for his Urine; this ca
otherwiſe than true, as to all Animals provided with a B

But *Courvæus* has invented a pretty ſubtle Diſtincti
imagines, that the Allantois belongs only to ſuch Ani
have a large *Inteſtinum Cæcum*, becauſe of the Compre
their Bladder, which he ſuppoſes inſufficient to contain
quor, the Space being taken up by the Largeneſs of the
Inteſtinum; but in other Animals, where that Inteſtine
ſmall, there is no need of any ſuch Membrane.

Now, I would adviſe *Courvæus* to look upon the Al
once more, and to meaſure the Quantity of Liquor co
in it, where he may ſee whether the *Inteſtinum Cæcum*,
in Subjects where it is largeſt, be of Capacity ſufficient t
tain ſuch a Collection of Waters. 'Tis certain, that the
tois of a Cow, at the End of Geſtation, contains ſome G
of Urine. Let him view the Bladder, either the h
that of a Dog, and conſider well with himſelf, whether
more diſtended in theſe than in other Animals: His E
convince him of the contrary. Therefore if there be a
lection of Urine during the Time of Geſtation, it is ne
that there ſhould be another Reſervoir for it; and ye
Bitch, not only the Cœcum is very ſmall, but the C
wanting, that the Bladder may have ſtill farther room
and does not require an auxiliary Membrane to diſcharge
its Office: But ſince we meet with an urinary Membra
only in theſe, but in other Animals, which have a large C
and a Colon, we have no Reaſon to believe, that the
ſence or Abſence has any Influence towards cauſing any
tion in the Structure, either of the Bladder or Allantois.
Arguments may be drawn from the Liquor itſelf, which
reſerved for another Place.

To conclude this Head, I ſhall add, that it is peculiar
Membrane to have neither Vein nor Artery, that is vi
its Subſtance: This I lay down as its Characteriſtic; fo
Veſſels diſperſe themſelves either into the Amnios or the
rion, having nothing to do with this Membrane, or at l
inſerted into the Placenta, or Glandules: And in a Ma
ſome Thouſands of Veſſels, both great and ſmall, are ſee
ing towards the Chorion, and imprint their Traces on i
ſingle Branch can we diſcern to be directed to the Alla
there to end; but whatever it contains, is acquired fr
Bladder. And tho' in the Fœtus of a Cow, it is here a
inter

rſed with a few Capillaries near the Urachus and the this does not always happen, nor do they ever proceed adth of three Fingers, but vaniſh in a very ſhort Space. at *Harvey* writes, that this Liquor belongs to the Cho- d is, at firſt, a hundred times the Quantity of the Liquor Amnios, but decreaſes by degrees. But I cannot forbear g, that I have obſerved the quite contrary, and know Liquor, which belongs to the Allantois, and not at all Chorion, increaſes every Day, and acquires a more and rinous Colour, Smell, and Taſte, to the very End of n; at which time the Liquor of the Amnios, as he , is almoſt conſumed.

Uſe of this Membrane is evident from the Premiſes, that it is a Reſervoir for the Urine; nor can it be of r Service in an Embryo. But if any one be ſolicitous e Nutriment of the Allantois, becauſe I juſt now ſaid, as deſtitute of Veins and Arteries, he muſt underſtand, is an Accident common to it, with many other Parts; ame may be ſaid of the outer Membrane of the Uterus, s of the like Membranes of the Inteſtines, the Sto- nd Œſophagus; as alſo of the Pleura, and the proper ents of the Muſcles; which, tho' they have no con- Veins, muſt be ſuppoſed to be furniſhed with Canals, from the very Orifices of the Veins, ſince, when they med in Diſeaſes, the Blood-veſſels manifeſtly ſhew es; as, for Example, in a Pleuriſy and Ophthalmy; e Veſſels furniſh Nutriment enough for that peculiar ing not appointed for any public Office, diſtinct from .

g finiſhed the Deſcription of the Allantois, it will be take ſome Notice of another Membrane, which it in Figure, but is appointed for a very different Uſe. t with it in Dogs and Cats, ſituated under the Girdle, Divarication of the Umbilical Cord, where the Veſſels ſeparate, and to take their Courſe towards the Pla- ſtretches itſelf out in Length in a ſort of Cavity, y other Membranes meeting there for that very Pur- is tied, or in a manner buttoned, to them at its Ex- by a very white cartilaginous Ligament. As to its s, it no-where cloſely adheres to the Sides of its Cavi- angs almoſt looſe. In the Beginning of Geſtation it is d full of Humour, containing more than all the reſt of branes taken together. It is very plentifully furniſhed s and Arteries; but, in Proceſs of Time, it decreaſes s, till, being exhauſted of all its Moiſture, it becomes like the little Membrane in the Brain, called the Cho- to paſs upon the Unwary for the ſame, when taken e Humour here reſerved has nothing of Urine, but is very noble, which is ſpent upon the Fœtus in the ks, by means of peculiar Veſſels: And this is obſerva- e Dog-kind, and many others, to whom Nature has Membrane for Services of the like Kind, tho' it be not the ſame Figure. For,

ney this Membrane is large, and ſurrounds the whole lmoſt in the ſame manner as the urinary Membrane in and, at laſt, forms a Cavity under the Placenta, which ointed for the Urine. 'Tis almoſt in the Form of a n, and, being inflated, reſembles the human Kidney, pe and Size: It is variegated with Veſſels, which, if traced, will be found not to meet in a Collection at ta, but to deſcend to the Cord; and from thence, g the Abdomen, to proceed to the Meſentery.

re is a Queſtion, of no leſs Difficulty than the former, g the Ingreſs of the Humour into this Membrane, nciding with another like Difficulty, uſually ſtarted Amnios, we ſhall treat of them both together.

count of the Amnios has been almoſt anticipated in urſe on the Allantois, and needs no other Deſcription g, that it belongs to all, as well oviparous as vivi- imals, and is always ſupplied with Veſſels from the ; the Liquor it contains is nutritious, and ſucked by o, as was ſaid before. It remains only to inquire by s it is convey'd thither, as into a Reſervoir, in order the future Neceſſities of the Fœtus; a Controverſy perplexed, and which *Harvey*, as *Courvæus* writes, cted; either becauſe he ſaw too much Difficulty in e at all. *Courvæus* himſelf, and *Everhard*, account Filtration through the Pores of the Membranes, and re is a Tranſudation of the Humour, firſt into the nd from thence into the Amnios. But theſe learned d have conſidered, that there is not the leaſt Humour d between the Chorion and Amnios; but whatever liquid in theſe Parts, is all contained in the Allantois; e ſhould be any Filtration from thence, through the of the Amnios, it is but reaſonable, that there ſhould Collection of the ſame within the Chorion. This is very well urged by *Wharton de Gland.* to ll ſubjoin another, that ſhall amount to a plain De- , as follows: In a Fœtus of the Horſe-kind, the mbrane is every-where firmly connected to the Chorion, and even contains in itſelf the whole Fœtus, with the Amnios, ſo that the Amnios ſwims in the Urine. I prove it to be Urine by the Smell, Colour, Taſte, and its Communication with the Bladder by the Urachus. The Caſe is the ſame with reſpect to Dogs and Cats. Now I would aſk of *Courvæus* and *Everhard*, whether the nutritious Liquor muſt paſs through the Urine, and ſo be mixed with it. If they will not grant this, there is ſcarce any other way but by the Umbilical Cord; for in the Inſtance alledged, all other ways of Filtration are excluded.

But as to the Umbilical Cord, it is doubted, whether this Humour be convey'd through its Veins into the Blood of the Embryo, and afterwards depoſited by the Arteries in the Amnios; or, whether it deſcends by the Jelly-like Subſtance of the Cord, and diſtils through the minute Papillæ, or Aſperities, into the Amnios. *Wharton* is for the latter way, which, indeed, ſeems very probable to one who conſiders the Fœtuſſes of the Cow-kind, in which there is a copious and thick Jelly, and whoſe Cord is turgid, with a kind of glandulous Aſperities, in that Part which ſwims in the Liquor of the Amnios; ſo that one might readily conjecture, that this Colliquamentum was ſqueez'd from theſe Glands. But when I conſult comparative Anatomy, and examine the Structure of this Cord in other Animals, I am perſuaded the thing is quite otherwiſe. For in the placentiferous Kinds, there is no ſuch Plenty of Jelly growing to the Cord, which, in Man, is thin, and runs out in Length, and muſt be judged very unfit for any ſuch Uſe, by every one that ſees it. In oviparous Kinds there is no Cord at all, but Veſſels which ſpread over different Parts of the Fœtus, and enter it, ſome near the Anus, others near the Liver, and the uſual Place of the Umbilicus: Nor do they ever gather into a Cord; but when the Time approaches for Excluſion of the Chick, the Left Artery, and Hepatic Vein, periſhing, the reſt of the Arteries, with the Meſenteric Vein, and the Inteſtinal Duct, are taken into the Abdomen, to ſupply the Vitellus: Now that the Colliquamentum of the Chick, with its Membrane, anſwers to the Amnios of viviparous Animals, is not at all doubted; ſo that we may reaſonably conclude, that they have but one and the ſame way of receiving the Humour.

It will, therefore, be proper for us to inquire, in what manner the Liquor enters the Cicatricula in an Egg, and extends the fine little Membrane by degrees, till, at length, it becomes capable not only of a good large Fœtus, but alſo of a conſiderable Quantity of Liquor.

Whoever views this Cicatricula in the Egg, before Incubation, will perceive it very minute, and ſuſpended in the Membrane of the Vitellus; yet this ſo ſmall a Tenement entertains an Embryo, and becomes every Day more ſpacious, till an entire Animal ariſes thence, and ſhews itſelf. After two Days Incubation, as *Harvey* obſerved it, there will appear in it large conſpicuous Circles, as big as the Nail of the fourth Finger: Within theſe Circles, as the ſame Author aſſures us, is contained a Liquor, extremely clear and refulgent, purer than any cryſtalline Humour, and appearing to be included within its own very fine Membrane, like a Part of the Albumen melted and clarified. He calls it, by a very ſignificant Name, *Colliquamentum*. It increaſes continually; and on the fourth Day preſents you with the Phænomenon of a purpliſh Border, with a ſmall Line of a Blood-colour, which is continued to the *Punctum ſaliens*, ſituated in the Centre. The latter Augmentations are the moſt conſpicuous; but the manner how it increaſes, is a profound Secret.

Whoever believes it done by Tranſudation, would do well to conſider, beſides the Arguments which are brought againſt this Opinion, from viviparous Animals, and which prove, that there is an Analogy between the Motions of their reſpective Liquors; I ſay, beſides theſe Arguments, he would do well to conſider, how carefully kind and indulgent Nature has provided for the Secretion of theſe Humours; and how circumſpectly and warily ſhe has, every-where, wrapt them up in fit and proper Coats: So that if, at any time, a Tranſudation was to happen, it muſt be made, not thro' a ſingle Coat, but the Humour muſt break out from its Incloſures, and make its way into the Interſtices of two Membranes; and then, at laſt, enter the Pores of another Covering. But who ever ſaw any Liquor between theſe Interſtices? Or, to what Purpoſe did Nature uſe ſo much Care and Caution in ſeparating theſe Humours? Would it not, at leaſt, have been ſufficient, that they ſhould have been ſeparated by ſingle Coats, thro' which they might have eaſily afterwards paſs'd? Beſides, I would have the Abettors of this Opinion to conſider, that when Nature allows an Ingreſs into a Membrane, thro' Pores of this Kind, ſhe does not permit the Egreſs thro' the ſame Pores; ſo that the Humour which entered one way, muſt go out by another, and paſs forward to another Membrane, which would render the thing void and ineffectual: The Ducts, all this while, which lead from Membrane to Membrane, are not as yet conſpicuous; nor are there ſufficient Reaſons ſuggeſted for ſuſpecting them; 'tis therefore incumbent upon us to caſt about, and look out for ſome more rational and ſatisfactory Hypotheſis.

What my own Sentiments are, I ſhall now inform the Reader: That minute Animalcule, which I imagine is generated in the firſt Conformation of the Egg, and lodged in the Cicatricula, contains a ſpirituous Liquor in its Veſſels. This Liquor is preciſely the ſame with that which *Gliſſoni* ſo often diſtinguiſhes by the Name of *Spiritus Vitalis*, or the vital Spirit. This Liquor, upon the Approach of Heat, takes up more Space than it did before, and ſo paſſes off through the Extremities of the Veſſels; and whatever Part either of the White or the Yolk it falls upon, it colliquates and melts it. By this means the Part on which it falls, is render'd ſo fluid, that it is eaſily incorporated with the above-mentioned Spirit, and together with it received into the Mouths of the Veins, which are not as yet red, and ſo paſſes to the Fœtus in greater Abundance than is requiſite, either to nouriſh its Body, or to ſaturate the Blood, by which I mean the fore-mentioned Liquor. The Blood being thus impregnated with this Spirit, depoſits it in the Arteries, which are inſerted into the Coat of the Colliquamentum, after the ſame manner as the Arteries are inſerted into the *Amnios* of viviparous Animals; ſo that the Coat of the Colliquamentum is not only diſtended with this Juice, but depoſits and lays up within itſelf the far greater Part of it as proper Store for the Fœtus. Theſe things appear very plainly in an Egg, and unleſs there be ſome Foundation for a different Set of Occurrences in viviparous Animals, I ſee no Reaſon why they ſhould not likewiſe happen in them. It is not at the ſame time to be deny'd, but this Hypotheſis ſtands chargeable with many Difficulties, and lies open to ſome conſiderable Objections; two of the principal of which I ſhall only conſider, ſince I imagine the reſt ſo nearly link'd to them, that they muſt ſtand or fall according to their Fate.

The firſt concerns the Mixture of the nutritious Juice with the Blood, which yet muſt be ſeparated from it, and afterwards received into the Stomach, in order to be reunited with the Blood.

The other Objection reſpects that *elective* Motion of the Liquor, which carries it to make its Ingreſs by the Veſſels diſperſed in the Albumen and Vitellus, but its Egreſs by thoſe which are diſtributed over the Membrane of the Colliquamentum.

To the firſt it may be anſwer'd, That the very ſame Juice which ſerves for Nutriment in the Fœtus, was once intimately united with the Mother's Blood at leaſt, after it had undergone the firſt Concoction in her Stomach; which granted, I don't ſee what Inconvenience will follow, if it ſhould paſs from the Mother's Blood into that of the Fœtus, and there leave whatever is fit to be immediately converted into Blood, without any farther Concoction or Fermentation. The reſt may be repoſited within the Amnios, as Matter for future Nutrition, to make its Paſſage through the Stomach, and there to be digeſted. This will appear the more probable, if we conſider, that here is no Retrogradation of Nature, or Degeneration of Blood into a chylous Matter, but a Tranſition of alimentary Liquor for the Support of an Animal; which is no more than what happens in the Mother, both with reſpect to the Humours of the Uterus, and the Matter which forms the Milk.

To the ſecond Objection I anſwer, That ſuch elective Motions are found every-where in the animal Œconomy, with regard to the Diſtribution of Aliments as well as Excrements. So Milk always flows to the Breaſts, the Humour we ſpeak of, to the Uterus, Bile to the Liver, Serum to the Kidneys. The Reaſons for this ſimilar Attraction, I am incapable of giving, but believe they are to be reduced to Pulſion; but it is ſufficient for our preſent Purpoſe, that ſuch a Motion there certainly is, whatever be the Cauſe.

From what has been ſaid, we may draw a Solution of another Queſtion, which has been lately ſtarted, concerning the Uſe of the fourth Membrane belonging to the Dog-kind. The Anſwer is, That the Liquor there collected is depoſited in that Place, as in a Reſervoir for the Uſe of the Fœtus.

So much for the Membranes and Ducts. We ſhall add a few Words concerning the Humours.

All the Humours, let them be as many as they will, or in whatever Animal found, are nutritious, except only the Liquor of the Allantois. A great Part of viviparous Fiſhes emit an Egg of only one Colour, and including, as far as can be diſcern'd in ſo minute a Body, only one Humour. But the Method of Nature in their Generation, I confeſs, is unknown to me. But there are ſome Fiſhes which lay an Egg of two Colours, and conſiſting of a ſingle Albumen and Vitellus; as the Ray. The Eggs of Birds, for the moſt part, include within their Shells three nutritious Subſtances, conſpicuous to the Eye, for the Uſe of the Chick, that is to ſay, a Vitellus, and a double Albumen incloſed in Membranes. But after Incubation, we meet with a fourth, formed from a Colliquation of the others; and, by *Harvey*, very properly called *Colliquamentum*. I ſay nothing of the Chalaza, which is not properly a Humour: much leſs are the Seed of the Cock, or the Principle of the Chick, to be ſo accounted, but only Props to the Vitellus, which is ſuſpended in the Centre of the Egg. But the Colliquamentum, though it appears to Sight as if it were transferr'd thither from ſome other Place, moſt certainly
its Original to the Liquor contained in the Cicatricula. I
here inquire, whether this be the Liquor which forms
Chick, or rather the Blood of the Chick already formed;
we know, that from hence are extended Veſſels, which
affixed to the other Parts, eſpecially the Albumina,
attenuated Humour, and refund it into the common
cle, in the manner juſt now explained. So the tender
goes on waſting his Proviſions, till the Albumina being
ſumed, the Vitellus comes to be included in the
the Chick, juſt before its Excluſion; and from thence
peculiar Duct is carried into the Inteſtines, where it
the want of Breaſts to thoſe little Creatures, and affords
all their Nouriſhment till the twentieth Day.

In viviparous Animals there are ſometimes two;
three Humours. The firſt is immediately received from
centa into the Veins, and forthwith goes to the Uſe of
tus. The others are alſo received into the Veins, but
wards diſtributed by the Arteries into the Cavities of
Membranes. In glanduliferous Animals, as alſo in the
and the human Species, there is but one Humour, which
in the Amnios: That this Liquor is nutritious, has been
from its being the ſame as is found in the Stomach.
firſt, but in Length of Time grows remarkably thick,
in the larger Kinds. Beſides, there is found in all of
Urine in the Allantois, of which I have given an

Beſides theſe, there is in Dogs, Cats, and Coneys,
haps in ſome other Kinds, a third nutritious Liquor.
already deſcribed the Membranes in which it is
now come to ſpeak of the Thing itſelf. Indeed the
Variety in which Nature ſports, ſurpaſſes our
nor can I find out a probable Reaſon why a third
Liquor ſhould be more neceſſary for theſe Animals
others. Rumination affords no Help in this
a Horſe is as much deſtitute of it as ruminating
nor is eating of Fleſh to be regarded, for a Coney
while the Swine and the human Kind are without it,
is really to be accounted among carnivorous Animals,
to be doubted; for tho' after the Deluge he obtained a
for eating of Fleſh, he ſeems naturally conſtituted
upon the Fruits of Vegetables, as appears from ſacred
and the Structure of the human Body. He has neither
nor Nails like thoſe of voracious Animals, nor any
in common with them. And as for the Swine, tho'
well enough to feed on Fleſh, yet he is naturally more
on turning up of Roots, and conſuming of Fruits.
ſhall we ſay of the Coney, a Creature that feeds on
Herbs? I know not, for my part; and yet it might
geſted, that the Male Coney would almoſt conſtantly
the young ones, if the Dam did not hide them;
reality, if the Coney be compared with the Rat or
both of them carnivorous, there will be found no
militude as to their Membranes and Placentæ. But
merely problematic, and too ſlight a Foundation for
theſis. However it may be ſafely affirmed of theſe
that they are next akin to oviparous ones, in which
and Vein proceed from the Meſentery, and are
a particular Humour. But there is this Difference,
that the Vitellus, to which theſe Veſſels belong, is
in the laſt Place, whereas, on the contrary, this
Dogs, *&c.* is the firſt that paſſes into Nutriment;
it be copious in the Beginning of Geſtation, yet
Birth it is all gone, and not a Drop of it left in
brane. Hence, upon a right Computation, we ſhall
theſe Veſſels anſwer to thoſe of the Vitellus, and the
contained in them to the thinner Albumen; for the
mour ſerves for Nutriment to the Embryo, and to
ſtrengthen its tender Stamina, till it becomes more
able to digeſt a thicker Juice.

However this be, we ſhall proceed in our Diſcourſe
and the other nutritious Liquor, and ſay ſomewhat
cerning the Urine. This laſt is known to be
the Kidneys and the Bladder. The others proceed
the Blood, and very much reſemble its Serum. And
are ſo far remote from the Nature of the ſanguineous
that being held over the Fire in a Spoon, they will
late, as the other conſtantly does. Nor will even
quamentum of the Egg itſelf concrete by this means,
conſtituted of Juices evidently liable to Coagulation:
do the Humours differ from themſelves, when
fore and after Digeſtions, Percolations, and other
Nature's Cooking. All theſe Liquors, in Diſtillation,
ſoft, ſmooth Water, very like diſtilled Milk; and
ty belongs to the Liquor of the Allantois as well as
for as yet it remains in the mild State of the Serum
not having its Salts exaſperated and exalted, nor
Marks of a tartareous or ſaline Quality; even the
obſerve, that the firſt Urine of Infants is not in the
But in the larger Kinds of Animals, while I was
Juice through an Alembic, there ſeem'd to me to

uantity of volatile Salt in the Head. Coagulations at- d by Acids, ſucceed variouſly according to the Variety Humours. The Liquor of the Amnios of the Neat- after a Decoction of Alum injected, exhibited but few lations, and thoſe very tender, but of a remarkable neſs. The Juice of the Allantois only became turbid ine; Spirit of Vitriol and Vinegar had leſs Effect on both n, than Alum.

re are alſo ſpontaneous Concretions in the laſt Months, are found in both the Humours, but larger and more t in the urinary Membrane; which was the very thing rmerly ſuggeſted to me an Occaſion for reckoning this mong the nutritious ones, as tho' it did not paſs from adder to the Allantois, but from the Allantois to the r, and from thence through the Penis into the Amnios. er long and various Contemplations on its Colour, Con- , Smell, and Taſte, in different Animals, I am convinced, is nothing but Urine, in all of them. But it ſeems to ſequent from the Nature of Concretions, that the Urine nd Perſons brings off with it ſome of the nutritious which the famous *Willis* very ingeniouſly conjectures he Matter of the Hypoſtaſis. This is done much more ly in an Embryo, where the Blood is full of ſuch Cor- ; and conſequently ſends off more with the Urine, after long Maceration in the Urine, concrete, and repre- ch a ſort of Subſtance.

more frequently happens in the Urine than in the Li- f the Amnios, becauſe this latter undergoes continual ions, Part of it being ſtill conſumed by the Fœtus, and mixed with new, ſo that the whole Juice is renewed rt Space of Time; whence it appears, that it does not g enough to form Concretions.

even here are alſo found adipous Coagulations, which, moſt part, adhere to the Membrane itſelf. Urine, on trary, tho' it has fewer Particles of this Kind, which Matter of the ſolid Parts, yet it preſerves them from rſt Entrance to the Birth, and by a continued Con- at length condenſes them.

are theſe Membranes the Receptacles only of Liquors, tain alſo a good Quantity of Air. This is abundantly to thoſe who are accuſtomed to diſſect theſe Parts, quently lift thoſe ſoft Membranes with their Hand, not at all diſtended, and find conſiderable Cavities be- hem and the Humours they contain, which muſt not oſed to be a mere Vacuum. Beſides, the Crying of the eclares the Preſence of the uterine Air, without which impoſſible for a Sound to be excited. Indeed I could be perſuaded of the Truth of theſe Cryings, before I following Relation from a very noble Lady in *Cheſhire*. uſtrious Perſon ſitting with her Huſband, the Chaplain, er Company, in her Parlour, after Supper felt a ſtrange otion in her Belly, which ſhook her Cloaths to ſuch a , that it was perceived by the Attendants. She was hild, and in the eighth Month of her Term. On a a Voice was heard; but whence it ſhould proceed, no Suſpicions of the Unborn, they were at a Loſs to re. Soon after, the Lady was ſeized with a ſecond , and a viſible Concuſſion of her Belly and her Cloaths, ry was heard as if it proceeded from thence. While mpany ſtood wondering, and talking to one another his ſtrange Event; the ſame was renew'd the third th all its Circumſtances, and the Crying heard ſo plain, People, who were now very attentive, could no longer hence it ſhould proceed. The young Lady, who was e in the Womb, is now living, and in a good State of I could not but believe a matter of Fact ſo well at- nor avoid publiſhing it, eſpecially ſince it is of ſo great t in the preſent Controverſy. Granting this to be true know not how to account for it, without admitting ſwim on the Liquors within the Membranes, when e raiſed by the Head of the leaping Fœtus, and ſepa- m the Superficies of the Humour.

hy ſhould we account the Crying of the Child in the Prodigy, when we ſo frequently hear the Chick piep- he Egg, as well before the Shell is broken, as after- he Membranes ſtill remaining entire? *Needham de for- tu.*

e in the *Edinburgh* Medical Eſſays, has a long Diſſer- the Nutrition of the Fœtus, wherein he endeavours that none of the Liquor of the Amnios enters the of the Fœtus for its Nutrition.

he Memoirs and Hiſtory of the Royal Academy of Sciences.

mnios is a very fine, tranſparent, and ſoft Membrane, even Surface on the Outſide, but ſleek and ſmooth on e. It incloſes the Infant, the Navelſtring, and the is one of the Membranes that covers the Placenta, at the Navelſtring, near the Place where the Veſſels *Memoires de l'Acad. Roy. des Scienc.* 1714.

With regard to the Waters incloſed in the Amnios, it is impoſſible for the Child to ſuck them in for want of Reſpiration; beſides, they are too clear, and too like Urine, to ſerve for its Nouriſhment. They are of Uſe in preventing the Weight of the Child, and the Inequalities of its Body from bearing hard on the Neck of the Uterus, in its Situation in the Uterus. They defend the Child from receiving Hurt when it moves, and alſo prevent it from adhering to the Amnios. *Ibid.*

Some experienced Anatomiſts have taken great Pains, tho' to little Purpoſe, and ſtretched their Imaginations to diſcover by what ways the Liquor of the Amnios is conveyed over the urinary Membrane.

M. *Tauvry* had recourſe to a new Expedient. He ſuppoſes, that the Cavity of the Amnios was full at the very Beginning of the Formation, when as yet the Fœtus had no Urine to tranſmit to the urinary Membrane.

The Amnios being full, and the Fœtus grown ſtronger, the urinary Membrane begins to fill in its Turn; and the Amnios receives no freſh Supply, but keeps what it has in Reſerve, diſpenſing by little and little what is neceſſary for the Nouriſhment of the Child till the Time of its Birth. An Obſervation which confirms this Conjecture, is, that the Amnios is leſs full, and the urinary Membrane fuller, in proportion to the Advancement of the Fœtus. If this be not a Contrivance of Nature, it is myſterious and fine enough to deſerve it ſhould be ſo. *Hiſt. de l'Acad. Roy. des Scienc.* 1699.

Over the middle Membrane comes the Amnios, which adheres to it in all its Extent, and in ſo cloſe a manner, as to require ſome Pains to ſeparate them. This makes me believe, that there is no ſuch thing as Urine between the two Membranes, as ſome Authors have imagin'd; for if there were any Urine, which is diſſipated at the Birth, there could be no ſuch Adheſion between theſe two Membranes. The Cavity form'd by the Amnios contains a Liquor, in which is the Fœtus with its Cord; ſo that the Amnios does not immediately incloſe the Child, as ſome have aſſerted. *M. Rouhault in Mem. de l'Acad. Roy. des Scienc.* 1715.

AMNIS. See Amna.

AMOIE, ἀμοιὴ. *Galen* explains this *moderate.* But *Heſychius* ſays, that ἄμοιος, amongſt the *Sicilians*, ſignified *bad.*

AMOLYNTON, ἀμόλυντον, from α Negative, and μολύνω, to pollute, or make dirty. *Cœlius Aurelianus, Acut. Lib.* 2. *Cap.* 27. informs us, that this Name is given to a topical Application, which, if handled, will not defile the Fingers.

AMOMI. *Jamaica* Pepper is thus called by the *Dutch.*

AMOMIS, a Fruit ſomewhat like the Amomum. It is called alſo Pseudamomum. See Amomum.

AMOMUM. Tho' *Dioſcorides* has been very particular in his Account of the Amomum, the Moderns have not only been much perplexed in determining what the true Amomum was, but are not certain, that any ſuch thing as the Amomum of the Antients is now exiſting, or, at leaſt, known to us.

The Account which *Dioſcorides* gives of it, is thus:

Amomum is a ſmall Shrub, that grows twiſting its woody Stem into the Form of a Bunch of Grapes. It bears a ſmall Flower, like that of the Leucoium, and Leaves like thoſe of Bryony. The *Armenian* is eſteem'd the beſt Sort, which is of a Colour inclining to Gold, of a yellowiſh Subſtance, and remarkably fragrant. The *Median* is weaker, as growing in flat and watry Places. This is a large Sort, of a greeniſh Colour, ſoft to the Touch, of a fibrous Subſtance, and ſmells like Origanum. What comes from *Pontus* is of a yellowiſh Colour, ſhort, and not difficult to break, cluſtered like a Bunch of Grapes, full of Fruit, and very odoriferous.

Chuſe what is new, and white or reddiſh, not the cloſe and connected, but what is of a looſe and diffuſed Subſtance, full of Seed, and like ſmall Cluſters of Grapes, ponderous, extremely fragrant, free from Worms or Mouldineſs, acrid, and biting upon the Tongue, of one ſimple Colour, not particoloured.

It is of a heating, drying, aſtringent, hypnotic and anodyne Quality, if apply'd in manner of a Cataplaſm to the Forehead. It ripens and diſcuſſes Inflammations and Meliceridès. Uſed in a Cataplaſm with Ocimum, it helps thoſe who are ſtung with Scorpions. It is good for gouty People, and helps and mitigates Inflammations in the Eyes, and alſo in the Bowels, if taken with dry'd Raiſins. It is of Service in Womens Infirmities, uſed either as a Peſſary, or by way of Inſeſſion. The Decoction of it is very proper to be drank by ſuch as labour under Infirmities of the Liver, or Kidneys, or the Gout. It is alſo an Ingredient in Antidotes, and the moſt coſtly Ointments.

Some have got a way of adulterating Amomum with what they call *Amomis*, which is a Plant, that reſembles Amomum, but has no Smell, and bears no Fruit. This grows in *Armenia*, and produces a Flower like Origanum.

In chuſing ſuch Kinds of Simples as this, be ſure to avoid Pieces or Fragments, but take the whole Plants as they ſpring from one Root, entire with all their Branches. *Dioſcorides, Lib.* 1. *Cap.* 14.

From *Pliny*'s Account of the AMOMUM, we can only infer, that the Berry-bearing Ever-green, which commonly goes by the Name of *Amomum Plinii*, is neither the true Amomum, nor the Plant which *Pliny* alludes to; and that *Pliny* did not know himſelf, what the Amomum really was.

The Grape of Amomum, he ſays, is in Uſe, which grows on the *Indian* wild Vine, or, as others have imagined, on a Myrtle-like Shrub, an Hand's Breadth in Height. It is gathered with the Root, and packed up in ſmall Parcels in a gentle manner, being extremely brittle. The moſt valuable is, what has Leaves neareſt reſembling thoſe of the Pomegranate-tree, not wrinkled, and of a ruſſet Colour. The next in Goodneſs is, the pale-coloured; the herbaceous is worſe, and the white worſt of all, which Colour it alſo takes with Age. It grows in that Part of *Armenia*, which is called *Otene*, and in *Media*, and in *Pontus*. They adulterate it with Pomegranate-leaves, and liquid Gum, to make it ſtick together, and roll itſelf up in the Form of a Cluſter of Grapes.

There is alſo what is called *Amomis*, which is leſs veiny, but harder, and leſs fragrant; whence it appears to be another thing, or to be gathered before it is ripe. *Pliny*, *Lib.* 12. *Cap.* 13.

Amomum is endued with the ſame Virtues as the Acorus; only the Acorus is drier, and the Amomum the better Digeſtive. *Oribaſ. Med. Coll. Lib.* 15. *Cap.* 1.

Salmaſius has, with a great deal of Learning, endeavoured to ſhew the Difficulty of knowing what the true AMOMUM of the Antients was; and to prove, that none of the different Plants which have been taken for it, was the antient AMOMUM.

Concerning Amomum, ſays he, there is much Diſpute; for it is not only doubted what it is, but whether it be really exiſting; for the old Plant of that Name, which we are ſatisfy'd was formerly in Being, has been eagerly ſearch'd after by our modern learned Botaniſts, but not found. In ſo doubtful a Caſe, it is however certain, that the true Amomum is not what is ſold under that Name in the Shops. I ſhould much wonder, that an Aromatic, ſo noted and celebrated in former Times, ſhould be now out of Knowledge, did not I find, that ſeveral others of the ſpicy Kind, which were formerly of equal Uſe and Eſteem with Amomum, lie conceal'd at preſent under the ſame Obſcurity. It is much eaſier to tell what it is not, than what it is; for the latter is out of our Power, ſince nothing in our Times appears any-where which we can call Amomum, whatever may be pretended to the contrary. *Julius Scaliger*, in his Notes upon *Theophraſtus*, confidently affirms it to be what they commonly call the *Roſe of Jericho*, whoſe Want of Fragrancy muſt be imputed to the Nature of the Place where it grows. Many, before and ſince his Time, who were of the ſame Opinion, have been exploded by others; for, beſides other diſagreeing Characters, this *Roſe of Jericho* is tough and flexible; but the Amomum, as *Pliny* aſſures us, is extremely brittle. Hence there were two Sorts of it ſold at the Spicery-ſhops; one whole, or in the Cluſter, the other crumbled into ſmall Bits and Duſt. And they bore a different Price; for, as the ſame Author affirms, the Price of the former was ſixty Denarii, of the other but forty-nine. *Andromachus* the elder, in the Compoſition of the *Theriaca*, calls it Βοτρυόεν ἄμωμον, "the cluſtered Amomum," in this Verſe, which I read thus:

Καὶ στύρακος, μήου τ', ἰδὲ βοτρυόεντος ἀμώμου

"And of Styrax, and Meum, and Amomum in Cluſters;" and ſo *Damocrates*, in many Places of his Iambics, as he is quoted by *Galen*, has βότρυος τ' ἀμώμου, that is, *Uva Amomi*, "the "Grape-like Cluſter of Amomum." So in the Author of the Poem upon the Phœnix:

----- *Uvamque procul ſpirantis Amomi*,

"The Grape of the Amomum diffuſing diſtant Odours."

The Words of *Pliny* are to be read, *Amomi Uva in Uſu, ex Indica Vite labruſca; ut alii exiſtimavere, Frutice botruoſo.* "The Grape of the Amomum is in Uſe; it comes from the "*Indian* wild Vine, or, as others imagine, from a Cluſter-"bearing Shrub." But none ever ſaid, that Amomum was the Grape of the wild Vine, or was of the Kind of the *Indian* Vine. *Dioſcorides* indeed ſays, that it had Leaves like Bryony, that is, the white Vine; but none ever heard or read, that it was the Grape of a Vine. What they call the Grape in Amomum, is nothing but the little Branches of the Shrub, twiſted and interwoven in the Figure of a Cluſter of Grapes, and, as *Dioſcorides*, βότρυς ἐκ ξύλου ἀντεμπεπλεγμένος ἑαυτῷ, "a "wooden Cluſter, complicated and rolled up within itſelf." Such exactly is the Shrub of the *Roſe of Jericho*, which is actually botryous, or ſhaped cluſterwiſe, the ſlender Branches being twiſted up in Folds one againſt another, in manner of a Bunch of Grapes. But, for all that, the *Roſe of Jericho* is not Amomum; it ſhould rather be ἡ ἀμωμὶς, "the Amomis," which was harder than Amomum, had no Smell, and, according to *Dioſcorides*, was uſed in adulterating Amomum; to which *Pliny* adds, that it was not ſo full of Veins as Amomum,

but harder; and *Dioſcorides* makes it have a Flower like O
ganum. Nor indeed is the Flower of the *Jericho* Roſe
unlike it in Figure; but then the Roſe of *Jericho* has a
whereas the Amomis, according to *Dioſcorides*, ha
Pliny gives the Amomum the Leaf of the Pomegra
Quam maxime laudatur Punici mali Foliis ſimile. "T
"the higheſt Value, ſays he, on what has Leaves
"Pomegranate-tree." Why does he reckon this am
good Properties of the beſt Amomum, if Nature gave i
Leaf? All the *Greeks* tell us it had a Leaf like Bryony:
one of them, ſays, *Flore albo veluti Violæ, Foliis*
Bryoniæ. "It has a white Flower like the Violet, bu
"like Bryony."

Pliny was deceiv'd by his own Ears; for when his A
[Reader] happen'd to be reading κάλλιστον ἐστὶν Ἀρμένιον
τῇ χρόᾳ, "the beſt is the *Armenian*, which is of a g
"lour," he wrongly fancy'd, that he heard ὅμοιον
πλήσιον τῇ ῥόᾳ, "like, or much reſembling the Pome
"tree." Hence he came to render it, *Laudatur quam*
Punici mali Foliis ſimile. "The moſt valued, &c."
nothing of the golden Colour of the Leaf; which is
ment, that the Words ſounded in his Ears like ἰσάζον
τῇ ῥόᾳ, [*iſazon* or *iſizon te roa*] "reſembling the Pom
"tree," inſtead of χρυσίζον τῇ χρόᾳ, [*chryſizon te chr*
"a Colour like Gold." Of this I don't in the leaſt

It is a long time ſince the genuine Amomum be
miſſed. The *Arabians* write nothing about it but
tranſcribe Word for Word from the *Greeks*. They ca
mama, a Word plainly deflected from Ἄμωμον, "A
Serapion, in the Deſcription of Amomum, quotes no
Authors, but only *Dioſcorides*, whoſe Words he tra
and *Aviſena* ſays no more of it than is in *Dioſcorides*.
to that Paſſage in *Dioſcorides*, where he ſays, that A
has a ſmall Flower ὡς λευκοΐῳ, "like the Leucoium;"
Arabians ſeem to have follow'd another Reading, or
have underſtood what was the λευκόϊον, "Leucoium."
Tranſlator of *Serapion* gives us a monſtrous Verſion,
any Explication: *Habet Florem parvum, ſimilem Flori*
dictæ Locadan." It has a ſmall Flower, like the Flowe
"Plant called *Locadan.*" *Cremonenſis*, the Tran
Aviſena, ſeems to have follow'd another as bad a Copy,
he renders, *Et habet Florem ſimilem Flori Indo.* Bellu
deed made a Correction of it in the Margin, by *ſimile*
Violæ; but this he took rather from *Dioſcorides*, th
any *Arabian* Author; for the *Arabic* Words of *Aviſen*
nothing like it, but, according to the Edition at *Rome*,
be render'd, *Et ei Folium magnum Hared*; "And it has
"Leaf of Hared," the *Arabic* Word ſignifying not a
but a Leaf; and is ſoon after taken in that Senſe, w
Leaf of Amomum is compar'd to thoſe of the Vi
Aviſena ſays nothing of the Flower of Amomum in th
nor is *Hared* the Name of any Flower or Herb that I k
but comes from a Verb that ſignifies to *dilate* and
whence *hared* is *broad* and *extended*. Wherefore I ſupp
Aviſena ſays, that the Leaf of Amomum is great and
and like the Leaves of the white Vine; for that is t
Meaning of the Paſſage in the original *Arabic*, which
be thus render'd, Word for Word, *Et ei Folium magnum*
et in ſimilitudinem Foliis Vitis albæ, "And it has a Le
There is no mention here of a Flower, for this was o
Aviſena. I wonder therefore whence the Tranſlator
out his *Indian* Flower, to be compar'd with the F
Amomum. Beſides, there is not the leaſt Syllable
Arabic of the white Violet, which the *Arabians* ca
The Tranſlator of *Serapion* alſo renders the Word
deriv'd from Amomum, by *Pes Columbinus*, "Dove
which ſome were ſo fond of, that they did not
affirm, that the Amomum of the Antients was the
the Herb commonly called *Pes Columbinus*. This,
reſt, was the Opinion of *Garcias*, a Man very little
Arabic, tho' he converſed all his Life-time with *Arab*
tells us, that he was informed by a certain *Jew* A
that Amomum was called in the *Arabian* Tongue
but this Word ſignifies, when interpreted, no other
Columbinus; nothing can be more wrong. A Dove,
is called in *Arabic Hamam*, but Amomum has no
with a Dove, or Dove's Foot. *Garcias* adds an Ar
confirm his Interpretation, which is, that he was
with a Branch of Amomum by the *Perſian* and *Turk*
cians, who officiated about the King *Nizamoxa*, wh
Life reſembled the Pes Columbinus; and beſides exa
with the Deſcription of Amomum, which is in D
Mere Fables! and all that is ſaid about the Pes Colu
more than Trifling, and nothing to the Purpoſe. I
Loſs, I confeſs, to imagine how the vulgar Herbaliſts
hammer out this Word. I have heard, indeed, that
call a Species of the Geranium, which has the Leaf of
low. But the Herb to which the *Arabians* give this
quite another thing; for they beſtow it on the περι
περιστερεὼν of the *Greeks*. This is called by them

t is, *the Foot of Doves*, becauſe of the *Greek* Name
n, ἐκ τῦ τὰς περιςερὰς ἡδέως ἐνδιατρίβειν ἐν αὐτῇ, “ from
oves delighting to be much about it.” Hence it came
’d by the *Arabians Doves Foot*. *Apuleius Pſeudony-*
calls it *Columbina*, “ Columbine,” and ſays it is
ood for Doves. Indeed an *Arabian* Botaniſt renders
ιςέριο”, [Periſterium] in an old *Dioſcorides*, by *rhai*
that is, *the Food of Doves*. There is mention made
erb in *Aviſena*, *Lib.* 11. which he imagines to be alſo
i alabil, that is, *the Food of Camels*. An old Inter-
ders it *Chaff*, for what Reaſon I know not. *Aviſena*
I am ſure, ſays it is an Herb that has Seeds like Grains
: He uſes the *Arabian* Word *haxis*, which ſignifies
ubble, or *Hay*. However this Herb is not abſolutely
ed *Palea*, “ Chaff ;” for the Word in *Arabic* ſigni-
Herb. Whether it be the Periſterium of the *Greeks*, I
t. It has a Virtue of mitigating Ulcers that are ſub-
ead, if apply’d with Vinegar ; but more properly it
ſame. There is another Herb, which, among the
bians, is called the *Pabulum Cameli*, or *Paſtus Ca-*
he Food of the *Camel*.” *Garcias* writes, that the
doratus is ſo called. *Scaliger* on that Paſſage obſerves,
named in *Arabic halaf algemali* ; but I fancy he rather
that it was ſo from the Words of *Garcias*, than read
in the Writings of the *Arabians*. The ſame *Garcias*
s, that this Juncus was called by the ſame *Arabians*
Chaff,” or ſimply *the Herb*, in *Arabic halaf*. As
eriſterium, the *Arabian* Herbaliſt is in the wrong to
the ſame with that Herb which *Aviſena* points out to
od of *Doves*, or of Camels ; for this is the *Verbenaca*,
in,” of the *Latins* ; and is called *Columbaria*, and alſo
, “ Dovewort,” by the *Latins* of later Ages. The
alſo ſaid *hamama*, and a very good *Græco-Arabic*
has χάμαμα, περιςερεὼν, “ Chamama, Periſtereum.”
gogic Form is to be found in many other Words ; as
Saffron, *Curcuma*, Turmeric, a Saffron-colour’d Root ;
e Bark, *Selicha*, ἡ συριγγὶς κασία, “ Caſſia cover’d
e Bark.” So *Hamama* is the Herb *Columbaria*, not a
is generally thought by the Learned. This Noun dif-
Pronunciation from *Hamama*, which ſignifies Amo-
t very much in the manner of Writing ; for this latter
with an *Elif* in the laſt Syllable, but the other with
ked with two Points, which carries the Force of *Th*.
n proceeded the Miſtake of thoſe who by Amomum
to be meant *Pes Columbinus*.
ſame *Græco-Arabic* Lexicon or Gloſſary, you may
us Expoſitions of Amomum, which are a full Con-
of its being unknown even at that Time. Ἄμωμον ἡ
λαφύλλυ. “ Amomum is the Root of the Cinque-
Alſo Ἄμωμον ἕτερον Ἰνδικὸν, οἱ κλάδοι τῦ κιναμώμυ.
r Kind of Amomum is the *Indian*, which is the
s of the Cinamon-tree.” This is an old Interpre-
r *Avienus Feſtus* underſtood τὸ κινάμωμον, “ Cina-
in *Dionyſius Periegetes*, to ſignify Amomum.

s amica Deo largum congeſſit Amomum.

rd beloved by the God piled up a large Quantity of
m.” The *Greek* Poet has it,

λθον φύλλα φέροντες ἀκηρασίων κιναμώμων.

me bringing Leaves of pure and unmixed Cinamon.”
in his Lexicon, obſerves, that ἄμωμον, “ Amomum,
alſo Frankincenſe.” Ἄμωμον ἐν ταῖς ὀνομασίαις ὁ
“ Amomum, in the Lexicons, is Frankincenſe.”
Author expounds κινάμωμον, “ Cinamon,” by τὸν
τὸ λιβάνιον, two Words ſignifying Frankincenſe.
e of Opinion, that the Amomum of the Shops is the
Herb, which in the Editions of *Dioſcorides* is called
Σίσων, [*Siſon*] inſtead of Σίνων, which is the Word
ntient Copies. Σίνων σπερμάτιον ἐςὶν ἐν Συρίᾳ γεννώ-
Sinon is a ſmall Seed that grows in *Syria*.” The
ricæ on this Paſſage ſay Σίνων εἶδος ἀρωματικὸν,
. “ Sinon is a Species of Aromatic like Aniſe.”
Lib. 10. joins Cinamon with Amomum ; and in ſo
futes thoſe who make Amomum to be the ſame with

mon infundunt, quod nondum evanuit Aura,
ſtumque recens vicinæ Meſſis Amomum.

nfuſe Cinamon unexhauſted of its Odours, and
m freſh gather’d, and brought from the neigh-
Harveſt.” What, was it gather’d in ſuch Plen-
deſerve the Name of a Harveſt? Or does he al-
Etymology of Amomum, as tho’ it took its Name
, *à metendo*, “ from reaping ? ” Neither of theſe
, to me, ſeems probable : But it was uſual with the
to ſpeak when they talked of Spices, as *Quicquid*
bes beneolentibus Arvis. “ All that the *Arabians*
m their fragrant Fields.” And in *Propertius*, *odo-*
Arabs Segetis, “ the *Arabian* Cultivater of the

“ ſcented Crop.” For they take their Spices to be their Harveſt ; whence *Pliny* ſays, that the *Arabian* Fruits conſiſt of Spices, and even calls the gathering in of their Frankincenſe a Harveſt, *Lib.* 12. *Cap.* 14. where ſpeaking of Frankincenſe he ſays, *Meti ſemel Anno ſolebat minore Occaſione vendendi* ; “ They uſed to reap it once a Year, when there was leſs Op-“ portunity of ſelling it.” And by-and-by he calls it *Vindemiam*, “ a Vintage.” The ſame Author ſays of Cardamom, *Metitur et eodem modo in Arabia*, “ They reap it after the ſame “ manner in *Arabia*.” *Meleager* of the Juncus Odoratus :

——— Ἐυώδη σχοῖνον ἀμησάμενος.

“ Having reap’d the fragrant Ruſh.” But this is by-the-by. To return,

Virgil ſeems to have taken Amomum for a Grape, and the Fruit of the Vine, in this Verſe :

----- *ferat et Rubus aſper Amomum.*

“ And let the prickly Bramble produce Amomum.” The Bramble bears its Fruit in Cluſters, and the Poet would have the Bramble for its Fruit produce Amomum. ’Tis plain, that he intended the Amomum ſhould be taken for a real Grape and Fruit ; but it is a Shrub, which, by the Implication and Convolution of its ſmall Branches repreſents the Figure of a Cluſter of Grapes, and is gather’d with its Root. In another Place he calls it *Aſſyrium Amomum*. *Servius* in one Place calls it a Flower, in another an Herb of a moſt pleaſant Scent. By *Aſſyrian* the Poet means *Median*. *Pliny* ſays, that it grows in a Part of *Armenia* called *Otene*, and in *Media*, and in *Pontus*. Ὠτηνὴ, “ Otene,” is that Part of *Armenia* which lies about the River *Cyrus*. What grew formerly in ſo many Places, is now no-where but in Name.

Theophraſtus ſays, That Amomum, in the Opinion of ſome, was alſo brought out of *India* : Τὸ δὲ καρδάμωμον καὶ ἄμωμον οἱ μὲν ἐκ Μηδίας, οἱ δὲ ἐξ Ἰνδῶν καὶ ταῦτα καὶ τὴν νάρδον· “ Car-“ damom and Amomum, ſome ſay, are brought out of *Media* ; “ others affirm, that we have both theſe and Nard from the “ *Indians*.” *Ovid*, like a Poet, ſays, that the Bird Phœnix lives on dry Amomum ; therefore it muſt be a Native of *Arabia* or *India*. But *Dioſcorides* makes no mention of the *Indian* Amomum, nor does any other of the Antients beſides. *Dioſcorides*, among other Characters by which the *Pontic* Amomum is diſtinguiſhed from the reſt, deſcribes it as ὀ δύσθραυςον, “ not difficult to be broken.” Therefore the other Sorts of Amomum are δύσθραυςα, “ difficultly broken.” This is directly contradictory to *Pliny*, who ſays, that it is *protinus fragile*, “ very ſoon broken ;” for which Reaſon it is gently and leiſurely made up with the Hands, that it might not be broken ; for the Paſſage muſt be read thus : *Carpiturque cum Radice, manu paulatim leviter componitur protinus fragile.* “ It is gather’d with the Root, *&c.*” Mention is alſo there made of the *friatum Amomum*, “ the crumbled Amomum,” which alſo was valuable. It was ſo brittle, it ſeems, as to be crumbled. But *Dioſcorides* writes of the *Pontic* Amomum, Τὸ δὲ Ποντικὸν ὑπόκιῤῥον, ὀ μακρὸν, ὀδὲ δύσθραυςον, βοτρυῶδες, πλήρες καρπῦ· “ The *Pontic* is reddiſh, not long, brittle, “ cluſter’d, full of Fruit.” Wherefore the two former Sorts, the *Median* and *Armenian*, are δύσθραυςα, “ not brittle.” *Ovid* ſpeaks of the Powder of Amomum,

----- *et Amomi pulvere conde*,

“ and lay him in Powder of Amomum.” But the Queſtion is, whether this Powder was made of Amomum by pounding or crumbling. Caſſia and Cinamon were alſo pulverized, but by means of pounding only, not by crumbling [*trita tantum, non friata*].

Amomum was ſold by the Colour-ſellers not only in the Grape, but, as it appears, alſo in Powder. And perhaps *Pliny* imagin’d, that this Powder was the Produce of the crumbling of Amomum, from whence he conjectur’d, that it was very brittle, or rather friable. *Dioſcorides* does not ſay ſo much as this even of the *Pontic* : He ſays that it was not δύσθραυςον, “ hard to break ;” but it does not follow, that it was eaſily friable, becauſe it was not difficult to be broken. Many things which are brittle, are not friable. The εὔθραυςον, “ eaſy to break,” of the *Greeks* is different from their εὔθρυπτον, “ eaſy to crumble.” I have no Faith in *Pliny*, being certain, from an infinite Number of Places beſides, that he is not to be depended upon for one ſingle Matter. From a preconceived falſe Opinion, that the Leaves of Amomum were like thoſe of the Pomegranate-tree, he ſays, in the ſame Paſſage, that it was uſed to be adulterated with Pomegranate-leaves, and liquid Gum, that it might ſtick together, and roll itſelf up in the Form of a Bunch of Grapes. According to this Opinion, Amomum might be no more than a Parcel of Leaves conglobated and convolv’d, or rolled up. Yet *Dioſcorides* has nothing about the Leaves, and ’twas the Shrub itſelf, not the Leaves, that compoſed the Cluſter, βότρυς ἐκ ξύλων, “ the “ Cluſter conſiſts of the woody Subſtance.” And as *Aviſena* ſays, ſpeaking of this ſame Amomum, *hunkud min chixeb*,

“ the Cluſter or Bunch is of Wood.” So that this Cluſter conſiſted of the ſmall ligneous Branches roll’d up within themſelves.

On the ſame Authority depends the Aſſertion in the ſame Place, that the Cardamom was like the Amomum, both in the Name, and in the Shrub. He might as well have ſaid, that the Cinamon too was like Amomum. For as to the Name, Cinamon [*Cinnamomum*] is as much like Amomum as is Cardamom, but neither is the Shrub of Cardamom at all like that of Amomum. Indeed if the Smell anſwer’d, and the Shape of the Leaves, there would be nothing wanting in the *Jeruſalem* Roſe to make it paſs for the true Amomum. The Shrub is about a Hand’s Breadth in Length, ſhoots forth ſeveral Branches from its Root, which are reflected and conglobated in ſuch a manner as to repreſent a Cluſter, which incloſes a Multitude of Seeds, as in a Spike, that ſtick to the ſmall Branches or Sprays, like Grapes in a Cluſter. *Iſidore* ſays, *Amomum Frutex eſt in Syria et Armenia naſcens botroſum Semen reddens ſibi connexum.* “ Amomum is a Shrub that grows in *Syria* and “ *Armenia*, and bears a Seed connected in manner of a Cluſter “ of Grapes.” I have two of theſe Roſes now by me, which being compared with the Deſcription of Amomum, ſeem, to me, to repreſent it in a lively manner. ’Tis certain, that of all the Things obtruded upon us for Amomum, there is nothing that agrees better with it. As to the Smell, it might be anſwer’d, that this is a Quality which depends on the native Soil. So the common Oenanthe, and the Attic itſelf, have no Smell; ’tis only the *Cyprian* Oenanthe, of which they make the Unguentum Oenanthinum, that carries a Fragrancy. Yet the Country of *Pontus*, which is colder than *Judæa*, produces the moſt fragrant Amomum, ϗ τῇ ὀσμῇ πληκτικόν, “ and that “ ſtrikes the Senſe of Smelling.” But this perhaps is not to be regarded; for the *Median Amomum*, tho’ the Country be hotter, yet becauſe it grows in Fields, and watery Places, is of leſs Virtue and Fragrancy, as *Dioſcorides* informs us. As to the Leaf’s not anſwering the Deſcription, the Fault perhaps might lie in the firſt Reporters. How many things do we find related in antient Authors, which are now diſcover’d to be falſe! For Inſtance, the Malabathrum, according to *Dioſcorides*, is a Leaf that floats on Pools, and ſtanding Water, like an aquatic Plant. We have obſerv’d more ſuch Miſtakes elſewhere.

It would be Folly to affirm the Roſe of *Jericho* to be Amomum, eſpecially ſince there are ſo many things that might induce us to believe the contrary. Thoſe Antients would not have been at the Trouble to ſearch in *Armenia*, *Media*, and *Pontus*, for a Plant which every modern Traveller brings home with him from *Judæa*. They would, at leaſt, have inform’d us, that it grew alſo in *Judæa*, but without Smell. *Theophraſtus* brings it from *India*. *Iſidore* writes, that it is found in *Syria*; but none of the Antients agree with him. *Aviſena* has *Egyptian* inſtead of *Pontic* Amomum, by a Miſtake of the Tranſlator; for what he renders, *Et eſt Species Egyptiaca*, “ And “ there is the *Egyptian* Species,” in the *Arabic* is no more than, *Et Species alia eſt*, “ and there is another Kind.” It is not improbable, that this Roſe was ſeen by the Antients, and deſcribed for the Amomum. It would be Amomis; but that it has Seed, which Amomis wants, according to *Dioſcorides*.

In ſo great a Variety of Opinions, one knows not how to determine, nor where to fix. *Pliny* tells us, that Amomum is extremely brittle and friable: *Dioſcorides*, that it is ſoft to the Touch. The former gives it the Leaves of the Pomegranate-tree, the other thoſe of Bryony. *Salmaſius, De Homonym. Hyl. Iatr. Cap.* 91.

The moſt probable Account, however, of the true *Amomum*, is that given by *P. G. Gamelli*, as follows, from the *Philoſophical Tranſactions*.

After I had ſeen the cluſter’d Bunch of Flowers of the *Tugus*, which ſome call *Birao*, others *Caropi*, and taſted the Kernels of the Grape, or the oblong Seed, and compar’d them with the Deſcriptions which the Botaniſts give us of Amomum, I became of Opinion, that the *Tugus* was the genuine Amomum of *Dioſcorides*.

This *Tugus* is a Plant, ſometimes above a Cubit high, with Leaves like the Plant *Tagbac*, or *Bagongbonque*, except that its under Part is cover’d with a delicate Down, and that it is more fibrous, longer, and fragrant. At the Root of the Plant, or Body of the Stalk, from the very Middle or Heart of a foliaceous Stem, ſprouts forth a Parcel of floriferous and graniferous Leaves, an Hand’s Breadth and half in Length, in the Figure of a Cluſter of Grapes, having ſome Reſemblance to the Piſtil or Bunch of Flowers of the *Amomontum*, adorn’d with very red ſmall Flowers, which are ſucceeded by Grapes, that run out in Length with a Neck, as tho’ they were the Reliques of the Tube of the Flower, and are incloſed in a thin ſweet Rind, whence they are moſtly, together with the Seed, or Kernels, devour’d by the Mice and the Birds, ſo as that it can be had only in very ſmall Quantities. That it was not common in former Ages, nor grew in every Country, *Virgil* ſeems to inſinuate, by his promiſing, that *Aſſyrium vulgo naſcetur* *mum*, “ the *Aſſyrian* Amomum ſhall grow every-where.”

Theſe Grapes commonly contain five or ſix reddiſh, unequal, aromatic, fragrant Kernels, or Stones, leſs than Amuyong, or the Cubebs of the Shops. Some of *Indian* young Women uſe to thread them, ſometimes by ſelves, and ſometimes intermixed with Pearls and Coral, make them ſerve for *Caropi*, that is, Bracelets and Ne Others make theſe Kinds of Ornament of theſe Kernels, the Seeds of *Bolmuſci*, by them called *Maricom*, or of Arundo Lithoſpermos, which they call *Tigbi*, or of the Florida, which is their *Ticaſticas*, or of the Piſum Cocc by them called *Saga*; and alſo of the Seeds of *Amo* *Badiang*, and *Calanos*. But they wear the Kernels of Tugus about their Neck on account of their Fragrancy; ſides, they are found by Experience to preſerve from In in corrupt Air, and to heal the Sting of the Scolopend venomous Inſect] if chew’d and apply’d to the grieved The Root is like the Root of *Tagbac*, or *Calamus* being inſipid, and white in the inner Subſtance, but in cepaceous [Onion-like] Coats of a very red Colo endu’d with ſome Fragrancy. I had an Account, by a from *Borongam*, that this Plant bore another Fruit on the of the Stalks, which had no Smell; but this I never ſaw. *Indians* of *Indoſtan* aſſured me of the ſame, but I fa miſtook the *Tacbac* [*Tagbac*] for the *Tugus*.

It grows in *Borongam* and *Paranas*, in *Samar* the the other Iſlands, and in *Loyte*. And I don’t doubt but be alſo found in *Luzon*, eſpecially at *Silanium*, in the Places worn by the Torrents.

N. B. The young and tender Buds of the Flowers *Tugus* have ſome Reſemblance to the Pſeudo-Amo *Garcias*, which expreſſes a Dove’s Foot. But that may be wanting to clear up the Matter, I have ſent w Advices the Figure of the Plant. Some will object, I and ſay, that a Cheſtnut is better like an Egg, than the L the *Tugus* are like thoſe of the Pomegranate-tree, which allow. But all that *Dioſcorides* and *Pliny* have relat Amomum, I think, ſhould be underſtood only of th ferous Cluſter of the *Tugus*, when turgid with Seed, the entire Plant itſelf was unknown to them. For th ſus of the *Tugus* will be found to be the little Sh θαμνίσκ☉, “ Thamniſcus,” of *Dioſcorides*] about a Breadth in Height; to conſiſt of reddiſh-coloured W ligneous Sort of Subſtance; that its Leaves and Fl like thoſe of the Pomegranate; that it rolls itſelf up in of a Cluſter of Grapes, or, as *Barth. Merula* tran Expreſſion of *Dioſcorides*, has a Fruit like *Botruon*; Seed like ſmall Grapes, contained under a carnous Te is very fragrant, of an acrid Taſte, and of an aſtringe ing, and drying Quality; with other Characters of Amomum, beſides the Reſemblance of the Pes Co It grows in *Turcomania*, a Province of *Armenia*, *Botero Benes.* writes. *Philoſ. Tranſact.*

There are three different Plants to which the Mo affix’d the Name of AMOMUM. The firſt is the

Amomum, Offic. *Siſon*, Mor. Umb. 14. *Siſ* *ridis*, Hiſt. Oxon. 3. 283. *Siſon vulgare ſive Am* *manicum*, Park. Theat. 914. *Siſon ſive officinarum* J. B. 3. 107. Mer. Pin. 113. Bot. Monſp. 242. 1. 443. *Siſon Cordi*, Merc. Bot. 69. Phyt. Brit. 11 *Sinon, Sinnon, ſive officinarum Amomum*, Chab. *quod Amomum officinis noſtris*, C. B. Pin. 154. *ticum, Siſon officinarum*, Tourn. Inſt. 308. Boerh. 57. Raii Synop. 3. 211. Dill. Cat. Giſſ. 139. *Macedonicum Fuchſii*, Ger. 864. Emac. 1016. STONE-PARSLEY. *Dale.*

The lower Leaves of this *Amomum* are long and or having ſmall Leaves growing oppoſite to one an common long Stalk, being about an Inch long, and half the Breadth, broader at the Baſe, and ending pointed, cut in on the Edges, having a ſingle Leaf of the Foot-ſtalk. They are of a bright-green Col Stalk ariſes to the Height of two or three Feet, finely and divided into ſeveral Branches, on which grow Leaves, but much leſs and finer; on the Tops g Umbels of white five-leav’d Flowers, producing Seed, about the Bigneſs of Parſley-ſeed, of a p ſpicy Smell and Taſte, ſomething like a Nutmeg. Ditches and Banks, and moiſt Places, flowering in its Seed, which is the only Part uſed, being ripe in

The Seed is hot and dry, attenuating, and goo Obſtructions, to cleanſe the Reins of Gravel; it and promotes the *Menſtrua*, and is eſteemed to be *mic*, and as ſuch is put into *Theriaca Andromachi* *daneum* to the true *Amomum*. *Miller, Bot. Off.*

The ſecond is the

AMOMUM, Offic. Comm. Flor. Mal. 14. Plant. Barr. Icon. 571. Obſ. 1393. 27. *Amomum*

1548. Raii Hiſt. 2. 1697. *Amomum genuinum*, Park. 1567. *Amomum racemoſum*, C. B. Pin. 413. Jonſ. D. *n novum Cardamomi vulgaris facie, ſive Indicus racemus*, 195. Chab. 127. *Elettari*, 1. Hort. Mal. 11. 9. TRUE AMOMUM. *Dale.*

Fruit is an Ingredient in the *Theriaca*, and is ſome- ixed with ſtrong Purgatives, to qualify them a little. uit is divided into three Cells, and is of a very pungent It is brought from the *Philippine* Iſlands, and is reckon'd tive, alexipharmic, ſtomachic, *&c. Geoffroy.*

incisive, and digeſting; it reſiſts Poiſon; it diſperſes it ſtrengthens the Stomach; it creates Appetite and ; and it provokes the Menſes. *Lemery de Drogues.*

Amomum which is reckoned amongſt medicinal Drugs, ch is a principal Ingredient in the *Venice* Treacle, grows ree which bears the ſame Name with itſelf, the Leaves are long, ſtrait, and of a pale-green Colour; and ers reſemble thoſe of the white Stock-gilly-flower: Its pretty like the *Muſcadine* Grape in Colour, Bulk, and but it is not quite ſo full of Grains, and is leſs juicy: , which have no Pedicles, are crowded together, and it were, on a long Nerve, which they ſurround to the , and which ſerves as a Support to them: In the inner theſe Pods are found purple-coloured Grains, of an uare Figure, diſtinct, and covered with ſlender white nes. The Taſte of theſe Grains is ſharp and acrid, and ell extremely piercing and aromatic.

eweſt Amomum is always the beſt; it ought to have round, of a whitiſh flaxen Colour, weighty, and well- That, on the other hand, the Pods of which are black elled, are very little, or not at all, eſteemed.

at many People confound the Amomum with the Cardamoms, tho' they do not reſemble each other in e Circumſtance. *Savary Dictionaire de Commerce.*

hird is called,

UM PLINII, Offic. Ger. 289. Emac. 361. *Solanum bacciferum*, C. B. Pin. 166. Raii Hiſt. 1. 673. Inſt. 149. Elem. Bot. 124. Boerh. Ind. A. 2. 67. lor. Jen. 37. *Fruticoſum Americanum, dictum Amo- ii*, Park. Theat. 352. *Amomum Plinii, ſeu Pſeudo-* ejuſd. Parad. 431. *Strychnodendros*, J. B. 3. 614. *is Solani ſpecies ex Apennino; Strychnodendros, Solanum* , Chab. 523. TREE NIGHT-SHADE. *Dale.*

dicinal Virtues are eſteemed to be much the ſame as non SOLANUM, *Night-ſhade*, which ſee.

NGABRIEL, according to *Rulandus*, AMOGA- ccording to *Johnſon*, is *Cinnabar.*

NGEABA. This is the Name by which *Piſo* calls a raſs which grows three, four, or five Foot high, from ſiſting of ſmall Filaments, much after the manner of The Leaves are about a Foot long, beautifully twiſted, oſt of the Figure of the Leaves of the larger Nut-bear- and a conſiderable Number of them on one Stalk. at the Top bears an Ear a Foot and an half long, like, d Shape, to the Ear of the *Milium*, or *Wild Panic.* an emollient Nature, either internally or externally t ſupplies the Place of Mallows, and is beneficial in us, uſed by way of Fomentation.

; Love. It is no Wonder that Love has been Diſtemper, as it is productive of many Diſorders, Madneſs, as *Cœlius Aurelianus* obſerves very judici- as Madneſs is generally cauſed by thinking too much g, nothing is more likely than Love to fix the Atten- one Object.

Madneſs, Love may, and certainly does, produce emper which ariſes from a too great Laxity or Stric- Animal Fibres: For Anger, Envy, and Jealouſy, Attendants on Love, brace up the Fibres, and render tenſe and rigid. Again, Joy, Complacency, Fear, relax the ſame Fibres, enervate the Solids, and im- tions, whether Animal, Vital, or Rational.

ds of Love are, no doubt, planted in the Conſtitu- ry Man, and of every Woman, for Purpoſes condu- Deſigns of the Creator, and extremely beneficial to re. For, beſides the great End of ſupplying the h People, Love incites Mankind to Action; and little Difficulties with which it is attended, ſtimu- nd, and, in Conſequence thereof, the Body: Inſo- if the Deſire, implanted in each Sex, of being agree- other, was removed, perhaps no other great Incite- tion would remain, except Hunger: So that what of Agriculture, is applicable to Love:

———— *Pater ipſe colendi*
acilem eſſe Viam voluit, primuſque per Artem
agros, Curis acuens Mortalia Corda,
pere gravi paſſus ſua Regna Veterno.

Whole, if it was not for Love, Mankind would rate into Brutality; and it only becomes criminal or pernicious, when ſo exceſſive as not to be guided and directed to a proper Object, and with Moderation, by Reaſon.

It is no abſurd thing to reckon Love among the Affections of the Brain, ſince it is a kind of Solicitude; and Solicitude is an Affection of the Mind, when Reaſon is employed in a tireſome Motion or Purſuit.

Love is attended with the following Symptoms: The Eyes are hollow, and weep not, but appear as if they were replete with Pleaſure. The Eyelids often twinkle; and tho' the other Parts of the Body maintain their Plumpneſs, the Eyes of Perſons in Love are contracted and ſunk. There is no Pulſe peculiar to Lovers, as ſome have thought, but it is like that of the Careful and Solicitous. When the Remembrance of the belov'd Object is excited, either by the Hearing or Sight, and eſpecially if it be ſudden, the Spirits are all in Confuſion, and the Pulſe changes, and neither beats equal Time, nor with equal Force. Some are ſad and wakeful; others, who are not conſcious of their Affection, pine away in Sloth and Slovenlineſs, and a low Diet. But the wiſer Sort, when they find themſelves in Love, divert their Thoughts, and relieve themſelves by going to the Baths, drinking of Wine, Geſtation, entertaining Sights, and pleaſant Converſation. Some Lovers ought to be terrified; for they who are always at Leiſure to indulge their amorous Thoughts, will hardly get rid of that troubleſome Paſſion. It would alſo be very proper to enter into a Controverſy, or commence a Suit againſt ſuch a Perſon in Love, which may affect that State of Life, or Way of Buſineſs which he has choſen; for all Means muſt be tried to divert his Cares and Purſuits into another Chanel. *Æginet. Lib.* 3. *Cap.* 17. *Oribaſ. Synop. Lib.* 8. *Cap.* 9.

This Method of curing a Perſon in Love, by ſtirring up a Law-ſuit againſt him, is likely enough to have its Effects; but I ſhould doubt whether a Cure of this Sort would be conſiſtent with the old Maxim, which requires it to be performed *tuto, cito, & jucunde.*

Dr. *James Ferrard* publiſhed a Treatiſe of Love, as a Diſtemper, which was printed at *Oxford*, 1640.

AMORIS POMA, Offic. Ger. 275. Emac. 346. *Poma majora amoris, fructu rubro*, Park. Parad. 379. *Solanum pomiferum, fructu rotundo ſtriato molli*, C. B. Pin. 167. Raii Hiſt. 1. 675. Hiſt. Oxon. 3. 520. *Mala aurea, odore fætido, quibuſdam Lycoperſicon*, J. B. 3. 620. *Mala aurea*, Chab. 525. *Lycoperſicon Galeni*, Tourn. Inſt. 150. Elem. Bot. 125. Boerh. Ind. A. 2. 69. Rupp. Flor. Jen. 37. LOVE APPLES. *Dale.*

AMORIS POMUM. This is a Species of *Solanum*, bearing many large winged Leaves, divided into ſeveral Segments, of a yellowiſh-green Colour; the Stalk is branched into many Diviſions, on which, at the ſetting on of the Leaves, grow the Flowers, ſeveral together, each conſiſting of a ſingle Flower, divided into five Parts like a Star, of a yellow Colour, with a deeper *Umbo* in the Middle. Each Flower is follow'd by a round Fruit as big again as a Cherry, green at firſt, and of a yellow Red when full ripe; in which are contained a great many flat whitiſh Seeds, in a juicy Pulp. It is ſown in Gardens, and flowers in *July*; the Fruit is ripe in *September*; and periſhes with the firſt Froſts.

In *Italy* they eat theſe Love-apples with Oil and Vinegar, as Cucumbers are eaten here; but they are ſeldom eaten with us, being of the Nature of the other *Solanums*; and therefore only uſed outwardly, in cooling and moiſtening Applications, in Inflammations, and Eryſipelas; and its Juice eſpecially is commended in hot Defluctions of *Rheum* upon the Eyes. It is but ſeldom uſed. *Miller Bot. Off.*

AMORGE, ἀμόργη, the Fœces or Recrement of Oil. See AMURCA.

AMPANA. This is the Name in the *Hortus Malabaricus* for the *Palma Coccifera, Folio flabelliformi, Mas.* The *Portugueſe* call it *Palmeiro Bravo Macho.*

AMPAR, Amber is ſometimes thus called.

AMPELION, ἀμπέλιον, Vines Leaves, or Tendrils.

Hippocrates recommends theſe bruiſed, and mixed with Honey, and made up, with Wool, into the Form of a Peſſary, in order to promote the Menſtrual Diſcharges, or the Lochia. *De Natura Muliebri*, and *de Morbis Mulierum, L.* 1.

AMPELIS, a Bird deſcribed by *Aldrovandus*, and ſaid to be delicate Food. I take it to be the *Beccafico.*

AMPELITES TERRA, a Sort of black Earth, thus diſtinguiſhed:

TERRA AMPELITES, Offic. Worm. *Ampelitis terra ſive Pharmacitis*, Ind. Med. 8. 31. Agricol. 595. Aldrov. Muſ. Metal. 260. *Terra Ampelites ſive Pharmacitis, qua Medici utuntur*, Kentm. 3. *Lapis Ampelitis Galeno*, Charlt. Foſſ. 14. *Lapis obſidianus*, Mer. Pin. 217. *Carbos* Theoph. *Succinum nigrum*, Swenckfeld Cat. Foſſ. 394. *Terra Ampelitis*, Calc. Muſ. 128. Gæbal. 28. CANNAL COAL. *Dale.*

I believe Cannal Coal will not diſſolve when Oil is poured upon it, which is one of the Characteriſtics that *Dioſcorides* gives to the TERRA AMPELITIS: This, therefore, ſeems different from what we uſually call CANNAL COAL.

The Terra Ampelitis, by ſome called Pharmacitis, is found in *Seleucia*, a City of *Syria*. Chuſe what is black, reſembling ſmall (*Oribaſius* reads μακρῆς, long) Pitch-tree Coals, that will cleave, in ſome meaſure, into thin Bits, and ſhines alike in every Part; that, moreover, being levigated, will readily diſſolve upon the Affuſion of a little Oil. The white, cinericious, and what can't be liquefied, is to be rejected.

It has a diſcuſſive and refrigerating Virtue; is an Ingredient in Coſmetics for the Eyelids, (καλλιβλέφαρα) and to colour the Hair. It is alſo uſed to anoint the Vines, at the time of their Budding, in order to kill the Worms which breed in them. *Dioſcorides*, *Lib*. 5. *Cap*. 181.

The Terra Ampelitis is more medicinal, drying, and digeſtive, has more of a biting, and leſs of a mitigating Quality, than the Terra Chia, Samia, or Selinuſia. *Oribaſius*, *Med. Coll. Lib*. 15. *Cap*. 1.

The Ampelitis Terra is alſo called Pharmacitis, becauſe it is more medicinal than the other Earths; and becauſe the Country Farmers, when the Spring comes, dilute it with Water, and ſo rub it about the Roots of thoſe Vines which have ſent forth Buds, that no noxious little Animals might approach to touch them. It ſufficiently ſhews its medicinal Virtue in killing the Cnipes (Worms) which infeſt the Vines. No mitigating or lenitive, but a drying Quality belongs to it; for which Reaſon it is an uſual Ingredient in drying and diſcuſſive Compoſitions. *Aetius*, *Tetr*. 1. *Serm*. 2. *Cap*. 9.

To ſupply the Want of Terra Ampelitis, you are directed to take a little more than half the Quantity of *Brutian* Pitch, by *Marcellus Empiricus*, *Cap*. 7.

Ampelitis *ſive Pharmacitis*, is a very bituminous Earth, as black as Jet; it is divided into Scales, and is eaſily reduced into Powder; it is taken from a Quarry near *Alenſon*; there are two Sorts of it, one of them tender, the other hard; when growing old, it pulverizes of itſelf, and they get from it ſome Saltpetre.

It is proper to kill Worms, being applied to the Belly; it dyes the Hair black.

Some call it Earth of Vine, becauſe, being in the Vineyards, it kills the Worms which creep up the Vines. *Lemery de Drogues*.

AMPELOPRASON. See Allium.

AMPELOS, ἄμπελος, is Bryony, according to *Oribaſius*, *Med. Collect. L*. 13.

AMPHARISTEROS, ἀμφαριστερός. It ſignifies the Reverſe to Ambidexter, that is, having two Left Hands; which means being clumſy, or having a perfect Uſe of neither. Figuratively, it imports *unlucky*, unfortunate.

AMPHEMERINOS, ἀμφημερινὸς πυρετὸς, a Quotidian Fever; that is, a Fever which brings on a Paroxyſm, or Fit, every Day. It is derived from ἀμφὶ, a *Greek* Prepoſition, which imports a kind of Revolution, and ἡμέρα, a Day.

AMPHIBLESTROIDES, from ἀμφίβληστρον, a Net. The ſame as Retiformis, which ſee.

AMPHIBRANCHIA, ἀμφιβράγχια, from ἀμφὶ, *about*, and βράγχια, properly the Gills of Fiſhes; but ſometimes taken for the Fauces. The Parts about the Tonſils.

AMPHICAUSTIS, ἀμφίκαυστις. This imports a Sort of wild or mountain Barley; and, in ſome Writers, it ſignifies the Pudendum Muliebre; but I don't know that it is uſed in this Senſe by any medicinal Author.

AMPHIDEON, ἀμφίδεον, the Orifice of the Uterus, call'd the *Os Tincæ*.

AMPHIDEXIOS, ἀμφιδέξιος, the ſame as Ambidexter.

AMPHIMETRION, ἀμφιμήτριον σημεῖον. *Galen* in his Exegeſis, ſays *Hippocrates*, in his ſecond Book of Epidemics, means by this a Sign which manifeſts the Condition of the Uterus. But the Word is neither to be found there, nor in any other Part of *Hippocrates*. *Foeſius* thinks that the Word ἀμφίδμητον, in the ſixth Book of Epidemics, *Sect*. 8. *Aph*. 38. ſhould be ἀμφιμήτριον, and that *Galen* alludes to this Paſſage.

AMPHIPLEX, ἀμφιπλὴξ, according to *Ruffus Epheſius*, is the Part ſituated betwixt the Scrotum, Anus, and internal Part of the Thighs.

AMPHIPNEUMA, ἀμφίπνευμα, from ἀμφὶ, about, or around, and πνεῦμα, Breath. It ſignifies an extreme Difficulty of breathing, in *Hippocrates*, *Epidem. L*. 4.

AMPHIPOLOS, ἀμφίπολος, a Maid-ſervant. This Word has no other Right to a Place in a Medicinal Dictionary, but that it is uſed by *Hippocrates* Epidem. *Lib*. 5. But the Caſe he relates in this Place is very remarkable. The Servant of *Dyſeris* in *Lariſſa*, whilſt young, felt extreme Pain in Coition, but at other times was very eaſy. She was never with Child. When ſhe was about ſixty, ſhe uſed to be ſeized with exceſſive Pains, like thoſe of Labour, after Noon. One Day, having eaten in the Morning a large Quantity of Leeks, ſhe was ſeized with more ſevere Pains than uſual; and
Examination, ſhe felt ſomething rough at the Orifice of
Womb; ſoon after this ſhe fainted, and, during her
another Woman took from her a rough Stone, as large as
Spondyle of a Diſtaff. After this ſhe was well, and con
ſo ever after.

AMPHISBÆNA, a venomous Serpent. The Amph
and Scytala reſemble one another; for they are not ſhaped
a thick Body, tapering into a ſlender Tail, but are of
Thickneſs throughout their whole Length; ſo that a Spe
is puzzled to find at what End the Head or Tail are
The Amphiſbæna differs from the Scytala, in that it moves
either End forward, whence it takes its Name [ἀμφὶ either
and βαίνω to go]. *Galen* ſays, the Amphiſbæna is an A
with two Heads. They ſay, if a big-belly'd Woman ſteps
this Serpent, ſhe falls in Labour and miſcarries.

The Bites of theſe Creatures are hardly perceptible,
much like the Punctures of Flies; wherefore they are not
tal, but cauſe an Inflammation like what ariſes from the
of a Bee or Waſp, tho' in a more intenſe Degree;
what is good for the Stings of theſe Inſects, will be of
here. *Ætius*, *Tetr*. 4. *Serm*. 1. *Cap*. 30.

The Colour of the Amphiſbæna is a ſhining White,
guiſh'd with reddiſh Spots; its Cheeks are ſo large, th
conceal his Eyes; and this Circumſtance hath made it fa
it is blind.

It is found in the Iſle of *Lemnos*; its Bite is dangerous
requires the ſame Remedies as that of the Viper. It co
great deal of volatile Salt and Oil. Its Fleſh, Liver, and
are proper to excite Sweat, to take away bad Humo
Tranſpiration, and are a good Antidote againſt Poiſon.
mery des Drogues.

AMPHISMILA, ἀμφισμίλη, from ἀμφὶ, on each Si
σμίλη, an Inciſion Knife. A diſſecting Knife, with a
on each Side. *Caſtellus* from *Galen*.

AMPHISPHALSIS, ἀμφίσφαλσις, from ἀμφὶ, and
to wander. *Foeſius* tranſlates this by the Words, Ob
Circumductio, *Circumactio*, *Circumagatio*. This Word
lieve is peculiar to *Hippocrates*. He uſes it in his Book
ticulis, to expreſs a Circumaction, or turning of the L
order to replace the Head of the *Femur*, when ſlipp'd
the *Acetabulum*.

AMPHITANE, the ſame as Chrysocolla, w
Caſtellus from *Fallopius*.

AMPHODONTA, ἀμφώδοντα, from ἀμφὶ, on both
and ὀδὺς, a Tooth. This Word is uſed by *Hippocrates*
Treatiſe *de Arte*, as an Epithet of Animals, to expreſs
having a Row of Teeth in both Jaws.

AMPHORA, is a *Roman* Meaſure for Liquids. It
ginally a *Greek* Word ἀμφιφορεὺς, Iliad. 23. Odyſſ.
Syncope, ἀμφορεὺς· it is ſo called from the two Anſæ or
for Carriage. It is the twentieth Part of the Culeus.
tained ſeven Gallons one Pint *Engliſh* Meaſure. *Arb*
Antient Meaſures.

AMPLEXATIO, or *Baſiatio*. The Alchymiſts ca
kind of Union betwixt their Philoſophical Mercury, w
call the *White Female*, and by which they mean Re
Antimony, and the *Red Huſband*, by which they mean
This Embracing ſome of them expreſs in Terms,
decent.

AMPOTIS, ἄμπωτις. It ſignifies properly the Re
Ebb of the Tide. But *Hippocrates*, who was of *Co*
the *Grecian* Iſlands, and muſt have had many Opportu
obſerving the Tides, very elegantly applies this Word
Receſs of Humours, from the Circumference of the B
the internal Parts.

AMPULLA, a Veſſel of an indeterminate Capacity
particular Form; for it muſt have a Belly like a Bottle,
Crewet, in order to be an Ampulla.

In Chymiſtry, any Veſſels are called *Ampullæ*, wh
large Bellies, as Cucurbits, Boltheads, and Receivers.
Hildanus calls the firſt Appearances of the Heart, L
Brain, in a Fœtus after Conception, *Ampullæ* from the

AMPULLASCENS. The Alveus Ampullaſcens
moſt tumid Part of *Pecquet*'s Ducts, which convey th
from its Receptacle, to the Subclavian Vein.

AMPUTATIO, Amputation.

Celſus, who lived more than an Age before *Galen*,
Author who gives us a Deſcription of Amputation;
his Surgery be, as is ſaid, taken from *Hippocrates* and
ades, he quotes neither of them with reſpect to th
tion.

Hippocrates treats of a Gangrene and a Sphacelus;
putrefy'd, he ſays *, muſt be cut off, but he does no
the Amputation of a Member. *Aſclepiades* lived an A
Chriſt §; we have nothing of him concerning this A
do not know whether he ever performed the Opera

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* De Articul. 4. Obſerv. 17. de Morb. Vulg. Lib. 2. Sect. 7. Epidem. Lib. 7.

§ *Daniel Le Clerc*, in his Hiſtory of Phyſic, Edit. 1723. p. 392. ſays, that this Phyſician was in great Reputation at *Rome*,
Life of *Mithridates*, that is to ſay, about the Middle of the thirty-ninth Century.

ht be ſaid of *Herophilus* and *Eraſiſtratus*, who acted ns †. We find then no Deſcription of this Operation *lſus*; however, we cannot doubt, but it was per- efore his Time, and that even the Manner of it was in ſome Authors, whoſe Works are loſt. In all Pro- the Operation was never performed in thoſe Times, nce, till the fifteenth Century, but on occaſion of an Leg affected by a Sphacelus. It ſeems, to have been very ſeldom, becauſe the Patients were always in im- anger of their Lives, or, according to *Celſus* ‖, died, moſt part, of an Hemorrhage, under the Opera-

not to wonder at this; for *Celſus* made no Ligature Place of Amputation, to compreſs the Veſſels, and n Hemorrhage; at leaſt, he does not mention it in iption of his Operation, which is as follows, *Lib.* 7. "An Inciſion is to be made with the Knife in the between the ſound and the corrupt Part, as far as the in ſuch a manner as not to do it againſt a Joint, and to cut off a ſound Part than leave any thing unſound. you come to the Bone, the ſound Fleſh is to be drawn and the Bone is to be cut upon quite round it, that be perfectly bare (of the Perioſteum). This done, ne itſelf is to be amputated with the Saw, as near as ble to the ſound Fleſh; then the Face of the Bone, was exaſperated by the Saw, is to be ſmooth'd, and in is to be brought over it; in order to which, and may the better cover it on every Side, it ought to be Where the Skin cannot reach, the Place muſt be d with Lint, and a Sponge dipt in Vinegar muſt be upon it. The Cure muſt afterwards be managed as nd in which a large Suppuration is to be prevented."

Deſcription we ſee no Means to prevent an Hemor- nd this is the very Reaſon why the Patients often dy'd ſs of Blood under the Operation. But, what is ſur- e find no Method for that Purpoſe, in any Author deſcribed that Operation, till the ſixteenth Century.

gineta, *Aviſenna*, *Guido de Cauliaco*, ſay not a Word his laſt, who lived about the Middle of the fourteenth made two Ligatures, one above, and the other be- Place of Amputation; but he does not ſay, that he n to prevent an Hemorrhage, or ſo much as to take Senſe of Feeling from the Part. We may well ima- he did it only to keep down the Fleſh tight and firm, nciſion with the Knife might be made with the greater Smoothneſs. We know not whether *Veſalius* uſed a to ſtop an Hemorrhage or not, becauſe we do not prehend his Deſcription.

lomæus Maggius, who wrote about the Middle of the Century, and whoſe Works are collected by *Geſner*, Ligature upon the ſound Part, above the corrupted. this Ligature very tight, to deprive the Part, in ſome of Feeling; but there is not a Word ſaid throughout , concerning Means to prevent an Hemorrhage during tion. He ſays, that *Celſus* made a Ligature above pted Part; but *Celſus* has not deſcrib'd his Operation e manner that *Maggius* reports it; and you ſee, by tion above, that he ſays nothing of that Ligature.

Phyſician to *Charles* IX. ſays, that in his Time they e Ligatures; one, doubtleſs, to take away the Feeling, es not expreſly ſay ſo, and the two others above and Place of Amputation; but not a Word is ſaid of the prevent an Hemorrhage.

Surgeon to *Charles* IX. tells us, that when we are d to make an Amputation, we muſt draw the Skin les towards the ſound Part, and make a Ligature juſt Place that is to be cut, with a ſtrong and thin Fillet, e ſays, ſerves, firſt, with the Help of the Aſſiſtants, p the Skin and Muſcles in a raiſed Poſture; ſecondly, s an Hemorrhage; thirdly, it takes away the Senſe g from the Part. This is the firſt Author, that I find, clearly of the Manner of preventing an Hemorrhage e Operation.

Fabricius ab Aquapendente, *Hildanus*, and all the who came after him, put his Method in Practice. this Ligature did not conſtantly and totally ſuppreſs rhage; for the Veſſels bled more or leſs in Spite which was an Inconvenience, that ſometimes endan- Life of the Patient.

eur *Morel*, a Native of *Franche Comté*, who was a Sur- he Army, and a very ingenious Perſon, diſcovered a hod of ſtopping the Blood. In 1674. he invented the et, as it is now uſed, by means whereof, the Operator his Power, either wholly to ſtop the Blood, or let it run more or leſs, as he thinks fit to compreſs the Part. It takes away the Senſe of Feeling, ſo that the Patients feel none of thoſe acute Pains when the Fleſh is cut, and the Ligature of the Veſſels is perform'd, which makes them ſupport that cruel Operation with the more Patience; an Advantage to be reap'd but in an imperfect manner from the Method of *Paré*.

One Defect of the Tourniquet, 'tis ſaid, is, that it pinches the Skin, and cauſes very acute Pains. This is true, when the Surgeon has not the Addreſs to accommodate it in a right manner; but with a little Care and Attention, and placing a Piece of Paſte-board at the Side of the Stick, that Accident is avoided.

Another Defect imputed to the Tourniquet is, that, tho' it prevents an Hemorrhage after the Operation, we dare not leave it on the Part, becauſe it entirely ſuppreſſes the Circulation of the Blood below the Place where it is apply'd, by which means that Part is in Danger of a Mortification. Monſieur *Morel* did not pretend to make any other Uſe of his Tourniquet, than as a ſure means for preventing an Hemorrhage during the Operation, and till he had ſecured the Patient from ſuch an Accident by the Ligature of the Veſſels, which none had ever been able to do before. Beſides, it is very rare to ſee an Hemorrhage break out afreſh, when the Ligature is made according to the manner, of which we ſhall ſpeak in the Courſe of this Memoir, after we have taken a View of the Methods formerly uſed in cutting the Fleſh.

Neither *Hippocrates* nor *Galen*, as I ſaid, have given us any Deſcription of Amputation; it would be in vain then to ſearch in theſe Authors for the Manner in which they cut the Fleſh, or how they ſtopp'd the Blood in the Veſſels. They have only left us, in general, their Method of ſtopping Hemorrhages; but have not told us a Word, in particular, of the Means of ſtopping the Blood in an Amputation.

I have been ſurpriſed not to find the Operation of Amputation in *Galen*, who deſcribes the Operations of Surgery in ſo clear a manner. He wrote of a Gangrene and Sphacelus *; he ſays, after *Hippocrates*, that the corrupt and putrid Fleſh muſt be cut away; but ſays no more of it. It appears however, that this Operation was practiſed at *Rome* in his Time; for *Celſus*, who was a *Roman*, and lived about a hundred Years before *Galen*, has deſcribed it, and practiſed it himſelf, or ſaw it done by others. *Galen* cites neither Phyſician nor Surgeon who performed that Operation: He ought, at leaſt, to have cited *Celſus*, who muſt have been in great Reputation for Surgery; but I do not ſo much as find the Name of *Celſus* in any Place of *Galen*'s Works.

We have inſerted, in the Beginning of this Diſcourſe, the Deſcription which *Celſus* has given of the Operation. We have ſeen, that he cuts the Fleſh to the very Bone, and does it in the quick, rather than in the mortified Part. He ſaws off the Bone, and brings the Skin over the Stump; and no doubt over the Mouths of the Veſſels, tho' he does not ſay ſo. But how can that Skin be brought to cover the Bone and the Veſſels? We don't find, that he takes the Precaution to draw up the Skin and the Fleſh above the Part, unleſs we are willing to ſuppoſe, that he would be ſo underſtood. Beſides, it does not appear, that he form'd a Label of Skin, as ſome Surgeons did at the End of the laſt Century; the thing is ſo remarkable, he would not have fail'd to ſpeak of it. He cut very near the mortify'd Fleſh, *inter ſanam vitiatamque Partem*, which was not the way to facilitate his leaving a Label of Skin. He did not paſs a Thread acroſs the Fleſh, and into the Skin, as it has been the Practice ſince his Time, in order to keep down the Skin tight upon the amputated Part. And yet it is plain by the Deſcription, that he intended the Skin ſhould cover the Bone, and reunite with that and the Fleſh; and in order that this might be done with the greater Facility, he left the Skin to hang looſe; but this could not be effected without drawing up and raiſing that Skin above the Amputation. But he does not ſay ſo much; his Words are only theſe; *Supraque inducenda Cutis, quæ ſub ejuſmodi curatione laxa eſſe debet.* He took care to clear the Face of the Bone from thoſe Aſperities which the Teeth of the Saw might have produced on it, and which require Exfoliation; and, in the laſt place, he applies an Aſtringent to the Veſſels, but mentions nothing of a Cautery, or Ligature of the Veſſels. Such a Proceeding would be contrary to his Deſign, which, in all Probability, was to cloſe up the Orifices of the Veſſels, with the Skin and the Fleſh brought down along with it; and by that means to prevent an Hemorrhage, and unite them all together. He thought it ſufficient to put ſome Tow or Lint to the Part where the Skin could not reach, and over all to apply a Sponge dipt in Vinegar. By this Method he avoided a Suppuration, and healed up the Wound with great Expedition. This is exactly the Method

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Acad. An. 1725. p. 11.

cap. 33. *Sed id quoque cum ſummo Periculo fit; nam ſæpe in ipſo Opere, vel Profuſione Sanguinis, vel Animæ Defectione moriuntur.* too is not performed but with the utmoſt Danger; for the Patients often die under the Operation, either of an Hemorrhage, or ."

2. ad Glauc. cap. 9. In Lib. Hippocr. de Fruct. Comment. 11. De Meth. Med. lib. 2. cap. 9.
I.

of *Verduin* and *Sabourin*, one a *Dutchman*, and the other of *Geneva*, who, towards the End of the laſt Century, did both at one time ſet up the Practice of this Operation, with leaving a Part of the Skin and Fleſh in Form of a Label, for the more eaſy covering of the Bone and the Mouths of the Veſſels, which they call'd the Operation of Amputation with a Label [*l'Operation de l'Amputation à Lambeau*]. By this way they avoided a Suppuration, and alſo ſhortened the Cure of the Wound.

It were to be wiſh'd, that *Celſus* had explain'd himſelf more clearly on the Means he uſed to keep the Skin looſe. We find in our Times, that whatever Endeavours are uſed to draw back the Skin and Fleſh before they are cut, we are not able to bring back the Skin over the Bone after the Amputation, at leaſt, not to keep it there with any manner of Facility; which obliged ſeveral celebrated Surgeons to retain the Skin and Fleſh upon the Wound, by means of a Thread paſſed acroſs them. We ſhall take Notice of this, when we come to ſpeak of thoſe Surgeons, who have deſcribed this Operation at the End of the ſixteenth and in the ſeventeenth Centuries.

It appears, from all that I have juſt now ſaid, that there are abundance of Obſcurities in the Deſcription of *Celſus*'s Operation.

Paulus Ægineta, who, according to Dr. *Freind*, lived in the ſeventh Century, is the firſt, that I can find, who, ſince *Celſus*, has deſcribed this Operation, *Lib*. 6. *Cap*. 84. He does not want Obſcurity any more than *Celſus*, and 'tis not eaſy to diſcover whether he cuts in the ſound or ſphacelated Part. He relates the Manner in which *Leonidas* perform'd that Operation, and ſays, that before ſawing the Bone, it was neceſſary to put a Linen Cloth, or broad Fillet upon the Part that was cut, to hinder the Saw from touching it, and ſo putting the Patient to Pain; which ſhews, in ſome manner, that he cut in the quick Part; and to ſtop the Hemorrhage, he ſeared the Orifices of the Veſſels with an actual Cautery.

Aviſenna, who lived in the twelfth Century, adviſes cutting in the Sphacelus, to avoid an Hemorrhage, and to apply heated Irons to the mortify'd Part, that is left under the ſound.

Guido de Cauliaco cut the Fleſh between two Ligatures, and, after the Example of *Paulus*, apply'd a Linen, or broad Fillet upon the cut Part, to defend it from the Saw: He then ſaw'd off the Bone, and cauterized the Fleſh with hot Irons, or boiling Oil.

Veſalius, who wrote in the ſixteenth Century, has given a Deſcription of this Operation, in a manner which is a little confuſed. He ſpeaks of a Ligature, but 'tis impoſſible to diſcover how or for what Purpoſes he uſed it. It appears, that he cut the Fleſh with a hot Knife; but we can only gueſs whether it were in the quick or in the dead Part. At laſt he applies hot Irons to the large Veſſels, and to the Fleſh, which he cauterizes till the Patient feels the Pain. This makes it conjectured, that he cut in the mortify'd Part, and that the Veſſels did not bleed afterwards; then he cauterized the Fore-part of the Bone, to make it exfoliate the more readily.

Bartholomæus Maggius, Cotemporary with *Veſalius*, cut the corrupted Part, and ſeparated it from the ſound; and after he had ſawed off the Bone, applied hot Irons to the Veſſels, and the Fleſh that was half corrupted, or dipp'd the Member in boiling Oil, alone, or mix'd with Sulphur, till it penetrated to the quick; and this was very near the Method of *Guido de Cauliaco*.

Botallus relates the Operation in the ſame Manner as *Maggius*, only makes no mention of the boiling Oil. But this Gentleman found it took up too much Time to perform the Operation this way; and beſides, in his Opinion, it put the Patient to too much Pain in ſawing of the Bone, from which it was impoſſible to take off all the Fleſh that ſtuck to it, but that ſome would be mangled with the Saw, eſpecially when there were two Bones to be ſawed. He contrived therefore a Method to cut off a Limb with one Stroke; a Method, he ſays, the ſureſt, eaſieſt, and quickeſt, that can be imagin'd. For this Purpoſe he made uſe of two large Knives, like Butchers Cleavers, one of which was faſtened in a Block of Wood, and placed between two wooden Poſts; the other was fixed in a Piece of Wood, that ſlided up and down between the Poſts by means of Grooves, after the manner of the Machine uſed for driving Piles. The Member was placed between the Poſts upon the under Cleaver, and the Piece of Wood, which was raiſed aloft, and charged with Lead to make it the more ponderous, being let fall, the Limb was cut off in an Inſtant, by the Meeting of the two Knives, with very ſlight Pain to the Patient. A Cautery was immediately applied to the Veſſels, and the Hemorrhage was very inconſiderable.

This Method has been cenſured on account of the Contuſion which the Fleſh ſuffered; but principally for fracturing the Bones, which broke into ſeveral Splinters, and rendered the Cure difficult. It was for this laſt Reaſon, I ſuppoſe, chiefly,

that this Practice was not at all followed. *Botallus* cites
Mr. *Jaques*, ſurnamed *Regius*, a Surgeon, who practiſed
Operation with Succeſs. *Hildanus* ſtrongly oppoſed this
thod.

Paré, Cotemporary with *Botallus*, cut the Fleſh in the
with a crooked Knife, and made uſe of a broad Fillet,
in two, like *P. Ægineta* and *Guido de Cauliaco*, to
cover the Fleſh, and defend it from the Saw. He then
with an Inciſion-knife, a little crooked, the Fleſh between
two Bones, when an Amputation was to be made of the
After this he ſaw'd off the Bones, and then took hold of
Veſſels with the Forceps, called the *Crow's-bill*, ſtretch'd
out, and ty'd them up with a double Thread together with
Fleſh, if any happen'd to be in the way. He then took
the Fillet, that bound the Limb above the Amputation,
paſſing a Needle and Thread through the Lips of the W
making four Holes croſſwiſe, he drew over the Bones the
and Muſcles that were cut, tho' only ſo far as till they
extended to the ſame Length as before the Amputation
drawing the Threads too cloſe. If the Ligature of any
unlooſed, *Paré* did not trouble himſelf to ſearch for it
Crow's-bill, for ſo he would never have found it; but,
tying up the Member with a new Ligature, ordered it
graſp'd by a ſtrong Man, who preſs'd hard on the Part
the Courſe of the Veſſels lay; then he took a ſquare Needle
edg'd, four Inches long, and threaded with a good T
three or four times doubled, and paſſed it into the Fleſh
a Finger's Breadth from the Orifice of the Veſſel, and
then, carrying it round the Veſſel, he repaſs'd it below the
and drew it out an Inch from where it enter'd. Between
two Ends of the Thread, he placed a ſmall Bolſter, and
this he made a Ligature. After this, he apply'd A
to the Wound, and dreſſed it on the fourth Day.

Paré makes us obſerve, that in an Amputation of the
he cauſes the Member to be held bended, becauſe af
Section of the Bone, it muſt be extended, that the
which are to be ty'd, may the better appear. He ſays, h
firſt who found out this Expedient. I could never
how it ſhould produce the Effect which he aſcribes to
as the Veſſels are united with the Fleſh which ſurround
they ſtretch or contract together with it by the ſame
Paré, however, made Diſcoveries of greater Impor
for he was the firſt who practiſed Ligatures of the Ve
Amputation; and notwithſtanding the Fury of *Gourmel*
them, this Method has been found very ſerviceable,
been followed.

I find yet more new Inventions of *Paré*; he does
deed claim them for his own; but I have met with the
where elſe. One is, that he is the firſt who introd
Uſe of the crooked Knife for cutting the Fleſh. It
appear, that *Maggius*, who wrote but a little time before
uſed it; he ſays nothing of it in his Deſcription. I w
however pretend to be ſure, that it was never made uſe
fore *Paré*; there is a Place in *Botallus* which may make
pect the contrary. In the Deſcription he gives of the
of operating in his Time, he uſes only the Word
in the Ablative Caſe, without ſaying whether the K
crooked or not; but his Commentator *Van Horne* ſays,
intelligit inſtar corniculatæ Lunæ falcatam, "He mean
"Knife as is falcated like the horned Moon." *Botall*
uſe of the Term *Novacula*; but *Hildanus*, who uſed a
Knife, calls it alſo *Novacula*.

The other new Invention, or Improvement, which
obſerved in *Paré*'s Deſcription, is, that he cuts the F
tween the two Bones of the Leg; for this Purpoſe he
of an Inciſion-knife a little crooked. It is not certain,
was the Author of theſe two laſt Inventions; he w
have fail'd, it is probable, to have valued himſelf
account, as well as the preceding, ſince they were
Service, and have been conſtantly uſed ſince that Time.

There is ſtill another thing, which I don't find in
him, and which he does not aſcribe to himſelf any m
the two laſt; it is this: After he had ty'd the Ve
brought the Skin and Fleſh over the Bone, and h
there, by running two Threads croſſing one another
Lips of the Wound. This Expedient was doubtleſs
in his Time, but it was of no Uſe, and even impra
ſome Occaſions. It was of no Service, firſt, when
was cut in the mortify'd Part, becauſe the putrid
Fleſh would not bear Perforations of the Needle,
eaſily break away. Secondly, they who cut in the q
applied hot Irons over all the Surface of the Amputation
make no uſe of it, becauſe of the Cruſt formed th
becauſe the half-roaſted Fleſh would eaſily break out:
they who made no uſe of Fire at all, found themſelve
to diſuſe it, becauſe, when the Threads were drawn
cauſed much Pain, and excited an Inflammation in

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* De Vuln. Sclop. cap. 22. *Duplici modo Chirurgica Ars, dum fas eſt, amputare ſolet, nempe Serra & Cultro.* "The Surge
" exerciſed in Amputation, when the Caſe requires it, two ways, that is, with a Saw or a Knife."

bliged them to cut the Threads ſooner than they in-
It could do no Service, if the Threads were not drawn
at cloſe; and Bandage alone was ſufficient to anſwer
ention propoſed by this Method.

el Sennertus has deſcribed Amputation after the ſame
r as *Paré*.

ay differs not from *Paré*, but in that he ſays, when he
ot eaſily take hold of the Veſſels with the Crow's-bill,
nner was to cauterize them with an actual Cautery.

lemeau is of the ſame Opinion; but beſides, he makes
ure of the Veſſels after a particular Manner. He pierces
above the Amputation with a good Needle and Thread,
e carries above and beyond the Veſſel, and brings it out
e Skin a Finger's Breadth from where it entered, and
means takes in the Veſſel and the Fleſh, which he binds
tying the two Ends of the Thread upon a ſmall Bol-
t there to hinder the Thread from cutting the Skin.
ethod does not appear to have been followed by any
nis, who too has made ſome Alteration in it.

icius ab Aquapendente, who wrote in the Beginning of the
nth Century, cut the Fleſh an Inch within the Sphacelus,
Manner of *Aviſenna* and *Veſalius*. By this Method,
he avoided the Hemorrhage and the Pain. Afterwards
'd Fire to the Place till the Patient felt the Heat, and
was formed upon the Mouths of the Veſſels.

Practice of this Method has at laſt been quite abandon'd,
it is ſubject to ſeveral Inconveniencies. The firſt is, that
Precautions you take to burn away all the mortify'd
ch is left under the quick, 'tis to be feared there will
enough to produce a Corruption in the ſound Part. A
Inconvenience is, that the ſphacelated and cauterized
g ſeparated from the quick by Suppuration, there re-
long Stump of a Bone, that ſticks out, and very much
he Cure of the Wound, which is not eaſily conſoli-

us Aurelius Severinus gives the ſame Deſcription of the
n as *Paré*, but differs from him, in that he makes no
of the Veſſels, but only brings the Skin over the
He covers the Veſſels, and retains the Skin over
paſſing the threaded Needles acroſs. The Inconveni-
this Method have been made to appear.

us Fabricius Hildanus, after tying the Limb very tight,
the Circulation of the Blood, binds it down to a Bench
llet, and draws over it a ſort of a leather Sleeve, which
loſed at the End like a Purſe. He then cuts the Fleſh
ick home to the Bone, either with a Razor, or a
wo-edged Knife; he lays the Bone bare of the Peri-
nd when there are two Bones, he cuts the Fleſh be-
m with an Inciſion-knife bent a little crooked; after
envelopes the cut Fleſh by drawing the Strings of the
d by that means pulls it back, and raiſes it; he lays
bare, and prevents the Blood that comes out of the
om covering the Place where he is to apply the Saw.
aws off the Bone, and, taking off the Sleeve and Fillets,
actual Cautery to the Veſſels, till there is a Cruſt
ſtopping of the Blood.

peculiar in *Hildanus* is, firſt, the making uſe of a
which he binds the Member that is to be amputated.
ppear'd to be very uſeleſs, and might, poſſibly, be
e; which was the Reaſon, that he was not follow'd
ticular. In the ſecond place, he uſes a ſort of Sleeve
, which is alſo more troubleſome than uſeful, ſince a
Fillet, cut in two at one End, would with greater
Readineſs anſwer the Purpoſe. *Hildanus* alſo ſome-
uſe of a red-hot Knife to cut the Fleſh, and of an
tery for ſtopping the Hemorrhage from the Veſſels,
when the Member was ſphacelated. But, according
igature would be ſufficient, if the Patient were young,
plethoric, in which Caſe he makes his Ligature like
is wrong in quoting *Celſus*, *Galen*, and *Aviſenna*,
ature of Veſſels in Amputation; for they never uſed
r Veſſels that were opened by Wounds, as I ob-
re.

brings the Skin and the Fleſh, as far as poſſible,
ne, without keeping them there by a Thread paſſed
Skin and Fleſh croſſwiſe, which he diſapproves for
above-mentioned.

ho publiſhed his chirurgical Works about the Middle
ury, made an Amputation, after the ſame Manner,
he ſame Precautions, as *Pigray*. *Barbette* did the
rote a little later than *Vigier*.
ely followed their Steps: He is the firſt who ſpeaks
niquet, which Mr. *Morel* invented for preventing
age; but he found the Ligature ſo painful, that he
to make uſe of an actual Cautery. In this Point
en; for a Ligature of the Veſſels well made is leſs
ſurer, than an actual Cautery. *Nuck* adviſes us to
Muſhroom, which he calls *Boviſt*, and we *Puff-*
is commonly uſed in *Germany* and *Holland* for ſtop-
norrhages.

Charrierre, *John-Baptiſt Verduc*, and *Dionis*, have done nothing but copy preceding Authors in their Deſcriptions of Amputation. But *Dionis* gives us two new ways of ſtopping the Blood by a Ligature of the Veſſels. In the firſt, he ties up the Veſſels with a Needle and waxed Thread, and makes uſe of a *Valet à Patin*, [Nippers with a Ring] with which he takes hold of the Veſſel, and pulls it out from the Fleſh; he winds the Thread about the Veſſel, and after paſſing the Needle through the Extremity of the Veſſel, ties the Thread, and faſtens it in ſuch a manner as not to be thrown off by the Pulſation of the Artery. In the ſecond Method, he takes two Needles threaded in like manner with waxed Thread; with one of them he pierces the Fleſh above the Veſſel, and having paſſed it through the Fleſh and Skin, he draws it out two Fingers Breadth above the Amputation. With the other Needle he enters the Fleſh and Skin below the Veſſel, and pulls it out half a Finger's Breadth from where the other Needle came forth; he then lays between them a little Bolſter, on which he ties the two Threads with a Knot, and ſo cloſes the Veſſel. This ſecond way differs not from what *Guillemeau* ſpeaks of, except in that the latter uſes but one Needle.

The *Valet à Patin* is a ſort of Nippers, invented about the Middle of the laſt Century, and not much uſed at preſent. M. *Garangeot*, Maſter Surgeon at *Paris*, gives a Deſcription of it with a Figure. When that Inſtrument began to be uſed, there went over it a Thread with a ſliding Knot. They drew out the Artery with the *Valet à Patin*, and ty'd it with the Thread in a Knot, that could not ſlide. This Invention was ſubject to two Inconveniencies: Firſt, If the Thread was drawn a little too tight, to prevent its ſlipping, it would cut by degrees the Artery, which being ty'd at its Extremity, would ſeparate too ſoon, and be followed by a new Hemorrhage, more dangerous than the former. Secondly, If the Ligature was made a little too looſe, the continual Pulſation of the Blood would by degrees puſh the Thread to the Extremity of the Veſſel, where it would ſlip off. *Dionis* was willing to remedy this Defect by paſſing a Thread through the Veſſel, in the way that he firſt propoſed; but this was too troubleſome a Method to be followed, and his ſecond was more ſo, and beſides put the Patient to greater Pain. At preſent, they tie the Arteries after the Manner of *Paré*, which is the moſt ſimple Method, and followed by all good Artiſts. They paſs the Needle, as I ſaid before, through the Fleſh which ſurrounds the Artery, and faſten the two Ends of the Thread with a Knot upon a ſmall Linen Bolſter. *Dionis* tells us alſo, that he could ſtop the Blood with a Button of Vitriol, which was practiſed and recommended by ſeveral Surgeons of the laſt Century.

Cyprus Vitriol, which is what is uſed to cauterize the Orifices of the opened Arteries, and raiſes a good Eſchar on the Place, does not ſo readily ſtop the Blood as an actual Cautery and Ligature. It muſt liquefy, in order to inſinuate into the Pores of the Fleſh; ſo that this Remedy works but ſlowly. The Blood would ſoon break through the Barrier oppoſed to it, if we did not take great Precaution. They who uſed this Method, laid graduated Compreſſes on the Button of Vitriol, and other long Compreſſes on the Courſe of the Veſſels, in ſuch a manner, that by the Help of a pretty tight Bandage, the Fleſh might be compreſs'd upon the Veſſels.

A Servant muſt be ſure to attend, in order to keep his Hand continually upon the Stump. We ought indeed to take the ſame Precautions in all other Methods of Amputation; but this, in particular, requires the moſt careful Attention.

As to the reſt, we muſt avoid making uſe of ſtrong Suppuratives, for fear of making the Eſchar ſeparate too ſoon, and fall off before the Mouths of the Veſſels are entirely cloſed, and quite ſtopp'd up.

Here it will not be foreign to my Purpoſe, to explain the Action of Eſcharotics. I ſhall give you my Conjectures about the Matter, which is full of Difficulties, as well as many others. I am always for running this Hazard of expoſing my Sentiments, becauſe it will doubtleſs engage ſome able Naturaliſts to examine them with Attention, and perhaps propoſe ſuch as are more probable, which will be received with Pleaſure.

We make uſe of two ſort of Cauteries or Cauſtics in general, which are, the *actual* and the *potential Cautery*. The actual Cautery is Fire, and all burning Bodies, as heated Iron, very hot Water and Oils, &c. When theſe are apply'd to any Part, their Heat penetrates the Fleſh, where the Air is included in the circulating Liquids. This Air is rarefy'd and expanded to an extraordinary Degree by the great Heat. This violent Expanſion ſeparates and diſunites all the Parts in which the Air is contained, and ſo deſtroys their Structure. The expanded Air eaſily eſcapes through the Pores and Interſtices of the Fleſh, whoſe Contexture it has thus deſtroy'd; and carries with it, at the ſame time, all the aqueous Particles contained therein; which is the Cauſe of the drying up of the cauterized Part, and the forming of a Cruſt upon it.

Melted Lead, melted Sulphur, and very hot Oils, which ſome make uſe of, act after the ſame Manner.

I make three Sorts of *potential* Cauteries, according to the Parts on which they act. The firſt act only on the Fleſh uncovered of its Skin, the ſecond on the Skin and the Fleſh, and the third only on the Skin.

The Cauteries of the firſt Sort are *Cyprus* Vitriol, Arſenic, the Sublimate Corroſive, &c. Theſe make no Eſchar but in the Fleſh, and make none at all when apply'd upon the Skin. *Cyprus* Vitriol is what is commonly uſed to cauterize the Veſſels, becauſe Arſenic, and the Sublimate Corroſive, act too ſlowly, tho' otherwiſe they make a good Eſchar. Theſe Salts abſorb the Humidity which diſſolves them, by means of which they are introduced into the integral and extremely ſenſible Parts of which the Fleſh is compoſed. The Blood, which circulates in thoſe Parts, continually ſupplies them with new Humidity, which probably unites with the ſaline Particles in proportion as they arrive, which occaſions theſe Particles to penetrate more and more into the Fleſh, where they ſtill find new Humidity, which gathers about them; hence the Pores, which contain them, muſt be conſiderably inlarged, and the ſolid Particles, which compoſe the Partitions between them, are obliged to give way, and ſeparate; by which means the Texture of the Fibres, which compoſe the Veſſels and the Fleſh, is quite ſubverted, and forms a Subſtance which is no longer Fleſh, nor capable of receiving Nouriſhment.

The potential Cauteries of the ſecond Sort are of ſeveral Kinds; ſome of them are liquid, others ſolid. The liquid cauterize the Skin and the Fleſh, at the Inſtant they are apply'd; ſuch are Oil of Vitriol, Spirit of Nitre, Aqua Regia; their Action is very quick. Spirit of Salt, and Spirit of Vitriol, cauterize but ſlowly, and are ſeldom uſed alone, but in Conjunction with ſome metallic or ſaline Particles. Butter of Antimony, Butter of Arſenic, the Oil or Liquor of Mercury, which proceeds from the Waſhings of Turbith Mineral, are more frequently uſed.

Solid Cauſtics are either metallic or ſaline. The metallic are *Lapis infernalis*, made with Silver or Copper, diſſolved in Spirit of Nitre, or Aqua-fortis.

Saline Cauſtics are in common Uſe, and properly called *Cauteries*. They are made of Lime and Aſhes of Tartar, &c. They prepare them alſo from the Lye of the Soap-houſes, which is compoſed of Kali, Quick-lime, and Copperas, &c. But theſe are not ſo good Cauteries as the preceding.

Theſe Cauſtics burn and cauterize the Skin and Fleſh, and produce an Eſchar, without cauſing any great Pain.

In order to explain the Action of theſe Cauſtics, you muſt obſerve, that generally, all Bodies which have endur'd a ſtrong Fire, are Cauſtics. Some of theſe loſe that Cauſticity in cooling; ſuch are all actual Cauteries. Others preſerve their Cauſticity in cooling, which is the Caſe of potential Cauteries.

Cauſtics of the third Sort act upon the Skin. Theſe are improperly called *Eſcharotics*, for they make no Eſchar; it does not ſo much as appear, that they act upon the Epidermis, which remains whole and entire. I would not place them in this Rank, did they not work very nearly the ſame Effects as are produced by very hot Bodies, which remain but a very ſhort time on any Part. They produce nothing but Veſicles on the Skin, and for that Reaſon have the Name of *Veſicatories*.

In the Number of Veſicatories are rank'd,
Cantharides, which are of moſt frequent Uſe.
The Ranunculus Tuberoſus major, *J. B.*
The Flammula Ranunculus, *Dod.*
The Flammula, *Dod. pempt.*
The Flammula altera, *Dod.*
The Flammula Jovis Surrecta, of *Ger.*

Fabricius ab Aquapendente choſe rather to make uſe of this Herb than Cantharides, becauſe it occaſions no Diſorder in the Bladder, as Cantharides ſometimes do, in his Opinion. For my part, I never knew any ill Accident happen from the Uſe of them, tho' I have ordered their Application a vaſt Number of times.

They alſo uſe very often the Root of Thymelæa [Flax-ſpurge]. *Petit in the Memoirs of the Royal Academy of Sciences* 1732.

Having given the Hiſtory of Amputation, I ſhall proceed to ſpecify the Operations requir'd for the Amputation of particular Parts, as now practiſed, from *Heiſter*.

Amputation of ſupernumerary Fingers.

Children are ſometimes born with ſupernumerary Fingers, which are generally miſ-ſhapen, and inconveniently placed. Theſe Fingers are not all of the ſame Nature. Some have Bones and Nails; others want them, and appear to be nothing but carnous Excreſcences. If any of theſe are troubleſome, or deform the Hand, they ought to be cut off. If there are no Bones in them, the Knife is moſt convenient; but if there are Bones, a ſtrong Pair of Sheers will better do the Buſineſs, by taking off all together. Sometimes more than one of theſe Fingers are found upon the Hands of Infants, who are too infirm and tender to bear immediately the Repetition of ſuch an Operation; and the Pain attending it. In this Caſe it is
after the Exciſion of one Finger, to allow ſo long an Int
that the Wound ſhall be entirely heal'd before you proce
amputate the other. The Flux of Blood is eaſily ſtopp'd
Lint and Compreſſes, either dry, or wet with Spirits of W
and the Wound is readily healed with a Vulnerary Balſam,
other Wounds. It will not be foreign to the Purpoſe to
tion here, in few Words, a Caſe of this Kind, which I
was concerned in. An Infant about three Months old
very long preternatural Finger growing to the Thumb,
Tab. 33. *Fig.* 15.) and had a ſtrong Bone in it; but inſte
a Nail at the End, a Subſtance like a Cock's Spur prot
I made an Inciſion quite round the Integuments, and then
a Pair of Sheers took off the Bone; this done, I ſtopp'd
Bleeding with Lint, and Compreſſes wetted with Spirit
Wine, and dreſs'd the Wound with a Vulnerary Balſam,
ſoon heal'd it. I could here produce many Inſtances of
of this Kind, which I have performed both in the Hand
Feet; but one Caſe is ſufficient, as the others are much
ſame Kind, and the ſame Method of Cure was obſerved

Amputation of the Fingers.

The Fingers require Amputation, when they are ſo
or bruiſed by Bullets, or other hard Bodies, that they
be reſtored to their former State; or are totally mortified
being indurated, or affected with a Caries, or Cancer,
be cur'd by other Treatment.

But Surgeons ſhould be very careful not to cut
bruiſed or fractur'd Fingers, whilſt there remain any Ho
ſaving them: Therefore if the Fingers are only mo
broken, or gangren'd, let ſome ſpirituous and reſolving
mentation be judiciouſly apply'd, in order to prevent
ther Corruption; and let the Fragments of the Bones
fully replac'd, and treated in the manner directed for Fra

If any Parts of the Fingers are ſo much fractur'd
almoſt entirely divided from the reſt of the Hand, in th
they may immediately be ſeparated from it with the
Sheers. The ſame Rule is to be obſerv'd when a F
totally mortified; for a Delay, at ſuch a Juncture,
attended with great Danger.

But if a Finger ſhould be cut, by a ſharp Inſtrument,
off, if the Wound is freſh, however bad, it will be
to replace it in its former Situation, than wholly to
and even if the Part is quite divided from the Hand,
the Wound is oblique, it will be prudent to fix it in
Situation, and to try by Degrees to unite it: For it is
attempt a Union of the Parts this way, tho' your La
ſometimes be in vain, than raſhly to deſtroy all Hopes,
ting off the Finger, which perhaps might have been

Heiſter gives an Inſtance of a Butcher's Wife, who
cut off a Finger, by an oblique Wound, with a Cle
immediately replac'd it, and ſecur'd it with Bandage,
united without farther Applications.

Amputation of the Fingers is perform'd thre
Firſt, With the ſharp Forceps, or, which is preferable,
cially in Children, with a ſtrong Pair of Sheers.

Or, ſecondly, with the Chiſel and Mallet, by
Part is very readily cut off at one Blow (See *Tab.* 33.
This Operation I have performed ſeveral times in
and cariated Fingers; and alſo when the Bone has
rupted. *Roonhuyſon*, in a Spina Ventoſa, alſo has
ſame upon a ſcirrhous great Toe with Succeſs, wha
People may think to the contrary.

Or, thirdly, a mortified Finger is to be taken
Knife at the Joint, leaving Skin enough to cover
the Bone. This Method of Amputating is preferable
the other, as the Work is done without any Danger
tering the Bones, and thereby cauſing another C
this Method I have frequently cut off the Fingers,
and Toes, even of old and decrepit People, where
have been wholly carious, at their Articulations with
carpal or metatarſal Bones, and have made a p
However incommodious this way of Amputating m
ſome, who imagine the Skin will not grow over the
without a great deal of Difficulty, if at all, yet I
found it ſo. But this Inconvenience may be avoided
only drawing back ſtrongly the Skin before you make
ſion, but by taking off with a Knife the Cartilage
of the metacarpal or metatarſal Bones; for by ſo
will more eaſily unite and grow together. The F
cut off, the Wound muſt be dreſs'd with Lint, and
with Compreſs and Roller. If the Patient is full of
a few Ounces run from the Wound before you bind
after this there will be little Danger of a freſh He
and indeed I never remember one to have happen'd
two Joints of the ſame Finger are mortified with
third, it will then be better to cut away with a Ch
rupted Part only, than by a more painful Inciſion to

ith a Knife from the metacarpal Bone. But if a Mor- has ſeiz'd the whole Finger, or Toe, it muſt be am- the Joint, leaving a ſufficient Portion of the Skin.

Amputation of the Hands, Arms, and Humerus.

ſt chirurgical Operations the Amputation of the Arms appears the moſt cruel and terrible, and this not eaſon; notwithſtanding, in ſome Caſes, it is found for the Preſervation of the Patient's Life. For when ation has ſeiz'd upon the whole Member, and de- the Muſcles; or when both Bones and Muſcles are after a Fracture; or when an incurable Caries, or toſa, affects the Member; or when the Brachial, ly the large Crural Artery, is ſo much wounded, that cannot be ſtopt: In theſe Caſes you will ſcarcely be ve the Patient's Life without taking off the Limb; that always do it. Laſtly, it muſt be perform'd in pecially the Hands, when render'd monſtrous, by a toſa, or any other Cauſe, eſpecially if they are very *Marcus Aurelius Severinus*, in his Treatiſe *de Abſ-* *idloo*, in his *Exercitationes*, and *Ruyſch*, give ſome his Kind. In the mean time let me ſeriouſly admo- Surgeons, never to undertake an Amputation of this ly, and without the Counſel and Aſſiſtance of other hyſicians and Surgeons, leſt perhaps they ſhould be accus'd of Cruelty, Raſhneſs, or Imprudence.

t it may appear more plain how Operations of this be perform'd, it will not be amiſs to treat them in a der. I will therefore begin with the Hand.

nd may be amputated at one Blow, as was formerly by placing a ſtrong and ſharp Chiſel near the Wriſt, a heavy Mallet driving it through. But this way of g is not only very hazardous, but alſo very pernicious. is always Danger, leſt the Bones of the Wriſt or the Violence of the Blow, ſhould be ſhivered or nd the Patient thereby expos'd to very great Inconve-

s Hildanus is of the ſame Opinion, and ſays farther, eration too violent and cruel, and conſequently un- a rational Surgeon.

odern Surgeons therefore act very reaſonably in the Knife and Saw in the Place of the Mallet and ut here great Care muſt be taken, that the Saw be to the Carpus or Metacarpus; for ſhould the Liga- d thoſe little Bones, be lacerated and divided with great deal of Pain and Danger would ariſe. It is efore, according to the preſent Method, that the amputated with the Knife and Saw, apply'd to the he Cubit, in the manner I ſhall deſcribe; and at the it will appear how we are to proceed in amputating or Cubit, and the Humerus. *Heiſter, however,* *t the Hand may be amputated at the Articulation with* *with the Knife only, tho' he has never made the Ex-*

ng off the Hand, or Arm, whether on account of a on, incurable Caries, or any other Cauſe, two principally neceſſary to be regarded. The firſt is here the Operation muſt be performed, which is at er's Breadth, or two, above the dead or corrupted never upon the ſphacelated or corrupted Part. More- putation of a large Limb muſt not be performed in on account of the extreme Thinneſs of the Fleſh arts, which cannot, in the Opinion of Surgeons, ones, and heal over them; from whence a Caries with many other Inconveniencies.

ſtanding, if a ſufficient Portion of Skin on both ved, I imagine the Wound may be heal'd in the r as it is in a Finger cut off at the Joint.

ce for Amputation being determin'd, that the Ope- ſucceed the better, it is neceſſary, in the next Place, ſtruments and Apparatus, both for the Amputation, g afterwards, ſhould be ready beforehand, and placed two Diſhes, or on two proper Tables, but not nt's Sight, leſt he ſhould be terrified by ſeeing

ny one ſhould be unacquainted with the Inſtruments tus neceſſary in this Operation, it will be worth numerate them all in this Place. We will begin rcular or Ligature, with the Turn-ſtick, call'd by the rniquet. There are various ways of making it, e readieſt.

illet, about an Inch broad, and a Yard and a Quar- en provide a cylindrical Piece of Wood, or Stick, Finger's Length; and then a Fillet roll'd up two k, and four long; longer Cloths or Compreſſes provided to encompaſs the Limb, which muſt four Fingers broad, over which the Fillet is to and laſtly, a Piece of Paſtboard, or thick Leather, ingers ſquare.

The Method of uſing the Torcular or Tourniquet is thus: Let the Fillet roll'd up be plac'd lengthways upon the large Artery of the Limb, the Situation of which is known from the Anatomy of the Part, and upon this let Compreſſes be plac'd tranſverſly, ſo as to encompaſs the Limb like a Ring; then wind the long Fillet twice round theſe, but looſely, ſo that the Hand may eaſily paſs betwixt it and the Limb, and then faſten it with a Knot; then upon the Side of the Limb, oppoſite to the roll'd Fillet, place the Paſtboard or Leather under the long Fillet, upon which let the Fillet be twiſted with the Stick, till the Circulation is wholly ſtopt; the Stick muſt be held faſt, leſt it ſhould give way before the Limb is amputated, and the Profuſion of Blood ſtopp'd, either by aſtringent Medicines, by Ligature, the actual Cautery, or by any other Art whatever; which being performed, the Torcular may be looſed, and entirely remov'd. See the long Fillet, with the cylindrical Stick, *Tab.* 24. *Fig.* 2. and the Manner of placing it, *Tab.* 24. *Fig.* 1. K L N.

Mr. *Petit*, a celebrated Surgeon at *Paris*, has invented another Sort of Torcular, which is called by his Name, and is preferable to the other, as its Preſſure continues without any Aſſiſtance; whereas, when the common Torcular is us'd, an Aſſiſtant is oblig'd to hold and manage it: And again, becauſe if Neceſſity requires, it may remain upon the Limb, as long as may be judged proper, without Impediment to the Circulation of the Blood in the affected Part; whereas by the common Torcular the Blood is wholly intercepted, inſomuch that in a little time it muſt be taken off again. Theſe are Advantages in Hæmorrhages from Wounds, or otherwiſe, where the Torcular is ſometimes us'd; but Diſadvantages in Amputations, where the Circulation ought to be ſtopp'd in the whole Limb for ſome time.

I have endeavour'd to alter and improve *Petit*'s Torcular. See *Tab.* 26. *Fig.* 6. where A A denote the ſuperior Part, B B the inferior, and C the Screw, all repreſented in their proper Size, and made of ſome ſtrong and durable Wood. Towards the Extremity at D are inſerted two leſſer Screws, made of Iron, to which a ſtrong ſilken Fillet is to be fix'd, which muſt be as wide as the Torcular, and twenty Inches long, that it may the better reach round the larger Members; the other End is to be fix'd to the ſmall Hooks repreſented at E; in the Extremities F F, F F, both Parts, both above and below, are a little excavated, that the Fillets may reſt the firmer in them, and may not be ſo eaſily mov'd, or ſlip quite out. At the Letter G is an iron Plate, to render the Machine ſtronger, leſt it ſhould give way to the Force apply'd to it. Thus when an Artery is to be compreſs'd, either on account of an Hemorrhage from a Wound, or to prevent one during Amputation, the inferior Part of the Torcular B B, cover'd with a good many Folds of Cloth, is laid on that Side of the Member which is oppoſite to the Artery; the Fillet is lightly wrapt about the Member, and the Ends of it are fixed to the Hooks E; then by means of the Screw C, the Cords are drawn to ſuch a Degree of Tenſion, as is neceſſary for ſtopping the Blood, and are allowed to remain in that Degree of Tenſion upon the Part as long as the Surgeon ſhall think proper.

Garengeot deſcrib'd and delineated another Torcular of the ſame Nature, invented by that celebrated Surgeon *Morand*, which indeed agrees with the former in many Particulars, but differs from them principally in this, that inſtead of a ſimple Screw, *Morand*, for the ſake of a quicker Action, made his with a compound one, and had it made of Iron; ſo that in his, one Turning of the Screw wound up the Cords more, and compreſs'd the Artery better, than two or more Turnings of the Screw in other Torculars. But *Garengeot* makes ſome Objections againſt this Machine, and prefers that of *Petit* to it.

Some Years ago, when I was call'd to *Berlin*, to attend a certain General Officer of the *Pruſſian* Army, I there ſaw a Species of the ſame Torcular, made of Iron, very heavy, and much reſembling that of *Morand*, but alter'd in ſome Particulars, by whoſe Directions I know not. As I have not as yet ſeen it delineated, I have given a Repreſentation of it in *Plate* 26. *Fig.* 7. A is the inferior Plate, with many little Holes towards its Circumference, that ſo a ſmall Cuſhion, or Foldings of Cloth, may the more conveniently be put under it, and ſew'd to it. B is an excavated or hollow'd Eminence, for receiving the Screw. C is the upper Plate. D the Hollow in the upper Plate for receiving the Screw. E E the Extremities of the upper Plate, one of which is furniſh'd with Hooks, the other with Hooks, and a ſort of Bow, ſo that the Fillet deſign'd for embracing the Member may not ſlip. F is a Sort of Ring incircling the Cavity of the Screw in the upper Plate. G is a ſquare or cubic Part, hollow'd in Form of a Screw, fitted for the Reception of the ſmall Screw H, and contrived in ſuch a manner, that the large Screw I K, which would otherwiſe eaſily yield and ſlip out, may be the more conveniently fixed and retained in the Cavity D. L is an iron Cylinder, firmly fixed in the inferior Plate, but free in the upper, that ſo the upper Plate may be made to approach the under at Pleaſure, again recede from it at Diſcretion, for ſtretching the Fillet, and compreſſing the Artery, and keep the upper Plate in the ſame Poſture with the under, that ſo it may not be diſtorted or driven awry, and the Action of the Machine by that means prevented.

For preventing this Inconvenience, I took care to have a Torcular made of Copper in another manner, a Repreſentation of which may be ſeen in *Plate* 27. *Fig.* 1. where the ſuperior Lamina is much ſhorter than the inferior, and has a Fillet fix'd at one of its Extremities, which, being wrapt about the Member, is to be faſten'd to the Hooks in the other Extremity; and the Fillet paſſes thro' the Holes of the inferior Lamina, and by that means keeps them in a perpendicular Situation, and prevents moving any way when the Screw is turn'd. A Surgeon may make Choice of any one of theſe he pleaſes; they all anſwer the End, only ſome do the Buſineſs much ſooner than others; but in this Caſe, the Surgeon may proceed upon that common and well-known Maxim, *Sat cito, ſi ſat bene*; the Operation is ſoon enough, if it is well enough perform'd.

The firſt Part then of the Apparatus for Amputation, is the Tourniquet.

The ſecond is a ſmooth Fillet of Linen, near an Inch in Breadth, and about half an Ell long.

The third is a ſmall Knife for dividing the Skin, of which ſee a Figure, *Tab.* 34. *Fig.* 1.

The fourth is a great crooked Knife for dividing the Fleſh. See *Tab.* 34. *Fig.* 2.

The fifth is a ſmall double-edg'd Knife, for the ſeparating the Fleſh between the Radius and Ulna, *Tab.* 34. *Fig.* 3.

The ſixth, a linen Cloth, about three Spans long, and ſix Fingers broad, ſlit lengthways half thro'. See *Tab.* 23. *Fig.* 17.

The ſeventh, a good Saw for dividing the Bones. See *Tab.* 34. *Fig.* 4.

The eighth, a Pair of Forceps to lay hold of the Arteries. See *Tab.* 34. *Fig.* 5. and 6.

The ninth, a crooked Needle, with a ſtrong Thread.

The tenth, vitriol Buttons, wrapt up in Lint or Cotton.

The eleventh, little four-ſquare Compreſſes. *Plate* 23. *Fig.* 21.

The twelfth, great Plenty of Lint.

The thirteenth, a Powder for ſtopping the Blood; but as it often cauſes Inflammations, and prevents Suppuration, Spirits of Wine, or Oil of Turpentine, is better. However, we eaſily do without any Aſtringents at all.

The fourteenth, a large and round Compreſs of Tow, or a great Piece of the Crepitus Lupi, or Puff Ball, for covering the reſt of the Cloths and Compreſſes.

The fifteenth, a Calf's or Hog's Bladder, or inſtead of it, either a large ſticking Plaiſter, in the Shape of the *Malteſe* Croſs, (ſee *Tab.* 23. *Fig.* 15.) for covering the Trunk with the preceding Apparatus; or three Plaiſters about two Spans long, and three Fingers broad.

The ſixteenth, a Cloth in the Shape of a *Malteſe* Croſs, but larger than the Plaiſter.

The ſeventeenth, a thick four-ſquare Cloth for covering the End of the Stump.

The eighteenth, three Compreſſes two Spans long, and two Inches wide.

The nineteenth, a Roller five Ells long, and three Fingers broad, for binding up the Limb.

Laſtly, Wine, and other internal Medicines, as well as external, for raiſing the Spirits of the Sick, when inclin'd to faint.

It remains next, to ſhew the proper Situation of the Patient, the Surgeon, and his Aſſiſtants, when the Operation is to be perform'd. The Patient then muſt be plac'd in a low Chair, and ſet almoſt in the Middle of the Room, that free Acceſs may be had to him all round, and that the Aſſiſtants may be plac'd more commodiouſly about him.

The Surgeon himſelf muſt ſtand in the Middle, between the Patient's Feet; but the Aſſiſtants, ſix of which at leaſt ought to be preſent, muſt help the Surgeon in this Manner: One of them ſhould ſtand behind the Patient, and hold his Body; another, ſtanding at the Patient's Side, ſhould claſp the upper Part of the Arm which is to be amputated, near the Elbow; a third ſhould hold the Hand; a fourth ſhould aſſiſt at the Side with the Inſtruments, ſo that when they are wanted by the Surgeon, they may be given commodiouſly; the fifth muſt deliver the Dreſſings in regular Order; and the ſixth muſt be ready to give the Patient a Cordial, and to do ſuch other things as the Surgeon may perhaps direct.

After that, the Surgeon, who ought to have a Towel before him, in order to wipe his Hands, if it ſhould be neceſſary, muſt moderately twiſt the Torcular about the Arm to be amputated, in the manner, and at the Place repreſented, *Tab.* 24. *Fig.* 1. K. For by ſo doing, not only a too great Flux of Blood from the great Artery of the Arm is prevented, but the Nerves alſo being moderately compreſs'd, the Patient feels the
leſs Pain from the Operation. But leſt the Tor
give way, the Stick ought to be held carefully by the
who ſtands behind the Patient's Back; but if the other
lars are us'd, they ſtand of themſelves, without any
Then the Servant, who holds the upper Part of the Arm,
draw the Skin back as much as poſſible, whilſt the
himſelf binds the Fillet, about half an Ell long, and
broad, ſeveral times about the Part where the Operation
be performed, the End of which is to be ſew'd faſt;
ſerve him, not only as a Guide for the more regular
of the Fleſh with the Knife, but to keep the Fleſh
that it might not give way to the Knife. Some do
with a leathern Thong and Buckle. But before we
any farther, the Patient ought to be comforted, not
Words, but with Wine, or ſome other ſpirituous L
he ſhould ſink under the Operation.

Theſe things being done, the Operation muſt be
in which the Surgeon's firſt Buſineſs is, to place the
ſtrait Line, which being held by two Aſſiſtants, he
make an Inciſion with the leſſer Knife through the
round; which being perform'd, the Aſſiſtant who
upper Part of the Arm, muſt draw the divided Sk
much as he can; then near the Edges of it, either
ſame Knife, which here will do very well, or with
crooked Knife, the whole Fleſh muſt be divided all
Bones. By this Method of Amputating, the Bones
ſooner and eaſier cover'd, and the Healing of the Wo
forwarded. This being perform'd, the Fleſh between
and *Radius* muſt be divided with a ſmall two-edg'd
and the *Perioſteum* from the Bones muſt be ſcrap'd
the Saw is to be apply'd, leſt being tore by the Teeth,
Pains and Inflammation ſhould be excited; then the
holding the Arm, ſhould ſtrongly draw back the div
that the Bones may appear the more fairly in
order to be ſaw'd off. And that the Fleſh may the
drawn back in the upper Part of the Wound, and the
off very high, it is convenient to apply a Cloth ſlit in
dle, in ſuch manner, that the Bones only ſhould come
and that the whole Parts of the Cloth reſting upon
may, by being drawn back by the Aſſiſtant who
upper Part of the Arm, draw back the Fleſh alſo along
For in Caſes of this Kind, the Bone muſt always be
near as poſſible to the Fleſh which is drawn back,
ſaid before, the Bones may be ſooner cover'd, and the
much ſooner heal'd. But the Surgeon ought ſo to
Saw, that both the Bones may drop together. For
is, that if they ſhould not be cut equally alike,
the other on which the Saw preſſes alone, not
enough, would be ſplit, and thereby the Patient
pos'd to many Inconveniencies in the Cure. In the
the Saw ought to be moved lightly; afterwards, whe
fix'd in the Bones, it muſt be moved a little faſter,
fully. And leſt it ſhould by any Chance be ſtopt in
or ſqueez'd between the Bones, the Aſſiſtant holding
Part of the Arm ſhould raiſe it a little, whilſt he
the lower Part depreſſes it, ſo as to make way for
for about a Minute or two; in which time the Hand,
of the Arm, will be entirely taken off.

The Hand and Arm being now amputated, the
immediate Care muſt be to ſuppreſs the Hæmorrhage
divided Arteries; and after that to dreſs, and b
remaining Stump: That the Mouths, therefore, of the
may the more eaſily be found, let the Aſſiſtant, wh
Torcular, looſen it gently, by untwiſting the Stick
or if the Torcular is of the other Kind, the ſame
turning back the Screw; for the Blood burſting out,
Siphon, will directly ſhew the Mouths of the Arter
Patient is full of Blood, it will be much the beſt
Torcular looſe a little, and let the Blood run ge
Veſſel underneath; but if he is very weak, and
Blood, the Torcular ought then to be twiſted again
ly, as ſoon as the Orifices of the Arteries are diſco
if the lower Arm is cut off near the Hand, it will
neceſſary to tie the Arteries there; for as the Arte
Parts are ſmall, the Blood is eaſily ſtopp'd, by apply
Apertures of the larger Bits of Vitriol, with a
looſe Lint, or ſquare Compreſſes. Chabert *is of*
Vitriol is unneceſſary; becauſe Lint, with Compreſſes,
Bandage, will be ſufficient to ſtop the Hæmorrhage
ſays Heiſter, *I have found true, eſpecially where the*
not been over-robuſt, and full of Blood. Others
and cauſtic Applications very pernicious, or, at leaſt,
Remedies; becauſe, when the Eſchar made by them
is great Danger of the Hæmorrhage being renew'd.
Bones and Fleſh, Doſſils made of looſe dry Lint, or
be applied, and laid on thick: Upon the Doſſils a
the *Crepitus Lupi* muſt be laid, either with or without
ſter of Tow; and the Whole muſt be firmly ſecured,
wet Bladder, or large Plaiſter, in the Form of the M
brought over the Stump. Inſtead of this large P

es in the Form of a Croſs, or three in the Form of a
ay be applied with better Effect; with which the Skin
drawn down, that the Wound may be the ſooner cover'd
nd healed: Upon the Plaiſters a large Compreſs, in the
f the *Malteſe* Croſs, is to be placed, in ſuch a man-
t its extreme Parts may be held, and turned round the
y an Aſſiſtant: Then a thick four-ſquare Compreſs,
it three long thin Compreſſes, are to be applied, in
n of a Star, in ſuch manner, that their extreme Parts
e brought up the Arm, and fixed there: Laſtly, the
s to be ſecured by proper Bandage. See FASCIA.
s cuſtomary amongſt a great many of the antient, as
modern Surgeons, to ſtop the Flux of Blood from am-
Members, by burning the Arteries with a Cautery, or
s; but this Practice the Surgeons of our Age forbid,
not only uneaſy and terrible to the Patients, but at
dubious, and often dangerous, eſpecially in an Ampu-
f the Thigh or Arm. For, almoſt always, after the
y, the Cruſt made with the hot Irons looſens, and
freſh Hæmorrhage: But if any one has an Inclination
em, they may be applied in the lower Arm, or Leg,
gether without Advantage; but it is better to follow
hod deſcribed before, and not to burn, unleſs in caſe
ſſity. But if, as modern Surgeons adviſe, you ſhould
g to tie the wounded Arteries, either in the Arm or
ich, nevertheleſs, is ſcarcely neceſſary in the lower
ey muſt be laid hold of, and held with the Crow's-bill,
(*ſee Tab.* 24. *Fig.* 4. *and Tab.* 34. *Fig.* 5. *and* 6.)
other convenient Inſtrument, and tied by means of a
Needle, and ſtrong waxed Thread, paſt round them.
the Humerus requires to be amputated, the Operation
the ſame as in the Arm, except that the Brachial
of which there is ſometimes only one, ſometimes
ſometimes three, are always to be held with a conve-
rceps, and tied, by means of a crooked Needle and
hread. Cauteries and Aſtringents are here of no Ser-
he extreme Parts of the great Arteries being tied, the
muſt be looſened a little; and if any ſmall Arteries
ey may be ſecured in the ſame manner. There are
rgeons who, with a ſomewhat leſs Needle, paſs the
hrough the End of the Artery itſelf, whilſt held by the
before they tie the Knot; for by doing ſo, they ima-
Ligature to be the ſtronger, and that it will not eaſily
. Others, inſtead of the Forceps, uſe a very crooked
threaded with a ſtrong waxed Thread; this they paſs
o' the Fleſh, almoſt round the Orifices of the Arte-
then tying the Thread, they incloſe the Arteries, toge-
a Portion of the Fleſh, in order to ſecure the Stitch
king out. But nevertheleſs, if I am not deceived, it
that the Arteries ſhould be held by the Forceps, and
s tied, as is ſaid above: For otherwiſe there would be
nger, leſt either the Thread ſhould miſs the Branch of
y, or the Artery ſlip from under it again.
urgeons differ in their Opinions from Heiſter; *in this*

reſſing of the Stump being finiſhed, it remains, that a
e, or ſome cordial Potion, is to be given to the Pa-
ho muſt then be laid upon the Bed, and the Stump of
tated Arm muſt be placed in the Hand of an Aſſiſtant,
ſome Hours. For, by this means, the Dreſſings and Ban-
re more firmly, and the Hæmorrhage ceaſes ſooner,
more Certainty. Then the Torcular may be looſen'd
s, as much as may be thought neceſſary for carrying
irculation in the Part: And upon this, if no more
ſts out, it is then a Sign the Operation is well per-
The Patient therefore muſt be injoined to reſt, and,
Potions, ſhould take ſometimes a ſtrengthening and
Emulſion; by which Sleep being procured, the Pains
h by degrees, and his loſt Strength be reſtored. The
the Torcular may be either a little more looſened, or
lly taken away; and the ſtricteſt Regimen muſt be
And if Powders, and ſmall temperating Potions, be
and, if the Patient be very hot, he loſes ſome Blood,
contribute to prevent Accidents; but where there is
nor Fulneſs of Blood, it is unneceſſary to bleed, as
s the Sick, who is already much reduced. But if a
of Blood ſhould happen, which cannot be ſtopp'd,
he Application of the Hand to the Stump, or by bind-
k Cloth upon it, ſomewhat tighter, with a freſh Roller,
enerally ſufficient, the Method is to apply the Torcu-
and having looſed the Bandage, let the Arteries be
eſh; or, if they cannot be laid hold of, the actual
uſt be uſed; or it may be ſtopp'd with a large Quan-
oſe Lint, the Wound being again accurately bound
e Stump gently compreſſed, till the Bleeding ceaſes.
firſt Bandage ought never to be taken off before the
urth Day, unleſs great Pain, Inflammation, Loſs of
ſome ſuch Accident, ſhould happen, that the Orifices
ded Arteries may be the more firmly and ſurely cloſed.
ll it be amiſs for a Servant to attend by the Patient's
Bed for eight Days, who ſhould be very watchful, that he may apply the Torcular immediately, if the Blood ſhould chance to burſt out again; and, in the mean time, he ſhould take care to ſend for the Surgeon to make a freſh Bandage. If all things proceed ſucceſsfully, as often as the Wound is dreſs'd, every thing ſhould be taken off ſeparately and gently; but what is next to the Wound muſt not be touched, much leſs violently pull'd off, leſt a freſh Hæmorrhage ſhould enſue: For it is better to leave them for ſome time upon the Wound, and at every Dreſſing to ſoften them with warm Wine, or Spirits of Wine, till a Suppuration being made, they looſen or fall off of their own Accord; after which, it will be ſufficient to dreſs but every other Day, or once a Day, unleſs the Suppuration be very great, eſpecially in Summer-time, and then it may require twice.

At every Dreſſing one Caution is carefully to be obſerved, which is, that the Wound is, firſt of all, to be gently cleanſed with Lint, and freſh Pledgets of Lint muſt then be applied, the undermoſt of which, or that which is next to the Wound, muſt have ſome digeſtive Ointment ſpread upon it; but 'tis proper to apply all the reſt dry: Over the Dreſſings of Lint, three, four, or ſix Pieces of Plaiſter, about a Foot long, and an Inch broad, ſpread with Diapalma Plaiſter, that of *Andreas a Cruce*, or ſome other of a glutinous Conſiſtence, are to be applied in the Form of a Star: Laſt of all, a thick ſquare Compreſs of Linen, and three long narrow ones diſpoſed over it, in the Form of a Star, are applied over the Plaiſters. The Application of Bandage being continued in this manner for about fifteen Days, ſo great a Quantity of Lint, or ſo many Compreſſes, are no longer requiſite, ſince the Danger of an Hæmorrhage is then over. The Surgeon, in the mean time, muſt proceed in the Cure of the Wound by a digeſtive Ointment, or Vulnerary Balſam, laying upon it only a ſmall Quantity of Lint, and Plaiſters, with ſome Compreſſes over all; and, laſt of all, dry Lint is uſed with a Plaiſter upon it; and the Wound itſelf is, by this means, dried and agglutinated, in the ſame manner as other Wounds: But this Agglutination almoſt always requires two Months before it is perfected. 'Tis here neceſſary to give Surgeons a ſhort, but neceſſary Caution, which is, that they never apply the firſt Bandages, eſpecially in caſe of an amputated Humerus or Thigh, till the Torcular is applied, in order to check the Motion of the Blood, and prevent an Hæmorrhage; or at leaſt when the Operation is performed in the Arm, till the Artery is ſtrongly compreſs'd by the Thumb of an Aſſiſtant.

When, after the Amputation, a pretty violent Motion, or Fervour of the Blood enſues, which is generally the Caſe with ſound robuſt Bodies, and ſuch as abound in Juices, 'tis neceſſary to let Blood very plentifully, and preſcribe temperating and refrigerating Medicines; together with a very ſtrict and exact Regimen. If this ſhould be neglected, 'tis to be dreaded, leſt a very terrible Fever, commonly called the Vulnerary Fever, or a Sphacelus, or ſome other Diſorder of that Nature, ſhould deſtroy the Patient.

AMPUTATION *of the* FEET *and* LEGS.

When the antient Surgeons intended to amputate a Foot that was corrupted in the Tarſus, or Metatarſus, that is to ſay, in any Part that lay below the Tibia, they uſed a Chiſel of a large Size, and a Mallet made for the Purpoſe: They ſometimes alſo made uſe of a Pair of very large, ſtrong, and ſharp Sheers, with which they cut off the corrupted Part; and then applying proper Bandage to the Wound, healed it with balſamic Medicines. This Operation is fully deſcribed by *Scultetus*, who had often ſeen it performed. But as this Method of going to work was very painful in itſelf, and likely to lay a Foundation for future Danger, by the Colliſion of the Bones, and the Laceration of the Nerves and Tendons, the more modern Surgeons, for very good Reaſons, choſe with a Knife to divide the Bones of the Toes from thoſe of the Metatarſus; and, in like manner, thoſe of the Metatarſus from thoſe of the Tarſus; and when the Corruption happens to reach a little higher, they even venture to divide the firſt Bones of the Tarſus from the remaining and poſterior Bones, where they are joined to each other; after which they proceed, as the Antients did, to agglutinate the Wound; for, by this means, the Patient is able to walk better upon the remaining Part of his Foot, than on a Wooden Leg or Foot. But becauſe many have, in this Caſe, dreaded the Difficulty of Agglutination, or the Impoſſibility of again covering theſe Bones; or becauſe they have, perhaps, known this Operation to be very troubleſome in itſelf, they have therefore rather choſe to cut thro' the Tibia itſelf, and that not towards its lower Extremity, but in its upper Part, about four Inches below the *Patella*; for tho' by this means a ſound as well as a large Portion of the *Patella* is cut off, yet, by following this Method, the Deformity of the Foot, and the Difficulty of walking, are more effectually prevented; for ſince no one can either ſtand or walk well upon a long Stump, and ſince an artificial Foot, or other Support, cannot be commodiouſly fixed to it, it is much more convenient to cut the Tibia in its upper Part, and that four Inches below the Rotula; ſince if the Inciſion was made higher, its Flexor Muſcles might be hurt by that means; and by this Method the Deformity of the Part is concealed, and a way paved for adapting and accommodating to the Knees artificial Legs, either of Wood or Silver. I am not ignorant, that there are, even in our own Days, ſome Surgeons who think with *Solingen*, *Verduin*, and *Dionis*, that the corrupted Part is only to be taken off; but I ſee no Reaſon why, in this Caſe, we ſhould pay any Veneration to their Authority, or be ſway'd by their Judgment; for beſides that in the inferior Part of the Tibia, that is, under the Calf of the Leg, it is very difficult to fix any artificial Foot or Support; if an artificial Leg is faſtened to the Knee, and the remaining Stump is bent backwards, it cauſes not only a great Deformity, but a conſiderable Inconvenience in Walking.

With reſpect to the Apparatus, Manner of Operation, and Bandage, nearly the ſame Rules muſt be obſerved, as in Amputations of the Arm. There are, however, ſome Cautions neceſſary to be regarded, which relate particularly to Amputations of the Leg. As firſt, the Patient may either ſit in a Chair, or lie upon a Bed, or on a Table, ſo that the Feet may be ſtretched out. Secondly, the Hairs about the Part, which is to be amputated, muſt be ſhaved off, leſt the Plaiſters afterwards ſhould ſtick to them, and cauſe great Pain when taken off. Thirdly, after Amputation the Arteries in the Legs are very difficultly cloſed, without the actual Cautery, or tying their Orifices by means of a crooked Needle and Thread; for altho' they appear not very large, yet, without theſe Aſſiſtances, they almoſt always, after dreſſing up, bleed for ſome time, eſpecially if the Crural Artery is not, at the ſame time, well compreſs'd with narrow Compreſſes, and the Fillet. Fourthly, before the Operation, it is neceſſary, that either the common Torcular with a Stick, or the new one with a Screw, ſhould be fixed above the Knee, ſo that the Fillet, roll'd up in the Form of a Cylinder, may lie under the Ham, and compreſs the Artery there deſcending, as is expreſs'd *Tab.* 35. *Fig.* 4. D. Tho', to me, it ſeems much better that the Artery ſhould be compreſſed by a Torcular, placed at the upper Part of the Thigh, eſpecially if the Leg is to be cut off near the Knee; for ſo the Bandage, after Amputation, may be made more commodiouſly than when the Torcular is applied ſo near the Knee. See *Table* 24. *Fig.* 1. L. M.

Petr. Adrian Verduin, a celebrated Surgeon, formerly at *Amſterdam*, and my Friend when living, acquaints the World with a new Method of amputating the Legs, different from the other, in a particular Treatiſe wrote in *Dutch*, *German*, *French*, and *Latin*, tho' he was not the Inventor of it. There are many who aſcribe the Glory of the Invention of this Operation to *Sabourin*, a *Geneva* Surgeon, as the Hiſtory of the Royal Academy of Sciences, *Garengeot*, and others. This Man is ſaid to have performed it at *Geneva*, and after at *Paris* alſo, at the ſame time *Verduin* did it at *Amſterdam*. However, long before this time, I find this Operation was known, performed, and deſcribed by ſome *Engliſh* Surgeons, *Lowdham* and *Young*, as may be ſeen in a little Book intituled, *The triumphant Chariot of Turpentine*; or, *An Account of the many admirable Virtues of Oleum Terebinthinæ, particularly in Wounds and Hæmorrhages, a new Way of Amputation, and ſpeedier curing Stumps*, London, 1679. *Koenerding*, Surgeon to the great Hoſpital at *Amſterdam*, and my Friend alſo, mentions it in a Book wrote in *Low Dutch*, intituled, *A Treatiſe of the Gangrene and Sphacelus, and of the old and new Method of amputating the Legs*, Amſterdam, 1698. who alſo performed this new Operation twice, in the ſame Year that *Verduin* did it. The Whole of this new Method amounts to this: That the Calf of the Leg is to be divided with the Knife, repreſented *Tab.* 34. *Fig.* 3. at the Tendo Achillis, and then cut upwards again, according to the Length of it, and ſeparated from the Bones to the Place where they are to be taken off with the Saw (ſee *Tab.* 35. *Fig.* 5. 6. 7.). Then the Fleſh of the Calf hanging down, muſt, by an Aſſiſtant, be drawn upwards with a Cloth to the Ham, *Fig.* 6. A. Afterwards the Skin on the fore Part of the Leg, and the Fleſh between the Bones, muſt be divided, as in the common way, with a proper Knife, as thoſe repreſented *Tab.* 34. *Fig.* 1. and 3. and the Limb muſt be taken off with the Saw, as is ſaid above. The Calf, firſt clean'd with a Sponge moiſtened with Spirits of Wine, muſt be brought down to the Stump, and ſpread over it like a Pledget; and if there ſhould be too much, or it ſhould be unequal, it muſt be cut off, and the Remainder muſt be ſecured by adheſive Plaiſters, or even with a Stitch or two. Laſtly, Compreſſes, with the wet Bladder and Bandage, muſt be made uſe of, as is before directed in general Amputations; or the Dreſſings may be ſecured by a particular Machine of Leather, deſcribed by *Verduin* and *Garengeot*, with Buckles and Straps, which are to be fixed upon the Stump of the Leg; mean time, the Trunk of the Leg muſt be compreſs'd by the Hand of an Aſſiſtant ſome Hours, till the Danger of an Hæmorrhage is over; and, at the ſame time, the Torcular with a Screw, repreſented *Tab.* 26. *Fig.* 6. or that delineated *Tab.* 27. *Fig.* 1. is to be applied for the ſame Purpoſe. From this Method the before-mentioned Authors imagine many Advantages accrue to the Patient. For, firſt, the Fleſh, by compreſſing the Arteries, ſtops the Hæmorrhage without aſtringent Applications, the actual Cautery, or tying up the Arteries: Secondly, a Caries cannot eaſily happen, the Bones being immediately covered again with the Fleſh, but which often is the Conſequence of the other Methods, and exceedingly protracts the Cure. Thirdly, by the Uſe of Vulnerary Balſams, in the ſucceeding Dreſſings, the Fleſh and Stump will unite together, and the Cure will thereby be much accelerated. And, fourthly, the Fleſh lying upon the divided Bones, like a Pillow, will be extremely commodious to the Patients in Walking, eſpecially as there is no Neceſſity to bend the remaining Stump backwards, as is generally done in the common Methods: But a hollow Machine may be made of light Wood, ſo that the Patient may walk, in ſome degree, a with a natural Leg. This Fleſh, every time the Bandages ar looſed, muſt be held and preſs'd cloſe, by an Aſſiſtant, to the Bones, leſt it ſhould fall from them, and retard their Union *Verduin* has explained all theſe things more fully in his Treati above-mentioned, and has repreſented them in a great Numbe of Copper-plates.

But tho' not only *Verduin*, but other Surgeons alſo, have ſu ceſsfully performed this Operation many times, yet there a very few who approve of it, or who have endeavoured to intr duce it into Practice inſtead of the other Methods. For, beſid that neither the *Engliſh*, *Verduin*, nor *Koenerding*, ever uſed afterwards, and *Sabourine*'s Patient at *Paris* died, Inſtances a not wanting at *Amſterdam*, where, during the Cure, and ev after the Part has been quite healed, ſome ſharp Fragments the Bones protuberated, and, by pricking the tender Parts, h cauſed intolerable Pain, and many other Diſorders; not mention, that *Sabourine*'s Patient loſt more Blood than is uſ in the other way of Amputating, and other Inconvenienc which often ſucceed this Operation; and on which Acco *Koenerding* prefer'd the old Method before it, as he decla freely in his Book. But, however this may be, 'tis cert *Garengeot*, a modern *French* Surgeon, to whom the Writ of *Young* and *Koenerding* ſeem to be unknown, praiſes t Operation, and makes no Queſtion but to bring it into Pra again. For there have been Men in *France*, as he repo who have been ſo well cured by this Method, as not only walk commodiouſly, but alſo to dance very readily; but if would hope for ſuch good Succeſs, the Patient muſt be hea ful, and the Cauſes, which require the Amputation, extern

Laſtly, it is to be remarked, that this Operation is not c fined wholly to the Leg, as many imagine, but it alſo ma performed in the Arm, by leaving Part of the Fleſh and S for covering the Bones after the Limb is taken off, and w may be done with Succeſs; as may be ſeen not only in *Yo* and *Koenerding*'s Treatiſes, but alſo in *Ruyſch*'s *Epiſt. Pro* 14. *de nova Artuum decurtandorum Methodo*; where he accu ly deſcribes an Operation of this Sort, performed by *Ve* and *Bortell*, the Son-in-law of *Verduin*, himſelf and others preſent.

AMPUTATION *of the* FEMUR.

Whenever the Leg is corrupted as far as the Knee, or T or the inferior Part of the Thigh itſelf is affected with a C Sphacelus, or incurable Fracture, or the Crural Artery is injured, the Thigh itſelf muſt generally be amputated. Danger and Hazard attending this Operation can ſcarce expreſs'd, eſpecially when it is performed in the ſuperior P the Femur: For, beſides that a violent Hæmorrhage is ſ times cauſed by a Diviſion of the great Arteries, the Streng the Patient is ſo perpetually waſted by the conſtant Diſcha too great a Quantity of Matter, from ſo large a Wound, the Patient frequently ſinks under the Cure. Therefore, w ever the Thigh is to be cut off, the Surgeons ought, means, to take care, that it is done, if poſſible, in the ſ Part, about three Fingers Breadth from the Knee, and th much of the Fleſh and Skin is ſaved as poſſible; for by ſo d this violent Operation will be ſupported the better, an Cure will be completed with more Eaſe and Safety.

The Fillet roll'd up in Form of a Cylinder muſt, by either of the common Torcular, or one of thoſe with a compreſs the Crural Artery, by being placed upon the and inward Part of the Thigh, that is, where the Hea Vaſtus Internus Muſcle, and the Triceps, meet; ſee Ta *Fig.* 1. L. M. for there is the greateſt Danger otherwiſe, as it often happened before the Torcular was invented, large Hæmorrhage, from that great Artery, ſhould ſu deſtroy the Patient, even during the Operation.

With reſpect to the Amputation of the Thigh, very l to be ſaid here, the ſame Method being to be obſerved as ting off the Arms or Legs. But this, however, muſt be cularly taken Notice of, that, in the firſt Place, the Ha to be ſhaved off the Part; ſecondly, that as ſoon as the with the Fat, is divided all round with the leſſer Knife, 34. *Fig.* 1. they are to be drawn upwards as much as is po before the Muſcles, or Fleſh, are divided. Afterwar

M

uſcles, near the upper Edges of the divided Skin, a little
gher than the firſt Inciſion, muſt be cut through all round to
Bone, either with the ſame ſmaller Knife, or that repre-
nted *Tab.* 43. *Fig.* 7. or with the large crooked Knife, *Tab.*
Fig. 2. By this means, as was before obſerved, after the
ne is ſaw'd off, the Trunk of the Bone will be the ſooner
vered with the Fleſh, and Integuments that are left, a Caries
ll be prevented, and the Cure of the Wound much accele-
ed. But if this Method is not carefully obſerved, but the
uſcles are divided, together with the Skin at the ſame time,
is ſometimes done, theſe ſtrong Muſcles, being cut through,
tract ſo much upwards, as I have often ſeen, that the Thigh
ne, after the ſecond or third Dreſſing, has ſtood out beyond
Fleſh two or three Fingers Breadth, like a Stick: In which
ſe a long time is required for the Fleſh to grow, and extend
lf, ſo as to cover the Stump, which alone is ſufficient to
ilitate the Patient, and give him much Uneaſineſs. Add to
, that the Wound cannot be expected to heal before the
unk of the Bone is covered.

hen, as to an Hemorrhage, becauſe of the remarkable
geneſs of the Artery, it can ſcarcely be ſtopp'd other-
than by Ligature, which is therefore ordered here to be
with the greateſt Care, the Artery being firſt taken hold
y the Forceps, or Tenacula, *Tab.* 34. *Fig.* 5. or 6. and
well with a ſtrong Thread paſs'd round it. If more Arte-
bleed, if they are large, they muſt be tied, but if ſmall, there
Occaſion, as Doſſils of Lint, or a Bit of Vitriol, very
n do the Buſineſs. The Bandage is the ſame as we men-
d above in an Amputation of the Arm; only there ſhould
reater Plenty of Lint and Puff-ball, a larger Bladder, and
larger Compreſſes and Plaiſters; and laſtly, longer and
der Rollers are here neceſſary, and the Crural Artery muſt
mpreſs'd the whole Length of the Thigh, with a narrow
thick Bolſter, and a particular Roller, or the Torcular itſelf,
26. *Fig.* 6. or *Tab.* 27. *Fig.* 1. is to be kept on for ſome
Then, the Patient being put to Bed, it is proper to
a Pillow under the Thigh, by which it may be well ele-
, that the Force of the Blood, againſt the Mouths of the
ries, in the elevated Limb, may be more gentle; for this
ibutes much to the preventing an Hemorrhage. Then
tump muſt be compreſs'd for a conſiderable time, with the
of an Aſſiſtant, and every thing elſe muſt be done as is
d in the Cure of an amputated Humerus.

t if any Part of the Foot, or Arm, ſhould be taken off
Bullet, or Cannon Ball, or ſhould be torn off, or broke
es by a Wheel, or any ſuch Machine, the Surgeon muſt
er, that the firſt thing to be done is to apply the Torcu-
mediately, to check the Hemorrhage. Secondly, that
rts of the Bones ſtanding out of the Fleſh, if there are
be taken off, either with a ſharp Pair of Pincers, or a
ſo that the End of the Bone may be rendered even and
h, and that no pointed Fragments may appear above the
; but if the Bones do not protuberate, then nothing is to
en away. And, thirdly, that the wounded Arteries be
compreſs'd with thick Doſſils of Lint, or ſmall Com-
, or be tied up; or even, in Caſes of Exigency, as the
e and Situation of the Wound, or other Circumſtances,
o require, with the actual Cautery, and afterwards care-
ound up. And, as to the reſt, he muſt proceed in the
r laid down before in other Amputations of the Limbs.

tho' *Botallus*, a celebrated *French* Phyſician, formerly
d a new, and, in Appearance, wonderful and expeditious
d of amputating the Limbs, by a Machine, furniſhed
very large and ſharp Iron Inſtrument, which being very
and falling ſuddenly from a conſiderable Height upon the
where the Limb was to be amputated, cut it off without
Knives or Saw, moſt expeditiouſly, and at one Stroke;
' *Hildanus* has alſo imitated this Method of Amputating,
eleſs the more prudent Surgeons, and that not without
, have abandoned this Contrivance; for it is greatly to
d, that, leſt from the exceſſive Violence of the Blow,
es themſelves ſhould be ſplintered, and very much ſhat-
See above.

the Stump is perfectly healed, it may not be amiſs to
artificial Leg, either of Silver for Gentlemen; or, for
er Sort, of Wood; which, being properly fixed to the
her with Buckles and Straps, or even by Springs, the
ity may be concealed, and the natural Uſe of the Limb,
meaſure, reſtored. Not only *Paré*, *Hildanus*, and
, but ſome modern Mechanics, have curiouſly ſhewn,
manner it ſhould be made; but if Circumſtances are
ow, then only the common wooden Leg, hollowed in
Part, ſo as to fit the Knee, may be bound on, ſo that
nt may walk with it tolerably well.

, if the Ends of the Bones ſhould prove carious, as is
n the Caſe, whatever Care the Surgeon may take to
it, it is certainly neceſſary (altho' many Surgeons are
on this Subject, becauſe it impedes the Cure) to dreſs
with Powder of Euphorbium, or to touch them with
Cautery; or, which appears to me better, the rotten
Part may be ſcraped off with the Rugine; for, by ſo doing, in a little time the Fleſh will unite with the ſcraped Bone, and the Wound will be healed, which could not be done whilſt the Caries continued.

AMPUTATION *of the whole* ARM, *at the Joint of the* HUMERUS.

I myſelf have never performed an Amputation in the Joint of the Humerus, nor have read of its being done by any other Surgeons, except *Le Dran*, and *Garengeot*, after his Example, tho' he does not name him; nevertheleſs, it will not be improper to ſhew briefly here, what they have ſpecified concerning it.

There are two Caſes, in which they tell us this painful Operation ought to be performed. The firſt is, if the upper Part of the Arm is broke to-pieces by a Bomb-ſhell, Hand-granado, or by any other Violence is exceſſively bruiſed and ſhattered. The other Caſe is, if the Head of the Humerus, by any internal Diſorder, ſuppoſe either by a Tumour, a Spina Ventoſa, a Caries, or even an Abſceſs, is found to be rotten; to which perhaps may be added, a Sphacelus of the Arm, which extends itſelf to the Joint.

But before ſo dangerous and difficult an Operation is attempted, the ſeveral things are to be provided, which may ſeem neceſſary to the Accompliſhment of it. Firſt, the Patient is to be placed in a convenient Chair, with his Face covered: But in this Operation the Torcular muſt not be applied, as in other Amputations, becauſe it cannot be well fixed; but the Brachial Artery muſt be tied, as ſoon as the Fleſh is divided, which, they inform us, is to be done in the following manner:

As ſoon as the Patient is properly ſeated, the affected Arm muſt be extended, and held ſtrongly by an Aſſiſtant, and the true Situation of the Brachial Artery muſt be traced from the Axilla; in doing which, Anatomy will greatly aſſiſt the Surgeon: But if, from the Largeneſs of the Tumour, it cannot be found, it is neceſſary to make an Inciſion through the Fleſh, on both Sides of the Arm, lengthways, ſo that the Bone may be touch'd by the Surgeon's Fingers, that from hence he may judge of the Situation of the Artery. The Brachial Artery being thus found out, a Needle, threaded with ſtrong Thread, ſix or eight times doubled, and waxed, muſt be paſt through the Fleſh, about two Fingers below the Armpit, near the Os Humeri, between the Bone and the Artery, taking care the Artery is not wounded by the Needle in its Paſſage, holding down the Arm, that the Skin may be the more lax; the Thread then, being brought round, muſt be ſecured by a firm Knot. This being done, it is to be conſidered, whether the Pulſe of the Artery, in the neighbouring Part of the Arm, is ceaſed or not: For if it is not perceived, it is a Sign the Artery is ſufficiently compreſs'd by the Ligature; but if any Pulſation of the Blood remains, the Thread muſt be drawn tighter, till the Pulſation entirely ceaſes: And then a ſecond or third Knot, with Bows, muſt be made, leſt the Ligature ſhould be too eaſily relaxed. For this Purpoſe, *Le Dran* propoſes a ſtrait Needle; but *Garengeot* recommends one that is crooked, ſuch as is repreſented *Tab.* 35. *Fig.* 10.

With reſpect to this Operation, three Cautions are principally neceſſary. For, after the Artery is tied in the manner before-mentioned, and ſecured from an Hæmorrhage, great Care muſt be taken, firſt, that ſufficient Skin and Fleſh is left at the Shoulder; ſecondly, that the Fleſh is properly cut thro'; and laſtly, that the Ligament itſelf, in the Joint of the corrupted Bone, is divided; then let the Bone be looſed from the Sinus of the Scapula, and at laſt entirely removed. But that theſe things may be happily accompliſhed, it ought to be the Surgeon's Care to find out, carefully, the true Situation of the Acromion; then that the Skin ſhould be drawn back ſufficiently; and laſtly, that the Knife, for dividing the Fleſh, be introduced two or three Fingers Breadth under the Acromion; for by ſo doing, a great Part of the Deltoid Muſcle is ſaved, by the Aſſiſtance of which, not only the hollow Sinus of the Humerus may be filled up, but the healing of the Wound may be ſurpriſingly haſtened.

Theſe things being well conſidered, the Skin, with the Fat and Deltoid Muſcle, muſt, in the Place ſpecified above, be cut through with a ſharp Knife, ſuch as that repreſented *Tab.* 34. *Fig.* 1. or *Tab.* 33. *Fig.* 14. Afterwards the Arm muſt be gently raiſed, that the Heads of the Biceps Muſcle may be the more eaſily found and divided. If, by Accident, a Flux of Blood from the leſſer Arteries and Veins ſhould perplex the Operation, an Aſſiſtant muſt apply either his bare Finger, or Doſſils of Lint, or hard and ſmall Compreſſes, to the Mouths of the bleeding Veſſels; but if the Flux be from a large Artery, it muſt be tied by means of a ſmall Needle and Thread: Then the Ligament, firſt in the ſuperior Part of the Joint, and afterwards on both Sides, muſt carefully be divided, and the Head of the Bone of the Arm muſt be taken away, with the Left Hand; then all the other Parts which ſurround the Head of the Arm on every Side, muſt be looſened and divided, but with the greateſt Caution, leſt the Brachial Artery itſelf ſhould be cut. In this way of Operating, it may be readily perceived, whether the Arteries are exactly enough ſecured. We muſt alſo take great Care afterwards, that the Skin and Muſcles which are tied together with the Artery, are not raſhly divided: Therefore the Skin muſt be ſo divided from the Bone, that an almoſt triangular Piece may remain near the Armpit, the broadeſt Part of it next the Armpit, the lower or outward Part ſomewhat narrower, and accommodated to the Shape of the Deltoid Muſcle; and thus the whole Limb is, at laſt, entirely taken off.

The Arm being amputated, as above-mentioned, it remains, that the Artery tied with the Fleſh ſhould be found, and another Ligature made above the former, by paſſing a Thread, by the Help of a ſmaller Needle, *Tab.* 27. *Fig.* 5. betwixt the Skin and the Artery, which muſt be tied very ſecurely: Then the other Ligature, which bound the Skin alſo, muſt be cut, leſt a painful and dangerous Inflammation ſhould be excited.

The Manner of binding up the Wound, after the Operation, is thus directed: Immediately a Pledget of Lint muſt be applied to the Trunk, and a ſmall Compreſs upon the Arteries, to ſecure the Ligature. *It is, however,* Heiſter's *Opinion, that it would be a better way to apply the Fleſh immediately to the Sinus of the Scapula, and upon that the Pledgets and Compreſſes; for he thinks, by this means, the Fleſh would ſooner unite with the Bone, than if they were at firſt ſeparated by the Interpoſition of the Lint and Pledgets.* Then the lower Part of the Skin muſt be drawn upwards, and the upper Part, together with the Deltoid Muſcle, drawn downwards; and a great Quantity of dry Lint muſt be laid upon them, which muſt be ſecured upon the Parts by a Plaiſter, in the Shape of the *Malteſe* Croſs. Over the Plaiſter a thick and large four-ſquare Compreſs muſt be applied, and a round Bolſter to the Armpit, by which the Pulſation of the Arteries will be the better ſecured from breaking the Ligature. All theſe muſt be covered with a double Compreſs in the Shape of the *Malteſe* Croſs, and in ſuch a manner, that two or three more Compreſſes, of about two Thirds of an Ell long, and four Fingers broad, may be laid upon it. Theſe two Compreſſes are to be placed thus: The firſt muſt be applied obliquely upon the Trunk, ſo that the anterior Part of it may reſt upon the ſound Shoulder, and the poſterior Part about five Fingers below the ſound Armpit: The ſecond ſhould be placed upon the Trunk, croſs-ways, over the firſt; and the third, broader than the other, muſt be applied over them both, ſo as to cover them, and be paſs'd croſs-ways upon the ſound Shoulder; then with the Bandage, which the Surgeons call *Spica deſcendens*, (ſee FASCIA) the Whole muſt be firmly ſecured, placing firſt a thick Compreſs or Bolſter under the ſound Armpit, leſt the Veins there ſhould be too much preſs'd, and that the Roller may the more conveniently be paſs'd round.

This Operation *Le Dran* the younger, and *Garengeot*, report was performed with good Succeſs upon a *French* Nobleman, in the Preſence of, and with the Conſent of *Mareſchall*, *Arnold*, *Lapeyron*, *Petit*, *Merry*, and other noted Surgeons at *Paris*, on account of a Caries, or rather a Spina Ventoſa, in the upper Part of the Arm. But *Garengeot*, in his ſecond Edition of *Chirurgical Operations*, adds, that the ſame Nobleman died of a Plethora, ſix Months after the Cure was completed. He alſo orders this Operation to be performed, in an Abſceſs, near the Joint of the upper Arm; but whether a ſimple Abſceſs can call for ſo dangerous and difficult an Operation, I leave to the Judgment of more prudent Surgeons.

The Opinion of our own Surgeons, relative to Amputations, is much to be regarded; and this we may learn from the Practice of the Hoſpitals, which (according to Mr. *Sharp*) is as follows:

A ſpreading Mortification has been always looked upon as ſo principal a Cauſe for Amputation, that it is a Faſhion with all Writers to treat of a Gangrene, previous to the Deſcription of this Operation; and, I think, they have all agreed, that whatever the Species of it be, if the Remedies they preſcribe do not prevent its Progreſs, the Limb muſt be amputated: However, this Operation is ſpoken of as frequently unſucceſsful; and, in Length of Time, its want of Succeſs has been ſo unqueſtionably confirmed, by repeated Experiments, that ſome of the moſt eminent Practitioners here in *England*, make that very Diſtemper an Exception to the Operation, which ſo few Years ſince was the great Inducement; and the Maxim now is, never to extirpate till the Mortification is abſolutely ſtopp'd, and even advanced in its Separation.

Gangrenes may be produced two Ways, either by Indiſpoſition of Body, or by Accident in a healthful State; for, as the Life of a Part depends upon the Circulation of its Fluids, whatever ſhall make the Circulation ceaſe, will inevitably occaſion a Gangrene: Thus a mere Compreſs, preventing the Courſe of the Blood, as effectually cauſes a Mortification, as any Indiſpoſition in the Fluids or Veſſels.

It frequently happens in old Age, that the Arteries of the lower Extremities oſſify, which deſtroying their Elaſticity, muſt, in Conſequence, produce a Gangrene in the Toes firſt, and afterwards in the Limb, nearly as high as where the Oſſification terminates; ſo that, in Mortifications ariſing from
Cauſe, we at once ſee why Amputation, during their Incr
is of ſo little Service, unleſs performed above the Oſſifica
but we have no way to judge where the Oſſification ends,
by the Inference we make from the Gangrene's ſtopp
Hence we may learn the Propriety of our modern Practi
this Caſe.

If, by any Accident, the Limb has been injured to that
lent Degree as to begin a Mortification, it will be no mo
to operate here, till it ſtops, than in the other Inſtance; bec
all Parts that are mortified, have had the Diſpoſition to bec
ſo, before the Effect is produced; and cutting off a Limb
an Inch above the abſolute dead Skin, is generally leaving a
behind, with the Seeds of a Mortification in it; ſo, unleſs
can be ſure the Veſſels are not affected in the Place of Am
tion, which will be hard to know but from the Conſeq
the Operation will be uſeleſs.

Sometimes the Fluids of the Body are ſo vitiated, as to
their proper nutritious Qualities, and the Limb becom
grened, not from any Alteration in its Veſſels, but chiefl
its Situation; which being at a great Diſtance from the
will be more ſubject to feel the ill Effects of a bad Blood,
any other Part, as the Circulation is more languid in the
mities. When therefore a Gangrene, ariſing from this C
is running on, Amputation above it will, for the moſt
be uſeleſs; ſince it is only removing one of the Effects of
bad Juices, and leaving them in the ſame State, to produ
like Miſchief in other Parts: Thus we ſee, after Ampu
on this Account, the Gangrene ſometimes falls on the B
or the other Extremities; from which Obſervation, I
we may conclude it not ſafe to amputate, till the Fl
altered, and this Alteration will preſently diſcover itſelf
ſtopping of the Mortification.

I have laid it down as a Rule, that the Mortification
not only be ſtopp'd, but advanced in its Separation; the
of which is, that tho' the Blood is ſo much altered for th
ter, as to occaſion a Stoppage of the Gangrene, yet at th
of Alteration 'tis ſtill in a bad State, and ſhould be left to
with the utmoſt Tranquillity of Body, and Aſſiſtance of
Medicines, till ſuch time as Granulations of Fleſh,
living Part of the Extremity, ſhew the balſamic Diſpo
the Blood: In the mean while, to take off the Stench
Gangrene, it may be wrapt up in ſpirituous or oth
Applications. I have ſeen ſome Limbs taken off imm
upon the Mortification's ceaſing, when afterwards the
have ſunk, from frequent Effuſions of Blood, not diſch
the great Veſſels, but the whole Stump. Theſe Hemo
I conceive, were owing to the Thinneſs of the Blood,
hardly gave a reddiſh Tincture to the Cloaths and B
on the other hand, upon waiting a conſiderable time
ceaſing of the Mortification, I have taken off ſome my
as good Succeſs as for any other Diſorder.

Gun-ſhot Wounds, compound Fractures, and all
Accidents requiring Amputation, are attended with
Succeſs, if immediately performed. Diſorders of the
Ulcers of long ſtanding, and all ſcrophulous Tumo
ſometimes return on other Parts, after the Operation.
a Leg is to be amputated, the Manner of doing it is th

Lay your Patient on a Table, three Foot four Inc
which is much better than a low Seat, both for ſec
ſteady, and giving yourſelf the Advantage of operating
ſtopping, which is not only painful, but inconvenie
other Situation. While one of the Aſſiſtants holds
you muſt roll a Slip of fine Rag, half an Inch broad,
four times round it, about four or five Inches below th
Extremity of the Patella: This being pinn'd on, is to
Guide for the Knife, which without it, perhaps, wo
directed ſo dexterouſly: The Manner of rolling has al
perpendicular to the Length of the Leg; but having
that tho' the Amputation at firſt be even, yet afte
Gaſtrocnemius Muſcle, contracting, draws back th
Part of the Stump more ſtrongly than the other M
do the reſt of it; I have lately, in order to preſerve th
larity of the Cicatrix, allowed for this Exceſs of Co
and made the circular Inciſion in ſuch a manner, th
of the Wound which is on the Calf of the Leg,
from the Ham, than that on the Shin is from the mi
Patella.

In the mean time, one of your Aſſiſtants muſt car
Ligature round the Thigh about three or four Inche
Patella, which paſſing through a couple of Slits in a ſl
of Leather, he muſt twiſt with a Tourniquet till the
ſufficiently compreſs'd, to prevent any great Effuſion
and to do it more effectually, he may lay a Bolſter of
Linen under the Ligature, upon that Part where
creeps.

The Courſe of the Blood being ſtopp'd, you muſt
Inciſion juſt below the Linen Roller, on the under P
Limb, bringing your Knife towards you, which w
may cut more than the Semi-circle; then beginning

d on the upper Part, it muſt be continued from the one
nity to the other of the firſt Wound, making them but one
The Inciſions muſt be made quite through the Mem-
Adipoſa, as far as the Muſcles; then taking off the Linen
and an Aſſiſtant drawing back the Skin as far as it will
u make your Wound from the Edges of it when drawn
hrough the Fleſh to the Bone, in the ſame manner as you
ough the Skin. Before you ſaw the Bones, you muſt
Ligament between them with the Point of your Knife;
Aſſiſtant, who holds the Leg while it is ſawing, muſt
not to lift it upwards, which would clog the Inſtru-

nputating below the Knee, it is of Advantage to ſtand
Inſide of the Leg, becauſe the Tibia and Fibula lie in a
to be ſaw'd at the ſame time, if the Inſtrument be ap-
ternally: Whereas, if we lay it on the Inſide of the
e Tibia will be divided firſt, and the Fibula afterwards;
ot only lengthens the Operation, but is alſo apt to
the Fibula, when it is almoſt ſaw'd through, unleſs the
be very careful in ſupporting it.

n the Leg is taken off, the next regard is to be had to
ing the Blood, which muſt be effectually done before
ent is put to Bed, or there will be great Danger of
again, when the Fever is excited, and the Veſſe's of
p dilated, both which happen a very little while after
ration. There is no Method for this Purpoſe ſo ſecure,
the Extremities of the Veſſels with a Ligature, which
crooked Needle paſs'd twice through the Fleſh, almoſt
em, will, when the Knot is made, neceſſarily incloſe
the Stricture; and to diſcover the Orifice of a Veſſel,
ſtant muſt every time looſen the Tourniquet: This is
better way than uſing the Artery Forceps, where the
are apt to ſlip away out of the Ligature; and as to
Applications, their want of Safety is ſo well known
at the Uſe of them in Hemorrhages from large Veſſels,
univerſally rejected.

etimes happens in a large Stump, that ten or more
require tying; which done, you muſt apply looſe dry
he Wound, or in caſe the ſmall Veſſels bleed plenti-
u may throw a Handful of Flower amongſt the Lint,
ll contribute to the more effectual ſtopping up their
Before you lay on the Pledget, you muſt bind the
nd begin to roll from the lower Part of the Thigh down
tremity of the Stump. The Uſe of this Roller is to
Skin forwards, which, notwithſtanding the Steps al-
en, to prevent its falling back, would in ſome meaſure
leſs ſuſtained in this manner. The Dreſſings may be
y the croſs Cloth, and gentle Bandage; and the Method
g the Wound may be learn'd from what has been ſaid,
ect to recent inciſed Wounds.

the Invention of making the double Inciſion I have
deſcribed, the Cure of a Stump was always a Work of
f Time; for by cutting down to the Bone at once,
g it directly, the Conſequence was, that the Skin and
ithdrew themſelves, and left it protruding out of the
wo or three Inches in ſome Caſes; ſo that it rarely
that an Exfoliation did not follow; which, beſides
ous, alſo frequently reduced the Wound to an habi-
, and at beſt left a pointed Stump, with a Cicatrix
ly open upon the leaſt Accident; all which Inconve-
e avoided by this new Method, and I know not of any
to it, unleſs that the Pain of making the Wound is
to be twice as much as in the other, becauſe of the
ciſion; but when we conſider, that we only cut the
, and the Fleſh once, tho' not in the ſame Moment,
pon Reflection, the Difference of Pain will be thought
able.

ating the Thigh, the firſt Inciſion is to be made a
than two Inches above the Middle of the Patella;
Operation, a Roller ſhould be carried round the Body,
the Thigh, to ſupport the Skin and Fleſh. This is
ſt proper Bandage, as Abſceſſes will ſometimes form
Part of the Thigh, which cannot diſcharge them-
onveniently with any other, it being almoſt impracti-
ll about the Abſceſs, unleſs we begin from the Body.

putation of the Arm and Cubit differs ſo little from
g Operations, that it will be but a Repetition to
However, it muſt be laid down as a Rule, to pre-
uch of the Limb as poſſible, and in all Amputations
r Limbs, to place your Patient in a Chair.

e, in Armies, a great many Inſtances of Gun-ſhot
f the Arm, near the Scapula, which require Ampu-
the Shoulder; but the Apprehenſion of loſing their
the Spot by the Hemorrhage, has deterred Surgeons
taking it. I have heard of its having been done once,
it had never been perform'd, we might learn it is
from the Caſe of a poor Miller, whoſe Arm and
e both torn from his Arm by a Rope which was ac-
wiſted round his Wriſt, and ſuddenly drawn up by
Almoſt every one in *London* knows the Story, and that he recovered in a few Weeks: It is very remarkable in this Accident, that after fainting, the Hemorrhage ſtopp'd of itſelf, and never bled afreſh, tho' nothing but Lint and Turpentine were laid on the great Veſſels. In caſe therefore of a Wound or Fracture near the Joint, or incurable Fiſtulas in the Joint, not attended with much Caries, I think the Operation may be perform'd ſafely in this manner:

The Patient's Arm being held horizontal, make an Inciſion through the Membrana Adipoſa, from the upper Part of the Shoulder, acroſs the Pectoral Muſcle, down to the Armpit, then turning the Knife with its Edge upwards, divide that Muſcle, and Part of the Deltoid; all which may be done without Danger of wounding the great Veſſels, which will become expoſed by theſe Openings; if they be not, cut ſtill more of the Deltoid Muſcle, and carry the Arm backward; then with a ſtrong Ligature, having tied the Artery and Vein, purſue the circular Inciſion through the Joint, and carefully divide the Veſſels at a conſiderable Diſtance below the Ligature; the other ſmall Veſſels are to be ſtopp'd as in other Caſes.

In doing this Operation, regard ſhould be had to the ſaving as much Skin as poſſible, and to the Situation of the Proceſſus Acromion, which projecting conſiderably beyond the Joint, an unwary Operator would be apt to cut upon.

The Amputation of the Fingers and Toes is better performed in their Articulation, that by any of the other Methods: For this Purpoſe, a ſtrait Knife muſt be uſed, and the Inciſion of the Skin be made not exactly upon the Joint, but a little towards the Extremity of the Fingers, that more of it may be preſerv'd for the eaſier healing afterwards: It will alſo facilitate the Separation in the Joint, when you cut the Finger from the Metacarpal Bone, to make two ſmall longitudinal Inciſions on each Side of it firſt. In theſe Amputations, there is generally a Veſſel or two that require tying, and which often prove troubleſome when the Ligature is omitted.

It may happen, that the Bones of the Toes, and Part only of the Metatarſal Bones, are carious, in which Caſe the Leg need not be cut off, but only ſo much of the Feet as is diſordered; a ſmall Spring-ſaw is better to divide with here than a large one. When this Operation is performed, the Heel and Remainder of the Foot will be of great Service, and the Wound heal up ſafely, as I have once found by Experience. *Sharp.*

AMPUTATION *of the* BREAST.

The Extirpation of a Cancer is an Operation of ſuch Importance, that it cannot be performed with too much Caution: Before 'tis therefore attempted, the Surgeon ought carefully to examine, whether the neighbouring Glands under the Armpit, are already indurated; and whether the Cancer is entirely adherent to theſe indurated Glands. If it is, the Cure, for the moſt part, does not ſucceed ſo happily as could be wiſh'd, becauſe the cancerous Diſpoſition, or the Poiſon of the Diſeaſe, ſeems now to be lodged in other Parts, beſides the Breaſt; and for this Reaſon, when the Breaſt is taken off, the Diſorder uſes in a little time to ſhew itſelf afreſh. There are, in the mean time, ſome few Inſtances, where the Patients have been recovered by extirpating the Cancer, together with the indurated Glands under the Armpit; but when the Surgeon inclines to undertake the Extirpation of this Sort of Cancer, the Patient muſt be duly and ſkilfully prepared for the Operation by proper Management, and a due Regimen. After this Courſe of Preparation is at an End, if the Cancer is as yet moveable, and not immoderately large, but only poſſeſſing a Part of the Breaſt, [*vid. Tab.* 43. *Fig.* 1. A. B.] the Patient muſt be placed upon a pretty high Chair adapted to that Purpoſe, and the Arm, next to the affected Breaſt, muſt be either well extended, or even held backwards and downwards, or tied in a proper manner to the Chair; for by theſe means the Pectoral Muſcle is ſtrongly expanded, and the corrupted Part of the Breaſt may, by means of that very Expanſion, be more eaſily and more thoroughly looſened from it. Then 'tis cuſtomary with many, in the very Middle of the Tumour, to make pretty long crucial Inciſions into the Skin and Fat, which cover the Cancer; which having done, they with an Inciſion-knife ſeparate the Lips of the Inciſions, and ſo proceed to the Separation and Extirpation of the Cancer itſelf. To do which with the greater Accuracy and Dexterity, ſome uſe to raiſe and free the corrupted Part with a flaxen Chord paſſed thro' it, by means of the large Needle delineated in *Tab.* 27. *Fig.* 5 or 6. or with ſuch a Hook as may be ſeen in *Tab.* 29. *Fig.* 2 or 3. But I have ſeveral times happily cur'd Cancers of this Kind, which were larger than the Fiſt, and reached from the very Nipple to the Humerus, as may be ſeen in *Tab.* 43. *Fig.* 3. A. B. and yet made only one Inciſion, and with the Help of no other Inſtrument than an Inciſion-knife, delineated in *Tab.* 33. *Fig.* 14. ſeparated it entirely from the ſound Parts, and agglutinated the Wound, of which there is a Repreſentation in *Tab.* 43. *Fig.* 2. But where the Skin itſelf is corrupted, or cloſely adherent to the Cancer, a Cure can ſcarce be expected in any other way, than by cutting out the Cancer, and together with it the Skin, which, for the moſt part, may be very ſoon done by a ſkilful Surgeon; and I myſelf have performed Cures of this Kind, without leaving any conſiderable Cicatrix.

After the Extirpation, unleſs the Patient is already too much weakened, it is very proper to take as much Blood from her, as her Strength and Condition will allow; for by this means an Inflammation, a Fever, and a freſh Effuſion of Blood, may moſt probably be prevented. Nor indeed is there in this Caſe any great Neceſſity for a hot Iron to ſtop the Hemorrhage, as the Antients imagined; for proper Bandage will ſufficiently anſwer the Intention, by the Application of a good deal of fine Lint, ſome Folds of thick Linen Cloth conſiderably broader above it, and a Roller of a ſufficient Length above all. And indeed *Bidloo*, once my Maſter, and a Man very much converſant in Operations of this Kind, affirms, that the Blood, in Caſes of this Nature, may moſt advantageouſly be ſtopp'd, by a Mixture of Plaiſter of *Paris* (Gypſum) with the Lint [*Exercitat. Anat. Chirurg. p.* 157.]. Some again apply various Styptic Powders, and others tie up the larger Arteries. But *Garengeot*, agreeably to that Method of Cure propoſed by Mr. *Petit*, a famous Surgeon in *Paris*, maintains not only that the Blood will ſoon ſtop, but that the Inciſion will ſoon heal, and the Cancer return no more, if without the Uſe of any Lint and Styptic Medicines, the Lips of the Wound be carefully and ſpeedily brought into Contact by means of Suture. I myſelf made a Trial of this Kind of Cure; but tho', upon cutting out the Cancer, there was a very ſmall Effuſion of Blood, and the Patient was ſoon recovered; yet her Diſorder ſoon return'd, and ſhe herſelf at laſt died of a Cancer, formed a ſecond time after the Extirpation of the firſt, even though the Wound was perfectly agglutinated: I therefore think it incumbent on me, in Wounds of this Kind, where a vehement Effuſion of Blood happens by the Extirpation of a Cancer of the Breaſt, and where it is to be fear'd, that it cannot be ſtopp'd by Lint alone; I ſay, in this Caſe, I think it incumbent on me to uſe either the beſt rectify'd Spirit of Wine, or ſome Powder fit for ſtopping Hemorrhages, made of Bole, Dragons-blood, Colophony, and Maſtich, together with Lint, and the Crepitus Lupi. When the Patient is weak, but little or no Blood ſhould be deſignedly allow'd to flow from the Wound; but we ought, immediately after the Extirpation, to proceed to Bandage. But in changing or renewing our Bandages, we are to proceed according to the general Rules for dreſſing Wounds. See VULNUS.

I have learn'd from Experience, that it was no bad Method propoſed by *Helvetius* [*Traité des Pertes de Sang*] to lay ſome broad thick Compreſſes of Linen Cloath, well ſoaked in warm Ale and Butter, over the firſt Dreſſings, in order to prevent Inflammation; but yet Matters proceeded well enough, when I apply'd all my Compreſſes dry.

But if a Cancer or Scirrhus poſſeſſes the whole Breaſt, in this Caſe, whether the Cancer ſhould happen to be broke, or as yet remains covered, the whole Breaſt is to be cut off. Of this Kind was that large Cancer, which in the Year 1720. I myſelf very ſucceſsfully extirpated, and deſcribed in a Treatiſe by itſelf; nor had it, as appears from *Tab.* 43. *Fig.* 3. A. B. only poſſeſſed the Whole of the Breaſt, but it was at the ſame time ſo large, that it weighed above twelve Pounds. In this Caſe likewiſe, we are carefully to examine, as I before cautioned, whether the Cancer is adherent to the Glands below the Armpit, or the Pectoral Muſcle, becauſe in both theſe Caſes, moſt Authors maintain, that the Operation is performed to no manner of Purpoſe. But, not to repeat what I have already ſaid of theſe Glands, *Bidloo*, as he himſelf affirms, [*Exercitat. Anat. Chirurg. p.* 168.] more than once, ſucceſsfully treated Cancers of this Kind, where, at the ſame time, a corrupted Part of the Pectoral Muſcle was to be cut off. The ſame Author alſo affirms, that the Caſe is not always deſperate, even when a certain Degree of Caries has ſeiz'd the Ribs; and, that he himſelf has ſometimes known ſuch a Caries carried off by ſcraping, or even by the yellow Ointment of *Wurtzius*. But when the Cancer neither adheres to the Glands nor Muſcles, the Hopes of a happy Cure are far better founded.

Having thus ſhewn in what particular Caſes the whole Breaſt, in which a Cancer is lodged, is to be cut off, it now remains, that we point out the particular Method in which this Operation is to be performed. But ſince different Surgeons have gone to work in different Manners, it will not be amiſs here to enumerate ſome of the principal Methods: Firſt then, let the Patient be placed on a Chair, in the manner deſcribed above; then, according to the Directions of *Scultetus*, a large Needle, repreſented in *Tab.* 39. *Fig.* 12. with a large Thread or Chord in its Eye, is to be paſſed thro' the lower Part of the Breaſt. Then the Extremities of this Thread or Chord are to be brought together in ſuch a manner, as to be a kind of Handle for raiſing the corrupted Breaſt. Sometimes, when one of theſe Threads or Chords does not ſeem ſufficient for the Purpoſe, two of them are paſſed through the Breaſt in a crucial Direction, as may be ſeen in *Tab.* 43. *Fig.* 4 and 5. After
the whole corrupted Part is to be carefully cut out, not
paſſing the Knife downwards, as *Scultetus* in his thirty-
Plate directs, but upwards, as is repreſented in *Tab.* 43. *Fig.*
leſt perhaps an Effuſion of Blood ſhould either put an
Stop to the Surgeon's Proceeding, or at leaſt prevent his
forming the Operation with that Accuracy he could wiſh.
the Breaſt is large, a proportionably large Inciſion-knife is
be uſed, that ſo the Operation may be the ſooner perfor
In a ſmall Breaſt, on the other hand, a ſmall Knife is ſuffic
Another Method of performing this Operation was princi
uſed by *Solingen* and *Bidloo*, and it only differs from the fo
in this; that inſtead of Threads or Chords, a kind of Fork,
lineated *Tab.* 43. *Fig.* 6. is uſed. This Fork is paſſed in
a manner through the corrupted Breaſt, beginning at its lo
Parts, as that the Knife, repreſented *Plate* 43. *Fig.* 7. ma
ſtrongly paſſed under it. If the Cancer ſhould only po
ſmall Space, *Bidloo* did not in that Caſe uſe the Fork for
porting the Breaſt, but an Inſtrument, not unlike a
Sword, which you may ſee repreſented *Plate* 43. *Fig.* 8.
theſe Inſtruments muſt have proper Handles. But beca
our Days, theſe two Methods of performing the Ope
ſeem'd too barbarous and cruel, and could not be accom
without the moſt exquiſite Pain and Horror of the Pa
Helvetius made an Attempt not at all inconſiſtent with the
tary Art of Surgery, when for this Purpoſe he invented a
Forceps; one of which, repreſented *Plate* 44. *Fig.* 1. em
as it were, in its Arches, the upper Parts of the affected B
and the other, repreſented *Plate* 44. *Fig.* 2. lays hold
ſuperior and inferior Parts; ſo that betwixt them both,
embrace the Whole of the Breaſt, to the end that it m
the more eaſily raiſed, and thoroughly extirpated with the
ance of a large Knife. But the fourth, and, in my Op
the beſt Method of performing this Operation is, wh
Surgeon, without any other Inſtrument than a large K
lays hold of the Breaſt with one Hand, and elevates it, and
the other cuts out the Parts, over which the Corrupti
ſpread itſelf. When the corrupted Breaſt is ſo large, a
the Surgeon cannot elevate it with one Hand, an Aſſi
to do this Office with both his Hands, and the Surgeon
ſeparate it thoroughly, but at the ſame time cautiouſly, fr
ſound and ſubjacent Parts. And in this manner, with
other Steel Inſtrument than a Knife, did I cut off that
Breaſt weighing twelve Pounds, repreſented in *Plate* 43.
and that too very expeditiouſly and ſucceſsfully. Exa
Cancers cur'd by this Method of Operation may be ſeen
forty-fourth Obſervation of *Scultetus*.

The laſt Method of performing this Operation is that
few Years ago by a *Dutch* Surgeon, and illuſtrated in
ſertation wrote by my Townſman Doctor *Tabor*, who
ſcribes an Inſtrument fitted and adapted to that end;
ſentation of which may be ſeen *Plate* 44. *Fig.* 3. T
rupted Breaſt is embraced by the Arches A A, B B,
Inſtrument *Plate* 44. *Fig.* 3. as may be ſeen in *Fig.*
ſame Plate. The Extremities of theſe Arches C C,
are ſhut with the Left Hand, that ſo the Root or Ba
corrupted Breaſt may be pretty ſtrongly compreſſed
by a ſharp crooked Inſtrument repreſented by E F, an
ſhould paſs through the Cleft of the other Arch D
Breaſt is very diligently to be cut off. But however
this Inſtrument may ſeem, or however ſpecious and
this Method of Operation may appear, yet I cannot he
ing, that the plain and ſimple Method, directed above,
ferable to it; but as it is a late Invention, I choſe
over in Silence. A fuller Explication of the Figure
given in the Deſcription of the Figures of *Plate* 44.

When the Breaſt is cut off, in whatever Method it
done, it is proper, if the Patient's Strength will ad
to take away ſome Ounces of Blood even before the Ap
of the Bandage, for preventing, as we already hinted,
mation and an Hemorrhage. The Opinion of ſome
who imagine, that by this means the vitiated or cance
is quite drawn away, ſeems to be a Matter of no C
But when the Patient is weak, it is more adviſa
mediately after the Operation, to apply a proper Ba
by an unſeaſonable and ill-tim'd Bleeding, to render
and more weak. I am not indeed ignorant, tha
Garengeot imagine, that in this Caſe there is no Da
Effuſion of Blood, but that it is eaſily ſtopp'd and
but Experience has taught me the contrary; for I
obſerved large Quantities of Blood break through the
ſings and Bandage, by which means the Patients we
ably reduced. 'Tis therefore abſolutely neceſſary in
carefully and cautiouſly to apply Bandage.

In what manner Bandages may be moſt advantag
ply'd, we have already directed. I muſt only here g
tion not to remove them before the third Day, and
they are not to be violently torn away, but allow'd
of their own accord. Beſides, the leſs frequently, and
circumſpectly, the Dreſſings are renewed, the Agg

ceeds proportionably the better. But if, in the Courſe of
Cure, too great a Quantity of purulent Matter ſhould
pen to flow from the Wound, in that Caſe the Dreſſings
to be frequently renew'd ; and leſt the Patient ſhould be too
ch reduc'd, or even quite deſtroy'd, by a copious Diſcharge
the purulent Matter, the digeſtive Ointment will be more
perly omitted, and Lint either dry, or ſlightly ſoak'd in
nce of Myrrh, and Amber, ſubſtituted in its Place. A
ain Surgeon told me, that in Caſes of this Nature, he us'd
h Succeſs burnt Alum, with the Addition of a ſmall Quan-
of red precipitate Mercury ; and that by this very Means,
m Cicatrix was very ſoon brought over the Parts.

That the Patient's loſt Strength may be gradually reſtor'd,
muſt be careful to uſe not only Foods that are of good
riſhment, and eaſy Digeſtion, ſuch as Broths, Jellies, ſoft
s, and other Aliments of a like Nature, but alſo cordial
licines, and eſpecially grateful and palatable Emulſions.
at Care on the other hand is to be taken, leſt the Wound
utinate too ſoon ; for in this Caſe, as ſome Authors have
rved, the Malady gathers freſh Strength, and returns with
er Violence. For which Reaſon, if there is any apparent
ger of this Misfortune, Honey of Roſes is now-and-then to
ſed in the Dreſſings, that ſo a due Suppuration may be kept
r a ſufficient time ; but when the Cancer is once cured,
Patient muſt take great Care always to obſerve a ſtrict and
r Regimen, and to ſhun the Exorbitancies of the tumult-
and ungovern'd Paſſions. She is likewiſe at ſtated Seaſons
e Year, eſpecially in the Spring and Autumn, to uſe pur-
e Medicines, and to have as much Blood taken from her,
State ſhall require.

hen in the Courſe of the Cure, a vehement Fever, ac-
any'd with violent Pains about the *Præcordia*, and a Dif-
of Breathing ſeize the Patient, certain and unavoidable
h is generally the Conſequence. That this may not there-
rove the Patient's Fate, Blood is to be taken from her in
and Medicines preventive of theſe Diſorders preſcrib'd.
e are indeed ſome Women, who bear this Operation with
mon Fortitude, and more than heroic Bravery of Mind ;
as others of their Sex, loſe their Courage ſo far, as to
and cry in a manner ſo terrible, as is ſufficient to ſhock
nfuſe the moſt intrepid Surgeon, and diſconcert him in
eration. 'Tis therefore abſolutely neceſſary in this Caſe,
he Surgeon, as *Celſus* directs, be intrepid, and acquit
f in all the Steps of his Operation, in ſuch a manner, as
as deaf to the moving Groans, and piercing Shrieks, of
tur'd Patient.

arp's Obſervations on this Subject muſt not be omitted, as
y acquaint us with ſeveral Particulars of Importance.

Succeſs of this Operation is exceedingly precarious, from
at Diſpoſition there is in the Conſtitution, after an Am-
n, to form a new Cancer in the Wound, or ſome other
f the Body. When a Scirrhus has admitted of a long
before the Operation, the Patient ſeems to have a better
t of Cure, without Danger of a Relapſe, than when it
reaſed very faſt, and with acute Pain. I cannot, how-
e quite poſitive in this Judgment ; but upon looking
mongſt thoſe I know, who have recovered, find the
tion ſo far well grounded. There are ſome Surgeons ſo
ned by the ill Succeſs of this Operation, that they decry
ery Caſe, and even recommend certain Death to their
, rather than a Trial, upon the Suppoſition it never
; but the Inſtances where Life and Health have been
d by it, are ſufficiently numerous to warrant the Re-
ndation of it.

Scirrhus may be diſtinguiſhed by its want of Inflamma-
he Skin, its Smoothneſs and Slipperineſs deep in the
and generally by its pricking Pain, which, as it is more
increaſes the Danger accordingly, though there are
w with little or none in the Beginning. As the Tu-
generates into a Cancer, which is the worſt Degree of
, it becomes unequal and livid ; and the Veſſels grow-
ous, at laſt ulcerates.

irpating the Scirrhus, if it be ſmall, a longitudinal
will dilate ſufficiently for the Operation ; but if too
be diſſected out in that manner, an oval Piece of Skin
cut through firſt, the Size of which is to be propor-
that of the Tumour : For Example ; if the Swelling
ches long, and three broad, the oval Piece of Skin cut
ſt be nearly of the ſame Length, and about an Inch
alf in Breadth. In taking off the whole Breaſt, the
y be very much preſerved, by making the Wound a
leſs than the Baſis of the Breaſt, which muſt be care-
'd away from the Pectoral Muſcle. This is not dif-
do, becauſe all theſe Scirrhi, being inlarged Glands,
mpaſſed with their proper Membranes, which make
te diſtinct from the neighbouring Parts, and eaſily
; at leaſt this is the Caſe when the Tumour is moveable ; for ſometimes it adheres to the ſubjacent Muſcle, and that Muſcle to the Ribs ; in which Circumſtance the Operation is impracticable. When it is attended with Knots in the Armpit, no Service can be done by Amputation, unleſs the Knots be taken away ; for there is no ſort of Dependence to be laid on their ſubſiding by the Diſcharge of the Wound of the Breaſt. The Poſſibility of extirpating theſe Knots, without wounding the great Veſſels, is very much queſtion'd by Surgeons ; but I have done it when they have not lain backwards and deep.

The Bleeding of the large Arteries is to be ſtopp'd by paſſing the Needle twice through the Fleſh, almoſt round every Veſſel, and tying upon it, which will neceſſarily include it in the Ligature. In order to diſcover the Orifices of the Veſſels, the Wound muſt be clean'd with a Sponge wrung out of warm Water.

The ſcirrhous Tumours that appear about the lower Jaw, are, generally ſpeaking, ſcrophulous Diſorders, that diſtinguiſh themſelves almoſt by the Circumſtance of fixing on the Salivary Glands. Theſe are very ſtubborn of Cure, but not ſo bad as the Scirrhus, ſince they frequently ſuppurate, and heal afterwards. If they impoſthumate again after healing, 'tis for want of a good Bottom, which may ſometimes be procur'd by deſtroying their bad Surface with a Cauſtic, and is a Method I have often practiſed with extraordinary Succeſs. Beſides theſe, there is another Species of Scirrhus in the Neck, that ſucceeds better after Extirpation than either of the former Kinds ; this is an Inlargement of the Lymphatic Glands, that run cloſe up by the Jugular Vein ; and is diſtinguiſhable from Cancers of this Part, by its Moveableneſs, want of Pain, the Laxneſs of the Skin covering it, the ſmall Degree of Preſſure it makes on the OEſophagus and Trachea ; and laſtly, the good Habit of Body, as it ſeldom affects the Conſtitution, which Cancers here do very early after their firſt Appearance. This Tumour, from its Situation, requires great Exactneſs in the cutting off : The laſt I took away of this Kind, I ſeparated from the Jugular Vein near the Length of an Inch and an half ; they ſometimes extend up the Chin towards the Mouth, and occaſion a Diviſion of the Salivary Duct in operating, which proves very troubleſome to heal ; but when all other Methods have fail'd, may be cur'd by a Perforation into the Mouth, through that Part of the Cheek where it is wounded, which by a Tent, or ſmall Seton, may be made fiſtulous ; then by dreſſing upon the Outſide, the ouzing of the Saliva that way will be prevented, and the external Orifice healed without Difficulty.

The Treatment of all theſe Wounds may be with dry Lint firſt ; and afterwards, as in the common inciſed Wounds. *Sharp's Surgery.*

As Accident ſometimes, but more frequently Lewdneſs and Debauchery, lay People under a Neceſſity of having the Whole, or a Part of their Penis amputated, I muſt not omit the Method of performing the Operation.

Amputation of the Penis.

If at any time a Gangrene ſhould happen in the Penis, in Conſequence of an Inflammation, a Phimoſis, or Paraphimoſis, then the ſame Method of Cure is to be purſu'd, which is laid down under the Article PHIMOSIS.

But if a Sphacelus, or a Cancer in Conſequence of a ſcirrhous Gland ſhould appear in the Penis, then every Part, to which the Contagion has reach'd, is with all Expedition to be extirpated, leſt the Taint diffuſe itſelf farther, and the Patient's Miſery be produced by the Surgeon's Negligence. The moſt convenient and proper manner of performing the Operation is this : A ſmall Tube of Silver or Lead, a little longer than the Part affected, is inſerted into the Urethra, and paſs'd a little farther than the Extremity of the corrupted Part. Then the ſound Part of the Penis, which next adjoins to the corrupted Part, is to be tied with a ſtrong linen or ſilken Ligature, in the ſame manner as when Tubercles or Excreſcences of Fleſh are to be taken off by Bandage. Then the Tube inſerted into the Urethra is carefully fix'd, that it may not ſlip out, but afford an eaſy and open Paſſage for the Urine. The Ligature is left upon the Penis ; and if Neceſſity require it, may be made tighter next Day, by applying another above it ; and by this means, after ſome Days, the corrupted Part falls off where the Ligature was made. I am not ignorant, that ſome Surgeons forthwith cut off the corrupted Part, and that the Blood is ſometimes ſtopt, and the Wound happily and thoroughly agglutinated by actual Cautery, or ſtyptic Medicines : An Inſtance of which may be ſeen in the fifty-ſixth Obſervation of *Scultetus*. But as this Method of Cure ſeldom ſucceeds well, and for the moſt Part draws a Train of diſmal Conſequences after it, I cannot help preferring the way by Ligature to it. Beſides, when there is only a part of the Penis taken off, there remains, after the Cure, a certain Power of Procreation, which bears a Proportion to the Size of the remaining Part.

Whoever is deſirous of ſeeing Caſes of this Nature, let him conſult, beſides *Scultetus*, *Hildanus*, *Obſervat.* 60. and 65.

Ruyſchius, *Cont.* 3. *Obſervat.* 88. and *Doebelius*, *Obſervat.* 30. for he has written a Treatiſe upon this very Subject. *Heiſter*, *Tom.* 2.

CASES.

One *Peter Perrod*, a Blackſmith, in a ſmall Village near *Lauſanne*, of forty Years of Age, of a melancholic Conſtitution, and who led a Country Life, had from his Infancy been troubled with a Wart on the Top of the Glans Penis, not exceeding the Size of a Lentil. Before Marriage he felt no Pain from it, unleſs upon ſome accidental Colliſion; but when he chang'd his Condition of Life, and enter'd into the Marriage State, by the Attrition of the Parts, during his Embraces, he began to feel a Pain ſo intenſe and uninterrupted, that he was forc'd for thirteen Years to part Beds with his Wife. But in Proceſs of Time, the Pain increas'd, and the Wart degenerated into a monſtrous Cancer, as large as a new-born Child's Head. His Penis was in a manner transform'd into a Maſs of Fleſh of a livid Colour, and uneven on its Surface. The Smell it exhal'd was ſo rank and diſagreeable, that his Friends and Acquaintance could no longer endure to be in the Place where he was. A great many Ulcers, thro' ſome of which his Urine came, ſurrounded this cancerous Fungus. The Diſeaſe growing daily worſe and worſe, Phyſicians of all Characters were conſulted, but all in vain. When the Patient's Caſe was by them all pronounc'd deſperate and incurable, when his Life was in imminent Danger, and the Exceſs of his Miſery mov'd the Compaſſion of all about him, he implor'd my Aſſiſtance; and that worthy old Clergyman *Petrus Pageſius*, who was at once a venerable Model of Piety and Erudition, prevail'd upon me to undertake the Cure, which I did, after I had declar'd my Sentiments to his Friends, and the reſt of the Company preſent. When I had diligently examined his Caſe, I found it to be very terrible; for the Cancer had by this time thruſt its Roots as far as the Abdominal Veſſels, and fix'd them there: For this Reaſon I judg'd it more adviſeable to try the laſt Remedy, or in other Words, to cut off the Member, than to leave a Man, who had already ſuffer'd ſo much, in ſuch Exceſs of Agony and Pain.

As for the Cure itſelf, I proceeded in it after this Manner:

After preſcribing the Regimen I thought moſt proper, I purg'd him with this Potion:

> Take of the Herbs Fumitory, Scabious, Dodder, and Spleenwort, each half an Handful; of Aniſe-ſeeds, half an Ounce; of Sena-leaves, three Drams: Boil all together in ſuch a manner, that the Liquor to be ſtrained off amount to no more than three Ounces, in which diſſolve three Drams of the Confection of Hamech, a ſufficient Quantity of the ſolutive Syrup of Roſes, made with Rhubarb, Agaric, and Sena; to which add one Ounce of Cinamon-water diſtill'd without Wine: Mix all up together into a Potion, to be given pretty early in the Morning.

Next Day I open'd a Vein in his Left Arm, and took ſix Ounces of Blood from him. Then, for the better Preparation and Evacuation of the Humours, I preſcribed the following Apozem:

> Take of the Roots of Succory, with the whole Herb, the Roots of ſharp-pointed Dock, Purſlain, Polypody, the greater Figwort, Tamariſk Bark, and the inner Roots of black Alder, each one Ounce; of the Herbs Agrimony, Speedwell, Scabious, Dodder, Spleenwort, golden Maidenhair, Crane's Bill, of each a Handful; of the three cordial Flowers, Broom, and Elder-flowers, of each one Pugil; of Liquorice, and ſton'd Raſins, each an Ounce: Boil in a ſufficient Quantity of Water to a Conſumption of a third Part. In a Pint and an half of the ſtrain'd Liquor infuſe and macerate according to Art, two Ounces of pick'd Sena-leaves; of the Roots of Baſtard Hellebore, that is, the Root of the Female Sanicle of Fuchſius, and of Polypody, each one Ounce; of Agaric newly reduced into Troches, three Drams; of the beſt Rhubarb, three Drams: Make a Potion, according to Art, for four Mornings.

Having with the above Medicines purg'd his Body, and ordering him to diſcharge the Contents of his Bladder, upon the tenth of *July* 1601. I plac'd him in a Seat, and in the Preſence of that renown'd and learned Gentleman *Johannes Rheterius*, Profeſſor of *Hebrew* in the School of *Lauſanne*, *Claudius Marinnes*, a moſt knowing Apothecary, *David Clerk*, and ſome others who are ſtill alive, I extirpated his Penis in the very Abdomen itſelf; then I apply'd my ſtyptic Powder upon Stupes dipt in Whites of Eggs; and with Cloaths folded, and dipt in Oxycrate, I wrapt up his Scrotum and Groins, and apply'd proper Bandage; which being done, I appointed Servants, who, in their Turn, ſhould, with their Hand wet in Oxycrate, preſs gently upon the Stupes, leſt an Hæmorrhag ſhould happen; for in this Caſe the actual Cautery is highly dangerous, both becauſe it may obſtruct the urinary Paſſage, and bring on an Inflammation of the Bladder, and adjacent Parts. The Wound being dreſs'd in this manner, I allow'd i to remain untouch'd till next Day. Then by the Uſe of Dige ſtives for ſome Days after, anointing his Belly, and the Parts adjacent to the Wound, with Oil of Roſes, and Myrtles, and by applying a defenſive Plaiſter to the lower Part of his Belly, I cur'd the Wound in my ordinary manner. By the Uſe of theſe Means, accompany'd with the Bleſſing of God, he recover'd his Health perfectly.

For a Conveyance to his Urine I order'd him a very ſimple Inſtrument, not unlike a human Penis, which he uſed immediately after the Cure, with little or no Degree either of Dif ficulty or Pain. Beſides, he enjoyed ſuch a good State of Health, and perform'd the ſeveral Branches of his Profeſſion with ſuch Eaſe and Freedom, that all who had an Opportunit of knowing his deplorable State, were ſtruck with Surprize a ſo complete and ſo unexpected a Cure.

Beſides, ſince ſome imagine, that a Cancer extirpated in o Part never fails to appear in another, 'tis worth while to o ſerve, that this Man liv'd for many Years without the le Symptom of that Kind; enjoyed ſo good a State of Heal that he followed his own Trade, and other Parts of Coun Labour, without the leaſt Impediment, and even without t Inſtrument he uſed at the Beginning, diſcharg'd his Urine freely, as if he had an entire and ſound Penis, ſince he w able to throw it out a conſiderable way; and which is ſtill m ſurpriſing, he ſeveral times told me, that he was very o tantalized with a Stimulus to Venery. At laſt, however, died, about the End of the Year 1611. when I was in t *Netherlands*; but what the Diſorder which prov'd fatal to h might have been, I cannot tell.

During the War between the Duke of *Savoy*, and the In bitants of *Geneva*, a Soldier happen'd in a Skirmiſh to have Penis ſtruck off by the Shot of a Muſket. Being brought *Geneva*, he was happily cur'd by that ſkilful Surgeon Mr. J *Grifton*; but in this Patient the Hæmorrhage was not g otherwiſe the Cure had been difficult and dangerous, as m be confirm'd from many Inſtances.

In the laſt Obſervation but one, I gave an Inſtance of a nis cut off, and cur'd with Succeſs. I ſhall now ſhew, two Inſtances, that Operations of this Kind are highly d gerous, unleſs when perform'd with Skill, Dexterity Caution.

In the Year 1581. a poor Countryman went out a beg and having a pretty weighty Bag hung about his Neck, h the Misfortune to attract the Eyes of a Cut-purſe, who, w he was deliberating about the moſt proper Expedient for g it into his Poſſeſſion, obſerved, that when the poor Man be his Body forwards, the Bag hung down between his Th and that when he recovered his Body from that Poſtur Bag was again raiſed to his umbilical Region. When h thus taken his Obſervations as accurately as he could, a the poor Man ſtanding before a Shop, and gazing on the C modities, he ſecretly came behind him, and ſeizing at his Penis and the Neck of the Bag, he cut both off at o the ſame time. But the miſerable Countryman, falling the Ground, expired upon the Spot.

In the Year 1582. a Man of about forty Years of labouring under a malignant Ulcer in the Glans of his Pen the Misfortune to fall into the Hands of a Surgeon w none of the moſt ſkilful: He having cut off the Glans, being furniſhed with ſtyptic Powders ſtrong enough for the Blood, ſet about heating the firſt Piece of Iron th ſented itſelf to him in the Kitchen, during which time, rible an Hæmorrhage happened, that the Patient died a few after; for ſo great an Hæmorrhage had impaired his Stre entirely, that it was impoſſible to reſtore it. Hence Surgeons ought to learn, that the greateſt Skill, Diligen Caution, are neceſſary for cutting off a Penis in a manner. *Hildanus*, *Cent.* 3. *Obſerv.* 88, 89.

The human Penis may be ſucceſsfully enough ex provided the ſeveral Steps neceſſary be carefully and taken.

A Countryman had for two Years been troubled wi rhous Swelling on the Glans of his Penis, which at laſt rated into an exulcerated Cancer, and became as big a ſon's Fiſt. *Joachim Schrader*, a ſkilful Surgeon, who Cure entruſted to his Care, called that experienced P Dr. *Hiddingh*, myſelf, and *Andrew Boekelman*, toget his Son *Cornelius*, to a Conſultation. We unanim proved of Extirpation, which was accordingly ſet ab Day, and that, Thanks be to Heaven, with ſuch Succe tho' he loſt his Penis, he returned home with hi which he ſtill continues to enjoy. The Operation formed in this manner: Having paſſed a Cathet *Urethra*, into the Cavity of his Bladder, we made re upon his Penis, juſt behind the affected Part, with a which was indeed ſmall, but capable of making a very Compreſſion. The Patient bore the Agonies of the ion with ſuch a manly Courage, as ſurpriſed all the ors; for he was only heard to utter a few Complaints. we had apply'd this Ligature, we ſo fixed the Catheter Thread, that it could not ſlip out of the Urethra. Next e apply'd a freſh Ligature, that the Part affected might the ſooner. In the mean time we wrapt up the Whole Penis in a wet Bladder, for the Reception of his Urine, venting a bad Smell. Upon the fifth Day, if I rightly ber, the mortified Part was cut off with a Knife, with- Hæmorrhage enſuing, becauſe it was totally mortified. l left the Catheter in his Urethra for a Day or two, till ature ſhould come off of its own Accord, and the Pa- nd no longer in Need of it. Being now recovered, he ed his Urine thro' an ivory Inſtrument; for that Part of s which was left, had wholly ſhrunk back into his Abdo- o that he was oblig'd to uſe this Inſtrument to prevent ths being made wet. *Ruyſch*, *Vol.* 1. *Obſer.* 30.

UTATIO is uſed by *Cœlius Burelianus* in a Senſe diffe- m that already explain'd. Thus *Acut.* *L.* 2. *C.* 6. and ocis AMPUTATIO imports a Deprivation of Speech, lity to ſpeak. And the ſame Words are alſo uſed by thor, *Chronic.* *L.* 4. *Cap.* 7. in exactly the ſame

s Author alſo *amputare Vires* ſignifies to render weak, away Strength.

s amputare alſo in this Author ſignifies to take away ngth.

UCTICA, ἀμυκτικὰ, from ἀμύσσω, to vellicate. *Cœ- lianus*, *Chron.* *L.* 2. *Cap.* 6. uſes this to expreſs Re- which by vellicating and ſtimulating the Bronchia, ough, and by that means contribute to the Diſcharge ver is offenſive to the Lungs. Theſe Medicines are the thoſe call'd ARTERIACA.

ETTI, or Vetti-Tali, otherwiſe diſtinguiſhed by the *Arbor Indica*, *Floribus ſpicatis*, *Seminibus parvis in ſiccis.*

e Name of an *Indian* Tree; bnt I don't find any me- irtues attributed to it.

LETA, Amulets. As theſe and Charms are nearly ether, I ſhall treat of them under the ſame Article.

learn from ſacred Hiſtory, that Idolatry had diffuſed l Influences over the Minds of Men long before the *Moſes*, ſo 'tis probable, that Magic, and the ridicu- mpts to prevent Diſeaſes, and reſtore Health, by the harms and Amulets, are as old, ſince they ſeem to be nnected, and nearly ally'd to each other. As this is it muſt be as difficult to trace the Origin of Magic lets, as of Idolatry itſelf: But as Diſquiſitions of this e foreign to our preſent Purpoſe, we refer the Curious uthors who have wrote expreſsly upon that Subject.

e may deviate from our Subject as little as is poſſible, ent for us to know, that theſe illicit Methods of pro- alth, which were founded on a falſe Religion, and by the Credulity of a giddy and unthinking Multi- e not only practiſed, but in a manner incorporated ic, long before the *Greek Æſculapius*, who in all Pro- actiſed them himſelf.

e Manner in which this Abuſe crept into Phyſic, and es that have induc'd Mankind to proſtitute their Un- g, and affront their Reaſons, ſo far as to countenance robable, that Men ſeeing the natural Means of pre- alth, and preventing Death, frequently unſucceſsful, every thing that firſt preſented itſelf, and believ'd the or, who had Confidence and Wickedneſs enough to on them. They allow'd themſelves to be ſo much eaſily decoy'd in this Particular, becauſe they ima- tho' theſe ſuperſtitious Practices ſhould happen to do yet at leaſt they could not poſſibly do any Harm; and y were of themſelves without Virtue, and without yet to authorize and eſtabliſh their Uſe, it was ſuffi- ſome Perſons believed, that they reap'd Advantage, ed Eaſe, from them. It is even poſſible, that the rded by theſe Charms might have been real, ſince of Imagination in the Patient might have ſupply'd the edicinal Virtue in the Amulet; and the Impreſſion the Mind by it, might have communicated itſelf to and chang'd the State and Condition of its Parts. If s been ſaid we join theſe two Conſiderations; that lets were not, like other Remedies, ungrateful and d that Religion, or rather Superſtition, which has n Influence over all Mankind, join'd her ſacred nd pronounc'd them lawful. I ſay, if we reflect things, we ſhall not be ſurpriſed, that Men fell into embraced the agreeable deluſive Error, and juſtified ution of Senſe and Reaſon, by an Allegation of ima- Effects produced by them.

Whether beſides the Craft and Artifice of Men, there was any thing more in the Matter, is a Point, the Deciſion of which I leave to Divines. But whatever the Caſe be, certain it is, that Charms and Incantations have been ſo effectually introduced into Phyſic, that all the Nations of the World have uſed them Time out of Mind. The *Pagans* are not the only People who have fallen into this Folly, Thoſe who have been honour'd with the Knowledge of God, have allow'd themſelves to be corrupted and carried off by the bad Example of their idolatrous Neighbours; and ſome even of thoſe who have been accounted the wiſeſt of Men, whatever the Religion they profeſs'd was, have been ſo weak and ſuperſtitious as to ſplit upon this Rock, as well as the Vulgar; tho' there have been in all Ages, even among the *Pagans*, ſome free unfetter'd Souls, who nobly dar'd to think for themſelves; who look'd thro' the Maſk, and ſneer'd at the wild Deluſion.

Sometimes People charm'd by ſingle Words, or by certain Sentences, whiſpered in the Patient's Ear, or even pronounced at a Diſtance from him, with an Intention to cure him; and this Form was always accompany'd with various other Ceremonies. Theſe Words or Sentences were called by the *Greeks* ἐπαοιδαὶ, by the *Latins Incantamenta*, or *Carmina*, which Words correſpond preciſely to our *Engliſh* Words *Inchantments* and *Charms*, as being a ſort of Song pronounced over any one; for the Words were generally in Verſe, or at leaſt pronounced with the Air and Spirit of a Song; not but that they alſo made uſe of Proſe for this Purpoſe, and even employed barbarous and inſignificant Words, which neither he that performed the Ceremony, nor he for whoſe ſake it was performed, underſtood.

At other times they wrote theſe Words or Sentences on certain Subſtances, which they tied to ſome Part of the Patient's Body, or made him carry about him. Theſe are what the *Latins* call *Amuleta*, probably from the Verb *amovere*, to *remove* or *take away*; they call them alſo *Proëbia* or *Proebra*, from *prohibere*, to *guard* or *defend*. The *Greeks* have with a like Propriety and Significancy call'd them *Apotropæa*, *Phylacteria*, *Amynteria*, *Alexiteria*, and *Alexipharmaca*, becauſe they imagin'd, that theſe Remedies could defend them, not only againſt ſuch Diſeaſes as proceed from natural Cauſes, but alſo againſt the Charms or Incantations which might have been uſed by others, with a View to hurt or deſtroy them.

Theſe Amulets were made of Stone, Metal, Simples, Animals, and in a Word, of every thing their Fancy ſuggeſted, or their Caprice directed them to. Upon Stone, Metal, and Wood, they engraved Characters, Figures, or Words, which were to be diſpoſed and ranged in a particular Order, as well as thoſe delineated on Paper. Such is that preſcribed by *Serenus Samonicus*, for the Cure of a certain Species of Fever, call'd by Phyſicians *Hemitritæa*. The Cure conſiſts in writing the Word *Abracadabra* in a certain manner upon Paper. See ABRACADABRA.

The *Jews* have attributed the ſame Virtue to the Word *Abracalan*, pronounced in the ſame manner. See ABRACALAN.

We find in *Marcellus Empericus*, in *Trallian*, and other Authors, ſeveral Examples of Amulets made by Characters, rang'd in a certain Order, and engraved upon Metal, Wood, or Stone.

Sometimes they neither wrote nor engrav'd any thing upon the Subſtances intended for the Amulets, but uſed a great many ſuperſtitious Ceremonies in preparing and applying them. Not to mention the Pains they were at in obſerving, whether the Stars were favourably diſpos'd, or not. The *Arabians* have given this laſt Species of Amulet, the Virtue of which depends principally upon the Influence of the Stars, the Name of *Taliſman*, which in their Language ſignifies an Image.

Amulets were made of all Forms, and tied to all Parts of the Body; for which Reaſon they were alſo call'd *Periapta*, and *Periammata*, from a *Greek* Word which ſignifies *to tie about any thing*. Some of theſe reſembled a Piece of Money, thro' which they bor'd a Hole, and with a Piece of Thread hung it about the Patient's Neck. Others of them were in the Form of Rings, which were put upon the Fingers, or other Parts of the Body. Others of them were contrived in the Form of Bracelets, or Necklaces, which were wore upon the Arms, and about the Neck; and ſome of them reſembled Crowns, with which the Patient's Head was incircled.

We may join in the ſame Claſs with Amulets and Charms, all the other ſuperſtitious Remedies, in which the Antients repoſed ſo much Confidence, and of which they uſed ſo great a Number. There were, for Inſtance, certain Simples, which they could neither gather, prepare, nor apply, without at the ſame Time performing ſome Ceremonies, which, conſider'd in themſelves, could neither facilitate the Operation of the Medicine, nor augment its Virtue, and ſeem'd altogether of an indifferent Nature, but without which it was pretended that the Remedy was uſeleſs. The Writings of the antient Phyſicians abound with Deſcriptions of Remedies of this Nature, which are ſtill uſed by Quacks, old Women, and others who have the Misfortune to be under the Influences of Credulity and Superſtition. See Bara.

There are alſo a kind of Amulets, in which neither Charms nor Superſtition had any Share, tho' no Perſon could account for the Effects attributed to them, nor comprehend the Manner in which they acted. Theſe are, at this very Day, approv'd of by ſome Phyſicians, and as induſtriouſly ridiculed and deſpiſed by others. *Le Clerc. Hiſt. de la Medicine.*

Amongſt Amulets and Incantations, none ſeems to have gain'd ſo great a Reputation as the Royal Touch for the King's Evil, which has the Appearance of being a Mixture of both. There is ſcarcely a Royal Family in *Europe*, which does not pretend to inherit from ſome of their pious Anceſtors, the Power derived from Heaven, of charming this Diſtemper. This Claim would be more juſtifiable, if moſt of their Thrones had not originally been gain'd by Rapine and Violence, and ſupported by an almoſt continual Series of Oppreſſion and Injuſtice, which are not likely to draw down from Heaven any extraordinary Benediction. If, however, we look upon this ſort of Incantation as a Piece of political Craft, we ſhall have Reaſon to believe it has its Origin more in Villainy than Folly: For Miracles are very proper to extort a Veneration from the Vulgar, and impoſe upon Minds furniſh'd with little Senſe, and much Credulity. I am ſenſible, that many grave Authors have treated this miraculous Method of Cure as a Reality, and that there are not wanting Perſons, who at this Day, pretend to produce Inſtances of People who have been healed by the Royal Touch. But, at the ſame time, I can produce as good Evidence of Tricks play'd by Witches, Spirits, and Fairies, which however I cannot implicitly believe. I ſhould therefore think it more probable, that thoſe who relate and aſſert Stories either of Witches, or Cures by the Royal Touch, have ſuffered themſelves to be impoſed upon through a little Enthuſiaſm, and a Fondneſs for the Marvellous, or intend to impoſe upon others, than that ſuch Relations ſhould be true. I will not deny, that the Solemnity of the Ceremony, and the Preſence of a crown'd Head, may poſſible ſtrike the Perſon touched with an Awe and Surprize, which may induce ſome Alteration in the Circulation of the Blood, and conſequently upon the Solids and Fluids of the Body; but this Cauſe does not appear adequate to the Effects attributed to it. It is poſſible alſo, that the Gold worn about the Neck may have ſome ſalutary Influence, if it can attract to itſelf, and draw out of the Body the Matter, which is the immediate Cauſe of the King's Evil, as it does Mercury, which however is not ſo certain as to be depended upon.

AMURCA is the Fœces which ſubſides to the Bottom of the Veſſel, where the Oil of Olives newly expreſs'd is put.

It is emollient, lenitive, and reſolutive, and proper to eaſe Pains in the Head, being applied to the Forehead, and to ſtop Fluxions. *Lemery de Drogues.*

The medicinal Virtues of Amurca, as related by ſome of the Antients, are ſomewhat different from thoſe mentioned by *Lemery*.

AMURCA, ἀμύϛκη, is the Lees or Sediment of the preſſed Olive.

Boiled in a copper Veſſel to the Conſiſtence of Honey, it becomes an Aſtringent, and is ſerviceable in the Tooth-ach, and for Wounds, being mixed with Vinegar, Wine, or Wine and Honey, [οἰνόμελι] and the Parts anointed therewith. It is alſo an Ingredient in Collyria and Plaiſters. The older it is, the better. Adminiſtered in a Clyſter, it is good for Exulcerations of the Anus, Pudenda, and Uterus. Boiled with Omphacium to the Conſiſtence of Honey, it draws out rotten Teeth, that are anointed with it. A Decoction of it with Lupines and the Chamæleon, cures the Scab in Cattle, being rubbed over with it. Crude and new, it makes a good Fomentation for thoſe who are afflicted with the Gout in their Feet or Joints.

Being ſpread upon a Sheep-ſkin with the Wool, and apply'd to hydropical Perſons, it repreſſes the Swelling. *Dioſcorides, Lib.* 1. *Cap.* 138.

Amurca is of an earthy Subſtance, hot, but not ſenſibly acrid. When boiled, it becomes of groſſer Parts, and more dry. *Orib. Med. Coll. Lib.* 14. *Cap.* 1.

By reaſon of its heating and intenſely drying Qualities, it cures Ulcers in Bodies that are of a dry Temperrment; but in all others increaſes and exaſperates them. *Aetius Tetr.* 1. *Serm.* 1. *Æginet. Lib.* 7. *Cap.* 3.

AMYCHE, ἀμυχὴ, a ſuperficial Exulceration, Laceration, or Scarification of the Skin.

It is derived from ἀμύσσω, to ſcratch, and is ſometimes uſed by *Hippocrates*. Hence Amyctica, Stimulating, Vellicating, uſed by *Cælius Aurelianus, Lib.* 2. *Cap.* 6.

AMYDROS, ἀμυδρὸς, ſomewhat obſcure, ſcarcely to be ſeen. It is uſed by *Hippocrates* in his Treatiſe *de Inſomniis.*

AMYGDALÆ, Almonds, the Fruit of the Amygdalus, which ſee. It alſo ſometimes ſignifies the Tonsillæ, which ſee.

AMYGDALIA, ἀμυγδάλια, Almonds. *Hippocrates de Morbis, Lib.* 2.

AMYGDALATUM, an artificial Milk made of Alm
uſually called an Emulſion.

AMYGDALOIDES, a Name by which *Oribaſius* ca
Tithymalus, which, he ſays, goes alſo by the Names of T
malus Mas, Characias, Cometes, and *Gobius*. See Tithy
lus.

AMYGDALOPERSICUM, the Almond Peach. It i
called *Perſica Amygdaloides.*

AMYGDALUS *amara, & dulcis*, Offic. J. B. 1.
Mont. 36. Jonſ. Dendr. 122. *Amygdalus ſativa*, C. B.
441. Raii Hiſtor. 2. 1519. El. Bot. 497. *Amygdalus*
fructu majore, T. Inſt. 627. Boerh. Ind. A. 2. 245.
dalus, Chab. 12. Ger. 1256. Emac. 1445. Parkinſ. T
1515. The ALMOND-TREE. *Dale.*

The Decoction of the Roots of the bitter Almond-tree,
clears the Face of Freckles; and a Cataplaſm of the A
has the ſame Effect. Apply'd by way of Peſſary, they
the Menſes; and made into a Cataplaſm with Vinegar
of Roſes, and apply'd to the Forehead or Temples, th
Pains of the Head; with Wine they cure the Ep
[Puſtules ariſing in the Night]; and with Honey are
apply'd to putrid and ſpreading Ulcers, [σηπεδόνας
and the Bites of Dogs. Being eaten, they eaſe Pain,
the Belly, incline to Sleep, and provoke Urine. Tak
Amylum, they help ſuch as vomit Blood; drank in W
made into an Eclegma with Reſin of Turpentine, they
thoſe who are afflicted with Diſeaſes of the Kidneys, o
under a Peripneumony. Taken in Raiſin-wine, [γλυ
relieve ſuch as are troubled with a Difficulty of Urine,
Gravel. Made into an Eclegma with Honey and Mi
taken to the Quantity of a Haſle-nut, they cure Di
the Liver, Coughs, and Inflations of the Colon; eat
drinking, to the Number of five or ſix, they prevent D
enneſs. They kill Foxes, being mixed with their Food
Gum of the Tree is aſtringent and heating; and, dr
lieves thoſe who bring up Blood. Mixed with Vineg
the Parts anointed therewith, it takes off Tetters th
only the Superficies of the Skin. Drank in Wine and
it cures an inveterate Cough; and drank in Raiſin-
relieves thoſe who are afflicted with the Gravel.

The ſweet and eſculent Almond is much inferior i
to the bitter one, though it attenuates, and provok
Green Almonds, eaten with their Shells, amend the
tural Humidity of the Stomach. *Dioſcorides, Lib.* 1. *C*

Oil of bitter Almonds, which ſome call *Metopium*,
prepared:

> Take of bitter Almonds, clean'd and dry'd, ſix Pint
> them gently in a Mortar with a wooden Peſtle,
> come to a Paſte, and thereto pour two half Pints
> Water. Let it alone for half an Hour to imbibe
> ſture, after which beat it again more ſtrongly,
> it, put what ſticks to the Fingers into a Muſcle-
> done, pour again half a Pint of Water to the
> ſuffering it to imbibe the ſame, do as before.
> Pints of Water will produce half a Pint of Oil.

It is effectual againſt Pains and Strangulations of th
and againſt Contortions and Inflammations of the
alſo for Pains of the Head, and Pain and Noiſe, or
the Ears. It helps thoſe who are afflicted with D
the Kidneys, a Difficulty of Urine, the Stone, the A
Diſorders of the Spleen. Mixed with Honey, Root
and *Cyprian* Cerate, or Cerate of Roſes, it clears th
Spots and Freckles, from Sun-burning, and ſmooth
Wrinkles; it alſo rectifies a Dimneſs of Sight, and
Achors, and Scald Heads. *Dioſcorides, Lib.* 1. *Cap.*

Troches of bitter Almonds are thus prepared:

> Take of Aniſe, the Seed of Smallage, Aſarabac
> Almonds, the Tops of Wormwood, of each
> Quantity, and make them up with Water in
> of the Weight of a Dram. To a Patient in a F
> them in Hydromel; to one without a Fever gi
> Wine and Water [οἰνόμελι]. *P. Ægineta, Lib.* 7.

Oil of Almonds is prepared after the following m

> Take clean bitter Almonds, and pound them, inf
> and then a little Water; this done, to the Q
> four Ounces put a Pint of ſweet Oil; let it
> Days in the Sun, or let it boil three Hours i
> Veſſel, and then ſtrain it for Uſe. Some put t
> of bruiſed Almonds to an *Italic* Pint of Oil,
> in a double Veſſel.

An Oil of Almonds, called alſo *Metopium*, pre
rently from that deſcribed by *Dioſcorides*:

> Take of Oleum Omphacinum, [Oil expreſſed f
> Olives] twenty Pints; of bitter Almonds, tw

f Cardamoms, one Pound; of the Flowers of Juncus)doratus, Calamus Aromaticus, Carpobalſamum, each ne Pound; of Myrrh, Galbanum, each half a Pound; f Turpentine, two Pounds; of ſweet-ſcented Wine, to ma- erate the dry Ingredients in, four Pints; of *Attic* Honey, hree Pounds. Bruiſe and diſſolve the Galbanum and Turpentine in Part of the Oil, and mix them with the ſt of the Ingredients after they are boiled, and then add ne Honey. When all is throughly mixed, take it off ne Fire whilſt it is in a gentle Warmth, and ſtrain it; r when cold, it is thick.

Egyptians, who invented this Oil, called it *Metopium*; it had Galbanum for an Ingredient, which was the Pro- f a Plant called *Metopium. P. Æginet. Lib.* 7. *Cap.* 20.

YGDALIS AMARA ET DULCIS. This Tree is ſo much *Peach*, both in Leaves and Bloſſoms, that it is hard to them aſunder, but by their Fruit, which is leſs in this, ing little or no pulpy Fleſh, but a tough cottony Skin, which is the Stone, which is ſmoother and more pointed End, but full of little Hollowneſſes. The Kernel of he Almond, not diſtinguiſhable whether bitter or ſweet, the Taſte.

Almond-tree grows only ſpontaneouſly in the warmer ies, as *Spain*, and particularly *Barbary*: It flowers the Spring, and the Fruit is ripe in *Auguſt*.

t Almonds are accounted nouriſhing, but if eaten too are hard of Digeſtion, and very ſtuffing; of theſe, with are made ſeveral Sweet-meats, as *March Panes*, and *oons*. But it is the Oil drawn from the ſweet Almonds moſt in Uſe, and is an uſeful and excellent Medicine. great Service in Affections of the Lungs, as Coughs, ſs of Breath; in Soreneſs of the Stomach, pleuretic Pains. Stone, Gravel; and all Diſeaſes of the Kidneys and , it is of ſingular Uſe, by its ſoftening and lubricating . It very much corrects the bilious Salts in the Sto- d Bowels, and is of great Advantage in the Colic, and coſtive Habit of Body. It is commended to be given en with Child, to take freely of it for ſome time before ect their Delivery. It is very uſeful for Childrens and to purge them gently, mix'd with any opening

bitter Almonds are more uſed outwardly as a *Coſmetic*, eanſing and beautifying. The Oil dropp'd into the good for Deafneſs; and is frequently put among *Ano*- iments.

nly officinal Preparation is, the expreſſed Oil of bitter t Almonds. *Miller Bot. Off.*

Almonds contain a great deal of Oil, and a little Salt gm.

itter Almonds contain a great deal of Oil, more Salt ſweet Almonds, and but little Phlegm; it is for that that the Oil of the bitter Almond will keep a longer thout growing muſty, than the Oil of ſweet Almonds. *de Drogues.*

adds, thet the Oil of bitter Almonds, outwardly ap- ftens hard Nerves, takes away Spots in the Skin, and wn the great Bellies of Children. Some ſay, that the weet and bitter Almonds both may be preſerved from rancid, by the Help of Spirit of Wine tartarized.

Almonds cauſe Sleep, and increaſe the ſeminal

he one and the other agree at all times to every Age, orts of Conſtitutions, provided they be moderately

your ſweet Almonds are bruiſed and ſteeped in Water, eze a milky Juice out of them, which is given to lean, tive and pleuretic People, and does them a great deal the Reaſon of which is, becauſe the Milk contains a ny oily, balſamic, and embaraſſing Parts, fit for g and reſtoring the ſolid Parts, moderating the violent f the Humours, and allaying their Sharpneſs.

ifference of Taſte between the ſweet and bitter Almonds in this, that there is leſs Salt in the ſweet ones, and that s perfectly confined and cooped up by the ropy Parts, that it can make but a very ſlight Impreſſion upon the

itter ones, on the contrary, contain much ſharp Salt, ing but half embaraſſed with the oily Parts, cauſe a but a more diſagreeable Senſation.

h tells a Story of a certain Phyſician, who lived with the Son of *Tiberius*, and who by the Uſe of bitter became ſo great a Drinker, that he was never made d out-did all that lived in his Time that way. *Lemery*

ears ago there happened a remarkable Caſe in this he World. Ten young Gentlemen, deſcended of Families, uſed ſome Water-gruel, in which more Ounces of Arſenic, mixed with an equal Quantity of d been put. Soon after, they were racked with great I. Diſquietudes, and Gripes in their Bellies; but, by the Bleſſing of God, I removed all their Symptoms, and put them out of Danger, by Oil of ſweet Almonds and Milk. *Hoffman.*

Oil of ſweet Almonds well prepared, and taken to the Quantity of ſome Spoonfuls, in a little Broth, is a moſt effectual Medicine in all Pains and Spaſms; even in ſuch Spaſms as ſhake the moſt remote Parts of the Body: For this Reaſon, it is very properly preſcribed in convulſive Coughs, ſpaſmodic Aſthmas, Fits of the Stone, Stranguries, and Colics. *Hoffman de Conſenſu Partium Nervoſarum.*

There are certain Poiſons which prove noxious to particular Animals, and yet produce no poiſonous Effects upon Men: Thus, for Inſtance, bitter Almonds are pernicious to Fowls, and excite Convulſions in the Stork and Dove particularly. The ſame Almonds, as well as the Nux Vomica, when given to Cats and Dogs, throw them into ſuch violent Convulſions, as put an End to their Lives. *Hoffman Medicin. Rational. Syſtemat. Vol.* 1.

AMYLEON, or AMYLION, ἀμύλεον, or ἀμύλιον, from α Negative, and μύλη, a Mill, becauſe made of Corn without grinding. Starch. See AMYLUM.

Hippocrates in his Treatiſe of the Diſeaſes of Women, *L.* 2. recommends this, roll'd up in Wool, as a Peſſary, good againſt a Diſcharge of Water from the Uterus.

AMYLUM, Starch.

AMYLUM is ſo called, becauſe it is prepared without the Help of a Mill (from α Neg. and μύλος, or μύλη, a Mill). The beſt is what is made of Sitanious Wheat, (ſuch as is ſown and reaped in three Months) in *Crete* or *Egypt*. It is prepared of this Kind of Wheat, cleanſed, in the following manner: They water it five times in the Day, and, if it may be done, in the Night alſo; as ſoon as it is ſoften'd, they gently let the Water run off, without ſtirring it, for fear the beſt Part of the Grain ſhould flow off with it: When it appears to be throughly ſoft, they pour off the Water, and tread it with their Feet; then pouring on it freſh Water, tread it again. After this, they take off the huſky and branny Parts, that ſwim on the Top, with a Skimmer, and paſs the reſt through a Strainer; and as ſoon as this is done, they lay it upon new Tiles to be dried and condenſed in the burning Sun; for if it ſhould, in the leaſt, continue moiſt, it would contract a Sourneſs.

It is good for Rheums in the Eyes, hollow Ulcers, and Puſtules. Drank, it ſtops vomiting of Blood, and mollifies the Parts about the Aſpera Arteria; it is uſually mixed with Milk, and other Food.

Amylum is alſo prepared of Zea, (Spelt) macerated a Day or two in Water, then kneaded with the Hands into a Maſs like Dough, and afterwards dried in the fervent Sun as before. But this Sort of Amylum, tho' very good in other reſpects, is unfit for medicinal Uſe. *Dioſcorides, Lib.* 2. *Cap.* 123.

Amylum is made of all Kinds of Wheat, but beſt of the common Sitanious. It was invented in the Iſland of *Chios*, and the fineſt ſtill comes from thence: The Name was given it on account of its being prepared without a Mill. The next in Goodneſs is made of a ſort of very light Sitanious Wheat: It undergoes a Maceration in freſh Water in wooden Veſſels, ſo as to be covered with the Water, which is changed five times in the Day; and it would be better, if the ſame were done in the Night, that it might be throughly mixed and ſoftened alike, before it grows ſour. When it is dried enough in Bags and Baſkets, they ſhoot it out upon a Tile ſmeared with Leaven, and let it condenſe in the Sun. Next to the *Chian* Amylum, for Goodneſs, is the *Cretan*; and after theſe the *Egyptian*. It is valued by its Lightneſs, Smoothneſs, and Newneſs. *Pliny, Lib.* 18. *Cap.* 7.

The ſorbile Liquor of Amylum is proper in Fevers attended with a Diarrhœa; and, upon account of the Belly, Lentils may be mixed with it. The ſame may alſo be uſed in Milk, or mixed with Water, or be uſed alone; in which Circumſtance it is fitteſt in Dyſenteries, and Fluxes excited by coughing. In boiling put ten Drams of Amylum to four half Pints of Water. *Oribaſ. Med. Col. Lib.* 5. *Cap.* 7.

Starch is eſteemed drying and aſtringent.

Starch, boiled with Milk, is a famous Empirical Remedy for a Diarrhœa, which happens in a Fever, or in Child-bed, and is not a bad one. Mr. *Clutton*, in a Treatiſe he publiſhed ſome time ago, lays great Streſs upon a Solution of Starch, given by way of Clyſter, in a Diarrhœa, either accompanied with a Diarrhœa or not; and, if the Stools are bloody, and the Inteſtines very much relaxed, he adviſes to make the Confection of Starch, as he calls it, very thick, and to add, to four Ounces of this, an Ounce of *French* Brandy.

Modern Method of making STARCH *of Wheat.*

The Grain, being well cleaned, is put to ferment in Veſſels full of Water, which they expoſe to the Sun, when in its greateſt Heat; changing the Water twice a Day, for the Space of eight or twelve Days, according to the Seaſon. When the Grain burſts eaſily under the Finger, they judge it ſufficiently fermented. The Fermentation perfected, and the Grain thus ſoftened, it is put, Handful by Handful, in a Canvas Bag, to ſeparate the Flour from the Huſks; which is done by rubbing and beating it on a Plank, laid acroſs the Mouth of the empty Veſſel that is to receive the Flour.

As the Veſſels are filled with this liquid Flour, there is ſeen ſwimming at the Top a reddiſh Water, which is to be careſully ſcumm'd off, from time to time, and clean Water put in its Place; which, after ſtirring the Whole together, is all to be ſtrained through a Cloth or Sieve; and what is left behind, put into the Veſſel with new Water, and expoſed to the Sun for ſome time; and as the Sediment thickens at the Bottom, they drain off the Water four or five times, by inclining the Veſſel; but without paſſing it through the Sieve. What remains at Bottom is the *Starch*, which they cut in Pieces to get out, and leave it to dry in the Sun: When dry, it is laid up for Uſe.

Caſtellus, from *Libavius*, informs us, that AMYLA, in a general Senſe, is uſed to expreſs any Sort of Chymical Fæcula.

AMYOS, ἄμυος, from α Negative, and μῦς, a Muſcle. *Hippocrates*, in his Treatiſe *de Arte*, applies ἄμυον to the Leg, to expreſs its being ſo emaciated, as to appear as if it had no Muſcles.

AMYTHAONIS EMPLASTRUM, *Amythaon*'s Plaiſter for Convulſions and Diſtortions of the Joints; it is alſo a Drawer.

> Take of Gum Ammoniac, Wax, Bdellium, each eight Drams; of Turpentine, Illyrian Orris, Galbanum, each twenty Drams. *P. Æginet. Lib.* 7. *Cap.* 17.

AN-PATER, Sulphur. *Rulandus.*
AN-FIR, Filius, Mercury. *Rulandus.*
AN-FIRARTO, Spiritus, Salt. *Rulandus.*

ANA, ἀνὰ, a *Greek* Propoſition much uſed in Preſcriptions. It is explained under the Article A. which ſee. *Ana* is alſo uſed by ſome enthuſiaſtical Writers to ſignify *the Mind*; and *Caſtellus* tells us it is the Name of a certain Idol.

ANABASIS, ἀνάβασις, from ἀναβαίνω, to aſcend, ſignifies the Augmentation or Increaſe of a Fever in general, or of a particular Paroxyſm. Hence ANABATICA is ſynonymous to EPACMASTICA, both being Epithets of Fevers, which, in their Progreſs, continually increaſe or grow more violent.

ANABOLE, ἀναβολὴ, from ἀναβάλλω, to caſt up. The diſcharging any thing upwards, as by Vomit.

ANABROCHISMOS, or ANABRONCHISMUS, ἀναβροχισμὸς, or ἀναβρογχισμὸς, from βρόχος, a Nooſe. An Operation performed upon the Hair of the Eyelids, when they are offenſive to the Eye. It conſiſts in engaging the offending Hairs in a ſort of Nooſe, by means of a Needle, threaded with a fine Thread doubled, or a Woman's Hair, after paſſing the Needle thro' the external Part of the Eyelid, near the Hair. *Celſus* takes Notice of this Operation, *Lib.* 7. *Cap.* 7. in theſe Words:

Quidam aiunt, acu tranſſui juxta pilos exteriorem partem palpebræ oportere, eamque tranſmitti duplicem capillum muliebrem ducentem; atque ubi acus tranſiit, in ipſius capilli ſinum, qua duplicatur, pilum eſſe injiciendum, & per eum in ſuperiorem palpebræ partem attrahendum, ibique corpori adglutinandum, & imponendum medicamentum, quo foramen glutinetur: ſic enim fore, ut is pilus in exteriorem partem poſtea ſpectet.

Paulus Ægineta confines the Operation to Caſes where only one or two, or at moſt three, Hairs irritate the Eye. He deſcribes the Operation, *Lib.* 6. *Cap.* 13. but ſomewhat obſcurely.

ANABROSIS, ἀνάβρωσις, from ἀναβρώσκω, to devour. A Corroſion or Exeſion of the ſolid Parts by acrid Humours. It means the ſame as DIABROSIS.

ANACAMPSEROS, *Anacampſeros vulgo Faba craſſa*, J. B. Pit. Tournef. *Telephium vulgare*, C. B. *Telephium alterum ſive Craſſula*, Dod. *Cotyledum alterum*, Dioſcor. Col. *Scrofularia media vel tertia*, Brunf. *Fabaria*, Matth. *Acetabulum alterum*, Cord. in Dioſc. *Faba inverſa*, Ad. Lob. *Craſſula ſive Faba inverſa*, Ger. ORPINE, or LIVE-LONG.

It is a Plant which grows to the Height of one Foot, or more; its Stalks are ſtrait and round, cloathed with thick Leaves, and full of Juice like that of Purſlane, but longer, of a pale-green Colour, often intermixed with a little Red; ſome are notch'd at their Edges, others entire; of an inſipid viſcous Taſte. The Flowers grow on the Tops of the Stalks in large Bunches, and almoſt like an Umbrella, of a white or purpliſh Colour; every Flower is compoſed of five Leaves, diſpoſed like a Roſe, which, falling, are ſucceeded by a Fruit compoſed of many Huſks, which forms a ſort of Head full of ſmall Seeds. The Root is glandulous, and formed of many white Bulbs like Turneps, of an inſipid Taſte. This Plant grows in uncultivated, ſtony, and ſhady Places. It contains a great deal of Phlegm and Oil, and but little Salt.

It is drying, cooling, reſolutive, deterſive, vulnerary, and conſolidating, proper for Ruptures, and to take out Spots in the Skin. *Lemery de Drogues.*

Columna has confounded his *Rapuntium umbellatum,*
the *Telephium floribus purpureis*, Lob. *C. Bauhine* is guilty
the ſame Fault; but it is eaſy to ſee, by *Columna*'s Deſcrip
and by his Figure of the Flowers, that he has given a
Deſign of the *Trachelium azureum umbellatum Ponæ.*
Ital. 44.

The Leaves of the Orpine have a glutinous Acidity,
give a ſtrong red Tincture to the blue Paper. This Plant,
analyſed, yields a good deal of Acid, a moderate Proportion
Earth and Oil, and a pretty deal of volatile concrete
Thus there is room to believe, that it contains an alumi
Salt, mixed with Sal Ammoniac, and wrapt up in a little
phur. It is deterſive, aſtringent, and vulnerary: Being
externally, it haſtens the Suppuration of Tumours.
Tournefort.

ANACAR, ἄνακας, a *Greek* Adverb, ſometimes uſed by
Greek Medicinal Writers, to expreſs upwards, or towa
ſuperior Part.

ANACARDIOS ANTIDOTUS THEODORET
the Antidote of *Anacardium*, a divine Gift.

> Take of Spikenard, Malabathrum, Cloves, Saffron,
> Epithymum, Flowers of Schœnanth, Myrobalans,
> three Drams; of yellow Aloes, twelve Drams; of
> nut, Ginger, Maſtich, each one Dram; of Illyrian
> ſix Drams; of Anacardium, Agaric, each one
> of Aſarabacca, ſix Drams; of Seed of Smallage,
> Dram; of Coſtus, one Dram and a half; of Pepper,
> Drams; of Fennel, and its Juice, of each eight
> Beat the Fennel in a Mortar, and macerate it in
> three Days; then boil it well, and carefully ſtrain it
> of a ſufficient Quantity, Attic Honey, or Sugar,
> it again to the Thickneſs of Honey. Let the
> Ingredients be pounded together, and well levigated
> there be Plenty of Fennel, preſs out the Juice,
> Antidote will be the better.

It is good in all obſtinate and dangerous Diſeaſes, for
tical Perſons, and Demoniacs; for Pains in the Head,
ders of the Thorax, Pleuriſies, Aſthmas, Peripneumonies,
ſuch Stomachs as turn the Food ſour; and for any ma
Diſtemperature of the Belly or Stomach. It wonderfully
vives and refreſhes thoſe who are juſt got over a tedious
per, and have not yet recovered their Colour. It he
Yellow Jaundice, Anaſarca, Conſumption, Diſtempers
Kidneys; and does Service to thoſe who are continually
to Colic Pains: It corroborates thoſe who have a
Weight all over their Bodies: It is beneficial in
Diſtempers, and intermittent Fevers, given in the
and helps the Gout, if given before the Fit. It is exc
Womens Diſtempers, and in particular the Strangury,
culties in Menſtruation, and Suffocation of the Uter
helps thoſe who, by their Habit of Body, are ſubject
carry, and gently looſens the Belly: It cures Inflamm
the Womb, and the Furor Uterinus. To ſay all in a W
is a divine Gift; and whoever uſes it once or twice
Spring and Autumn, and is not very faulty in his Di
live free from Diſeaſes. It is to be taken to the Qua
Haſle-nut, in the Morning. *Myrepſus, Sect.* 1. *C*
Aetii Tetrabib. 4. *Serm.* 1. *Cap.* 122.

Another Preparation:

> Take of yellow Aloes, an Ounce and a half; of O
> ſia Lignea, each ſeven Drams; of Ginger, A
> Carpobalſamum, each four Drams and a half;
> bathrum, Spikenard, Myrobalans, Spignel, Epi
> each three Drams one Scruple; Cloves, Flowers
> nanth, Pontic Rhubarb, Maſtich, each one D
> Grains; the Bark of the Root of Fennel,
> Pound: Macerate them in two Pints of good V
> ſeven Days; then boil them and ſtrain them,
> Pounds of pure Attic Honey, or a ſufficient Q
> Sugar, and boil it to the Conſiſtence of Honey
> put the Ingredients well beaten, and, after well
> them together, ſet them aſide, in a proper V
> Uſe.

It is good againſt Epilepſies, Apoplexies, and Parap
owe their Riſe to Phlegm and Melancholy; and is
Female Diſorders. *Myrepſus, Cap.* 219.

ANACARDIUM, a ſort of Fruit, of which the
Sorts, the Oriental and Occidental. The Orien
diſtinguiſhed:

ANACARDIUM, Offic. Ger. 1360. Emac. 1
Exot. 15. Commel. Flor. Mal. 15. Park. Theat.
Pin. 511. J. B. 1. 334. *Anacardium vel Anacardus,*
Anacardium Orientale, Jonſ. Dendr. 156. Pluk.
Oepata, Hort. Mal. 4. 95. Tab. 45. *Arbor Indica,*
noide, cortice pulvinato nucleum unicum, nullo
claudente, Raii Hiſt. 2. 1566. THE ANACAR
MALACCA-BEAN-TREE.

Oriental Anacardium is a Seed growing at the Top of a
Fruit in the *Eaſt-Indies*. It is, in Shape and Colour,
Bird's Heart, covered with a tough Skin, including a
Subſtance, full of an hot cauſtic Oil underneath; in
incloſed in another Skin, lies the Kernel, in Taſte like
ond. It is ſaid to be hot and dry, to comfort the Heart
als, and to excite Venery. It is rarely to be met with,
never preſcribed, the *Mel Anacardium* being left out
hree laſt Editions of the *Diſpenſatory*. They ſay that
ans uſe the cauſtic Oil of this Fruit, in ſtaining their
nd fine Callicoes, which ſets the Colours ſo in, that they
to be waſhed out. *Miller Bot. Off.*
contain a great deal of Oil and Salt.
rarefy and purge the pituitous Humours, are reſolving,
he Brain, and ſtrengthen the Memory, being taken in
on. *Lemery de Drogues.*
me old Diſpenſatories we find a Compoſition named
Anacardina, which is not now in Uſe. *Hoffman*, in
tiſe of *Officinal Medicines*, tells a very ſurpriſing Story
ng this Confection; which is, that by the Uſe thereof
Man, who was before ſo dull and ſtupid, as not to be
of learning any thing, became in a ſhort time a very
enius, and comprehended every thing that was taught
e. It was thought very proper to quicken the Motion
ood; and, on ſome Occaſions, is ſaid to cauſe a Fever;
ews that the whole Nut, not the Kernel only, was
dient in this Confection. *Geoffroy.*
the ANACARDIUM recommended by *Schroder*, and
er Writers on the *Materia Medica*, for quickening the
nd ſtrengthening the Memory. As very few Drugs
uſeful Virtues attributed to them, I ſhall give the Pre-
of Anacardium, as delivered by *Arnaldus de Villa Nova*
lſer, in the *Pharmacopœia Anguſtana*.

of Anacardium, bruiſed, three Drams and an half; or
ney of Anacardium, two Drams; theſe Remedies are
ued with a natural Property of reſtoring a loſt Me-
y.

tio Anacardina, a Confection of Anacardiums, which
Memory, reſtores loſt Reaſon, removes a Lethargy,
the Gout, Hæmorrhoids, and thoſe who are oppreſs'd
ancholy or Phlegm.

of Emblic, and Belleric Myrobalans, long Pepper, and
e Pepper, each twelve Drams; Ginger, Honey of
cardium, each eight Drams; Caſtor, Storax, Cloves,
five Drams; Camomile Flowers, Bay-berries, Cype-
each three Drams; Sugar, twenty Drams; Honey,
fficient Quantity. The Doſe is the Quantity of a
l Nut in Whey, warm Wine, or a Decoction of the
s of Aniſe and Fennel; and the Patient is to avoid the
, and to abſtain from phlegmatic Meats, as well as
Anger, Venery, and Drunkenneſs.

emedy quickens the Wit and Senſes, brightens the
ding, and is a proper Confection for wiſe Perſons, and
ſire to be ſo.
nacardiums, before they are fit to be uſed in Medicine,
thus prepared:

them very well in a Mortar, and then put them in
rongeſt Vinegar, where let them macerate for ſeven
. After this, boil them over a gentle Fire to a Con-
tion of two Thirds of the Vinegar; then ſtrain off
ſt from the Dregs, and keep it for Uſe.

To make Honey of Anacardiums.

ith the Vinegar aforeſaid, an equal Quantity of clari-
Honey, and boil them together to a proper Conſiſt-
. *Arnaldus de Villa Nova, Lib.* 1. *Cap.* 28.

SUE's CONFECTION *of* ANACARDIUMS.

f Chebul, Emblic, Belleric, and *Indian* Myrobalans;
ck Pepper, of long Pepper, and of Caſtor, each two
s; of Coſtus, of prepared Anacardiums, of white
, of the Seeds of Rocket or Fennel, of Bay-berries,
ix Drams; and of Cyperus four Drams.

Anacardiums be pounded by themſelves; and when
her Ingredients are pounded, mix all together, and
into an Electuary, with new unſalted Butter, and
Honey, each five Ounces and an half.

dicine is good againſt all cold Diſorders of the Brain;
Belly; purifies the Blood, and rendering the Animal
and fine, thereby invigorates all the Senſes, the
on, the Intellect, and the Memory; for which Rea-
dignified it with the ſpecious Title of the *Confection* *of the Wiſe*, and, by its means, confidently promiſed Aſſiſtance to thoſe who were deſirous of acquiring Knowledge. It alſo warms the whole Vaſcular Syſtem, and imparts a lively Heat to all the Body. But this Medicine is to be uſed cautiouſly, and not till a Fortnight after the Fermentation is over. After taking it, the Patient is to beware of Labour, Anger, Venery, and Drunkenneſs. *Pharmacop. Auguſt.*

CEPHALIC CONFECTION *of* ANACARDIUMS.

Take of the Waters of Marjoram, Orange-flowers, and Clove Gilly-flowers, each ſix Ounces: Theſe being pour'd into a glaſs Cucurbit, immerſe in the Liquor three Ounces of prepared Anacardiums: Let them macerate for twenty-four Hours, the Veſſel being cloſed all the while; then ſtrain off, and in the ſtrained Liquor diſſolve two Pounds of the beſt Sugar; by the ſole Diſſolution of which, reduce it to the Conſiſtence of a Syrup; to which add, while it is ſtill warm, that ſo they may, as it were, diſſolve in it, one Dram of Ambergriſe, one Dram of Lemon-ſeeds, with their Huſks taken off, two Drams of the Reſin of Storax, well pounded, and one Dram of Gum Labdanum: To all theſe, when diſſolved, add the following Ingredients; one Ounce of the Powder of prepared Anacardiums, an Ounce and an half of the true Leopard's-bane Root, an Ounce of the Powder of Aloes Wood, full of its Gum; of the leſſer Cardamoms, of Cubebs, and Coriander-ſeeds, each two Drams; of Nutmeg, half an Ounce; of Mace, three Drams; of Cloves, two Drams; of *Indian* Nutmeg, preſerved and beat to a Pulp, three Ounces; of diſtill'd Oil of Cinnamon, one Scruple, mixed with half an Ounce of Sugar of Roſes.

Mix all up into an Electuary, which is a precious and excellent Medicine for a cold and weak State of the Brain, and Animal Faculty; for ſtrengthening the Stomach, preventing Apoplexies and Epilepſies, recruiting old Age, ſtrengthening the Memory; and, laſtly, excellent for all ſuch Diſorders of the Brain and Stomach as proceed from Cold. Its Doſe is from two Drams to half an Ounce. *Pharmac. Auguſt.*

The Occidental Anacardium is thus diſtinguiſhed:

ANACARDIUM OCCIDENTALE, Jonſ. Dendr. 156. *Anacardium Occidentale, Cajou*, Mont. Exot. 9. *Anacardium Occidentale Cajous dictum, officulo reni leporis figura*, Herm. Cat. Hort. Lugd. Bat. 36. Comm. Flor. Mal. 15. *Anacardii alii ſpecies*, C. B. Pin. 512. Herm. Muſ. Zeyl. 37. *Anacardus Zeylanica, folio nucis Juglandis Cajous, Kaghu*, Ejuſd. 55. *Cajous*, Ger. 1360. Emac. 1544. Park. Theat. 1658. J. B. 1. 336. Chab. 24. Raet. 606. *Acajou*, Tourn. Inſt. 658. Boerh. Ind. A. 2. 262. *Arbor Acajou, vulgò Cajou*, Piſ. Mant. Arom. 193. *Acaiaiba*, Piſ. (Ed. 1658) 1120. *Acajaiba, & Acajuiba Braſilienſibus*, Marcg. 94. *Kapamara*, Hort. Mal. 3. 65. Tab. 54. *Pomifera ſeu potiùs Prunifera Indica, nuce reniformi ſummo pomo innaſcente, Cajous dicta*, Raii Hiſt. 2. 1694. Cat. Jam. 187. Sloan. Hiſt. 2. 136. THE CAJOU, or CASSU-TREE. *Dale.*

This grows at the End of a Fruit, in Shape and Colour like a ſmall ripe Apple; in Form and Bigneſs it reſembles a Hare's Kidney, only the End next the Fruit is bigger than the other. The Outſide is covered with a tough, aſh-coloured Bark, under which is a ſpongy Subſtance like the former; it contains a larger Quantity of cauſtic burning Oil; and under that, in a ſoft Shell, a white pleaſant Kernel. It grows both in the *Eaſt* and *Weſt Indies*, on a large Tree, having pretty big, ſtiff, oval Leaves, with ſeveral hard Veins, running almoſt directly acroſs from the middle Rib. It bears Tufts of five-leaved white Flowers. In *Jamaica* they eat the Kernel of this Fruit, after it has been roaſted in the Embers till all the cauſtic Oil is conſumed. They bring them to Table as a Deſert: They are much of the Nature of the *Eaſtern Anacardia*. The cauſtic Oil is very good for Corns and Warts. *Millar Bot. Off.*

Geoffroy adds, that the Fruit of the Tree is called, in *Braſil*, *Acajaiba*. It is proper to take Freckles or Sun-burn from the Face; but Women ought never to uſe it in the time of their Menſes; becauſe, in that Caſe, it often cauſes an Eryſipelas; though even that may be cured by a Waſh made of Brandy and Water. *Geoffroy.* See ACAJAIBA.

ANACATHARSIS, ἀνακάθαρσις, from ἀνακαθαίρομαι, to purge upwards. A Purgation of the Lungs by Expectoration. I don't know that it is uſed by Authors in any other Senſe, tho' *Blancard* ſays it includes Vomits, Sternutatories, Errhines, Maſticatories, and Medicines that promote the Diſcharge of Saliva. Hence

ANACATHARTICA, Medicines which promote Expectoration.

ANACESTOS, ἀνάκεστος, incurable, from α Negative, and ἄκος, a Remedy. It is ſometimes wrote ἀνήκεστος.

ANACHMUS, an incorporeal Spirit. *Dorneus* from *Paracelſus.*

ANACHREMPSIS, ἀνάχρεμψις, from ἀνὰ, for ἄνω, which imports upwards, and χρέμπτομαι, to hawk. The bringing up from the Lungs, by hawking, any viſcid and tough Matter, which adheres to the Inſide of the Bronchia.

ANACINEMATA, ἀνακινήματα, from ἀνακινέω, to agitate, or toſs, literally to move upwards. This is a Species of Exerciſe taken Notice of by *Hippocrates*, in his ſecond Book, περὶ διαίτης; but he does not explain what it conſiſts in. *Gorræus* takes no Notice of it; *Foeſius* only ſays, ἀνακινήματα are Commotions of the Body, which are reckoned amongſt Exerciſes.

Dacier however, from a parallel Paſſage in *Plato*, concludes theſe Exerciſes to be thoſe Geſticulations and Motions, which the Combatants uſed before they entered the Liſts. By the Derivation however, ἀνακινήματα, Anacinemata, ſhould ſignify *Leaps*.

ANACLASIS, ἀνάκλασις, from ἀνακλάω, to bend upwards, or elevate. It is uſed by *Hippocrates*, περὶ ἀγμῶν, *Sect.* 3. to expreſs the Elevation of the Left Arm altogether, whilſt the Joint at the Elbow is not at all bent, but the Humerus, together with the Arm, appear as one ſtrait Bone. This Situation the Left Arm is in, when it ſupports and elevates a Bow, in order to reſiſt the Right Hand, which draws the String. I know this is not the common Explication of the Word, but it ſeems to be the Meaning of *Hippocrates*.

ANACLINTERIUM, ἀνακλιντήριον, from ἀνακλίνω, to recline. A ſort of Chair, made in ſuch a manner, that a Perſon may recline or lie upon it; a Couch or Settee.

ANACLISIS, ἀνάκλισις, from ἀνακλίνω, to recline. *Hippocrates*, in his Treatiſe περὶ εὐσχημοσύνης, uſes this Word to expreſs the Decubiture of the Sick, which, he ſays, is to be regarded, both on account of the Seaſon of the Year, and becauſe it makes ſome Difference, with reſpect to the Cure, whether the Patient lies upon an elevated Place, (θρόνους) as a Bed or Couch, or upon the Ground, and in a dark Place.

ANACLISMOS, ἀνακλισμὸς, that Part of a Chair on which the Back of the Perſon, who ſits in it, leans. *Hippocrates* περὶ ἄρθρων.

ANACOCK, the Name of an *American* Species of *Phaſeolus*, in the Opinion of *Ray*. It is called by by *J. Bauhine*, *Piſum Americanum aliud, magnum, bicolor, coccineum et nigrum ſimul, ſive Phaſeolus bicolor Anacock dictus*. By *C. Bauhine*, *Phaſeolus peregrinus ex rubro et nigro diſtinctus*. By *Gerard*, and *Parkinſon*, *Phaſeolus Ægyptius*. *Raii Hiſt. Plant.*

I don't find any medicinal Virtues particularly attributed to it.

ANACŒLIASMUS, a ſort of Remedy uſed by *Diocles*, according to the Report of *Cælius Aurelianus*, *Chron. Lib.* 2. *Cap.* 14. for the Cure of a Phthiſis. His Words are, *Utitur etiam Anacœliaſmis, quorum qualitates non memoravit, adjiciens verrendum ſive deducendum a Pulmonibus Humorem, quando fuerat mitigandum potius Ulcus quam repurgandum.*

It does not appear, by this, that the Author knew himſelf what *Diocles* meant by Anacœliaſmus. If, however, we conſider the Derivation, which muſt be from κοιλία, *Alvus*, the Belly; and reflect upon the Effects which the Anacœliaſmi are expected to produce, *deducendum a Pulmonibus Humorem*, we may perhaps find Reaſon to believe, that Anacœliaſms were frequently repeated gentle Purges, or Medicines which kept the Patient perpetually laxative, eſpecially as theſe are found of the utmoſt Importance in the Cure of a Phthiſis, or pulmonary Conſumption.

ANACOLLEMA, ἀνακόλλημα, from ἀνακολλάω, to agglutinate. A Name for certain Topics apply'd to the Forehead to prevent Defluxions of Humours upon the Eyes. *Galen de Comp. Medic. S. Gen. Lib.* 6. *Cap.* 8.

It is much the ſame as FRONTALE, (which ſee) except, that an ANACOLLEMA was uſually made of aſtringent Powders, as *Bole*, or *Dragon's-blood*, or *Acacia*, made up with Vinegar, or the White of an Egg, whereas FRONTALE ſignifies any ſort of Application to the Forehead.

ANA-COLUPPA, the Name of a Plant mentioned in the *Hortus Malabaricus*, called alſo *Ranunculi Facie* INDICA *ſpicata, Corymbiferis affinis, Floſculis tetrapetalis*.

The Juice of this Plant, with a little Pepper bruiſed in it, is recommended as a ſovereign Remedy in an Epilepſy; and is ſaid to be the only Preſervative againſt the Effect of the Bite of the *Cobra-Capella*. *Raii Hiſt. Plant.*

ANACOMIDE, ἀνακομιδὴ, from ἀνακομίζω, to repair or recover the Strength of a Perſon after Sickneſs. This is a Word which frequently occurs in *Hippocrates*. It imports the Reſtoration of Strength to a Patient after an Illneſs, or the Recovering of Health.

ANACONCHYLISMOS, ἀνακογχυλισμὸς, or ἀνακογχυλιασμὸς, a Gargle, from ἀνακογχυλίζω, to gargle. Both theſe are much uſed by *Galen*, and the later *Greek* Writers; but I don't remember to have met with it in *Hippocrates*.

ANACOS, ἀνακῶς, an Adverb uſed by *Hippocrates*. It imports carefully, prudently, with Circumſpection.

ANACOUPHISMATA, ἀνακουφίσματα, from
to lift up, or elevate. This, in *Hippocrates*, (περὶ διαίτης,
joins with ANACINEMATA (which ſee). *Dacier* tra
and explains it by *Sauts*, Leaps. But ſome others have tho
that all thoſe Exerciſes which the Antients called *Geſtation*
included in ANACOUPHISMATA.

ANACTESIS, ἀνάκτησις, from ἀνακτάομαι, to re
Health. The Reſtoration of Strength to a Perſon recove
of a Diſtemper, which has render'd him weak.

ANACTORION, according to *Blancard*, a Name of
Gladiolus, Corn-flag.

ANACYCLEON, ἀνακυκλέων, from κυκλόω, to
about. It anſwers to the Word *Circulator*; Mount
Caſtellus.

ANACYRIOSIS, ἀνακυρίωσις, from κῦρος; Authority.
pocrates, in his Treatiſe of *Decency*, giving Advice to Phy
as to their Conduct towards the Sick, adviſes them,
other things, to remember to ſupport their Authority,
Dignity of their Profeſſion, which he expreſſes by this

ANADENDROMALACHE, ἀναδενδρομαλάχη, a
for the ALTHÆA. *Galen* ſays it is the vulgar Name
ALTHÆA, Marſh-mallows.

Blancard ſays ANADENDRON ſignifies the ſame.

ANADIPLOSIS, ἀναδίπλωσις, from διπλόω, to re
It is the ſame as EPANADIPLOSIS, which is the Redupli
of the Paroxyſm or Fit, in a ſemi-tertian Fever; that
Renewal of the cold Fit, before the preceding Fit is
ended. *Galen de Typis*, *Cap.* 4.

ANADOSIS, ἀνάδοσις, from ἀναδίδωμι, to diſtribute.
Diſtribution of the Aliment over all the Body.

ANADROME, ἀναδρομὴ, from δρέμω, an old Greek
which ſignifies, to run. It imports a Receſs, or a Remo
Pains from the inferior to the ſuperior Parts of the Bo
the Senſe of *Hippocrates*. This is always eſteem'd a
vourable Circumſtance, and of bad Preſage, becauſe a
mours, or whatever cauſes Pain, cannot do ſo much Hurt
Extremities, as in the vital and more noble Parts.

Hippocrates in his firſt Book of Predictions informs
a Diſtortion of the Eye, conſequent upon a Receſs o
from the Loins or Hip, is bad. And in the *Coacæ Præ*
he ſays, that a Receſs of Pain from the Hips or Loins
Head, whilſt the Hands are affected with a Torpor, and
tient feels a Cardialgia, (Heart-burn) is a Sign of a
Hæmorrhage from the Noſe, and Plenty of Stools;
People thus affected, are generally delirious.

ANÆDES, ἀναιδὲς, an Adverb uſed by
in a Senſe ſomewhat different from the common
tions; for in this Author it imports *continually*,
whereas the natural Meaning is, *impudently*.

ANÆDROMOS, ἀνάδρομος, of the ſame De
the former. It is uſed as an Epithet for thoſe Fiſh,
certain Seaſons aſcend from the Sea into Rivers.

ANÆSTHESIA, Ἀναισθησία, Inſenſibility. A
ſolution of the Nerves, accompany'd with an Aboliti
Senſe of Feeling. *Aretæus* περὶ σημ. ϗ αἰτ. χρον. νοσ. L.

ANAGALLIS, the Name of a Plant.

There are two Kinds of Anagallis, which differ
That with the blue Flower is called the Female, the
the ſcarlet Flower the Male Anagallis. They are ſmall
that ſpread themſelves on the Ground, with ſmall,
Leaves, like thoſe of Pellitory on the Wall, ſet
ſquare Stalks; the Fruit is round.

Both Kinds are lenitive, cure Inflammations, extra
pointed things, which have pierced the Body, and re
gedenic Ulcers. The Juice of them, gargarized,
Head of Phlegm; and, inſtilled into the Noſtrils,
Tooth-ach, provided it be into the Noſtrils oppoſite to
Tooth. Mixed with *Attic* Honey, it deterges an
helps Dimneſs of Sight. Drank in Wine, it relieves
are bitten with a Viper, or are diſeaſed in the Kidneys
Some ſay, that the Anagallis with the blue Flower,
Cataplaſm, reſtrains the falling down of the Funda
that with the red Flower, thus apply'd, on the con
vokes the Diſeaſe. *Dioſcorides*, *Lib.* 2. *Cap.* 209.

Some call the Anagallis *Corchoron*; it is of two K
grow no higher than a Hand's Breath; they flouriſh
and watry Places. What is ſtrange, Cattle avoid
Kind; but if, being deceived by the Likeneſs, for
only in Flower, they happen to taſte it, they pre
out an Herb called *Aſyla*, as a Remedy, the ſame
call *Ferus Oculus*. Some adviſe thoſe who have a
it up, to ſalute it thrice in the Morning, before
ſpoken a Word, and then to take it up, and preſ
it will have the more Virtue. *Pliny*, *Lib.* 25. *Cap.*

Both Kinds of Anagallis are very deterſive, and
what of a heating and drawing Quality, whence
Splinters out of the Fleſh, and upon the Whole
tue of Drying without Mordacity; for which
conglutinate Wounds, and help putrid Ulcers.
Virtut. Simpli. Lib. 2. *Cap.* 1.

Anagallis of the *Greeks* is the *Macia* of the *Latins*;
ice of it is recommended to be poured on the Head.
llus Empiric. Cap. 1.

ere are three Sorts of Anagallis commonly uſed in Medi-
the Mas, Fœmina, and Aquatica. The firſt is the

AGALLIS TERRESTRIS MAS, Offic. *Anagallis Mas*,
494. Emac. 617. Raii Hiſt. 2. 1023. Mer. Pin. 7. *Ana-*
flore Phœniceo, C. B. Pin. 252. Tourn. Inſt. 142. Elem.
19. Boerh. Ind. A. 204. Hiſt. Oxon. 2. 568. Raii Synop.
2. Dill. Cat. Giſſ. 126. Rupp. Flor. Jen. 14. Park.
558. *Anagallis Mas, flore Phœniceo*, Merc. Bot. 1. 19.
Brit. 7. *Anagallis Phœnicea Mas*, J. B. 3. 369. *Ana-*
Phœnicea, Buxb. 19. *Anagallis*, Chab. 452. MALE
ERNEL. *Dale.*

s is a ſmall low Plant, not above a Span high, having a
many ſquare ſmooth Stalks, with ſmall Chick-weed-like
, ſet one oppoſite to another, without Foot-ſtalks, full
ll, round, blackiſh, red Spots underneath: The Flowers
from the ſetting on of the Leaves, and grow ſingly on
oot-ſtalks, being a Flower of one Leaf, divided into five
ons, of a beautiful ſcarlet Colour. The Seed-veſſel is
opening horizontally in the Middle when the Seed is
which is ſmall and round, of a dark-brown Colour. The
s ſmall and thready, periſhing every Year. It flowers in
nd *June*, and grows in Corn Fields. *Miller Bot. Off.*

ſecond is the

GALLIS TERRESTRIS FOEMINA, Offic. *Anagallis Fœ-*
Raii Synop. 3. 282. Ger. 494. Emac. 617. Raii Hiſt.
4. Mer. Pin. 7. *Anagallis Fœmina, flore cœruleo*, Merc.
19. Phyt. Brit. 7. *Anagallis cœrulea*, Buxb. 19. *Ana-*
cœruleo flore, C. B. Pin. 252. Rupp. Flor. Jen. 15. Dill.
Giſſ. 132. Hiſt. Oxon. 2. 569. Boerh. Ind. A. 204.
Inſt. 142. Elem. Bot. 119. Park. Theat. 558. *Anagal-*
rulea fœmina, J. B. 3. 369. Chab. 452. FEMALE
ERNEL. *Dale.*

differs in nothing from the former, but in the Colour of
vers, which in this are blue; and it is more rarely to be
th.

Virtues of both *Pimpernels* are much the ſame: It is a
moderately warm and dry, with a little Stypticity, and is
e accounted by ſome a good Vulnerary. The Juice,
given inwardly by itſelf, or mixed with Cow's Milk, is
in Conſumptions, and Diſtempers of the Lungs; it is
ut in cordial Waters, as an Alexipharmic; and is good
malignant Diſtempers: It has been commended by ſome
s of Note, as of ſingular Advantage in maniacal Caſes,
delirious Fevers. The whole Plant is uſed. *Miller*
ff.

theſe contain a great deal of Salt, and a moderate Quan-
Oil and Phlegm.

are deterſive, vulnerary, and good againſt the Bite of a
g, internally and externally applied. *Lemery de Drogues.*

, however common in foreign Countries, is very rare
land. Dr. *Fyſher* has found it near *Peckham*.

Bauhine took the Flower of this Plant to be pentape-
and its Fruit to be like that of the Chick-weed: But
us knew the Structure of its Parts better, for he affirms
thout Reaſon) that the Flower of the Pimpernel is only
into five Segments; and that its ſpherical Fruit loſes half
when the Seed is ripe.

Pimpernel has an herby, ſtyptic, ſaltiſh Taſte, and gives
Tincture of Red to the blue Paper: The Fruit gives it
; ſo that it is probable, that its Salt may very much
the *Terra foliata Tartari Mulleri*. *Tragus* ſays, a
the Decoction of Pimpernel in Wine, is a potent Su-
if the Patient lie ſtill in Bed, ſo as not to interrupt the
In peſtilential Caſes he alſo adviſes to waſh the Wound
upon the being bitten by a Viper or mad Dog, drink-
laſs of it at the ſame time: Inſtead of the Decoction of
nel, the Juice may be uſed, which he commends for the
and for Obſtructions of the Liver and Kidneys,
which it expels the Stone, without any ill Conſequence.
n, *Mynſicht*, *Rolfincius*, *Michael*, *Willis*, and ſeveral
very much commend the Decoction of this Plant, or its
e, in Spirit of Wine, for Madneſs, or the Delirium
ends continued Fevers: The Extract has the ſame Vir-
may be mixed with that of St. John's-wort for the Epi-
Simon Paulli mentions a Cataplaſm of *Pimpernel*,
n Urine, and applied to the Feet of thoſe who have the
as a Remedy very much uſed in his Country. *Martyn*'s
ort.

third is the

GALLIS AQUATICA, BECABUNGA, Offic. *Anagallis*
vulgaris, ſive Becabunga Officinarum, Merc. Bot. 1.
t. Brit. 7. *Anagallis ſive Becabunga*, Mer. Pin. 6. Ger.
mac. 620. *Anagallis Aquatica minor, folio ſubrotundo*,
Pin. 252. *Anagallis Aquatica, flore cœruleo, folio rotun-*
minor, J. B. 3. 790. *Anagallis Aquatica*, Chab. 568.
s Aquatica vulgaris ſive Becabunga, Park. Theat. 1236.
ga major & minor Officinarum, Chomel. 537. *Beccabunga*,
rr. M. 100. *Beccabunga Officinarum*, Rupp. Flor. Jen.
1. 199. Buxb. 332. *Veronica Aquatica rotundifolia Becabunga dicta, minor*, Raii Synop. 3. 280. *Veronica Aquatica major, folio ſubrotundo*, Hiſt. Oxon. 2. 323. Boerh. Ind. A. 225. Tourn. Inſt. 145. Elem. Bot. 122. Raii Hiſt. 1. 852. *Becabunga major Officinarum*, Volck. 58. BROOK-LIME. *Dale.*

The Stalks of Brook-lime are thick, round, and ſmooth, ſhooting out fibrous Roots at the lower Joints, by which it eaſily propagates itſelf; the Leaves come forth at the Joints, on very ſhort Foot-ſtalks, one oppoſite to another, fat, ſucculent, and round, little or nothing ſerrated about the Edges, ſomewhat more than half an Inch broad; the Flowers come forth at the Joints, growing in long Spikes, each Flower being made of a ſingle Leaf, divided into four roundiſh Segments, and ſtanding on a ſhort Foot-ſtalk, of a fine blue Colour, and is ſucceeded by a flattiſh Seed-veſſel, in Shape like a Heart, full of very ſmall Seed. It flowers in *June*, holding the Leaves all Winter. It grows in Rills and running Ditches. The whole Herb is uſed.

Brook-lime is a good Deobſtruent and Antiſcorbutic, abounding with volatile Parts, very good for the Scurvy, being an Ingredient in the antiſcorbutic Juices, and Diet-drinks, for that Diſtemper. It is alſo deterſive and cleanſing, and uſeful in Obſtructions of the Kidneys, by Gravel or ſlimy Humours; as alſo for the Stone and Dropſy. *Miller Bot. Off.*

Beſides theſe, *Ray* mentions the following:

Anagallis onnium minima, Moriſ. Prælud.

Anagallis lutea, Ger. *Flore luteo*, Park. *Lutea nemorum*, C. B. *Lutea*, *Nummulariæ ſimilis*, J. B. YELLOW PIMPERNEL.

Anagallis cœrulea, foliis binis terniſve ex adverſo naſcentibus, C. B. *Tenuifolia*, Ger. Emac. *Tenuifolia flore cœruleo*, Park. *Tenuifolia Monelli*, Cluſ.

ANAGARGALICTA, ἀναγαργάλικτα, Gargariſms. Medicines with which the *Fauces* are waſhed, from γαργαρεὼν, the Throat. *Hippocrates de Affectionibus.*

ANAGARGARISTON, ἀναγαργάριςον, of the ſame Derivation as the preceding. A Gargariſm to waſh the Fauces with, in a Quinſey. *Hippocrates de Morbis*, *Lib.* 2.

ANAGLYPHE, ἀναγλυφὴ, from ἀναγλύφω, to engrave. A Name given by *Herophilus* to a Part of the fourth Ventricle of the Brain. It is called by Anatomiſts at this time CALAMUS SCRIPTORIUS, from the Reſemblance it bears to a Pen, preſerving the Analogy of the *Greek*. *Galen. de Anatom. Adminiſt. Lib.* 9. *Cap.* 5.

ANAGNOSIS, ἀνάγνωσις, from ἀναγινώσκω, to read or perſuade. It ſignifies, ſtrictly, Reading, or Perſuaſion, or Conviction. But *Foeſius* thinks, that in the Treatiſe of *Hippocrates*, intituled παραγγελίαι, it imports frequent viſiting a Patient, and examining the Caſe.

ANAGRAPHE, ἀναγραφὴ, from ἀναγράφω, to preſcribe. *Hippocrates*, in his Treatiſe *of Decency*, adviſes Phyſicians to have, in Readineſs, Portions capable of inciding, prepared ἐξ ἀναγραφῆς, according to ſtated Preſcriptions. In this Senſe all the Officinal Medicines may be ſaid to be made ἐξ ἀναγραφῆς.

ANAGYRIS, the Name of a Plant.

Anagyris, which ſome call *Anagyros*, others *Acopos*, is a Shrub, in Leaves and Branches like the Vitex, of a very ſtrong Smell, bears a Flower like that of Cabbage; and produces a parti-coloured ſolid Seed, in the Shape of a Kidney, and contained in long Pods; this Seed hardens about the Time that Grapes ripen.

The young and tender Leaves, bruiſed, and applied as a Cataplaſm, repreſs œdematous Tumours: Taken, to the Quantity of a Dram, in Raiſin Wine, it helps the Aſthma, promotes the Expulſion of the After-birth, the Menſes, and the Embryo. For the Head-ach it is taken in Wine. It ſerves for an Amulet for Women who are ſubject to hard Labour; but it muſt be taken off, and thrown away immediately after Delivery. The Juice of the Root is diaphoretic and digeſtive. The Seed, eaten, is a powerful Emetic. *Dioſcorides*, *Lib.* 3. *Cap.* 167.

The Anagyris is thus diſtinguiſhed by modern Botaniſts:

ANAGYRIS, Offic. Chab. 78. Mont. Ind. 36. *Anagyris fœtida*, C. B. Pin. 391. Ger. 1239. Emac. 1427. Park. Theat. 245. Jonſ. Dendr. 364. Raii Hiſt. 2. 1722. Tourn. Inſt. 647. Elem. Bot. 507. Boerh. Ind. A. 2. 27. *Anagyris vera fœtida*, J. B. 1. 364. STINKING BEAN TREFOIL. *Dale.*

It is a Shrub, very branchy; the Bark is of a greeniſh Brown, the Wood yellowiſh or pale; the Leaves are ſet in Order, three by three, oblong, pointed, green above, whitiſh underneath; of ſo ſtrong and ſtinking a Smell, eſpecially when they are broken, that they give the Head-ach. The Flowers are yellow, and reſemble thoſe of Broom; they are ſucceeded by Pods as long as one's Finger, like thoſe of Kidney-beans, and cartilaginous; every one of them contains three or four large Seeds, like the Kidney-beans; white at firſt, afterwards purpliſh, and at laſt when perfectly ripe, blue and blackiſh. This Shrub grows in warm Countries. The Leaves are reſolutive, and the Seed emetic. *Lemery de Drogues.*

ANAIDES. See ANÆDES.

ANAISTHESIA. See ANÆSTHESIA.

ANALCES, ἀναλκες, from α Negative, and ἀλκὴ, Strength, weak, effeminate. *Hippocrates* uſes this as an Epithet for the *Aſiatic* Nations.

ANALDES, ἀναλδὴς, from α Negative, and ἀλδέω, to increaſe. It imports Not receiving Nouriſhment, or Augmentation. It is apply'd by *Hippocrates* to the Fruits which grow about the River *Phaſis*, *de Aere*, *Locis*, *Aquis*.

ANALENTIA, a Species of Epilepſy mention'd by *Paracelſus*.

ANALEPSIA. *Johannes Anglicus* calls by this Name, that Species of Epilepſy which proceeds from Affections of the Stomach.

ANALEPSIS, ἀνάληψις, from ἀναλαμβάνω, to recover, or regain Strength and Vigour, after Sickneſs. It ſignifies a Renutrition, or regaining Strength, after having been render'd weak by a Diſtemper. Hence

ANALEPTICA, Analeptics, Medicines deſtin'd to promote this Renovation of Strength, Reſtoratives.

Among all the ſeveral Claſſes of corroborative Medicines, thoſe call'd *Analeptics* juſtly claim the firſt and higheſt Rank. Under this Denomination are included all ſuch Remedies as reſtore impair'd Strength, raiſe depreſs'd Spirits, and poſſeſs what we commonly call a comforting Quality. Such Medicines are likewiſe known by the Names of *Cordials* and *Cardiacs*. The Parts of the vegetable Kingdom, which beſt anſwer this Intention, are the Flowers of Roſes, of the Lemon-tree, of the Orange-tree, of Jeſſamine, and of Lillies of the Valley; the Herbs Baum, Origanum, Marum, Lemons, *China* Oranges; and of Spices, Cinamon; of reſinous Subſtances, Amber; of Animals, Muſk: And alſo the Preparations of all theſe, the Oil of *Cedar*, of *Turkiſh* Baum, the true Oil of Roſes, the OLEUM CANANGE, Oil of Bergamotte, Eſſence of Ambergriſe rightly prepar'd, Oil of Cinamon made into an *Elæoſaccharum*, Baum-water prepar'd with Lemons, Water of Lilies of the Valley, of Cinamon prepar'd with Quinces. Under this Claſs may likewiſe be reckon'd Strawberries, Currans, Raſpberries, Cherries, and their Stones, Waters prepar'd of freſh Cherries, Lemon-juice, and Syrup of Lemons.

Theſe Cordials act by their fragrant, ſweet, ſubtile, and oily Principle, and very ſoon enter the Nerves, and communicate a mild and gentle Motion to the Fluid they contain; for ſuch is the Nature of all ſulphureous, ſubtile, and ſtrong-ſcented Medicines, that they ſoon pervade the inmoſt Receſſes of the nervous Parts, and quickly produce their Effects, which is evident from fetid Medicines; and even ſuch as are of an agreeable Smell, eſpecially in Conſtitutions, that thro' an Idioſyncraſy cannot bear them. Hence by their Smell alone, as in Faintings and Swoonings, they ſpeedily exert their corroborative Virtues, and raiſe the drooping, languid Spirits of the Patient; and this becauſe the Extremities of the Nerves, and ſmall Blood-veſſels, are in no Part of the Body leſs cover'd, or more immediately expos'd and naked, than in thoſe large and capacious Ducts which we call the Noſtrils, to which when fragrant Medicines are apply'd, they very quickly affect the Nerves and Spirits.

I.

Though we are not to deny the above-mentioned Analeptics their proper Share of Efficacy in cheriſhing Nature, and recruiting impair'd Vigour, yet it muſt be confeſs'd their Power that way is pretty much limited and reſtrain'd. It were indeed to be wiſh'd, that there were in Nature Medicines of this Kind, of a certain and infallible Virtue, which the Vulgar fooliſhly enough imagine, and as fooliſhly require at the Hands of the Phyſician, ſuch as could effectually exert their reſtorative Powers, and recruit languiſhing Vigour in all Diſtempers, but eſpecially thoſe of the acute and malignant Kind. But as in all Diſeaſes there is not a more rational, or a more certain way of reſtoring Strength, than by carrying off the morbific Cauſes, and baniſhing the noxious Principles of the Diſorder from the Body; ſo unleſs the Phyſician effect this, the Uſe of ANALEPTICS is to no manner of Purpoſe.

II.

Nor is it to be thought, that a genuine, laſting, and uniform Reſtoration of Strength is to be procured only by Medicines which excite a Motion in the Spirits and ſolid Parts; for in many Diſeaſes, eſpecially in Fevers and Convulſions, there is a great moving Force and Power in the Heart, the Arteries, and nervous Membranes, and yet the natural Strength is weak and languid; ſo that a true and genuine Reſtoration of the natural Strength principally depends upon proper Aliments, both of the eatable and drinkable Kind, being converted into good Blood, and laudable Juices, which afterwards generate that ſubtile Fluid which is ſecreted in the Brain; and being carried thro' the Nerves to the Muſcles, and muſcular Coats, principally ſupplies the Body, and its ſeveral Parts, with Strength and Vigour.

III.

Thoſe Nutritives therefore which afford a Matter moſt proper for this Purpoſe, are the beſt Analeptics, of which Kind are gelatinous Broths of Fleſh, Capons, and Bones with their row, boiled in a cloſe Veſſel with Water, a little Wine, Slices of Lemon, a little Salt, Powder of Mace, and Broths alſo made of coarſe *Weſtphalian* Bread, Water, and Eggs.

Chocolate, with or without Milk, Aſs's Milk, diſtill'd from coarſe Bread, and Lemon-peel, and Wine, cially rich old Rheniſh Wine, and unadulterated Wine; but theſe nutritive and ſtrengthening Aliments to be uſed in the very Time of the Diſeaſe, nor when the Maſs of Blood and Humours is very impure; but when Diſtemper is over, and where, by a preceding Diſeaſe, Exceſs of Paſſion, long Watching, Fatigue and Labour of or Mind, or large Hæmorrhages, the Strength is waſted pair'd, in theſe Caſes ſuch Medicines are very proper; then Caution is to be uſed, and a proper Moderation obſerv'd, and kept up to, becauſe they paſs very the Blood, and augment its Quantity. *Hoffman*, *Rational. Syſtemat.*

ANALGESIA, ἀναλγεσία, from α Negative, and Pain, or Grief. It ſignifies a State of Eaſe, without Pain, ther in a natural State of Health, or from ſome morbid depriving any Part of Senſation.

ANALLIS, ἄναλλις. *Erotian* ſays this is the Name Plant; but neither he, nor any other Author I have met ſay what Plant it is.

ANALMYROS, ἀνάλμυρος, from α Negative, and Salt, unſalted.

ANALOGISMOS, ἀναλογισμὸς, from ἀναλογία, It ſignifies Ratiocination, or the Inveſtigation of things dent from the Analogy they bear, or are ſuppoſed to things well known.

ANALOSIS, ἀνάλωσις, from ἀναλίσκω, to conſume, ſuming, or waſting.

ANALTHES, ἀναλθὴς, from α Negative, and cure. Incurable.

ANALTOS, ἄναλτος, from α Negative, and ἅλς, unſalted, inſipid, not ſalt to the Taſte.

ANALYSIS, ἀνάλυσις, from ἀναλύω, to reſolve. ſolution of any Subſtance into its firſt Principles, with of diſcovering its component Parts.

The Method of analyſing mineral Waters has been under the Article ACIDULÆ, which I would adviſe the to peruſe, becauſe I have there ſpecify'd the Nature of Subſtances, ſome or more of which are found to exiſt compound Bodies; and in the ſame Place I have general Methods of diſcovering them.

There is ſomething very trifling in the common Plants and Animals; the way is to diſtil them in ſels, and examine what riſes into the Receiver, and Mortuum, or what remains in the Veſſel, and is too be rais'd by the Fire. But by this Method very little thing can be diſcovered, inſomuch that it is not the common Analyſis to diſcover even what the or Animal was.

In the Analyſis of Plants a large Quantity of Phlegm rally comes over firſt, then an acid Spirit, an alcaline Salt; and laſtly, a black fœtid Oil. From the Aſhes remains, is obtain'd a lixivial Salt, ſuch as Salt of which runs *per deliquium* in the open moiſt Air; or a *Sal Salſus*, ſuch as that of the common Wall-flower. theſe Subſtances, which are got by Diſtillation from Plants, there are others obtainable only from ſome Thus from aromatic Plants, ſuch as Lavender, Thyme, *&c.* a ſubtle, fragrant, eſſential Oil, generally riſes firſt. a few Plants, ſuch as Hellebore, Helleboraſtrum, Creſſes, and others, a very ſharp, penetrating Spirit comes over with the firſt Degree of Fire, which is tain'd after the Plants have been fermented, but in a Order. Sometimes the firſt Degree of Fire brings acid or urinous Spirit, ſometimes an inflammable and tile Spirit.

Theſe are the few Elements, or Principles, Plants. We are not, however, to imagine, that go by the ſame Name are exactly alike in all Plants. fix'd Salts, for Inſtance, got from their Aſhes, being derived from ſome Acid, muſt differ from one another ous Plants, as much as Acids themſelves do. For Reaſon the acid Spirits, volatile urinous Salts, and tial Oil, muſt be different; and accordingly we obſerve the eſſential Oil of Thyme, digeſted with Spirit of Sal niac, gives a violet or purple Tincture, which many tial Oils will not do. Wherein all theſe Differences conſiſt, has not hitherto been ſufficiently clear'd up.

From animal Subſtances we obtain a large Quantity tile urinous Salt, a thick Oil, very little fix'd Salt, leſs acid Salt. The ſame Subſtances, being boiled in yield a Mucilage, or Jelly, from which, by Diſtillation Principles already mentioned may eaſily be got. But animal Subſtances yield theſe in much the ſame manner, they appear very little, if at all different, in different g can be determined *a priori* concerning the medicinal of particular Animals from their Analyſis.

following Obſervation of *Homberg*, and *Lemery*, deſerve , as there is ſomething extremely curious in them upon bject.

ation on the ANALYSIS *of Vegetables, by M.* Homberg.

the Chymical Analyſes of Plants which have hitherto ade with a View to diſcover their Natures more per- have been conducted and managed almoſt in the ſame ; that is, by ſeparating, by means of Fire, their conſti- nd component Parts. The principal Difference which n obſerv'd in Separations of this Nature, is, that ſome mented the mix'd Body, before it is ſubjected to the of the Fire; whereas others have began the Analyſis any previous Fermentation. The Principles produced ſhed by both theſe Manners of Separation, univerſally of certain Quantities of *Salts*, *Oils*, *Water*, and *Earth*. , for very good Reaſons, been doubted, whether what call *Principles*, are the true and real *Principles*, which te and make up the mixt Body, before it was ſubjected Analyſis; or, in other Words, it has been doubted, theſe four Subſtances, into which the compound Body ed by the Force of Fire, were really to be found in that when it was in its natural State.

firſt Reaſon for our doubting of this, is, that two Plants differing in Taſte, in Smell, in Figure, and in Vir- *abbage*, for Inſtance, and *deadly Night-ſhade*, are, when d to an Analyſis, reduced into Principles ſo ſimilar, both pect to Number and Quality, that a Perſon would take r one and the ſame Plant analyſed at different times; ing is more certain, than that the one is a Pot-herb, other a Poiſon.

ſecond Reaſon for our doubting of this, is, that one make up the ſame compound Subſtance, by rejoining ciples into which it has been reſolv'd by the Analyſis, r Fermentation they ſhould undergo, or whatever De- Fire ſhould be employed for that Purpoſe.

over other Difficulties, ſince they ſeem to be of leſs ence; but theſe I have now mentioned, certainly chal- ne Attention. As for what regards the firſt Reaſon of I ſhall only ſay, that we cannot abſolutely deny, that r Subſtances, Salt, Water, Oil, and Earth, enter the tion of all Vegetables, ſince they are univerſally found after whatever manner the Analyſis is conducted or n; but the Difficulty only is, to know whether they r the ſame manner in the Plants, as they do when we cured their Separation by Analyſis; or whether the f the Fire have not alter'd theſe Principles, and given uite different Appearance, from what they had in the d Body.

made ſeveral Experiments, in order to ſatisfy myſelf rd to this Point; but I ſhall only here give an Account nner in which I performed one of them, ſince I intend ome Conſequences from it.

uice of ripe Grapes, newly expreſs'd, put into a Veſſel, 'd, will firſt yield a large Quantity of an aqueous Li- which, the Part that firſt comes over, is taſteleſs and nd that which come laſt, acid, with ſome Marks of a rinous Salt; then by augmenting the Fire, it will mall Quantity of a very fœtid Oil; and that which n the Veſſel, being incinerated and lixiviated, yields a lt, and leaves a ſmall Quantity of inſipid Earth.

me newly expreſs'd Juice of Grapes being evaporated third on a very ſlow Fire, and put into a cool Place, an alt, ſomewhat acid, cryſtallized itſelf in it; and an oily , very ſweet and agreeable to the Taſte, floated on its and the Liquor that remained was a little tartiſh, on f ſome eſſential Salt, which ſtill remained in it.

me Juice of Grapes, having fermented, and become elded in Diſtillation a pretty large Quantity of in- e Spirit, afterwards a great deal of a purely aqueous then the Matter, which remained in the Alembic, orated to the Conſiſtence of thick Honey, I took it e, and poured upon it the ſtrongeſt Spirit of Wine egmated, which became charged with a reddiſh Oil, atic Smell; a little earthy Matter was precipitated, d Salt, reſembling Tartar, cryſtallized at the Bottom.

three different Analyſes, of one and the ſame mixt d us the ſame Principles, but very much alter'd by Fire in the firſt, and by the Fermentation in the third ſo that the Principles yielded by the ſecond Analyſis, her ſuffered the Torture of a ſtrong Fire, nor under- mentation, muſt leaſt of all recede from the natural h they retained in the Plant. We find the Sweetneſs pe in the oily Matter which floats above the Cryſtal- s poignant Taſte in the tartiſh Salt which was cry- nd its Fluidity in the aqueous Phlegm which was from it. The earthy Matter remain'd mixt with l Salt, and could not be ſeparated but by a great Fire, as happened in the firſt Analyſis, in which we obſerve the ſame things with regard to the Salt of this Plant, as in ſtrong Diſtillations we obſerve of foſſile Salts, ſuch as Saltpetre, and Vitriol, which we very well know to be acid volatile Salts, mixed with a proportionable Quantity of fixed Salt, and inſipid Earth, which ſerve as a Kind of Matrix to them. But as the Salts of Plants are more compounded than foſſile Salts, we accordingly find the Salt of our Plant divided into three different Parts; the firſt is that acid Salt which paſs'd thro' the Neck of the Retort along with the laſt Parts of the Phlegm; the ſecond is that volatile urinous Salt which paſſed partly with the laſt Drops of the Acid, partly alone, and partly with the fœtid Oils; the third is the fixed Salt, which is ſeparated from the earthy Parts by Lixiviation; and theſe three Salts being naturally joined together in the Plant, compoſe its eſſential Salt, which, as we have ſeen, cryſtallized in the ſecond and third Analyſes.

The Oil of this Fruit, which in the ſecond and third Analyſes is ſweet, and of an aromatic Smell, is in the firſt Analyſis conſiderably changed into a very acrid and ſtinking Oil, probably on account of a Quantity of urinous and acid Salts contained in the Plant, which the Violence of the Fire has carried off at the ſame time, and mixed with the ſaid Oil, which Salts, after paſſing thro' the Neck of the Retort, became volatile, whereas the Salts yielded by the other two Analyſes were not ſo; and as Fermentation naturally diſengages volatile from fixed Subſtances, we find in the third Analyſis a great deal of a burning Spirit, which is the moſt volatile Part of the Oil of our Fruit, and which was ſeparated from it by the leaſt Heat.

We ſee by the Compariſon we have made of the Principles yielded by one and the ſame mixt Body, in three different Analyſes, that theſe Principles are always found in the ſame Number, but different only in Degrees of Volatility and Fixation, according to the Fermentation and Degrees of Fire theſe compound Bodies have undergone, during their reſpective Analyſes. Beſides, if to this we add the infinite Combinations of *more* or *leſs* of theſe Principles, the Differences of which may be imperceptible by us in the Analyſis, we ſhall not be ſurpris'd to find two Plants ſo different in Taſte, in Smell, and in Virtues, as the *Cabbage* and *deadly Night-ſhade* are, ſo much alike and ſimilar in their Principles.

For theſe very Reaſons we may likewiſe eaſily comprehend, why one cannot, if I may uſe the Word, *recompoſe* a mixt or compound Body, by rejoining the Principles into which it has been reſolv'd by Analyſis; becauſe the Fire having changed their natural Arrangement, and reſpective Degrees of Volatility and Fixation, and having, even unavoidably, diſſipated ſome Part of them, theſe Principles, being again join'd together, are neither found in the ſame Quantity, poſſeſſed of the ſame Quality, nor arrang'd in the ſame manner they were in the compound Body before it was ſubjected to the Analyſis.

To convince myſelf ſtill further of this Truth, I have mixt very ſimple Principles, in order to compoſe certain Bodies, which I afterwards ſubjected to Analyſis, and which yielded the ſeveral Principles quite chang'd from what they were; for Inſtance, the fixed lixivial Salt, and the expreſs'd Oil of Plants, mixed together on a Fire, compoſe a Soap, which, among other Principles, yields in its Analyſis, an acid Liquor, an inſipid Earth, and an urinous Salt, which do not at all appear in the Ingredients of which it is compoſed.

The Mixture of an acid Mineral, with the eſſential Oil of any aromatic Plant, compoſes a Reſin perfectly reſembling that which flows from certain Trees. This Compoſition is only made up of two very volatile Ingredients; and yet, upon an Analyſis, it yields all the four Principles. It muſt indeed be own'd, that upon the Mixture of theſe two Subſtances, ſo ſudden and violent a Fermentation ariſes, that a Flame is often thence produced; and as we know, that in all Fermentations a Separation is naturally made of the volatile from the fix'd Parts, there was no great Difficulty in ſeparating the one from the other in the Analyſis, tho' they did not appear ſuch before the Fermentation.

All theſe Conſiderations and Remarks ſhew us, that thoſe Analyſes in which only a great Fire is employ'd, are not ſo proper to diſcover the Principles and Virtues of Plants, as when by a moderate Heat, and Fermentation, we promote the Separation of their component Principles. *Homberg, Mem. de l'Acad. Roy. A.* 1701.

Remarks upon the Uſefulneſs and Deficiencies of the common Methods of analyſing Vegetable and Animal Subſtances, by Mr. Lemery.

That I may throw a greater Light around what I intend to ſay upon this Subject, I ſhall make uſe of a Compariſon, which, to me, ſeems very well calculated for the Illuſtration of the Subject.

Suppoſe then two Edifices, almoſt of the ſame external Form, but built of Materials different in themſelves, and differently arranged and diſpoſed with regard to each other. If, in order to diſcover this Difference of Materials, and their different Arrangements in each Edifice, one ſhould deſtroy both, and make, if I may be allow'd the Expreſſion, a ſort of Decompoſition or Analyſis, by means of an active and violent Agent, which, inſtead of ſparing the Materials on which it was to act, and only ſeparating them from one another, and leaving them entire after their Separation, ſhould by the natural Force and Quickneſs of its Motion, in a ſhort time, reduce them to a Duſt; in ſuch a Chaos, where every thing would not only be confounded, but even conſiderably altered and changed, would it be poſſible to know and diſtinguiſh the Difference of the ſeveral Materials, which had enter'd the Compoſition of each Edifice? Or might it not poſſibly happen, that the Duſt, produced by the Demolition of the one, might reſemble that afforded by the other? If this ſhould happen to be the Caſe, People would not fail to conclude, that both Edifices were built of the ſame Materials, tho' in Reality it was otherwiſe.

This is a full Image and Repreſention of what happens in the ordinary Analyſis of Plants and Animals: The Fire employ'd in Operations of this Nature is the quick and active Agent above-mention'd; for it ſpares none of the Subſtances ſubmitted to its Action; it ſoon confounds and attenuates them; and, if I may ſo ſpeak, reduces them to a kind of Duſt. But, whether by the Confuſion and Derangement of the Parts, or by the foreign and adventitious Parts conveyed to the different Subſtances of the compound Body, it lays a Foundation for the Production of new Compoſitions, which are often widely different from thoſe which were naturally inherent in the Body itſelf. 'Tis probably for theſe Reaſons, and on account of a certain Change induced by the Fire on the different Parts of Plants and Animals, that it often happens, that two Plants, one of which has very ſalutary, and the other poiſonous Qualities, and whoſe natural Compoſition muſt be conſequently very different, reſemble each other ſo much both in the Subſtances they yield, and the Quantities of theſe Subſtances, that if their Qualities were not known before, we ſhould be induced, in Conſequence of the Analyſis, to believe them one and the ſame Plant.

When I ſay, that the Fire produces ſuch a remarkable Change and Alteration upon the Subſtances yielded by compound Bodies, I do not intend to repreſent theſe Subſtances as real Principles, nor to inſinuate, that the Principles of compound Bodies are alterable by the Action of the Fire. What has laid a Foundation for this Opinion is, that ſome Subſtances, which commonly, but unjuſtly, receive the Name of Principles, actually undergo ſuch a Change by the Fire; but I ſhall afterwards prove, when I come to examine what Bodies, in a truly Chymical Senſe, deſerve the Name of Principles, that we have all the Reaſon in the world to be aſſured, that theſe Bodies do not change their Forms by the Action of the Fire, or rather, that if they are ſuſceptible of any Change by means of that Agent, the Alteration does not fall upon any of the Principles in particular, but only upon their Union, or the Manner in which they are united with one another; ſo that the Fire may well change the Form of the compound Body, by diſuniting its Parts, and arranging them in a different Manner from what they were, but can produce no Change with regard to the Principle, the Solidity of which renders its Parts inſeparable, and conſequently its Form unalterable.

It may perhaps be ſaid, that if People would make a juſt Eſtimate of the Advantages ariſing from Chymical Analyſis, in acquiring the Knowledge of compound Bodies, before they engaged in them, the Fruitleſneſs of the Labour would make them drop the Project; by which means they ſhould ſave a great deal of Labour, Expences, and Time, which might be more advantageouſly employ'd.

I anſwer, that we are not able to form a juſt Judgment of Chymical Analyſes, till ſuch time as they are made, and we ourſelves put into a Condition of examining all their Circumſtances carefully, and comparing them with one another. Since then a Knowledge of the ſmall Advantage that attends them, muſt be the Reſult of a Trial made; it is requiſite for Conviction in this Point, and to put us in a Condition to diſcover wherein their Defect lies, that ſuch Trials and Experiments be firſt made; and even tho' one ſhould foreſee before the Experiment, all that is obſerved to happen after it is made, yet the Reaſons alledged againſt the Attempt, amount only, at beſt, to bare Conjectures, incapable of procuring Aſſent, and unworthy to be laid in the Balance againſt the Advantages, which, 'tis pretended, the Public receives from Labours of that Nature. Beſides, as theſe Conjectures could not have been confirmed, but by going thro' the Analyſes themſelves, there would have ſtill been a Neceſſity for making them, but with this Difference, that in the one Caſe, the Analyſes ſhould have ſucceeded the Conjectures, and been a kind of Confirmation of them, whereas in the preſent Caſe, the Analyſes are firſt made, and lay a Foundation for our future Reflections.

Beſides, tho' all the Analyſes which ſhould have been made, ſhould anſwer no other End, but to undeceive us with regard to themſelves, and point out what we ought to think of them, this would ſtill be an Advantage ſufficient to balance the Time and Pains we have laid out in that way: But what ſtill more contributes to juſtify Labours of this Kind is, that in ning a long Train of Accidents that happen in analyſing a Number of compound Bodies, one diſcovers a great many ous Facts, which without Trial and Experiment had never known, and which may, perhaps, prove of ſingular Mankind.

The Execution of the Project having then ſufficiently the little Advantage to be reap'd from ordinary Analyſes, Point, as it is now no longer controverted, is not here propoſe to diſcuſs and prove. I take the Fact for and look upon it as certain and inconteſtable; but I the Reaſon or phyſical Cauſe of it, in the ordinary carrying on Analyſes, that is, in the Violence and the Fire, which is the Agent employ'd, and in the Derangement, and Confuſion, which it brings to all the the compound Body.

I have already given an Idea of this Diſorder and ment, in the Beginning of this Memoir; but as this general, and requires to be proved and illuſtrated by minute Examination of the particular Change which ſtance in the compound Body undergoes, I ſhall ſet much the more willingly, ſince by narrowly conſidering in the Defect of the ordinary Analyſis conſiſts, we ſhall more correct Ideas of the Matter, and, perhaps, be that means to contrive and carry on other Kinds of longer indeed than theſe, but at the ſame time more exempt from their Inconveniencies, and much better for diſcovering the Principles of compound Bodies. to form a ſound Judgment of the Change produced by on the different Parts of a compound Body, analyſed ordinary manner, we have only to conſider each of its their natural State, and compare this State with that ceeds it, after they have undergone the Action of the Two Kinds of Subſtances, in Plants and Animals, particular Attention; one is their ſaline, and the other pinguious Parts.

I have already ſaid, that I did not pretend to Subſtances as Principles; and indeed to declare my ments with regard to Chymical Principles, I ſhall each of theſe Subſtances is capable of being reſolved ent Parts, none of which are themſelves Principles; pound as they are, 'tis of Importance for the Nature of compound Bodies, to extract them, and them to be ſuch as they are in theſe compound Bodies, when they are entire, and no ways disfigured or it is in this Shape, that they act immediately upon our and this Action does not depend upon any which they are compoſed, but upon the general theſe Parts, whence certain Maſſes are produced, the which are often very different from thoſe of each of whether conſidered ſeparately, and acting in this ſuppoſed ſimply mixed and blended, but not cloſely mately united, as they are in the compound Body. plain, that one cannot be at too much Pains to Maſſes in their natural State, and to extract them as the Nature of the thing will admit of: And if we wards to diſcover more perfectly the hidden Contents Maſſes, 'tis only then we can analyſe them with as I ſhall clearly prove, when I come to treat of that Nature.

I compare theſe Maſſes to the very Materials of the fices I have already propoſed as an Example; for in know the interior Compoſition of theſe Edifices, enough to deſtroy them by breaking the Union of terials; but theſe Materials muſt be ſeparated in their State, at leaſt they muſt not be unlike that which in the Edifice itſelf, or before the building of the wiſe they will give us but a faint and obſcure Idea of rior Compoſition of the Building. This is what in the different Subſtances extracted from Plants and in the ordinary Method of carrying on Analyſes; ſhew by an Examination of each of theſe after the Analyſis, and their Separation from the Body, they are ſo far from reſembling the exterior they bore in it, that they become often ſo different they were, and acquire Virtues ſo oppoſite to thoſe that we ſhould ſcarcely believe the Difference, if did not in a manner force us to it.

The ſaline Parts of Plants and Animals are lodged in them under the Form of a concrete Salt, they contain ſeveral Kinds.

I have obſerved, in examining a great Number of Subſtances, on account of my Diſquiſitions into the Saltpetre, that theſe Subſtances contained a great Sal Ammoniac, that is to ſay, a Salt of the ſame that which may be made by the Conjunction of an volatile Salt; Spirit of Salt for Inſtance, and Hartſhorn, or of Vipers. Beſides, I have obſerv'd Acid of the natural Sal Ammoniac, contained in mal Subſtances, was nitrous, or like to that which ltpetre; ſo that one might, by a Train of Operations, ſo purge this Acid of the pinguious Subſtances, which are rally complicated with it in the Animal, that it ſhould be- a Spirit of Nitre, differing in nothing from the com- Spirit of Nitre. Beſides, the animal Subſtances, on h I made my Obſervations, left me no Reaſon to doubt of containing a ſmall Quantity of true Saltpetre, that is, of a ike to that which is produced by an Union of the Acid of of Nitre, and a fixed alcaline Salt. In a word, in Subſtances, where the nitrous Acid is found in a large tity, tho' ſo much invelop'd, that one cannot diſcover it ut a great deal of Pains and Induſtry, the greateſt Part of Acid is join'd with a volatile Matter, and forms a Sal oniac; and a ſmall Portion of this Acid is ſtopp'd by a Matter, and forms Saltpetre.

ſides the nitrous Sal Ammoniac, and the Saltpetre con- in all the animal Subſtances I have examin'd, I have alſo ted from ſome of them, and that with a great deal of a conſiderable Quantity of true common Salt, entirely e ordinary Sort; but I could never obſerve, that any of Subſtances contained a Sal Ammoniac, produced by the f that Salt. I do not, however, deny the Fact. I only I have a Right, in Conſequence of the many Experiments made upon animal Subſtances, to advance, that the t Part of the Sal Ammoniac contained in them, is nitrous; at if any Part of it is produced by another Acid, that s to be found in a much ſmaller Quantity than that of tre. But whatever the Nature of the Acid contained in s be, it has been already obſerved, that the Difficulty of ring it ſufficiently proves it to be ſtrongly invelop'd; the nitrous Acid there naturally forms a Sal Ammoniac, ltpetre, according to the Nature of the Subſtances in it is engag'd, we have Reaſon to believe, that all other re conceal'd, at leaſt the greateſt Part of them, under e Subſtances. This is ſufficient for underſtanding what o ſay hereafter.

mmoniac is not ſo common in vegetable, as in animal ces. They nevertheleſs contain ſome of it, but abound more in a concreted Salt, the Matrix or Baſis of which d Subſtance; and as there are in Reality many more d earthy Parts in Plants than in Animals, and more Parts in Animals than in Plants, that Acid which in rdinarily produces a Salt of the ſame Nature with that ould be produced by the artificial Mixture of the ſaid Acid xed Salt, produces, on the contrary, in Animals, as I have obſerved, a Salt like that, which would be produced by ture of an Acid and a volatile Salt. As this is the e need not be ſurpriſed, that ſome Plants ſhould con- eat deal more of Saltpetre than is to be found in any Subſtance, and that there ſhould be more nitrous Sal iac in animal Subſtances, than can poſſibly be found in t.

ll be ſhewn under the Article Nitre, how the Saltpetre s becomes the nitrous Sal Ammoniac in Animals, and nitrous Sal Ammoniac may again become Saltpetre in

e Saltpetre, and the nitrous Sal Ammoniac, are not Species of concreted Salts contained in Plants. There Sorts formed indeed by a like Matrix, that is either volatile, but by an Acid of another Nature, ſuch, for as that which is yielded either by Vitriol, or common l all theſe Salts contained in different Plants, form Claſſes of eſſential Salts, which have different Pro- d Effects, according to the Species of that Acid which of them its reſpective Form. I ſhall not at preſent per into this Subject, but only obſerve, that in ſome Salts, the Acid is ſo well invelop'd in its Matrix, that Salts themſelves are apply'd to the Tongue, they only enſation of Saltneſs, but not at all of any Acidity. I obſerve, that upon mixing ſome of them with an alt, neither a Fermentation, nor a Coaleſcence of the enſue; ſuch is the eſſential Salt of Borrage, and that e, which, to ſpeak properly, are a true Saltpetre. e are other eſſential Salts, the Acids of which, being invelop'd in their Matrices, appear, as it were, on ces, and preſent the Extremities of their Points, g free and diſengaged at that particular Part, excite, neans, the Senſation occaſioned by an Acid, upon applied to the Tongue. By the ſame Principles of n theſe Salts ferment, and unite with alcaline Salts; e of this Species of Salt, we find in the Cryſtals of

examined the Character, the State, and the natural on of thoſe Salts, which are ordinarily found in ve- bſtances, let us now inquire what becomes of them have been ſubjected to the Fire, commonly em- he ordinary Analyſes; and let us begin with the Sal contained in Plants and Animals.

wo Parts of which this Salt is compoſed, are both Nature, as that whether ſeparately, or in Conjunction, they may be elevated by the Fire in ſuch a manner, as that after their Elevation they preſerve the Union they had before the Operation; I ſay, as this is the Caſe, it ſhould ſeem probable, that the Sal Ammoniac contained in Plants and Animals, ſhould be raiſed in the ſame manner by the Action of the Fire, that is, entire. But yet it is not raiſed ſo; it firſt ſuffers a Diſunion of the Parts which compoſe it, and each of theſe Parts riſe ſeparately by Diſtillation. We even obſerve in the ordinary Analyſes of Animals, that all which riſes in this manner is not, or, at leaſt, does not appear to be any more than a volatile alcaline Salt, that is, the moſt volatile Portion of the Sal Ammoniac ſeparated from the Acid, which is ſo little diſcoverable in the Subſtances raiſed by the Fire, that it has for a long time been thought, that animal Subſtances contained no Acid; and it is but lately, that the contrary has been found true, which is look'd upon as a Diſcovery ſo much the more curious, becauſe it deſtroys a Prejudice founded upon the Analyſes of a great Number of animal Subſtances. It is true, that by only conſidering theſe Analyſes, one falls into two very palpable Errors; the one is, that there is no Acid in Animals, though there is in Reality a great deal; the other is, that their Salts are lodged in them under the Form of a volatile alcaline Salt, though from other Circumſtances, we know very certainly, that theſe Sorts of Salts, like fixed alcaline Salts, have not been rendered alcaline, but by the Fire, which has in a manner half uncompounded them, by depriving them of a Part of their Acids; ſo that by reſtoring theſe very Acids to them, they are perfectly reſtored to the State and Condition in which they were in the compound Body, before it was ſubjected to the Action of the Fire.

I proceed to explain why an Analyſis only diſcovers a Part of the Sal Ammoniac contained in Animals, what becomes of the acrid Part of that Salt, how the one is ſeparated from the other, and why they do not riſe with each other, as it uſually happens in the ordinary Sublimation of Sal Ammoniac.

In order to ſolve all theſe ſeemingly perplexing Phænomena, I lay it down as a Maxim, that *When Circumſtances vary, then, and in that Caſe, Effects muſt alſo be different:* For Inſtance, Experience teaches us, that volatile alcaline Salts are more volatile than the Particles of Water, that is, they are more eaſily raiſed by the Fire; and yet in the Diſtillation of the Viper, and a great many other animal Subſtances, the Phlegm, which is leſs adherent to the other Parts, mounts firſt, and before the volatile Salt; but when this ſame volatile Salt is once unfetter'd, and ſet at Liberty from the Bonds which, as it were, held it in the compound Body, and when the Buſineſs is to ſeparate it from the Phlegm, with which it has mixed and blended itſelf in the Recipient, it is not the Phlegm, but the volatile Salt, which the Fire raiſes and ſublimes firſt.

Something ſimilar to this happens in Sal Ammoniac, when it is alone, adherent to nothing, and quite diſentangled; for then the Fire ſurrounds it, and raiſes it entire, without any Difficulty, and without the Trouble of two Attempts. But when that Salt is in a compound Body, it is then intimately united with its earthy Parts, which fix it, render it heavy, and hinder it from yielding to the Action of the Fire ſo eaſily as in other Circumſtances it would have done; ſo that the Fire not being able at that time to raiſe all the Salt, diſengages and raiſes the moſt volatile Parts of it; which lays a Foundation for the acid Part to blend itſelf more and more with the earthy Part of the compound Body, in proportion as the volatile Salt quits and forſakes it. This Reaſoning is ſufficiently juſtified by Experience, ſince by mixing a ſufficient Quantity of an alcaline Subſtance with common Sal Ammoniac, and ſubjecting the Whole to the Fire, that Salt does not in that Caſe riſe entire, as it does when alone, and only its volatile and alcaline Parts yield firſt to the Fire, and fly off, whilſt the Acid of the Salt deeply inſinuates itſelf into the Pores of the alcaline Matter, from which it does not afterwards diſentangle itſelf, but by an Effort of the Fire more conſiderable than that of which we now ſpeak. This is preciſely what happens in the ordinary Diſtillation or Analyſis of an animal Subſtance; for the Fire uſed in that Operation is ſufficient to diſengage the volatile Salt, the Phlegm, and a conſiderable Part of the Oil; but 'tis not ſufficient to produce ſuch an Effect upon the Acid, eſpecially ſince it is more deeply entangled in the earthy Part of the compound Body; and it is for this Reaſon, that one perceives none of it in the different Portions which are raiſed during the Analyſis; or if theſe Portions contain any of it, it is in ſo ſmall a Quantity, and ſo ſtrongly invelop'd in oily Matrices, that it cannot be diſcovered; and what proves the Truth of this Reaſoning is, that if the Matter is ſubjected to a more violent Fire than uſual, there riſes a Liquor which has manifeſt Marks of Acidity; and one may obſerve upon this Occaſion a curious Phænomenon, which has already been taken Notice of by the late Mr. *Homberg*, which is, that the Acids we are now ſpeaking of, after being obliged to yield to the Force of the Fire, return, and are again found in the ſame Liquor with the alcaline Salts, which were before united with them; and notwithſtanding the new Mixture of theſe Acids with their alcaline Salts in the ſame Place, there is neither a ſenſible Fermentation raiſed, nor does there happen a Reunion of the two Bodies, which, on this Occaſion, preſerve their reſpective Properties, the one of an acid, and the other of an alcaline Salt.

Mr. *Homberg* is of Opinion, that we ought to aſcribe the Peculiarity of this Circumſtance, to the ſmall Quantity of Phlegm contained in the Mixture; ſince in Caſes of a like Nature, we often ſee Acids and Alcalies remain together in a State of Inaction; but I likewiſe think, that the oily Parts, which are ſcattered up and down in the Liquor, and which may have contracted a particular Union with the Acids during the Operation, which perhaps hinders us from diſtinguiſhing the true Character of them in the manner hereafter to be explained, I ſay, that theſe oily Parts, by inveloping the Acids, contribute very much to hinder their Action upon the volatile alcaline Salt. And indeed, if we were only to be ſway'd by the Reaſon which Mr. *Homberg* advances, we ſhould be at a Loſs to get over one Difficulty, which is, that there is often a Quantity of aqueous Parts in the Liquor, ſufficient at leaſt for a ſmall Efferveſcence, which would very ſoon be ſucceeded by a ſenſible Reunion of the Acids and Alcalies.

As we have good Reaſon to believe, that in the Analyſis of compound Bodies charg'd with Sal Ammoniac, the Decompoſition of that Salt is not made, but in Proportion to the fixed and earthy Parts contained naturally in theſe Bodies, I cannot help imagining, that thoſe animal Subſtances, which particularly abound in volatile Parts, may well be ſuppoſed not to contain a ſufficient Quantity of earthy Parts for all the Sal Ammoniac contained in theſe Subſtances; and conſequently, that all that Sal Ammoniac was not decompounded in the Analyſis; but that Part of it either remained with the Caput Mortuum of the Subſtance, or loſt only a moderate Quantity of its Acids; and becoming, by that means, leſs volatile than thoſe volatile Salts which are better ſeparated from their Acids, but at the ſame time more volatile than the Sal Ammoniac which has loſt none of them, it was in a middle State betwixt the two, and might be ſaid to be on the ſame Level of Volatility with the aqueous Parts in which it had ſheltered itſelf during the Operation, and from which we cannot afterwards ſeparate it by Diſtillation, becauſe being neither heavier, nor lighter than the Water, it neither riſes before it, as the ordinary volatile alcaline Salts do, nor after it, as the Sal Ammoniac, which is entire, does. And as that Liquor, which conſtitutes what we commonly call a Spirit, ferments with Acids, whether by means of ſome volatile Salts it has retain'd, or on account of the Acids, which the Sal Ammoniac of the Liquor has loſt, in whoſe Place new Acids are lodged; I ſay, upon ſome of theſe Accounts, ſome have thought they had a Right to conclude from this Fermentation, that the Spirit was only a Phlegm impregnated with the ſame volatile Salts, which are drawn from the Subſtance under a concrete Form: But if this is the Caſe, why cannot we totally, or at leaſt in a certain Degree, deprive this Spirit of its volatile Salts, by putting it into a Mattraſs with a long Neck, with a Head and a Recipient; and paving the way by a gentle Heat for theſe Salts, which ſhould happen to be lighter than the Water, to ſeparate themſelves from that Liquid, and riſe to the Top, as a volatile concreted Salt, diſſolved in Water, or even in a Spirit, uſes to do under ſuch Circumſtances? We may therefore believe, upon very probable Grounds, that in the ordinary Analyſes of animal Subſtances, all the Quantity of their Sal Ammoniac is not equally decompounded; that is, in the different Portions of that Salt, an equal Separation is not made of the Acid from its alcaline Part or Matrix, which is what is commonly called the *Volatile Salt of Animals*; ſo that certain Portions of that Salt free themſelves to a certain Degree from the Acids, which they contained in the compound Body; other Portions retain more of their Acids, and others perhaps loſe ſtill leſs; and, notwithſtanding the Operation, remain almoſt under the ſame natural Form they had in the compound Body, as happens in certain Diſtillations of the volatile Spirit of Sal Ammoniac, where for want of a ſufficient Quantity of an abſorbent Medium, there is only a Part of that Salt from which the volatile alcaline Salts are detached, and riſe at firſt, whilſt the other Portion of the Sal Ammoniac remains entire at the Bottom of the Veſſel; and being afterwards ſubjected to a greater Fire, it riſes in the Form of Flowers, which are nothing but an entire Sal Ammoniac, or at leaſt a Sal Ammoniac with the greateſt Part of its Acids.

What ſeems to confirm this Opinion, that all the Sal Ammoniac of animal Subſtances is not equally decompounded during their Analyſis, and that, becauſe they do not naturally contain a ſufficient Quantity of earthy Parts; what, I ſay, ſeems to confirm this Opinion is, that by ſupplying that Defect, that is, by mixing with theſe Subſtances a ſufficient Quantity of freſh earthy Parts, to produce the Decompoſition of a greater Quantity of Sal Ammoniac, we at laſt diſunite, and ſet at Liberty, a great Number of Acids, and volatile Salts, the Union of which would have ſtill ſubſiſted, without ſuch an Addition; and by this new way of Proceeding, we not o obtain more volatile alcaline Salts, but alſo the Liquor, wh towards the End of the Diſtillation, is carried up by a pro Degree of Fire, is much more ſour, and more impregna with Acids, than when we do not mix an earthy Medi with the animal Subſtances before Diſtillation.

'Tis then certain, that animal Subſtances contain a g deal of Acids, of which the ordinary Analyſes do not diſco the leaſt Marks; and this Circumſtance ſhews us how l Confidence is to be repoſed in them: But we muſt alſo ow that the new Method of diſcovering the Acids of Animals, not without its Defects, even with reſpect to the A diſcovered; for if, by diſentangling this Acid, it diſco one where none was before perceived, then as the Diſeng ment of this Acid is carried on in the very Boſom of the c pound Body, and in the very middle of the Parts of which compoſed, the Acid, after its Separation from the volatile line Salt, which invelop'd it, is ever after confounded, mixed with Parts of a different Nature, in the ſame P which indeed may permit it to be diſcovered an Acid in ral, but, by their Mixture, prevent our knowing the ſ and diſtinguiſhing Character of the Acid; ſo that we c aſcertain the particular Claſs of Acids to which it belo Circumſtance, which is nevertheleſs of great Importance, we want to know the genuine Nature of the ſaline Part of compound Body.

I ſhall endeavour to remedy this Inconvenience, w come to propoſe Proceſſes for the Analyſis of compound B *Memoires de l'Academie Royale des Sciences*, 1719.

Having now conſidered the Action of the Fire upon Species of Salt, with which animal Subſtances are princ impregnated, I mean Sal Ammoniac;

We are now to examine the Alteration produced by lyſes in another kind of Salt, found particularly in Vege and differing from *Sal Ammoniac* only as to its Matrix, is fix'd. This Difference, with reſpect to the Matrix, not hinder the Fire from producing, upon the greateſt P the Salts of this kind, the ſame Effects which it uſually upon *Sal Ammoniac*; that is, it diſengages a great Quan the Acids of thoſe Salts from the Matrix in which the lodged, and for the ſame Reaſon that *Sal Ammoniac* is r by Analyſis to an acid, and an alcaline volatile Salt. kind of Salt, of which we now treat, muſt be reduced, effect is reduced, the ſame way, to an acid, and to a line fixed Salt: But as the fixed Salt, for that very because it is fixed, makes infinitely more Reſiſtance Action of the Fire than the volatile Salt, there occur t ferent Things in the Diſlodgment of the Acids of each Salts from their particular Matrix; which are, firſt, tha *Sal Ammoniac*, the Matrix being much more volatile th Acid, it riſes firſt, and leaves Part of the Acid diſengag it at the Bottom of the Veſſel; whereas, on the cont the other Species of Salt, the Matrix being very fi making much more Reſiſtance to the Efforts of the F the Acid, it of conſequence remains at the Bottom Veſſel, and the Acid quits it, and flies up, tho' not ſo readily, and with ſuch a Degree of Volatility, as the of the *Sal Ammoniac* leaves its Acid, and evaporates into

The other Difference, which merits a particular Att this Place, is, that the volatile Matrix riſes pretty qu by no conſiderable Fire, and conſequently is not much to the Force of that Agent; but the fixed Matrix, on t trary, remains always expoſed thereto, becauſe it is not and beſides has need of a pretty conſiderable Fire, wh continue a good while, in order to ſeparate from it Quantity of Acids, that it might become an alcal Theſe Things conſider'd, the Fire has all the Time venience of working a very conſiderable Alteration in Salt, while it cannot, and in fact does not, commun ſame to the volatile Salts. We ſhall in the Sequel wherein that Alteration conſiſts, and what is the Cauſe of it, in diſcourſing more particularly of alca Salts.

Tho' the Salts which have a fixed Matrix for their all reſemble one another in one Point, that is, in p reſiſting, at leaſt by their Matrix, the violent Effor Fire, we ought not, however, to believe they are a Things, and that the Fire produces the ſame Effect one of them; for tho' they agree in the common Circ of the Fixedneſs of their Matrix, they may yet gre from one another, not only by the particular Characte Acids, but even by the very Nature of their Matrices, tho' fixed, and conſequently like one another in th yet differ very conſiderably on other accounts, wh Reaſon, that tho' the Action of the Fire, with reſp different Salts we are ſpeaking of, be always the ſa the different Particles, of which theſe Salts are compoſ give way to that Action in an equal Manner, and are leſs ſuſceptible of certain Modifications, there muſt re thence as different Effects.

know, for Inſtance, that different Acids, independent
ſolid Matrix capable of detaining them, and ſwimming in
eous Liquid, have not all the ſame Degree of Volatility;
ere are even ſome of them, ſuch as thoſe in Oil of Vi-
nd Spirit of Alum, which riſe but very ſlowly, and with
Difficulty, by the Violence of a very ſtrong Fire; whence
y judge, that if theſe Acids ſhould take up their Reſi-
n a fixed Matrix, and in Conjunction with it form a
e Salt, they would in ſuch a State make a yet greater
nce to the Efforts of the Fire.

are aſſured, on the other hand, that the Fire elevates
uch greater Eaſe, and in a much ſhorter Time, the
ontained in Spirit of Nitre and common Salt, and that it
alſo find a leſs Reſiſtance from the Acids contained in the
Spirits of Vitriol, and thoſe of common Sulphur, ex-
by the Proceſs deſcribed by *Stahl*; inſomuch that when,
mple, the Acids of the Spirit of Nitre, or thoſe of Oil
iol are united in the ſame Matrix, in Conjunction
hich they form a concrete Salt, the Fire will with much
Eaſe diſpoſſeſs the nitrous Acids than thoſe of the Oil of
provided that the Circumſtances are all equal, and a
edium is employ'd when neceſſary; for without that
e Inſtances, where the Fire would have no more Power
ate the nitrous Acid from its Matrix, than to ſeparate
d of the Oil of Vitriol, as we ſhall ſee hereafter.

uch as to what regards the different Reſiſtance of the
Salts to the Action of the Fire, with reſpect to the
which they are compoſed: But what contributes infi-
ore to diverſify the Effect of this Agent upon each of
lts is, the particular Nature of the Matrix with which
ferent Acids are united and combined, for the For-
of ſuch or ſuch a Species of concrete Salt; and we are
ed, that there are a very great Number of fixed Bodies
of abſorbing Acids, and forming with them a concrete
Salt, or *Sal Salſum*: Of this Kind are not only all the
aline Salts, but many of the different Kinds of Earth,
s metalline Subſtances, and Metals.

it appears, that Acids do not enter with the ſame Faci-
the Pores of every one of thoſe Subſtances; that they
farther into ſome than into others; that the Pores of
ferent Subſtances embrace and retain them with more or
ghtneſs, according to their natural Capacities, and per-
according to the ſtronger or weaker Spring or Elaſticity
Strata; for I have obſerved, that when foreign Bodies
h Violence and Difficulty the Pores of ſome Subſtances,
eſſarily follows a Dilatation of theſe Pores produced
eaving up of their Sides or Strata, which afterwards
n again of themſelves, by their proper Spring, as ſoon
dy which kept them in that elevated State quitted its
Conſequently, when the Acids, introduced into the
different Alcalies, have dilated thoſe Pores by elevating
s to a certain Point, as theſe Sides, by virtue of their
make continual Efforts to lower themſelves, and re-
r former Situation, the greater the Spring, the greater
ffort, and the more are the Acids contained in the
mpreſſed and ſtreighten'd by the Sides of theſe Pores, and
Obſtacles has the Fire, which afterwards acts upon the
ion of Acids and Alcalies, to ſurmount, in diſlodging
. Hence it follows, that the ſame Acid reſiding in
Matrices, be they purely terrene, metalline, or of
ds, will make a greater or leſs Reſiſtance to the Ac-
e Fire, according to the particular Nature of each of
trices. It is alſo obſerved, that the ſame Acid which
h more or leſs Facility, be diſlodg'd from ſeveral Sorts
s, will not be made to quit ſome certain Kinds,
Violence of Fire be uſed for that Purpoſe, at leaſt,
having recourſe to ſome proper Medium. We have a
roof of this Truth in ſeveral natural and artificial neu-
and, among others, in common Saltpetre, and in
which we can make at Pleaſure in an Inſtant, by the
f a nitrous Acid with an alcaline fixed Salt; for it is
nd I have ſeveral times had Experience of it, that how
ver the Fire be which you uſe about each of theſe
will ſooner be diſſipated whole and entire, either
ir, or through the Pores of the Veſſel, than admit
poſition, or the Separation of their Matrix from
s, that is, a parting with their Acids, and re-
hind at the Bottom of the Veſſel, in the Form of
fixed Salt, ſuch, for Example, as that uſed in
artificial Saltpetre. But when to the Action of the
in the Aſſiſtance of a convenient Medium, the Sepa-
he Acid from the Alcali ſoon commences; and in
tion there happen two different Effects according to
lar Nature of the Medium. If the Medium be purely
, and nothing is to be done but to aſſiſt the Exalta-
nitrous Acid, without communicating any thing
Matrix of the Saltpetre, this Matrix, after the Ope-
ears under the Form of an alcaline fixed Salt, ſuch
d in making artificial Saltpetre. We have an Ex-
is Truth in a very common Operation, which is the
Fixation of Saltpetre by Charcoal. But if the Medium itſelf contains a good Quantity of Acids more fixed than thoſe of Saltpetre, and of a vitriolic Nature, it much contributes to the Separation and Exaltation of the nitrous Acid, but it ſubſtitutes other Acids in the room of the nitrous ones; in which Caſe, the Matrix of the Saltpetre, which after the Loſs of its Acids ought to have appeared under the Form of an alcaline fixed Salt, always ſhews itſelf under that of a neutral Salt, which is no longer true Saltpetre, but is become a real vitriolic Tartar, wholly reſembling that which may be made with an alcaline fixed Salt, and a vitriolic Acid.

In ſhort, as the vitriolic Acid, ſuch, for Inſtance, as that contained in Oil of Vitriol, in Spirits of Sulphur, or Alum, *&c.* conſider'd independently of any Matrix, is the moſt fixed of all Acids, when it becomes united to one of theſe fixed and ſaline Matrices, which never let go a nitrous Acid, unleſs forced to it by an Intermedium, it muſt make a much greater Reſiſtance to the common Efforts of the Fire and the Medium, than the nitrous Acid would do in the like Caſe. And this is no more than what really happens; for if you mix Tartar vitriolated and Powder of Charcoal in a red-hot Crucible, the vitriolic Acid will by no means fly off, as the nitrous Acid, join'd to the ſame Matrix, would not fail to do by a like Procedure. One might even totally conſume all the oily Part of the Charcoal, mixed with the Salt, over the Fire, without ſeparating the vitriolic Acid from its Matrix; in ſhort, after the Operation, and the total Deflagration of the Oil of the Charcoal, we ſhall always find the vitriolated Tartar in the ſame State as it was before, and without any ſenſible Loſs of its Acids: And, in fact, if we are reſolved it ſhall loſe them, we muſt, beſides the Fire and ſulphureous Medium, which are ſufficient for the Acid of Saltpetre, make uſe of other Aſſiſtances both in proper Time and Place, and of another Method of Proceſs; that is, when the oily Body has been mixed with the vitriolated Tartar in the red-hot Crucible, and, having cloſed with the vitriolic Acids, has not indeed been able to hurry them into the Air, but has always had Strength ſufficient to diſengage them in ſome Degree from the Pores of the alcaline Salt, (which produces a new Compound of a yellow or red Colour, and of the Smell of common Sulphur, that diſſolves in Water, and in which the Acid lays hold, at the ſame time, of the fixed Salt of the vitriolated Tartar, and of the Oil of the Charcoal) we muſt then lay hold of the Opportunity, when theſe vitriolic Acids begin to be diſengaged, to put a Stop to the Action of the Fire, without which Precaution the oily Part would be diſſipated, and the Acid, being left to itſelf, would reunite, as before, by Help even of the Action of the Fire, to the interior Parts of the Alcali, whence the oily Body had begun to diſlodge it: We muſt then diſſolve the new Compound in Water; and ſince the vitriolic Acid, being united to an oily Subſtance, has not in that State ſo faſt a Hold of its Matrix as before, becauſe it has been half-diſengaged by that Subſtance which abſorbs it, and which invelopes it, at leaſt in Part, we have no more to do but to pour upon that Diſſolution a free Acid, which, in proportion as it inſinuates into the fixed Salt, eaſily drives out and diſlodges the vitriolic Acid, which being ſeparated from its ſaline Matrix, and only attach'd at that Time to the oily Subſtance, forms a true common Sulphur, which is precipitated to the Bottom of the Veſſel.

Thus much then we know in general, concerning the different Alterations which Fire produces in ſeveral Kinds of concrete Salts, which have for their Baſis a fixed Matrix; at leaſt it is what we have been able to learn of them from Experiments and Operations made upon a good Number of Salts of that Kind, as well natural, and extracted from ſeveral Earths, Stones, Marchaſites, *&c.* as artificial, and form'd by the Union of different Acids with a very great Number of fixed Alcalies. But in order to be perfectly inſtructed, and to have an exact and complete Idea of the Confuſion produced by Analyſes in the different Parts of all theſe Salts, which have for their Baſe a fixed Matrix, and are contained in Animals and Vegetables, but eſpecially the laſt, it is neceſſary to extract from every one of theſe Compounds the Salts which they contain, and to extract them entire, that is, ſuch as they were in the very Compound; and after that to ſeparate the Acid from the Matrix of theſe Salts, and upon every one of theſe Parts to make the neceſſary Experiments for knowing the particular Character both of the Acid and the Matrix; and, laſtly, after we are come to underſtand the Nature of theſe Kinds of eſſential Salts, and the Form under which they reſide in the Compound, we muſt compare them with what they are in the State to which they are brought, after they have paſſed through the ordinary Analyſes.

This Undertaking, which is of a vaſt Extent, and requires a very particular Detail of the Experiments, is exactly what we have already ſpoken of in the preceding Memoir. Mean time, the great Number of Analyſes which have been made, and the Reflections which naturally reſult from hence, the Diſcoveries that have been made, and the Knowledge we already have of ſeveral eſſential Salts of Plants, and the Compariſon of thoſe

Salts with ſuch as are extracted from the Plants by the ordinary Analyſes; and, laſtly, the Experiments which have already been related upon ſeveral other Salts, which never lodg'd in the Plants, but which we certainly know are, ſeveral of them, analogous to thoſe Salts which reſide there, and ſuſceptible of the ſame Alterations; all theſe Matters of Fact, of which we ſhall make a proper Uſe hereafter, will be more than ſufficient to aſſure us not only that the Fire diſguiſes and conſiderably alters the Salts we are ſpeaking of, but alſo to inſtruct us in the Nature and Manner of this Diſguiſement and Alteration.

As the Salts we ſpeak of reſide principally in vegetable Subſtances, we ſhall moſtly inlarge on the Analyſis of theſe Subſtances, and the rather, becauſe there are uſually but ſmall Quantities of theſe Salts in Animals, and the Alteration which they there receive by means of the Fire, is the ſame as they receive in Vegetables by the ſame Agent. Wherefore, what ſhall be ſaid of this Kind of Salts which are contained in vegetable Subſtances, may be apply'd to the ſame Salts, conſider'd as reſiding in Animals. But as the great Number of Obſervations I have made upon the Analyſes of Plants afford too much Matter to be contained in this Memoir, I ſhall refer myſelf to theſe which follow. *Memoires de l'Acad. Roy. des Scienc.* 1720.

When we conſider the Analyſes of a great Number of Plants, and the different Particles which the *gradually increas'd* Fire in a Diſtillation raiſes from them, we obſerve that there are ſome Plants, which, beſides their aqueous and oily Parts, afford ſenſible Proofs of a good Quantity of Acids, others promiſe leſs, ſome very little, and, in ſhort, ſome there are, whoſe Number indeed is very ſmall, which yield no more than an animal Subſtance, analyſed according to the ordinary Method of proceeding, might be ſuppoſed to do. Theſe Differences ariſe from ſeveral Circumſtances; as, from the greater or leſs Quantity of Salt naturally contained in each Plant; for as this Salt is formed of Acids lodged in a fixed or volatile Alcali, the more a Plant contains of that Salt, the more Acids it contains, and conſequently the more it can ſend off and elevate in Diſtillation, all due Allowances being made. Beſides, theſe Acids are raiſed more or leſs eaſily and copiouſly in Diſtillation, according to their different Degree of Volatility, and the particular Character of the Matrix which contains and invelopes them, as has been ſhewn in the preceding Memoir; and, in ſhort, theſe Acids render themſelves more or leſs perceptible by known Characterrs, as they are more or leſs cover'd and concealed by other Corpuſcles which riſe with them, and which are found with them in the Receiver. Having already ſpoken of the alcaline volatile Salts which riſe in the Analyſis of Vegetables and Animals, we ſhall only make this farther Reflection on them with reſpect to the Acids we juſt now ſpoke of, which is, that as they riſe with theſe Acids, they more or leſs prevent them from appearing, or making themſelves taken Notice of by their proper Characters, according as they are more or leſs ſtrictly united with them; and as the Quantity of volatile Salts, with regard to that of the Acids, is more or leſs conſiderable in every Portion of the diſtilled Liquor: For tho' we, as well as others, have obſerv'd in the firſt Memoir, that it ſometimes happen'd in the Analyſis of ſeveral Subſtances, that Acids and volatile Salts, when driven by the Fire, were collected together in the ſame Portion of Liquor, without reuniting one with another, but there preſerving each of them their particular Properties, one of an Acid, the other of an Alcali, of which they gave diſtinct and evident Marks; we did not, however, pretend to conclude from that Obſervation, that all the Acids and volatile Salts which roſe together, or which were found again in the ſame Portion of Liquor, were or remained in the ſame Eſtate of Diſunion. And, indeed, we made it appear, in ſpeaking of the *Sal Ammoniac* contained in Animals, that the volatile Salt, which is ſeparated from it by the Analyſis, and is found in what they commonly call Spirit of Animals, had retained and carry'd up with itſelf a good Part of the Acid of the *Sal Ammoniac*; that this Acid did not render itſelf perceptible in that State, becauſe it was ſurrounded on all Sides with a very great Quantity of volatile Salts; that, on the contrary, theſe volatile Salts, in ſpite of the Acids which they had retained, being by no means entirely ſaturated, were ſtill proper for Fermentation with new Acids, and conſequently made themſelves known by that Character; and that, in ſhort, if the Acid we ſpeak of did not manifeſt itſelf by the ordinary Proofs, it might always be clearly perceived by means of an Analyſis made with an earthy Medium; and that in another reſpect we were obliged to this Acid for the Degree of Volatility in the volatile Salt contained in the Spirit of Animals; for this Salt has one thing in particular, which is, that in point of Volatility it is perfectly on a Level with thoſe Parts of Water from which it cannot be ſeparated by way of Evaporation, and from which it is eaſy to ſeparate the common *Sal Ammoniac* and volatile Salts; the former, loaden with Acids, being leſs volatile than Phlegm, and always riſing after it; the others, on the contrary, which are depriv'd of their Acids as much as is poſſible, being by that means more volatile than Phlegm, riſe, and are ſublim'd before it, as it appears in the common Operation of the Rectification of volatile Salts; or when, after diſſolving volatile Salts in a Quantity of Water, we urge the Liquor with a proper Another thing which proves, that the volatile Salt contain the Spirit of Animals is a Mean betwixt a complete *Sal niac* and the common volatile Salts, on account of the cular Quantity of Acids it retains, which renders it inca of being ſeparated by way of Evaporation, is, that if you to this Salt a ſufficient Quantity of new Acids to render volatile than Phlegm, you by that means revive it into it was before, that is, into a kind of *Sal Ammoniac*, w being urged by a gentle and convenient Heat, does no accompany the aqueous Particles as before, but lets th off, remaining itſelf at the Bottom of the Veſſel under Form; which it would not do, were it leſs charged with A

In ſhort, if we uſe the ordinary Methods of exactly de this new *Sal Ammoniac* both of the new Acids which received, and of thoſe which it had retained in too great a Q tity before, there will reſult from that Operation a volatil whoſe Volatility will no longer be on a Level with the Particles as before, but will be ſublim'd before them, and a leſs Heat.

You ſee by this Example, and it will appear more cle what follows, that a Quantity of diſtill'd Liquor, which Marks only of an alcaline volatile Salt, may yet contain conſiderable Quantity of Acids. But it will be ſaid, th Acids in the Example propoſed are not intimately unite the volatile Salts, during or ſince the Operation of the A that they were combin'd in the Compound itſelf, whe made Part of its *Sal Ammoniac*; and that it is not at all ſurp that this Union, which always ſubſiſted ſince the Op ſhould be capable of keeping them under Covert, and manner remov'd not only from our Taſte, but alſo fro Influence of ſome Chymical Eſſays; but this Difficulty, be added, does not concern theſe Acids, which never their volatile Matrix, but the Acids that belong to the Salts, which have a fixed Matrix: For when once the thoſe Salts have been lcoſed from their Matrix, and carry'd the Fire, as they are then free, and without Covert, they eaſily known by different Proofs; and if they find any volatile Salts, either in their Way, or in that Part of the which is tranſmitted to the Receiver, there is Reaſon to that they will avoid being invelop'd by them; firſt, bec are aſſured, from the Analyſes of a very great Number of that one and the ſame Part of theſe Analyſes very fr afforded ſure Proofs of Acids and alcaline volatile Salts ſame time; which could never happen, if from any C ſtance, or the favourable Opportunity of being in the Place, theſe Bodies had contracted ſome Union. Se becauſe in analyſing ſome animal Subſtances with m common Exactneſs, it is obſerv'd, that Acids, which were in the Compound with volatile Salts, and being ſepara them in the Analyſis, were afterwards again found w in the ſame Part of the Liquor, did not, however, tho' they were at leaſt as fit to lodge themſelves in their Matrix, and to reſume the Place which they poſſeſſ before, as other Acids, which at firſt belong'd to a fixed and were ſeparated from it by the Fire.

In Anſwer to this Objection, which appears found inconteſtable Obſervation, I ſhall give an Account of ſo Obſervations, which will perfectly clear up the Diffic pounded. Soon after the Academy had done me the to receive me as a Member, I ſet myſelf to analyſe a go ber of Plants, and made ſome of my Analyſes in the A at that Time; but reflecting afterwards on the litt reap'd of my Labour, which beſides had been before my Time in the ſame Place, I left it off, and then imagine, that ſome Remarks, which the An occaſioned, would have been of Service in this Caſe Remarks regard the Alteration which happens to ſe of analyſed Plants, when theſe Parts have been kept Time; for the ordinary Chymical Eſſays do then Effects in them quite different from ſuch as they pro diately after the Analyſis has been made; and this made me believe, at firſt, that I had been miſtaken, had been careleſs in examining for the firſt time the I found nothing afterwards like what I had ſeen in th ning. But I was convinced of the contrary by ſeve repeating the ſame Obſervations upon different P beſides, I found, a little while ſince, in ſome Manuſ lyſes of the late Mr. *Bourdelin*, that this worthy M well appriſed, that ſome Sorts of analyſed Plants did act after the ſame Manner, at different Times, unde Chymical Eſſays.

I obſerved then, that in the Number of Plants w lyſed, there were many of them which in Diſtillat ſome Quantities of Liquors, which ſhew'd, at one ti and diſtinct Marks both of Acids, and of alcaline vol but ſtill more of Acids than Alcali; and that when th had been kept a certain Time, which was neceſſary volatile Salts, in ſome meaſure, to ſaturate themſelve they ſhew'd no more Signs of volatile Salts, but ſtill nifeſt Tokens of Acids, on account of the Redundancy which remained in the Liquor, or, if you will, on of the Overplus of Acids, which had not been able ut a *Sal Alcali* in which they might take up their Quar- l ſo, remaining free and uncover'd, might eaſily make es perceptible.

ſecond Place I obſerved, that there is requir'd more or e for the total diſappearing of the Signs of the volatile which we have been ſpeaking, according to the greater Quantity of thoſe Salts, and in proportion as the Acids iquor have more or leſs Diſpoſition to lodge themſelves Salts.

ly, This Diſappearing proceeds by little and little, and ees, and you may obſerve every Day the ſucceſſive ion of the Signs of the volatile Salt, which diſappear r later, in proportion as they are more or leſs ſtrong rous in the Beginning. This may often be obſerv'd nalyſis of a ſingle Plant, which ſometimes afforded two Parcels, which were of the Nature of thoſe we have aking of, but had not the Signs of the volatile Salt ſtrong and lively in all of them immediately after the . Whence theſe Signs often became annihilated in one nd ſtill ſubſiſted in the other, where, tho' diminiſhed, e ſtill perceptible, either by an Ebullition cauſed in the y the Mixture of an acid Spirit, or by a white Precipi- ſulting from the Mixture of that Liquor with a Solution ive Sublimate.

hly, When the ſame Parcel of diſtill'd Liquor, which ſenſible and diſtinct Marks both of Acids and volatile he ſame time, contained a greater Proportion of vola- than Acids, it often happen'd, that after a certain at is, when all the Acid of the Liquor had been abſorb'd ficient Quantity of volatile Salts, the Liquor ſhewed Signs of an Acid as before, but ſtill gave Tokens of alts, in proportion to the Exceſs of theſe Salts, which free, and uncover'd, for want of finding a ſufficient of Acids in the Liquor, with which it might unite; peared to me, that in this Caſe the Signs of the Acids 'd after the ſame Manner, and with the ſame Circum- as did thoſe of the volatile Salts in the preceding Ob- s.

, In all the Portions of diſtill'd Plants which I have and in which there becomes, in Proceſs of Time, an Acids and volatile Salts, which at firſt were lodg'd , I found none, which, after a Junction of the Acids le Alcali, ceas'd to afford Marks both of the one, and ; which is no more than what might ſeem neceſſary n on ſome Occaſions, that is, when we find in the o greater Quantity of Acids than is requiſite to ſatu- olatile Salts therein contained. But as it is not im- ut ſuch a juſt Proportion of Acids and Alcalies might ether, I will not deny the Matter of Fact, which may e obſerved hereafter by ſome others: I only made on ſion the following Experiment. In the Analyſis of ants it is obſerved, that ſome Portions of the diſtill'd and oftentimes all of them, except the laſt, or two e Diſtillation, ſhew no Signs but of Acids, and thoſe ; and that the laſt Portions, on the contrary, afford s but of volatile Salt, which is there found in great . I mixed together Portions of Acids and Alcalies in Proportions, and I found, that all theſe Mixtures, im- after they had been made, ſhew'd Signs at once both nd Alcalies; and that after they had been kept a ſuffi- ne, they gave Marks but of one, that is, either of the the Acid; but I never found out the Point neceſſary iſappearing of both. I do not, however, pretend to any thing from this laſt Obſervation.

, In my Examination of the Portions of different Plants, in which after an Uuion of the acid and alts contained in the Liquor, one of theſe two Bodies erceptible by its proper Marks, it ſeemed to me, that pearing of the Signs of the volatile Salt happen'd much quently than that of the Acid. 'Tis poſſible that in ber of Plants which I analyſed, there might offer too aſes of a particular Kind, which hinders me from con- o ſtrongly in favour of my Obſervation, as if I had uch greater Number of Analyſes. However, what, thers, may ſometimes juſtly be drawn as a Conſe- my Obſervation, is, that, in general, the Sum of the Plants ſurpaſſes that of the volatile Salts, as we ſhall re particularly by what follows. Hence it appears, ts in general will afford more Acids than volatile Salts ation, and that it is the Overplus of theſe Acids that hem thus perceptible, as we have already explained. aſe alſo, where no more Acids are elevated in Diſtil- n volatile Salts, it is poſſible, that after that Union the uld ſtill ſeem to prevail; as the common *Sal Ammo-* rs blue Paper with a dark Red, and after twenty-four es a reddiſh Brown to a Solution of Turnſole. But it is eaſy to diſtinguiſh this Effect from that of an Acid when free and diſencumber'd, at leaſt to a certain Point, from other Bodies in which it may be engaged, as the Acid of *Sal Ammoniac* is in the volatile Matrix, which makes the other Part of that Salt.

Seventhly, I have often obſerved in examining ſome Parts of analyſed Plants, that they contained an Acid more or leſs invelop'd with oily Particles, which ſuſtained themſelves in the aqueous Part of the Liquor by favour of that Acid; that theſe two Bodies riſing together in Diſtillation, and remaining afterwards united, at leaſt for a certain Time, it happen'd that the Acid in that State either did not appear at all, or render'd itſelf perceptible by very obſcure Signs. But as the Liquors impregnated with different Particles are always ſubject to an internal Fermentation, this Fermentation, paving the Way for the Acid of the diſtilled Portion to diſengage itſelf, makes it then manifeſtly appear, that the Inferences from this way of Reaſoning are juſt; that is, that the Acid did not ſhew itſelf, becauſe it was invelop'd with oily Particles: And that it is diſcovered afterwards only by getting rid of them, appears, if we obſerve, that during all the Time in which the Acid begins to ſhew itſelf, and continues more and more ſo to do, the Oil, which, ſeparated from the Acid, and left to itſelf, can no longer, in ſuch a State, ſupport itſelf in the Liquor, but is precipitated commonly in the Form of a mucilaginous Subſtance, increaſes in Quantity always in proportion as the Acid of the Liquor makes the greater Appearance. One might alſo obſerve the ſame Effect in ſeveral diſtilled Waters, which at firſt, and even for a conſiderable time, remain of a limpid Clearneſs, and ſhew no Signs of Acids; but after being kept a ſufficient time, not only grow ſour, but alſo depoſit at Bottom a ſlimy Matter, which is ſo thick, and in ſo conſiderable a Quantity, as would hardly be believ'd, did we not ſee it. *See the Article* ACETUM.

To proceed, We ought not to be ſurpriſed, that Acids, the moſt Part of which in a Plant belong to a fixed Matrix, being urged by the Fire, abandon their Matrix to enter into an intimate Union with oily Particles with which they riſe, and by which they are invelop'd, as it has been ſaid. For we have ſhewn in other Memoirs, and in the Beginning of this, that oily Subſtances have a Property of ſtrongly ſeizing upon Acids that are lodged in fixed Matrices, by which means, when they riſe in the Air they draw out and carry up with them the Acids in which they have fixed; and that they contribute infinitely to the Diſengagement of a great Number of Acids, which without that Aſſiſtance, and with the bare Action of the Fire, would never be brought to quit their Matrix, or at leaſt would not do it, but with a great deal of Time and Difficulty. Plants then actually containing Plenty of oily Particles, which have a Faculty of faſtening themſelves upon the Acids of their Salts, and acting upon them after the ſame manner, as we ſhall deſcribe more particularly, when we come to ſpeak of the ſaline Subſtance which remains in the Retort after the Diſtillation of the Plant, it will not at all ſeem ſurpriſing, but is, on the contrary, very natural to think, that vegetable Acids always riſe in Company with oily Particles, with which they afterwards remain more or leſs intimately united, according to the Diverſity of the particular Circumſtances which concurr'd to that Union, and which it is impoſſible to enumerate.

The Union of vegetable Acids being ſuch as has been ſaid, we may eaſily conceive why theſe Acids ſometimes ſubſiſt for a conſiderable Space of Time in the ſame Liquor with alcaline volatile Salts, without penetrating and uniting with them, and how they came afterwards to do ſo. For, firſt, as long as theſe Acids are invelop'd, in a certain Degree, with oily Particles, they are incapacitated, by this Invelopement, to pierce and open themſelves a Way into the interior Parts of theſe Salts: One might even venture to ſay, that however free and bare vegetable Acids might become in general, they always preſerve an Allay of oily Particles, which tempers their natural Vivacity, and thus prevents them from being ſo corroſive, and from acting with ſo much Force and Violence, as they would do without ſuch a Mixture, and as mineral Acids do in fact, which contain fewer oily Particles. And it is really poſſible ſometimes ſo well to diſengage the Salts of Vegetables from their oily Particles, that the Acids which reſult from thence become infinitely more active and corroſive, than otherwiſe they would ever have been. If then but a ſmall Share of oily Particles can ſo effectually diminiſh the natural Action of vegetable Acids on all alcaline Bodies in general, it is plain, that by increaſing the Quantity you may at laſt render it ſufficient for entirely preventing all Acids from entering into the Pores of volatile Salts; and that when afterwards this Quantity ſhall have had Time to diminiſh by the Aſſiſtance of a Fermentation, which ſhall occaſion the Diſunion of a certain Quantity of oily Particles, the Acids being more free and diſcloſed, and making a leſs Bulk, will in that State inſinuate with more Force and Facility into the Pores, into which before they could not obtain a Paſſage.

All that we have juſt now ſaid and obſerved is of great Uſe for the underſtanding of the following Obſervation, which I made on the firſt Portions of ſome Analyſes, in which, tho' immediately after the Diſtillation I had only perceived the Marks of volatile Salts, and no Sign of Acids, after they had been kept a ſufficient Time, I could no longer perceive the Marks of volatile Salt, but only of Acids. The Reaſon of this, in my Opinion, was, that theſe Acids, tho' conſiderable enough for Quantity in the Parcel of Liquor, were yet in a manner, inveloped by the oily Particles, that in this State they could neither ſhew themſelves, nor cauſe the volatile Salts to diſappear by mixing with them. But when Fermentation has had Time to diſengage the Acids from a certain Quantity of oily Particles, which in this as well as in the preceding Obſervation are commonly precipitated to the Bottom of the Liquor under the Form of a Maſs of a greater or a leſs Thickneſs, theſe Acids being more free, and more developed, will not fail in that Condition to obliterate the Marks of the volatile Salt in the Liquor, by uniting itſelf to that Salt; and as the Quantity of Acids ſurpaſſes that of volatile Salts, the Overplus of thoſe Acids, which, not being combined with volatile Salts, remains in this State of Developement, muſt under the Operation give evident Tokens of Acidity, which the Mixture of oily Particles hinder'd it from ſhewing before.

To conclude, I made one Obſervation more upon the firſt Portions of ſome Analyſes of Plants, which was, that though neither the Acids nor the volatile Salts were perceptible in the Operation, they yet excited an acrimonious and pungent Savour upon the Tongue, which left no room to doubt but that theſe Portions contained a conſiderable Quantity of Salt. It appearing therefore by theſe Experiments, that this Salt was neither an Acid developed, nor an alcaline volatile Salt, it can be no other than a complete Sal Ammoniac; that is, it has undergone no ſuch thing as a Decompoſition by Analyſis, but contains in itſelf the Acids and volatile Salts as intimately united together as they were in the Plant itſelf: For we cannot ſay, that this Salt was compounded of Acids, and a fixed Matrix, becauſe this Matrix was hinder'd from riſing with it, at leaſt entire, in the Diſtillation, eſpecially in the firſt Portions of the Analyſis, where but a moderate Fire is uſed. There can be none then but a Sal Ammoniac that can riſe in the Caſe before us, which conſequently is the true Cauſe of that acrimonious and pungent Savour in the firſt Portions. It is true, and we have already obſerv'd it, that common Sal Ammoniac will in time dye a reddiſh Brown with Turnſole, which I never perceived in the Sal Ammoniac of our firſt Portions; but the oily Particles, which are always mix'd with the Salts of diſtill'd Portions, might on that occaſion hinder the Sal Ammoniac from exciting that reddiſh-brown Colour, and ſo much the rather, becauſe it does not excite this Colour but after a good deal of Time and Pains, even when it is in its natural State, that is, when it is free and diſengaged from every oily Subſtance. *Memoires de l'Acad. Roy. des Scienc.* 1720.

It appears by the Obſervations already made, upon the Analyſes of animal and vegetable Subſtances, and particularly from the Alterations, of which ſeveral Parts of analyſed Plants are ſuſceptible, that the volatile Salts, ſcattered in the different Portions of analyſed Plants, may abſorb, and keep conceal'd, thoſe Acids which did not belong to them in the compound Body, as well as thoſe which were naturally united to them before the Analyſes, and which have riſen along with them in Diſtillation. It appears alſo, that the Obſervation with reſpect to Acids, which on certain Occaſions ſubſiſt together with volatile Salts, without being join'd to them, does not prove, that there are not other more diſentangled Acids, which may ſometimes be join'd to them; and that the leſs, becauſe I have ſhewn that theſe very Acids, which had not as yet contracted an Union with theſe Salts, did not fail to do ſo afterwards, when they had arrived at the ſame Degree of Freedom and Diſengagement. It moreover follows from what has been ſaid, that independently of volatile Salts, which very often are not found in ſeveral Portions of diſtilled Liquors, a great many Acids may be ſheathed up in the ſaid Liquors by ſimple oily Particles: Conſequently, if no Acids appear, or an inconſiderable Quantity of them, in certain Portions of analyſed Subſtances, which are impregnated with volatile Salts, or oily Subſtances, we have not from thence a Right to conclude, either that ſuch Portions contain no Acids at all, or that they contain none but ſuch as appear. We ſhould often fall into palpable Miſtakes, if, in computing the Degrees of Acidity in a Plant, we ſhould take our Eſtimate from thoſe Acids diſcovered by the Analyſis of that Plant; for Inſtance, the Leaves of Sorrel yield a very ſour Juice, in which, if one was to judge by the Taſte alone, he would conclude there was a great Quantity of Acid: Beſides, when the eſſential Salt is drawn from that Juice, its Cryſtals are ſour, and reſemble Cream of Tartar. In a word, every Circumſtance declares, that this Plant yields Acids, and that in the different Portions of Liquor, raiſed by the Diſtillation of it, Acids will always be particularly diſcovered; yet as Sorrel alſo yields a great deal of volatile Salts, which diffuſing them-
ſelves almoſt every-where, as I ſhall afterwards ſhew,
and ſheath up at leaſt a large Share of the Acids, with
they aſcend; if one was to over-look this Circumſtance of
Salts, and allow one's ſelf only to be guided by Appea
we might poſſibly be induced to think in examining the
ent diſtill'd Portions of ſeveral Sorts of Sorrel analyſed at
ent times, and at different Ages, that this Species of
contained fewer Acids, or yielded leſs of them in Diſtil
than other Plants, which in reality contain a great deal leſs,
in Diſtillation yield a ſmaller Quantity, but in ſuch a ma
that each Acid at that time finds nothing in the diſtill'd L
which can hinder it from appearing what it really is: And
in my Opinion, plainly proves that according as the
Salts of the Sorrel are more or leſs diffuſed and diff
with the Acids in the different Portions of the Analyſis
the fewer or more Marks of an Acid this Plant muſt
what, I ſay, in my Opinion, proves this, is a Reflection
the two following Experiments, an Account of which
perhaps be diſagreeable. When we analyſe the Leaves of
by means of a Retort, and a common Fire augmented
grees, after the firſt Portions are drawn away, the diſtill
quor ordinarily has the Marks of volatile Salts, which riſe at
which continue to do ſo afterwards, and which towa
Cloſe of the Diſtillation come in ſtill greater Abundance,
under a liquid or a dry Form. As for the Acids, the
Portions of the diſtill'd Liquor have no Marks of them.
ſucceeding Portions have alſo very often but faint Ma
them, and, after they are kept for ſome time, none at all,
that for the Reaſons already aſſign'd. But if inſtead of a
mon Fire we uſe a Bath-heat for the Diſtillation of
Leaves or Juice of Sorrel, the gentle Heat of it, ſu
for the firſt volatile Salts which have been mentioned, th
for thoſe which riſe firſt, and with moſt Eaſe, but inſu
to diſengage, and raiſe, at leaſt to any conſiderable D
the Acids of the Plant, will by that very means lay a Fo
tion for both to riſe at different times; for by ſtill ca
on the Diſtillation with a ſtronger Fire, the Liquor
will next ſucceed, and contains fewer volatile Salts, bec
great Quantity of them have already been raiſed in the
Portion of the Diſtillation will give more conſiderable Ma
Acidity, than if the Analyſis of the ſame Plant had been
ry'd on in the ordinary manner.

The other Experiment is this: If inſtead of analyſing
Sorrel-leaves, we begin by allowing them to macerate
conſiderable time, ſo that the Fermentation, which is
ſort of, or Beginning of, the Analyſis, may have laid a Foun
for the Diſengagement and Evaporation of a certain N
of volatile Salts; and if after this natural Operation we p
to diſtil the Leaves of Sorrel, whilſt they are in this St
the ordinary manner; and if we compare this Analyſis
that of the ſame freſh Sorrel which has ſuffer'd no Mace
we muſt acknowledge, that the macerated Sorrel affords,
the Beginning and whole Courſe of the Analyſis, not only
many more Marks of Acids than the other, but that it alſo
fewer Marks of volatile Salts, and that only towards th
Portions; whereas without Maceration it would have
volatile Salts from the very firſt, as I have already o
In a Word, theſe two Analyſes of the ſame Plant re
one another ſo little, that one would readily take them
Analyſes of two different Plants, which may indeed di
from each other, than theſe different Analyſes of the
Plant. We have ſtill a great many more Plants
loaded with Sal Ammoniac, the Fermentation of which
a great Quantity of volatile Salts to exhale, and by that
lays a Foundation for a great deal of the Acids of the
to be diſcover'd in the Analyſis. This Fermentation
often is the Cauſe that a particular Plant analyſed, give
Marks of Acids, which without this Aſſiſtance would
afforded none, as I ſhall ſhew in another Place, where a
tional Proof may be found, that there are a great many
ſo well wrapt up by the great Number of volatile Salts,
have aſcended with them in the Diſtillation of the Plant,
one could not have ſuſpected them to be lodged in the
Place without that Train of Reflections which natura
Riſe to the Experiments and Obſervations to be made in
proper Place.

The Caſe is not the ſame with the Juice of Lem
with that of Sorrel; for though they be both very ſou
that of the Lemon differs from the other, as it affords
few Marks of a volatile Salt; from which Circumſtance
very conſiderable Differences reſult, in the Analyſis of
the Juices. The firſt is, that, in the Lemon Juice, the
riſing alone, and without any Mixture capable of
them, are infinitely better diſcovered, and, appearing fr
very firſt Portion, continue to augment to the very laſt:
as Sorrel, when analyſed, ordinarily gives no Marks of
or very faint ones; but, in Recompence, it is richly i
nated with volatile Salts. The other Difference is th
tho' the Lemon Juice has been left in Maceration for a

e time, yet the Acids, afterwards drawn from it by Diſtil- , do not, upon that Account, appear either more diſen- d, or in greater Abundance, than thoſe which come from re it is ſubjected to Maceration; which is quite the Re- of what we have obſerved in the Analyſis, of fermented , This may be very well accounted for, from what has ſaid; for if it is true, that the Fermentation, preceding the ſis of the Sorrel Juice, does not lay a Foundation for a r Number of Acids appearing, but becauſe it diſſipates a deal of the volatile Salts, which would have covered and ed up a good Part of theſe Acids; this Fermentation, I hich is neceſſary for diſcovering the Acids of the Sorrel, o Effect for diſcovering thoſe of the Lemon; which not n the ſame State with thoſe of the Sorrel, in point of the Salts, and which riſing naturally in Diſtillation, without ccompanied with volatile Salts, have no Need, like the of Sorrel, of the Aſſiſtance of Fermentation, to give an- Direction to theſe Salts, and turn their Effects another Hence we ſee, that the Analyſis of Lemon Juice newly ed, and of that which has been macerated, ſhould not differ from each other, with regard to the Diſentangle- nd Quantity of the Acids, which are yielded by their ive Juices; and, conſequently, what I have obſerved on erent Analyſes of the Juices of Sorrel and Lemon, ſhould ly happen in the ſame manner, according to my Reaſon- hich, in ſome meaſure, juſtifies it.

eover, in examining a great Number of Plants, naturally with a great deal of eſſential Salt, and which was ſuch, Acid, or at leaſt a Part of its Acid, might eaſily be diſ- from its Matrix, during the Diſtillation of the Plant, over itſelf in the different Portions of the Analyſis; pro- finds nothing there to hinder it, it appeared to me, that t properly enough reduce to four Claſſes all the Differences ble in the Analyſes of Plants, with regard to their Acids, ir volatile Salts, which do not always appear diſſeminated ttered, in the ſame manner, in the different Portions of alyſis; and which, in every Species of Diſtribution, have , to me, to preſerve a certain Order. 'Tis principally e Analyſes which the late Mr. *Bourdelin* has made, that rawn the following Obſervations.

ke the firſt Claſs to conſiſt of thoſe Plants, which, in the , do not ordinarily give Marks of a volatile Salt, or at e but very faint and languid ones, which may paſs for ; ſuch are Rennets and Calville Apples, dry Martin- nd Frankreal-pears, *&c.* In theſe kinds of Plants the pears ſenſibly, from the firſt Portion of the Analyſis, tinues to appear all along, more and more, to the very hen it ſtill abounds more, and is better diſcover'd, it has nothing to hinder it from ſo doing.

ſecond Claſs conſiſts of ſuch Plants as give more or leſs alts, but do not yield them till towards the End of the on. In this ſort of Plants, the Acid generally diſcovers m the Beginning of the Analyſis, and continues to do ore and more, till it arrives at that Portion in which ile Salt begins to riſe; and then the Acid either appears at all, if the volatile Salt is in great Quantity, or appears uch leſs than it would have done without the Com- the volatile Salt. It even often happens, that we diſ- arks of a volatile Salt, and an Acid, in one or two which come before the laſt: And for the laſt Por- f, which is far more richly impregnated with vola- than the other two, and which boils and ferments ngly, as ſoon as the leaſt Acid is poured into it, it nceals the Acids it has received from the Plant, that ot be perceived; tho', from other Circumſtances, we g Proofs that it really contains more of them than any eceding Portions. We find Examples of this ſecond the Analyſes of the white Leaves of the Wild and uccory, of Periwinkle, of Chervil beginning to flower, , of Roman Lettice, of Fumitory become hard, and to bear Flowers and Seed, of Peruvian Bark infuſed , of Gentian-roots, of Polypody, of Turneps, of , of Dwarf Sun-flower, of Liquorice, of Violet- f Colts-foot, of Elder, of Peaches, of Roſes, of Ar- ottoms, of Melons, of Cucumbers, of Cheſtnuts, of , of red Gooſe-berries, of freſh, but ripe Elder-berries, Grapes, of Buckthorn, and many others.

ird Claſs does not differ from the ſecond, but in this; latile Salt which, in the former, did not diſcover itſelf s the End of the Operation, diſcovers itſelf in the in this. As for the Acid, it often appears from the n, notwithſtanding the Mixture of the volatile Salt, it cannot be diſcovered at that time; but in the re- ourſe of the Analyſis it is found alone, or, at leaſt, nothing along with it; and that even to the End of , when the volatile Salt begins again to appear, and ſame Effects, attended with the ſame Circumſtances rmer Claſs. If any one deſires Examples of this third needs only conſult the ordinary Analyſis of white Succory, of Carduus Benedictus, of the red Beet, of Spinnage, of young Onions, of Sage, of Parſley-leaves, of the Flowers of Lilly of the Valley, of Cherries, of Heart-cherries, and ſeveral others.

The fourth Claſs differs from the preceding, not only becauſe the Plants, which are comprehended under it, yield, in Diſtillation, much more volatile Salt than thoſe comprehended under the other Claſſes; but alſo, becauſe that Salt is more diffuſed through the ſucceeding different Portions of each Analyſis, of which there are few in which it does not diſcover itſelf; and of which there is not, for the moſt part, one which is not very much impregnated with volatile Salt, or which does not give evident Marks of it. As for the Acid, it ſhews itſelf, more or leſs, in every Portion of the Analyſis, in Proportion to the Quantity of volatile Salt with which it is lodged. For Inſtance, tho' the Analyſis of Wheat, of Rice, of Barley, and of Oats, yield, almoſt in all their diſtill'd Portions, Marks of a volatile Salt, yet the Acid does not fail to appear alſo, and even often continues to ſhew itſelf, from the firſt Portion to the End of the Proceſs; at which time the volatile Salt abounds ſo much, that it intirely ſheaths up the Acid which is in them. Borrage, on the other hand, and Bugloſs, which, from the Beginning of their Analyſis, give ſtrong Proofs of a volatile Salt, do not diſcover their Acid till towards the Middle of the Operation; that is, about the middle Portions of the Analyſis, when the volatile Salt begins to abound leſs. It ſometimes happens, that in one, or, at moſt, two of theſe Portions, the Acid appears alone; but if it appears afterwards, 'tis always accompanied with a volatile Salt, and that to the very Portion which comes laſt, or laſt but one, in which the volatile Salt is found in great Abundance, and makes the Acid entirely diſappear. Some other Plants which ſtill yield, in Diſtillation, more volatile Salts than Borrage and Bugloſs, give, for the ſame Reaſon, much fewer Marks of Acids than thoſe Plants do, as may be ſeen by the Analyſis of the Leaves and Stalks of white Garden Orache, when it is young, and only four or five Inches high. This may be likewiſe ſeen in the Analyſis of Radiſh, of Hops that are young, tender, and only five or ſix Inches high, of the ſpeckled Nettle, of Pellitory of the Wall, of Colly-flowers, of the Stalks of Artichokes, of Gourd-ſeeds, and ſeveral others.

However, 'tis in vain to examine, with all imaginable Care, all the Portions of the Analyſis of certain Plants, which, to ſpeak the Truth, have, to me, appeared very few in Number; and which, containing naturally more Sal Ammoniac than thoſe preceding, yield alſo, in Diſtillation, more volatile Salts, ſince we find that they diſcover no Marks of an Acid; and if we did not know, that theſe Portions of diſtill'd Liquor were the Product of a vegetable Subſtance, and were to reflect only on the prodigious Quantity of volatile Salt which they contain, and their entire Privation of Acids, we ſhould make no manner of Doubt, but they belonged to ſome animal Subſtance. The Plants I have in View are Muſhrooms; Garden Purſlane, very tender, and about two Inches high; the Stalks and Leaves of Fumitory that is young, tender, beginning to flower, and about ten or twelve Inches high. Yet tho' theſe Plants do not, in their Analyſis, diſcover any Acid, we have proved, that no one has a Right, from that Circumſtance, to conclude that they contain none; ſince the volatile Salt, which is found in great Quantity, in the different Portions of the Analyſis, may cauſe the Acid contain'd in them to diſappear. And, without having recourſe, at preſent, to the ſtrong Reaſons which will be alledged in their proper Places, and by which we ſhall ſee plainly, that there is neither Plant nor Animal, from which the ordinary Analyſis does not make an Acid riſe, and ſometimes in very great Quantities, tho' there afterwards appears to be very little, or none at all, in the diſtilled Portions, we may convince ourſelves of this Truth, by conſidering what happens in Fumitory, Pellitory, and Muſhrooms, when allowed to ferment before they are analyſed; for when the Fermentation has had time to detach, from the Sal Ammoniac of theſe Plants, a certain Quantity of volatile Salts, and keep them from being ſubjected to the Analyſis which is to ſucceed the Maceration, this Analyſis does not then fail to give Marks of Acids, which, indeed, are faint and languid; but which, at the ſame time, it would never have given, if it had been allowed to have all the Store of volatile Salts, which it muſt have naturally had, without the Maceration. There is alſo an Obſervation upon Lettice, which, in my Opinion, deſerves our Conſideration, ſince it has a very near Relation to the Subject in hand.

The Analyſis of this Plant, like the Analyſis of many others, varies in Proportion to the Age, and different Parts of the Plant: For Inſtance, its Root and Stalk yield much leſs volatile Salt, and give much ſtronger Marks of Acids than the Leaves; and the younger the Lettice is, the more volatile Salt it yields, and the fewer Marks of Acids it affords in Diſtillation; ſo that we find a very conſiderable Difference betwixt the Analyſis of ſmall young Lettice, and that of the very ſame Lettice when full grown and flowering; yet as this Plant, in all its different States, never fails to yield a great Quantity of volatile

Salt, the Quantity of that Salt lays a Foundation for our thinking, that the Analyſis of Lettice allows fewer Acids to appear than it really contains; that is, fewer are actually raiſed in its Diſtillation. This may be ſufficiently proved by the following Obſervation upon the Leaves of Lettice, in two different States; in which, when analyſed in the ordinary manner, they yield the ſtrongeſt Marks of a volatile Salt, and the leaſt Signs of Acids. Firſt, when the Plant is very ſmall, and ready to be tranſplanted in Ranks, in order to be made to cabbage: Secondly, when it is juſt cabbaged, tender, and in its beſt State for Sallad. This Plant, analyſed in theſe two different States, yields very faint Marks of Acids, till the laſt Portion but one; but yields, thro' the whole Operation, a great deal of volatile Salt; and the young Kind yields ſtill more than the other, as I have already obſerved; which Circumſtance inclines me to place it in the fourth Claſs of Plants, in the Analyſis of which the Acid appears very little, or not at all. But the following is a new, and hitherto unknown, Method of making the Acid of the Leaves of Lettice appear vaſtly more than it does by any other Proceſs. Inſtead of carrying on the Analyſis of the Leaves all at once, by a ſingle Operation, and in one Retort, the Juice muſt firſt be ſtrongly expreſſed, and put into a Retort; and the bruiſed Leaves, after Expreſſion, are to be put into another; and then both muſt be ſubjected to Diſtillation; thus performing by two Operations what others do by one. In examining each of theſe Analyſes, I have obſerved that of the Juice of the Leaves of cabbaged Lettice to bear a ſtrong Reſemblance to that of the entire Leaves, when full of their Juice; that is, this Analyſis yields, thro' all its Stages, a great deal of volatile Salt, and very few Marks of Acid, and that only in one Portion; whereas the Analyſis of the expreſs'd Leaves, being divided into thirteen Portions, ſhews no ſtrong Signs of a volatile Salt but in the laſt, and ſome ſlight Marks of it in the laſt but one, and in the three firſt; but the Acid ſhewed itſelf in all the Portions except the laſt, and in ſeveral of them it appeared very evident, and in great Quantity.

I obſerved very near the ſame Differences in the Diſtillation of the Juice, and the expreſſed Leaves of the ſmall Lettice; whence it appears very plainly, that if the whole Quantity of Acid, which diſcovers itſelf ſo clearly in the Analyſis of the expreſſed Leaves of Lettice, be ſo obſcurely perceived in the Analyſis of the ſame Leaves, when entire and full of Juice, the Reaſon is, not becauſe all that Quantity of Acid is leſs really exiſting in the different Portions of this laſt Analyſis, than in that of the expreſſed Leaves; but becauſe it is ſuppreſſed and abſorbed by the great Number of volatile Salts, afforded by the Juice of the Plant, which muſt, of neceſſity, be wanting in the Analyſis of the expreſſed Leaves, theſe being deprived of their Juice.

To proceed; what more augments the Quantity of Acids, concealed and contained in the different Portions of the Analyſis of the Leaves of the Lettice, is, that beſides thoſe juſt now obſerved, which the expreſſed Plant affords to thoſe Portions, they will receive a conſiderable Increaſe from the Juice: For tho' this Juice, analyſed by itſelf, manifeſts but very little Acid, it will be eaſy to perceive a greater Quantity of them, if you cauſe this Analyſis to be preceded by ſuch an Operation as was performed upon the Juice of Sorrel, and upon ſeveral other Plants; which is, to let the Juice macerate for a ſufficient time, or to evaporate a good Part of it in Balneo Mariæ.

If then Lettice, in which the Taſte and common Analyſis indicate ſo few Acids, do yet contain, and actually yield a great Quantity of them in the different Portions of their Analyſis, as has been proved, we have Reaſon to ſuppoſe the ſame thing of ſeveral other Plants, which are in the ſame Circumſtance with the Lettice, with reſpect to the volatile Salts, which abound in their Analyſes, and the Quantity of eſſential Salts, with which theſe Plants are naturally impregnated; for the Quantity of Acids muſt bear a Proportion to that of theſe Salts, as we ſhall now ſhew, in giving the Reaſons of a very common Obſervation upon the Analyſes of vegetable and animal Subſtances compar'd together.

We have already obſerved in the preceding Memoir, and the Beginning of this, that animal Subſtances in general ſhew ſo few Signs of Acids, in all the Portions of their Analyſis, performed in the common way, that if we were not otherwiſe convinced, that they really contained a great Quantity, but were to refer ourſelves for Proof wholly to theſe Analyſes, we ſhould abſolutely deny, that there was any Acid, if not in all, at leaſt in the greateſt Part of theſe Subſtances: But the Caſe is not the ſame with vegetable Subſtances, analyſed like the preceding; for it is obſerved, that the greateſt Number of theſe Subſtances diſcloſe a good Quantity of Acid; that there are but few of them which manifeſt but a very ſmall Quantity, and yet fewer which exhibit none at all.

The moſt eaſy and obvious Hypotheſis, to account for this Difference in the Analyſes of Plants and Animals, is, that Plants in general contain a far greater Quantity of Acids than Animals; and conſequently the Portions of their Analyſes being much more impregnated with them, it is natural, that they ſhould alſo manifeſt them much more: But we have al
ſhewed, both in this and the preceding Memoir, that
always judge of the Quantity of Acids contained in any
ſtance, by the Signs of it which appear in the Analyſis,
ſhould frequently be expoſed to Miſtakes; and ſo much
more, becauſe there may be a Subſtance which diſcovers
or nothing of Acid in Diſtillation, and yet may contain
or at leaſt as much of it, as another Subſtance, whoſe Acid
nifeſts and diſplays itſelf in every Portion of its Analyſis.
may well be the Caſe of animal Subſtances, with reſpect to
getables; and, indeed, there are few Plants from which w
extract more Acids than from a great Number of animal
ſtances, by means of certain Proceſſes. We ſhall not
enter into a nice Detail of Acids, which is ſo much
leſs neceſſary, as our Buſineſs is not to compare Plants
Animals in particular, but to make a general Compariſon
vegetable with all animal Subſtances: But we may always
in general, by what Rule to guide our Judgments on the
ject, by conſidering the natural Compoſition, and
Quantity of the two Salts, which prevail in both the S
in Queſtion. As to what regards the natural Compoſi
theſe Salts, we have ſhewn, that what abounds in Anim
true Sal Ammoniac, that is, a Compound of Acids lodg
volatile Matrix; and that the Salt which prevails in Veg
is alſo a Compound of Acids lodged in a fixed Matrix.
Matrix of each of theſe Salts, then, being a kind of M
of Acids, and thoſe very numerous, as Experience demon
tho' we had not found the Secret of extracting a great
tity of Acids from animal Subſtances, they may yet be
to contain a good Quantity of them, merely from this
deration, that they are impregnated with a great deal
Ammoniac. To know whether they contain leſs than V
bles, let us conſider, firſt, that Animals being nouriſh
Plants, or other Animals who themſelves lived on Pl
Parts of the Vegetables paſs with their Salts into the pro
ſtance of the Animals; conſequently the Acids paſs thi
may there be found again. This being the Caſe, we
Reaſon why there ſhould be a leſs Quantity of Acids in
mal than in the vegetable Kingdom; or, to render the
riſon more ſenſible, why an Animal which lives but
or two ſorts of Plants, and receives into himſelf all
theſe Plants, ſhould contain fewer Acids in all his Parts,
equal Weight of Vegetables in all their Parts. In ſhort,
Alteration that happens to Salts of Vegetables, in their
into Nutriment for Animals, is, that their Matrix, w
fixed in the Plant, becomes volatile in the Animal;
the ſame Reaſon, that the Matrix of Sal Ammoniac
fixed, in paſſing from Animals into Plants. But this
the Matrix of vegetable Salts has no relation to the
of their Acids, which may as well reſide in a volatile
fixed Matrix; and it ſhould ſeem even poſſible for the
contained in greater Quantities in a volatile than in
Matrix, as we ſhall preſently ſhew by ſenſible
ment.

We ſhall obſerve, in the ſecond Place, that when
der, and compare together, the Juices of Animals an
which are our ordinary Nouriſhment, it does not ap
Plants are more impregnated with Salt than Anim
Taſte might even ſeem to indicate, that there are more
Parts, and leſs Salt, in Plants than in Animals. But
the Quantity of Salt to be equal in both, it is eaſy to
any Portion of the Salt, which is predominant in Ani
tains as much Acid as the like Portion of the Salt which
in Vegetables. Experience might even make us believe
contained much more; and that, even when the Por
Ammoniac contained, for Inſtance, in a Pound of an
ſtance, is leſs, by half, than that of another kind of Salt
a Pound of vegetable Subſtance, the animal Subſtance,
of its Salt, ſhould contain more Acids than the
There is no other way to come to a Certainty in this
than to chuſe two highly alcaline Salts, one fixed, and
volatile; for Example, the Salt of Tartar, which is
be the moſt powerful Alcali among fixed Salts, and
Salt of Peach-flowers, which is alſo one of the moſt
Alcalies amongſt volatile Salts. If an equal Quantity
two Salts be ſaturated with the ſame acid Spirit,
Salt, for Inſtance, you will find, that one Dram of Sa
tar requires two Drams and a half of Spirit of Salt;
Dram of volatile Salt of Peach-flowers requires eight
the ſame Spirit: Hence it appears, that, taking equal
a volatile Matrix abſorbs and contains abundantly
than a fixed Matrix; and, conſequently, that a Qu
Sal Ammoniac, which is predominant in Animals,
containing fewer Acids, that, on the contrary, it con
than the ſame Quantity of Salt which reſides p
Plants.

In ſhort, tho' one ſhould ſuppoſe gratis, and w
Foundation, I might even venture to ſay, in ſpite
ments to the contrary, that there are generally mo
Vegetables than in Animals, the Suppoſition muſt

ceſſive Length, and beyond all Probability, to account t we commonly obſerve in the Analyſes of Animals; why the ſame Proceſs always ſhews, or very ſeldom ſhew, the Acid in Vegetables, and commonly in great y, and ſeldom or never ſhews it in Animals. One ven ſay, that if there were no other Difference between nd Animals, than that of their being more or leſs with Acids, Animals might not indeed afford ſo many f them in their Analyſes, as Vegetables, but they lways give Marks of ſome Acids, either more or leſs, r Analyſes would not be ſo uniform as they are, without ng any at all, without the Help of Mediums, of which take Notice hereafter. We muſt then have recourſe er Cauſe than what has been aſſigned, to explain the ce which we find between the Analyſes of Plants and ; and we ſhall now ſhew, that, ſuppoſing as great a of Acids, at leaſt, in Animals as in Vegetables, all obſerve in their Analyſes ought neceſſarily thus to hap- cording to our way of Reaſoning, which is a natural ence from what has been ſaid in this and the precede- noirs.

the Acids, contained in the Compound, might ſhew es in the ſeveral diſtilled Portions of its Analyſis, it is cient, that each Portion be really much impregnated with it is alſo neceſſary, that the Acids ſhould be more free ngaged in every Portion of the Analyſis, than they the very Boſom of the Compound. To give an Example: as the Acids of Saltpetre are lodged in their natural they ſhew no Signs of Acidity; but they exhibit very hen the Diſtillation has diſengaged them from that Ma- ich remaining at the Bottom of the Veſſel becauſe of y, reſides no more with them in the ſame Place. For e obſerved, that if this Matrix, inſtead of being fixed, n volatile, it would have riſen with them, and always dered the Acids imperceptible; which is eaſily proved, g with Fire Sal Ammoniac after two different manners, alone, and with a fixed and alcaline Medium. And, if we ſuppoſe the Operation to be made without a Me- he Sal Ammoniac will riſe entire; and the Acids not een diſunited from their Matrix, they will be found gether on the Sides of the Head, nearly in the ſame nd as much encumber'd as they were before the Subli- and if, before you ſubject the Matter to the Fire, you ith Water and a Medium, a great Part of the Acids ain at the Bottom of the Veſſel with the Medium; he volatile Salt ſhould carry off ſome Acids with it, be leſs in a Condition to appear after, than before the n, becauſe the Quantity of theſe Acids will be then ferior to thoſe which reſided in the Matrix. Hence it that if we ſuppoſe a Maſs of Sal Ammoniac to con- ce or thrice as many Acids as another Maſs of Salt, Saltpetre, that is, ſuch a one as ſhall have a fixed Ma- that ſhall be elevated from the Saltpetre by the Action ire, will give infinitely more inconſiderable Tokens of han what ſhall proceed by Diſtillation from a Maſs of mixed with a convenient Medium, beforehand.

s exactly what happens in the ordinary Analyſes of Ve- and Animals; and tho' we ſhould ſuppoſe in theſe laſt or more Acids than in the others, and ſhould imagine, e ariſe from them in Diſtillation, as many and more an from Vegetables, yet, as the Salt of which they icularly compoſed is Sal Ammoniac, the greateſt Part cids, which riſe by means of the Diſtillation, thus riſe r proper Matrix, from which they were never ſepa- or which Reaſon, the Operation contributes nothing at e making of them more perceptible than they were As for the Acids which were ſeparated from their and were ſublimed by themſelves, and commonly at of the Operation, they always find in the Receiver a eater Quantity of volatile Salts than is neceſſary to ab- n; and they never fail of being abſorb'd, if you don't e expeditiouſly to ſeparate theſe Acids by way of Recti- and oftentimes, how ſpeedy ſoever you are, either have already diſappeared, or you can perceive but of them. This gives Occaſion to obſerve, that when yſes of Animals manifeſt ſome viſible Acids, they are ch as riſe with their Matrix, and never abandon it, as, after having been ſeparated from it, came over at of the Operation, in proportion to the Heat of the herefore if you have a mind to have a greater Quan- eſe Acids appear, you muſt labour to diſunite a great of them from their Matrix, to make them riſe ſepa- nd to prevent their Reunion. A Method not com- ed in analyſing animal Subſtances, the Neglect of ll render a Part of their Acids imperceptible, is as

irſt Step in this Proceſs is Maceration, which produces l Subſtances what we have already obſerved it to pro- Vegetables, that is, it makes way for a great Number e Salts to diſengage themſelves from their Acids, and to diſperſe themſelves in the Air, or renders them more diſpoſed ſo to do upon the leaſt Heat. By this means you ſet at Liberty a certain Quantity of Acids, which could never have been done without it. For Example: It is obſerved, that when Urine is new, and has not fermented, its Phlegm riſes before its volatile Salt, and that it ſhews no Sign of Acids; but when it has fermented, its volatile Salts riſe firſt, then its Phlegm, and, laſtly, a red Liquor, which is manifeſtly pregnant with Acids.

I.

The ſecond Step is, to intermix a fixed and alcaline Medium with the animal Subſtance which is to be analyſed, in order to diſengage a greater Quantity of Acids from their volatile Matrix, and to put them in a Condition of riſing afterwards ſeparately, and to be diſtinguiſhed from it.

The third is, in the Beginning of the Diſtillation to make uſe of a Heat ſo gentle as to be only capable, as I may ſay, of raiſing the volatile Salts, with Intent that the Acids, which will come over afterwards with a ſtronger Heat, may be accompanied with a leſs Quantity of volatile Salts; and ſo being leſs confounded with them, may make themſelves more eaſily known.

The fourth is, to increaſe and continue the Fire for a long time, and at laſt to carry it to the utmoſt Degree of Violence, in order to releaſe the Acids which were detained by the earthy Part of the Compound, and without this Aſſiſtance would never riſe, or riſe in ſo ſmall a Quantity as hardly to be diſtinguiſhed. 'Tis oftentimes for want of this Circumſtance, that the Acids of animal Subſtances fail of appearing in their Analyſis; for thoſe Acids which come over towards the End of the Operation, are the only ones which can be made to appear, becauſe no others have been well diſengaged from their volatile Matrix.

Laſtly, As ſoon as Diſtillation is finiſhed, we muſt ſet about Rectification, eſpecially of the laſt Portions, in order to ſeparate as ſpeedily as poſſible the Acids, which lie there confounded with the volatile Salts, and not give them time to reunite with their firſt Matrix.

This Method being regularly obſerved in the Analyſis of animal Subſtances, if we ſhould not be able to extricate all the Acids, we ſhall however always diſcover a great Part of them.

As to what regards, at preſent, the Analyſes of Vegetables, the greateſt Part of their Salt being the Oppoſite of Sal Ammoniac, or, what amounts the ſame, the moſt part of their Acids being naturally engaged in a fixed Matrix, when the Fire has diſengaged and carried them aloft, they don't find their Matrix again in the Receiver, nor riſe with it, as do the Acids of Animals; hence they lie more open than thoſe Acids, and more eaſily preſerve themſelves in that bare and open Condition in which they were put by the Fire. 'Tis true, however, and we have already obſerved it, that ſeveral Plants yield volatile Salt in the Analyſis, and oftentimes enough even to make great Part of their Acids to diſappear. But it muſt be conſidered, that as Plants naturally impregnated with Sal Ammoniac never contain ſo much of it as Animals, and that as their Sal Ammoniac is always joined with a much greater Quantity of another Kind of Salt, which is not in Animals, ſo they not only have always fewer volatile Salts, but alſo the Proportion or Quantity of theſe Salts, with reſpect to that of the Acids, is always leſs in the different Portions of the Analyſes of Plants than of Animals. And indeed the volatile Salts raiſed from an animal Subſtance by Diſtillation, have ſcarcely, to ſpeak properly, any thing in the diſtilled Liquor to balance them, except the Acids, which they before contained in the Compound, and which, in this very Liquor, are found in leſs Quantity, in proportion to the volatile Salts, than in the Compound itſelf, as we ſaid before; whence it comes to paſs, that theſe Salts are always more than ſufficient to anſwer the Acids, and conſequently to make them diſappear. But for thoſe volatile Salts, which come over from a vegetable Subſtance, beſides the Acids which they contained in the Vegetable itſelf, they are alſo to anſwer to thoſe which proceeded from another Matrix, I mean a fixed Matrix, which is the moſt plentiful Source of Acids in the vegetable Kingdom. Wherefore as theſe Salts are not ſufficient at once for two Sources of Acids, ſo the ſame Proceſs, that will hardly render manifeſt any Acids in animal Subſtance, ſhall commonly make them appear in Plants which yield the moſt volatile Salts. And if it happens, in ſome Analyſes of Plants, that the Quantity of volatile Salts is large enough to hinder the Acids from rendering themſelves perceptible in the Proceſs juſt before-mentioned, which very ſeldom happens if we uſe the ſame Method upon thoſe Species of Plants, which we before recommended for diſcovering the Acids of Animals, we ſhall find by Experience, that this Method will ſtill meet with fewer Obſtacles, and conſequently ſtill operate with more Diſpatch, both upon Vegetables and Animals.

We have no more to do at preſent, but to make ſome critical Reflections on the Analyſes of Plants, with reſpect to the Acids raiſed from them by Diſtillation. And, firſt, when we conſider only the Acids which offer themſelves to View in theſe Analyſes, without looking any farther, or at leaſt without duly reflecting, that there are always in a Plant concrete and eſſential Salts, which actually contain large Quantities of Acids, ſuch as Saltpetre, from whoſe Boſom the Acids we ſpeak of proceed, we might be ready to imagine, that thoſe Acids, which the Analyſis repreſents to us under a fluid Form, diſengaged from earthy Matter, and ſufficiently free and diſcloſed, were after the ſame manner in the Plant itſelf; and that they were not there lodged, as they really are, in a ſolid Matrix, in Conjunction with which they formed a concrete Salt.

A ſecond Error into which the Analyſis might be ready to lead us, is concerning the Quantity of Acids which offer themſelves to our Senſes. Here perhaps we may inconſiderately aſſure ourſelves, that ſome Plants contain more or fewer Acids than others, according to the Meaſure of what we ſee in them; but how 'tis poſſible for us to be miſtaken on this Subject, has been ſufficiently proved in the Courſe of this Memoir.

We ſhall obſerve, in the third place, that the Acids which are diſlodged by the Analyſis from the fixed Matrix, do not always remain in that deſtitute State, but frequently poſſeſs themſelves, as we have ſaid, of other Matrices, either ſaline and volatile, or purely ſulphureous, with which they form new Compoſitions. So that all theſe Metamorphoſes, which are the Effects of the Analyſis, cannot chuſe but deceive us as to the natural Order and Diſpoſition of the Parts of the Plant.

Laſtly, the Analyſis of Plants plainly lets us ſee the Acids in them; but theſe Acids are ſo much blended and confounded with other Subſtances, that it is impoſſible to diſtinguiſh their particular Character; and thus all Plants appear to us, by this way, to contain the ſame Acid. It is however a Matter of Importance to underſtand and diſtinguiſh the particular Nature of the Acids of Plants, ſuch a Knowledge having a great Influence towards an Inſight into their Virtues; for it is very true, that different Acids, lodged in the ſame Matrix, form Compounds of very different Properties; for Example, natural or artificial Saltpetre, and vitriolated Tartar, have the ſame Matrix, but by no means the ſame Virtues. Mercury, penetrated by the Acids of Spirit of Salt, is much more corroſive than when it is impregnated and covered with thoſe of Spirit of Nitre; conſequently two Plants, whoſe Effects are different, and, which in regard to their Analyſes, do not appear to differ in Nature, nor even in the Quantity of their Acids, may yet differ very much in this reſpect, and to this Difference be accountable, if not wholly, at leaſt in part, for the Difference of their Effects. If to what has been ſaid on the Compariſon of the Acids of ſeveral Plants, we add the falſe Reſemblance which Analyſes may repreſent to us, in comparing other Subſtances of which each of thoſe Plants are compounded, and which, tho' really different in the natural State of every one of thoſe Plants which are thus compared, do yet appear, after the Analyſis, under a like Form, this Reflection may perhaps ſerve to account for the Obſervation made on *Solanum furioſum*, and the *Braſſica capitata*, one of which is Poiſon, and the other Aliment, and yet in their Analyſis they produce Subſtances ſo much alike in Appearance, that you would ſay, theſe two Analyſes were made of one and the ſame Plant. *Memoires de l'Acad. Roy. des Scienc.* 1721.

In the Courſe of this Work, I have been obliged to give ſuch Analyſes of Plants, Animals, and Minerals, as I could find in the beſt Authors; and amongſt others, in *Tournefort*, who has employed ſome Methods of examining into the ſpecific Natures of Plants, with which the Reader muſt be made acquainted, in order to his underſtanding the Inferences from the Experiments he will meet with. I ſhall therefore inſert the following Extract from the Preface to Dr. *Martyn*'s *Tournefort*.

1. By the Chymical Analyſis of Plants is meant, the Separation of their Principles, by means of Fire, and proper Veſſels; to which End we diſtil freſh Plants in an Alembic, or in *Balneo Mariæ*: Or before you proceed to diſtil them, they are to macerate or digeſt for ſome time, according to the Nature of the Plants, or the Intention that you have: It is proper to ſeparate the Subſtances which are obtained from it, into Portions of four or ſix Ounces, the better to examine ſeparately their Characters. You commonly draw off by this means the Phlegm, the ſpirituous Water, or the burning Spirit of Plants; when the Diſtillation is ended, you put the *Reſiduum* into a Retort, and giving Fire by Degrees, you draw off from the generality of Plants an urinous Spirit, a volatile concrete Salt, and a fetid Oil.

From the Caput Mortuum lixiviated, we ſeparate by Filtration and Evaporation the Salt that was mixed with the Earth.

2. By acid and alcaline Salts, are meant thoſe two Kinds of Salts, to which the Phyſicians and modern Chymiſts have given theſe Names. See the Articles ACID and ALCALI.

3. By eſſential Salt, is meant that which forms itſelf by the Cryſtalliſation of the Juice of Plants: We find this eſſential Salt in the Extracts of ſuch whoſe Juice does not cryſtallize.

4. By the volatile Salt of Plants, is meant the Salt, which, in the Diſtillation of Plants by the Retort, ſticks to the Sides of the Receiver.

5. By the fixed Salt of Plants, is meant the Salt wh made by Elixiviation of the Aſhes of Plants burnt, or fro Caput Mortuum of thoſe which are analyſed.

6. To diſcover the Acids, we have not only made Salt of Tartar, Lime-water, Spirit of Sal Ammoniac, and like Subſtances, with which Acids generally ferment; likewiſe the Solution of Turnſole, or blue Paper, wh nothing elſe but common Paper, coloured with Turnſo ſolved in common Water; the alcaline Salts make no C on the Turnſole; the Acids, according to their Strength, it by Degrees, from a very faint Red to a very lively You meet with the Turnſole commonly at the Colour- they are little Cubes of a deep-violet Colour, and give Tincture; but it is a Colour the moſt ſuſceptible of Al that I have yet found; for the weakeſt Acid will cha Milk is alſo ſometimes made uſe of, to try if certain Aci curdle it.

7. To diſcover the alcaline Salts, we have uſed no the Spirit of Nitre, of Salt, of Sulphur, of Vitriol, and Acids, with which Alcalies commonly ferment; but corroſive Sublimate diſſolved in common Water: Acids at all change the Colour of this Solution; but it becom ſcure, milky, yellow-orange-coloured, and curdles accor the Strength of the alcaline Salts: Theſe Salts alſo white, green, or curdle the Solution of Galls, and th Copperas; but theſe two laſt Experiments are not ſo cer thoſe of the Sublimate; for there are ſome Acids, as w ſee hereafter, that change alſo the Solution of Copperas, the Infuſion of Galls.

8. As Sal Ammoniac diſcovers itſelf by its volatile or Salt, Oil of Tartar, or Lime-water, has been uſed to whether there be any Sal Ammoniac in certain Plants; fo they emit an urinous Spirit, like that which exhales from or Sal Ammoniac, when they are mixed with Oil of T or Lime-water: Lime-water and corroſive Sublimate, bined in a certain manner, with a Solution of Sal Am diſtinguiſh alſo the Nature of the Sal Ammoniac; for lution of this Salt, mixed with Lime-water, hinders coming Yellow, or Red-orange: When we pour on the tion of Sublimate corroſive, the Whole becomes white a on the contrary, Lime-water, mixed with the Solution of limate, turns yellow or red as before, altho' it is join'd of Sal Ammoniac. Thus, as the urinous Salt of Plants altogether without Acid, I believe it is better to ſay, Plant acts by a Salt approaching to Sal Ammoniac, tha pure volatile Salt; and ſo much the more, becauſe the which yield a concrete volatile Salt, redden the blu in like manner as Sal Ammoniac does, except w great Quantity of Oil ſmothers the Acid, and hinders pearance.

9. As Nitre diſcovers itſelf by Detonation, I believe means to know nitrous Subſtances certainly, is to thro upon burning Coals.

10. Every body knows, that the moſt remarkable of Vitriol is to blacken the Infuſion of Galls; there ought to mix the Bodies which we examine, with this In

11. To know whether there be Sulphur in any Body, it ſeems to be the beſt way, to put it in Dig good Spirit of Wine, to ſee if it draws any Tincture: Readineſs which theſe Bodies have to catch Fire, is alſo dication of Sulphur. The dry *Elaterium* burns at a the Extract of *Sedum majus vulgare*, C. B. does not all; therefore the firſt contains a reſinous Matter, w do not find in the other. The oily Subſtances becom when they are mixed with Lime-water, or Oil of Tart

The following Experiments may ſerve to ſhew the of that Salt, which we can draw from the Earth, with Help of Fire.

> Take Plaſter into a low Place, where there has not Chimney; pound it, and put it into a Pail of covering it half a Foot: After an Infuſion of four if the Water does not afford any Sign of Saltne does not change it at all by the forementioned Exp let it be put again upon freſh Plaſter taken from Place.

The ſecond Infuſion grows a little reddiſh, acrid, bitter.

1. It made but a faint Impreſſion of Violet upon Paper.

2. It did not curdle Milk at all.

3. It did not receive any Change from Spirit of Nitre.

4. It made the Infuſion of Galls muddy, and ren whitiſh; afterwards it made a pretty thick Coagulum, with a Precipitation.

5. When it was mixed with Infuſion of Vitriol, it a dark, tawny Colour.

6. It rendered obſcure a Solution of Sublimate corro

7.

he ſame Infuſion, mixed with Oil of Tartar, inſtantly
white Coagulum; immediately after was perceived a very
able urinous Spirit. Mixed with Lime-water, it did
y ſame, without finding in either of theſe Experiments
Efferveſcence or Heat.

ubſtituted in the room of Sal Ammoniac, it whitened
ater, when it was added to the Solution of corroſive
te; this White was not ſo lively as that which appeared
ns of the Solution of Sal Ammoniac.

pears by the fourth, fifth, and ſixth Experiments, that
ſion of Plaſter contained an alcaline Salt; and by the
and eighth, that it contained Sal Ammoniac. The
covered ſome Acid in the ſame Salt: This ſeems to be
d through the Whole; for when they whiten old Houſes
me, one may perceive an urinous Smell for a Day or

e Sal Ammoniac, the Infuſion of Plaſter evaporated
Nitre, which diſcovers itſelf by Detonation: It is ſepa-
ſo from a marine Salt.

Infuſion of Earth, ſcraped from the high Roofs of
is found to be of the ſame Nature with that of Plaſter:
fuſions uſed by the Saltpetre-makers of *Paris*, contain a
lt, becauſe they put a certain Quantity of Aſhes in the
of their Bucking-tubs, in order to purify the Salt-

e the Infuſion of Plaſter, I made others with Earth of
Natures. To twenty-five Quarts of Water, I put to
wenty Pounds of Mould, from a Garden which had been
d for many Years; after four Days Infuſion, I paſſed
gh a Strainer of Hair-cloth, and poured the Infuſion
on freſh Earth. The firſt and ſecond Infuſion did not
any Change with the common Trials. It was put again
other Portion of Earth. I deſigned to have made ſtill
fuſions, but the thing was hardly poſſible, becauſe the
d conſumed a great deal of the Water, notwithſtand-
Precaution uſed to filtre it.

laſt Infuſion of the Earth was a little reddiſh, ſalt, and
being half evaporated, it became like that of Plaſter.

nfuſion of Earth taken from a Piece of Ground not
that of Kitchen-garden Earth and Mould, afforded
e ſame Characters as that of Plaſter, except that theſe
hs ſent forth an urinous Spirit more penetrating than that
rſt: Beſides, the Infuſion of all theſe Earths whitened
tion of corroſive Sublimate a great deal more than the
of Plaſter.

Natrum or *Anatron* of *Egypt* made the ſame Alteration
Solution of Sublimate; and as in the *Levant* we find
naturally in the Ground, it is no Wonder that it ſhould
e Similitude with the Infuſion of that of this Country.

Natrum ſeems to be nothing elſe but a marine Salt,
ith a natural alcaline Salt. Theſe Salts are not per-
ited together; for if you go to ſteep a Piece of *Natrum*
, it diſſolves at firſt only that which makes the leaſt
e; and that Part being diſſolved, you may ſee, in that
mains, a great many Cavities ſomething like thoſe of

m has the Taſte of marine Salt, and crackles in the
makes no more Impreſſion upon blue Paper, than
lt; it does not at all ferment with Spirit of Sal Am-
it makes a white Coagulum with the Infuſion of
mixed with Lime-water, it does not hinder its turning
when mixed with a Solution of Sublimate; marine
the ſame; it ferments conſiderably with Spirit of
hich marine Salt does not.

olution of *Natrum* renders that of Copperas of a very
en, like Sea-green. This Change ſeems to indicate an
alt, ſince it comes to the ſame when mixed with Oil
, or Lime-water, with a Solution of Copperas; and
reen is wholly deſtroy'd by the Mixture of Spirit of
hich, uniting itſelf with the Oil of Tartar, cauſes it
ith the Copperas.

theſe Experiments we have related touching the Infu-
laſter, and of the different Sorts of Earth, we may
y advance,

at there is in all Earth, what we may call a natural
ether the Earth has always been impregnated with it,
ntinually made by the Mixture of rotten Plants, the
Animals, the Air, or other Cauſes which we are
of. This Salt participates of Nitre, of marine Salt, or
oniac, of Alum, and of Vitriol.

at in the Salt of the Earth there is an alcaline Salt,
from the Sal Ammoniac; for the Infuſion of various
nd the Solution of *Natrum*, whitens the Solution of
corroſive, which the Solution of Sal Ammoniac will
on the other hand, the *Natrum* ferments conſiderably
t of Nitre, and the Infuſion of Earth, boiled a little
ſame Spirit, which we do not find when we mix the
f Sal Ammoniac with Spirit of Nitre.

ppears alſo, that the Bodies which we draw from
ithout the Help of Fire, afford us but ſmall Signs of
Acid, except Alum and Vitriol. The following Obſervations are relating to common Salts.

I.

NITRE.

1. Nitre makes no Impreſſion upon the blue Paper, nor upon Solution of Turnſole, nor upon Syrup of Violets.

2. One cannot draw a Spirit of Nitre, without a very violent Fire: This Spirit reddens very lively the blue Paper, Solution of Turnſole, and Syrup of Violets.

3. Nitre inflames upon the Fire, and kindles readily: The Spirit of Nitre extinguiſhes it.

4. It does not curdle Milk: The Spirit of Nitre curdles it inſtantly.

5. It does not change the Colour of Ox's Gall: The Spirit of Nitre makes it red. I ſuppoſe, by the uniting itſelf with the acrid Salts, which had perhaps contributed to yellow the Sulphur of the Blood, it is a Means of making this Liquor return to its natural Colour.

6. It makes a white or greyiſh Coagulum, with Infuſion of Galls: The Spirit of Nitre does not alter this Infuſion.

7. Neither Nitre, nor its Spirit, alter the Solution of Copperas.

8. Nitre, and Oil of Tartar, make an almoſt inſenſible Ebullition, wherein there appears to be an Agitation of the Parts, like thoſe of Duſt, which you may ſee move about the Air in a very light Place: The Spirit of Nitre, and Oil of Tartar, ferment without Heat, but with a great Froth, and afterwards it becomes a very thick Coagulum.

9. Nitre does not hinder Lime-water becoming yellow, when mixed with the Solution of Sublimate: The Spirit of Nitre only raiſes a few Bubbles in the Lime-water, all appearing as tranſparent as before, although the Sublimate corroſive be poured upon it.

10. The Solution of Nitre, and the Spirit of Sal Ammoniac, do nothing at all: The Spirit of Nitre, and Spirit of Sal Ammoniac, ferment.

11. The Solution of Nitre, and that of corroſive Sublimate, do not immediately change; but about a Quarter of an Hour after they are mixed, they become white.

12. The Solution of Nitre, and Spirit of Salt, do not change at all. None of theſe Experiments diſcover any Signs of Acidity in the Nitre; for that which happens in the ninth is inſenſible; the ſixth and eleventh rather ſhew, that it contains an alcaline Salt; nevertheleſs Fire draws from Nitre one of the ſtrongeſt Acids that we know.

II.

SEA-SALT.

1. Marine Salt does not alter the blue Paper, nor Solution of Turnſole, nor Syrup of Violets.

2. One cannot draw the Spirit of Salt without a violent Fire; this Spirit tinges blue Paper, and the Solution of Turnſole, of a lively Red.

3. The Solution of marine Salt whitens a little the Solution of Sublimate.

4. It muddies the Infuſion of Galls, and afterwards occaſions it to precipitate a little: The Spirit of Salt muddies it alſo, and renders it whitiſh.

5. It makes the Spirit of Sal Ammoniac obſcure, and increaſes the ſtrong Smell: The Spirit of Salt, and that of Sal Ammoniac, ferment with Smoke, and great Heat.

6. It does nothing at all with Oil of Tartar, nor with Lime-water: Spirit of Salt ferments very much with Oil of Tartar, but without ſenſible Heat. This Spirit does not ferment at all with Lime-water.

7. It does not hinder Lime-water from turning yellow, when mixed with Sublimate: The Spirit of Salt hinders it entirely; and the Liquor, after the Mixture of Sublimate, is more tranſparent than before.

It appears by the third and fourth Experiments, that marine Salt contains an alcaline Salt; and by the fifth, that it is ſomewhat acid.

III.

VITRIOL.

1. The Solution of Copperas, or common Vitriol, is ſaline, ſtyptic, afterwards ſweetiſh.

2. It reddens the Solution of Turnſole, and blue Paper; but this is not a lively Red.

3. It gives Syrup of Violets a ſmall greeniſh Caſt, far from reddening it.

4. We cannot draw the Spirit and Oil of Vitriol without an intenſe Heat; the Spirit and Oil redden the Syrup of Violets to the Colour of Ox's Blood.

5. The Spirit of Vitriol colours the Paper of a very lively Red, and the Solution of Turnſole of a Red ſomewhat leſs lively: The Oil does the ſame, but it ferments and grows hot with Solution of Turnſole.

6. Every body knows, that Copperas, mixed with Infuſion of Galls, makes Ink; but every body perhaps does not know, that Ink reddens blue Paper: Mixed in a very little Quantity with Solution of Turnſole, it gives it a little reddiſh Caſt; but this Colour is leſs ſenſible, than upon the blue Paper.

7. The Spirit of Vitriol muddies and whitens a little the Infuſion of Galls: The Oil of Vitriol thickens it, makes it of an aſh Colour, and it makes a thick Precipitation.

8. The Solution of Copperas, its Spirit and Oil, curdle Milk.

9. It does not change at all that of Sublimate corroſive.

10. It becomes a grey-brown and like Sea-green, mixed with Oil of Tartar, or with Lime-water. This Colour does not change, although it be mixed with corroſive Sublimate. Spirit of Vitriol, and Oil of Tartar, ferment with a great deal of Froth, and a conſiderable Heat; but all theſe augment, if inſtead of Spirit you uſe the Oil of Vitriol, and all their Mixtures become a white Coagulum.

11. Common Water, and Oil of Vitriol, grow alſo very hot, and generally make a Noiſe; there is no Fluid, that more eaſily grows hot with the Mixture of others, than the Oil of Vitriol.

It appears, by all theſe Experiments, that Vitriol naturally affords a great many Signs of Acidity.

IV.

ALUM.

1. Alum is a little ſaline, and very ſtyptic.

2. The Solution of Alum tinges of a fiery Red the blue Paper, and Solution of Turnſole.

3. It does not alter the Colour of Syrup of Violets.

4. It curdles Milk.

5. It inſtantly makes a white Coagulum, with Oil of Tartar, but without Heat or Smoke.

6. It does not alter the Solution of Sublimate.

7. It makes the Infuſion of Galls muddy, and whitens it conſiderably, throwing down a Precipitation.

8. It whitens Lime-water a little, and this Mixture does not turn yellow, when mixed with Sublimate corroſive, but it forms little white Clots like Starch; this is perhaps occaſioned by the Urine, which is employed in the Cryſtallization of Alum; ſo we cannot conclude any thing from all theſe Experiments, except that Alum contains a good deal of Acid.

V.

SAL AMMONIAC.

1. Sal Ammoniac is acrid and ſaline.

2. Its Solution tinges blue Paper of a dark Red: It does not at firſt change the Solution of Turnſole, but a Day after this Mixture becomes a reddiſh Brown.

3. It does not curdle Milk.

4. It does not alter the Solution of Sublimate corroſive.

5. Mixed with Oil of Tartar, or with Lime-water, it emits an urinous Spirit.

6. This Spirit coagulates, and whitens the Solution of Sublimate. From Sal Ammoniac one may alſo draw an acid Spirit, like the Spirit of Salt; thus the Sal Ammoniac appears to be a marine Salt united with an urinous one.

7. The acid Spirit of Sal Ammoniac hinders the Lime-water's changing Colour, when it is mixed with the Solution of Sublimate; but the whole Mixture becomes white as Milk, if you pour on the urinous Spirit of this ſame Salt, the Sal Ammoniac thus cauſing the ſame Effect upon Lime-water and Sublimate, as its urinous Spirit does. It is certain, that this is the urinous Part, and not the acid Part of this ſame Salt, which whitens the Lime-water, when mixed with Solution of Sublimate. Urine whitens it more faintly than the Solution of Sal Ammoniac.

8. The acid and urinous Spirit of Sal Ammoniac ferments with Heat.

9. If you pour the acid Spirit of Sal Ammoniac upon Lime-water tinctured by the Sublimate corroſive, the Whole becomes tranſparent; and all this becomes white as Milk, if you add the urinous Spirit of Sal Ammoniac. The Spirits of Salt, of Vitriol, of Sulphur, perform the ſame as the acid Spirit of Sal Ammoniac.

VI.

TARTAR.

1. Tartar, which is nothing elſe but the eſſential Salt of Wine, is ſouriſh.

2. Its Solution reddens the blue Paper, and the Solution of Turnſole, as lively as Alum.

3. It whitens Lime-water, but it does not hinder its becoming a Red-orange, when mixed with the Solution of corroſive Sublimate.

4. It makes no Change when mixed with corroſive Sublimate, or with Infuſion of Galls.

5. It does not change with Spirit of Sal Ammoniac.

6. Mixed with Oil of Tartar, it does not recei Change.

7. The Spirit of Tartar contains a good deal of Aci gives a lively Red to the Solution of Turnſole, and re Syrup of Violets of a reddiſh Brown.

8. It makes a Coagulum with *Oleum Tartari per Deli*

9. Mixed with Lime-water, it does not change Colou if you pour upon the Mixture a good deal of the Sub Sublimate, the Whole becomes whitiſh. Thus it is p that beſide the Acid, this Spirit contains an urinous Par it does not appear ſo ſtrong as one would judge at fir Smell.

10. Mixed with the urinous Spirit of Sal Ammoni thickens, becomes whitiſh, and makes a thick Coagul

11. It renders whitiſh the Solution of corroſive Subl and makes a Coagulum, the Grumes of which are of the Colour.

12. It does nothing at all with the acid Spirit of Sal A niac.

13. The Salt of Tartar dry, or diſſolved into Liquo is called Oil of Tartar, is acrid, and very bitter; this B does not go away but by the Mixture of a great Qu acid Salt.

14. The Oil of Tartar, and Solution of corroſive Sub make an orange Colour, which approaches more or le Yellow, according as the one or the other of the Liq dominate; but the Whole becomes tranſparent by the M of an acid, corroſive Spirit.

15. It does not give any conſiderable Change to Sp Vinegar; one diſcovers only that Kind of trembling ſome Parts are ſtirred like the Appearance of Duſt Sun.

16. Oil of Tartar, and Spirit of Vinegar, mixed, don' bear turning yellow, when mixed with Solution of mate.

17. Oil of Tartar ferments with the corroſive acid Sp

18. Oil of Tartar, and acid corroſive Spirits, don't turning yellow, when mixed with Solution of Sublimate.

19. Oil of Tartar, and the urinous Spirit of Sal Am don't change when mixed; but the Whole becomes thi white as Milk, when you pour on the Solution of Subli

20. Oil of Tartar turns Syrup of Violets green.

21. Oil of Tartar thickens the Infuſion of Galls.

VII.

LIME-WATER.

It is not neceſſary to repeat here what we have alre concerning Lime-water: We will only remark,

1. That it becomes very white, when mixed with Tartar; it makes a very thick Coagulum, which ſeems cate ſome Acid in Lime.

2. Mixed with the corroſive Acids, it becomes mo the ſame alſo when mixed with diſtilled Vinegar.

3. Mixed with the urinous Spirit of Sal Ammoniac, white.

4. Mixed with a ſtrong Infuſion of Galls, it becom greyiſh, approaching to brown; and one may obſerve Surface a black Spot, like a Drop of Ink: Thus Lim ſeems to have ſomething of Vitriol.

VIII.

EARTH.

One may ſee by all theſe Experiments, what Affin is between the natural Salt of the Earth, and the o whereof we have been ſpeaking; but moreover th Earth is wrapped up with a great deal of Sulphur.

The mineral Sulphur, Bitumens, Pit-coal, Jett, and leum, prove, that the Earth is not without a na phur.

By the Chymical Analyſis the pure Earth, without D Rubbiſh, yields a fœtid Oil, and an urinous Spirit; mainder, which you draw, participates more of Al Acid.

Garden Mould, well dried and ſifted, gives Spirit of lemon Colour, after five or ſix Days Infuſion up Aſhes.

1. This Spirit of Wine does not preſently change the of Solution of Turnſole; but ſoon after it precipitates, Remainder becomes grideline. Common Spirit makes Precipitation, but the Liquor remains blue.

2. It becomes pretty white and thick by the M Water; but ſome time after it becomes grumous, and tates in form of a yellowiſh Reſin; all which does no to the common Spirit of Wine.

3. It becomes very white with Solution of Subli grows warm; this Solution, mixed with common Wine, grows warm alſo, but the Whole remains clea

4. It whitens likewiſe by the Mixture of Lime-wa precipitates a reſinous Matter.

mixes but very indifferently with Oil of Tartar; and
ſe two Liquors have been well ſhaken together, they
thick.

occaſions no Change with urinous Spirit of Sal Ammo-
r with the corroſive Spirits, except that it heats them
but that is the ſame with the common Spirit of

grows hot with Lime-water, and hinders its turning
ith corroſive Sublimate; theſe Liquors make juſt ſuch
White, as you may obſerve when you mix Urine with
ater, and add Sublimate to it. The common Spirit of
ows hot alſo with Lime-water; but the Whole be-
Red-orange, when you pour on the Solution of Subli-

Experiments ſhew, that there is a Sulphur, an alcaline
Sal Ammoniac in Earth. Sulphur alſo appears in the
that remains after Evaporation of the Infuſions of
for this Extract makes a kind of Soap, very thick,
ixed with Oil of Tartar.

ll theſe Experiments, we have made no great Diffi-
ſt, to compare to Sal Ammoniac, thoſe Salts of Plants,
y a Mixture of Oil of Tartar, or Lime-water, emit
s Spirit; and which, by Chymical Analyſis, produce
atile cryſtallized Salt; for it is probable, that the vo-
is nothing but the urinous Part of the Sal Ammo-
e Plant, which leaves its acid Parts by Force of Fire:
the Mixture of Oil of Tartar, or Lime-water, the
pirits appear to be nothing but part of the ſame vola-
diſſolved in Phlegm, and the fœtid Oil is as much
ith the ſame Salt. We muſt not therefore wonder,
e Sorts of Plants are aperitive, deterſive, febrifugous,
, and the like; for Sal Ammoniac has all theſe Qua-

roper to obſerve, that although Sal Ammoniac ſeems
t in very ſmall Quantity in Infuſions of Earth, yet it
nſiderable; for the urinous Spirit, which by the Mix-
il of Tartar ſeparates itſelf from theſe Infuſions, is
rt of the Sal Ammoniac; and the white Colour which
Infuſion gave to the Lime-water and corroſive Subli-
notes that this Part is very conſiderable. On the other
s Salt is inſenſibly gathering ſeveral Days in Plants;
uantity of volatile Salt, which is obtained from four
unds of a Plant, is commonly only from half a Dram
ams. Of all the Parts of Plants, the Leaves are moſt
loaded with Sal Ammoniac; for the Roots, Flowers,
, retain more properly Acids. The Oil is commonly
d in the Seeds, and the Phlegm diffuſes itſelf through
e Plant.

m ſeems the moſt proper to explain the Virtue of ſuch
are ſtyptic, aſtringent, and which, by Chymical Ana-
rd a great deal of Acid, and much Earth; for theſe
muſt make a Salt analogous to Alum. There are a
ny of theſe Sorts of Plants, which alſo afford a little
pirit; and this ſeems to denote, that beſides the Alum,
me Sal Ammoniac in their Compoſition.

oſe which are aperitive, and from which a great deal
nd Earth is drawn, have perhaps a Salt not much dif-
m that of Coral.

s ſuppoſed, that the Plants which, beſides the Acid
, yield alcaline Liquors, or Signs of Sal Alcali, do
Salt like to *Tartarus Vitriolatus*, or to that Preparation
Tartar, which *Mulleras* and *Sennertus* have called
iata Tartari, or *Tartarum foliatum*. Sometimes we
pared the Salt of theſe Plants to that which *Angelus*
named *Oxyſal Diaphoreticum*; but all theſe Salts, in
manner as *Sal Ammoniac*, are modified in Plants by
Portions of Sulphur and Phlegm. See TARTARUS
LATUS, TARTARUS REGENERATUS, and OXYSAL
RETICUM.

s probable, that in aromatic Plants, as ſeveral ſkilful
ave propoſed, there is ſomething like that Chymical
on, which is called the volatile, aromatic, oily Salt,
olatile, aromatic Spirit; for both of them are drawn
e time. See AMMONIACUM.

mmonly draw leſs concrete volatile Salt from theſe
Plants, than the others: It ſeems that Sal Ammoniac
tſelf in their Texture; and then the urinous Part be-
ted from the Acid, and uniting itſelf to the eſſential
, that little which remains of the concrete urinous Salt
evaporates. *Martyn's Tournefort*.

MALLU. The Name of a leguminous Shrub, which
the *Braſils*. The Natives make uſe of the Thorns of
, after taking off the Bark, to bore their Ears with.
make a Decoction of the Leaves, in Water wherein
een waſhed, or in Whey, which they uſe by way of
caſe of an Intumeſcence of the Belly, either from
extravaſated Lymph. It is taken Notice of in the
alabaricus.

MIX, ἀναμὶξ, an Adverb uſed by *Hippocrates* to ex-
iſcuouſly, or the mixing Ingredients together.
I.

ANAMNESIS, a Recollection, or Remembrance.

Hence ANAMNESTICA SIGNA, commemorative Signs; that is, Signs by which we diſcover the preceding State of the Body; as demonſtrative Signs are thoſe which ſhew the preſent, and prognoſtic Signs thoſe which ſhew the future State. It is derived from the *Greek* Prepoſition ἀνὰ, and μέμνημαι, to remember.

Blancard explains ANAMNESTICA, Remedies which reſtore the Memory.

ANANAS, the Pine-apple.

The Characters are;

It hath a Flower conſiſting of one Leaf, which is divided into three Parts, and is Funnel-ſhaped; the Embryo's are produced in the Tubercles; theſe afterwards become a fleſhy Fruit, full of Juice; the Seeds, which are lodged in the Tubercles, are very ſmall, and almoſt Kidney-ſhaped.

The Species are,

1. *Ananas aculeatus, fructu ovato, carne albida*, Plum. OVAL-SHAPED PINE-APPLE, WITH A WHITISH FLESH.

2. *Ananas aculeatus, fructu pyramidato, carne aurea*, Plum. PYRAMIDAL PINE-APPLE, WITH A YELLOW FLESH.

3. *Ananas folio vix ſerrato*, Boerh. Ind. Alt. 2. 83. PINE-APPLE, WITH SMOOTH LEAVES.

4. *Ananas lucide virens, folio vix ſerrato*, Hort. Elth. PINE-APPLE WITH SHINING GREEN LEAVES, AND SCARCE ANY SPINES ON THEIR EDGES.

5. *Ananas aculeatus, fructu pyramidato vireſcente, carne aurea*. THE GREEN PINE-APPLE, WITH A PYRAMIDAL FRUIT, COMMONLY CALLED THE SUGAR-LOAF-PINE IN *BARBADOES*.

6. *Ananas fructu ovato ex luteo vireſcente, carne lutea*. THE OLIVE-COLOURED PINE.

The firſt Sort is the moſt common in *Europe*; but the ſecond Sort is much preferable to it, the Fruit of this being larger, and much better flavoured; the Juice of this Sort is not ſo aſtringent as is that of the firſt, ſo that this Fruit may be eaten in great Quantity, with leſs Danger. This Sort generally produces ſix or ſeven Suckers, immediately under the Fruit, whereby it may be increaſed much faſter than the common Sort; ſo that, in a few Years, it may be the moſt common Sort in *England*.

The third Sort is preſerved by ſome curious Perſons, for the ſake of Variety; but the Fruit is not near ſo good as either of the former.

The fifth Sort is, at preſent, the moſt rare in *Europe*; there being very few of the Plants at preſent: This is eſteemed the beſt Sort, yet known, by ſome of the moſt curious Perſons in *America*, who have thrown out all the other Sorts from their Gardens, and cultivate only this Kind. The Plants of this Sort may be procured from *Barbadoes* and *Montſerrat*, in both which Places it is cultivated. The ſixth Sort was brought from *Jamaica*; this is not very common in *England* as yet; it is eſteem'd a very good-flavour'd Fruit, by thoſe who have taſted it; but it being a very backward Sort, will render it leſs valuable in our Climate; for this Sort will require a Month longer time to ripen, from the firſt Appearance of the Fruit to its Maturity, than moſt of the other Sorts. I have alſo heard of another kind of Pine, whoſe Fleſh is very green, and the Outſide yellow; but having never ſeen the Sort, I cannot give any Account of it. There are many other Kinds to be found in the ſeveral Countries where they are cultivated, which have ariſen from Seeds, which differ in their Shape, Colour, and the Flavour of their Fruit; ſo that as theſe Fruits become common in *Europe*, all the bad Sorts ſhould be rejected, and ſuch only as produce fine Fruit ſhould be cultivated.

This Fruit, which is juſtly eſteemed for the Richneſs of its Flavour, (as it ſurpaſſes all the known Fruits in the World) is produced from an herbaceous Plant, which hath Leaves ſomewhat reſembling thoſe of an Aloe, and are, for the moſt part, ſaw'd on their Edges; but are much thinner, and not ſo juicy as the Aloe: The Fruit reſembles the Cones of the Pine-tree, from whence it is ſuppoſed to have its Name.

Where this Plant is a Native, I believe it is hard to determine; but it was brought from the Factories in the *Eaſt-Indies*, and planted in the hotteſt Iſlands of the *Weſt-Indies*, where they are in great Plenty, and extraordinary Goodneſs; but it hath been very lately that it was introduced into the *European* Gardens, ſo as to produce Fruit: The firſt Perſon who ſucceeded in this Affair, was Monſieur *Le Cour*, of *Leyden* in *Holland*, who, after a great many Trials with little or no Succeſs, did, at length, hit upon a proper Degree of Heat and Management, ſo as to produce Fruit equally as good (tho' not ſo large) as thoſe which are produced in the *Weſt-Indies*, as hath been often affirm'd by Perſons who have lived many Years there: And 'tis to this worthy Cultivator of Gardening, who did not ſpare any Pains or Expence to accompliſh it, that all the Lovers thereof are obliged, for introducing this King of Fruits amongſt them; and it was from him that our Gardens in *England* were firſt ſupplied, tho' we have ſince had large Quantities brought from *America*.

The Time of this Fruit's ripening is, from the Beginning of *July* till *September*; after which time, the Fruits that ripen are ſeldom well-taſted, the Seaſon being ſo far ſpent, that we have not Heat enough to correct the Crudities, which are imbibed in the long Nights, from the Vapours of the Bed, and their own Perſpiration in the Day-time.

The Manner of judging when they are mature, is, by the ſtrong Smell they emit, like that of ripe Fruits, and by gently preſſing the Protuberances of the Fruit with your Thumb and Finger; and if they give way, it is a certain Sign of Ripeneſs: Nor will this Fruit keep above three or four Days at moſt, if ſuffered to remain on the Plant, before its high Flavour will be loſt; and if cut, it ſhould not be kept above twenty-four Hours at moſt, if you would eat it in Perfection. *Miller's Dictionary.*

They preſs out the Juice, and make of it an excellent Wine, almoſt as ſtrong as Malmſey, and which intoxicates.

It is proper to fortify the Heart, and good to exhilarate the Spirits when oppreſs'd; it cures a Nauſea, and provokes Urine; but Women with Child ought to abſtain from it, becauſe it will endanger a Miſcarriage.

They make a Confection of the Ananas upon the Spot where it grows, which is brought hither whole: This is good to warm and reſtore a weak Conſtitution. *Lemery de Drogues.*

ANANCE, ἀνάγκη, properly Neceſſity, but by *Hippocrates* it is uſed generally to expreſs Force, or Violence; ſuch as is uſed in the Diſtention of a diſlocated Limb, in order to reduce it.

ANANDREIS, ἀνανδρεῖς, from α Negative, and ἀνὴρ, a Man. *Hippocrates*, in his Treatiſe *de Aere, Locis & Aquis*, calls certain People amongſt the *Scythians* by this Name. The Interpreters tranſlate it *Effeminate*. I have rendered it *Impotent*. See the Paſſage in the Tranſlation of this Treatiſe, under the Article Aer.

ANANDROI, ἄνανδροι, of the ſame Derivation as the former, tho' of a very different Signification: For *Hippocrates* uſes this, joined with γυναῖκες, Women, to expreſs their never having known Man.

ANANTHOCYCLUS. This is a kind of Plant mention'd by Mr. *Vaillant*, and by him called *Couronne effleurée*.

It takes its Name from the *Greek* Words ἀνὰ, without, ἄνθος, a Flower, and κύκλος, a Circle; becauſe the Flower of this Sort of Plant is ſurrounded, or crown'd, with one or more circular Ranks of Ovaries, deſtitute of Fleurets.

The Species of it are,

1. *Ananthocyclus coronopi Chryſanthemum exoticum minus, capitulo aphyllo; Chamæmeli nudi facie*, Breyn. Cent. 1. Tab. 76.
2. *Ananthocyclus chamæmeli folio. An Chryſanthemum exoticum perpuſillum nudum, foliis Coronopi*, Pluck. Alm. 101. Tab. 274. Fig. 6. *Memoires de l' Acad. Royale, A.* 1719.

I can find no Virtues that are particularly attributed to this Plant.

ANAPALIN, ἀνάπαλιν, on the contrary, on the oppoſite Side, over-againſt. This Word has a direct contrary Signification to κατ' ἴξιν, on the ſame Side, and εὐθυωρεία, Rectitude.

Theſe Words are very much uſed by *Hippocrates*, in ſpeaking of the Tranſmutations and Fluxes of the Humours. For, in the Motions of Nature, he teaches us always to regard the εὐθυωρεία, "the Direction, and ſtrait Situation of the Parts," and the τὸ καθ' ἴξιν, "the Situation on the ſame Side." Whatever Symptoms happen ἀνάπαλιν, that is, on the oppoſite and contrary Side, are always judged bad. So, in an Hæmorrhage, τὰ ἀνάπαλιν αἱμοῤῥαγέοντα, "all Fluxes of Blood on the contrary Side," are condemned by *Hippocrates*. And in his Doctrine of Abſceſſes, *Epid. Lib.* 2. he paſſes the ſame Cenſure on τὰ ἐπὶ τ' ἀναντία ῥέποντα, "thoſe which verge to the contrary Side." But of theſe ſome are reckoned good, others bad, from Experience rather than any Reaſon that can be given for it. In a Criſis, the Blood ought to flow from the Noſtril on the ſame Side with the labouring Part; as, for Inſtance, from the Left Noſtril when the Spleen is inflamed, and from the Right Noſtril in an Inflammation of the Liver. It is a thing ſo fully proved by long Experience, as to be taken by Phyſicians for an undoubted Truth, that Nature ſtruggles with more Vigour, and better Succeſs, in the Paſſages that run directly on the ſame Side, or ἐν εὐθυωρείᾳ, than in thoſe which lie ἀνάπαλιν, "on the contrary Side," where ſhe ſeems as if ſhe acted ſymptomatically, and were diſabled from reſtraining the inordinate and unruly Motion of the peccant Matter, by making a Tranſition from one of the Viſcera to another Part oppoſite to it. *Gorræus.*

ANAPAUSIS, ἀνάπαυσις, from ἀναπαύω, properly to reſt again from Labour. It ſignifies Reſt after Exerciſe or Labour, Eaſe from Pain, or Remiſſion.

ANAPETIA, ἀναπέτεια, from ἀναπετάννυμι, to expand. It ſignifies an Expanſion of the Paſſages, through which the Blood or Juices circulate.

ANAPHALANTIASIS, ἀναφαλαντίασις, from ἀναφάλαντος, a bald Perſon. Baldneſs, properly, of the Eye
Ariſtot. Hiſt. Animal. Lib. 3. *Cap.* 7.

ANAPHONESIS, ἀναφώνησις, a Species of Exercis
conſiſted in Vociferation.

The firſt Condition, or Quality, aſcribed to Vociferatio
what Kind ſoever, by *Antyllus, Plutarch, Paulus, Aetiu*
Aviſenna, is, that it exerciſes, exceedingly well, the Bre
Vocal Organs. *Averroes* ſays, that the Lungs are properly
cerned in the Exerciſe of the Voice; and that the Uſe
upon Occaſions, increaſes the natural Heat, cleanſes, ſtre
ens, and attenuates, and renders the ſolid Parts of the
robuſt, pure, and not liable to be injured. *Aviſenna* adds
this Exerciſe improves the Complexion: The natural H
increaſed, becauſe the Breath is in conſtant Motion, as w
Inſpiration as in Expiration, and ſuffers an Attrition and Co
by which Heat is excited. This Exerciſe cleanſes, as it
the Fleſh more rare; and alſo, becauſe by the Motion o
Vocal Inſtruments the internal Humidities are conſumed;
very evident from the thick Vapour which exhales out
Mouth in Vociferation, and the Superfluities of the H
mours which adhere to all the Canals, diſcharged as well
manner as many other ways. And, laſtly, the natural H
ſtrengthen'd and attenuated; becauſe the Veſſels are ab
and many Humours, as Spit, Mucus, and Phlegm, are co
which, as before they obſcured, debilitated, and conden
Heat; ſo, by their Diſperſion and Evacuation, it acquires
Strength and Purity, and the Solids become more firm,
liable to be affected.

The Premiſes being granted, it ſtands to Reaſon, that
feration becomes a noble Support to ſuch as have their
Parts affected with Humidity, and whoſe whole Conſti
become frigid.

For theſe Reaſons we find it recommended by
Cælius Aurelianus, and *Aetius*, to People ſubject to
burning, frequent Vomitings, habitual acid Eructations,
geſtion, Inappetency; to thoſe who labour under an A
or are languid, cachectic, hydropic, aſthmatic, conſu
to Perſons affected with Pains in the Thorax, or Diaph
Abſceſſes in the Thorax; to pregnant Women, or tho
labour under a Pica, that is, an inordinate Appetite for
gruous Food; and *Alexander* ſays it is good for Women
bour, as it promotes Delivery: It is farther recomme
the above-quoted Authors, for Quartans, pituitous D
and for People on the Recovery from almoſt any Diſorde

I muſt remark here, that there is ſcarce any vulgar C
let it ſeem never ſo trifling, but what may be found
mended by one or other of the antient Medicinal A
The Advice of *Alexander*, above-quoted, is followed by
all the common Midwives in the World, who adviſe
Vociferation to the Women in Labour, under their C
it ſeems not unlikely to have a very good Effect.

Galen, 8. *de Med. Local. Cap.* 4. recommends
ons, Exerciſes, and Vociferation, applied by an ex
Artiſt, for Pains in the Stomach. It is the Judgment
antient and moſt excellent Phyſician *Aretæus*, that Vo
is an excellent Exerciſe, not only in Leprous Caſes, b
the Cœliac Paſſion.

Aetius was of Opinion, that Vociferation was of S
Hoarſeneſſes, occaſioned by ſuperfluous Humidity, in
tions of the Organs of Voice, and a Cachexy; and if th
is affected by ſome Diſtemper, or becomes ſpontaneou
Antyllus adviſes this Exerciſe. But as the Voice itſelf
Injury not only from too long continued, or too loud T
but alſo from too much Silence, whereby the Organs o
forget, as it were, their Functions by Diſuſe; in both th
the proper Exerciſe of the Voice may be of Service;
this, the Defects contracted by too long and loud Talki
be moderated; and a Shrilneſs in the Tone of Voice
remedied by an Intermixture of deeper Notes; and th
ciſe of the Voice may be rationally ſuppoſed to mend
thereof, cauſed by too much Silence, and the Diſuſe
Organs ſubſervient thereto.

Hippocrates aſſerts, that the Exerciſe of the Voice, a
per, is beneficial in Caſes where the Fleſh has been w
too ſtrong Labour and Exerciſe.

It is however to be remark'd, that Vociferation is not
modated to Diſorders of the Head, becauſe it has a F
filling the Head with Humours, and thereby affecting th
of Senſe contained therein.

Hence it is, that *Cælius Aurelianus*, approving of
Epilepſy, in the Declenſion of the Diſeaſe, pruden
"provided the Patient can bear it." For the violent
ration, which ſometimes is call'd ἀναβόησις, by *Aretæus*
is ſaid by *Hippocrates* to afflict (λυπέειν); beſides th
the Head, and renders it more heavy, as *Aretæus* and G
fy: It is alſo in an extraordinary manner, according to
nion, pernicious to the Voice, and alſo makes the Ve
And *Cælius*, for the ſame Reaſon, diſapproves Exclu
Perſons affected with the Epilepſy, as too violently
Parts affected; and *Pliny* the younger, with Juſti

that *Zoſimus*, his Freed-man, whilſt he ſtudied the Reco-
his Voice, fell into a freſh Hæmorrhage, after the Veſ-
ich uſed to diſcharge the Blood, had been ſtopp'd. *Are-*
owever, adviſes it in ſtomachic Diſorders; and *Aetius*
preſſing the Hickup: But it is obſervable, that almoſt all
s remark, that Vociferations were never raſhly or unad-
to be uſed, eſpecially by ſuch Perſons who commence,
they are unacquainted with this Exerciſe; nor ought any
to uſe it who abounds with bad and corrupt Humours:
er, the Voice is not to be exerciſed, if the Stomach is
ed with many and manifeſt Crudities, leſt by the Action
iration and Expiration, which becomes more ſtrong and
whilſt the Voice is increaſed, both with reſpect to Fre-
and Loudneſs, the corrupt Vapours be more widely diſ-
through the Body: Wherefore it was the Advice of
to exerciſe the Voice gently, and to utter deep Sounds;
ſhrill Notes occaſion Diſtentions of the Head, Palpita-
the Temples, Pulſations of the Brain, Strainings of the
nd Ringing of the Ears; but the Voice, gently uſed,
od to the Head. We muſt beware alſo of Vociferation
eals, becauſe by theſe the Voice is very much diſorder'd:
e *Ariſtotle* adviſed Actors, Singers, and others of ſuch
ons, to exerciſe their Voices with an empty Stomach;
ſe the Breath, being heated, as well by the undigeſted
as by their Exclamations, exulcerates the Aſpera Arteria
ſſes thro' it, and ſo the Voice is ſpoiled: In ſhort, we
ke care, according to *Plutarch*'s Opinion, that no one,
us of a Plenitude, or of immoderate Luſt, or Fatigue,
his Voice, nor uſes too violent Vociferations, and
g Clamours; ſince ſuch unequal Strainings of the
and Violence, produce Ruptures of the Veſſels, and
ſions.

t to *Vociferation* ſucceeds *Singing*, differing from it in
at it conſiſts in a certain Harmony, nor is it perform'd
much ſtraining of the Voice; for which Reaſon, beſides
dvantages, it is productive of a certain Pleaſure, which
ation has not. For *Alexander* writes, "That Porters,
y ſing, feel their Burden the leſs," becauſe the Mind,
with the Notes and Harmony of Numbers, is inſenſible
Weight, and ſo becomes leſs affected. For ſimilar
s the Antients generally made uſe of Pipes and Muſic
ſons mourning, and otherwiſe diſturbed (which *Ari-*
ſo acknowledged); and it was cuſtomary to have Men
d and talk of indifferent Subjects to ſuch as were
at the Death of their Relations, and mourned: Since
d, when it turns itſelf to talking, is leſs affected with
which the Antients well underſtanding, invented differ-
nes of Diverſions, in order to divert the Mind, and
e it from the Subject of Grief, ſometimes with one,
es with another Entertainment. With reſpect to Sing-
ociferation with Harmony, *Antyllus*, *Aetius*, and *Paulus*
Opinion, that it contributes nothing to Health: But I
ſometimes apply'd in Diſtempers; for *Cœlius Aurelianus*
that the Exerciſe of the Voice compoſed in a muſical
was found uſeful for mad People in the Decline of their

es, *Aulus Gellius* relates, that he found it written by
aſtus and *Democritus*, that playing upon Pipes, and
cured the Bites of Vipers and of Men; and moreover,
elieved, and has been handed down to Poſterity, that
have the Sciatica, when in the Violence of their Pain,
themſelves, or a Muſician plays ſoft Muſic, (which we
be the conſtant Practice of *Iſmenius* the *Theban*) their
s abated, as the Brother of *Philiſtion* has alſo acknow-
This kind of Remedy ſome have thought to be the
on of *Pythagoras*: Tho' *Soranus*, who is Author of
ree Books concerning acute Diſtempers, tranſlated into
by *Cœlius Aurelianus*, reflecting upon *Aſclepiades*, who
d to cure phrentic Patients by Singing, very juſtly ſaid,
t they are poſſeſſed with a ſtrange conceited Opinion,
believed that Exceſs of Pain can be removed by playing
uſic or Singing." If therefore Singing conduces little
the Preſervation of Health, and the Sound of deeper
s uſeful, Perſons ſtudious of their Health ought rather
Vociferation than Singing: Becauſe a Quantity of Air
racted diſtends the Thorax, opens or dilates the Belly,
the Paſſages diſperſed thro' the whole Body; when in
there can only a more uſeleſs Amuſement be found,
to render robuſt Bodies effeminate, than to preſerve or
en them. Whence I have often admired why *Socrates*
arch relates) us'd to exerciſe himſelf with Singing, and
h Vociferations, ſince by theſe, and by reading faſt,
cretions of redundant Humours are promoted; and thoſe
d faſter are more affected, and principally by Sweats,
hoſe who read more leiſurely, and leſs loud, are reliev'd
ns of inſenſible Perſpiration. Nevertheleſs, we ought
to remember the ſaying of *Aviſenna*, That it is dan-
o ſtrain the Voice a long time, and that, from Exerciſes
Voice, Herniæ and Ruptures of the Veſſels are often
Hieron. Mercurialis de Arte Gymnaſtica.

ANAPHORA, ἀναφορὰ, from ἀναφέρω, to bring up, or upwards. In a Medicinal Senſe it imports a Spitting of Blood, if join'd with αἵματος. But *Hippocrates*, in his Treatiſe *de Arte*, uſes it to expreſs an Obligation, or Thanks due for an Obligation. Hence,

ANAPHORICOI, ἀναφορικοὶ, thoſe who ſpit Blood; or, according to *Actuarius*, thoſe who expectorate with Difficulty. The Word in itſelf, according to Etymology, ſeems to ſignify no other than thoſe who caſt or throw up any thing from the lower Parts. *Dioſcorides, Lib.* 2. *de Materia Medica*, as he is tranſlated by *Cornarius*, ſeems to underſtand by it thoſe who throw up Blood from the lower Parts at the Mouth. But *Marcellus Virgil.* reſtrains the Word, in the Place before cited, to a painful and difficult throwing up, or vomiting; wherein he follows *P. Ægineta*, who, *Lib.* 3. *Cap.* 28. of the Affections of the Arteries, as *Goupylus* renders him, ſeems barely to underſtand thoſe who expectorate with Pain and Difficulty. And, indeed, the *Greeks* by theſe Words ἀναγωγὴ, ἀνάπλυσις, ἀναφορὰ, when put abſolutely, without any Addition, uſually mean not ſo much a bringing up of Blood, as of any other Humour, or Collection of purulent Matter contained in the Breaſt or Lungs, which are to be evacuated by the Mouth; ſo that thoſe whom *Dioſcorides, Lib.* 2. τῶν εὐπορ. and everywhere in his Book *de Materia Medica*, calls ἀναφορικοὶ, are by *Hermolaus Barbarus* rightly tranſlated "ſuch as bring up corrupt Matter," where he has taken the Author's Senſe much better than *Cornarius*.

I am, however, aware, that moſt Authors uſe this Word to ſignify ſuch as ſpit Blood. *Serapion* reſtrain'd its Meaning to an Expectoration of Sanies; but to this Word moſt added αἵματος. How great the Differences are between Hæmoptoici, or Spitters of Blood, and Anaphorici, appears from the different Remedies which they require. *Gorræus*.

ANAPHRA, ἄναφρα, from α Negative, and ἀφρὸς, Froth. It is uſed by *Hippocrates* as an Epithet to *Stools*, in order to expreſs their being *not Frothy*.

ANAPHRODISIA, ἀναφροδισία, from α Negative, and ἀφροδισία, Venery. Impotence with reſpect to venereal Commerce.

ANAPHROMELI, from α Negative, ἀφρὸς, Froth, and μέλι, Honey. Deſpumated Honey, or Honey boil'd till it will no longer froth. *Blancard*.

ANAPLASIS, ἀνάπλασις, from ἀναπλάσσω, to reſtore to the original Form. *Hippocrates*, in his Treatiſe *de Officina Medici*, uſes this Word to expreſs the replacing a fractur'd Bone in the ſame Situation it obtain'd before it was broken. In the ſame Treatiſe alſo, it ſignifies a Reſtoration or Renutrition of the extenuated Fleſh.

ANAPLEROSIS, ἀναπλήρωσις, Repletion in general. But it alſo ſignifies that Part of Surgery which is concern'd in reſtoring Deficiencies, and in this Senſe is the ſame as PROSTHESIS, which ſee. Hence, ANAPLEROTICA are Applications which encourage the Growth of Fleſh in Wounds or Ulcers. Incarnatives.

ANAPLEUSIS, ἀνάπλευσις, from ἀναπλέω, to fluctuate, or float upon. *Hippocrates* ſometimes uſes this Word to expreſs the Redundance of Humours fixing on a Bone, which makes it rot, exfoliate, and fall off, as is ſometimes the Caſe of the Bones of the Jaws.

ANAPNEUSIS, ἀνάπνευσις, from ἀναπνέω, to reſpire. Reſpiration. But *Aretæus* uſes it to expreſs *a Truce from Pain*; as *Homer* uſes it alſo to expreſs *a Truce* from *War*. It ſignifies alſo *Tranſpiration*.

ANAPODOPHYLLON, (of *Anas*, a Duck, πὸς, a Foot, and φύλλον, a Leaf) Duck's-foot, or *Pomum Maiale*, May Apple.

The Characters are;

The Cup of the Flower conſiſts of one Leaf: The Flowers are hexapetalous. The Foot-ſtalk of the Flower comes out from the Stalk of the Leaf. The Fruit is in the Shape of an Urn, in which are contained many roundiſh fimbriated Seeds.

This Plant was brought from *America*, and is by ſome of the Inhabitants called Black Snake-root, and by others the May Apple; I ſuppoſe, becauſe in that Month the Fruit of this Plant is nearly ripe, and is of an oval Shape, in ſome meaſure reſembling a ſmall Apple. We have but one Species of this Plant in *England*, which is the *Anapodophyllon, Canadenſe Morini.* Tourn.

This Plant is very hardy, enduring our ſharpeſt Winters in the open Ground: It is increaſed by parting the Roots in *Auguſt*, after the green Leaves decay: It loves a moderate Soil, and for the Oddneſs of the Plant may merit a Place in a good Garden, although it is of no great Beauty nor Uſe. *Millar's Dict.* Vol. I.

ANAPSYXIS, ἀνάψυξις, Refrigeration.

ANARISTESIS, ἀναρίστησις, from α negative, and ἄριστον, a Dinner. *Hippocrates*, in his Treatiſe *de Inſomniis*, uſes this Word to expreſs the Subtraction of Dinner from a Patient.

ANARRHOEA, ἀνάῤῥοια, from ἀνὰ, upwards, and ῥέω, to flow. A Flux of Humours, tending from the inferior Parts, upwards. *Caſtellus* from *Schneider. de Catarrho.*

ANARRHOPIA, ἀναῤῥοπία, from ἀνὰ, upwards, and ῥέπω, to verge. A Tendency of the Humours to verge or incline upwards, or towards the ſuperior Parts; as καταῤῥοπίη is a Tendency of the Humours to the inferior Parts. See CATARRHOPIA.

ANARTHROI, ἄναρθροι. *Hippocrates*, in his Treatiſe *de Aere, Locis, & Aquis*, ſays, that a certain People amongſt the *Scythians* are ἄναρθροι, to expreſs their being ſo fat and bloated, that their Joints are obliterated, and not diſcernible. It is derived from α Negative, and ἄρθρον, a Joint.

ANAS, the Duck, diſtinguiſhed into the Wild and the Tame. The Tame Duck is thus named:

ANAS, Offic. Bellon. des Oyſe. 160. *Anas domeſtica*, Aldrov. de Ornith. 3. 188. Jonſ. de Avib. 95. Schrod. 5. 314. Charlt. Exer. 104. *Anas domeſtica vulgaris*, Will. Ornith. 293. Raii Ornith. 380. Ejuſd. Synop. A. 150. *Circur*, Geſn. de Avib. 83. THE DUCK OR DRAKE.

The whole Duck alive, the Fat, Blood, and Dung are uſed.

A living Duck, ſtript Part of it bare of Feathers, and apply'd to the Belly, eaſes the Pain of the Colic. It is uſeful in external and internal Pains, as of the Sides, Joints, and in a cold Diſtemperature of the Nerves. The Blood is an Alexipharmic, and therefore ſometime uſed in Antidotes. The Dung is apply'd to the Bites of venomous Creatures, *Schrod. Dale.*

The Fleſh of the Tame Duck is not eſteem'd very good Aliment for ſedentary People, thoſe whoſe digeſtive Organs are weak, or for ſuch as confine themſelves to a Regimen, either on account of preventing Diſeaſes, or for the Re-eſtabliſhment of Health, becauſe it is not very eaſily digeſted, nor does it afford very good Juices.

The Wild Duck is thus diſtinguiſhed:

ANAS SYLVESTRIS, Offic. Schrod. 5. 314. *Anas torquata minor*, Raii Synop. A. 145. Aldrov. Ornith. 3. 212. *Anas fera torquata minor*, Geſn. de Avib. 99. *Anas fera*, Charlt. Exer. 104. Mer. Pin. 180. *Boſcas major*, Jonſ. de Avib. 97. Will. Ornith. 284. Raii Ornith. 371. THE WILD DUCK AND MALARD. They live in Rivers. The Fat, Blood, and Dung are in uſe. As for the Virtues, they agree with thoſe of the common Duck. *Dale.*

The Salts of the Wild Duck are much more exalted than thoſe of the Tame Duck, both on account of the habitual Exerciſe and Aliment of the wild Species, for theſe live much on Fiſh and aquatic Inſects. The Wild Duck therefore muſt be a proper Aliment, when an Aceſcence prevails in the Stomach and Inteſtines, or in the Juices; but the contrary, where there is any Tendency to an alcaline Putrefaction.

Lemery, in his Treatiſe on Aliments, makes the following Obſervations on Ducks.

There are two Sorts of Ducks, the Tame and the Wild Duck; the laſt of which has brown and reddiſh Fleſh, more valued for the Goodneſs of its Taſte than that of the Tame Duck. Whether you make Choice of the one or the other, you are to pitch upon thoſe that are tender, young, fat, fed with good Food, and bred in a pure and ſerene Air.

Duck is nouriſhing enough, and is a Food that is ſolid and durable. Some Authors think, that the eating of it puts a good Colour into the Face, and makes the Voice pleaſant and agreeable.

The Duck, and eſpecially the Tame one, is hard of Digeſtion, and breeds dull and groſs Humours.

The Tame Duck contains much Oil, volatile Salt, and Phlegm; and the Wild ones have more volatile Salt than the other, but leſs Phlegm.

Both the one and the other agree, in cold Weather, with young hail People, who are uſed to much Exerciſe, and have a good Appetite.

REMARKS.

A Duck is an amphibious Animal; for ſhe lives by Land and Water. The Tame one is not ſo well taſted, nor ſo wholſome as the Wild Duck; and the Reaſon is, becauſe ſhe has not near ſo much Motion, and conſequently abounds with dull, viſcous, and groſs Humours. Moreover, the Tame Duck lives among Mire, and feeds upon filthy things, ſuch as Mire and Ordure, dead and rotten Fiſh, Frogs and Toads; whereas the Wild ones live upon Foods which they ſeek for every-where: They have alſo a freer Tranſpiraration, by reaſon of the Exerciſe they have, which helps to attenuate and drive out the groſs Humours they may have in them, and, laſtly, more and more to exalt the Principles of their Fluids, and for that reaſon they abound more with volatile Salt, than the Tame ones do.

The Gooſe and Duck are much like one another in reſpect to the Subſtance of their Fleſh, and very near produce the ſame Effects. The Wing of a Duck, as well as that of a Gooſe, is excellent Food; and *Martial*, by the following Lines, ſhows what were the Parts of a Duck moſt in
for the Goodneſs of their Taſte:

Tota mihi ponatur anas, ſed pectore tantum
Et cervice ſapit; cætera redde coquo.

The Tame Duck raiſes itſelf but a little from the
and walks ſlowly, becauſe ſhe is very heavy; but
of that, ſhe ſwims very eaſily, and faſt, and can for
time hold her Head, and the reſt of her Body, under
either to ſeek for ſomewhat to eat, or to conceal

The Liver of a Duck, beſides that it hath a very good
is alſo to be looked upon to be good for ſtopping the
ing of the Liver.

The Fat of a Duck is of a mollifying, diſſolving, and
Nature.

They open the Body of a Duck, and apply it warm
Belly in the Wind Colic.

There are ſeveral ſorts of Wild Ducks, that differ
another in Bigneſs, Form, Cry, and Colour.
ſome of them which fly ſlow, and others very
However, we may ſay in general, that Wild Ducks,
moſt part, fly faſter than Tame ones: They uſually
where there are Rivers, Marſhes and Lakes.

ANASARCA, ἀνασάρκα, or, as it is ſometimes
two Words, ἀνὰ σάρκα, in the Fleſh.

A Species of Dropſy, wherein the Fleſh appears
and ſwell'd, and yields to the Impreſſion of the
Dough. See HYDROPS.

ANASPASIS, ἀνάσπασις, from ἀνὰ, and σπάω,
Hippocrates, in his Treatiſe *de Priſca Medicina*, uſes this
expreſs the Contraction of the Stomach. He ſays, *Theſe*
digeſt much ſlower, aud want a greater Degree of
ἀνασπάσιος. I ſuppoſe he means, that the Stomach wants
er Degree of Elaſticity and Tenſion; and we know,
the Fibres of the Stomach are relaxed, Digeſtion is
formed ſo ſpeedily, nor in any reſpect ſo well as it ought

ANASSUTOS, ἀνάσυτος, from ἀνὰ for ἄνω, upwards,
σύω, to move. The Word is, I think, peculiar to
He uſes it in his ſecond Book *de Morbis Mulierum*,
thet to *Air*, where ſpeaking of a Suffocation of the
call'd by the Moderns *Hyſterics*, he ſays, *if the Uteri*,
Plural Number) *approaching the Heart, cauſe a*
and the Air in Expiration is forced out with Violence,
ἢν ὁ ἀὴρ βιώμενος, *the Patients perceive a great*
vomit. In Hyſteric Fits we frequently ſee a Patient
Breath, the Air being a long time in entering the
Inſpiration, and immediately after ruſhing out with
city, ſo that the Inſpiration is not proportion'd to the
ration with reſpect to Time; ſomething of this Kind
in that Action of the Lungs uſually call'd *ſighing.*
who have ſeen Women in Hyſteric Fits, will readily
what *Hippocrates* means by this, the Thing itſelf being
Explication of the Word.

ANASTALTICA, from ἀναστέλλω, to contract.
or reſtringent Medicines.

ANASTASIS, ἀνάστασις, from ἀνίστημι, to cauſe to
the Claſſics this Word uſually imports a Reſurrection,
Removal of a Camp or People from one Place or
another. But *Hippocrates* uſes it in two Senſes,
what different from theſe. The firſt is a Riſing up,
go to Stool. The ſecond is the Migration of Humours,
expell'd from one Part and oblig'd to remove to another.

It is alſo ſometimes uſed to expreſs a Riſing up on the
very from Sickneſs, or the Recovery itſelf.

ANASTOICHEIOSIS, ἀναστοιχείωσις, from
Principle or Element of which Bodies are compoſed.
explains this very properly by Re-elementation, or a
of the Solids and Fluids of the Body into their firſt
It is principally uſed to expreſs a Colliquation of the
Fluids, when in a morbid State, in order for their
out of the Body.

ANASTOMOSIS, ἀναστόμωσις, from ἀναστομόω, to
open the Mouths of the Veſſels. This Word imports
opening of the Mouths of the Veſſels, in order to
their contain'd Fluids. Thus the Menſes, Hæmorrhoids,
Blood from the Noſe, are ſaid to be diſcharg'd *per*
that is, by an Aperture, or Opening of the Mouths of the
ſels; whereas, when the Fluids contain'd in the Veſſels
ude thro' the Sides, the Diſcharge is ſaid to be *per*
but if the Veſſels have been corroded by acrimonious
the Evacuation is ſaid to be *per Diabroſin*, διάβρωσιν,
ſion; and if the Contents of a Veſſel are let out by a
thereof, it is ſaid to be *per* ῥεγμοχασμῶν, *Celſus, L.* 4.

Hence ANASTOMOTICA, are aperitive Remedies,
cines which have the Power of opening the Mouths
Veſſels, in the Senſe of *Hipprocrates, Celſus*, and
relianus.

But ANASTOMOSIS alſo implies *Inoſculation.*
ANASTOMOSIS of the Arteries and Veins, is their
lations, or their Communication together, at their

ATASIS, ἀνάτασις, from ἀνατείνω, to extend upwards,
p. An Extenſion of the Body upwards. It is oppoſed
taſis, which is an Extenſion of the Body downwards.

TES, a Diſeaſe of the Anus. *Caſtellus* from *Lauren-*

ATHLASIS, ἀνάθλασις, from ἀνὰ and θλάω, to con-
break. *Erotian* explains this by ἔκθλιψις, Expreſſion.
ATHREPSIS, ἀνάθρεψις, from ἀνατρέφω, to renouriſh,
vey Nouriſhment to Bodies waſted by Sickneſs. Re-
n.

ATHRON, a ſort of Salt, which vegetates upon Rocks,
orm of a white ſtony Moſs. It is a ſort of Nitre.

ATHYMIASIS, ἀναθυμίασις, from θυμιάω, to fumi-
It ſignifies Evaporation.
ATICA PROPORTIO, from *Ana*. See A, and ANA.
Proportion, it implies equal Parts.
ATOME, ἀνατομὴ, from ἀνατέμνω, to diſſect. Anatomy.
Sect among the antient Phyſicians, called *Rationaliſts*,
neceſſary for a Profeſſor of the Art of Medicine, to be
ted with the interior Parts of the human Body. For
any Pains and Diſeaſes are incident to theſe inner Regi-
w ſhall a Perſon, ſay they, adminiſter Remedies well
to thoſe Parts of which he has no Notion? It is neceſ-
erefore to diſſect dead Bodies, and to inſpect and ſearch
Viſcera and Inteſtines. *Herophilus* and *Eraſiſtratus*
ry much in the right, in receiving Malefactors preſented
Kings, and cutting them up alive, that they might have
ortunity, while there was yet Breath remaining, of con-
thoſe things which Nature had before locked up and
d, and of examining their Situation, Colour, Figure,
ude, Order, Hardneſs, Softneſs, Smoothneſs, and
neſs, their Situation, and their Connections and Com-
tions with each other. For ſuppoſe an inward Pain,
all a Phyſician know the affected Part, if he be ignorant
ny one of the Inteſtines or Viſcera lies? And how can
aſed Part be cured by one who does not know what it is?
hen the Viſcera happen to be laid open by a Wound,
o never ſaw the Colour of a ſound Part, cannot know
d from the corrupted, and conſequently muſt be inca-
applying a Remedy to what is corrupted. Beſides,
owledge of the Figure, Situation, and Magnitude of the
Parts, renders a Perſon better qualified for the Appli-
of external Remedies. Nor can it be deemed Cruelty,
Puniſhment of Malefactors, and but a few of them
, to ſearch out Remedies for innocent Perſons to all fu-
es.
the contrary, they who called themſelves ἐμπειρικοὶ,
irics," from their experimental Knowledge, maintain-
t it was not only unneceſſary, like many other things
on by the Rationaliſts, but alſo great Cruelty, to cut
e Breaſts and Bellies of living Men, and to turn that Art
profeſſes the Guardianſhip of human Health, to the De-
n of Individuals, and that in the moſt barbarous manner
n be deviſed; eſpecially when the things which are in-
after by ſuch violent means, are, ſome of them, impoſſi-
e known at all, and others may be known without ſuch
ity. For as to the Colour, Smoothneſs, Softneſs,
ſs, and all ſuch-like Qualities, they are quite different
ffected, from what they were in an entire Body. Even
Bodies remain untouch'd, theſe Properties often ſuffer
tions, by Fear, Pain, Hunger, Indigeſtion, Wearineſs,
thouſand other leſs violent Affections. How much more
le then is it, that the interior Parts, which have a greater
of Softneſs, and which are Strangers even to the Light,
undergo a Change from ſuch deſperate Wounds, and
ght Murder? Nor can we do more abſurdly than to
e any thing in a Man to be juſt the ſame whilſt he is
as it is when he is expiring, or even dead. For even
lly, though it may contain Air, cannot be divided with-
mediate Death; but as ſoon as the Knife comes to the
of the Heart, and the *Septum tranſverſum*, which by
in Membrane, called by the *Greeks* the *Diaphragm*, ſe-
the upper Parts from the lower, is divided, the Man
is Life that very Moment, and ſo the butcherly Phyſician
to have a full Proſpect of the Heart and its Appearances,
ll the Viſcera of a dead Man, which can be no other than
s belong to the dead Man, and not ſuch as were be-
g to the living Man. So that all the Phyſician gains, is
ouſly to commit Murder, without being the wiſer with
to the State of the Viſcera during Life. However,
e be any thing of this Nature that can be the Ob-
our Sight, while the Breath is in the Body, Chance
ubjects the ſame to our View, when we attend the Sick.
imes, for Inſtance, a Gladiator in the public Shews, a
in a Battle, or a Traveller fallen among Thieves, re-
uch Wounds as lay open the interior Parts, ſome one
ſome another, where the ſagacious Phyſician, whoſe
is ſet on curing his Patients, not on Blood and Slaughter, may behold the Situation, Poſture, Order, Figure, and the like, and attain the ſame Knowledge by the way of Pity and Compaſſion, which others reap from their deteſtable Cruelty. If theſe Reaſons be conſidered, even the Mangling of dead Bodies, which if not cruel, is at leaſt filthy, will appear unneceſſary; ſince moſt things are found in dead Carcaſes in a manner different from what they were in the living Body; and all that can be known in living Bodies is evidently ſhewn in the Cures which are made upon them.

Celſus *concludes with giving his Opinion as a Moderator in theſe Words:* To diſſect the Bodies of living Perſons, is both cruel and unneceſſary; to anatomize dead Bodies, is neceſſary for a Learner; for he ought to know the Poſture and Order of the Parts, which are better repreſented in a Carcaſe than in a wounded living Perſon. As to the reſt, which can only be learnt in living Bodies, Practice will, tho' by a ſlower, yet in a more merciful way, demonſtrate them in the Operations on wounded Perſons. *Celſus in Præfat.*

I am ſenſible there have been modern Phyſicians, who, ignorant of Anatomy themſelves, by a Piece of Policy, not altogether free from Guilt, have repreſented an Accuracy in this Science as trifling, and of no great Uſe towards the Cure of Diſtempers. I believe the following Diſſertation will ſet every reaſonable Man right, as to the Uſes of Anatomy in Medicine; and certainly every Man of Capacity, and a right Turn, muſt in proportion be qualify'd to cure Diſtempers, as he underſtands the Structure of the internal Parts.

It muſt however be confeſs'd, that Anatomical Knowledge has ſometimes fallen to the Share of People, who by a Miſapplication of it have rendered themſelves worſe Phyſicians, than they would have been without it. Such are thoſe of whom Doctor *Freind* ſpeaks, "who, though they have been exact "enough in the diſſecting Part, yet, without any regard to "Nature, or right Philoſophy, are for advancing every "trifling Diſcovery into a more trifling Hypotheſis." This is, however, no rational Objection to the Art itſelf, but to an ill Uſe of it.

I muſt remark, that in refuting the Arguments againſt Anatomy, in the firſt Part of this Diſſertation, *Hoffman*, who is the Author of it, had *Stahl* in View, who was a ſort of Rival to him, both being Profeſſors in the ſame Univerſity, and both eminent for their great Knowledge in the practical, as well as theoretical Part of Phyſic. But *Stahl*, it ſeems, had ſome extraordinary Notions concerning *Nature*. See NATURA.

Of the Uſe of Anatomy in the Practice of Medicine.

Thoſe who apply themſelves to the Study of Politics, are obliged to make themſelves acquainted with Geography, a Science, highly neceſſary for the Illuſtration and Improvement of that Kind of Knowledge. Of the ſame Service is Anatomy, or the Knowledge of the human Body, in Medicine; and he who enters himſelf in the Myſteries of this Art, well furniſhed with anatomical Knowledge, can ſcarcely fail of Succeſs in his Practice.

Now, in the Study of Geography, it is not enough to know the Situation and Poſition of Places, with their Rivers and Mountains, but we ought to have clear Notions of other things, which principally recommend this Branch of Learning. We muſt be acquainted with the natural Genius of the Inhabitants, their Cuſtoms and Manners, in what Arts, or in what Branches of Commerce they principally excel. We ought to know farther in what the Riches of the Country conſiſt, what Plants and Animals are produced in it, what are the Qualities of the Air and Waters; and, in ſhort, what Stones and Minerals the Earth conceals within its Bowels. Whoever obſerves theſe things in his Study of Geography, and makes it his Buſineſs to attain juſt Ideas of them, may reaſonably expect from thence no ſmall Help and Advancement in his political Studies.

The like Obſervation may be made with reſpect to Anatomy, the exact and curious Knowledge of which does not barely include the Situation of one or other of the Viſcera, or the Magnitude, Colour, Figure, and Order of the internal Parts, but is of very wide Extent. For it is neceſſary to inſpect, with all our Curioſity, the peculiar Structure of each Part, which is formed with the higheſt Art and Skill, to find out its Uſe, what Function it performs in the Body, what Connexion it has with other Members; and to comprehend what Influence it has, after a wonderful manner, on different and remote Parts.

Such a Knowledge of Anatomy is a moſt firm Foundation, on which the whole Body of Medicine may ſecurely reſt; if this be removed, all rational Explications in medicinal Matters, ſhake and give way, Practice is in Danger, and even Medicine itſelf falls all to Ruin. The Uſe of Anatomy in Surgery is ſo undoubted, that none but ſuch as are little verſed in the medicinal Art, will have the Raſhneſs to deny it. This Part of Medicine, in order to be rightly and ſucceſsfully exerciſed, requires a perfect Knowledge of the external Part, for which it is extremely obliged to Anatomy, and, by means thereof, may be carry'd to the higheſt Perfection. Perhaps it may be doubted by ſome Phyſicians, who employ themſelves more in exerciſing than in ſtudying the Art, whether Anatomy promiſes any Advantages to us in Practice. We muſt declare, that we are wholly of Opinion, that a ſolid and ſkilful Phyſician is principally obliged to Anatomy for theſe Qualifications; and therefore can by no means be excuſed from having them. For the fuller Confirmation of our Aſſertion, eſpecially in this Age, wherein the Sciences have received ſo much Light and Improvement, we ſhall, in the following Diſſertation, aſſert the Uſefulneſs of Anatomy in Practice; in which we ſhall be a little prolix, that we may the better do Juſtice to ſo noble a Subject.

To come immediately to the Matter in hand, we ſhall firſt conſider the Arguments of thoſe who are of a different Opinion as to the Excellency of Anatomy, and account it of little Uſe in practical Medicine. Theſe People, that they may confirm their Opinion, conſtitute in the human Body a *Nature*, by which they mean a Soul. From this Principle they ſuppoſe every Motion to flow, as from its firſt Spring; by this, all Effects produced in the Body, are diſpoſed and regulated, ſince the Body is an Inſtrument merely paſſive, and only qualified to receive thoſe Motions.

This *Nature*, or Soul, according to them, renders the Body ſound and vigorous, guards it againſt Diſeaſes, and expels them when contracted. For ſince this *Nature* is endued with an exact Knowledge of the Body, it muſt act in certain Order, Meaſure, Time, Degree, and Place, and for a certain End, ſo as to be ſufficient, not only for preſerving the Body in Health, but for expelling any Diſeaſe which may happen to infeſt it, ſince the moſt ſavage and illiterate Nations, who neither know the Virtues of Herbs, nor are acquainted with any other Remedies againſt Diſtempers, will ſometimes recover their loſt Health by the ſole Benefit of Nature. Hence they conclude, that the chief Duty of a Phyſician is to acquire the Knowledge of the Powers, Ways, and Intentions of *Nature* alone, neglecting the Care of the Body, becauſe it is merely paſſive. In Confirmation of their Opinion, they add, that Medicine had a Being, and flouriſhed too, in former Times, when Anatomy and natural Philoſophy were very little cultivated; and that the Art of Healing, in ſome who lived in thoſe Times, ſurpaſſed the Skill and Addreſs of our Days, though the Phyſicians of thoſe Ages, being contented with ſimple Remedies, knew nothing of the medicinal Virtues of Metals and Minerals, nor the artificial Preparations of Remedies. As for Anatomy in particular, in order to depreciate it, they add, that the moſt complete and accompliſh'd Anatomiſt, who very well underſtood all the Muſcles, and their Texture, would ſucceed no better in his Attempts to cure them of any Diſorder, than one of the moſt ſuperficial Knowledge in this Part of Medicine. For it is the Soul which puts together the Parts of the Body, and is the Contriver of this wonderful Structure; and if any thing happens to be broken or damaged, the ſame Power will take care to reſtore it, and ſet all things to rights, without the Help of a Phyſician. Since therefore theſe things are all at the Diſpoſal of the Soul, Anatomy can be of no Advantage in practical Phyſic.

Having thus propoſed the Arguments which are brought againſt Anatomy, we are next, according to our Method above declared, to vindicate the Dignity and extenſive Uſefulneſs of Anatomy by examining theſe Reaſons, and giving a full Anſwer to all theſe Objections. Here firſt we think ourſelves obliged, in few Words, to explain what is meant by *Nature* among the Antients. For our Anceſtors, though, on other Accounts, very wiſe Perſons, and highly to be reverenced, both for their good Parts, and long Experience, yet in rational Medicine, and natural Knowledge, I won't ſay they were inferior to the Moderns, but that, for want of theſe Improvements, they took their Meaſures of the ſalutary Art, only from Effects and Experiments. Hence it is, that in thoſe Times, the Art of Medicine was taught in a rude and imperfect manner, becauſe the moſt noble Branches of Learning, that of the Nature and Motion of Bodies, lay in a manner buried; and as for Chymiſtry, it was wholly unknown; for which Reaſon, our Indulgence is due to the Simplicity of thoſe Ages for the many unaccountable Stories and idle Dreams they have left us upon Record. They are often talking of ſeveral Sorts of active Beings; they conſidered Matter as paſſive and inert; and look'd upon the human Body as a mere Inſtrument. The Soul, or Nature, they ſuppoſed to be an incorporeal, wiſe Being, endu'd with Reaſon, and Author and Governor of all the Motions of the Body. Having laid this Foundation, it was neceſſary, that ſince the Principle was obſcure and unknown, all Science and Demonſtration ſhould be extremely precarious. How great Detriment muſt reſult from hence to the Art of Medicine, and how great a Hindrance, on the other ſide, it muſt be to the Improvement of the practical Part, is manifeſt from the Lights we have received in this preſent Age, which ſhall be further explained. For when neither the Powers nor Effects of corporeal things, which yet act upon us after a wonderful manner, can be explain'd or demonſtrated from an unknown Principle, it eaſily appears in how great Darkneſs theſe Times were involved, when they were obliged, for the Solution of Ph
mena in Medicine, to have recourſe to an unknown
as their only Refuge. I therefore think we have good
to congratulate the preſent Age, upon account of it
bleſs'd with a ſound and rational Syſtem of Philoſoph
which we are taught, that all Bodies, of whatever Ki
in a State of Action, and that Motion is no more th
Exceſs or Difference of Action and Force in any tw
Bodies; for when two Bodies mutually reſiſt each other,
when the one yields to the other in Conſequence of tha
Force, originally impreſs'd upon, and communicated
by the all-powerful Author of Nature, then and in that
Motion is produced; and, *vice verſa*, when the Fo
Action happen to prove a preciſe Balance to each other,
both Bodies remain in a State of Reſt; and even thoſe
Motions which are moſt regularly perform'd, and car
by the ſtricteſt and moſt uniform Laws of Order, Harmo
Proportion, are no more than the beautiful Reſult of the
ous Situations and Combinations of different Bodies
acting upon, and reſiſting each other; for 'tis ſurpri
conſiderable Effects may be produced only by the Situ
Bodies: A familiar Illuſtration of this Point may be
from the Action of the Lever; for no incorporeal
nal Principle, much leſs a certain *Wiſdom of Nature*,
by ſhe is enabled to produce Motion, is requiſite for c
on the regular and orderly Motions of Bodies; but a
moving Force is originally impreſs'd upon theſe Bodies
ſelves, which may be either augmented or diminiſhed
ing to their Situation and Diſpoſition. Since in Produ
human Art, ſo wonderful and curious Effects flow only
the Action of Bodies upon one another, this muſt nec
happen in a greater Degree in the Fabric of the human
that incomparable Machine, ſo delicately form'd, and
ſitely finiſh'd, by the all-powerful Hand of God; for the
Body muſt, in Dignity of Structure, excel all Producti
human Art, in the ſame Degree, that its auguſt and ve
Architect ſurpaſſes frail and imperfect Mortals in Gr
Power and Skill: Since this Body is a Machine,
Formation of which, the richeſt Stores of infinite Art
if I may be allowed the Expreſſion, been exhauſted:
'tis a Machine formed by the niceſt Art, and in
almoſt all the Laws of Mechanics, Statics, Hydrauli
Optics, take Place, a vaſt and amazing Variety of
Species of Motion muſt happen in it. A Phyſician mu
this Reaſon, make it his principal Care to underſtand the
ture of this Machine, and to know the Laws of the
Motions produced in it, whether by the Air, Alime
Medicines. When a Phyſician throughly comprehen
things, he can ſcarcely be ignorant of the genuine Be
Tendency of Nature, but muſt plainly ſee, that ſhe
only the bountiful Source of Life and Health, but
likewiſe governs and directs the Operation of Medicines
all the ſeveral Motions that happen in the Body. When the
Nature is taken in this Acceptation, as indeed it ought
then Phyſic is placed upon a true Foundation, and ſtands
upon a Rock that cannot be ſhaken by the vain Efforts of
gination and Error. And indeed a Phyſician who goes
work, cannot be ignorant when Nature is well diſpoſed,
when otherwiſe; but muſt know in what Life, Health, D
and Death itſelf conſiſt; nor can the Reaſons for a right
thod of Cure, and a proper Choice of Medicines, eſcape

If on the other hand, Nature ſhould, as with ſome
Antients, be ſtyled *Medicatrix Morborum*, or *The C*
Diſeaſes, then nothing more is meant, than the Body
adapted with ſingular Art and Contrivance, for the Pro
of certain Motions; for by this peculiar Benefit and A
of the ſolid and fluid Parts, of which it is compoſed, as
by the Qualities of the Elements and Food, it is enabled
ditiouſly to perform certain regular and ſtated Motions,
conduce very much not only to the Preſervation of Li
alſo the Removal of the Cauſes of Diſeaſes. For this R
that this beautiful and curious Fabric of the Body
throughly known, and its minuteſt Parts diſcovered, An
is to be carefully ſtudy'd, ſince it is the only Branch of L
ing which can ſupply us with an accurate Knowledge
Structure. Beſides, the Body can neither ſubſiſt, preſerve
nor eſcape the Fury of Diſeaſes, unleſs it be guarded and
fied by external Means, ſuch as Air, Food, and Medi
and from this Circumſtance ariſes the indiſpenſable Nece
Phyſic, which is, as it were, an Aſſiſtant to *Nature*, co
and governs her ſeveral Motions, diſcovers what occa
good, and what a bad State of Health, and takes care,
things of hurtful Qualities be avoided and removed fro
Body. And altho' many have been bleſs'd with a lo
proſperous Life without the Aſſiſtance of Phyſicians, ye
never arrived at that happy State without the Aſſiſt
Phyſic itſelf, that is, without Remedies, or proper Food,
Regimen. How daring a Piece of Inſolence muſt it th
to affirm, that Nature alone is ſufficient for the Cure of D
ſince in many, both of the acute and chronical Kind,

or nothing without the Aid of a Phyſician? It is not
ſufficient, that the Phyſician has the Advantage of
ctice, and great Experience; that he knows what things
ntageous, and what are prejudicial; that he knows the
ms of a beginning Diſeaſe, or the preciſe Form and
in which it quits the Patient; but he muſt carefully
ircumſtances and Reaſons, and from them form his
nt of Diſeaſes, foretel their Events, and take rational
lent Steps for their Cure. If any one follows this Me-
cannot ſo far miſcarry in the Practice of Phyſic,
a Work of the higheſt Importance, as to be of no Uſe
tient; for 'tis abundantly plain, that a Reliance upon
ce alone has too often impoſed both on the Phyſi-
d the Patient; wherefore in ſo great a Concurrence of
'tis proper to call in Reaſon and Philoſophy to our
e, that ſo the true one may be diſcovered. Hence
Neceſſity of rational Medicine, which, being founded
Principles of Philoſophy, muſt of Conſequence be
e to that which is circumſcribed within the ſcanty
f Practice and Obſervation. But ſuch a Phyſic as is
upon the Principles of Reaſon and Philoſophy, not
uces and ſolves the Phænomena occurring in Practice,
and unconteſted Principles, but likewiſe greatly aſſiſts
itſelf, by ſuggeſting the moſt ſalutary Maxims, for
g a ſafe and eaſy Method of Cure. It is not indeed
ied, that Phyſic drew her illuſtrious Origin from Ex-
; but it muſt at the ſame time be owned, that ſhe
her moſt ſtriking Charms, and all thoſe Degrees of
nd Perfection, which at preſent ſet her at the Head
Siſter Arts, from Reaſon and Philoſophy. But for
a Knowledge of this rational Medicine, Anatomy is
and indiſpenſably neceſſary, ſince without the latter,
r cannot poſſibly be obtain'd.

indeed be confeſs'd, that Anatomy does not directly
ediately cure the Sick; but yet it has a happy Ten-
make the Cure proceed more ſafely and agreeably,
ould otherwiſe do. *Celſus*, in his Preface, very juſtly
that *though there are many things which do not belong*
ts themſelves, yet theſe very things prove uſeful to them,
ning and improving the Genius and Taſte of the Artiſt.
o'a Contemplation of the Works of Nature may not
hyſician, yet it renders him better qualified for the
of Phyſic. In like manner, tho' Anatomy does not
a Phyſician, yet it proves at once an Ornament and
nce to him, by ſupplying him with wholſome and
Maxims, for the Direction and Regulation of his
for no Branch of Learning is of greater Uſe and
e for diſcovering Errors in Practice, applying Reme-
giving juſt Prognoſtics, than Anatomy is, as I ſhall
e fully in the Courſe of this Diſſertation.

egin with that divine and noble Diſcovery the Circu-
the Blood; and indeed he muſt be blind, who does
ve the Clouds of Darkneſs that have been diſpell'd,
orious Light that has been ſhed upon Phyſic, by this
iſcovery; for when, by an accurate Inſpection of
n Body, we find that the Blood, and other Humours,
ually carried through numberleſs ſmall Meanders, by
ion and Tone of the ſolid and muſcular Parts; then
to know wherein Life conſiſts. We ſhall likewiſe
ced of the Excellency of Anatomy, if we allow our-
onſider, how egregiouſly the Antients, who neglect-
provement of this uſeful Art, blundered in defining
they vainly amuſed themſelves with idle Whims and
in this important Affair, aſſerting the Cauſe of Life
Action of the Soul, or Nature, upon the Body; *a vital*
ſmall Flame in the Heart; *an innate Heat*; *the Tem-*
f the four Humours; *and an implanted and influencing*
heſe uſeleſs and unmeaning Dreams receiv'd a fatal
fell to the Ground at once, upon the Diſcovery of
ation of the Blood, which, ſo long as it waſhes the
its perpetual Stream, affords us the Evidence of our
the Exiſtence of Life; for 'tis the bountiful Office
tary Motion, to keep the Body ſafe and free from Cor-
o which 'tis otherwiſe very much ſubject. Neither
orget, that the Life of the Body is not, properly and
aking, the Duration or Preſervation of a compound
for if this was the Caſe, and if Life was ſuſtained
ner, a Stone, or a Piece of Bread, might be ſaid to
g as its reſpective Mixture or Compoſition remain-
s more properly and accurately defined, a perpetual
Motion, by which the Body is principally pre-
n Filth and Corruption. For as Putrefaction is no
n inteſtine Motion produced in the Fluids by ſome
uſe, and deſtroying the Moiſture of the Parts, ſo
hat it can only be check'd by their internal, which
by their progreſſive, Motion; and this Motion won-
ſts the circumambient Atmoſphere, and its external
n the State and intimate Mixture of the Blood;
y is immediately expoſed to the Injuries of the Air,
the fluid Particles of the Blood come to be in a State of Reſt. As Medicine in general, ſo more eſpecially the pathologic and therapeutic Branches of it, have received incredible Advantages from this Diſcovery; ſince by it we come to know, that nothing can be more fatal to Life, or more repugnant to Health, than thoſe things which either hinder, or in the leaſt diſturb the free and ſalutary Circulation of the Blood. 'Tis no hard Taſk to find the Reaſon, why violent Cold is ſo prejudicial to the Body, or why Draughts of cold Liquors, drank by Perſons over-heated, produce Death. Hence 'tis likewiſe plain, why polypous Concretions adhering to the Orifices of the Veſſels near to the Heart and Lungs, produce ſudden and unexpected Death, by intercepting the Courſe of the Blood. From the Circulation of the Blood, we are alſo enabled to aſſign a Reaſon, why Poiſons prove ſo fatal to the Body; for, in my Opinion, they can ſcarce produce their Effects in any other way, than by exciting violent Spaſms in the Veſſels, contracting them, and ſo hindering the free Courſe of the Blood through them. We likewiſe know from this, that all acid and viſcid Subſtances, as alſo too plentiful Feeding, are deſtructive of Health, and hurtful to the Body, becauſe, either by inſpiſſating or augmenting the Juices, they hinder their free Circulation, and produce immediate Loſs of Health. As this is the Caſe, we may eaſily, from the Doctrine of the Blood's Circulation, deduce the moſt wholſome and ſalutary Rules for the Preſervation of Health and Life; for every one who is fond of a long and happy Life, muſt by the Benefit of this Diſcovery perceive, that it is his chief and principal Intereſt to preſerve the Circulation of his Blood uninterrupted, ſafe, and entire. Hence he muſt ſee the Neceſſity of abſtaining both from ſuch things as coagulate his Blood, and from ſuch as, by augmenting its Quantity beyond a proper Degree, render it leſs fit for making its way through the ſeveral Veſſels of his Body. He ought, on the other hand, to uſe all ſuch things as have a Tendency to preſerve his vital Juices in a due State of Fluidity, ſuch as volatile Salts, Aromatics, and warm Infuſions of balſamic Herbs, by means of which, the due Motion of the Blood is moſt effectually preſerved. From this Diſcovery we muſt likewiſe perceive, that in caſe of too great an Affluence of Blood, its Quantity muſt be diminiſhed; and that, in ſuch Caſes, Bleeding muſt not only be proper, but even prove the ſole and only Preſervative of Life.

Beſides, Anatomy furniſhes us with abundance of Reaſons, why Death, in Spite of all the Medicines in the World, muſt prove the Fate of every Individual; for Life, which is no more than the perpetual Motion of the Fluids, not only depends upon their due Temperament, but alſo, and that more eſpecially, upon a certain Motion of the ſolid Parts. Now when old Age begins to approach, the moving Fibres gradually become hard, thick, and immoveable, the Pores are ſhut up, and the Veſſels are too full. Hence the Fibres, not being ſufficiently animated by the ſubtle nervous Fluid, become ſtiff, inflexible, and unfit for protruding the Blood thro' the Body. Beſides, when the cutaneous Pores are obſtructed, the ſeveral Excretions muſt of courſe be retarded, and recrementitious Filth muſt be accumulated in the Body; the Conſequence of which is, firſt, a bad Habit of Body, and, not long after, inevitable Death. If we reflect with a little Attention upon this Circumſtance, the moſt effectual Means of obtaining a long Life cannot fail to ſuggeſt themſelves to us, and convince us, that we ought to place our principal Care in preſerving our ſeveral Juices in a due State of Fluidity, leſt, thro' a Defect in that Point, the Pores ſhould be block'd up, and the Fibres become groſs and rigid. For preventing this, Motion and Exerciſe are very proper, ſince they are exquiſitely calculated for preſerving our Fluids in their due State. A pure and ſerene Air, thin and light Water, good ſmall Wine, Food which contains little of an earthy and compact Subſtance, and which is light, and of eaſy Digeſtion, and Compoſure of Mind, contribute alſo to this End. When theſe Things are diligently attended to, and Health regulated by theſe Meaſures, Life muſt be preſerved the longeſt that the Condition of our Natures will admit of. Nor is frequent Phlebotomy to be neglected, the Uſefulneſs of which, for protracting Life, is ſufficiently ſhewn by the Diſcovery of the Blood's Circulation; for 'tis plain, that by this means Blood, which by reaſon of its Abundance, is become thick and ſlow in its Motion, muſt be reſtored to its due and regular Courſe thro' the Body: Neither have we any Reaſon to be afraid of exhauſting this rich Fountain of Life, ſince, as *Galen* has obſerved, the Antients took whole Pounds, inſtead of Ounces, as the Moderns do.

By the Help of Anatomy we likewiſe become acquainted with the formal Cauſe of Death, which, in whatever Shape it deprives a Man of Life, may be diſtributed into four Claſſes; for there muſt be either an Inflammation of the more noble Parts, ſuch as the Meninges, Lungs, Stomach, and Inteſtines; or extravaſated Blood or Serum, as uſually happens in the Brain, Thorax, and Abdomen; or ſome of the Viſcera muſt be corrupted; or a Polypus muſt be formed among the Veſſels of the Heart or Lungs, obſtructing the free Circulation of the Blood. I ſay, where-ever Death happens, it muſt be owing to one or other of theſe

Cauſes, as is plain from all Diſſections. And, indeed, an Inflammation is the Cauſe of Death in acute Diſorders; and a Corruption of the Viſcera, or an Extravaſation of Blood or Serum, produces the ſame Effect in chronical Caſes: But a Polypus is generally found to be, of all others, the moſt ſpeedy Cauſe of Death. Theſe ſeveral Cauſes of Death plainly ſhew, that it is nothing more than a Deſtruction of the Circulation of the Blood. From the joint Conſideration of theſe Circumſtances, it follows, that he who intends to ward off Death, muſt be at due Pains to prevent Inflammations of the internal Parts of his Body, Weakneſſes or Obſtructions of his Viſcera, and Extravaſations of his Blood and other Juices.

This ſame Diſcovery, I mean that of the Circulation of the Blood, which is, without Doubt, the ſureſt Prop, and the nobleſt Ground-work of all Medicine, clearly accounts for the Cauſes of Health, and ſufficiently ſhews, that it can only be expected from a free and due Circulation of the Blood and Humours, and the ſeveral Excretions being carried on with Regularity: For when the Blood is carried thro' the Body in a calm, regular, and uniform Manner, then the ſeveral Elements of which it conſiſts, are not only duly mixed with each other, but every thing that is of a recrementitious Nature, every thing that offends either in Quantity or Quality, is by that means evacuated, and drawn out of the Body. Thus all the animal Functions are performed, according to the Order and ſtated Laws of Nature; thus Health, and thus the Vigour of Health, are preſerved: Thoſe muſt therefore err, who maintain, that Life conſiſts in the Excretions being duly made; becauſe Life, even when the Excretions are entirely out of the Account, may ceaſe; and Experience proves, that many die at the very time their Excretions are performed. We therefore, with better Reaſon, affirm that Health depends upon the Circulation of the Blood, which, when duly carried thro' the Body, renders the ſeveral Excretions regular and natural; whereas, when its Motion is too languid, or impair'd by any Diſeaſe, the Excretions are interrupted; nor, indeed, can there be any Diſeaſe in which the Excretions do not ſuffer. We even often ſee Patients die, rather from the Excretions being too copious, than from their being deficient; as may be obſerved in acute Diſorders, hectic Caſes, Dyſenteries, and other Diſeaſes of a like Nature. That Phyſician, therefore, acts a Part entirely conſiſtent with the Dignity of his Character, who, in the Cure of Diſtempers, has a Regard not only to the Circulation of the Blood, but alſo to the ſeveral Excretions, eſpecially that of Tranſpiration.

Since our Fluids paſs thro' the Body very often every Day, and ſince indulgent Nature has every-where bountifully provided proper Emunctories for the Excretion of the recrementitious Matter, we muſt take care, that theſe Emunctories be always kept open; for by this means the Blood is rendered limpid, pure, and balſamic; and all ſuch things as are capable of laying a Foundation for Diſeaſes, are eliminated out of the Body. Among the ſeveral Emunctories, which are evidently to be found in the Body, thoſe of the Skin, by which, as *Celſus* ſays, Tranſpiration is carried on, as it were, thro' ſo many inviſible little Holes, are the moſt conſiderable; for what friendly Offices Tranſpiration performs to the Body, and how much it contributes to the Preſervation of Health, may be conceived from this Circumſtance; that more recrementitious Matter, and that too of a more virulent Quality, is diſcharged from the Body in this way, than by all the other Excretions together. Hence 'tis plain, that nothing can have a more direct and immediate Tendency to bring on Diſeaſes, than a Suppreſſion of the ſeveral Excretions, eſpecially that by which the Filth and Sordes of the Body are carried off by Tranſpiration. As this is the Caſe, the Practice of that Phyſician muſt be rational, who, when he is perfectly acquainted with the Origin of the Diſorder, reſtores the uſual Excretions, opens the obſtructed Emunctories, and diſpoſes them to afford a free and eaſy Paſſage to the malignant and virulent Sordes: But this is moſt effectually brought about by means of a pretty quick and accelerated Motion in the Fluids; which, when it happens in acute Diſorders, and eſpecially in Fevers, ſufficiently accounts for the Patient's recovering Health only by the Benefit of Nature, without any great Trouble to the Phyſician: For this intenſe Motion expels the Cauſe of the Diſeaſe, opens the Emunctories, attenuates the Humours, and ſoon reſtores perfect Health. The Reverſe of this happens in Diſeaſes of the chronical Kind, and of long Continuance, where the Motions, being ſluggiſhly carried on, are to be accelerated by Art, and the Weakneſs of Nature is by that means to be aſſiſted. In Diſorders therefore of this Kind, Sudorifics, Chalybeats, Bitters, Salts, Purgatives, warm Baths, and mineral Waters, are of ſingular Advantage; and the Virtues of theſe Remedies, in Caſes of this Nature, are to be accounted for only from this, That by their quick and accelerated Motion they remove the Obſtructions of the Body, and, by reſtoring the ſeveral Excretions, reduce the Fluids to a natural and orderly State. The ſame Reaſon may be aſſigned, why Motion and Exerciſe, the Drinking of wholſome mineral Waters, and the Clemency of the Air and Climate, have ſo
happy an Influence upon chronical Diſorders, and prove ſo
tual in carrying them off.

But ſince the Antients were ignorant of the Blood's C
tion, we need not be much ſurpriſed, that they fell into
Errors in Practice; but, to paſs over others of their B
'tis well known how careful, or, to ſpeak more properly,
whimſical and ſuperſtitious they were in opening certain
being groundleſsly perſuaded, that this or that particula
was appropriated or conſecrated to this or that particular
the Head, for Inſtance, the Heart, or the Liver; and th
the Diſeaſes of thoſe Parts, it was neceſſary to open their
ctive Veins. In Proceſs of Time, when Anatomy began
improved, theſe wild Chimeras were entirely baniſhed;
have learned, that there are two Uſes in Bleeding, that is,
cuation and Derivation; the former of which is ſervic
caſe of too great a Quantity of Blood, and 'tis no grea
ter which Vein be opened: But, in order to make a D
tion, we are taught to open a Vein in the upper or low
of the Body, as the Nature and Circumſtances of the
ſhall require.

From Anatomy 'tis alſo plain, that the four Humo
their Intemperies, were, by the Antients, falſly propoſed
Cauſes of Diſeaſes; for theſe very Humours appear
in the Body, ſo that their Theory muſt, of courſe,
Ground, ſince it was built upon a Foundation ſo p
and uncertain: Hence it happened, that the principal
their Medicines conſiſted generally of ſtrong Purges, w
ſuppoſed, that Purgatives had an *elective Quality*, and i
gined, that one was proper for purging Bile, another
choly, and another Phlegm. And although I willingly
that one of theſe Medicines may be preferable to anoth
better calculated for breaking the Force, and remov
Cauſe of certain Diſtempers, yet I cannot approve
Opinion, ſince it is entirely inconſiſtent with the
tion of the Blood, from which alone the Cauſes both
and Diſeaſes are derived: For whatever Purges act
and violently, muſt throw out whatever kinds of
are lodged in the Body, whether they be viſcid or
and, for this very Reaſon, the Antients were faulty
Practice, ſince they made ſo frequent Uſe of the
Purgatives: For in the Days of *Galen*, and more
in thoſe of *Hippocrates*, the more gentle Laxatives
Place in Practice, but the Patients were racked with H
Colocynth, Scammony, Elaterium, and other Purga
like Stamp. Yet Experience has taught us, that theſe
are ſo far from being beneficial, that they are very
hurtful to our Conſtitutions; for they deſtroy the T
impair the Strength of the Inteſtines, which are ſo ne
the Preſervation of Life; they diminiſh the Force and
of the Membranes by ſpaſmodic Conſtrictions, exhau
ry off the balſamic Bile, and diſturb the ſalutary Excre
drawing that Humour which ſhould be diſcharged th
Skin, from the Circumference to the Centre of the B
can any other Cauſe be aſſigned for this Error in Pra
their Ignorance of Anatomy, which, as ſoon as the
Head above thoſe Clouds of Darkneſs, with which the
then, been incircled, detected theſe Errors, and in
to beware of them for the future.

Beſides, their immenſe Number of Medicines
proves, that their Practice was confuſed, and their In
ſome Degree, ſuperfluous; for what is the Deſign of
Cordials, Hepatics, Splenetics, Uterines, Antiepilep
thelminthics, and Remedies appropriated to each P
Body? What can be the End of ſuch a Multitude of
but to convince us, that the Phyſician, amidſt ſuch
various Medicines, knew only the Virtues and Qu
few? For Diſeaſes are cured with a few, but well-ch
cines, which the Antients being ignorant of, contr
cumberſome *Materia Medica*, under ſo many trifling
ſiſtent Forms. It was likewiſe their Misfortune, that
and more noble Medicines were not known in their D
as volatile Salts, neutral Salts, the right Uſe of An
alſo the ſeveral Preparations of Steel, Antimony, and
As it was their Misfortune to be ignorant of theſe T
muſt of conſequence be very ill qualified for the Cu
nical Diſorders; or if they attempted a Cure in C
Nature, it was done by Regimen, Abſtinence, P
Frictions, Baths, Exerciſe, Change of Air, and the
ſource was the Knife, and Fire. The very Nature
mate, in which ſome of the antient Phyſicians lived,
Circumſtance which very much contributed to the C
Diſeaſes; for in thoſe warm Countries, ſuch as Gr
Diſeaſes are not very deeply rooted, and are therefore
little Pains and Trouble: But in acute Diſorders,
always challenges a greater Share of the Cure than
not to be doubted but, among the Antients, theſe
Diſorders have been removed by the Force of Nature,
the Temperature of the Climate, and the Clemency
Now that we ſtand in need of fewer Medicines, and

thod of Cure which is ſafe, eaſy, and ſimple in Compa- theirs, is, in my Opinion, owing to our Knowledge of y; for ſince 'tis the principal Buſineſs of every Phyſi- ake care, that the Quantity, Temperament, and Mix- he ſeveral Humours, be duly proportioned to the Veſ- Strength of the Patient; and that theſe Humours be tinually circulating, whilſt, at the ſame time, the Ex- are regularly made; ſince this is the whole Buſineſs of an, every one muſt ſee, how few Medicines are requi- ſwer theſe ſeveral Ends.

g thus conſidered, how uſeful a Knowledge of the Circulation is in Practice, I now come to take a View dvantages accruing to it, from our Acquaintance with ture of ſome other Parts. The firſt I ſhall mention, is mon Covering of the Body, the Skin, the Texture of we underſtand, by means of Anatomy, we ſhall not the Errors commonly received with regard to it, but be greatly aſſiſted in the Cure of Diſeaſes: In the Skin Veſſels, Tendons, and Nerves terminate, with which ll Glands, or ſmall villoſe Bodies, are interwove, that Serum, and the ſalt, agile, and aerial Principle, may be commodiouſly ſecreted. If a practical Phyſician right- ſtands this Structure of the Skin, which is only fit for etion of very ſmall Particles, he muſt be convinced, Pores of the Skin, deſtined for a Diſcharge of the fineſt muſt be very ill-adapted to carry off the viſcid and rdes collected in the *Primæ Viæ*. Whenever, there- Stomach and Inteſtines are become turgid with Hu- this Kind, as it uſually happens in intermittent Fevers, hyſteric and hypochondriac Diſorders, the Phyſician ly to avoid preſcribing all hot Medicines, and the udorifics; for theſe, inſtead of procuring Stools, which in- t to be done, rather make the Patient coſtive, by driving of recrementitious Matter from the Centre to the Cir- ce of the Body, and mixing it with the Maſs of Blood. ctice is likewiſe to be ſhunn'd, when the Bile, in conſe- a ſudden Sally of Paſſion, has quitted its proper Cha- lodged itſelf in the Stomach and Inteſtines; for if, into a Commotion by warm Medicines, it ſhould paſs lood, it reſembles the Nature of Poiſon, produces the erious Effects, and threatens the Patient with immi- ger: In ſuch a Caſe, therefore, the Phyſician muſt, if s to act up to the Principles of his Art, take care to hat Load of Humours lodged in the Stomach and In- y the proper Emunctories, and with the Aſſiſtance of xatives.

ſame Anatomical Obſervation we are taught, that this Evacuation is leſs proper when ſaline, cauſtic, and rdes are mixed with the Blood; for theſe ſhould have de for them thro' the Skin; the Pores are therefore, Caſe, to be kept open by a due Degree of Heat, and dicines: And this is to be carefully attended to, in all here Sordes of this Kinds are offenſive, as Eryſipelas, ple Fever, Petechical Fever, Small-pox, Meaſles, eſpecially if the Puſtules are ſtruck back into the ll theſe Things plainly ſhew a Phyſician, who ought Aſſiſtant of Nature, that nothing can better qualify ing ſo, than a Knowledge of Anatomy; but becauſe s, upon account of the Nerves and Tendons which in it, of a very quick and exquiſite Senſation, and tly very eaſily conſtricted, a Phyſician ought to guard thoſe things which contract the Pores, and prevent a wholſome Tranſpiration. This is principally to be in Diſeaſes where the Blood abounds with impure Recrements; and all poſſible Care is to be taken, rp and noxious Matter, which ſhould be diſcharged Skin, be not imprudently ſtruck back into the Body, of Blood: For this Reaſon we are to avoid cold and lications, Ointments, Plaiſters, and whatever may he Skin; but this Caution is particularly neceſſary in iſorders, ſuch as Itches, Gout, ſcald Heads, Lepro- pelas; and alſo in critical Sweats, leſt by the raſh ſe things we precipitate the Fate of the Patient.

o the Skin the Fat preſents itſelf, from an accurate tion of which, the practical Phyſician muſt likewiſe dvantages, that will more than counterbalance his Reſearch; for as this Subſtance is laid thicker upon of the Body than others, ſo, by this very Circum- points out to us the true Method of applying external or, as we commonly call them, Topics. Thus, for he Perſon who applies external Medicines to his Hip in order to remove the Agonies of Sciatic Pains, will pedient attended with very little Succeſs; becauſe the of the Fat, and the Thickneſs of the Muſcles, pre- great meaſure, the Medicines from reaching the Part Nor will he act more rationally, who, in order to iſorders of his Stomach, applies Plaiſters to his Ster- domen; becauſe, in theſe Parts, ſuch Remedies pro- little Effect on account of the Fat, with which the is covered. (*It is neceſſary to remark here, that tho'* Hoffman *may be right in the general upon this Subject, yet, with reſpect to Applications to the Hips, Abdomen and Stomach, Experience manifeſtly contradicts him, ſince there are Topics which exert conſiderable Effects when applied to thoſe Parts. Our Author here, in defending Theory, which may be rendered extremely uſeful, has given us an Inſtance of its Miſapplication, thro' the Raſhneſs and Self-ſufficiency of human Wiſdom. In Philoſophy, as well as Divinity, we are ſubject to arrogate to ourſelves ſupreme Knowledge, and, in conſequence of that, raſhly to deny the Exiſtence of Things and Effects, unleſs we can comprehend them, and conceive in what manner they are brought about; whereas Nature, or its all-powerful Author, has ways of acting to which we are, at preſent, Strangers, and Reſources with which we are utterly unacquainted.)* We therefore learn from the Principles of Anatomy, that in applying Topics, ſuch Parts of the Body muſt be choſen as are covered with the ſlendereſt Muſcles, and the ſmalleſt Quantity of Fat. For this Reaſon, the nervous and tendinous Parts are, of all others, the moſt proper; ſuch as the Soles of the Feet, the Palms and Wriſts of the Hands, the Temples, and the Nape of the Neck. Medicines of this Kind may be alſo applied, with Advantage, under the Arm-pits, and to the Hollows of the Hams; from which Parts their Virtues are ſenſibly diffuſed thro' all the Body. When therefore, in caſe of too great a Heat and Fervor, the Body is to be cooled, it is proper to apply, to the above-mentioned Parts, Liquors that are ſomewhat acid, and gently repreſſing; for, by the Uſe of theſe, the Body is ſurpriſingly refreſhed. The ſame Practice is to be followed in allaying Spaſms in Fevers, in which Caſe alſo corroborative and ſubaſtringent Plaiſters may, with Succeſs, be applied to the Nape of the Neck, the Temples, and the Wriſts: But when the nervous Syſtem is to be ſtrengthened, 'tis proper, now-and-then, to warm and cheriſh the Nape of the Neck, and the Sutures of the Head, with mild and balſamic Corroboratives. When the Force of the languid and unactive Nerves is to be excited, or a viſcid Humour to be diſlodged from ſome particular Part, the Intention is beſt anſwered by Veſicatories, applied to the Nape of the Neck. Laſtly, in a *Lues Venerea*, or an Itch, which Diſorders are often happily carried off by a ſeaſonable Salivation, it is moſt ſafely raiſed by applying mercurial Ointments to the Arm-pits.

An accurate Knowledge of the Structure of the Navel will alſo qualify a Phyſician for the Application of Topics, with equal Prudence and Succeſs; for 'tis known, that the *Linea Alba* is contiguous to the Navel, which, of itſelf, is a Part moſt ſenſible of Impreſſions: In this *Linea Alba* many conſiderable Tendons centre; ſo that 'tis plain, that Part muſt be endowed with a very quick and exquiſite Senſe, and therefore have a Conſent with the whole Body; for 'tis very remarkable, that all the nervous Parts of the Body, if ſtrongly irritated, or otherwiſe affected, do at the ſame time put the whole Body into a Commotion, by reaſon of the mutual and uninterrupted Connection of the Nerves diſperſed up and down it: For this Reaſon we are not to wonder, if Medicines applied to the Navel do not confine their Efficacy to that particular Part, but convey it to the moſt diſtant and remote Quarters of the Body, by means of the many conſiderable Nerves which run thro' the Navel. Thus 'tis known, from a celebrated Family Experiment, that the Quantity of a Nut, of freſh Butter, applied to the Navels of Children, procures them Stools: And if Worms are lodged in the Inteſtines, if the Navel is anointed with Bull's-gall inſpiſſated with the Ointment of Sow-bread, and mixed with Oil of Colocynth, it ſtimulates the Inteſtines to expel the Worms. In the convulſive Colic, which is indeed a very terrible Diſorder, the Agonies of Pain are ſurpriſingly allay'd by anointing the Navel with a few Grains of Civet. Nor is leſs Relief to be expected in a Suppreſſion of Urine, from carefully anointing the Navel with Oil of Turpentine; for the Diſcharge of the Urine will be wonderfully promoted by that means, ſince the Umbilical Arteries adhere to the Sides of the Bladder.

The Diſeaſes of the internal Parts, and the moſt proper Methods of curing them, muſt be made known to us by conſidering their Situations, and the ſeveral Parts where they are placed: Thus we know, that the Stomach is inclined to the Left Side, and that its upper Orifice adheres to the *Spina Dorſi*, whereas its inferior Orifice is covered with the *Scrobiculum Cordis*. From this Circumſtance it is very plain, that the moſt intenſe Pain, which has erroneouſly got its Denomination from the Heart, proceeds entirely from the Stomach; and that the Seat of a *Cardialgia*, as is groundleſly thought, is not in the Left, but rather in the Right Side of the Stomach: For leaving the Seat of the Pain, which is under the *Scrobiculum Cordis*, entirely out of the Queſtion, this appears plainly from this Circumſtance, that the Bile, which frequently excites the Pain, lies nearer to the Right than to the Left Orifice: Hence thoſe, who labour under Obſtructions of the Liver, are moſt frequently troubled with this Diſorder. Now when the Pain itſelf has reached the very Back, the Left Mouth or Orifice muſt alſo inevitably ſuffer: Anatomy therefore teaches us, that, in this Caſe, Plaiſters, ſpirituous Subſtances, Balſamics, and ſuch things as are calculated for ſtrengthening the Stomach, and allaying Pain, are to be externally applied to the *Scrobiculum Cordis*, and the Left Side under the falſe Ribs. From Anatomy we alſo learn, that this Diſorder is moſt effectually relieved by ſuch Medicines as correct the Acrimony of the Humours, and diſcuſs Flatulencies. Beſides, becauſe the Stomach, as Anatomy teaches us, lies under the Diaphragm, it often happens, that its being inflated produces the greateſt Uneaſineſs, and Difficulty of breathing; in which Caſe, the Phyſician, who is ignorant of Anatomy, would commit an egregious Blunder, if he preſcribed ſweet and emollient Pectorals, imagining the Cauſe of the Diſorder to reſide in the Lungs; whereas the Cauſe itſelf, which is a thick Phlegm, and an Inflation, ought rather to be taken away, and the Spaſms of the Stomach ſhould be removed; both which are often happily effected by gentle Emetics and Laxatives.

The Situation of the Colon, and its ſinuous Structure, of which the Antients were ignorant, by reaſon of their Neglect of Anatomy, has ſo deceived them, and even ſome of the Moderns, that they aſcribed to a Fault of the Spleen, thoſe Tumours, eſpecially of the Left Side, which, in Hypochondriacal Caſes, proceed from a Flatus, and Ordure pent up in the Foldings of the Colon. If theſe Men had learn'd, that the Spleen lay under the Diaphragm, and that it was nearer to the Spine, they might have eaſily ſhunn'd ſo palpable an Error. For 'tis well known, that the Pains, the parching Heats, and the Tumours, under the falſe Ribs of Hypochondriac Perſons, appear principally in the Left Side. Add to this, that the Spleen has a leſs exquiſite Senſation; and by reaſon of its Bulk, the Circumſtance which generally renders it troubleſome, excites a very heavy and fixed Pain, whereas in Hypochondriac Diſorders we obſerve, that the Pain is intenſe, but ſoon goes off. As this is the Caſe, 'tis plain, that in the Cure of that Diſeaſe, carminative Clyſters, which dilute the Acrimony of the Humours, and defend the nervous Membranes of the Colon, are deſervedly preferable to all others. In this Caſe Carminative Plaiſters are not to be neglected, which, when apply'd to the Left Side, ſtrengthen the Tone of the Colon, and afford ſurpriſing Relief.

Another Diſorder, which draws its Origin alſo from the Colon, ſometimes perplexes the Phyſician who is ignorant of Anatomy; for it ſometimes happens, that a violent Pain ſuddenly ariſes near the Coſta of the Right Ilium, accompanied with an obſtinate Conſtipation of the Belly. The Cauſe of this Diſorder is this: The Beginning of the Colon is ſituated there, and conſiſts of very ſtrong Ligaments and Membranes, that ſo it may the more ſpeedily protrude the Fœces upwards. But when, in Perſons that are reduc'd by the Violence of ſome Diſeaſe, the Tone and Strength of this Inteſtine are impair'd, Flatuoſities and Fœces retain'd in it diſtend it, reſemble a Tumour, and ſubject the Patient to the moſt excruciating Agonies. The Cauſe then of this Diſorder plainly demonſtrates, that in this Caſe the only things which can afford Relief are Cataplaſms of Carminative Seeds and Herbs; and that 'tis likewiſe very proper to waſh the Inteſtines with oily Clyſters; for when theſe arrive at the Beginning of the Colon, they powerfully ſoften the indurated Fœces, and by that means forward their Expulſion.

Violent Pains often ariſe about the Navel, which, being really in the Ilium, are, by ſome Phyſicians, who are ignorant of Anatomy, erroneouſly taken for Colics. This Diſorder is certainly very frequent, but it was ſtill more ſo in the Days of *Hippocrates*, who often makes mention of it, but never of a Colic; which ſeems to be owing to this, that on account of the Salubrity of the *Grecian* Climate, Colics, as well as Hypochondriac Diſorders, were not frequent. 'Tis therefore highly proper, that in the Cure of this Diſeaſe we ſhould know the Situation of the Inteſtines, leſt we ſhould otherwiſe apply Medicines to no Purpoſe. For tho' in Colics Clyſters are very proper, yet 'tis very plain they do little Service in the Iliac Paſſion, ſince they never reach beyond the Valve of the Colon. 'Tis therefore in vain to have recourſe to Clyſters for the Cure of this Diſeaſe; we are rather to uſe Plaiſters and Ointments externally, and internally Oil of ſweet Almonds, mixt with Oil of Aniſe.

In this Caſe alſo nervous Medicines, and Preparations of Caſtor, are very properly uſed, becauſe they wonderfully mitigate the Violence of the Spaſms. *(See* ILIACA PASSIO, *where the Reaſons will be given why emollient Clyſters are uſeful in this Caſe, tho' they ſhould not paſs the Valve of the Colon).*

He who is acquainted with the Situation of the Inteſtinum Rectum, and its cloſe Connection with the Bladder, muſt perceive the Reaſon why a Difficulty in making Water, eſpecially if it proceeds from a Wound, or the Stone, is always accompanied with a Teneſmus, and very often with a Prolapſus Ani. The Phyſician who knows the Situation of this Inteſtine, will alſo be able to aſſign a Reaſon, why, in a Teneſmus, the Bladder is reciprocally ſtimulated to diſcharge its Contents. In ſuch a Caſe therefore 'tis carefully to be inquir'd into, whether the Fault lies in the Bladder, or in the Inteſtinum Rectum, leſt whilſt the Cauſe is unknown, the Cure ſhould miſcarry; for Remedies would be very improperly apply'd to the Bladder, if the Inteſtinum Rectum ſhould happen to be the Seat of the Diſorder.

It is equally neceſſary to conſider the Situation of the Bl
which is placed in the very Boſom or upper Part of the P
and is join'd to the *Os Pubis*. A numerous and manifeſt
of fleſhy Fibres run along it, by the Contraction of wh
Urine is diſcharg'd, and which being again diſtended b
great a Quantity of Liquor in the Bladder, their Elaſt
proportionably deſtroy'd, and the Urine ſuppreſſed. He
learn, that for relieving this Diſorder, we muſt apply
Region of the Pubis ſuch Medicines as ſtimulate the Fibre
Contraction, that ſo the Efflux of the Urine may be re
For anſwering this Intention, ſome Oils are very proper,
as Oil of Scorpions, and Juniper, Garlick alſo, roaſted O
and other Medicines, which have a Tendency to raiſe
ſtrengthen the weakened Tone of the Bladder.

The Courſe of the Ureters is towards the Bladder, a
ſing in an oblique Direction over the Pſoas Muſcles, are
into its poſterior Part. Theſe, I mean the Ureters, co
of muſcular and tendinous Fibres, muſt neceſſarily be
irritated by Stones falling down into them, and remainin
That the Phyſician may alſo receive Advantage from thi
mical Obſervation, it will not be amiſs to inform him,
this Caſe he is carefully to avoid preſcribing Oils of Juni
Turpentine, Balſam of Sulphur, and all Medicines that
forcing Nature, becauſe in this Diſorder 'tis his Bu
relax the Parts contracted by the Violence of the Spaſm
which Reaſon he will, with more Advantage, have rec
the expreſs'd Oils, ſuch as Oil of ſweet Almonds, N
Oil of white Lillies, Scorpions, Poppy-ſeeds, Carawa
others; for theſe, when apply'd to the Region of the Lo
Ureters, ſurpriſingly aſſwage the Pains produced by this C

The like Advantages in curing Diſeaſes flow from c
ing that exquiſite Congeries of Nerves, that Variety of
ries, Veins and Tendons, which are interwove with the
ſentery about the laſt Vertebra of the Back, and firſt
Loins; for hence we may reaſonably conjecture, that
tenſe Pain which ſeizes People in the Beginning of I
ting Fevers, in the Small-Pox, in the Meaſles, in the H
Paſſion alſo, and other acute Diſorders, does not ariſe
Stone in the Kidneys, as is generally thought, but fr
Congeries of Nerves in the Meſentery: For if theſe
tended or vellicated by Flatulencies, or Blood ſtagnating
Inteſtines, there immediately ariſes a Pain in the Spi
I once knew a Phyſician very ſucceſsful in curing this D
who for that Purpoſe very often uſed Plaiſter of Frog's
with Oil of Henbane and Camphire. On the other han
cotic aſtringent Remedies, and Lead-plaiſters, inſtead of
ing Relief, rather haſten the Deſtruction of the Patient.
alſo often obſerved, that ſuch Applications, when uſed
View to check the menſtrual Diſcharge, not only n
but entirely ſtopp'd it, to the great Prejudice of the
the Blood being by theſe Means forc'd upon other Pa

I now come to take a Survey of the genuine Structu
Viſcera, that we may thence ſee how uſeful the Know
Anatomy is in the Practice of Phyſic. To begin there
the Lungs, 'tis ſufficiently evident, that ſince they a
poſed of mere Veſſels, they muſt abound with Blood;
merable Branches of Veſſels, winding in a great man
Directions, paſs thro' them, and thro' the Whole of the
embrace the *Bronchia*. The Pulmonary Artery alſo, b
the Blood is convey'd from the Right Ventricle of the H
the Lungs, appears to be larger than the Aorta itſelf.
the Pulmonary Vein ſends ſo many wonderful and
Branches thro' them, that if melted Wax is injected i
Branches, a very conſiderable Number of them may
This may furniſh us with an Argument, that the D
the Lungs proceed principally from a Stagnation of th
and a Prevention of its free Circulation thro' them.
confirmed by a Spitting of Blood, a Peripneumony, a
a Phthiſis, and all the fatal Train of Diſeaſes which
on the Lungs.

If we allow theſe Conſiderations their due Weight,
evidently ſee, that in Diſorders of the Lungs Phlebo
only affords Relief, but is abſolutely neceſſary, both
Cure and Preſervation of the Patient. Hence we ſee
great Propriety all thoſe Medicines are preſcribed in D
the Lungs, which diſſolve and attenuate the Blood
them. The beſt and moſt effectual Remedies of this C
warm Infuſions of Herbs that are balſamic, and con
tile nitrous Salt. 'Tis hence alſo plain to a Demo
that in Diſorders of the Lungs nothing can be mo
and pernicious, than aſtringent Acids, Styptics,
ſtances, and all ſuch Medicines as retard the free C
Circulation of the Blood; and becauſe the Aſpera Ar
the Lungs, and is itſelf lin'd with a nervous Me
acid and ſharp Subſtances are therefore to be avoided,
ful in Diſorders of the Breaſt; for theſe not only
great a Quantity of Blood to the Part affected, which
too full, but, which is ſtill worſe, ſtop the Motion
culation of the Blood.

ow remains, that we take a View of the Structure of the
which, of all the Viſcera, abounds moſt with Blood,
eſents us with various Veſſels, the preciſe Number of
'tis no eaſy Taſk to determine: Even the very Glands
re found in the Liver, are no more than the numberleſs
es of Veſſels, which, ariſing from the *Vena Portæ* and
ava, form themſelves into membranous Cells of an oval
as has been ingeniouſly obſerv'd by *Vieuſſens*, in his
e *De novo Vaſorum Syſtemate*; for the Glands of the Li-
ete the Bile, which is collected together from various lit-
ſels interwoven with, and adhering to one another.

if we conſider, that the Liver is furniſh'd with the
Part of its Blood from the Spleen, the Omentum, the
h, the Inteſtines, and other Contents of the Abdomen,
ns of the *Vena Portæ*, and that this Vein is deſtitute of
to propel its Contents forwards, we ſhall be at no Loſs
eive why the Liver ſhould be very obnoxious to Stagna-
the Blood, and all the diſmal Train of Conſequences
low it; for Obſtructions of the Veſſels, Infarctions, In-
ns, and moſt chronical Diſorders, are the Reſults of a
nd languid Circulation of the Blood thro' the Liver;
Paſſage is deny'd the Blood thro' the *Vena Portæ*, and
a Cava, it returns to the Viſcera whence it came, and
'd to the Spleen, the Pancreas, the Meſentery, and
arts. By this means it happens, that, ſo long as it
here, it diſtends the Veſſels, and by ſtimulating the
Membranes occaſions various Spaſmodic Diſorders, and
tions. Upon this Occaſion the Lymph is extravaſated,
ce ariſe Tumours, Piles, Vomitings of Blood, the
Niger mentioned by ***Hippocrates***, and a numerous
of ſuch-like Diſorders: That theſe may be ex-
rom the Body, the prudent Phyſician informs himſelf
natomy, that the chief Intention of Cure conſiſts in ren-
he Motion of the Blood thro' the Liver free and eaſy.
s of this Nature therefore, Mineral Waters, warm
wholſome Waters liberally drank, all Bitters likewiſe,
ubſtances, fix'd neutral Salts, and in a Word all ſuch
s attenuate the Blood, ſtrengthen the Solids, and reſtore
d, to its uſual Circulation, are of Service. And when
d accumulated in too great Abundance, which is often
e, proves hurtful, we may eaſily imagine, that Phle-
muſt be proper and beneficial, becauſe by means of it
great Quantity of Blood which diſtreſs'd the Patient,
nding his Veſſels, and breeding Obſtructions, is happily
ed.

es, by Anatomy we diſcover, that the Liver adheres
iaphragm, which particular Structure, like all the other
of the ſupreme Creator, was deſign'd to anſwer a
nd important End, which is, that by the frequent
of the Diaphragm in Reſpiration, the Liver, which
to it, might be agitated and put into Motion; and by
ans the languid Motion of the Blood quickened and
ted; which is a ſure Proof, that in Diſeaſes of this
Motion is a proper Remedy, and that for this Reaſon,
, Walking, Riding, and other Species of Motion, are
ly preſcribed. If we farther conſider, that the Hæmor-
Veſſels, which are extended longitudinally upon the
nd Inteſtinum Rectum, are at a vaſt Diſtance from the
of the *Vena Portæ*, and that all perpendicular Aſcents,
are called, are performed with Difficulty, we muſt
rceive, that ſince the Blood paſſes with Difficulty thro'
a Portæ, and the Viſcera of the Abdomen, it muſt
tagnate, and, having burſt the Veſſels, eſpecially if the
is ſeiz'd with Spaſms, flow from the Mouths of the
Hence it muſt be proper in Diſorders of this Kind to
ate the ſolid Parts, to reſtore the Motion of the Blood
ents, and to abſtain from ſmart Purges, aloetic Prepa-
s and Aſtringents; for theſe, by irritating the Inteſti-
ctum, render this Diſcharge, which is ſometimes ſalu-
wholſome, hurtful and injurious.

g ſaid enough of the Liver, I now proceed to take a
the Uterus, a perfect Knowledge of which is of vaſt
nce in the Cure of thoſe Diſeaſes which are peculiarly
to the Female Sex. The Uterus, according to the
ries of Anatomy, is likewiſe one of thoſe Viſcera which
Blood, and which, beſides its muſcular and fibrous
e, has a conſiderable Number of winding Veſſels carried
m the Hypogaſtric and Spermatic Veſſels. Now ſince
eſſels are in various Places interwoven with and adhe-
each other, it muſt neceſſarily happen, that the Blood,
y when in too great a Quantity, muſt, by reaſon of
inding Canals, make its way, in a languid manner,
is Part. Hence we may reaſonably conclude, that if
d ſtagnates there, and is not duly return'd thro' the
Windings of the Veins, very terrible Diſorders muſt
for hence, as from a fruitful Source, proceed Effuſions
, viſcid Concretions of Blood, commonly known by
e of Polypuſes, and innumerable other Diſorders.
ikewiſe proceed frequent Miſcarriages; hence Dropſies, Tumours, Cachexies, Obſtructions, and all the Train of Diſorders peculiar to the Female Sex.

As this is the Caſe, we may reaſonably maintain, that in theſe Diſorders all ſuch things as retard the Motion of the Blood are carefully to be avoided, ſuch as Acids, Styptics, and Aſtringents, becauſe theſe Diſorders are exaſperated and increaſed by ſuch Medicines. Thoſe Medicines, on the other hand, are proper, which render the Blood fluid, florid, and ſuſceptible of an eaſy Motion. Such Remedies are likewiſe proper as ſtrengthen the ſolid Parts, that ſo the vital Juices may the more ſpeedily convey their benign and ſalutary Influences thro' the whole Body; to this Claſs belong Baths, volatile oily Salts, and balſamic Bitters; which Medicines, if uſed betimes, and with proper Caution, afford ſingular Relief in the above-mentioned Diſorders. Allow me alſo to recommend Phlebotomy, which is an excellent Preſervative againſt Abortion, and other Diſorders peculiar to that Sex.

I now come to conſider how beneficial a ſtrict and anatomical Knowledge of the Structure of the Spleen is in the Practice of Phyſic. *D. Spigelius* long ago obſerved, and *Ruyſch*, the Glory and Ornament of our own Age, has proved by ſeveral Experiments, that the Spleen is compoſed of a vaſt Number of Veſſels, Veins and Arteries, which has induced ſome of the Moderns to think it almoſt a vaſcular Subſtance, and, as it were, a ſanguineous Gland. Hence we eaſily ſee, that the Spleen was originally deſign'd for attenuating the thick Blood convey'd to it, that ſo it might be tranſmitted in a purer and more florid State to the Liver. Theſe Circumſtances being diſcovered, we cannot fail to perceive what Injuries muſt enſue to Health from its being obſtructed, becoming tumid, or ſtuffed with Blood; becauſe by theſe means a thick and viſcid Blood is from it convey'd to the other Parts, which, whilſt it paſſes with Difficulty through the narrow Parts of the Veſſels, ſettles in them, and becomes the Source of various Diſorders. Hence 'tis to be obſerved in Practice, that in Diſorders of this Kind, no Medicines are either ſo powerful, or ſo ſpeedy in their Effects, as thoſe which attenuate the Blood, open the Veſſels, remove Obſtructions, and ſtrengthen the Tone of the Solids; for by theſe the languid Motion of the Blood is augmented, and its Circulation carried on without Interruption. For attenuating viſcid Blood therefore, the plentiful drinking of wholſome Water is very proper; and the Reaſon is plain, why warm Baths, and Mineral Waters, are not only uſeful, but of all other Remedies the moſt ſovereign in Diſorders of this Kind. Now as the Circulation of the Blood is aſſiſted by the Tone of the ſolid Parts, and as this Tone is proportionably deſtroy'd by the Diſtention of the Veſſels, it plainly follows, that gentle Aſtringents, ſuch as Chalybeats, and what we commonly call Splenetics, are not to be neglected in Diſorders of this Nature.

Among the Number of ſanguineous Viſcera we may juſtly reckon the Kidneys, the Knowledge of whoſe Structure, as 'tis highly uſeful in Practice, deſerves our moſt attentive Conſideration; for the Secretion of the ſaltiſh Serum depends entirely upon the free Circulation of the Blood thro' the Kidneys. Now that this Circulation is naturally very expeditiouſly performed, may be proved by two Arguments: Firſt, the emulgent Arteries are not far diſtant from the Heart, near which the *Syſtole* of the Arteries is very ſtrong. Secondly, the Fluids taken into the Stomach are very quickly diſcharged by the Bladder. This principally happens upon drinking warm Liquors, ſuch as Small-beer, and Infuſions of Tea, and Paul's Betony, after plentiful Draughts of which, the Urine is very ſoon diſcharged in great Plenty. All the Diſorders then incident to the Kidneys, ſuch as Exulcerations, Inflammations, Paroxyſms of the Stone, Suppreſſions, immoderate Fluxes of Urine, proceed from a Stagnation of the Blood. Hence the Phyſician may learn, that too great a Quantity of Blood, or a Plethora, is the Cauſe of theſe Diſorders; and that Phlebotomy muſt of Conſequence be very proper for the Relief of the Patient, and the Removal of the Diſeaſe. Hence we are alſo taught, that warm Baths, Mineral Waters, warm Infuſions of Paul's Betony, and Ground-ivy, and all other Medicines which attenuate coagulated Blood, are beneficial in Diſorders of the Kidneys.

The membranous Parts of the Body likewiſe claim our particular Regard, ſince, being endow'd with a moſt quick and exquiſite Senſe, 'tis of vaſt Importance for the Phyſician to underſtand their Structure. The Viſcera then, which principally conſiſt of Membranes, are the Stomach, the Oeſophagus, the Inteſtines, and the Bladder. Now we learn from Anatomy, that ſuch Parts as conſiſt of Membranes, contain little Blood; but that they are furniſhed with a great many Branches of Nerves, and fleſhy Fibres, that ſo they may both contract and dilate themſelves. For theſe Reaſons they are very ſubject to Spaſms: Hence the Blood, flowing ſlowly thro' the compreſs'd and obſtructed Veins, eaſily ſtagnates, and produces the moſt fatal Diſorders; for from this Cauſe we find the moſt dangerous Inflammations ariſe, becauſe the nervous Parts, on account of their incredible Connection and Communication with one another, at once irritate and affect the whole nervous Syſtem; ſo that a Complication of very terrible Symptoms are generally obſerved to accompany ſuch Diſorders, as acute Fevers, Watchings, Loathing of Food, Heat of the internal, and Coldneſs of the external Parts, Reſtleſsneſs, Convulſions, and in ſome Degree Loſs of Reaſon. Hence it likewiſe follows, that the more noble and valuable the Part affected is, the more terrible and dangerous the Inflammation ought to be judged; and that the Endeavours of the Phyſician to procure a ſpeedy and ſeaſonable Relief, ought to bear a direct Proportion to the Weakneſs and Danger of his Patients. This Theory plainly demonſtrates, that, in order to protect the Body againſt the violent Aſſaults of ſuch a Diſorder, all thoſe Remedies are proper, which preſerve the Tone and Strength of the ſolid Parts, and are neither too aſtringent, nor too relaxing; among which I cannot help recommending nervous Medicines, temperate Balſamics, warm Infuſions of Herbs, volatile oily Salts, alexipharmic Eſſences, &c. In caſe of a Plethora, or too great a Quantity of Blood, Phlebotomy is alſo neceſſary; and all Purgatives, Emetics, Styptics, and Opiates, are to be avoided. Acids in Food, viſcid Subſtances, and ſuch as induce a Coldneſs of the Body, are likewiſe to be ſhunn'd, becauſe, by ſtimulating the Fibres into Spaſms, they augment the Diſorder. But the Importance and Largeneſs of the Stomach calls upon me to ſay ſomething particular upon its Structure; one Peculiarity of which is, that, in the ſuperior Cavity of its Left Part, the Blood-veſſels are defended with a very thin Membrane, whilſt at the ſame time their canous and villous Membranes are extremely ſlender in the ſame Place. Hence a Reaſon may plainly be aſſigned, why, in Hypochondriac Diſorders, and Obſtructions of the Spleen, theſe Veſſels, being diſtended with Blood, ſhould be eaſily burſt, the Conſequence of which is, a plentiful Effuſion of Blood from the Mouth. Theſe Vomitings of Blood are alſo very common to Women, for no other Reaſon than that the Blood, which ſhould have been carried off by the menſtrual Diſcharge, is retained; and being convey'd to the Stomach, firſt diſtends, and then burſts theſe Veſſels. Moreover, the Bottom of the Stomach, and its inferior Orifice, together with the Duodenum, are cover'd with a very thick and villous Coat, which covers the nervous ſenſible Coat; ſo that we have no great Reaſon to wonder why theſe Parts of the Inteſtines are endow'd with a leſs exquiſite Senſe than others, ſince Anatomy demonſtrates, that the latter are entirely deſtitute of the above-mentioned Coat. This plainly appears to be the noble Reſult of exquiſite Contrivance, and unerring Wiſdom; for 'tis without Doubt intended to hinder the Bile and Aliments, which are principally lodged in theſe Parts, from irritating this nervous Coat, and thereby proving prejudicial to Health. Hence we may lay this down as a Rule in Practice, that ſaline Purges, and gentle Openers of the Belly, are of no Uſe in Diſorders where a Load of acid or bilious Matter is lodg'd in the Bottom of the Stomach, in the Duodenum, or the Beginning of the Jejunum; for theſe Parts, being only endowed with a dull and heavy Senſation, reſiſt the faint and languid Stimulus of ſuch weak and ill-choſen Medicines.. But no Medicines are better calculated for diſlodging theſe remote and deep-rooted Sordes, than gentle Emetics; for theſe, by the Sulphur, and ſubtile cauſtic Salt, of which they conſiſt, penetrate the Tunica Villoſa, or villous Coat, and by ſtimulating the nervous Coat, eaſily excite Spaſmodic Contractions of the Parts; whence the Sordes, lodg'd within them, are drawn forth, as it were, by the Energy of the Medicine.

Whilſt I am ſpeaking of the Duodenum, it will not be amiſs briefly to touch upon the more curious Circumſtances of its Structure, which few have as yet ſufficiently adverted to. Heaven then, whoſe Works are always perfect, has bountifully contriv'd, that this Inteſtine ſhould reſemble a little Bag, or Stomach, that ſo the Bile, pour'd from its reſpective Ducts into this Inteſtine, may remain the longer in it, and by that means be the more intimately mixed with our Food; a Circumſtance which is abſolutely neceſſary to Health. As this is the Caſe, it is not to be doubted but a great many Diſorders proceed from this Inteſtine, if too large a Quantity of Bile is lodged in it; and eſpecially if thro' the Languidneſs of its Motion, and the Length of its Stay there, it becomes corrupt, and aſſumes a virulent Quality. Certain it is, and I only affirm what I know from Obſervation, that this Inteſtine, as above circumſtanc'd, contains the latent Cauſes of many terrible Diſorders; for to it we may principally refer Intermitting, Tertian, Burning, and Bilious Fevers, Dyſenteries, Diarrhœas, and Cardialgias. In this Inteſtine alſo lurks that malignant Matter, which, being afterwards tranſlated to the Blood, occaſions Small-Pox, Purple Fevers, and Diſorders of various Kinds. Hence we may rationally conclude, that no Medicines are more efficacious, either for preventing theſe Diſorders when dreaded, or removeing them when preſent, than gentle Emetics, whereby the Seeds of the Diſeaſe may be diſlodg'd, and the Sordes duly evacuated, leſt they ſhould communicate a Taint to the Blood. This Intention is alſo anſwer'd by nitrous abſorbent Abſterſives, which act immediately on the Matter of the Diſeaſe, and break the pungent Spiculæ which prove its Cauſe.

I ſhould be guilty of an unpardonable Neglect, if in
Place I fail'd to take Notice of the Bile, that Humour fo
ceſſary for the Welfare of the Body, and of which the Ab
dance loudly calls for our Admiration and Surprize, ſince
the Liver it is plentifully generated, and convey'd to the
ſtines by two Ducts; for which no other Cauſe can be aſſign
than that this Humour is abſolutely neceſſary for the Bo
ſince it enters the Duodenum and firſt Inteſtines, mixes
the Chyle, and proves a proper Stimulus for diſcharging
Contents of the Inteſtines. Hence we learn, that the Bile
vaſtly conducive to Health, and that its being either corrup
or deficient in Quantity, produces various Diſorders. He
we alſo learn an uſeful Maxim in Practice, which is, That
thoſe Subſtances are excellent Preſervatives of Health,
either recruit the diminiſh'd Bile, or reſtore its Temperame
and balſamic Bitterneſs. This Intention is excellently anſwe
by bitter Extracts of Wormwood, leſſer Centaury, Card
Benedictus, Extract of Aloe, and other Subſtances of a
Nature; for as the Bile, in its natural State, ſtrengthens
Motion of the Inteſtines, proves a proper Stimulus for the
charge of the Excrements, and incides the acid and viſcid H
mours of the Body, and by that means preſerves it from
Diſorders, we have no Reaſon to doubt, but that, in Caſe
this Nature, Bitters, adminiſter'd in Conjunction with B
mics, are highly proper and expedient: For this Reaſon
Medicines are greatly beneficial in Cachexies, Dropſies, Hy
and Hypochondriac Diſorders.

It will not, on this Occaſion, be improper to ſay ſome
of the Circulation of the Lymph, and ſhew what an Ad
tage the Knowledge of it muſt be to the Practitioner.
muſt firſt then conſider, that the Lymph, or moſt thin
refin'd Part of the Serum, is ſecreted from the Arteries,
vey'd by means of the lymphatic Veſſels to the thoracic D
and returned to the Heart, with this View, that the B
may be ſufficiently attenuated by a proper Fluid; for
learn, that our Bodies are ſupported and maintain'd b
due and proper Quantity of Fluids; and 'tis plain from C
mical and Statical Experiments, that our Bodies in the C
plex contain eleven Parts of Fluid to one that is Solid. Hen
Fluid muſt neceſſarily be the principal Element of the Bl
whereby 'tis preſerved, and ſo diluted, as to paſs eaſily thro'
narrow Chanels of the Veſſels. Hence we muſt know,
Fluid, even when taken in the greateſt Quantity, m
conducive to Health, which muſt be that which is lig
thinneſt, and beſt calculated for mixing with the Blood.
this Reaſon a Phyſician ought carefully to inquire into
Qualities of different Waters, that ſo he may know which
beſt calculated for the State of his Patient, and moſt cond
to Health. Hence the Phyſician muſt alſo perceive,
nothing is ſo effectual for attenuating a thick Blood,
Abundance of Fluids; and that in the moſt obſtinate D
ders ariſing from Obſtructions of the Viſcera, and Viſcid
the Blood, hot Baths, and Mineral Waters, afford the m
Relief, provided they are liberally drank.

The Anatomical Contemplation of the Lymph alſo te
us, that its retrograde Courſe is perform'd with a great d
Difficulty; for which Reaſon bountiful Nature has lent
ſkilful Aid, and furniſh'd the lymphatic Veſſels with
bye Paſſages, whilſt ſhe has at the ſame time fortify'd the
globate Glands, thro' which the lymphatic Veſſels paſs,
nervous Fibres, that by their Strength and Impulſe, the C
of the Lymph to the Heart may be the more readily perfo
Hence *Nuck*, that ingenious Inquirer into the Structure o
lymphatic Veſſels, judiciouſly compares them to Siphons
if this Motion ſhould prove languid; if the Lymph ſho
viſcid, or the Strength defective, the Lymph itſelf ſettles
the Glands, and obſtructs them. Now if the Lymph ſh
want a due Degree of Motion, it corrupts, turns vapid,
lays a Foundation for a great many, and thoſe very te
Diſorders; ſuch as thoſe, which, from an Impurity of
Lymph, deform and ſpoil the Skin; among which are Le
ſies, Herpes, Puſtules, Itches, Scurvies, and the Lues
nerea. Having then found out the Cauſe of Diſorders of
Nature, which without Anatomy we cannot poſſibly do,
Phyſician is to endeavour to reſtore the Lymph to its C
lation; or, in other Words, to open the obſtructed Gl
that the Motion of the Lymph may be increaſed. In
therefore of this Nature, Bleedings, Purgatives, Abſorb
or Salts prove ineffectual, and more powerful Medicines
be applied; ſuch as penetrate, whoſe Texture remains
and entire, and which, by ſtimulating the Fibres, ope
Glands and Veſſels. The Mineral Kingdom ſupplies us
Medicines of this Kind, ſuch as Sulphurs of Metals, An
nial and Mercurial Preparations, the wonderful Effica
which upon the Glands, and Motion of the Lymph, can
ſufficiently extoll'd.

If the free Circulation of the Lymph is prevented, eſpe
from Obſtructions of the Liver, the lymphatic Veſſels
ſwell, and then break. Hence the Serum, being extravaſa
Abundance, produces various Species of Dropſies, which

heir different Denominations from the reſpective Parts ffect: Whence it is evident to a Demonſtration, that Diſorders admit of a Cure with Difficulty; for it requires it Labour to ſhew how hard a Taſk it is to ſoften indu- Viſcera, and conſolidate burſt Veſſels.

w come to conſider the Brain and Nervous Syſtem, with to illuſtrate the extenſive Uſe that an accurate Anato- Knowledge of theſe Parts is of in Practice. And, indeed, ntients called theſe Parts cold, not becauſe they wanted roper Degree of Heat, but becauſe, when compar'd with Members, they were furniſh'd with a proportionably Quantity of Blood. Beſides, the Subſtance of the is of itſelf void of all Senſation: hence it plainly appears, *e Deficiency of the Blood has a very conſiderable Influence hoſe Parts*, ſince in Bleeding, or where a large Hæ- ge happens, we obſerve the Patient to faint away, which nvincing Proof, that by that means the Nouriſhment, as be called, is drawn away from this Part. Hence we that warm Medicines are particularly beneficial in Diſ- of the Brain, becauſe, by ſtrengthening its Membranes, ccaſion a quicker and more expeditious Circulation of od thro' it. For this Intention Cephalics, as they are nly called, are deſervedly commended; ſuch as Oils d from aromatic Herbs, apoplectic Balſams, and volatile lts; for if the Membranes of the Brain are not ſuffici- rong, the Blood is eaſily retained in them; and hence rrible Diſorders ariſe, ſuch as Apoplexies, Loſs of Voice, eholy; Difficulty of Sight and Hearing, Gutta Serenas, frightful Watchings, Sleep, Diſorders and Diminu- f the ſeveral Senſes and Motions of the Body. But as oratives are excellently calculated for the Cure of theſe ers, ſo no Medicines are more fatal to the Brain than which induce too great a Relaxation, Coldneſs, or Hea- upon it. Of this Kind are all Subſtances that abound ours; as moiſt Air, too much Sleep, the Affections of nd, and eſpecially Sorrow; together with all ſuch Things e the Nerves of the Head with their ſulphureous Efflu- uch as Opiates, Narcotics, as alſo Acids, refrigerating nes, and autumnal Fruits. In theſe Diſorders, on the and, volatile, oily, and balſamic Salts, are beneficial; the al of which is my liquid Balſam, which ſince 'tis com- of the beſt and moſt genuine Oils, ſcarcely to be found other Compoſition, affords a ſurpriſing Relief in Diſor- the Brain and Nerves. In Diſorders, therefore, which from Obſtructions of the Head and Nerves, ſuch as ; I muſt for the ſame Reaſon recommend balſamic nes apply'd externally, not ſo much to the affected Part, e Origin of the Nerves, and the Nape of the Neck.

uld now handle the Doctrine of the Nerves at large; t think it ſufficient to touch upon it on this Occaſion: thout Doubt, if a Phyſician lies under Obligations per- o know any Part of Anatomy, 'tis certainly that of the ful Structure and Conſent of the Nerves; for unleſs he this, he can never diſcern whence any given Series of ms draw their Origin, nor what Diſorders affect only ſent. Whence the many Errors that might ſlip into e, may be eaſily conceived; for this is to be laid down eral Caution, that the Cauſe of the Diſeaſe is to be d, and that the Phyſician goes prepoſterouſly to work, ng ignorant of Anatomy, and overlooking the Cauſe, his Views only to the Symptoms. Now the Reaſon or of theſe Symptoms is no other than that the nervous e intimately connected with one another, whence their g Conſent ariſes; for 'tis certainly wonderful, that e nervous Part ſhould be diſturbed, the whole Body in Conſequence of it, be affected. Thus from intenſe even of diſtant Parts, from a wounded Nerve or Ten- om the Stone, the Colic, or Iliac Paſſion, proceed Fe- Deliriums, Convulſions, and ſome other moſt terrible rs.

intercoſtal Branch, and the eighth Pair of Nerves, run thro' all the Parts of the Body; whence it generally , that Vomitings, Diarrhœas, Aſthmas, Conſtipations Belly, Suppreſſions of Urine, a Difficulty of Breathing, ain in the Breaſt, ſucceed Diſorders of the Head, Apo- Epilepſies, or Contuſions. The ſame happens in Hy- driac or Hyſteric Diſorders; for if, in this Caſe, the ner- ldings of the Meſentery, and the Nerves of the Stomach gs, ſhould happen to be diſtorted by Flatulencies, or any atter, Suffocation, Palpitation of the Heart, Vertigo, the Head, Fainting, Pain of the Neck, Aſthma, Cata- nd Convulſions, threaten the Patient. Now the Phyſician o nothing, who, only taking the Symptoms into Conſide- hould preſcribe Remedies againſt theſe Diſorders; where- e real Cauſe was once throughly known, ſuch a Com- n of Diſorders might often be removed by a ſingle tive Clyſter, or an antiſpaſmodic Medicine. With a m of the Stone are frequently join'd Vomitings, the Stupor of the Thigh, Retraction of the Teſtes, and ſtill more remarkable, Epilepſy, and an uncommon Pain of the Breaſt; for which Symptoms no other Cauſe can be aſſign'd, than that the intercoſtal Nerves, and thoſe of the eighth Pair, are inſerted into the Bladder and Kidneys. Overlooking Symptoms then, the Phyſician is to make it his chief Buſineſs to remove the Pain of the Stone; which being once done, the other Diſorders will diſappear with it; for which Intention Baths, oily Ointments, and gentle Anodynes, are to be preſcribed, that by relaxing the Paſſages the Pain may be mitigated or removed. Equally neceſſary is that Obſervation concerning Worms, which, if lodg'd in the Inteſtinum Ileum of Children, corrode its Membrane, and produce Spaſms and Convulſions: Which Symptoms will nevertheleſs eaſily ceaſe, if the Phyſician makes a right Judgment of the Cauſe, and endeavours to kill the Worms by proper Anthelminthics. Intenſe Pain, Teneſmus, Loathing of Food, Watchings, and cold Sweats, often ſucceed an Eroſion of the Bladder from the Stone. If by the Aſſiſtance of Anatomy we are directed to the Cauſe of this Diſtemper, it will eaſily appear, that in order to remove its concomitant Symptoms, the Phyſician's firſt and principal Care ought to be placed in removing the Stone, which is beſt and moſt effectually done by oily and balſamic Medicines; or, if the Caſe is very urgent, by extracting the Stone by a ſkilful Hand.

It would be tedious to mention the other Parts which are ſubjected to the moſt violent Torments, in Conſequence of the incredible Connection and Communication of the Nerves: It will not, however, be improper to ſay ſomething upon this Head. The moſt violent Diſorders then, ſuch as Diarrhœas, Coughs, Fevers, Conſtipations of the Belly, Heavineſs about the Breaſt, Convulſions, and other Diſorders, accompany the Tooth-ach, and difficult Breeding of Teeth in Children; but theſe Symptoms, when they are not very violent, immediately remit, upon the Pain being allay'd, or the faulty Tooth pull'd out, which was the Cauſe of the Diſorder: But 'tis ſurpriſing, what racking Pains accompany an Inflammation of the Stomach; becauſe this Part, having very conſiderable Nerves, affects at once the whole Body. Hence by taking Poiſon, or by ſome acrid Matter lodging in the Stomach, intolerable Heart-burnings, Deliriums, and Uneaſineſſes, which in the Iſſue prove fatal, are produced; the internal Parts, but eſpecially the Region of the Breaſt, are burn'd as it were in a Flame; the external Parts are cold, and the Pulſe unequal; which Symptoms, as they are very terrible and dangerous, may juſtly alarm the Phyſician; yet they diſappear, if the State of the Stomach is duly adverted to, and the Poiſon thrown out by means of Oil or Milk, or the Acrimony of the Matter deſtroy'd by proper Remedies. Nor is this leſs ſubject to happen in Wounds of the Tendons; for ſometimes a Train of Diſorders are the Conſequences of a wounded Finger or Toe, or a Corn unſkilfully cut; for then Cynic Spaſms, Convulſions, Pains, and other Symptoms, afflict the Patient, and put him in the higheſt Danger; but the Fury and Violence of the Symptoms remit, if, by a ſeaſonable Remedy, the Pain of the Nerves is mitigated.

In the Hyſteric Paſſion, that Diſeaſe peculiar to the Female Sex, the Patients fall down as if they were Thunder-ſtruck, or in an Apoplexy, ſince on account of the Nerves of the eighth Pair, and the Par Vagum, which are inſerted in the Uterus, the Membranes of the Brain are at the ſame time ſeiz'd with Spaſms. But, not to mention other Diſorders, which in this Diſeaſe afflict the tender Sex, they all proceed from no other Cauſe than this, that the Nerves are carry'd in one uninterrupted Courſe thro' the Whole of the Body.

From this ſurpriſing Conſent of Nerves, we are often to account for the Diſeaſes, in which the Bile is juſtly accuſed as faulty; for as the hepatic Congeries of Nerves, which goes to the Gall-bladder, paſſes alſo thro' the Pylorus, the Pancreas, and the Duodenum; the Reaſon is plain, why, the Stomach being irritated, the Bile ſhould be diſcharged both from its Ducts and Cyſtis; and why the Jaundice ſtimulates and provokes the Stomach itſelf to Nauſea and Vomiting.

There is alſo a great Conſent between the Bladder and Ureters, becauſe the ſame Nerves paſs thro' theſe Parts in one uninterrupted Courſe. Hence if the Beginning of the Ureters is afflicted with a Stone or Spaſms, there very often happens at the ſame time a Suppreſſion of Urine, a Strangury, and a fruitleſs and ineffectual Endeavour to make Water.

But enough on the Conſent of the Nerves, which, if every thing was to be ſuggeſted, would detain us too long: The Phyſician in the mean while may profit ſo far from this, as to be able to diſtinguiſh the Cauſe from the Symptoms of a Diſeaſe. If any one deſires to read more upon this Subject, he may conſult that excellent Writer, *Vieuſſeus*, who has laid down the Doctrine of the Nerves at greater Length. Tho' all I have advanced has a moſt direct Tendency to ſhew the Uſe of Anatomy in Practice, yet if I was to launch out into Surgery, Anatomical Knowledge would ſtill be found more beneficial to it: For the Effects of Surgery are the moſt evident of any in Medicine; whereas in the Cure of internal Diſorders there is at leaſt a Poſſibility of doubting whether the Cure be performed by the Benefit of Nature, or the Virtues of the Medicine. But in that Branch of the Art, by which Cures are performed by the Surgeon's, it is evidently and immediately perceptible to the Eye, that the Patient receives Aſſiſtance from his Hand. Hence it eaſily appears how great Praiſe a practical Phyſician may reap from the joint Knowledge of Anatomy and Surgery. I ſhall at preſent add no more concerning the Uſe of Anatomy in Surgery, ſince the Subject is of ſuch Importance and Extent as to deſerve a more particular Diſcuſſion. *Hoffman Medicina Rationalis Syſtematica, Vol.* 6.

Hoffman, tho' no inconſiderable Writer, has, however, in the preceding Diſſertation, given a very confus'd Account of the Practice of the Antients. If amongſt theſe he includes *Hippocrates*, he has done him great Injuſtice, by charging him with uſing too copious a *Materia Medica*, with a Neglect of gentle Laxatives, and with all the Errors and Dreams of later Phyſicians, who built their Theories upon the Peripatetic and Chymical Philoſophy.

The HISTORY *of* ANATOMY.

With reſpect to the Antiquity of Anatomy, it ſeems ſcarcely poſſible, but that the Slaughter of Beaſts for the Uſe of Man, Caſualties, Murders, and the Accidents of War, muſt have furniſhed Mankind with a general Knowledge of the Structure of the Parts, in very early Ages of the World. But it is not very certain at what Period it began to be cultivated as a Science. This, however, muſt have been very early, eſpecially if we pay any Regard to *Manetho*, the famous *Egyptian* Writer, who, according to the Report of *Euſebius*, relates, that *Athotis* an *Egyptian* King wrote ſome Treatiſes of Anatomy. This King, if the *Egyptian* Chronology was to be depended on, liv'd many Ages before *Adam*. This, however falſe with reſpect to Time, amounts to a ſort of Proof of the Antiquity of the Science I am ſpeaking of.

It is inferred, that *Solomon* was no Stranger to the Structure of the human Body, from a Paſſage in the twelfth Chapter of *Eccleſiaſtes*, which is thus:

Remember now thy Creator in the Days of thy Youth, while the evil Days come not, nor the Years draw nigh, when thou ſhalt ſay, I have no Pleaſure in them;

While the Sun, or the Light, or the Moon, or the Stars, be not darkened, nor the Clouds return after the Rain:

In the Day when the Keepers of the Houſe ſhall tremble, and the ſtrong Men ſhall bow themſelves, and the Grinders ceaſe, becauſe they are few, and thoſe that look out of the Windows be darkened:

And the Doors ſhall be ſhut in the Streets, when the Sound of the Grinding is low, and he ſhall riſe up at the Voice of the Bird, and all the Daughters of Muſic ſhall be brought low;

Alſo when they ſhall be afraid of that which is high, and Fears ſhall be in the Way, and the Almond-tree ſhall flouriſh, and the Graſhopper ſhall be a Burden, and Deſire ſhall fail: Becauſe Man goeth to his long Home, and the Mourners go about the Streets:

Or ever the Silver Cord be looſed, or the Golden Bowl be broken, or the Pitcher be broken at the Fountain, or the Wheel broken at the Ciſtern:

Then ſhall the Duſt return to the Earth as it was; and the Spirit ſhall return unto God, who gave it.

It is evident, that *Solomon* is deſcribing figuratively the Decays of the ſeveral Parts, which happen in old Age. But the whole Paſſage is too enigmatical to determine how far the Author was acquainted with the Structure of the Body.

It is very certain, that before, or, at leaſt, in the Days of *Homer*, Anatomy was much cultivated, ſince this Author appears to have had a competent Knowledge of the Parts, and to have been very well vers'd in the *Renunciation* of Wounds, as the Moderns call it, ſo as to give an accurate Account of their Effects in almoſt all Parts of the Body.

But *Hippocrates* is the firſt Author at leaſt extant, who treated of Anatomy ſcientifically. This divine Writer, conſcious of his noble and exalted Genius, publiſhed many Anatomical Obſervations, which, tho' disjoin'd and ſcatter'd here and there in his Works, yet make up an entire Body of Anatomy, when taken together: But that he made it his principal Buſineſs to underſtand and explain the Bones of the human Body, is plain from thoſe valuable and well-wrote Books upon Fractures, and the Joints, which evidently diſcover his perfect Knowledge of, and intimate Acquaintance with, the Bones; and that his Diligence, his Induſtry, and Skill in this Way, might the more effectually be tranſmitted to future Ages, he conſecrated, if we may believe *Pauſanias*, a brazen Skeleton to the *Delphian Apollo*.

The Writings of this great Man are interſperſed with many Things relating to the Blood, which as they ſeem to ſhew his Knowledge of its Circulation, and alſo of the Secretions of the Humours, Dr. *Douglas* has pointed out ſuch of them as ſeem to be the moſt glaring and unexceptionable Proofs of this Point.

The firſt of theſe Paſſages runs thus: *The Veins diffuſed thro' the Body ſupply it with Spirit, Fluidity* ῥεῦμα, *and Motion, whilſt many of them branch out from one.* But 'ti be obſerved, that by Veins *Hippocrates* in this Paſſage m Arteries.

The ſecond is in his Book *de Alimento*: *The Liver,* ſays *is the Root of the Veins, and the Heart that of the Arter from theſe the Blood and Spirits flow, and thro' theſe the is diffuſed.*

The third is in his ſecond Book *de Morbis*: *And if he re ver, or get the better of his Diſeaſe, ſo that the Blood be warm, whether of itſelf, or by means of ſuch Things as are miniſtred; it ferments, is attenuated, and put into Mo carries Spirits along with it, deſpumates itſelf, and is ſepar from the Bile, and ſo the Patient becomes ſound.*

And again, *But*, ſays he, *whilſt the Blood does not mov cannot be but the Body muſt remain in a State of Reſt and S giſhneſs*; and a little after, *If the Coldneſs and Coagulati the Blood are perfect, the Patient dies.*

The fourth Paſſage is in his ſecond Book *de Diæta*: *the Blood beiug warm'd and attracted, thoſe Things which the Body perform a quick Circulation,* [περίοδον] *and th reſt of the Body is purg'd by means of the Spirits; th which is compact, becoming warm, is attenuated and e from the Body thro' the Skin, and this is called a warm S And after this Excretion, the Blood is reſtored to its State, and the Fever remits.*

The fifth Paſſage is in his Book *de Inſomniis*: *All theſe ptoms, appearing, are the Signs of Health, and that the together with all its Ingeſtions and Secretions,* [ἀποκρίσι *ſound.* And again, *But Rivers, not flowing in their uſual ner, may be compared to the Circulation of the Blood,* [α περίοδον] *when they overflow their Banks, they reſemble th ceſs; and when they ceaſe to fill their Chanels, they reſem Deficiency of the Blood.*

The ſixth Paſſage is in his firſt Book *de Diæta*: *F the Circulation is ſlow, the Senſes are loſt by little and little thoſe who are moſt acute are a little put out of Order, b of the Slowneſs of the Circulation.*

The ſeventh is in his Book *de Flatibus*: *For the itſelf, being naturally warm, and propell'd by a certain cannot ſoon make its Way thro' a narrow Paſſage, ſince meet with many Letts and Hindrances, whence Fevers, Pai other Diſorders, ariſe.*

Theſe Sentiments ſavour very much of the modern T of Fevers, ariſing from Obſtructions of the Capillary Ve

The eight Paſſage is in his Book *de Morbo Sacro*: *Th reſts, the Brain is compreſs'd, and the Blood* (ἔσω) *ſtands*

Many Paſſages, enumerated at large by *Joh. Ant. Linden*, in a Treatiſe intituled, *Hippocrates de Circuitu S nis*, might be ſubjoined to theſe; from which we may that he had ſome Notion of the Circulation of the Blood

Thus far Dr. *Douglas*. It cannot be doubted but *crates*, and all the Antients, knew that the Blood circ but it is certain, that they did not know how, or i manner, the Circulation was performed; this Diſcove reſerved for the great *Hervey*.

It would be ſuperfluous to give a particular Deta Anatomy of *Hippocrates* in this Place; becauſe wh remarkable, is taken Notice of under the reſpective A which they belong. I muſt, however, obſerve that L far from thinking, with Dr. *Douglas*, that all the A Obſervations diſperſed in the Works of *Hippocrates*, an entire Syſtem. He ſays, that it is no eaſy Taſk juſt Extract of the *Anatomy* of *Hippocrates*. Three th cur to deprive us of the Light that were to be deſired Point. In the firſt Place, there are ſeveral Contra what *Hippocrates* has wrote upon this Subject, or rathe Books aſcribed to him as their Author. Secondly, th ſhould collect all that he has ſaid concerning each Part, it would amount to nothing complete or coherent. In ſo many Faults had not crept into the Text, or tho' th leſs Variety in the original Manuſcripts, yet his Style i ciſe, and ſome Paſſages in him are ſo obſcure, and con Terms ſo peculiar to himſelf, that 'tis not always e for the greateſt Maſters of the *Greek* Language, to co his Meaning.

For theſe Reaſons, one might juſtly lament the L Book wrote by *Galen* on the *Anatomy of Hippocrates*, this Author to be ſuſpected, on account of his Parti regard to that antient Phyſician: Inſtances of which point of Anatomy, are to be met with.

The Aſſiſtance which, upon this Occaſion, one mi from Tranſlators, and modern Commentators, is alſo conſiderable: If any Light is to be got from them, to depend leſs upon theſe of the preſent, than thoſe of ing Ages; ſince 'tis to be dreaded, that the former, new Diſcoveries, imagine they ſee them every-where into the like ridiculous Error with thoſe who find the moſt exquiſite Delicacies, and refin'd Improveme the Arts and Sciences; or into the ſtill more un Enthuſiaſm of others, who find the *Philoſopher's S* ks of the Antients, whatever the Subject handled ſhould to be.

remarkable, that *Hippocrates*, in his Treatiſe *de Locis in* , ſays, *That the Nature of the Body is the Principle, or tion, on which all medicinal Reaſoning ought to be ſupported.* his Book *de Priſca Medicina*, there is a Paſſage which to be contradictory to the preceding: *Some Phyſicians, and ſome Philoſophers, affirm, that one cannot be Maſter medicinal Art, without knowing what Man is, what his rmation, and the Manner in which his Body is compoſed, ll that theſe Men have ſaid, or wrote, concerning the ſeems to me rather to belong to the Art of Painting than of Medicine; and I am perſuaded, that one cannot have a ſtinct Knowledge of the Nature of the Body, than by Medi- those who are Maſters of that Art muſt eaſily perceive.*

e Paſſages, tho' ſeemingly inconſiſtent with each other, my Apprehenſion, however, to be reconciled. It ap- many Paſſages in *Hippocrates*, that ſome Philoſophers, ays, ſet up for a Knowledge in Medicine, merely upon ngth of Hypotheſis, and the Dreams of Theory, ſup- in their Opinion, by the Structure of the Parts, with- ſulting Nature, and her Method of operating. Inſtead, e, of obſerving diligently how Nature really acts in pro- and curing Diſeaſes, they determined, *a priori*, how ſhe ily muſt act, according to their Principles, which they have taken for granted. In this laſt Quotation, then, thor has theſe Philoſophers in view, and their Abuſe of y; and, indeed, there ſeems a great deal of good Senſe he inſinuates, which is, that Anatomy, ſupported by tion, lays a noble Foundation for rational Medicine; all raſh Concluſions, drawn from the Structure of the efore Experience has confirmed them, are at beſt preca- nd generally pernicious to the Practice of Phyſic.

critus was cotemporary with *Hippocrates*: With re- his Knowledge of Anatomy, we learn no more, than en the People of *Abdera* called *Hippocrates* to cure him poſed Madneſs, this Phyſician found him diſſecting Ani- order to diſcover the Cauſe of Madneſs, which he ap- ed had its Reſidence in the Bile; upon which *Hippo-* eported to thoſe who employ'd him, that *Democritus* only in his Senſes, but was the wiſeſt of Men.

nes Laertius gives the Title of a Book wrote by *Demo-* which ſhould ſeem to be Anatomical, as it is *Of the of Man, or of the Fleſh.*

goras, according to the Report of the ſame *Diogenes* , had ſome crude Notions of Anatomy, which are not rtance enough to relate, ſince they are drawn from ion more than Reality.

docles, a Scholar of *Pythagoras*, as we learn from *Galen*, very ſingular Notions of the Structure and Uſes of the Animals; for he imagined, that certain particular their Bodies were contained in the Seed of the Male, rs in that of the Female; and that, from this Circum- the Venereal Deſires of both Sexes were to be accounted liſhly imagining, that the Parts, thus ſeparated, had Tendency to join, and be again united with, each

regard to Reſpiration, he thought it was performed in ner: *As ſoon*, ſaid he, *as that Humidity, of which there Store on the firſt Formation of the Fœtus, begins to be d, the Air, inſinuating itſelf thro' the Pores of the Body, it: After that the natural Heat, by its Tendency to make e, drives the Air out; and when this natural Heat en- Body again, the Air follows it afreſh. The former of theſe is called Inſpiration, and the latter Exſpiration.* The according to this Philoſopher, reſpired in the Belly of her.

Senſe of Hearing was, according to him, excited by ſtriking on the Inner-ſide of the Ear, which is wreath'd of a Shell, and fixed to the moſt elevated Part of the it were like a ſmall Bell, which was ſenſible of all ulations and Impulſes of the Air which ſhould enter it.

Fleſh was, according to him, compoſed of an equal of the four Elements. The *Nerves* conſiſted of Fire, nd two Parts of Water. The Nails were formed by emities of the Nerves, cool'd and harden'd by their with the ambient Air. The Bones appeared to him to oſed of equal Parts of Water and Earth; or, at leaſt, ht, that theſe two Elements predominated over the o in their Compoſition. Sweat and Tears he took to attenuated, and rendered thin.

eeds of Plants he eſteemed analogous to the Eggs of which drop at the Time of their Maturity.

on of Crotona, who was alſo a Diſciple of *Pythagoras*, to have his Name handed down to future Ages, if, as in his Commentaries upon the *Timæus* of *Plato*, he was the firſt who diſſected Animals, in order to Parts of which their Bodies conſiſt: But Time having of his Writings, we know no more of his Anatomy than what we find in ſome antient Authors; and even what we meet with in them, ſeems rather to relate to Phyſiology than Anatomy. He imagined, that the Senſe of Hearing was occaſioned by the Ears being hollow within; and that all hollow Places reſounded when any Sound enter'd them; and that Goats breath'd partly by their Ears.

With regard to the Senſe of Smelling, he maintained, that the Soul, of which the principal Part is, according to him, lodged in the Brain, received the Smells drawn in, in Reſpiration. He imagined, that the Tongue diſtinguiſhed Taſtes by its Humidity, its moderate Heat, and its Softneſs. He thought the Seed was a Part of the Brain; and that the Fœtus was nouriſhed in the Womb, by drawing a Supply at all the Parts of the Body, which is externally porous like a Sponge. Health, in his Opinion, depends on the Equality of Heat and Dryneſs, of Coldneſs and Humidity, and even of Sweetneſs and Bitterneſs, and other ſenſible Qualities. Maladies, on the other hand, he thought aroſe, when one of theſe Qualities predominated, and by that means broke the Union and Connection.

That *Ariſtotle* applied himſelf diligently to Anatomical Studies, is ſufficiently plain from his Writings; for they abundantly convince us, that he does not relate every thing on the Authority of others, but that he was an immediate Spectator of them; tho', in his Days, Diſſections of the human Body were very rare and uncommon. It muſt, however, be owned, that he borrowed many things from *Hippocrates*, which will not fail to appear, upon comparing the two Authors together: But *Hieron. Mercurialis* affirms, without Reaſon, that he borrowed all his Sentiments on Anatomy from others.

Alexander the Great, whoſe Preceptor *Ariſtotle* was, being deſirous to know the Nature, and different Properties, of Animals, ordered him to bend his Thoughts that way; and for that Purpoſe furniſhed him with eight hundred Talents, which amount to about a hundred and fifty-five thouſand Pounds ſterling. That Prince ſupplied him alſo with ſeveral Thouſands of Men from the different Quarters of *Greece* and *Aſia*, who had Orders to obey him, to communicate to him all they had learn'd from Hunting and Fiſhing, and even to nouriſh and bring up all ſorts of Animals, with no other View but to diſcover the Peculiarities of each Species, and communicate them to him.

One might juſtly think, that, with ſo conſiderable Aſſiſtances, *Ariſtotle* ſhould not have failed to produce ſomething very exact and accurate upon this Subject; and yet even the Antients obſerved, that he had advanced ſeveral things contrary to Truth. He may be excuſed, in this Point, by ſaying, that, in this Caſe, he was obliged to rely on the Authority of others, ſince he could not poſſibly ſee and do every thing himſelf. But ſuppoſe he had been obliged, on ſome Occaſions, to rely on the Relations and Accounts of theſe Men; for Inſtance, in what relates to certain Properties of Animals, diſcovered by chance; yet there are other Occaſions, on which he muſt have been an Operator himſelf, or, at leaſt, muſt have been preſent, and given Directions to another. Of this Kind are the things relating to Anatomy. What Opinion, then, muſt we have of the Accuracy of this Philoſopher, when we find him maintaining, that all Animals have their Necks flexible, and conſiſting of Vertebræ, except Wolves and Lions, whoſe Necks, he ſays, conſiſt of one Bone? What Notion ſhall we alſo entertain of him, when he aſſures us, that the Bones of Lions contain no Marrow? a thing contrary to all the Experiments that have hitherto been made. The Curious may conſult the learned *Borrichius*, with regard to the other Errors into which *Ariſtotle* has fallen, in reſpect of the Anatomy of the Lion, the Eagle, and the Crocodile. *Ariſtotle*, however, has had Errors laid to his Charge, of which he never was guilty. Thoſe, for Inſtance, who publiſh'd the Account of a Diſſection of a Lion at *Paris*, in the Academy of Sciences, have alſo been at ſome Pains to point out the Blunders of this Philoſopher, with regard to the Anatomy of that Animal; and all they advance, on that head, may poſſibly be true; but, in one Paſſage, they ſeem to make *Ariſtotle* ſay what he never ſo much as dream'd of. We find theſe Words in his Book *de Phyſiognomia*: Φαίνεται λέων τῶν ζώων ἁπάντων τελειώτατα μετειληφέναι τῆς τοῦ ἄῤῥενος ἰδέας· Which the *Latin* Interpreter tranſlates thus: *Videtur Leo omnium animalium perfectiſſimum animal in aſſumendo maris formam.* Here *Ariſtotle's* Words are explained as if he meant, that the *He-Lion has, by way of Eminence, and beyond all other Animals, the viſible and apparent Marks of his Sex.* This is the Interpretation of theſe Gentlemen, and, in order to prove that *Ariſtotle* was miſtaken, they add, that the Urethra of the Lion, that is to ſay, the Canal of his Penis, together with its Ligaments, appears externally to be only three Inches and an half in Length: Their Concluſion had been juſt, if *Ariſtotle*, as they and *Borrichius* imagined, had meant, that the Lion, of all other Animals, has that Part which diſtinguiſhes the Sex the largeſt, and moſt apparent: But, in my Opinion, this was not ſo much as in his Mind; and, I believe, he meant no more, than that the Lion does, of all other Male Animals, diſtinguiſh himſelf the moſt eaſily from the Female, by a grand and maſculine Air peculiar to himſelf.

I tranſlate the *Greek* Word ἰδέα by the *Engliſh* Word *Air*, or the *Latin* Word *Species*, which preciſely correſponds to the *Greek* Word.

The ſeveral Diſſections which *Ariſtotle* made of the different Species of Quadrupeds, Birds, Fiſhes, and Inſects, taught him many things concerning the Uſes of the ſeveral Parts of each Species. I ſhall not, here, examine every Particular he advances upon this Head, or upon the Differences that are found among theſe Parts, and their reſpective Uſes; but I ſhall give his Sentiments, with reſpect to the Conſtruction and Uſes of the Parts, which are common to the Animals commonly called perfect, ſuch as Man and Quadrupeds.

Ariſtotle looked upon the Heart as the Source and Principle of the Veins and Blood. The Blood, ſays he, paſſes from the Heart into the Veins; but he ſays, that it comes from no Part to the Heart. He moreover maintained, that two Veins proceeded from the Heart, the one from the Right Side, which is the larger, the other from the Left, which is leſſer, and which he called the Aorta. Here 'tis proper to obſerve, that this Philoſopher, according to *Galen*, *(de Venar. & Arteriar. Diſſect.)* was the firſt who gave this Name to the great Artery; which proves, that *Hippocrates*'s fourth Book *de Corde*, where this Word is found, was not wrote by him. *Ariſtotle* thought that theſe two Veins convey'd the Blood to all the Parts of the Body. He alſo imagined, that there were three Cavities in the Heart, which he calls Ventricles. Of theſe three Ventricles, that in the Middle, the preciſe Situation of which he does not determine, is, according to him, the common Principle of all the reſt, tho' it be the ſmalleſt; the Blood which it contains is alſo the moſt temperate, and moſt pure. The Blood of the Right Ventricle is warmeſt, that of the Left coldeſt; and this laſt Ventricle is the largeſt of the three. All theſe Ventricles have a Communication with the Lungs by Veſſels, which are quite different from the two great Veins already mentioned, which Veſſels diſtribute themſelves thro' all the Subſtance of the Lungs.

Ariſtotle not only made the Veins, or Blood-veſſels, but alſo the Nerves, to derive their Origin from the Heart; and he founded his Opinion upon this, that the largeſt of the Ventricles of the Heart, according to him, contains ſmall Nerves: The Vein which he calls the Aorta is nervous, and is itſelf like a true Nerve towards its Extremities, ſince it has no Cavity, and is ſtretch'd out in the ſame manner with Nerves, where it terminates near the Articulations of the Bones. He alſo maintains, that there are a Number of Nerves in the Heart, and that they are of ſingular Uſe there, ſince its Contraction and Dilatation depend upon them. He ſeems, in this laſt Paſſage, to mean the Tendons or Fibres which contract and dilate the Heart; and if *Hippocrates* confounded the Nerves with the Tendons and Ligaments, it does not appear, that *Ariſtotle* better diſtinguiſhed theſe Parts, nor that he knew the Uſe of the real Nerves. He maintains, that the Nerves are not continued like the Veins, but that they are ſcattered here-and-there, and diſtributed to the Parts where the Articulations are; by which 'tis plain, that he ſtill means the Tendons. If he had underſtood the Uſe of the Nerves, he had never aſſerted, in another Paſſage, that no Parts, but ſuch as contain Blood, were capable of Senſation; and he would never have maintained, as he does, that the Fleſh is the proper Organ of Senſation. As for Motion, if he aſcribes it to the Nerves, it is evident, that the Nerves he means are alſo Tendons or Ligaments.

The common Principle of Motion and Senſation is, according to *Ariſtotle*, lodged in the Heart; which he makes to be the Principle of Nouriſhment to the whole Body, by the Blood which it ſends to all its Parts. It contains the natural Fire, is the Seat of the Paſſions, the Point, as it were, in which all the Senſations terminate as in a common Centre, and the true Seat of the Soul; and all this, not becauſe the Nerves draw their Origin from it, as one might be induced to think by what has been ſaid, but becauſe the Heart is the Reſervoir, or Store-houſe, of the Blood and Spirits. *Ariſtotle* even maintains, in plain Terms, that the Spirits cannot be contained in the Nerves.

But if he aſcribed ſo noble Uſes to the Heart, he imagined, that the Brain was only a Maſs of Earth and Water, void of Blood, and deſtitute of Senſation. The Office of this cold Maſs was, ſays he, to balance and correct the Heat of the Heart: But, beſides his aſcribing this Office elſewhere to the Lungs, he does not ſpecify the Manner in which he imagined the Brain could anſwer this End. Tho' the Brain be placed immediately above the *Medulla Spinalis*, and is joined with it, yet *Ariſtotle* imagined, that this Marrow was quite a different Subſtance from that of the Brain, being only a Species of Blood prepared for the Nouriſhment of the Bones, and conſequently hot; whereas the Brain was, in his Opinion, very cold. Beſides, he thought the Brain of ſo little Importance, as to place it only next in Rank to the Excrements; and imagined, that it ought not to be rank'd among the Parts of the Body, which are united and connected with one another; but that it ought to be look'd upon
as a Subſtance of a particular Nature, quite different fro
the reſt of the Parts.

With regard to the other Viſcera, ſuch as the Liver,
Spleen, and the Kidneys, he imagined, their chief and pri
pal Uſe was to ſupport the Veins, which, without them,
be looſe and pendent, and to fix them in their proper P
Beſides this general Uſe, he aſſigned ſome particular one to
of them. The Liver, for Inſtance, aſſiſts the Concoction
the Aliment in the Stomach and Inteſtines, by the Heat
it communicates to theſe Parts. The Spleen is not of ſo g
Uſe; it is only, in our Philoſopher's Opinion, accidentally ne
ſary to collect, prepare, and give a different Direction to
moiſt Vapours which riſe from the Belly; and hence thoſe A
imals, in which theſe Vapours take a different Courſe,
only very ſmall Spleens. Of this Claſs are Fowls and F
whoſe Feathers and Scales are nouriſhed by this Humidity;
for this very Reaſon, ſays he, theſe Animals have neither
neys nor Bladder. The Kidneys alſo are, according to
only deſigned for a Piece of Convenience; ſince their Of
to imbibe a Part of the Excrement, which is carried to
Bladders of theſe Animals, in which it abounds too much,
the Bladder may be eaſed of a Part of its Burden. He a
little after, that the Humours filtrate themſelves, or flow
the Subſtance of the Kidneys; in which, indeed, he has
ſomewhat nearer to the Uſe generally aſcribed to theſe P
but he talks at the ſame time very obſcurely on the Point.

The Teſticles are alſo, according to him, Parts form
Nature for Convenience; but are not abſolutely neceſſary.
alſo affirmed, that two Veins came from the Aorta, and
inſerted into the Teſticles; and that two other Veins
to them from the Kidneys; and that theſe latter Veins
tained Blood, but the former none. That there came
the Head of each Teſticle, or, at leaſt, from ſome one
Extremities, another larger and more nervous Canal,
bending itſelf, and leſſening by degrees, aſcends to the
others; and, being wrapt up in a Membrane, termin
the Root of the Penis. He adds, that this laſt
contains no Blood, but a white Liquor; and that
nating at the Penis, or towards the Neck of the B
it there finds an Opening, which leads to the Penis;
which Opening there is a kind of Huſk οἷον κέλυφ
Bark.

Taking this for granted, he maintained, that wh
Teſticles were cut from any Animal, all the above-me
Canals ſhrivel'd up; and that it was for this Reaſo
caſtrated Animals could not, for the future, propaga
Species. For a Proof of this, he adduces an Inſtance
Cow, which conceived after Copulation with a Bull
diately after his Caſtration, and before the Seminal Veſ
ſhrivel'd up. In another Paſſage he explains himſelf fu
particularly, with regard to the Uſe of the Teſticles,
he maintains, that they are no Part of the Canals or
voirs of the Seed, and that they have nothing in c
with them; but that they only ſerve as a Counter-poiſe
them downwards, and to retard the Motion of the
almoſt in the ſame manner with thoſe Stones which W
tie to their Webs. He advanced farther, as a Proof of th
leſſneſs of the Teſticles, with regard to Generation
Inſtances of Fiſhes, and Serpents, which being, to all A
ance, deprived of theſe Parts, did nevertheleſs propaga
Species.

He alſo thought, that Conception was occaſioned
Mixture of the Male Seed with the Menſtrual Blood,
Matrix; and aſcribed no other Part in Generation
Female Seed, which, according to him, was only th
crement of the Matrix, which ſome Females di
and ſome not; and that theſe laſt were not, on th
count, leſs fit for Generation, or more deprived of th
tion of venereal Enjoyments, ſince it proceeded from th
of Spirits to the Parts of Generation.

As to the Place where the Concoction of the Alim
perform'd, and the Manner in which it was brought a
imagined, that the Aliments were firſt prepared in the
of ſuch Animals as uſed any kind of Food, which ſtood
of Maſtication. But we muſt not imagine, that, in th
any ſort of Concoction is made; the Food is only red
ſmall Parts, that it may the more eaſily be prepared a
trated, after it has deſcended into the Stomach, and I
ly, which are both deſigned for the Preparation of the
and as the Mouth is the Opening at which the unpre
ments enter, and the Œſophagus the Duct by which
vey'd to the Stomach, there muſt, in like manner,
Openings, by means of which, all the Parts of the
ceive the Degrees of Nouriſhment of which they ſtand
Theſe laſt Openings are the Meſenteric Veins, which
is neceſſary for them from the Stomach and Inteſtines
ſame manner as Horſes draw Hay from a Rack.

Ariſtotle imagined alſo, that as Plants received their
ment from their Roots, which were ſpread in the E

s received theirs by the Meſenteric Veins, which may pared to ſo many Roots, deſigned for drawing the Juice e Stomach and Inteſtines; theſe laſt Parts being, with o Animals, what the Earth is in reſpect of Plants. I lſo obſerve, with regard to the Anatomy of *Ariſtotle*, himſelf never diſſected any thing but Beaſts, and that Days they had not ventured on the Diſſection of human . This he himſelf ſeems to inſinuate, when he ſays, *internal Parts of Man's Body are unknown, or that we hing certain relating to them; but that we muſt judge of the Reſemblance they bear to thoſe of other Animals which nd to them.*

heſe Sketches of the Anatomy of *Ariſtotle*, we may form ment of his Knowledge in this Science, and conclude, knew very little, or nothing, of the true Uſes of the It muſt, however, be remarked, that he mentions the *Jejunum*; and diſtinguiſhes the *Colon*, *Cæcum*, and ; whereas *Hippocrates* only takes Notice of the *Colon ctum.*

lerc gives ſome more Particulars relating to the Anato- *riſtotle*, which may be conſulted by the Curious; but ive no great Information to Anatomiſts.

es Caryſtius is ſaid to have lived ſome little Time after , that is, under the Reign of *Antigonus*. *Galen* informs he was the firſt who wrote upon the Method of diſ- Bodies; this Art, before his Days, being confin'd to pri- milies, and only taught to the Children and Pupils of ho poſſeſs'd the Secret: But the ſame Author tells us, *cles* made no great Advances in Anatomy.

much greater Progreſſes were made in this Science by *lus* and *Eraſiſtratus*. *Herophilus* is ſaid to have lived he Reign of *Ptolemy Soter*, and to have been born at *e.*

hilus and *Eraſiſtratus* are reported to have had this in , that both of them diſſected living Subjects. Of the *Tertullian* talks in this manner: Herophilus, *that Phy- r rather Butcher, who diſſected ſix hundred Men, in or- d out Nature; who hated Man, in order to know the tion of his Body, could not, by that means, come to a fect Knowledge of his internal Parts, ſince Death induces Change on all the Parts, as they are not the ſame after hat they were before, eſpecially ſince they did not die a Death, but under all the Agonies to which the Curioſity of omiſt was pleaſed to ſubject them.*

act may poſſibly be true; the Poſſibility of it is not to ed, ſince, in theſe Days, we meet with Inſtances of the umanity. But may we not ſuſpect, that ſince *Hero- d Eraſiſtratus* were the firſt who diſſected human Bo- Novelty of the Attempt forcibly ſtruck the Minds of ar, and laid a Foundation for groundleſs Exaggerations, blication of more than was really Truth? a thing very upon Occaſions of a like Nature; witneſs the Story of who was branded with the Inhumanity of boiling Men no other Reaſon but becauſe ſhe invented warm Baths: , to this very Day, can perſuade the Vulgar, but the Anatomical Schools ſecretly convey off People, in or- ſect them?

however, certain, that *Herophilus* and *Eraſiſtratus* had ected many human Bodies. This laſt ſpeaks, in a Frag- his Anatomical Works, of the Brain of a Man whom iſſected; and of *Herophilus*, *Galen* talks in this man- *Diſſect. Vulvæ, Cap.* 5.): *He was*, ſays he, *an accom- an in all the Branches of Phyſic; but he was particu- ving in Anatomy, which he had learned not, by the Diſ- f Beaſts alone, as Phyſicians uſually do, but princi- he Diſſection of Men.*

ame *Galen* obſerves, (*Adminiſtrat. Anatomic. Lib.* 7. that it was at *Alexandria*, the Capital of *Egypt*, where s made his Diſſections; which renders it probable, as owing to the Curioſity of the Kings, and their Incli- encourage the Arts, that theſe two Phyſicians had the granted them of inſtructing themſelves by diſſecting odies: A Liberty which thoſe of ſucceeding Times y enjoy'd for many Ages, whether thro' a Defect of equal Courage and Learning with the firſt *Ptolemies*, the ſcrupulous Diſpoſition of the People paſſing to the s, or getting the better of their Authority. I am not that *Riolanus* has maintained, in Oppoſition to this, not only diſſected Men before this Time, but that this was even continued down to the very Days of *Galen*. aintained, that *Ariſtotle* practiſed the ſame kind of ; but this learned Anatomiſt proves no more, than *otle* really diſſected Animals, and compoſed ſome Books ny, to which he often refers his Readers. This can- ied; but that he diſſected Men, cannot be proved, ind *Ariſtotle* himſelf confeſſing, that he never diſſected but Beaſts.

natomiſt ſucceeds no better, when he attempts to at *Hippocrates* had diſſected human Bodies; but his s for this will, upon an impartial Review, be found l. ſo weak and inconcluſive, that we may ſafely infer, that *Herophilus* and *Eraſiſtratus* were the firſt who were known to diſſect human Bodies.

As for *Herophilus*, one of the principal Proofs of his Accuracy is this, that he addicted himſelf to thoſe Parts of Anatomy which had not before been touched upon. Neurology, or the Diſſection of the Nerves, was in his Days a Part of Anatomy, not as yet well known. *Galen* informs us, that *Herophilus* was the firſt after *Hippocrates*, who handled this Matter with Accuracy; but he ſhares the Praiſe, due to him in this reſpect, with another Phyſician, *Eudemus*. As for *Hippocrates*, who likewiſe comes into the Account upon this Occaſion, *Galen*, being reſolved to extol him above all the antient Phyſicians, honours him with a Degree of Knowledge in this reſpect, which his Writings no-where diſcover.

It is very probable, that *Herophilus* was the firſt who was known to diſcover the Nerves, properly ſo called, and who knew how to demonſtrate them. According to *Rufus Epheſius*, he divided the Nerves into three Kinds. The firſt he called 'Αισθητικὰ ϗ προαιρετικὰ νεῦρα, *or thoſe Nerves which are the immediate Inſtruments of Senſation, and the Miniſters of the Will.* Theſe, according to him, *derived their Origin from the Brain, from which they roſe like ſo many Branches, and were a Part of the Medulla Spinalis. The ſecond proceeded from ſome of the Bones, and terminated at others of them. The third aroſe from ſome of the Muſcles, and terminated at others.* By this we ſee, that *Herophilus* gave the Name of *Nerves* to thoſe Parts, which were afterwards called *Ligaments* and *Tendons*; but 'tis a Matter of little Moment, what Names Things receive, provided they be ſufficiently diſtinguiſhed. In Reality, this Diſtinction of three Sorts of Nerves, aſcribed to this antient Anatomiſt, is a Proof, that no ſuch Diſtinction was made before his Time, and that theſe Parts were confounded with one another. The Writings of *Herophilus* being loſt, we know no more of his Sentiments, with regard to the true Nerves, but that he gave the Name of *Optic Pores* to thoſe Nerves which reach to the Bottom of the Eye, and which now are called *Optic Nerves*; and maintain'd, that they had a ſenſible Cavity, which was not to be met with in other Nerves.

There is nothing remarkable with reſpect to his Notions of the Uſes of the Brain, except that we are told, he imagined the reaſonable Soul was lodged in its Ventricles.

But one of his principal Diſcoveries, which, though look'd upon to be the Product of our own Age, is nevertheleſs very antient, is, his finding certain Veins in the Meſentery, which according to him, were deſtin'd to nouriſh the Inteſtines, which do not, like the other Veins, go to the Vena Portæ, but terminate in certain glandular Bodies. *Eraſiſtratus* likewiſe diſcovered ſomething of this Nature.

Beſides, as *Herophilus* had learned Anatomy, not by reading the Books of his Predeceſſors only, and form'd particular Ideas of the Parts, from what he had ſeen in Diſſections, eſpecially thoſe of human Bodies, he expreſſed theſe Ideas by Words, which appeared to him moſt proper for that Purpoſe; that is, he invented new Names, and gave Names to Parts, which before had none.

For Inſtance, he called the firſt of the Inteſtines, or that which is next to the Stomach, Δωδεκαδάκτυλον, becauſe it is twelve Inches in Length.

Having alſo obſerved, that the Veſſel which paſſes from the right Ventricle of the Heart to the Lungs, and which he took for a Vein, had a thick Coat like that of an Artery, he called it, if we may belive *Rufus Epheſius*, the *Arterial Vein*; and for the quite contrary Reaſon, he called the Veſſel which comes from the Lungs to the Left Ventricle of the Heart, the *Venous Artery*. But though the Names he gave to thoſe Veſſels, point out the Knowledge he had of the Heart, and the Veſſels with which it is immediately connected, yet *Galen* (*De Hippocrat. & Platon. Decret. Lib.* 1. *Cap.* 10.) obſerves, that he has been very negligent in deſcribing the Membranes of the Heart, to which he had nevertheleſs given a Name, calling them *Nervous Separations*, or *Partitions*.

It was alſo *Herophilus* who firſt called two Coats of the Eye, the *Tunica Retina*, and the *Tunica Arachnoides*. He alſo called that Membrane which lines the Ventricles of the Brain, the *Membrana Choroides*, becauſe he ſaw, that it reſembled the Chorion which covers the Fœtus in the Matrix.

He alſo compared the Cavity, which forms the fourth Ventricle of the Brain, 'Αναγλυφὴ τοῦ καλάμου, to the Concavity of a writing Pen, or Reed, uſed for that Purpoſe in *Egypt*. He has in like manner given the Name of Ληνὸς, *Torcular*, to that Place where all the Sinuſes of the Dura Mater unite.

It was he likewiſe who gave the Name of *Glandulæ Paraſtatæ* to thoſe Glands which lie about the Root of the Penis.

He ſtyl'd theſe *Paraſtatæ glandulous*, in order to diſtinguiſh them from other Paraſtatæ, which he called *Varicoſe*, and which he placed at the Extremity of thoſe Veſſels which convey the Seed from the Teſticles, or rather, as he thought, which ſerve to prepare it; for though he did not deny, that the Teſticles ſerved, in ſome meaſure, to the Generation of Seed, yet he believed, that the above-mentioned Veſſels contributed much more to that Purpoſe. The Word *Paraſtata* imports any thing ſituated near another. Some antient Phyſicians have alſo given the Name of *Paraſtata* to the Epididymis. It is plain, that *Hippocrates* and *Ariſtotle* knew the Varicoſe Paraſtatæ of *Herophilus*, though they did not give them the ſame Name.

The Authority of *Herophilus*, in point of Anatomy, was ſo great, that almoſt all the Names he aſſign'd to the different Parts, are ſtill preſerved. The Teſtimony of Antiquity is ſo ſtrong in the Favour of *Herophilus*, that we cannot, without injuring his Character, deny him to be the beſt Anatomiſt of the Times in which he lived. If his Writings had reached our Hands, we might have been able to have judged of his Sentiments for ourſelves. But as they are loſt, we can ſay no more, than that what is preſerved in Quotations is ſufficient to give us a great Idea of his Exactneſs and his Skill, eſpecially if we conſider, that he lived at a time when Anatomy was only in its Infancy, and that his whole Stock of Knowledge, in this Particular, was principally of his own acquiring. *Fallopius*, a knowing Anatomiſt of the laſt Age, was ſo ſuperſtitious an Admirer of *Herophilus*, that he laid it down as a Maxim, that it was as unreaſonable to contradict him in point of Anatomy, as to contradict the Goſpel; but the Encomium is a little too extravagant.

It is generally thought, that *Eraſiſtratus* was contemporary with *Herophilus*, or liv'd very ſoon after him.

It was by means of Anatomy, that this Phyſician firſt became conſiderable in the World; and *Galen*, who upon many Occaſions talks unfavourably enough of him, yet confeſſes *that* Eraſiſtratus *had contributed a great deal to the Re-eſtabliſhment of Anatomy, which*, as he ſays, *had been in a great meaſure loſt for ſome time before*. But 'tis no eaſy Matter to find out what particular Period of Time he has in View: However, that we may underſtand the Paſſage the better, it is neceſſary to relate the Whole of it. *Thoſe, ſays he, who are not aſham'd to ſpeak againſt Evidence, are the Cauſe of the Length of this Diſpute* [the Diſpute betwixt him and *Chryſippus* the Stoic, who maintain'd, that the Seat of the Soul, and the Origin of the Nerves, was in the Heart]. *We ought not to accuſe either* Hippocrates, *or* Eudemus, *or* Herophilus, *or* Marinus, *who ſince the Days of the Antients have re-eſtabliſhed the Science of Anatomy, which had been neglected* ἐν τῷ μεταξὺ χρόνῳ, *in the intermediate Space of Time between them.*

Galen at firſt ſeems to hint at the Time which paſſed between *Eſculapius*, or his firſt Deſcendants, and *Hippocrates*; which is that dark Period, during which, the State of Phyſic was not known. But we ſhall ſee by what he ſays elſewhere, that he meant no ſuch thing. In order then to prevent the Contradiction betwixt the Paſſage now quoted, and ſome others of the ſame Author, we muſt neceſſarily put a Point after the Word *Hippocrates*, and begin another Period thus: *We ought not to lay the Blame upon* Hippocrates. *Neither ought we to accuſe* Eraſiſtratus, *nor* Eudemus, *nor* Herophilus, *nor* Marinus, *who after the Antients have re-eſtabliſhed the Science of Anatomy, which had been neglected in the Time intervening between them.* Or this Sentence of *Galen* may be tranſlated thus: *We ought neither to accuſe* Hippocrates, *nor thoſe who have re-eſtabliſhed Anatomy, which had been neglected in the Interval between them and him, ſuch as* Eraſiſtratus, Eudemus, Herophilus, *&c.* According to this Explication, which is the genuine Senſe of *Galen*, *Hippocrates* will not be rank'd among the Reſtorers of Anatomy, which would not agree with what the ſame Author ſays in another Paſſage, [*De Adminiſtr. Anatom. Lib.* 2. *Cap.* 1.] "That "the antient Phyſicians, and even the antient Philoſophers, "were very much addicted to the Study of Anatomy, and "that in theſe Days Fathers not only train'd up their Children "in it, by obliging them to read and write upon the Subjects, "but alſo by making them diſſect Subjects themſelves; ſo that "having learned the thing from their Infancy, it was impoſſible they ſhould forget it. But, continues he, it was not ſo "afterwards, when Phyſic came to be out of the Hands of "the *Aſclypiadean* Family, and when Phyſicians began to teach "their Art to Strangers, eſpecially to Men advanced in Years, "for whom they had an Eſteem, and whom they reverenced "on account of their Virtue. Theſe Men, not being young "enough to labour at Anatomy with Succeſs themſelves, or "to inform themſelves of the Parts of the Body by their own "Sight, and by putting their Hands to the Work, could only "learn Anatomy very imperfectly. Hence it was, that, in "Proceſs of Time, the neceſſary Inſtructions in this Branch "of Learning paſſing often from one hand to another, Anatomy grew ſtill worſe and worſe."

Thus *Galen* ſuppoſes, that Anatomy was in a flouriſhing State whilſt Phyſic was confin'd to the *Aſclypiadean* Family; he even fixes, in expreſs Terms, the Beginning of its Declenſion, at the particular Time when Phyſic began to be practiſed by others, than thoſe of that Family. Now we are no-where inform'd, that Phyſic was practiſed out of this Family, till the Philoſophers began to encroach upon the Art, or, at leaſt, till *Hippocrates* began to teach Diſciples, as *Galen* elſewhere obſerves.

As this is the Caſe, it is ſcarce to be believ'd, that the
ſophers were the Cauſe of the Decay of Anatomy, ſince it
their Intereſt to carry it to its Perfection, even though
had not had the Intereſt of Phyſic in View. *Galen*
does not think, that this was the Caſe, ſince he joins the
loſophers and Phyſicians together, when he ſpeaks of the
wherein Anatomy was in its Perfection; and by the
phers, he undoubtedly meant *Democritus*, and others
ceded *Hippocrates*. So that the Time ſpoke of, muſt be
which followed the Death of *Hippocrates*.

But there is a conſiderable Difficulty in this Point;
Hippocrates was ſo ſkilful an Anatomiſt as *Galen* repreſents
who can poſſibly believe, that his Knowledge in this Pa
ſhould have been ſo ſoon loſt, or raſed from the Memo
Men, that *Diocles*, *Praxagoras*, and the other Phyſi
their Time, were ſo little improved by his Diſcoveries,
Traditions of them, that *Galen* has with Juſtice ſtyled
[*De Diſſect. Vulvæ, Cap.* 9.] unſkilful Anatomiſts?
this could happen, a great Time muſt have intervened
Hippocrates, and theſe Phyſicians. But where ſhall we
all theſe Succeſſions, or that great Number of Gener
ſince all the Authors agree, that *Diocles* followed
after *Hippocrates*; ſo that he muſt have been conte
with *Plato*? As this is the Caſe, if he did not ſee
himſelf, he muſt, at leaſt, have ſeen his Sons, or his
law, who may reaſonably be preſumed to inherit the
ledge of their Father, in point of Anatomy, as well as
other Branches of Phyſic. And as for *Praxagoras*, who
almoſt in the ſame Time with *Diocles*, though he had
an Opportunity of inſtructing himſelf in the ſame way,
by the Traditions of *Hippocrates* and his Diſciples, yet,
ing to *Galen* himſelf, he was one of the Deſcendants of
pius, the Children of whoſe Family were train'd up to
from their Infancy; ſo that, in this reſpect, *Hippocrates*
enjoy no greater Advantages than he. *Galen* would not
involved himſelf in this Difficulty, if he had not been
ſonably prepoſſeſs'd in favour of the *Aſclypiadean* Fa
may be eaſily ſeen by his Works.

It is certain, that *Eraſiſtratus* and *Herophilus* carried
tomy to a higher Pitch of Perfection. But *Galen*, who
upon the former of theſe as the Rival of *Hippocrates*,
willing to confeſs this, but declares all along in favour
latter.

It is alſo certain, that before *Eraſiſtratus* and
Anatomiſts had never ventured to diſſect human Bodies
that in the Times of *Ariſtotle*, who lived not long befor
two Phyſicians, they had only diſſected Beaſts. It muſt be
that in *Egypt* they had long before a Cuſtom of embalming
dead Bodies, which could not be done without opening
and *Galen* himſelf confeſſes, that this Cuſtom might
niſhed the Phyſicians of that Country with a favourab
portunity of inſtructing themſelves.

But as it is not probable, that thoſe Perſons who
ploy'd in Embalming, durſt ſatisfy their Curioſity enti
ſearch as narrowly as was neceſſary into the human
which was look'd upon as ſomething ſacred, Anatomy
not poſſibly arrive at any conſiderable Pitch of Pe
whilſt no other Means were employ'd in its Cultivation
caſes, upon which every thing might be attempted,
ſolutely neceſſary for that Purpoſe. Theſe were prob
granted in Conſequence of the Inclination which the
theſe Times had to advance the Arts and Sciences.
the Great firſt began to patronize thoſe who apply'd
ſelves to Natural Hiſtory, by ordering *Ariſtotle* to labour
of Animals, and their ſeveral Parts; and without Dou
lemy Soter, or *Ptolemy* the Son of *Lagus*, ſucceeded
as well with regard to this Inclination, as with regard
Part of his Empire, which fell to his Share. This app
the more probable, if we conſider, that *Ptolemy* wa
of Learning, and wrote himſelf a Hiſtory of *Alexander*
learn from *Arrian*. *Ptolomy Philadelphus*, Son of the
ing *Ptolemy*, was no leſs induſtrious in promoting
Sciences; ſince he invited to his Capital all the learned
his Time, and collected, at an extraordinary Expence,
of Books from all Parts of the World, in order to form
brary, which was ſtill augmented by his Succeſſors.

It is probable, that theſe two Kings, getting over the
ple which had till then reign'd, of diſſecting human
not only granted the Phyſicians the Bodies of Crimi
their Death, but, if we may give Credit to ſome Auth
into their Hands many of theſe wretched Creatures,
diſſected, imagining, that they might by that means
things, which otherwiſe they could not do. Heroph
Eraſiſtratus, ſays *Celſus*, *have diſſected living Crim*
demn'd to Death, and dragg'd from their Priſons by the
of their Kings, for that very Purpoſe.

Which ever of theſe two Princes *Eraſiſtratus* lived
'tis probable, that he laid hold of this favourable Op
and made thoſe Diſcoveries in Anatomy which gain'd
high a Reputation. But as his Writings have not

no more of his Sentiments than what are tranſmitted
Galen, who generally quotes him with no other View
ſute him.
principal of *Eraſiſtratus*'s Diſcoveries, which, by the
s not made upon human Bodies, but which at the
e acquir'd him abundance of Honour, was his finding
len. an Sanguis ſit Naturâ in Arteriis, Cap. 5. & *Ad-*
. Anatom. Lib. 7. *Cap. ultim.*] *certain white Veſſels in*
ntery of ſucking Kids, which he believed to be Arteries.
d, That theſe Veſſels ſeem'd at firſt to be full of Air, and
rds of Chyle.
ſtratus and *Herophilus* were the firſt who knew the true
uine Uſe of the Brain and Nerves, or, at leaſt, the
ribed to them by all ſucceeding Anatomiſts. *Rufus*
ſays, that *Eraſiſtratus* owned two Sorts of Nerves,
hich are the Inſtruments of Senſation, and thoſe that
Inſtruments of Motion. He maintained, according to
hat the former were hollow, and drew their Origin
Membranes of the Brain, whereas the other ſprung
Brain itſelf, and the Cerebellum. But *Galen* [*De*
t. & Platon. Decret. Lib. 7. *Cap.* 3.] informs us, that
atus, having inquir'd more accurately into the Matter,
ſt convinced, that all the Nerves proceed equally from
n. This may be gathered from a Paſſage of this antient
iſt, related by *Galen*, the Whole of which I ſhall tranſlate,
may ſee what Notions he entertain'd with reſpect to
n, the Cerebellum, the Nerves, and all the ſeveral
onnected with each of them. “We examined, ſays
ſtratus, what the Nature of the human Brain was,
e found it divided into two Parts, as it is in all other
als. It had a Ventricle or Cavity of a longitudinal
. [*Here there ſeems to be a Chaſm, or Defect in the Text*]
Ventricles had a Communication with one another,
erminated in a common Opening, according to the
iguity of their Parts, reaching afterwards to the Cere-
n, where there was alſo a ſmall Cavity. But each
was ſeparated from the other, and ſhut up in its pro-
Membranes, and the Cerebellum in particular was wrapt
itſelf, as well as the Brain, which by its various Wind-
nd Turnings, reſembled the Inteſtinum Jejunum. The
bellum was in like manner folded and twiſted different
, ſo that it was eaſy to know by ſeeing it, that as in
egs of ſwift-running Animals, ſuch as the Hart, the
, and ſome others, we obſerve Tendons and Muſcles
calculated for that Purpoſe; ſo in Man, who has a
Share of Underſtanding than other Animals, this great
ty and Multiplicity of Foldings in the human Brain,
undoubtedly deſign'd for ſome particular End. Be-
we obſerv'd, continues *Eraſiſtratus*, all the Apophyſes
ductions of the Nerves which come from the Brain;
t, to ſay all at once, the Brain is viſibly the Principle
ery thing that paſſes in the Body; for the Senſe of
ing proceeds from the Noſtrils, being pierced in order
e a Communication with the Nerves. The Senſe of
ing is alſo produced by the like Communication of
es with the Ears. The Tongue and the Eyes receive
he Productions of the Nerves of the Brain.”
we ſee, by the Confeſſion of *Eraſiſtratus* himſelf, that
diſſected Men. *Eraſiſtratus* had alſo very accurately
, in *Galen*'s Opinion, [*De Hippocr. & Platon. Decret.*
Cap. 10. & *Lib.* 6. *Cap.* 6.] the Membranes which are
the Orifices of the Heart; and he maintain'd with
, that the Veins and Arteries drew their Origin from
re are, ſays he, *certain Membranes inſerted in the Ori-*
be Veſſels of the Heart, of which the Heart makes uſe,
r the Reception or the Expulſion of ſuch Subſtances, as
ter into it, or come out of it. Some, adds *Galen*, *have*
aſh as to deny, that there were ſuch Membranes, and
k'd upon them as Fictions of Eraſiſtratus, *or a kind of*
is invented to ſupport his own Syſtem: But theſe Mem-
e ſo well known by Anatomiſts, that none but Novices
t are ignorant of them. There are, continues *Galen*,
theſe Membranes at the Orifice of the *Vena Cava*,
eſemble the Points of Arrows; whence ſome of the
of *Eraſiſtratus* have called them τειγλῶχινες, *Tricu-*
There are alſo at the Orifice of the *Arteria Venoſa* (for
that Artery, which riſing from the left Ventricle, diſ-
elf in the Lungs) Membranes of a like Form, but of
Names; for that Orifice has only two Membranes. The
o Orifices, I mean, that of the Vena Arterioſa, and
e Arteria Magna, have alſo each of them three Mem-
reſembling the Sigma of the *Greeks*, which reſembled
Here *Galen*, ceaſing himſelf to ſpeak, again intro-
aſiſtratus, ſaying, “That theſe two laſt Orifices are
y diſpoſed to convey any thing from the Heart; that
the former the Blood flows to the Lungs, and thro'
tter the Spirits, in order to be diſtributed thro' the whole
. [*Here ſome part of the* Greek *Text ſeems to be wanting*]
it happens, continues *Eraſiſtratus*, that theſe Mem-
alternately perform oppoſite Offices to the Heart.

“ Thoſe which are adherent to the Veſſels, by which Sub-
“ ſtances are carried into the Heart, bend inwards, that they
“ may yield to the Impetuoſity of ſuch things as are carried
“ towards them, and, lying in the very Cavities of the Heart,
“ may open its Entry for the Introduction of ſuch Subſtances
“ as are attracted to it; for we have no Reaſon to imagine,
“ that ſuch Subſtances enter the Heart of their own Accord,
“ as if it were an inanimate Receptacle; but the Heart, by
“ its Diaſtole or Dilatation, draws them to it, as the Black-
“ ſmith's Bellows does the Air; and in this manner the Heart
“ is fill'd. The Membranes of thoſe Veſſels, on the other
“ hand, which ſerve to convey things from the Heart, are
“ quite differently diſpoſed and ſituated; ſo that yielding eaſily
“ to the Subſtances coming from the Heart, they open their
“ Orifices at the time it thruſts out ſuch Subſtances; whereas
“ at other times they ſhut up theſe Orifices, and allow nothing
“ to return which is once thruſt out, juſt as the Membranes of
“ the Veſſels, which ſerve to introduce things into the Heart,
“ ſhut the Orifices of theſe Veſſels upon the Heart's con-
“ tracting itſelf, and allow nothing to be carried out which is
“ once thrown in.”

It were to be wiſh'd, that *Galen* had left us more Fragments of *Eraſiſtratus*, of the ſame Nature with theſe two.

Beſides, what he elſewhere ſays, *that ſome thought the Membranes of the Heart a Fiction of* Eraſiſtratus, is a ſure Proof, that the Book *De Corde*, aſcribed to *Hippocrates*, was not really wrote by him, ſince in it theſe Membranes are made Mention of. If this Book had been wrote by the Author whoſe Name it bears, *Galen* would not have fail'd to take Notice of it, for his Honour, and in order to ſtop the Mouths of thoſe who thought, that theſe Membranes were an Invention of *Eraſiſtratus*. He had nothing to do but to let theſe People ſee, that *Hippocrates* had wrote before on the ſame Subject.

But 'tis ſurpriſing, that this ſame *Eraſiſtratus*, who had ſo accurately examined the Heart, and diſſected ſo many living Animals, ſhould yet embrace an Opinion, with regard to the Arteries, which all other Anatomiſts have look'd upon as abſurd. He affirm'd, as did *Praxagoras* before him, [*Galen. an Sanguis ſit Naturâ in Arteriis*] *that in a natural State, the Arteries contained no Blood, and that they, as well as the left Ventricle of the Heart, were only filled with Air.* It was an eaſy matter to give him the Teſtimony of his own Eyes for his Error; but he had recourſe to this Subterfuge [*Galen. an Sanguis ſit Natura in Arteriis, & Platon. Decret. Lib.* 1. *Cap.* 6. *& de Venæſect. adv. Eraſiſtratum, Cap.* 3.]: *As ſoon*, ſaid he, *as we open the left Ventricle of the Heart, that Air or Spirit is evaporated before we can obſerve it, and the Ventricle is inſtantly filled with Blood.* He aſſerted the ſame thing with regard to the Arteries.

What engaged him to entertain this Opinion, with regard to the Arteries, was, as *Galen* informs us, *becauſe he could not conceive how there ſhould be two Kinds of Veſſels deſtin'd for the Conveyance of the ſame Liquor*, that is, why both the Veins and Arteries ſhould contain and convey the Blood. If he had known the Secret of the Blood's Circulation, which ſome learned Men imagine is plainly found in the Writings of *Hippocrates*, he had not been ſo much puzzled and perplexed with regard to this Point; he might even have inform'd himſelf of it, by the Knowledge he had of the Membranes or Valves of the Heart, if he had not been miſtaken with regard to one of them. What follows, will illuſtrate this Anatomiſt's Opinion, and at the ſame time inform us what his Sentiments were, with regard to the Cauſes of Diſeaſes.

Galen, de Venæſect. adverſ. Eraſiſtratum, ſays, that *Eraſiſtratus* maintain'd, “That the great Vein was the Reſervoir
“ of the Blood, and the great Artery that of the Spirits.” He
added, “That after theſe Reſervoirs had divided themſelves
“ into many Branches, they became ſmaller, and their Num-
“ ber greater; and that as there is no Place in all the Body
“ where any of theſe Branches terminate, that has not a
“ ſmaller Branch which receives what was brought to it by the
“ larger; ſo it happens, that before theſe Veſſels arrive at the
“ Surface of the Body, they divide themſelves into Branches
“ ſo ſmall and minute, that the Blood they contain cannot
“ paſs through them; ſo that, adds our Author, though the
“ Mouths of the Arteries and Veins be very near each other,
“ yet the Blood keeps itſelf within its proper Bounds, without
“ entering the Veſſels in which the Spirits flow; and in this
“ Caſe, the Animal remains in its natural State. But when
“ any violent Cauſe happens to diſturb this Œconomy, the
“ Blood forces itſelf into the Arteries, and proves the Source
“ of Diſorders. Among the Cauſes now mentioned, too great
“ a Quantity of Blood is the principal; for in that Caſe, the
“ Coats of the Veins are dilated more than ordinarily, and
“ their Extremities, which were formerly ſhut up, are open'd;
“ whence follows a Transfuſion of the Blood from the Veins
“ into the Arteries. And this Blood, by its Irruption, oppoſe-
“ ing the Courſe and Motion of the Spirits, which come from
“ the Heart, if this Oppoſition is direct and immediate, or if
“ the Blood ſtops in a principal Part, this cauſes a Fever; but

" if the Spirits ſhould happen to drive it backwards, ſo that it " does not paſs the Extremity of the Artery, in that Caſe, " an Inflammation of the Part is only produced. As to the " Inflammation and Fever which happen in Wounds, they " are alſo occaſioned by the ſudden Evacuation of Spirits, " which is the Conſequence of the cutting of the Artery, and " forces the Blood continually into the Place of the Spirits, " leſt there ſhould be a Vacuum."

Eraſiſtratus made uſe of this Compariſon to ſupport his Syſtem. [*Galen. Hiſtor. Philoſoph. Plutarch. Celſus.*] *As the Sea*, ſays he, *which remains in a Calm, when ſhe is not ruffled by Winds, ſwells in an extraordinary manner, and overflows her Shores, when the Winds blow hard, ſo the Blood, moving in the Body, departs from its ordinary Canals, and enters into the Reſervoirs of the Spirits, where it afterwards becomes warm, and puts all the Body, as it were, on a Fire.*

Theſe are the Notions which *Eraſiſtratus* entertained with regard to the Cauſes of Diſeaſes in general, which at the ſame time are very different from thoſe attributed to him by the Author of a Treatiſe aſcribed to *Galen*, intituled, *The Introduction*; who aſſures us, that this Phyſician did not ſearch for the Cauſes of Diſeaſes in the Humours, or the Spirits, but in the ſolid Parts; whereas *Hippocrates* look'd upon theſe three Subſtances as the Cauſes of Health and Diſeaſes. I think, that Author only means, that *Eraſiſtratus* did not admit of the different Humours mentioned by *Hippocrates*, or, at leaſt, ſeem'd to think them of ſo little Importance, as not to aſcribe the Cauſes of Diſeaſes to them. This is what *Galen* himſelf confirms; but he aſſerts at the ſame time, that though *Eraſiſtratus* overlook'd and neglected the Humours, he was nevertheleſs obliged to ſpeak of them on ſome Occaſions, as for Inſtance, [*De atra Bile*]; when he ſays, that *a Palſy proceeds from the Humour, which nouriſhes the Nerves, being ſtopped on account of its too great Viſcidity.* And when he talks of the Bile and black Urine.

With regard to Reſpiration, [*Galen. de uſu Reſpirat. Cap.* 1.] he maintain'd, that it was only uſeful to Animals by filling their Arteries with Air, which is a Conſequence of his former Hypotheſis; and he imagin'd, that the thing was done in this manner: *When the Thorax,* [*Galen. de uſu Reſpirat. & de Locis Affect.*] *or the Breaſt, dilates itſelf, the Lungs are alſo dilated, and filled with Air. This Air paſſes to the very Extremities of the* Aſpera Arteria, *and from them to thoſe of the ſmooth Arteries of the Lungs, from which the Heart draws it when it dilates itſelf, to carry it afterwards through all the Parts of the Body, by means of the great Artery.* When it was objected to him, that the Heart moved in its ordinary manner, when a Perſon retains his Breath, he anſwered, That, upon that Occaſion, the Heart drew Air from the great Artery. To this it was reply'd, That the Membranes which adhere to the Orifice of this Artery, will not ſo much as allow it to return from it to the Heart. But he thought to extricate himſelf by ſaying, That though this was the Caſe in a natural State, yet it did not follow, that it muſt be ſo during the Time a Perſon retains his Breath, which is a State of Violence, and conſequently cannot laſt very long.

Eraſiſtratus alſo entertained a very ſingular Opinion, with regard to the Manner in which the Aliments were prepared in the Stomach. He thought, that the Stomach contracts itſelf, that it may the more cloſely embrace the Food, and break its Texture; that Trituration correſponding, according to him, to the Concoction of which *Hippocrates* ſpeaks. And with regard to the Chyle, that is, the Juice of the Aliments extracted in the Stomach, he maintain'd, [*Galen. de Facultat. Natur. Lib.* 2. *Cap.* 9.] that paſſing from the Stomach to the Liver, it arrived at a certain Place, where the Branches of the Vena Cava, and the Extremities of the Veſſels, which are connected with the Reſervoirs of the Bile, equally terminate; ſo that the Parts of the Bile inſinuate themſelves into the Orifices of theſe two Kinds of Veſſels, according as theſe Orifices are diſpoſed to receive them; that is, every thing of a bilious Quality in the Chyle, paſſes into the Canals connected with the Reſervoir of the Bile, and the pure Blood paſſes into the Branches of the Vena Cava, and, taking another Courſe, is ſeparated from the Bile. *Galen* [*De uſu Part. Lib.* 4. *Cap.* 13.] makes *Eraſiſtratus* ſay, that *the Veins are divided in the Liver for the Separation of the Bile.*

Beſides, we muſt obſerve, [*Galen. de Facult. Natur. Lib.* 2. *Cap.* 9. *& de atra Bile, Cap.* 5.] that neither *Eraſiſtratus*, nor his Succeſſors, pretended to account for the Cauſes of certain Effects, Reſearches of which Kind they thought belonged more properly to the Philoſophers than to the Phyſicians. Tho' they believed, for Inſtance, that the Stomach contracts itſelf for the embracing the Food the more cloſely, yet they were not at the Pains to enter into minute Explications of the particular Cauſes and Manner of this Contraction. Neither did they heſitate to own, that they were uncertain whether the Bile was produced in the Body, or if it was before contain'd in the Aliment.

Another Proof of the Ingenuity of *Eraſiſtratus* we ha
Aulus Gellius, [*Lib.* 16. *Cap.* 3.] who informs us, th
frankly own'd, when talking of unſatiable Hunger, or B
limia, (a Word not to be found in *Hippocrates*, but of w
all the *Greek* Phyſicians after him have made uſe) that
not know why this Diſeaſe happen'd rather during great Cold
in hot Weather; tho' he imagin'd, that Hunger, in ge
proceeded from the Stomach and Inteſtines being empty;
that a long and unpainful Abſtinence was owing to
Stomach's being ſtrongly contracted and ſhrivelled up. It
for this Reaſon, added he, that thoſe who faſt voluntarily
Hunger towards the Beginning of their Courſe, but not
they have faſted for ſome time. He brought, in Support
Opinion, the Example of the *Scythians*, [*Galen. de Na*
Facultat. Lib. 1. *Cap. ult.*] who, when they were oblig
faſt, ſwaddled themſelves up with large Rowlers, with a
to contract or ſtreighten their Stomachs.

Eraſiſtratus own'd, that the Urine was ſeparated in the
neys; but he did not acknowledge, with *Hippocrates*, t
was done by Attraction; for he entirely rejected this S
Attraction, tho' he no-where explains himſelf with re
the Manner in which this Separation is made. Some
firſt Followers believed, as *Galen* informs us, that the
above the Kidneys received only pure Blood; that what is
ous, or charged with Seroſities, tends downwards by its
Weight; and that after this Blood is ſeparated from the
ous and uſeleſs Part, it is carried to the Parts above the
to nouriſh them.

It is alſo neceſſary to obſerve, that *Eraſiſtratus* rectified
with regard to the Uſe of the *Arteria Trachea*, thro'
Plato imagined the Drink was carried, in order to wa
Lungs (ſee *Aulus Gellius*, *Plutarch*, and *Macrobius*).
Opinion was common to *Plato*, with *Philiſtion*, *Hipp*
and the moſt of the Phyſicians of theſe Days.

Lycus and *Quintus* are alſo mentioned as two antient A
miſts, but nothing particular is known of their Diſcover

Marinus is alſo mentioned, as an Author who wrote w
the Anatomy of the Muſcles, after the Time of *Eraſi*
Galen is ſaid to have epitomiz'd his Works.

Aurelius Cornelius Celſus is alſo an Author of too diſting
Merit to be paſs'd over in Silence. He was born at *Rome*,
in all Probability, flouriſh'd under *Tiberius*, *Caligula*, *Cl*
and *Nero*. Many things are found diſperſed in his Wr
from which we may gather, that he rarely employ'd him
Diſſections; but that he had, at the ſame time, a very
Veneration for Anatomy.

Beſides his Books *De re Medica*, he alſo wrote con
the Figure and Situation of all the Bones of the human
which, indeed, is the principal Reaſon why he ſhould
overlook'd, upon an Occaſion of this Nature.

His Sentiments, with reſpect to Anatomy, are ſpec
the Beginning of this Article.

Caius Plinius Secundus was, according to ſome, born
vocomum; others will have him to be a Native of *Veron*;
however this be, 'tis certain, that he lived under the E
Veſpaſian, about the Year 72. His Writings are inter
with many curious Obſervations, relating both to the A
of Men, and other Animals; but as he was no profeſs'd A
miſt, and never appears to have been exerciſed in Diſſ
he took, and inſerted in his Works, Truth and Fi
diſcriminately, as he met with them in the Writings of

Dr. *Wigan*, as well as all Authors who have mentio
incomparable *Aretæus*, have been ſenſible of the Diffic
fixing the Time in which he liv'd, but concludes it pr
that he wrote after the Beginning of *Nero*'s Reign, and
that of *Domitian*. His Taſte may be judg'd from this,
thought a Knowledge of Anatomy ſo neceſſary, both fo
vering the true Cauſes of Diſeaſes, and the proper Me
Cure, that in the Beginning almoſt of every Chapter
miſes ſomething concerning the Structure of the Part
In this Inſtance he ſeems to have purſued the Steps of
ſtratus and *Herophilus*, who were the Chiefs of the D
Sect, and maintain'd, that without a Knowledge of A
no one could poſſibly be a ſkilful Phyſician. So that A
tho' a conciſe and compendious Writer, has yet inſiſt
this Branch of Medicine more copiouſly, and with more
racy, than any of the antient Phyſicians.

The Heart is, according to him, the Principle
and Strength, in which the Soul and Nature of Ma
in a particular manner. This was alſo the Doctrine of
crates, and *Chryſippus* the Stoic. For this Reaſon a
as it is a Diſeaſe of the Heart, and conſequently muſt
immediate Influence upon Life, is unfriendly to the
Conſtitution, and in ſome meaſure diſſolves and deſtro
Connection by which the vital Faculty is maintained.
aſſerted, that the Heart was a warm Part of the Body,
Principle of Life and Reſpiration; that it is ſituated
Middle of the Lungs; and that the Heart inſpires the
with a Deſire of freſh Air, as it heated the Lungs,
the Heart itſelf attracts it.

ungs were, according to him, naturally incapable of ecauſe they conſiſted of a looſe ſort of Subſtance reſem-ool. He alſo maintain'd, that rough cartilaginous Ar-capable of Pain, were diſtributed thro' them, and that no Muſcles, but only ſome ſmall and ſlender Nerves, of which their Motion was produced. And this, ac-to him, was the true Reaſon why in a *Peripneumony*, no more than an Inflammation of the Lungs, the hemſelves are inſenſible of Pain; and only a ſort of ſs at the Breaſt, which is nevertheleſs free from Pain, e Patient; but that all thoſe Membranes, by which gs are connected to the Breaſt, are endow'd with a uiſite Senſation; and if they are inflam'd, together Lungs, the Patient is pain'd as in the Caſe of a Pleu-ompanied with a Peripneumony.

according to him, is alſo the Reaſon why in Spitting where the Blood, being immediately diſcharg'd from gs, creates the moſt dangerous of all Diſorders, the Pa-ver ceaſe to hope, even in the very laſt Stages of the because the Lungs themſelves are inſenſible of Pain; every trifling Degree of Pain, the Patients become Death, and moſt People are more frighted for the Con-, than hurt by the Diſeaſe itſelf; whereas, in the rible Diſorders, when unaccompany'd with Pain, the s not rack'd with the Fears of Death; and indeed this r is more fatal than frightful to the Patient.

ulſation of the Arteries, according to him, propelled d; for which Reaſon, if the Arteries are wounded, of the Wound are with Difficulty brought together, in Contact. The *Arteria Craſſa*, or the *Aorta*, ns near the *Vena Cava*, in the ſame Direction with a Dorſi, and by *Aretæus*, after *Praxagoras*, called αχεῖν, ſuffers Inflammation along with the *Vena* hich Inflammation was by the Antients called a Species , ſince in both the ſame Symptoms appear, and the the one Caſe tends to a *Syncope*, as well as in the or the Liver is the Root of the Veins, and the Heart e and Origin of the Arteries. It is therefore probable, ſuperior Parts of theſe Viſcera are affected; for the parts Warmth to the Arteries, and the Liver conveys the Veins. Now ſince both theſe Viſcera are very Inflammations to which they are ſubject, muſt of very conſiderable. But this ſame Artery, in Inflam-of the *Vena Cava*, palpitates near the Spina Dorſi, pears from the Pulſation in the other Part of the a; for the Artery, lying cloſe by the Vein on its Left drawn into Conſent with it, as being diſperſed thro' Body.

of the Antients, whoſe Writings have been handed us, ſcarce make any mention of this Diſorder of this nd Vein. But whoever have handled this Subject, ow'd the Opinion of *Praxagoras*, who, as we learn *fus Epheſius*, affirm'd, that the Origin of Fevers was ein which ſends Branches from the Liver to the Kid-d which alone he called the κοιλη, Cava, tho' others the ſame Name to that which riſes upwards to the o' the Septum Tranſverſum; ſo *Aretæus* likewiſe calls ys, that both theſe are only a Continuation of one me Vein.

eins riſe from the Liver, as from their common Root, ve the Blood they contain from it. From the Porta iver, betwixt its Extremities, a large Vein ariſes, ividing itſelf ſtill more and more, is at laſt diſperſed Liver, in Veins ſo ſmall and minute, as to become The Extremities of theſe Veins are inſerted into the f others, which, growing gradually larger, and fewer er, at laſt terminate in the Liver in one great Vein, ividing itſelf again into two Branches, reach beyond One of theſe Branches, penetrating the firſt Lobe of again emerges in its gibbous Part; and having after-forated the *Septum Tranſverſum*, extends itſelf within t, but adheres to no other Part; and being ſuſpended inſerted into the Heart; this is called the *Vena Cava*. penetrating through the fifth and inferior Lobe of as far as its gibbous Part, goes out near the Spine, along it to the Coxæ. This is alſo the *Vena Cava*; for the ſame Name, becauſe it is the ſame Vein ariſing the Liver: For if any one has a Mind, he may paſs rom the upper Part of the Vena Cava, which reaches rt, into that Part of it which creeps along the Spina, again from the Spina, thro' the Liver, into the Heart, ſſage is the ſame.

Vein, beſides the above-mentioned Inflammation, orders which the *Greeks* called Κέδματα, ariſe; in ſe the Hæmorrhage conſequent upon its Rupture, an End to the Life of the Patient.

lood is convey'd from all the principal Viſcera to the ein at the Cubit; for this Vein, and that which lies are Branches of one and the ſame Vein in the Arm: is of no greater Service to open the ſuperior Vein than this; for they are entirely ignorant of the Sources of the Veins, who appropriate the ſuperior Vein to the Stomach and Liver. But if there ſhould happen any Effuſion of Blood from the Spleen, ſome Phyſicians order the Vein lying betwixt the little Finger and the Ring-finger to be open'd, becauſe they imagine, that it reaches to the Spleen; but this is alſo a Branch of the inferior Vein of the Cubit. Why then ſhould any one chooſe to open it ſo near the Fingers, ſince at the Bending of the Elbow it is much larger, and permits the Blood to flow out more readily?

The Work of Sanguification belongs to the Liver, which is the Source of the Veins; and for that Reaſon the greateſt Part of it is no more than a certain Concretion of Blood; for as the Aliments have Acceſs to the Liver, and as there is no other way by which the Food is convey'd thro' the whole Body from the Stomach and Inteſtines, ſo the Blood paſſes from this Bowel to all the Parts of the Body. This was alſo the Sentiment of *Eraſiſtratus*. The Portæ Jecoris conſiſt of Nerves and Membranes, which are indeed ſmall of themſelves, but of great Importance to the Functions of Life; and of large Veins, for which Reaſon they are very ſubject to ſmall Inflammations. Beſides, ſome Philoſophers have affirmed, that the Appetites of the Soul were lodg'd in this Place.

Now the Bile is formed in the Liver, and is ſecreted by means of a Cyſtis or Bladder ſituated there for that Purpoſe, and afterwards is convey'd to the Inteſtines by certain Ducts; and if they ſhould be obſtructed by a Scirrhus, or an Inflammation, or if the Contents of this Bladder ſhould overflow, the Bile returns backwards, and is mix'd with the Blood, which, flowing thro' the whole Body, carries likewiſe the Bile along with it: Hence in Jaundices the Skin ſeems, as it were, ting'd with Bile, and the Excrements are white like Clay, and unting'd with the Colour of the Bile, becauſe none of that Humour flows to them: Hence alſo Icteric Patients are coſtive, becauſe their Bellies are neither moiſtened nor ſtimulated by the Bile.

The Aliment of the Spleen is black, and the Spleen itſelf deterges and refines the black Blood. It is a Bowel of a rare Contexture, and of a diſſoluble Nature, and for this Reaſon ſubject to Impoſtumations and Abſceſſes.

The Stomach preſides over Pleaſure and Uneaſineſs, and becauſe it is adjacent to the Heart, the common Source of all the Faculties, (for it is connected to the Middle of the Heart and Lungs, and with them adheres to the Spina Dorſi) it contributes very much to Strength, and to Compoſure or Dejection of Mind, upon account of its Conſent with the Soul. This is the principal Faculty of the Stomach. From Pleaſure ariſes a good Digeſtion, a full and fleſhy Habit of Body, and a freſh and lively Colour. From Uneaſineſs the Contraries of theſe ariſe, and ſometimes Dejection of Mind, when the Stomach is empty. The Diſorders of the Stomach are, properly ſpeaking, Nauſeas, Vomitings, Loathings of Food, Hiccups, Eructations, and theſe too ſometimes acid; and tho' in People labouring under Diſorders of the Stomach, it is generally free from Thirſt, yet in it the Source and Origin of Thirſt is contained.

The Colon alſo contributes to the Concoction of the Food, as well as the Stomach, and the Aliments are convey'd from it to the Liver: Neither do all the Aliments paſs thro' viſible Canals, for Nature diſtributes the far greater Part of them thro' the whole Body by Vapours, which eaſily paſs from one Part of the Body to another; and theſe very Vapours are alſo by Nature carried thro' the compact and ſolid Parts of the Body. The Colon is a very large Inteſtine, wide enough in all its Parts, and form'd into Sinuſes, more thick and fleſhy than the ſmall Inteſtines, and more capable of bearing Injuries; and for this Reaſon, when this Inteſtine is the Seat of Colic Pains, the Danger is the leſs: For when the ſmall Inteſtines are affected, a ſharp and pungent Pain is felt; but when the Colon is affected, there is great Abundance of Humours, and a Senſation of Gravity is perceiv'd in it. By reaſon of its Situation and Connection, the Pain ſometimes reaches to the Ribs, and makes a Pleuriſy ſuſpected; for even in the Colic a Fever ſometimes ariſes. Sometimes the Pain appears to be on one Side, ſometimes on the other, under the ſpurious Ribs; ſo that the Liver, or Spleen, ſeems to be affected, and the Pain falls down again to the Ilia. With ſome this Pain ſeizes the Os Sacrum, the Thighs, and the Cremaſter Muſcles of the Teſticles; ſo that *Aretæus*, knowing the Reaſons of theſe Symptoms, juſtly ſtigmatized the Ignorance of ſome Phyſicians, who, in this Caſe, cut off the Cremaſter Muſcles, as if they had contained the immediate Cauſe of the Diſeaſe. Now can any thing advanced by later Anatomiſts poſſibly come nearer the Truth?

There are two Coats of the Inteſtines, as well as of the Stomach; one of which lies obliquely upon the other. When therefore the Connection of theſe is diſſolved, as it ſometimes happens in Dyſenteries, the interior Coat, ſeparating lengthways, is diſcharg'd by Stool, and ſtrikes many, who are unacquainted with the true Cauſe, with a Dread of having loſt their Inteſtine; and the exterior Coat remaining within, incarns and cicatrizes, and then the Patient becomes ſound; but the lower

Inteſtine is only ſubject to this Accident, as having its Coats of a fleſhy Nature.

The Kidneys are naturally glandular Bodies, of a reddiſh Colour, reſembling rather the Liver, than the Breaſts and Teſticles. Theſe are Glands, but they are whiter than the Kidneys. The Kidneys indeed reſemble the Teſticles in Figure, but they are broader, more crooked, and contain ſmall Sinuſes, with narrow Necks, for percolating the Urine. From theſe two ſmall nervous Canals, reſembling little Pipes, branch out, which are called the Ureters, and are inſerted in the Sides of the Bladder on each Side, and from both Kidneys there is an equal Conveyance of the Urine to the Bladder. Nature has formed the Sinuſes of the Kidneys oblong, and by that means adapted them to the Diameters of the Ureters, which are but ſmall.

The Bladder is of a very inconſiderable Thickneſs, and naturally of a nervous Texture ; for which Reaſon it neither incarns nor cicatrizes eaſily. When it is full it is diſtended, and when empty it collapſes ; ſo that in caſe of an Ulcer, it ſuffers juſt as much as a Joint does in Extention and Contraction. Now all Ulcers upon Joints are cur'd with the greateſt Difficulty. Beſides, bilious Urine, and an inveterate Ulcer, muſt neceſſarily corrode the Bladder.

The Anus and Bladder are contiguous to each other ; and for this Reaſon in Inflammations of the Rectum, the Bladder with Difficulty diſcharges its Contents ; and in Diſorders of the Bladder, the Fœces are not diſcharg'd, even tho' the Belly ſhould not happen to be coſtive.

Certain Membranes are affix'd to the Ilia, which are nervous Ligaments of the Uterus. Theſe Membranes, which are inſerted in the Bottom of the Uterus, hard by the Loins, are ſmall and ſlender ; the others towards its Neck, and which adhere here-and-there to the Ilia, are very nervous, and ſpread much after the manner of the Sails of a Ship. Now if all theſe Membranes are relax'd, the Uterus falls out of its Place. Sometimes the interior of the two Membranes which ſurround the Uterus appears, and may be ſeparated from the other ; for only two of its Membranes can poſſibly be divided, one of which recedes from the other, by reaſon of the Fluxion of Humours, as it happens likewiſe in Miſcarriages and hard Labours, in which Caſe it adheres to the Chorion ; for if that is forcibly extracted, the Coat of the Uterus comes along with it ; but if the Woman eſcapes Death, and if it returns to its proper Situation, it reunites exactly, or elſe hangs a little out. Sometimes the Mouth of the Uterus falls out only as far as its Neck ; but it is eaſily reſtor'd, if Fumigations are uſed, and the Midwife uſes proper Endeavours to replace it gently, and by Degrees.

The Head is the Origin of the Senſes and Nerves, and rather attracts the Blood from the Heart, than conveys it to other Members. When therefore the Cauſe of any Diſorder is lodg'd in the Nerves, the Senſes muſt be injured. Tho' the Nerves ariſe from all Parts of the Head, yet the anterior Part of the Head is the Store-houſe, as it were, of all the Senſes, and from it all Aids and Injuries are deriv'd. For this Reaſon, in applying Fomentations, we ought to proceed no farther than the Vertex.

Aretæus, following the Opinion of *Eraſiſtratus*, maintain'd, that the Nerves were not only the Origin of Senſation, but the Source of all Action and Motion of the Members. So that if the Origin of any Nerve below the Head is affected, as the Membrane or Meninx of the Medulla Spinalis, the Parts which come under the ſame Denomination, and alſo thoſe which are contiguous, become paralytic ; the Parts of the Right Side, if the Nerves on that Side be hurt ; and thoſe of the Left, if the Nerves on that Side ſhould happen to be injured. But if the Cauſe of the Diſeaſe be lodg'd in the Head, if the Nerves on the Right Side be affected, the Parts on the Left Side will be paralytic, and *vice verſa*. The Reaſon of this Phænomenon is, that the Nerves change Sides near their Origin ; for thoſe on the Right Side do not go directly all the way to the Parts on the Right Side ; but both thoſe on the Right and Left Sides, being inſerted in their proper Origins, they immediately croſs one another in the Form of the *Greek* Letter x, tendingto oppoſite Parts. But whether the whole Body, or ſome of its Members, either on one or both Sides, are paralytic, the Nerves which ariſe from the Head are ſometimes affected, and in ſhort, are eaſily deprived of their ſenſitive Faculty, but do not of themſelves ſo readily become incapable of Motion. Theſe Nerves alſo, if by Conſent they contract any Injury from thoſe deſtin'd for the Purpoſes of Motion, loſe in ſome meaſure their Capacity for Motion, with ſome Degree of which, tho' a very ſmall one, they are naturally endow'd. Sometimes alſo the Nerves ariſing from ſome Muſcles, and terminating in others, are hurt ; and theſe are the Nerves which are chiefly capable of Motion, and convey it to the Nerves of the Head, which derive a great deal of their Motion from them, tho' they have ſome Degree of it in themſelves. Theſe Nerves therefore ſuffer principally a Decreaſe of Motion, but they rarely or never loſe their ſenſitive Faculties ; and if at any time a Congeries of Nerves riſing from any Bone, and terminating in another, ſhould be either relaxed, or broke, the Parts become impotent and but they are not depriv'd of Senſation.

According to *Aretæus*, a *Tetanus* is a Diſeaſe the Nerves, in which he alſo taught, that the principal of Melancholy reſided ; he likewiſe thought, that affected, and often contracted, in a Phrenitis ; and Gout all the Syſtem of Nerves was affected.

Theſe were the Notions maintain'd by *Aretæus*, with to Anatomy, which he made chiefly ſubſervient to accounting for the Symptoms and Cauſes of Diſeaſes. he imitated the Sect of the Dogmatiſts, who maintain'd, *ſince Pains and Diſorders of various Kinds were internal Parts, no one could apply Remedies to them ignorant of their Structure.* So that tho' the Notions of concurr'd ſometimes with thoſe of *Hippocrates*, or *Herophilus* ; yet he was not the blind Votary of any or the too fond Admirer of any Man ; but freely declares he himſelf thought Truth. *Wigan's Preface to Aretæus.*

RUFUS EPHESIUS

Is the next Anatomical Author of Note we meet He liv'd under the Emperors *Nerva* and *Trajan*, eſteem'd a very ſkilful Phyſician by *Galen*, who forms us, that he wrote in Verſe upon the *Materia* He alſo wrote a Treatiſe upon the *atra Bilis*, or black and ſome other Pieces quoted by *Suidas*, but theſe reach'd our Hands ; for the only Remains we have of thor are, a ſmall Treatiſe on the *Greek* Names of the Parts of the human Body, another on the Diſeaſes of the neys and Bladder, and a Fragment relating to purgative cines. The principal Deſign of this Phyſician, in the theſe Works, was to give a general Idea of Anatomy, diſſuade thoſe who ſtudied Phyſic in his own Days from deceiv'd in reading the antient Authors, ſome of deſcrib'd the Parts of the human Body under one Set of and others of them the ſame Parts under quite different lations. Beſides, we may fairly gather from what vances in this Treatiſe, that in his Days all the Demonſtrations were made upon Beaſts. *Make* he, *of an Animal as nearly reſembling Man as you meet with. You will not find all the Parts of the Animal and in every Particular, like thoſe of Man* ; but there *leaſt be ſome Analogy or Similitude betwixt them.* continues he, *Anatomy was taught on human Bodies.*

We alſo learn from the ſame Book, that thoſe which were afterwards diſtinguiſhed by the Epithet were but juſt then diſcover'd. *The Antients*, ſays *Rufus*, *the Arteries of the Neck* carotid *or* carotic *Arteries*, *thet, in their Language, imply'd Sleep-inducing*, *imagined, that when theſe Arteries were ſtrongly the Animal was inclined to Sleep, and loſt the Uſe of But in this Age we have diſcover'd, that theſe Symptoms occaſioned by the Compreſſion of theſe Arteries, but by the Nerves, which are contiguous to them.*

'Tis alſo probable, that *Rufus* obſerved certain the Matrix, of which preceding Anatomiſts had made tion. *Herophilus*, ſays he, *did not believe, that Women Paraſtatæ Varicoſæ* ; *but upon examining the Matrix I have obſerved certain Veſſels which ariſe from the and which, being folded back upon both Sides in the Varices, terminate in the Cavity of the Matrix. preſſing theſe Veſſels, there even flows from them a Humour* ; *and 'tis thought that they are certainly of the varicoſe Kind.* *Rufus* had before obſerved, *there were four ſpermatic Veſſels, two of the varicoſe, of the glandular Kind* ; *and that the Extremities of the which adhered to the Teſticles, were call'd* PARASTAT

What he calls in this Paſſage *Paraſtatæ Varicoſæ*, be the ſame things, which are now called *Tubæ* from *Fallopius*, the ſuppoſed Diſcoverer.

GALEN

Is the next and principal Anatomiſt of Antiquity ; are obliged for moſt we know with reſpect to the the Antients. As a complete Extract of his Works Subject would be too voluminous, I ſhall in this Place ſome general Remarks on his Anatomy, reſerving his Diſcoveries for the Articles to which they properly

Galen maintain'd, that the *Aſclypiadæ*, or *Eſculapius*, down to the very Days of *Hippocrates*, one of that Race, were perfect Maſters of Anatomy none of that Family, except the laſt, had wrote any that Subject. The Reaſon of their not writing was, Children, to whom alone they communicated their Anatomy immediately under themſelves, almoſt as learn'd the Letters of the Alphabet, and that, by ſections made, and making them themſelves ; ſo that no Occaſion for Books to inſtruct them in this Art. wards happened, ſays *Galen*, that *Hippocrates* having Anatomy, as well as the other Branches of Phyſic, firſt made Strangers his Diſciples, Anatomy began to

ecauſe the Phyſicians who came after him, ſatisfied
es with reading his Books, without taking the Pains
themſelves. *Diocles*, who came almoſt immediately
ppocrates, wrote alſo on the ſame Subject, but in ſuch
as diſcovered abundance of Ignorance.

gs remained in this Situation, till the Death of *Diocles*,
ppened much about the Time, in which *Herophilus*
ſiſtratus appear'd. Theſe two Phyſicians apply'd them-
ſtriouſly to Diſſections; and had, for that Purpoſe, as
man Subjects as they deſir'd; ſo that they ſoon re-
d Anatomy, which had been neglected during the above-
d Interval. But the Anatomiſts of ſucceeding Ages
the ſame Opportunities of diſſecting human Bodies;
ons for which are at Length enumerated by *Riolanus*,
man Bodies, ſays he, were burned immediately after
There was a Law enacted at *Rome*, in Conſequence
iſorders which reign'd during the Civil War, which
under *Marius* and *Sylla*, which diſcharged and pro-
he committing any Outrages on the Bodies of the
We alſo know, that in the Days of Antiquity, People
only afraid of touching, but even of coming near,
arcaſes; and for that Reaſon the *Veſpillones*, or thoſe
rr'd the Dead, and even the *Coriarii*, or thoſe who
the Skins of Beaſts, had their Dwellings without the
Rome; neither had the public Executioners any Re-
n it; for the *Romans* were ſo delicate in this Point,
would not ſo much as allow any one to be puniſhed
eir Walls. The Laws of the *Jews*, relating to thoſe
hed dead Bodies, are too well known to ſtand in need
meration; but every one does not know, that the Sen-
f the *Greeks*, with regard to this Point, were the ſame
ſe of the *Jews*. This *Riolanus* proves by a Paſſage
Iphigenia of *Euripides*: *If any one*, ſays that Poet,
Hands by Murder; if any one touch a Carcaſe, or a
mmediately after Child-birth; the Gods diſcharge him
r Altars as impious and profane. The Difficulty which
merly was, of finding human Bodies for Diſſection,
rom a Paſſage of *Pliny* to the ſame Purpoſe, [*Lib.* 28.
where he ſays, *that it was againſt the Laws to look*
Entrails of Men. But theſe Authorities, and all the
ought by *Riolanus*, cannot hinder him from thinking,
ll Ages Phyſicians have fallen upon the Means of pro-
uman Bodies for Diſſection. This he endeavours to
a Paſſage of *Pliny*, where [*Lib.* 19. *Cap.* 5.] he ſays,
Kings of Egypt *in antient Times opened the Bodies of*
, in order to know of what Diſtempers they died. The
alſo uſed to embalm their Dead, which they could
bly do without opening them. There were at *Alex-*
Galen. Adminiſtrat. Anatom. Lib. 1. *Cap.* 2.] human
, by means of which young Phyſicians learned to know
: We read in *Rufus Epheſius*, that the Phyſicians
before him, had learned Anatomy upon human Bodies;
Accounts handed down to us of *Herophilus* and *Era-*
will not allow us to doubt of it. *Galen* [*De Diſſect.*
Cap. 5.] pronounces concerning the firſt of theſe Phy-
That he had acquired a very exact Knowledge of Ana-
diſſecting Men, and not Beaſts, as moſt other Phyſicians
Seneca, according to *Riolanus*, affirms, *Medicos,*
gnoratam Morbi cognoſceernt, Viſcera reſcidiſſe; hodie
m Artus reſcindi, ut Nervorum Articulorumque Poſitio
ſſit. That *Phyſicians opened the Bowels of Men, in*
iſcover the Cauſes of their Diſeaſes; and that even in
they diſſected the ſeveral Parts of Carcaſes, in order
the Situation of the Joints and Nerves. But in the
Edition of *Seneca*, there are only theſe Words: *Me-*
im ignotam Morbi cognoſcerent, Viſcera hominum reſci-
Phyſicians, that they might know the hidden Natures of
opened the Bowels of Men. Now *Seneca*, according
us, lived in the Days of *Auguſtus*, *Tiberius*, and *Nero*;
Roman Phyſicians were allow'd to diſſect the Carcaſes
nemies, which in Reality they did during the Wars of
Aurelius againſt the *Germans*, as *Galen* informs us. It
no difficult Matter to procure the Bodies of ſuch as
to Death at *Rome*, ſince they remained uninterr'd
he *Eſquiline Gate*, now called the *Porta di S. Lorenzo*.
ies of expoſed Children might have alſo been eaſily
In ſhort, ſince in theſe Days Maſters had great
of Slaves, who could hinder them from uſing any
with the Carcaſes of theſe poor Creatures, which they
ſhould judge proper? *Riolanus* might have ſubjoin'd
Proofs, what *Cicero* ſays [*Academic. Quæſt. Lib.* 4.]:
oſtra non novimus; qui ſint ſitus Partium, quam Vim
rs habeat, ignoramus. Itaque Medici ipſi, quorum in-
noſſe, aperuerunt ut viderentur; nec eo tamen, aiunt
notiora eſſe illa, quia fieri poſſit, ut patefacta & de-
ntur. We know not, ſays he, *our own Bodies; we*
ant of the Situation of the Parts, and unacquainted
Powers of each particular Member. For this Reaſon,
ans themſelves, whoſe Intereſt it was to be throughly
theſe things, diſſected human Bodies with a View to diſcover them: But, ſay the Empirics, they are not by that meant better underſtood or comprehended by us, becauſe 'tis poſſible, that ſo ſoon as they are diſcovered, and expoſed to View, they may aſſume a different Nature, than what they had before. The ſame *Riolanus*, having proved, in general, that the antient Phyſicians ſometimes diſſected Men, endeavours to ſhew in a particular manner, that *Hippocrates*, *Ariſtotle*, and *Galen*, did ſo too. As for the two firſt, they come not under our Conſideration at preſent. I ſhall therefore only inquire a little into the Truth of his Pretences, with regard to *Galen*, in whoſe favour he ſtands up againſt ſome Moderns, who have maintain'd the contrary: *People*, ſays he, *have no Reaſon to accuſe* Galen *of never having diſſected human Subjects, and of having taught the Anatomy of an Ape inſtead of that of a Man. I could eaſily prove by a great many Quotations from this Author, that he has diſſected both Apes and Men; but that he has only taught the Anatomy of Man.* Upon this Occaſion, he quotes two or three Paſſages from *Galen*, by which indeed it appears, that this Author treats, or, at leaſt, ſays he treats, of the Anatomy of Man; and in one Paſſage, he even promiſes to publiſh ſeparately the Anatomy of ſome other Animals. The Words of this laſt-mentioned Paſſage run thus: *I have not here a Deſign to enumerate the Number of Lobes which make up the Livers of other Animals, becauſe I have not as yet deſcribed the particular Structure of any of their Organs, except in ſome Paſſages, where I have been obliged to do it, in order to illuſtrate what I ſay concerning Man: But, if I live, I ſhall ſome time or other deſcribe the Structure of the Bodies of Beaſts, and furniſh out an exact Anatomy of all their Parts, as I have now done with regard to the Parts of Man. Riolanus* quotes another Paſſage, wherein *Galen*, when talking of ſome Anatomiſts of his Days, ſays, *That it was no wonder if they were deceived, ſince they only diſſected the Hearts and Tongues of Oxen, never conſidering at the ſame time, that theſe Parts are not, in theſe Animals, the ſame they are in Men.* One may reaſonably ſuppoſe, that if *Galen* had not himſelf examined thoſe Parts in Man, he would not have been ſo forward in cenſuring thoſe who had not done it more than himſelf.

After the Paſſage in which *Galen* commends *Herophilus* for learning Anatomy by diſſecting Men, he adds, *That moſt other Phyſicians diſſected only Beaſts.* This Paſſage proves, that *Herophilus* was not the only Anatomiſt who diſſected Men; if none, except he, had done ſo, our Author inſtead of theſe Words, *Moſt other Phyſicians*, ſhould have ſaid, *All other Phyſicians*. Now, if ſome of the Phyſicians of his Time diſſected human Bodies, it is very probable, conſidering the Fondneſs he diſcovers for Anatomy, that he was not idle in this reſpect, whilſt others were labouring to improve themſelves. I believe then, as well as *Riolanus*, that *Galen* may poſſibly have diſſected human Bodies; but 'tis probable he did ſo very rarely, and perhaps but imperfectly too. What has already been ſaid upon this Head, proves that the thing could not be undertaken without a great deal of Difficulty; and in this Sentiment *Galen* himſelf confirms us, by the Pains he is at in ſpeaking of ſeveral other Methods, in which he thought Anatomy might be learn'd. He adviſes (*Anatom. Adminiſtrat. Lib.* 6. *Cap.* 1.) *to make choice of that Species of Apes, which bear the neareſt Reſemblance to Man; or, if ſuch*, continues he, *cannot be found, we muſt diſſect thoſe whoſe Heads reſemble that of a Dog, or Satyrs, or Lynxes: If theſe Animals ſhould ſtill be wanting, we muſt make uſe of Bears, Lions, Weaſels, or Cats, becauſe theſe Animals have a kind of Fingers reſembling thoſe of Men.* He goes on thus: *I have never made an Attempt to diſſect Ants, Gnats, Fleas, or any ſuch minute Inſects; but I have often diſſected Weaſels, Rats, Serpents, and ſeveral Species of Birds and Fiſhes; by which I have diſcovered, that the ſame Principle of Intelligence is employed in the Formation of all Animals; every one of which has the Structure and Mechaniſm of its Body adapted to the State and Condition of its Nature.* It alſo appears, that *Galen* ſometimes diſſected Hogs and Goats; and he himſelf (*Anatom. Adminiſtrat. Lib.* 7. *Cap.* 10. *De Uſu Part. Lib.* 17. *Cap.* 1.) ſpeaks of an Elephant, the Whole, or at leaſt ſome Parts, of which he had diſſected at *Rome*. It will, no doubt, be ſaid, that our Author adviſed to begin with diſſecting Beaſts, and to finiſh and perfect our Knowledge of Anatomy by diſſecting Men. All this is true, but let us ſee in what Strain he talks of this laſt Affair (*Adminiſtr. Anatom. Lib.* 3. *Cap.* 5.): *I adviſe you*, ſays he, *firſt to exercise yourſelf throughly upon Apes; that if you ſhould find an Opportunity of diſſecting a human Body, you may be able readily to diſcover and know each Part of it; in which Caſe you will be foil'd in your Attempts, unleſs, before-hand, you have frequently exerciſed yourſelf upon other Subjects: For want of ſuch a previous Exerciſe, thoſe who diſſected the Bodies of the* Germans, *during the War undertaken by that People againſt* Marcus Aurelius, *reaped no other Advantage from their Labours than a Knowledge of the Situation of the Viſcera. But a Phyſician who has before try'd his Hand upon other Animals, and eſpecially upon Apes, ſees at once the Peculiarities of the Parts he diſſects. It is more eaſy for a Man of Skill and Practice in Anatomy, with a ſingle Glance of his Eye, to diſco-*

ver what he has elſewhere ſeen before, than for a Novice in the Art to perceive even the moſt evident Things at his greateſt Leiſure. Many of this firſt Claſs of Men have very quickly diſcovered what they wanted to ſee, upon the Bodies of thoſe who were condemned to Death, or expoſed to the Fury of wild Beaſts, or upon the Carcaſes of Robbers, who were denied the Privilege of Burial. Beſides, large Wounds, or deep and hollow Ulcers, have ſometimes diſcovered, to theſe Men of Skill, many Parts of the human Body reſembling thoſe they had formerly ſeen in Apes; whereas thoſe who had never endeavoured to improve themſelves upon theſe Animals, could reap no Advantage upon Occaſions of this Nature. Thoſe who have frequently diſſected the Bodies of expoſed Children, well enough know, that the Bodies of Apes and Men very much reſemble each other. It is not to be doubted, but *Galen* employ'd ſome of theſe Means, or others of a like Nature, in order to inſtruct himſelf in Anatomy; and the Anatomy acquir'd in this Shape, was by him ſtyled, Ἀνατομὴ κατὰ περίπτωσιν, or *Anatomy acquired by Accident*, which was the only Kind approv'd of by the Empirics. That *Galen* enjoy'd Opportunities of this Nature, is plain from another Paſſage, where, after having adviſed young Phyſicians to travel to *Alexandria*, in order to ſee the Skeletons, and not to ſatisfy themſelves with what they read in Books upon that Head, he adds theſe Words: *I have often examined the Bones of Men, when Sepulchres or ruined Monuments have fallen in my way. A Sepulchre, ſlightly built upon the Brink of a River, happened to be deſtroy'd by the Impetuoſity of the Torrent, which had overflow'd it, ſo that the Body, which had been laid in this Sepulchre, being carried off by the Current, ſtopp'd at laſt in a Place not unlike a Harbour, ſurrounded with pretty high Banks. I had an Opportunity of ſeeing this Body, of which the Fleſh was already rotten; but the Bones were ſtill connected with one another; ſo that one would have ſaid it was a Skeleton, prepared for the Inſtruction of young Phyſicians. One Day I alſo ſaw the Carcaſe of a Robber lying on a Mountain, far enough from any public Road: This Robber was kill'd by a Traveller, whom he had attack'd; and the Inhabitants of the adjacent Parts refuſing to bury him, becauſe they judged a Man ſo wicked the proper Prey of Vulturs, his Bones were two Days afterwards ſtripp'd of all their Fleſh, and dry, like thoſe prepared for the Inſtruction of Phyſicians.* *Galen* ſpeaks alſo, in the ſame Chapter, of a Diſeaſe attended with *Carbuncles*, which had raged in moſt of the Cities of *Aſia*, and afforded him Opportunities of examining the Situation and Diſpoſition of the Muſcles of ſeveral Parts, which were ſtripp'd of the Skin, and ſome Part of the Fleſh.

If our Author confin'd himſelf to the Methods above ſpecified, he cannot ſure be ſaid to have made complete and regular Diſſections of the human Body. Among all the Subjects, from which he ſays Anatomy may be learn'd, none, except the expos'd Children, ſeem calculated for furniſhing him with the Materials of a complete Anatomy; becauſe it was no difficult Matter to carry off ſome of theſe little Bodies, and afterwards diſſect them, with the Leiſure neceſſary for that Purpoſe: And this, in my Opinion, he himſelf ſeems to inſinuate, when he ſays, that *thoſe who frequently diſſect expoſed Children, well enough know, that the Body of Man very much reſembles that of an Ape.* If Diſſections of this Nature were often made in the Days of *Galen*, as we may gather from this Paſſage, 'tis probable that he, like others, employ'd himſelf in this way; tho' a Principle of Caution might reſtrain him from making a public Declaration of it, on account of the Averſion which then reign'd in the Minds of People againſt Practices of that Nature. It may be ſaid, that it was not much more difficult to get ſome of the Bodies of executed Criminals carried off; but he no-where inſinuates, that any one made the leaſt Attempt of this Kind; for when he ſpeaks of what was learn'd by examining the Bodies of Robbers, or other Carcaſes caſually found in the Fields, he informs us, that this Examination was made upon the very Spot where ſuch Bodies were found, by endeavouring, as ſoon as poſſible, to diſcover the Part or Circumſtance ſought for. This may be gather'd from the Paſſage already quoted, where he ſays, that thoſe who have diſſected Apes are able *ſpeedily* to inform themſelves, by means of the Carcaſes they find in the Fields, with regard to the Diſpoſition of thoſe Parts which they may have formerly ſeen by diſſecting Animals. In the Courſe of this Paſſage, he three or four times repeats the Word *ſpeedily*, which expreſſes the Shortneſs of the Time which he himſelf, or any body elſe, had to view the Parts of the Carcaſes we are now ſpeaking of, for fear, no doubt, of being ſurpris'd in an Action, which muſt have ſtruck Terror into the Spectators, and muſt be own'd to be, in its own Nature, none of the moſt agreeable. In ſhort, the Pains *Galen* is at to ſpecify all the other Means of learning Anatomy, which we have mention'd, ſufficiently prove, as we have already obſerved, that, in theſe Days, regular Diſſections of the human Body could be made but very rarely, and with a great deal of Difficulty. A collateral Proof of this is, that ſuch Diſſections were not publickly made in the Schools of the Phyſicians; for we may well ſuppoſe, that if they were made in any Part of the World, it muſt have been at *Alexandria*, the Capital of *Egypt*, where the Cuſtom of opening the Dead, in order to embalm them, might have bee poſed, in ſome meaſure, to reconcile and inure them Horror which attends a complete Diſſection: But we find, that any thing of this Nature was practiſed there Days of *Herophilus* and *Eraſiſtratus*, or of the antient K that Country. All that was done in this reſpect, even famous Medicinal School which flouriſhed in the Days of was to teach Oſteology upon human Skeletons, might have been very antient. If the Maſters of th had exhibited, upon human Subjects, all the other P the Anatomy of Man, *Galen*, and a great many othe thors, had not fail'd to acquaint us with it, in num Paſſages. As for thoſe Paſſages from many Authors, have, ſince the Time of *Riolanus*, been advanced to prove, in the Days of Antiquity human Diſſections were practi is eaſy to ſhew, that almoſt all of them have a Refere what paſs'd long before the Times in which theſe Authors and that the Accounts handed down of *Herophilus* and E*ſtratus*, might have laid a Foundation for all that has be upon that Subject. But, to return to *Galen*; taking granted, that he diſſected ſome human Bodies, yet noth more convincing Proof of his not having diſſected a f Number, than his deſcribing, in ſeveral Paſſages, the P Apes, or ſome other Animals, inſtead of thoſe of a Man has been clearly ſhewn by *Veſalius*; and thoſe who have tained the contrary, have been miſerably blinded and mi their ſuperſtitious Attachment to *Galen*.

But tho' *Galen* has ſometimes confounded the Parts of with thoſe of Men, his Anatomy is nevertheleſs a very Work, and *Veſalius* himſelf had a high Veneration for it; indeed, it muſt be own'd, that nothing could ſet the M its Author in a fairer or truer Light than this Piece; if it as he ſays, that no one had wrote well on Anatomy befo and that he had made many important Diſcoveries in thi of Phyſic. It is, indeed, poſſible, that, conſidering his ment to Anatomy, he might have made ſome Diſcoveri own in that Science; tho', at the ſame time, his Prop commend himſelf muſt render every thing he ſays, con himſelf, ſuſpected: But, the Truth is, whether he was who placed Anatomy on a good Foundation, or whe raiſes his own Character on the Labours of others; from at the ſame time, he has not drawn all the Advantage th have been wiſh'd; yet ſtill 'tis very certain, that we ſhou ſuffer'd very conſiderably if all his Anatomical Works h loſt, ſince they are the only remaining Monuments of the Antients wrote upon that Subject; for what elſe w of that Nature, is ſcarce worth Notice, if we excep *Ariſtotle* has given us upon that Head. 'Tis true, Ga not attain'd to Perfection; but neither can the Moder tend to that; and 'tis probable, that, without thoſe with which he ſupplied the very Men who have cenſur we ſhould have ſtill been in the Dark, with regard to Part of that which he has clearly demonſtrated. Ga principal Treatiſes upon Anatomy are, his *Anatomical ſtrations*, and his Book *On the Uſe of the Parts of th Body*. The former contained fifteen Books, of which laſt are loſt: The latter, which we have complete, ſeventeen. We have alſo a Book of his, which treats *Bones* in particular; another, *On the Diſſections of the* a third, *On the Diſſection of the Nerves*, which is imp fourth, *On the Diſſection of the Veins and Arteries*; a which the Author proves, in Oppoſition to *Eraſiſtratu there is Blood in the Arteries*; a ſixth, *On the Anat Matrix*; a ſeventh, *On the Organ of Smelling*; an e ninth, *On the Uſefulneſs and Cauſes of Reſpiration*; a t an eleventh, *On the Motion of the Muſcles*; a twelfth *Formation of the Fœtus*; and two others, *Concerning* without taking into the Account what we find concer tomy, in his Books *On the Natural Faculties*, and e ſcatter'd up and down his other Works. *Galen* w veral other Books, which are loſt; in ſome of treated of *the Anatomy of Hippocrates*, and in others of *Eraſiſtratus*; in a third Work he treated of the Di *dead Bodies*; and in a fourth *concerning that of livin* It were to be wiſhed, that all theſe had reach'd our H eſpecially thoſe Pieces relating to the Anatomy of H and *Eraſiſtratus*; as alſo the Abridgments he made of tomical Works of *Lycus* and *Marinus*; the latter wrote twenty Books, which were abridg'd by *Galen*, which he has preſerv'd the Titles, which are ſo curio a juſt Foundation for our lamenting the Loſs of Work.

But tho' we have not all the Works of *Galen*, yet have, happen luckily to comprehend almoſt the Whole tomy; and if his *Anatomical Adminiſtrations* are not the other Books we have mention'd, and eſpecially th cerning the *Uſe of the Parts*, ſupply that Defect; Book *on the Uſe of the Parts*, is a Maſter-piece, which juſtly admired in all Ages, and which ſufficiently diſco Extent of its Author's Genius; ſince in it the Phyſ

the Philoſopher, may find Satisfaction. But what, in a
r Manner, ſtrikes Chriſtians with Admiration is,
len, tho' a Heathen, yet acknowledg'd One God, all-
l-good, and all-powerful, the Creator of Man, and of
Animals. The Words he uſes, in one Paſſage of this
have not only ſtrong Senſe, but alſo ſomething of a
nd ſtriking Energy in them [*De uſu Part. Lib.* 3.
]: *In writing theſe Books*, ſays he, *I compoſe a true*
Hymn to that awful Being, who formed us all; and, in
ion, True Religion *does not ſo much conſiſt in ſacri-*
ny Hecatombs on his Altars, or in making him rich and
eſents of the moſt fragrant and exquiſite Perfumes, as in
rſuaded ourſelves, and endeavouring to perſuade others,
s poſſeſs'd of unerring Wiſdom, irreſiſtible Power, and
ſive Goodneſs. For his having ranged all Things in that
d Diſpoſition, which is beſt calculated for the Continua-
heir reſpective Beings, and his having condeſcended to diſtri-
Favours to all his Works, is a glaring Proof of his Good-
ich calls aloud for our Hymns. His having found the
eceſſary for the Eſtabliſhment and Preſervation of this
Order and Diſpoſition, is an inconteſtable Proof of his
, as his having done every thing he pleaſed, is of his Om-
. 'Tis not in one Paſſage only, that *Galen* talks in this
Strain; theſe are ſo much the genuine Sentiments of his
hat he loſes no Opportunity of inculcating them, and
g, at the ſame time the *Epicureans*, who maintained,
beautiful and harmonious Frame of Nature was the
ſult of a fortuitous Concourſe of Atoms. 'Tis true,
De uſu Part. Lib. 11. *Cap.* 14.] he oppoſes *Moſes*
ng maintain'd, that the *Will*, or ſole Command of
as the only Cauſe of all Things. *Galen* does not ad-
is Principle of *Moſes*, except the Will of God be taken
nction with the Choice which he made of the moſt
aterials, for anſwering the particular Ends he had pro-
himſelf, after having known what was really beſt, with
the Arrangement of each Body; for, ſays our Author,
uld not have form'd Man out of a Stone, nor an Ox
e out of a Parcel of Aſhes. *Galen* did not reflect, that,
was the Maſter and Creator of Matter, ſo his Will was
to make any Part of it aſſume that particular Form,
thoſe other Modifications, which were requiſite for
his Ends. If *Epicurus*, bewitch'd as he was with
s, had acknowledg'd the Supreme Cauſe of their Ar-
t, he would have reaſon'd better upon this Subject than
ut *Galen* was miſled by *Plato*, or *Ariſtotle*, and not by

The younger Soranus Ephesius

mporary with *Galen*; he firſt practiſed Phyſic at *Alex-*
and afterwards at *Rome*: He wrote a Treatiſe on the
of Women.
is a Treatiſe on the Uterus, printed in *Greek* at *Paris*,
ich is ſuppoſed to be a Fragment of the Book of *Sora-*
-mention'd.
Venice Edition of *Veſalius*, 1604. the Anatomy of the
from *Soranus*, is publiſh'd in *Latin*. And the ſame
was printed, together with the Works of *Theophilus*
arius, at *Paris*, 1556. 8*vo*.

philus Protaspatarius, or rather Protas-
patharius,

natomical Author, lived, according to *Fabricius*, in the
the Emperor *Heraclius*: He was undoubtedly a Chri-
probably a Monk, as he is ſtyled in ſome antient Manu-
He wrote five Books, περὶ κατασκευῆς ἀνθρωπίνου
Of the Fabric of the human Body, in which he is
e epitomiz'd excellently *Galen of the Uſe of the Parts*;
s mentions ſome things not to be found in any pre-
thor. Thus he aſſerts, that the firſt Pair of Nerves,
m the firſt Ventricles of the Brain, is extended to both
ls; and that by means of theſe, Smells are convey'd
in.
lſo he ſays, that two Muſcles are concern'd in ſhut-
ye-lids, but that they are open'd by one only.
ng to him, the Subſtance of the Tongue is muſ-

firſt deſcribed a very ſtrong Ligament, which is com-
nd fixes all the Articulations of the Vertebræ. This
very remarkable, and, as it may ſerve as a Specimen
k, I ſhall inſert it: Ἐπειδὴ δὲ καὶ κύπτειν ἔμελλεν ὁ
ἀνανεύειν, οὐκ ἠρκέσθη ἡ ἀγαθὴ τοῦ Θεοῦ πρόνοια εἰς μόνους
συνδοῦντας δέσμους τοὺς σπονδύλους· ἀναγκαῖα γάρ
ἡ χρεία· ἀλλ' ἔξωθεν μὲν τῆς ἀκάνθης τῆς ῥάχεως,
δεσμὸν, ξανθὸν μὲν τῷ χρώματι, νευροχονδρώδη δὲ τῇ οὐσίᾳ,
ς ἄκρας συνδοῦντα ἁπάσας διαρθρώσεις τῶν σπονδύλων
σμον.
is neceſſary for a Man to bend himſelf forwards and
it did not ſeem ſufficient to the good Providence of
rniſh each particular Articulation of the Vertebræ with
ments, which, however, are very neceſſary, and of *great Uſe; but, beſides theſe, it added, on the Outſide of the Spine of the Back, a Ligament of a yellow Colour, and of a nerveo-cartilagineous Subſtance, as a common Ligament to all the Articulations of the Vertebræ of the Spine.*

'Tis probable, that this Author alſo knew, that the Subſtance of the Teſticles is vaſcular; for he takes Notice of a prodigious Number of capillary Veſſels, as fine as a Spider's Web, which, he ſays, are diſperſed in the glandular Subſtance of theſe Parts.

This Work of *Theophilus* was publiſh'd at *Paris* in *Greek*, in 1555. 8*vo*. Dr. *Douglas* informs us, that it was alſo publiſh'd in *Greek* at *Paris*, 1540. But, I am afraid, this may be a Miſtake; for *Vander Linden* and *Fabricius* inform us, that the *Paris* Edition of 1540. is only the *Latin* Tranſlation of *Junius Paulus Craſſus*; but as I have never ſeen this Edition, I cannot determine it. *Fabricius* has given this whole Treatiſe in *Greek* and *Latin*, at the End of the twelfth Volume of his *Bibliotheca Græca*.

The above-mention'd Tranſlation was alſo publiſh'd at *Venice*, 1536. 8*vo*. at *Baſil*, 1539. 4*to*. and, with ſome other Authors, at *Baſil*, 1581.

This *Theophilus* is alſo Author of ſeveral other Medicinal Treatiſes.

The next Anatomical Author is

Oribasius.

He, in two large Books, has deſcribed all the Parts then known, of the human Body, and aſſign'd the proper Office to each of them; but he has added little to what *Galen* has diſcourſed of in his Anatomical Works; and upon the account of this Treatiſe, rather than of any other of his Writings, he deſerves the Name given him of *Simia Galeni*, the Ape of *Galen*. Only one thing we find, which is either omitted by *Galen*, or is loſt, together with ſome other of *Galen*'s Works, the firſt Deſcription of the Salivary Glands, which is this: "On each Side of the Tongue lie the Orifices of the Veſſels, which diſcharge the Spittle, and into which you may put a Probe. Theſe Veſſels take their Riſe from the Root of the Tongue, where the Glands are ſituated. They riſe from theſe Glands, in much ſuch a manner as Arteries uſually do, and convey the Salivary Liquor, which moiſtens the Tongue, and all the adjacent Parts of the Mouth." See Oribasius.

Nemesius

is an Author whoſe Name muſt by no means be omitted in a Hiſtory of Anatomy. He was Biſhop of *Emiſſa*, a City of *Phœnicia*, at the latter End of the fourth Century: He wrote a Treatiſe περὶ φύσεως ἀνθρώπου, *Of the Nature of Man*, of which there have been the following Editions:

Antverpiæ, 1565. 8*vo*. in *Greek*, with the *Latin* Tranſlation of *Nicaſius Ellebodius*.

Oxon, 1671. 8*vo*. *Greek* and *Latin*.

Vander Linden and *Douglas* mention an Edition at *Antwerp*, 1584. 8*vo*. but *Fabricius* takes no Notice of it.

A *Latin* Tranſlation by *Georgius Valla*, was printed at *Antwerp*, 1538.

An *Engliſh* Tranſlation was printed *London*, 1636. 8*vo*.

As to the Anatomical Diſcoveries of *Nemeſius*, Dr. *Freind* makes the following Reflections:

The *Oxford* Editor aſcribes two Diſcoveries to him, one of which was the moſt conſiderable that ever was made in Phyſic. The firſt is concerning the Bile, which is conſtituted, as *Nemeſius* ſays, *not only for itſelf, but for other Purpoſes; for it helps Digeſtion, and contributes to the Expulſion of the Excrements; and therefore it is, in a manner, one of the nouriſhing Powers; beſides, as a vital Faculty, it imparts a Sort of Heat to the Body. And, for theſe Reaſons, it ſeems to be made for itſelf; but, becauſe it purges the Blood, it ſeems to be formed for the ſake of the Blood*. Here, ſays the Editor, the Syſtem of the Bile is plainly and accurately deliver'd; that very Syſtem, which *Sylvius de le Boe*, with ſo much Vanity, boaſted he had invented himſelf. And, indeed, ſo far is true, that here is the true Foundation of *Sylvius*'s Reaſoning; and if this Theory be of any Uſe in Phyſic, *Nemeſius* has, I think, a very good Title to the Diſcovery. But there follows a much more material Point; and the Editor contends, that the Circulation of the Blood, an Invention which the laſt Century ſo much bragg'd of, was known to *Nemeſius*, and deſcribed in very plain and ſignificant Terms, which are theſe: *The Motion of the Pulſe takes its Riſe from the Heart, and principally from the Left Ventricle of it: The Artery is, with great Vehemence, dilated and contracted, by a Sort of conſtant Harmony and Order. While it is dilated, it draws the thinner Part of the Blood from the next Veins, the Exhalation or Vapour of which Blood is made the Aliment for the vital Spirit; but while it is contracted, it exhales whatever Fumes it has through the whole Body, and by ſecret Paſſages; ſo that the Heart throws out whatever is fuliginous through the Mouth, and the Noſe, by Expiration.*

Upon this ſingle ſlender Proof does he attribute this great Diſcovery of the Circulation to *Nemiſius*; and thoſe who have inſiſted, that it was known both to *Hippocrates* and *Galen*, have full as good Arguments on their Side. I will only ſay this, that from this very Deſcription, and from what the ſame Author ſays of the Liver in the ſame Chapter, that it miniſters Nouriſhment to the Body by the Veins, one may demonſtrably infer, that *Nemeſius* had no Idea of the Manner in which the Circulation of the Blood is performed.

It muſt be remarked, that, from the Time of *Galen*, to the Beginning of the fifteenth Century, Anatomy made but very ſlow Advances. For moſt that the lower *Greeks* have ſaid on this Subject, is collected from *Galen*. And the *Arabic* Anatomy muſt have had the ſame Source, as Diſſections of human Bodies, we are told, were not permitted by the *Mahometan* Religion. The Books of Anatomy, which the *Arabians* call *Taſchrib*, moſt in Eſteem amongſt the Orientals, are thoſe of *Ben Sina*, whom we call *Aviſenna*, of *Rhazes* ; and *Ebn Heman*. *Herbelot*.

The next Anatomiſt which occurs worthy of Remark, is

Mundinus,

a *Milaneſe*, according to *Douglas*, and *Freind*, who made ſome new, tho' rude Efforts, to improve Anatomy : About 1315. he compos'd a regular Body of that Science ; and as he was a Diſſector himſelf, interſpers'd ſeveral Obſervations and Diſcoveries of his own, eſpecially relating to the Uterus. This Book reviv'd, in ſome meaſure, the Study of Anatomy ; and was ſo much in Vogue till the Reſtoration of Learning, that the Statutes of *Padua* allow'd of no other Syſtem to be taught in their Schools.

Mundinus, in deſcribing the ſeveral Parts of the human Body, ſpecifies their Places, particular Modes of Situation, Number, Appearance, Subſtance, Qualities, Bulks, Coats, Ligaments, Uſes, Inconveniencies, Actions, and the Diſorders to which they are ſubject.

He treats of the Viſcera pretty largely, but touches very ſuperficially on the Nerves and Blood-veſſels. He only deſcribes the abdominal Muſcles, and contents himſelf barely with making mention of thoſe employ'd in Reſpiration.

He ſeems to have been a fond Admirer of the Anatomical Works of *Galen* and *Aviſenna*, tho' at the ſame time he does not fall in with their Sentiments upon every Occaſion.

He obſerves, that larger Veins and Arteries are diſtributed to the Penis and Tongue, than to any other Parts of the Body of an equal Bulk.

The Teſticles of Women were, in his Opinion, full of Cavities and glandular Caruncles, in which a certain ſalival Humidity was generated, which was the Source or Cauſe of that Sex's Pleaſure in Venereal Enjoyments.

He mentions, that ſeven Cells are found in the Matrix, the Mouth of which reſembles that of a young Whelp, or, rather, that of a grown Tench ; and that towards its Surface there was *Velamentum vel Pudicitia* ; or, rather, as it is in ſome Editions, *Velamen Subtile quod in Violatis rumpitur*, a ſlender Covering, which is burſt upon the firſt Coition ; by this he, no doubt, meant the Hymen.

The Neck of the Uterus was, according to him, a Palm in Length, broad and dilatable, with Wrinkles, or *Rugæ*, reſembling Horſe-leeches, for the ſake of Titillation.

He took the *Vulva* for the Extremity of the Neck of the Uterus ; upon which Occaſion he takes Notice of two Membranes near the Orifice of the Bladder, by which the Nymphæ are in all Probability meant.

The Ducts of the Ureters into the Bladder run, according to him, obliquely, that is, between one Coat and another, that the Return of the Urine to the Kidneys might be prevented.

He calls the Valves, belonging to the Orifices of the Veſſels of the Heart, *Oſtiola*, or ſmall Doors.

He publiſh'd a Book under the Title of *Anatome omnium humani Corporis interiorum Membrorum*, or the Anatomy of all the internal Parts of the human Body.

This Piece was printed, *Papiæ*, 1478, *Fol.* *Bonon.* 1482. *Fol.* *Venet.* 1507. *Fol.* *Argent.* 1509. *Papiæ*, 1512. *Quart.* *Lugd.* 1529. *Oct.* *Marpurgi*, 1541. *Quart.* *Argent.* 1513. *Quart.* *Venet.* 16*mo.* corrected by *Carpus*. It alſo appeared with *Ketham's Faſciculus Medicinæ*, *Anno* 1500. *Fol.*

The next Anatomical Author, we meet with, was

Johannes de Concoriggio,

a *Milaneſe*, who dy'd in 1438. His Works were printed at *Venice* in 1515. and 1521.

Alexander Benedictus

flouriſhed about 1495. He was of *Verona*, and cultivated Anatomy. He wrote a Book under the Title of *Alexandri Benedict. Phyſici Anatomiæ, ſive de Hiſtoria Corporis humani, Libri* 5. Printed *Baſil*, 1527. *Oct.* *Argentorati*, 1528. *Oct.* *Pariſiis*, 1514. His *Epiſt. Nuncupat.* was printed *Venet.* 1497. and his *Opera Medica*, *Venet.* 1535. *Folio.* *Baſil*, 1539. *Quart.* & *Fol.* *Ibid.* 1549. *Fol.* His *Hiſtoria Corporis humani*, together with ſome of his Collections, or Aphoriſms, was printed *Anno* 1527. 12*mo* ; but the Place is not mentioned.

He mentions, that the yellow Bile flow'd from the bladder to one particular Part of the Stomach.

He obſerv'd two Foramina, or little Holes, hard by the nary Paſſage in Women, which he falſly aſſerts to be Orifices of Veins, and from which, he ſaid, a certain flow'd, which was not prolific.

About the ſame Time liv'd

Alexander Achilinus,

of *Bologna*. His Annotations on the Anatomy of were publiſhed, together with the *Faſciculus Medicin* *hannis de Ketam* at *Venice*, 1522. *Fol.* And his *de humani Corporis Anatomia* was publiſhed at *Venice*, *Quarto*.

He is ſaid to have diſcover'd the Malleus and Incus of internal Ear.

Johannes de Ketam

above-mentioned treats on ſeveral Anatomical Subjects. Works are publiſhed at *Venice*, 1495. 1500. and 1522.

Gabriel de Zeris,

of *Verona*, flouriſh'd in the latter End of the fifteen Beginning of the ſixteenth Century. His Anatomical were publiſhed *Venet.* 1502. and 1533. *Fol.* and *Mar* 1537. and 1545. *Quarto*, together with the Anato *Mundinus*.

Guido de Cauliaco

was a Native of *France*, and ſtudy'd at *Montpelier* *Raymund*. He flouriſh'd in the Year 1363. at which he wrote a large Body of Surgery. His Works, un Title of *Chirurgiæ Tractatus Septem cum Antidotario*, printed *Venetiis*, 1490. 1519. 1546. *Fol. Lugd.* 1572. 1585. *Quarto.* *Venet.* 1499. *Folio.* *Lugd.* 1559.

He firſt taught, that Inciſions about the Eye-brows made in the ſame longitudinal Direction with the Body and not in that of the *Rugæ*, or Wrinkles of the Fore becauſe the Muſcles which ſerve to move the *Super* Eye-brows, run in the former and not in the latter Di

With regard to the *Os adjutorium*, or *Humerus*, vanced ſome Things which had the Appearance of being but they may be more juſtly aſcribed to *Galen*, the ſtorer of Anatomy, as will plainly appear from his Works

I have now trac'd Anatomy from its Origin, to the Century. But the Induſtry of the Revivers of this S the ſixteenth, which had, from the Time of *Galen*, great Degree uncultivated, will furniſh us with more and ample Diſcoveries, tho' it muſt be confeſſed, th have been pretended to be made, which were know the Infancy of Anatomy.

Jacobus Berengarius Carpenſi

was the great Reviver of Anatomy. He is di with the Epithet *Carpenſis* from the City *Carpi* in is likewiſe called *Carpus* alone, and *Jacobus Carpus*, *Fallopius*, *Jacobus Carpenſis*. But theſe three la Names he aſſumes to himſelf in his *Iſagoge*. He flou the Year 1522. and was Profeſſor of Anatomy and in the Univerſity of *Pavia*. His Commentaries Anatomy of *Mundinus* were printed *Bononiæ*, 1521. His Anatomy was printed *Bononiæ*, 1523. *Quarto*. 1529. *Oct.* *Argentorati*, 1533. *Oct.* *Venet.* 1535. His Practical Anatomy was tranſlated into *Engl* *Jackſon*, and printed at *London*, 1664.

He was the firſt that uſed Unction with Quickſilver Cure of the *Lues Venerea*, and became immenſely Practice that way.

He firſt diſcover'd the *Ecphyſis*, or Appendix of *num Cæcum*, which he calls the *Additamentum Coli*, that Name deſcribes it at Length.

He denies that the ſeven Cells of *Mundinus* are in the Uterus, and admits only of one Cell or Cavity.

He was acquainted with the ſublingual Glands Ducts. He thinks that the three Diviſions in the of the Abdomen are the Tendons of three Muſcles, the Contraction of the Abdomen.

He firſt diſcover'd Caruncles in the Kidneys, Nipples of a Breaſt.

That Line which now goes by the Name of the was by him called the *Linea Centralis*, becauſe it the Middle of the Belly.

He thought that the *Proceſſus Mamillares* were count of their exceſſive Softneſs, to be reckon'd Nerves.

Concerning the Ear he has theſe Words: "
" Bones are adjacent to this Membrane, [he means
" panum] which, being mov'd by the undulating

ſtrike each other, and, by their Motion, excite what call *Sound* in the Ear. This is the real Structure of Parts, which, though very remarkable, has yet been rved by few."

therefore unjuſtly thought by ſome to be the Diſcoverer little Bones, ſince he aſſigns the ſame Uſe to them that ave done before him; and, which is ſtill more, he no- pretends to be the Diſcoverer of them.

JASON A PRATIS, OR PRATENSIS,

ative of *Zeland*, and flouriſh'd in the Year 1520. His oks *De Uteris* were printed *Antwerp*. 1524. *Quarto*. *dami*, 1657. 12*mo*. His Book *De Parturiente & Partu* nted *Antwerp*. 1527. *Oct.* *Amſtelod*. 1657. 12*mo*.

ANDREAS LACUNA

Native of *Segovia* in *Spain*, and flouriſhed about the 552. His *Anatomica Methodus* was printed *Pariſ.* *Octavo*. His *Epitome Galeni Pergameni Operum, in Partes digeſta*, was printed *Baſil*. 1551. *Folio*. *Ibid.* *Folio*. *Argentorati*, 1609. *Folio*. *Lugd*. 1553. 16*mo*.

talking of the Tongue, he expreſſes himſelf thus; Circumſtance which well deſerves our Conſideration, Nature only beſtow'd a *Frenum*, or *Bridle*, upon the ue and Privy Parts, as if ſhe had intended, that Men d be modeſt in the Uſe of both."

talking of the Lips, he maintains, that "they are 'd with the inner Coat of the Stomach: And this, e, is the Cauſe, why, when a Nauſea affects the Sto- , the Lips become tremulous, and preſage a Diſcharge omit."

talking of the Stomach, he ſays, that "its Orifice, is called the *Pylorus*, is not in its Bottom, but e higher, that the Part of the Food, which is not ntly concocted, may not ſlip down into the Inte- till it is ſo." He likewiſe aſcribes to it a *Conſtrictory*

denies, that, in a good Habit of Body, the yellow ſent into the Stomach, becauſe it is hurtful to its Fun- ; whereas the black Bile is friendly and beneficial to and tho' in the Stomach there are no biliary Pores, ious Vomitings frequently happen, becauſe the yellow s convey'd by a large Paſſage into the *Inteſtinum* *m*, which lies next to the Stomach; and hence it s, that that Part, into which it is inſerted, is always d empty; and if at any time it is irritated by the ony of the Bile, it throws it out from it. Now as llow Bile is naturally light and active, it oftentimes wards, and deſtroys the Functions of the Stomach, it be forthwith diſcharged by Vomit."

teſtinum Coecum, according to him, hangs like a ſort tomach, in the Bottom of which there is no Orifice; two Orifices, one by which it receives, and the other it diſcharges.

NICOLAUS MASSA.

natomiſt was a *Venetian* by Birth, and flouriſh'd Year 1530. His *Liber Introductorius Anatomiæ* was *enet*. 1536. *Quarto*. 1559. *Quarto*. His *Epiſtolæ* were printed *Venet*. 1542. *Quarto*. 1550. *Quarto*. *uarto*.

, and ſome others ſeduced by his Authority, aſcribe tion of the *Muſculi Pyramidales* to him. But they ng to ſupport their Opinion; for that Muſcle which r the Pyramidal Muſcle of *Maſſa*, is more properly Cremaſter Muſcle, which it really is.

ptum Scroti; which ſome Moderns boaſt of as their very, is elegantly deſcribed by him in theſe Words: [he means the Scrotum] has, beſides, an interme- embrane, which divides the Right Teſticle from the that the Scrotum has two Sinuſes. Hence it hap- at it is ſometimes diſtended on one Side by a De- of Humours, or a falling down of the Inteſtines, he other Side remains in its natural State."

'd the Exiſtence of the *Panniculus Hymenæus*, which, *Mundinus*, block'd up the Mouth of the Matrix; ead maintain'd, that ſome *Rugæ*, mutually con- h Veins and Ligaments, were relaxed and broke, oman was deflower'd.

ib'd the Ducts of the renal Caruncles, thro' which is ſtrain'd, and which are now call'd the Tubuli *Carpus*.

ng the Anatomy of the Seminal Veſſels, he expreſly t the ſpermatic Vein and Artery do not at all meet, rately to the Teſticles.

nſtrates, that the Subſtance of the Tongue is muſc that it is cover'd with a double Skin.

ſſerted, that the Neck of the Uterus was muſcular, 'd with a voluntary Faculty. He takes the *Membrana Frontis Carnoſa* for a real Muſcle; and aſſerts, that the *Oſſicula auditus*, which ſtrike the Tympanum of the Ear, were known to Anatomiſts in the Time of *Achillinus*.

JOHANNES GUINTERIUS.

This Anatomiſt is ſtyled *Andernacus*, becauſe he was born in *Andernacum*, a Town of *Ubich* on the *Rhine*, in the Year 1487. His Works, under the Title of *Anatomicarum Inſtitutionum ex Galeni Sententia, per Johannes Guinterium Andernacum Medicum, Libri quinque*, were printed *Baſil*. 1536. *Octavo*. 1539. *Quarto*. *Patavii*, 1558. *Oct.* *Wittemberg*, 1613. *Octavo*. And his Piece *De Medicina veteri & nova*, was printed *Baſil*. 1571. *Fol.* 2 *Vol.*

He firſt call'd that glandular Body which is ſituated in the Middle of the Meſentery, and conſiſts of a ſoft and yielding Subſtance, the *Pancreas*.

He boaſts of his being the Diſcoverer of the Complication of the ſpermatic Vein and Artery, a little before their Inſertion into the Teſticles; which, he ſays, was never obſerv'd before him; and which, he adds, he ſhewed to *Veſalius*, when he was ſtudying Anatomy at *Paris*.

The Uterus, he ſaid, had two Sinuſes, correſponding to the Number of the Breaſts, not divided by an intermediate Membrane, but terminating in one narrow Cavity, which he call'd the Neck of the Womb, which Neck, he ſaid, terminated at the *Sinus Muliebris*, which he alſo call'd the Pudendum.

He alſo admitted of the *Membrana Allantois*.

He aſſerts, that the Muſcle which ſurrounds the Neck of the Bladder, conſiſts of tranſverſe Fibres, and has various Offices; for, firſt, it ſhuts the Bladder, and then, after the Diſcharge of the Urine, contracting itſelf every Way, it propels what remains in the Meatus Urinarius.

LUDOVICUS BONNACIOLUS.

This Anatomiſt was a Native of *Ferrara*, and flouriſh'd about the Year 1530. His *Enneas Muliebris* was publiſhed *Argentin*. 1537, *Octavo*.

He firſt deſcribed the Nymphæ and the Clitoris as ſeparate and diſtinct Parts, which had not been diſtinguiſhed by the the Antients.

He ſaid, that the Mouth of the Uterus reſembled in Figure the Glans of the Penis. The Teſticles, according to him, were not perfectly ſpherical, but reſembled a Sphere gently compreſſed on each Side.

JOHANNES FERNELIUS.

This Author is likewiſe ſtyl'd *Ambianus*, becauſe his Father was a Native of *Amiens* in *France*; but he himſelf was born at *Clermont*, in the Year 1506, according to *Goelicke*; but according to *Douglas*, in his *Bibliogr. Anat. Specim.* in the Year 1485: But as this is a Controverſy of too trifling a Nature to deſerve Regard, we ſhall only obſerve, that he was a Man of extenſive Learning, and ſo ſucceſsful in his Practice as a Phyſician, that he became the Oracle of the Age in which he lived. But as he was no profeſs'd Anatomiſt, and only caſually interſperſed ſome Deſcriptions of particular Parts of the human Body, with his Phyſical Writings, he comes not properly under our preſent Conſideration. His Book *De Naturali Parte Medicinæ*, was publiſhed *Pariſ*. 1542. *Venet*, 1547. *Octavo*. *Lugd*. 1551. 16*mo*. *Lutet*. 1554. *Fol. Mag*, And his *Univerſa Medicina, ſive Opera Medicinalia*, was printed *Venet*. 1564. *Quarto*. *Lutet*. 1567. *Fol.* *Francof*. 1592. *Fol.* 1603. *Octavo*. *Hannoviæ*, 1610. *Fol.* *Pariſ*. 1602. *Fol.* *Lugd. Bat*. 1645. *Octavo*. 2 *Vol.* *Trajecti ad Rhenum*, 1656. *Quarto*. *Genev*. 1644. *Oct.* 1679 *Fol.* 1680. *Fol.*

He advanced nothing remarkable, in point of Anatomy, unleſs that he deny'd the Peritonæum to be perforated with ſmall Holes.

LUDOVICUS VASSÆUS.

This Phyſician was a Native of *Catalonia*, and the Scholar of *Sylvius*. As he obſerved, that what *Galen*, and other learned Men, had wrote upon the Subject of Anatomy, was ſo ſcatter'd up and down, that it was not eaſy to come at it, he reſolved to redreſs this Grievance, by compiling certain Tables to pave the Way, as it were, to that Divine Work of *Galen*, *De Uſu Partium*; and, indeed, the Value of theſe Tables is enhanced by this Circumſtance, that there is ſcarce a ſingle Part of the human Body, how minute ſoever it be, that is not deſcribed in them. They were publiſhed under the Title of *Ludovici Vaſſæi Catalaunenſis in Anatomen Corporis humani Tabulæ Quatuor*, *Lutet*. 1540, 1541, 1553. *Fol.* *Venet*. 1544. *Oct.* *Lugd*. 1560. *Oct.* A *French* Edition of them was alſo printed at *Paris*, 1555, *Octavo*.

ANDREAS VESALIUS.

This Anatomiſt was born at *Bruſſels*, a Town of *Brabant*, in the Year 1514. His ſuperior Genius, in Conjunction with his indefatigable Application and Induſtry, ſoon raiſed him to ſuch a Pitch of Anatomical Knowledge, as render'd him at once the Ornament of his own, and the Admiration of future Ages. As it is the Fate of all Sciences to have their Votaries blindly and ſuperſtitiouſly attached to the Opinions of ſome particular Author of Note, till ſome daring Genius ventures to think for himſelf, and endeavours to make Authority fall a Sacrifice to Truth; ſo the Anatomiſts, at the Time *Veſalius* appeared, were ſo much blindfolded with the Authority of *Galen*, that to have contradicted him had been look'd upon as Hereſy. *Veſalius*, regardleſs of this unhappy State of Things, ventur'd to expoſe the Miſtakes, and correct the Errors, committed by *Galen*, both in Phyſic and Anatomy, but more eſpecially the latter. But as there is a Principle of Emulation interwoven with the very Frame and Make of human Nature; ſo it muſt follow, that uncommon Merit muſt create, if not Enemies, yet at leaſt Cenſurers, of Note and Diſtinction. This was the Fate of *Veſalius*: Some diſtinguiſh'd Authors have charged him with Ignorance, Want of Honour, Vain-glory, and Plagiariſm.

Piccolhominus, an Author of conſiderable Note, talks of him in this Strain: “When a proper Opportunity occurs, I ſhall ſufficiently ſhew, that whatever is good in that large Volume wrote by *Veſalius*, *De Re Anatomica*, is borrow'd from *Hippocrates*, *Ariſtotle*, *Gale*, and ſome others of the Antients, without the Author's ſo much as mentioning their Names; and that whatever Things are falſe and erroneous, which, indeed, are very many, are the Product of his own Ignorance, and Impetuoſity of Temper; and tho' he has ſecretly ſtole many Things from *Galen*, yet he never mentions his Name, unleſs it be with a View to find Fault with him.”

The Cenſure of *Caius* upon *Veſalius* is ſtill more remarkable. “We both lodg'd, ſays he, in the ſame Quarters at *Padua*, at the Time when *Veſalius* wrote and prepar'd his Book *De Corporis humani Fabrica*. One *Aldinus Junta*, a *Venetian* Printer, employ'd him to correct the Anatomical Works of *Galen*, both *Greek* and *Latin*; and for that Purpoſe ſeveral Emendations were ſent him; but he render'd *Galen*'s Text more corrupt than it was before, with no other View than that he might have ſomething to find Fault with.”

And tho' *Fallopius* owns him to be the Father of Anatomy, he yet carps at his Opinions almoſt every-where.

Columbus talks thus of him: “I can't but be ſurpris'd, that he, who on all Occaſions laſhes and chaſtiſes *Galen* for his having deſcrib'd Apes and Brutes, inſtead of Men, ſhould yet himſelf be ſo ridiculous as to deſcribe the Larynx, the Tongue, and the Eyes of Oxen, and not of Men, without ſo much as ever giving a Caution with regard to it. He alſo aſcribed Muſcles to the Epiglottis, which are only found in Brutes.” *Euſtachius* has alſo obſerved of him, “That he deſcribed and delineated a Dog's Kidney inſtead of a Man's.”

Arantius ſtyles him the common Maſter of Anatomiſts, but accuſes him of having delineated the Pudenda of Brutes, on account of the Scarcity of the Carcaſes of Women; whereby it happen'd, that *Valverda*, and thoſe who immediately followed him, taking Things upon Truſt, ſplit upon the ſame Rock.

Johan. Bapt. Carcan. Leon. ſpeaks of him thus: “It is ſurpriſing, that *Veſalius*, whilſt he accuſes *Galen*, the Chief of Phyſicians and Anatomiſts, of ſo many Blunders and Errors, ſhould yet himſelf be ſo juſtly liable to Cenſure in the ſame reſpect: And, what is ſtill worſe, by theſe his Accuſations, he ſeems widely to have miſtaken *Galen*'s Meaning; aſcribeing to him Things he never ſo much as dream'd of, and affirming that he deny'd thoſe very Things which he inſiſted on in the moſt diſtinct and explicit manner; and whilſt he ſo often wonders at, and finds Fault with, *Galen*, he himſelf deſerves to be wonder'd at, and found Fault with.”

“The Style of *Veſalius*, ſays *Riolanus*, is ridiculouſly pompous, and his Periods by far too long; ſo that he generally throws a greater Degree of Darkneſs upon things that are of their own Natures too obſcure. Beſides, I ſuſpect, that the *Latin* of that Book is none of *Veſalius*'s, but the Language of ſome other learned Man, ſince his *Chirurgia Magna*, his *Examen Obſervationum Fallopii*, and his little Book *de Radice Chinæ*, are wrote in a quite different Style:” And for this Reaſon, *Fallopius* thinks that his great Work is only fit for thoſe who are well advanced in Anatomical Studies.

But theſe ſharp and ill-humoured Cenſures have had not more Influence upon the Fate of *Veſalius*'s Works, than a gentle Breeze of Wind would have upon *Mount Caucaſus*, or *Athos*; for his Writings ever have been, and for ought I know, ever will be, eſteem'd, ſo long as Anatomy and Phyſic are thought neceſſary to the Good and Welfare of Mankind; and that is, ſo long as human Nature endures.

His Work *De humani Corporis Fabrica*, was printed *Baſil* 1543. *Fol. ibid.* 1555. *ibid.* 1563. *Venet.* 1568. *Fol. Min. ibid.* 1604. *Fol.* His *Anatomia* was printed *Francofurti*, 1604-1632. 4to. *Lugd.* 1552. 12mo. His *Epitome de humani Corporis Fabrica Librorum*, was printed *Baſil.* 1543. *Fol.* *Coloniæ Agrip* 1600. *Pariſ.* 1560. 8vo. *Wittebergæ*, 1582. 8vo. 1642. *Fol.* *De modo propinandi Radicis Chinæ Decoctum* printed *Baſil.* 1546. *Fol.* *Lugduni*, 1547. 16mo. His *Anatomicarum Obſervationum Gabrielis Fallopii* was *Venetiis*, 1564. 4to. The laſt Edition was *Vetalii Opera* *Lugdun. Batav.* 1725. *Fol.* See *Vander Linden de* *Medicis*, and *Douglas*'s *Bibliothecæ Anatomicæ Specimen.*

As for the Diſcoveries, with which *Veſalius*, by his gable Labour and Induſtry, enrich'd Anatomy, if I was to merate them all, I ſhould not only find the Taſk difficult itſelf, but inconſiſtent with my preſent Deſign; However, to paſs them over altogether, he maintain'd, that “The was connected at the Union of the *Oſſa Pubis*, by a tain ſmall Ligament.” This Ligament was delineated *Caſſerius*, and our Countryman *Cowper* lately deſcribed and neated it under the Name of *Ligamentum Penis Suſpenſ* We are alſo indebted to *Veſalius* for the firſt Delineation of *Auditus Oſſa*, or Bones appropriated to Hearing.

He firſt diſcovered, that the Optic Nerve was not directly in the Centre of the Eye, but a little to one Side. likewiſe maintain'd, that the *Ligamentum Teres Femoris* not inſerted into the Middle of the Head of the Femur, rather into the Side of it. I do not pretend to give the of *Veſalius*; for that would require a Volume by itſelf: Deſign was only to ſhew the State of Anatomy, when he pear'd, which, I hope, may be ſufficiently known from preceding Hints.

CAROLUS STEPHANUS.

This Phyſician was a Member of the Faculty at and, by the Aſſiſtance of *Riverius*, made ſuch Advances Anatomy, as to acquire Credit enough to introduce Doctrine, which was unknown to the Age in which lived. He alſo enriched Anatomy with ſome Diſco ſuch as the membranous Apophyſis within the Liver, Origin of the Vena Cava, leſt the Blood, elaborated ſhould regurgitate. He firſt of all maintain'd, that *Oeſophagus*, and *great Artery*, paſſed down through Holes, though they lay very near to one another, which quite the reverſe of what *Galen* aſſerted. He ſays, the *Membrana Carnoſa* is viſible in melted Fat; for, melt Fat before the Fire, you will obſerve a thick brane remaining. He accurately deſcribed the *Septum* firſt obſerved by *Maſſa*, and gives it the Names of *phragma* and *Septum*. His Works under this Title, *Diſſectione Partium Corporis humani Libri tres*, *Figuris & Inciſionum Declarationibus a Stephano Rivero* *rurgo compoſitis*, were printed *Pariſ.* 1545. *Fol.* and, in *Paris*, 1546. *Fol.*

This in general is to be remark'd with regard to his that they are imperfect, and therefore not to be truſted

He has ſix Repreſentations of a human Skeleton, the anterior, and poſterior Views of the Body. The ſecond of which repreſent only the Bones, the third and the more conſiderable Ligaments, and the fifth and Origins and Inſertions of the ſeveral Muſcles. He has other Repreſentations of the human Skeleton, exhibiting Courſe of the Nerves. Two Figures repreſent the ante poſterior Parts of the Body, covered with their Muſcles, and every Muſcle is beſides delineated by itſelf has likewiſe a Delineation of the Vena Cava and He has alſo given a View of the Body as cover'd the Skin, illuſtrated with the genital Parts in Wo eight Figures; and towards the End of his Work, the ſeveral Parts of the human Body in the ſame which they occurred to him in Diſſections.

THOMAS VICARY.

This Author was a Citizen and Surgeon of *London*, ſeems to be the moſt remarkable Circumſtance in his that he was the firſt who publiſhed any thing upon the *Engliſh* Language. His Book is called *The Eng* *Treaſure, or the true Anatomy of Man's Body*; and was *London*, 1548. *ibid.* 1577. 8vo. *ibid.* 1587. 4to. *ibid.*

THOMAS GEMINI.

This Man was a Foreigner, but ſettled in *London*, lity of an Engraver in Copper. He only comes under ſent Conſideration, for his having firſt engrav'd the *Veſalius* on Braſs, two Years after they were done in *Germany*. Though he was a ſkilful Artiſt, and Maſter of his Buſineſs, yet he is highly to be blam'd preſſing the Name of *Veſalius*, and affirming, that was the Product of his own Induſtry and Labour. By ance of Mr. *Udal*, and other learned Men, (for he knew neither *Latin*, *Engliſh*, nor Anatomy) he Plates with *Veſalius*'s Deſcriptions. There are three this Book, one in the Reign of *Henry* the VIIIth, another that of *Edward* the VIth, and a third under Queen

Book is publiſhed under the Title of *Compendioſa totius Ana-*
delineatio Ære exarata per Tho. Geminum, Londini, 1545.
and then in *Engliſh, London*, 1553. *Fol. ibid.* 1559. *Fol.*

JACOBUS SYLVIUS.

his Anatomiſt was born at *Amiens* in *Picardy*, in the
1478. and was afterwards the Scholar of *Tagaultius*. He
a great Admirer of *Galen*, and an inveterate Enemy to
lius. He hath enrich'd Anatomy with many new Diſ-
ies; and, particularly, he was the firſt who diſcovered
Valves which he calls Epiphyſes, or membranous Epiphyſes,
Mouths of the Vena Azygos, the jugular, brachial, and
Veins; as alſo at the Trunk of the Vena Cava, which riſes
the Liver.

bricius ab Aquapendente unreaſonably claims the Glory of
Diſcovery; but he only deſcribed them more accurately,
rom their Uſe and Structure gave them the Names of
s; which to this Day they retain.

was alſo the firſt who obſerved the *Muſculus Femoris*
ratus, and rank'd it among the Muſculi Quadrigemini, as
s them.

accurately deſcribes the Origin of that Muſcle in the
, which is call'd the *Muſculus Rectus*.

maintain'd, that *the Tendons of the Muſculus Plantaris,*
almaris, were wanting in ſome Subjects.

what is ſurpriſing is, his receding from his Maſter *Galen*,
gning the Origin of the *Muſculus Rectus Abdominis*.

mentions the large fleſhy Subſtance in the Sole of the
which runs out to the Sides of the Toes, and takes No-
the *Muſculi Pyramidales* ariſing from the Os Pubis, and
hem the *Muſculi Succenturiati*; and indeed he may de-
y be ſaid to be the firſt Diſcoverer of them.

alſo takes Notice of the Glands at the firſt Diviſion of
pera Arteria, as alſo of two Glands at the Root of the
, and of the glandular Subſtance of the *Pylorus*.

Opera Medica, &c. were printed *Coloniæ Allobrogum*,
Fol.

Depulſio Veſani Cujuſdam, &c. was printed *Pariſ.* 1561.

Piece *de Menſibus Mulierum*, *Venet.* 1556. 8vo. *Baſil*

Piece, intituled, *Ordo & Ratio Ordinis in Legendis*
ratis & Galeni Libris, *Pariſ.* 1561. 8vo.

MICHAEL SERVETUS.

Phyſician was a Native of *Spain*, and a Man of an un-
n Genius. Happy had it been for him, if he had con-
s Reſearches within the Bounds of Phyſic and Philo-
but unluckily he went beyond his Sphere, and plung'd
into the deepeſt and moſt abſtruſe Points of Theology:
publiſh'd a Piece againſt the myſterious Doctrine of the
, and that too at a very unlucky Juncture, I mean the
of the Reformation. Upon this *Calvin*, the great
ion of that Cauſe, uſed his Intereſt to do him all the
e could. And as true Chriſtian Zeal had in theſe Days
ated into a moſt helliſh and moſt execrable Spirit of
ion, he found it no hard Taſk to get him condemned
lames; and the Sentence was accordingly put in Exe-
Geneva, in the Year 1553. His ſeven Books *de Tri-*
rroribus were printed at *Baſil*, 1531. And his *Chriſtia-*
ſtitutio was printed at *Baſil*, 1553. Though theſe
ade their Author fall an unfortunate Victim to a Spirit
cution then prevailing, yet, as a Phyſician, they will
te his Name to all ſucceeding Ages; ſince in the fifth
the former of theſe Works, which treats of the Holy
oſe Paſſages were found, which amount almoſt to a De-
ion, that he was better acquainted with the Doctrine
irculation of the Blood, than any preceding Author.

ere are," ſays he, "in the human Body, Spirits of
different Kinds, the natural, the animal, and the vital,
are really not three, but two diſtinct Spirits. The
that which is communicated by Anaſtomoſes from
teries to the Veins, in which it is called natural. The
therefore is firſt, whoſe Seat is in the Liver and Veins.
ital Spirit is ſecond, whoſe Seat is in the Heart and
es. The animal Spirit is third, which is like a Ray
ht, and has its Seat in the Brain and Nerves."

to underſtand how the Blood is the Life, he ſays,
uſt firſt underſtand the ſubſtantial Generation of the
irit, which is compounded of, and nouriſhed by, in-
Air, and the ſubtileſt Part of the Blood. The vital
has its Original in the Left Ventricle of the Heart,
Aſſiſtance of the Lungs, which chiefly contribute to
eration. It is a ſubtile Spirit wrought by the Force
, of a florid Colour, having the Power of Fire; ſo
a ſort of ſhining Vapour made of the purer Part of
od, containing within, in itſelf, the Subſtance of Wa-
, and Fire. It is made in the Lungs, by the Mix-
inſpired Air with that elaborated ſubtile Blood, which
ht Ventricle of the Heart communicates to the Left.

" Now that this Communication is not made thro' the Septum " of the Heart, as is commonly believed, but the ſubtile Blood " is very artificially agitated by a long Paſſage through the " Lungs from the Right Ventricle of the Heart, and is pre- " pared, made florid by the Lungs, and tranſfuſed out of the " arterious Vein into the venous Artery; and at laſt, in the " venous Artery itſelf, it is mixed with the inſpired Air, and " by Expiration purged from its Dregs. And thus at length " the whole Mixture is attracted, by the Diaſtole of the Heart, " into the Left Ventricle, being now a fit Subſtance out of " which to form the vital Spirit.

" Now that this Communication and Preparation is made " by the Lungs, is evident from the various Conjunction and " Communication of the arterious Vein with the venous Artery " in the Lungs; the remarkable Largeneſs of the arterious " Vein does likewiſe confirm it, ſince it would never have " been made of that Form and Bulk, nor would it have emit- " ted ſo great a Quantity of very pure Blood out of the Heart " into the Lungs, if it had been only for their Nouriſhment; " nor would the Heart have been this way ſerviceable to the " Lungs, ſince the Fœtus in the Womb is otherwiſe nou- " riſhed, by reaſon of the Cloſeneſs of the Membranes of the " Heart, which are never opened till the Birth of the Child, " as *Galen* teaches; ſo that the whole Mixture of Fire and " Blood is made in the Lungs, where there is a Transfuſion " out of the arterious Vein into the venous Artery, which *Galen* " took no Notice of."

Afterwards he ſays, " That this vital Spirit is tranſmitted " from the Left Ventricle of the Heart into the Arteries of the " whole Body; ſo that the more ſubtile Parts get upwards, " where they are yet more refined, eſpecially in the Plexus " Retiformis, which lies in the Baſe of the Brain, where, " from vital, it begins to become animal, and approaches to " the proper Nature of the rational Soul."

The Circulation of the Blood is a Diſcovery of ſuch Importance, that every one who gives the remoteſt Hints of it, has ſome Party to take him by the Hand, and canonize him as the firſt Diſcoverer. Thus *Hippocrates*, *Galen*, and a great many more, have had their reſpective Champions in this Particular, who have pronounced boldly either one way or the other, juſt as Whim and Caprice directed them. But as ſuch a Turn of Mind is a Diſgrace to Philoſophy, and a Reproach to human Nature, whoſe Glory and Dignity conſiſt in ſhaking off Prejudice, and adhering inviolably to Truth, where-ever it can be found, ſo we will not abſolutely pronounce, that *Servetus* knew the Doctrine of the Blood's Circulation; but certain it is, that the firſt Step made to this noble and uſeful Diſcovery was the finding, that the whole Maſs of Blood paſſes thro' the Lungs by the Pulmonary Artery and Vein. Now that *Servetus* had a pretty diſtinct Idea of this Matter, is ſufficiently plain from the foregoing Paſſages; but he talked in too vague and indetermined a manner, to be eſteem'd a full and uncontested Diſcoverer. The Glory of this was reſerved for our own Country, which gave Birth to the divine *Harvey*, who firſt improv'd thoſe, and the like noble Hints, into a rational and conſiſtent Theory, truly uſeful to Mankind, and abſolutely neceſſary to farther Improvements in rational Medicine.

REALDUS COLUMBUS.

This Anatomiſt was a Native of *Cremona*: he flouriſh'd about the Year 1544. and was intimate with *Veſalius*, whoſe public Lectures he had frequently an Opportunity of hearing. He is by ſome charg'd with want of Gratitude to *Veſalius*, from whom he is ſaid to have ſtole every thing that is valuable in his own Works; but others maintain, that he had a clearer Idea of the Parts than *Veſalius*, and deſcribed them more accurately; and 'tis certain, that his *Latin* is very pure.

He was the firſt who wrote diſtinctly and accurately about the Caruncles in the *Vagina Muliebris*.

He was the firſt who made mention of the Duplicature of the Peritonæum; and he affirmed, that the Pleura was everywhere double. He aſſumes to himſelf the Diſcovery of the *Tunica Innominata* of the Eye, and accuſes all his Predeceſſors of Ignorance in that Point. But *Douglas* thinks, that the Coat of the Eye, which *Galen* deſcribes under the Name of the *Tunica Sexta*, is the very Coat he means.

He alſo boaſts of his having firſt diſcovered the third Bone ſubſervient to Hearing.

He affirms of *Veſalius*, that he not only deſcribed, but publickly diſſected, the Tongue, the Larynx, and the Eyes of Oxen, inſtead of thoſe of Men; and that he himſelf was an Eye-witneſs of the Impoſture.

As *Galen* and *Veſalius* exceeded in the Number of the Muſcles of the Eye, ſo *Columbus* is as remarkably deficient in that Point, ſince he determines, that there are only five.

The Uſe, by him aſcribed to the Lungs, deſerves to be taken Notice of; for he thinks, that they were beſtow'd on Animals for this Purpoſe, that the Blood and vital Spirit might be prepared and generated in them; for he thinks, that the Blood, being attenuated by Elaboration in the right Sinus of the

Heart, is carried through the *Vena Arterioſa* to the Lungs, where by their continual Motion it is agitated, ſtill farther attenuated, and mixed with that Air, which is drawn in through the Noſtrils and Mouth, and carried through the Branches of the *Aſpera Arteria* to the Whole of the Lungs, which Air is itſelf prepared by this Colliſion; ſo that the Blood and Air, being thus mix'd, are received into the Branches of the *Arteria Venoſa*, and at laſt carried through the Trunk itſelf to the Left Ventricle of the Heart, from which they are carried through the Aorta in all Directions, to all the Parts of the Body.

Since this Opinion is largely inſiſted upon by *Michael Servetus*, we have Reaſon to ſuſpect, that *Columbus* borrowed it from him. This alſo *Galen* had advanced long before *Servetus*, where he ſays, that when the Thorax is contracted, the *Venous Arteries*, which are in the Lungs, being on all hands pent up, and compreſſed, quickly throw out the Spirit contained in them; but that they receive ſome Portion of the Blood from the *Vena Arterioſa*, by minute and inviſible Orifices.

His Works were printed under the Title of *Realdi Columbi in almo Gymnaſio Patavino Anatomici celeberrimi, de re Anatomica Libri Quindecim, Venetiis*, 1559. *Fol. Pariſ.* 1572. 8vo. *Lugd. Batav.* 1667. 8vo.

JOHANNES VALVERDA.

This Phyſician was a Native of *Spain*, and, in his Anatomical Studies, the Scholar of *Realdus Columbus*. He is ſaid to have carried the Knowledge of Anatomy from *Italy* to *Spain*. He publiſhed the Tables of *Veſalius*, with their Deſcriptions ſomewhat inlarged in the *Spaniſh* Language, and added four new Figures to them; the firſt of which exhibits the Direction and Progreſs of the Fibres which compoſe thoſe Muſcles, that cover the Fore-part of the Body. The ſecond repreſents a Woman big with Child. The third and fourth give us a Proſpect of the cutaneous Veins ſcattered up and down the anterior, and poſterior Parts of the Body. But he is an Author of too ſmall Note to be inſiſted upon at greater Length. Since the greateſt Character we find given him is, that he was *rather to be commended for his Induſtry in propagating Anatomy, than for his writing well upon any Part of it*.

GABRIEL FALLOPIUS.

This Anatomiſt was born at *Modena* in *Italy*, in the Year 1490. His Skill in Phyſic and Anatomy has rendered him univerſally admired. *Douglas* in his *Bibliographia Anatom.* has beautifully drawn his Character, when he ſays, that he was *in docendo maxime methodicus, in medendo feliciſſimus, in ſecando expeditiſſimus*, Moſt judicious and methodical in his Method of Teaching, moſt ſucceſsful in his Practice, and moſt expeditious in his Diſſections. He died in the 73d Year of his Age, in the Year 1563. after having illuſtrated Anatomy, and enriched it with ſeveral things unknown to former Ages. He affirms in particular, That the *Muſculi Pyramidales* were firſt diſcovered by him; and he is of Opinion, that the Bladder is compreſſed by them; but this was obſerved before him by *Galen*, and *Jacobus Sylvius*.

He boaſts of his being the firſt who ſolved the perplexing Difficulty of *Oribaſius*, or rather of *Galen*, concerning the Motion of the upper Eye-lid, after the *Muſculus Orbicularis* is cut off; for he affirms, That in the Year 1553. he diſcovered the Muſcle which raiſes the upper Eye-lids. But *Galen* himſelf ſolves this Difficulty, at a Time when he was become venerable for his Age and Experience, that is, when he digeſted the *Commentaries de Locis male affectis*, as will evidently appear to any one who reads them. Beſides, *Aviſenna* clearly deſcribes this Muſcle, *Lib.* 1. *Sum.* 2. *de Muſculis*, *Cap.* 5. The ſame Muſcle is likewiſe accurately deſcribed by *Realdus Columbus* in his Anatomical Works, *Anno* 1559.

Though he is eſteem'd the Diſcoverer of that ſeminal Duct, which he calls the *Tuba Uteri*, whoſe Extremity, in which there is a large Hole, is lacerated and fringed, as it were, like the Edges of old work'd Linen Cloth; yet it is excellently deſcribed by *Herophilus*, and *Rufus Epheſius*, who lived long before him.

By the true Neck of the Womb, he means all that Part from its internal Orifice, till it begins to inlarge itſelf, and grow wider. But the Whole of that Paſſage into which the Penis enters, is by him called *Sinus & Pudendum Muliebre*.

His *Obſervationes Anatomicæ* were printed *Venet.* 1561. 8vo. *Pariſ.* 1562. 8vo. *Helmæſtadii*, 1588. 8vo. His *Expoſitio in Librum Galeni de Oſſibus* was printed *Venet.* 1570. His *Lectiones de partibus ſimilaribus humani Corporis*, were publiſhed *Noribergæ*, 1575. *Fol.* His *Compendium de Anatome humani Corporis* appeared *Patavii*, 1585. 8vo. *Venet.* 1571. His *Opera Omnia*, *Venet.* 1584. *Fol.* *Francof.* 1600. *Fol.*

AMBROSIUS PARÆUS. *Ambroiſe Paré.*

This Anatomiſt was a Native of *France*, and acquir'd a great Character rather for his uncommon Succeſs in the Practice of Surgery, than for any Figure he made in Anatomical Learning.

The Muſcles, which *Sylvius* calls *Succenturiati*, are by
ſtyled the *Triangulares Pubis*, or the *Acceſſorii*. He firſt deſcri
the *Membrana Muſculorum Communis*, or *Common Mem*
of the Muſcles. His Works, under the Title of *Anatomie u*
verſelle du Corps humain, appear'd at *Paris*, 1561. 8vo. a
afterward in a *Latin* Verſion *Paris*, 1561-1582. *Fol. Franc*
1593-1612. *Fol.*

BARTHOLOMÆUS EUSTACHIUS.

This Anatomiſt was a Native of *Italy*, and a Man of
extenſive Learning. His Tables, 'tis to be preſumed, h
made his Character, as an Anatomiſt, ſufficiently kno
where Learning is countenanced, or even heard of. He enri
ed Anatomy with ſeveral Diſcoveries; “ for he firſt diſco
“ the Glands which lie upon the Kidneys.”

He finds Fault with *Veſalius* for deſcribing, diſſecting and
lineating the Kidney of a Dog inſtead of that of a Man,
out ſo much as taking Notice of the Difference. He
tained, that the Duct of the Renal Veins is oblique, and
tranſverſe, as it is delineated by *Veſalius*. He exhibited,
moſt beautiful Figure, the *Canaliculi Urinarii*, which he c
pares to very ſmall Hairs; but which were before deſcribed
Nicolaus Maſſa. In his *Examination of the Bones*, he
the true Structure of the Viſory Nerve was firſt diſcover
himſelf; and adds, that when it is immerſed in Water,
diſtended and expanded into a large Membrane, like a
thin Linen Cloth.

Concerning the third Bone of the internal Ear, called S
he has theſe Words: “ I am conſcious to myſelf, that w
“ either Inſtruction or Information, from any one, I
“ that Bone long before they wrote, and that I ſhewed
“ many in *Rome*, and cauſed it to be engraved on Copper.”

He was the firſt who gave an accurate Deſcription of
Thoracic Duct, or the Paſſage by which the Chyle is co
to the Heart, which, he ſays, in Horſes, reſembles a
Vein, and has a ſemi-circular Mouth, opening into the in
Jugular Vein.

He was the firſt who obſerved the Valve at the Ori
the *Vena Coronalis* in the Heart.

He boaſts of having firſt diſcovered, and exactly deſc
that Valve, which is by ſome called the *Valvula Nobilis*,
Vena Cava, near the right Auricle of the Heart, tho'
Sylvius ſeems to have obſerved it before him. In his T
de Renibus, he makes mention of the Glands of the *Laryn*
Opuſcula Anatomica were printed *Venet.* 1563. 4to. His L
de Dentibus, *Venet.* 1563. 4to. His *Epiſtola Nuncupatoria*,
1562. His *Opuſcula cum Annotationibus*, *Venet.* 157
Lugd. Batav. 1707. 8vo. and his *Tabulæ Anatomicæ*
publiſhed by *Jo. Maria Lanciſi*, *Romæ*, 1714. *Fol.* and
wards *Amſtelodam.* 1722. *Fol.* then *Romæ*, 1728. *Fol.*

His Notes upon *Erotian* were publiſhed *Venet.* 1566.

JOHANNES HALL.

This Author was a Surgeon in *London*, and amongſt
who wrote any thing upon Anatomy in the *Engliſh* L
Having never ſeen his Works, we know of nothing f
he is ſo remarkable as the gaudy and pompous Title
Book, which runs thus: *A very faithful and neceſſ*
Work of Anatomy, or Diſſection of the Body of Man,
diouſly ſhewing the Natures, Forms, and Offices of ev
ber, from the Head to the Feet, with a commodious
Notes, leading and guiding the young Chirurgeon's H
all Offence and Error, in right way of perfect and
Operation, compiled in three Treatiſes, more uſeful and
able than any heretofore in the Engliſh *Tongue publiſhed.*
printed at *London*, 1565. 4to.

VOLCHERUS COITER.

This Author was born at *Groningen* in the Year 15
in Proceſs of Time, acquired a very great Character,
Phyſician, Surgeon, and Anatomiſt. In his *Introducti*
tomy, *Cap.* 6. he gives this Advice to ſuch as are d
making quick and regular Advances in their Anatomic
“ If, *ſays he*, any one is fond to learn the Anatomica
“ him firſt read *Galen*'s Books *de Uſu Partium*, and d
“ *micis Adminiſtrationibus*; and then *Veſalius*'s *Fabri*
“ *ris humani*. Let him, in the third place, read
“ and then *Veſalii Examen*; and, laſt of all, *Euſtac*
“ by this means he will be ſure to acquire a thorough
“ fect Knowledge of this Art.” Anatomy is conſi
debted to this Author for his Labour and Induſtry; for
ly ſpecifies the firſt Origin of the Bones, accounts
Growth, and points out the Difference between thoſe
and Adults; for he uſed to prepare Skeletons of Chi
pare their Bones with thoſe of Adults, and demonſt
ference between them to his Scholars in *Bologna*; w
own Houſe, he exhibited an abortive Fœtus as long a
and furniſhed with all the Parts of a human Body
makes mention of another, which he ſaw at *Bolog*
Houſe of Dr. *Arantius*.

is *Tractatus de Auditus Inſtrumento*, he has theſe Words:
at *Fallopius* called the Tympanum, he chiefly took from
Ears of Brutes, and ſuch Animals as chew the Cud; for
have this Paſſage formed like a certain Species of Sea-
, or a *Turkiſh* Drum; whereas in Men this Paſſage is
ly different from the Shape of a Drum." For this Rea-
thinks, that this Paſſage, or the ſecond Cavity, receives
omination of Tympanum rather from its Uſe than its
He maintains, that there are two of theſe Cavities;
s he, immediately behind the Myringa, by which he
he Tympanum, in the upper and fore Parts, appears a
which is at firſt narrow, but afterwards dilating itſelf,
h'd backwards towards the upper Parts, and this Part
y and fungous, and ſeems to have a Communication
internal Space of the Proceſſus Mamillaris.
ding to him two of the *Oſſicula Auditus*, that is, the
geſt, are full of ſmall Holes, which are fill'd with a
y Subſtance; but the third contains none, on account
ceeding Smallneſs.
ys, that there are two Muſcles of the internal Ear
by ſome, but he does not deſcribe them.
e Muſcles belonging to the Face, he adds ſome others,
by later Authors, are called the *Muſculi Corrugatores*,
n their principal Office, ſhould rather be ſtyled the *Muſ-*
rciliorum Depreſſores, which he firſt diſcovered, and
y deſcribed, but gave them no Name: He adds,
will alſo obſerve, under the internal Skin of the Lips,
at of the Root of the Tongue, many fleſhy Glands,
which are found Fibres, riſing upwards from their
in an oblique Direction, and theſe to me ſeem to draw
der Lip inwards." His Piece intituled, *de Cartilagi-*
ulæ, was printed *Bononiæ*, 1566. Fol. His *Externa-*
internarum principalium humani Corporis Tabulæ, &c.
gæ, 1573. Fol. *Lovanii*, 1653. Fol. His *Lectiones*
Fallopii de Partibus Similaribus humani Corporis ex
Exemplaribus, ſumma cum diligentia collectæ, &c.
ted at *Norimberg*, 1575. Fol.

JULIUS CÆSAR ARANTIUS.

uthor was born at *Bologna*, and was the Scholar of
s alſo of his Uncle *Bartholomæus Magus*, who taught
Elements of Anatomy in the Year 1548. His Piece
De humano Fœtu Opuſculum, was printed *Venet.* 1571.
79. 8*vo*. *Venet.* 1587. 4*to*. To this Edition he join'd
, and a Book of Anatomical Obſervations, printed
95. In the firſt Chapter of the laſt Edition of this
deſcribes the true and genuine Subſtance of the *Ute-*
ing that it is fungous, and bears a Reſemblance to a
that it is not ſingle, but diviſible into many Laminæ,
n *Fungi*, which grow under Trees; and that it is per-
th Holes, like a Sponge or a Pumice-ſtone. In the
pter he not only accurately deſcribes the Veſſels of the
ut alſo maintains, that its Arteries are continued to
; which he alſo takes to be the Caſe with all the Ar-
Veins in the human Body; which is the ſame as if,
Authors, he had maintain'd, *That the Veins were no*
Arteries returning to the Heart.
rmatic and hypogaſtric Arteries, which he calls the
and aſcending ones, not only unite, and are con-
ther; but the Veſſels of the Right Part of the Ute-
ermix'd with thoſe of the Left.
Chap. 4. he treats largely and accurately of the
f the Veſſels in the Heart of a Fœtus. "A few
ſays he, after their Birth, there is a Coalition of this
n; tho', even in older Subjects, ſome remaining Marks
Agglutination are always retained."
makes mention of another Coalition in the Liver,
Vena Portæ with the *Vena Cava*, which is now uni-
ed the Ductus Venoſus.
ite and riſing Part of the Baſis of the Ventricles of
which is ſtretch'd forwards, on both Sides, in a longi-
ection to the Forehead, he calls the *Pedes Hippo-*

that the Muſcles of the Eye ariſe from the *Os Sphe-*
by the Foramen, thro' which the Optic Nerve
that one of the oblique Muſcles, or that call'd the
Brevis, ariſes from a certain Suture, or Cleft, which
Bones of the *Maxilla Superior* from the *Oſſa Mali.*
s, that the *Muſculus Palpebræ Superioris*, deſtin'd
the Eye, and riſing alſo from the *Os Sphenoides*,
to him in the Year 1548.
bſerved the interior Chink of the Larynx, accurate-
it, and appoſitely enough compared it to the Clefts
Wind Inſtruments.
does not openly acknowledge the Circulation of the
he largely ſpecifies all the Arguments that are cal-
deſtroying the Hypotheſis of the Antients, concern-
dation thro' the Septum or Partition, which divides
s of the Heart.

He firſt obſerved, that the Duct of the Artery of the Spleen was oblique, and twiſted in form of a Snake.

He was the firſt who aſſerted, that the middle Subſtance of the Urethra, or of the Canal common to the Urine and Sperm, was of the ſame Structure with the Penis itſelf, and capable both of being diſtended, and becoming flaccid.

He firſt took Notice of an orbicular Muſcle ſurrounding, on all Sides, the Sinus Muliebris; but this Diſcovery was owing to *Jacobus Carpus*, who had before deſcribed the whole Neck of the Uterus as a muſcular Subſtance.

According to him the Muſculi Recti of the Abdomen ariſe with a fleſhy Origin from the *Pubes*, when their Coverings, he means their Muſculi Pyramidales, are wanting.

He maintains, that the Portion of the Muſculus Biceps, which, according to *Veſalius*, ariſes from the Proceſs of the Acromion, and is inſerted into the Humerus, is the eighth Muſcle of the Humerus, which was afterwards by *Riolanus* call'd *Coraco-brachiæus*. But it is, without Reaſon, by ſome call'd the *Nonus Humeri Placentini*, ſince it is in reality the Diſcovery of *Arantius*.

He likewiſe diſcovered the *Indicator*, or the *Indicis extenſor proprius*, which had remain'd unobſerved before him.

He maintain'd, that the ſecond Muſcle of the Fingers, by which he means what is now call'd the *Flexor perforans*, was the Inſtrument of bending all the *Internodes*, and not of the third Joint only, as his Predeceſſors had maintain'd.

He aſſumes to himſelf the Diſcovery of the *Muſculus Femur Circumagens*, which he calls the twelfth.

He likewiſe obſerves, that a Portion of the *Muſculus Femoris primus*, that is, of the Gluteus Maximus, becomes a membranous Tendon, which, joining with another Tendon ariſing from the ſixth Muſcle of the Tibia, or the *Faſcialis*, is ſtrongly and laterally inſerted into the Appendix Tibiæ.

By means of this Communion, or Conjunction, he accounts for the Pains of the Hips reaching to the very Knee.

In his *Obſervat. Anatom. Chap.* 36. he has theſe Words concerning the Subſtance of the Teſticles: "Perfect Seed is carried, as it were, from numberleſs ſmall Roots of a Plant, variouſly diſperſed thro' the Subſtance of the Teſticles, which Roots appear wrapp'd up and curl'd like the Tendrils of Vines, and reſemble white curl'd Hair."

CONSTANTIUS VAROLIUS.

This Author was a Native of *Bologna*, an accurate Philoſopher, an expert Surgeon, and a ſkilful Anatomiſt.

He is ſaid to be the firſt who diſcover'd the Valve of the Colon, and elegantly deſcribed it in the following Words: "Where the Ilium is joined to the Colon, there riſes in its inner Part a certain Membrane, being the laſt Boundary of the Ilium, which reaches ſo far, and which I, its firſt Diſcoverer, call the *Operculum Ilii*." And a little after he makes mention of the "Appendix of the Colon, as being an oblong Sack, imperforated at one of its Extremities, which is call'd the *Inteſtinum Cæcum*."

He firſt divided the Brain into three Parts, by adding the Beginning of the Spinal Marrow, whilſt yet contain'd within the Scull, and giving Birth, as it were, to the Nerves, whoſe Origin was formerly thought to be the Brain.

The Optic Nerve, according to him, ariſes from the poſterior Part of the Spinal Marrow, and not from the Baſe of the Brain in its fore Part, as *Galen* and others maintained.

The tranſverſe Proceſs of the Brain is call'd the *Pons Varolii*, from *Varolius*, its firſt Diſcoverer.

He firſt diſcovered the Glands in the *Plexus Choroeides*.

His *Anatomiæ, ſive de Reſolutione Corporis humani, Libri Quatuor*, &c. was printed *Patavii* 1573. 8*vo*. *Francof.* 1591. 8*vo*.

JULIUS JASSOLINUS.

This Anatomiſt was the Scholar of *Philip Ingraſſias*, and afterwards ſucceeded him in the Univerſity of *Naples*, in the Year 1570. Dr. *Douglas* calls him, *Seculi Epidaurius ſui*. But *Riolanus*, who was no bad Judge of an Anatomiſt's Worth, talks of him in this diminutive Strain: "As the Preſence of ſome Men leſſens their Fame, ſo the reading Books that have been earneſtly deſired and ſought after, ſometimes makes their Authors appear mean and contemptible."

He has ſomething pretty remarkable concerning the Generation of the Bile; for he maintains, that the bilious Excrement is evacuated from the Liver, in two different Portions; the one is unmix'd, thin, and unadulterated, and is carry'd into the *Veſicula* itſelf, by the ſmall Veſſels between the Roots of the Vena Portæ and the Vena Cava, which the Gall-bladder afterwards diſcharges into the Beginning of the Inteſtine. Another Portion of it is mixed, thick, and feculent, which is carry'd directly from the Liver into the Inteſtine. To this he has ſubjoin'd a new Figure of the Gall-bladder and its Veſſels. His *Quæſtiones Anatomicæ*, and *Oſteologia Parva*, were printed *Neapoli*, 1573. *Oct.* *Hanoviæ*, 1654. *Quarto*. His Piece

De Poris Cholidocis, & *Veſica Fellea*, was printed *Neapoli*, 1577. *Octavo*.

JOANNES BAPTISTA CARCANUS LEONIS.

This Anatomiſt was a Native of *Milan*, and the Scholar of *Fallopius*. He maintain'd, that there was no Membrane in the *Canalis Arterioſus*, which ſhuts up its Orifice, as *Veſalius* imagined.

The Foramen near the Orifice of the *Vena Coronalis*, thro' which the Blood flows from the *Vena Cava* to the *Arteria Venalis*, appears to be of an oval Figure. Hence we may conclude, that it firſt acquired the Name of *Foramen Ovale* from this Deſcription.

He aſſerts that the *Vena ſine Pari* has no Membranes or Valves on its Orifice, which contradicts what *Amatus Luſitanus* relates, who in his firſt Century of Cures affirms, that he ſaw theſe Membranes exhibited at *Ferrara*, by *Johannes Baptiſta Conanus*.

He finds Fault with *Columbus* for aſſerting, that the Penis has neither Veins nor Nerves; for he not only ſpecifies the Veins of its principal Subſtance, but alſo others which creep along its Surface, and which he calls cutaneous; all which taken together, a certain Modern of great Note call'd the *Vena ipſius Penis*, or, the Vein of the Penis itſelf.

He aſſerts, that the Muſculus Orbicularis of the Eye-lids cannot be ſeparated into two, as *Veſalius* thought. His two Books of Anatomy were printed *Ticini*, 1574. *Oct.*

FELIX PLATERUS.

This Author was born at *Baſil*, in *Switzerland*, in the Year 1536. He had from his Infancy a Deſire to view the Entrails of Beaſts when they were ſlain, and even then pronounced the Butcher happy, for his being able at firſt View to handle them over and over, without committing a Miſtake. His *Libri Tres de Corporis humani Structura & Uſu*, &c. were printed *Baſil*, 1583. *Fol.* 1603. *Fol.* His *Quæſt. Phyſiologicæ*, *Lugd. Bat.* 1650. His Piece *De Mulierum Partibus Generationi dicatis*, &c. *Argentinæ*.

SALOMON ALBERTUS.

This Author was Profeſſor of Phyſic at *Wirtemberg*, and publiſhed a Book, intituled *Hiſtoria plerarumq; Corporis humani Partium, in Uſum Tyronum*, *Wittebergæ*, 1583. *Oct.* 1602. *Oct.* 1630. *Oct.* The Diſcovery of the Valve of the Colon, commonly called the *Valvula Bauhini*, is juſtly aſcribed to him; for he affirms, that he firſt diſcover'd it in a Beaver, and then in a Man.

His three Orations *de Diſciplina Anatomica* were printed *Nirembergæ*, 1585. *Octavo*; and his *Obſervationes Anatomicæ*, *Wittebergæ*, 1620. *Oct.*

ARCHANGELUS PICCOLHOMINUS.

This Author was a Native of *Ferrara*, and a Citizen of *Rome*: He was born in the Year 1526. but in *Riolanus*'s Opinion, he was rather a Philoſopher, than an Anatomiſt, ſince his Anatomical Prelections are interſperſed with Phyſiological Diſquiſitions, and fine-ſpun Controverſies, quite foreign to Anatomy. But that he labour'd with Succeſs in this Branch of Learning, is ſufficiently evident from the Improvements and Diſcoveries he has made in Anatomy; for

He was the firſt who divided the Subſtance of the Brain into *cineritious* and *medullary*; for he calls that concretious or whitiſh livid Body, which firſt appears, the Brain itſelf; but he calls that ſolid white Body which is wrapt up in it, the *Medulla*, or Marrow, which he diſtinguiſhes into three Kinds, the *Medulla globoſa*, the *Medulla oblongata caudicis inſtar*, and the *Medulla ſpinalis*.

He maintains, that all the Nerves have their Origins from the *Medulla oblongata*.

He was the firſt who called the *Proceſſus Mamillares*, *Nervi odoratorii*, or, the Nerves by which the Senſation of Smelling is produced.

He firſt diſcovered that wonderful Contrivance of Nature at the Beginning of the *Inteſtinum cæcum*, that is, three Valves like little Doors opening downwards: And aſſerted, that they were deſign'd to prevent the Return of the Fœces.

He firſt delineated the Anaſtomoſis of the Vena Porta and the Vena Cava within the Liver, after it had been deſcribed by *Jacobus Carpus*.

He aſcribed Proſtatæ to Women, as *Galen* had done before him.

He was alſo the firſt who deſcribed the particular Membrane of the Fat, which *Riolanus* afterwards called the *Membrana Adipoſa*.

He aſſerts, that the Peritonæum is every-where double, and conſiſts of two Coats.

He firſt took notice of, and deſcribed, that white Line of the Abdomen, which is now called the *Linea alba*.

In his Opinion there was only one continued Duct which reach'd from the Mouth to the Anus.

He affirms that the internal Coat of the Inteſtines is thr times as long as the external Coat; and that it is corrugate and form'd into Wrinkles, that the Chyle, by that mea remaining longer in them, might be the more commodiou extracted by the meſenteric Veins.

He deſcribes the membranous Canals, or the Tubes wit fleſhy Covering, thro' which the Urine is ſtrained, better th *Carpus* or *Maſſa*.

The Reaſon he aſſigns, why the left ſpermatic Vein d not ariſe from the emulgent, is preciſely the ſame which is e braced by the Moderns.

He calls the *Hymen*, *Clauſtrum Virginitatis*.

He aſſigns Names to all the Muſcles, from the Uſes End, for which Nature deſign'd them; thus he named *Muſculi Ocularii*, or *Viſorii*; *Maſticatorii*; *Locutorii*; *ſpiratorii*; *Amplexatorii*; *Scapularii*; *Humerarii*; *Cubitar* *Apprehenſorii*, or *Manuum Moventes*; and *Ambulatorii*, *Progreſſorii*; the *Femorales*, and *Tibiales*, &c.

He call'd the frontal Muſcles *Muſculi Pathematium*, or *M* *culi Animi affectuum ſignificativi*. His *Anatomicæ Prælecti* were printed *Romæ*, 1586. *Folio*; and his *Commentarii* in *brum Galeni de Humoribus*, *Pariſ.* 1556. *Oct.*

CASPARUS BAUHINUS.

This Author was born at *Baſil*, in the Year 1560; and univerſally eſteem'd to be a ſkilful Anatomiſt, and a curious tanist: But *Riolanus* talks of him as ignorant, injudicious, preſumptuous. He ſays, that, in the Year 1579. he obſ the Valve in the Beginning of the Ilium, or Colon, befor read any Author who made mention of it: But 'tis cer that *Varolius*, and a great many others, deſcrib'd it very a rately many Years before.

He took notice of the natural Narrowneſs of the Inteſ Colon in the Right Side; and for this Reaſon Colic Pain only ariſe moſt frequently, but rack moſt violently, in that for that narrow Paſſage is eaſily obſtructed, by the Excre which are long retained there, and indurated. His Piece titled *De Partibus humani Corporis externis Liber*, was pr *Baſil.* 1588. His *Anatomes Liber ſecundus*, *ibid.* 1591. His *Anatomica Corporis Virilis & Muliebris Hiſtoria*, *L* *Bat.* 1597. *Oct.* 1609. *Oct.* His *De Corporis humani* *brica*, *Lib.* 4. &c. *Baſil.* 1600. *Oct.* His *Theatrum A* *micum*, *Francof.* 1605. *Oct.* *Francof.* 1621. *Quarto.* *Inſtitutiones Anatomicæ*, &c. *Baſil.* 1604. 1609. *Oct.* *Quarto.* *Francof.* 1616. *Oct.* *Oppenhemii*, 1614, *O* 1629. *Oct.* His *Epiſtola Anatomica Curioſa*, *Lipſiæ* & *F* 1673. *Quarto.*

JOHANNES POSTHIUS.

This Anatomiſt was born in the Year 1537, in *Germ* a Town of the Lower Palatinate upon the *Rhine*, and d the 60th Year of his Age, in the Year 1597. He ſee be very dextrous at diſſecting the Muſcles, which is ſuffic proved by ſome Diſcoveries he has made.

He maintains, that there are four Muſcles which dr Lips inwards to the Teeth; two in the inferior, and t the internal Part.

He aſcribes ſix Muſcles to the Penis; and affirms, tha is only one Muſcle between the Cartilages of the Ribs, a two, as in the intercoſtal Spaces.

He ſays, that the fourth Muſcle of the *Maxilla inferi* not ariſe from the Styloid, but from the Mamillary P He was alſo the firſt who aſſerted, that the tendinous P this Muſcle adhered to the *Os hyoides*. He alſo aſſert the Proceſſus Mamillares are not the Organs of Smell advisſes to diſſect the Muſcles, as much as poſſible, in manner as to preſerve their Origins and Inſertions entir cauſe by this means their Uſes may be moſt commodiouſly vered. His *Obſervationes Anatomicæ* were printed *F* 1590. 1593. *Octavo*. His *Mantiſſa Anatomica* was *Hafniæ*, 1661. *Oct.*

VIDUS VIDIUS.

This Author was born at *Florence*, but was Profeſſor o ſic and Surgery at *Paris*, and Phyſician to *Francis I* died in 1567.

He was remarkable for being extremely well verſ'd Writings of *Hippocrates*.

His *Ars Medicinalis* was printed *Venet.* 1611. 3 *Vol. F*

The third Volume contains ſeven Books, on the Subj Anatomy, illuſtrated with twenty-eight Copper Plates.

ANDREAS CÆSALPINUS.

This Author was born at *Arezo* in *Italy*, and was a Champion for the Peripatetic Doctrine, in Oppoſition *len*, who was at that Time reverenc'd as an Oracle. it was, that the Writings of *Cæſalpinus*, tho' very val themſelves, were neglected; and thoſe Paſſages which ſually wrote, concerning the Circulation of the Blood, not adverted to, or not underſtood, by any, till *Harv* lory of his Country, publiſhed his incomparable Book upon at Subject.

Cæſalpinus affirms, with *Ariſtotle*, that the Heart is not only e Source and Origin of the Arteries and Veins, but alſo of e Nerves.

In Queſt. 4. where he proves, that in Reſpiration no exterl Air can have Acceſs to the Heart, he has theſe Words: For the Membranes are ſo fitted and adapted to the Mouths of the Veſſels, that when the Heart is dilated, they are opened; but when it is contracted, they are ſhut." Here he o clearly and fully explains the Contraction and Dilatation of Heart.

" Some of the Veſſels," continues he, " which terminate in the Heart, ſend their Contents into it, ſuch as the *Vena Cava* into the Right Ventricle, and the Venous Artery into the Left. Some of them, on the other hand, draw their Contents from it, as the Arteria Aorta from the Left Ventricle, and the Arterious Vein from the Right; but they all have Membranes ſo fitted and adapted to them, that the Mouths of the intromitting Veſſels will not admit of a Reurn, and the eliminating Veſſels will not admit of an Intromiſſion. It happens, that when the Heart is contracting, the Arteries are dilated; and when it is dilating itſelf, they are ontracted;" for when the Heart is dilating, it ſhuts the fices of the eliminating Veſſels, ſo that nothing can at that e flow from the Heart into the Arteries; and when it is racting, its Contents muſt flow into the Veſſels, becauſe Membranes are then opened.

e maintains, that the Pulſation of the Heart and Arteries eeds from an Effervеſcence of Humours in the Heart; and eats largely of the Pulſe.

on after, he has theſe Words: " The Lungs, therefore, awing the hot Blood from the Right Ventricle of the eart by a Vein reſembling an Artery, and by *Anaſtomoſis* turning it to the Venous Artery, which goes to the Left entricle of the Heart, the freſh Air is in the mean time anſmitted thro' the Canals of the *Aſpera Arteria*." *Real-Columbus* had advanced the ſame before him.

The ſeveral Phænomena, appearing upon the Diſſection of a bject, correſpond excellently with this Circulation of the ood, from the Right Ventricle of the Heart, thro' the ngs, to the Left Ventricle."

d a little after he with a great deal of Learning proves, the Antients had no manner of Reaſon for giving the s of *Arteria Venoſa*, and *Vena Arterioſa*, to the Veſſels bear theſe Names, ſince, in his Opinion, one of them Artery, and the other a Vein.

is fifth Queſtion, where he ſhews, that the Heat of the is the Principle of Motion in Reſpiration, he has theſe s: " The ſame hot Blood, which, by dilating the Heart, ſes the Pulſe, is alſo, by dilating the Lungs, the Cauſe Reſpiration." The Lungs then being inlarged, the ex-Air muſt neceſſarily ruſh into the *Aſpera Arteria*, which tion is, for that very Reaſon, call'd Refrigeration; and inution of Bulk happens juſt as in boiling Liquors, when es are pour'd into them; but when the Lungs collapſe, ir muſt neceſſarily be returned, which is call'd Expi-

Queſtion the ſixth, he endeavours to prove, that no Part, h there is not Blood, can be capable of Senſation. But his Opinion there can be no Senſation without a Nerve, is not the Nerve that feels, but the Fleſh, or Part in the Blood is contained.

he Contrivance of Nature," ſays he, " in animal ion, reſembles that of Organs, which, by means of the communicated to the Pipes, and by touching ſometimes and ſometimes another Key, produce the various Comtions of Sounds intended by the Organiſt."

Queſtion the ſeventeenth of his ſecond Book, he ſays, ocation in a Quinſey is rather produced by the Replethe Jugular Veins, than the ſhutting up the Mouth of ynx; for when the Veins of the Neck are ſo obſtructed, Blood and Spirits cannot aſcend, they muſt neceſſarily ate to the Heart and Lungs; and the Lungs being d becoming replete by this means, cannot contract and emſelves.

ge 234. he has theſe Words: " The Veins become beyond the Ligature, and not betwixt it and the ; but it ought to have been otherwiſe, if the Motion e Blood and Spirits had been from the Viſcera to the l Parts of the Body; for the Paſſage being obſtructed, rogreſſive Motion of the Blood is ſtopt, ſo that the ſhould have become turgid betwixt the Ligature and eart." Let us ſee whether this Difficulty is ſolved by *ſtotle* has ſaid, *Lib. de Somno*, *Cap.* 3. where he has rds: " For that which is evaporated muſt neceſſarily pell'd to ſome Part, and then transform'd and chang'd ſame manner with that Arm of the Sea called *Euri-* for that which is warm in every Animal, has a Ten-
l.

" dency to fly upwards: But when much of it is lodg'd at one
" and the ſame time in the upper Parts, it then returns, and is
" carried downwards." Thus far *Ariſtotle*.

" For the underſtanding of which Paſſage we muſt know,
" that the Paſſages of the Heart are ſo contrived by Nature,
" that there is an Entry from the Vena Cava to the Right
" Ventricle of the Heart, from which there is a Paſſage into
" the Lungs; and that from the Lungs there is another Paſ-
" ſage into the Left Ventricle of the Heart, from which at laſt
" there is a Paſſage into the Arteria Aorta, certain Membranes
" being fitted to the Mouths of the Veſſels to hinder the Return
" of the Fluids; for thus there is a perpetual Motion from the
" Vena Cava, thro' the Heart and Lungs, into the Arteria
" Aorta.

" When we are awake, the Motion of the *natural Heat* is
" towards the Surface of the Body, which is the immediate
" Inſtrument of *Senſation*; and ſince, during Sleep, it is to-
" wards the Heart, we may ſuppoſe, that, in a waking State,
" many Spirits, and much Blood, are convey'd into the Arte-
" ries, and from thence carried into the Nerves; but that in
" Sleep this ſame Warmth returns to the Heart thro' the
" Veins, and not thro' the Arteries; for there is a natural
" Paſſage to the Heart thro' the *Vena Cava*, but not thro' the
" Artery. A Confirmation of this may be had from the Pulſes
" of the Arteries, which, in waking People, are high, vehe-
" ment, quick, frequent, and in ſome Degree vibratory. But
" in Sleep they are low, languid, ſlow, and loitering; for, during
" Sleep, very little of the natural Heat goes into the Arteries,
" but it ruſhes into them with greater Violence when we
" awake; but 'tis quite otherwiſe with the Veins, which,
" during Sleep, become turgid, but leſſen and become ſmaller
" when we are awake, as will appear by taking a View of
" thoſe in the Hand, in theſe two different States.

" For the native Heat, during Sleep, paſſes from the Arte-
" ries into the Veins, by a Communication of Orifices, called
" *Anaſtomoſis*, and from thence to the Heart. But as the
" Flux of the Blood towards the upper Parts, and its Reflux
" to the lower, after the manner of *Euripus*, is manifeſt both
" during a State of Sleeping, and Watching; ſo the Motion of
" it in any Part of the Body is very ſenſible, when a Ligature
" is apply'd, or the Veins are obſtructed any other way. For
" when the Paſſage is intercepted, thoſe Rivulets ſwell at the
" very Part where they were uſed to flow eaſily; perhaps the
" Blood, on ſuch an Occaſion, returns to its Source, leſt its
" Motion being intercepted, it ſhould be quite deſtroy'd."

Tho' *Cæſalpinus* writes, as one would think, very explicitly upon this Matter, yet we will not take upon us to determine poſitively, that he knew this Affair diſtinctly. We rather think, with Mr. *Wotton*,
" That this Notion had only been
" occaſionally and ſlightly treated of by *Columbus* and *Cæſal-*
" *pinus*, who themſelves, in all Probability, did not know the
" Conſequences of what they aſſerted; and therefore it was
" never applied to other Purpoſes, either to ſhew the Uſes of
" the other Viſcera, or to explain the Nature of Diſeaſes:
" Neither, for any thing that appears at this Day, had they
" made ſuch Numbers of Experiments, as were neceſſary to
" explain their Doctrine, and to clear it from Oppoſition.
" All this Doctor *Harvey* undertook to do, and with indefa-
" tigable Pains traced the viſible Veins and Arteries throughout
" the Body, in their whole Progreſs *from* and *to* the Heart, ſo
" as to demonſtrate even to the moſt Incredulous, not only
" that the Blood circulates thro' the Lungs and Heart, but the
" very Manner how, and the Time in which, that great Work
" is performed."

His *Quæſtionum peripateticorum libri Quatuor*, *Dæmonum Inveſtigatio peripatetica*, *Quæſtionum Medicarum Libri Duo*, & *de Medicamentorum Facultatibus*, were printed *Venetiis* 1593. 4to.

This Author dy'd at *Rome* in 1603.

HIERONYMUS FABRICIUS AB AQUAPENDENTE,

So called from a Town in *Tuſcany*, where he was born. He was Pupil to *Gabriel Fallopius*, then Profeſſor of Anatomy at *Padua*, whom he ſucceeded in that Province, in the Year 1565. and continued in it upwards of fifty Years. He dy'd in 1619. at *Padua*.

In 1574. he firſt obſerv'd the Valves of the Veins, of which, it is ſaid, he was inform'd by Father *Paul*; but he was not acquainted with their true Structure, nor their Uſes.

He diſcovered a ſmall Muſcle in the internal Ear, which he appropriates to the Malleus.

He affirms, that the Cuticle conſiſts of two Laminæ.

He was alſo the firſt who look'd upon the carnous Coat of the Bladder, as a Muſcle concern'd in the Expulſion of the Urine.

Beſides theſe Particulars, he has many others which deſerve Attention. And, upon the Whole, he was an accurate Anatomiſt, and admirable Surgeon.

rp®

His Works are, *De Viſione, Voce, & Auditu, Venet.* 1600. *Fol. Tractatus de Oculo Viſus Organo, Patavii*, 1603. *Fol. Francoſ.* 1605.------1613. *Fol. De Venarum oſtiolis, Patav.* 1603. *Fol. De Locutione & ejus Inſtrumentis, ibid.* 1603. *Fol. De Muſculi Artificio, & Oſſium Articulationibus, Vicentiæ*, 1614. *4to. De Reſpiratione & ejus Inſtrumentis, Patavii*, 1615. *4to. De Motu locali Animalium, Patav.* 1618. *4to. De Gula, Ventriculo, Inteſtinis Tractatus, Patavii*, 1618. *4to. Opera Anatomica, Francoſ.* 1623. *Patav.* 1625. *Opera omnia Phyſiologica & Anatomica, Lipſiæ*, 1687. *Fol. Opera Anatomica cum Præfatione Albini Lugduni, Batav.* 1738. *Fol.*

Julius Casserius

Was born at *Placentia* in *Italy*, in 1545. He was firſt Servant, and afterwards Pupil, to *Fabricius ab Aquapendente*; and by dint of Parts and Induſtry made very great Progreſs in Anatomy, inſomuch that, in the Opinion of Dr. *Douglas*, he was a better Diſſector than his Maſter, tho' not ſo good a Philoſopher. He dy'd in 1605. in the ſixtieth Year of his Age.

His Works relate principally to the Organs of Voice, and of the Senſes, and are illuſtrated with excellent Figures. Their Titles and Editions are as follows: *Hiſtoria Anatomica de Vocis Audituſque Organis, Ferrariæ*, 1600. *Venetiis*, 1607. *Fol. Pentæſtheſeion, Venet.* 1609. *Francoſ.* 1609. 1610. 1622. *Fol. Tabula Anatomica*, with what was wanting, ſupply'd by *Daniel Bucretius, Venet.* 1627. *Francofurt.* 1632. *4to. Amſtelod.* 1645. *Tabulæ de formato Fœtu, Amſtelod.* 1645.

Johannes Philippus Ingrassias,

A *Sicilian* by Birth, and Profeſſor at *Naples*, flouriſh'd about the Year 1546.

He claims the Diſcovery of the Stapes, a ſmall Bone of the internal Ear; and is the firſt who deſcribes the true Structure of the Os Cribroſum.

His only Anatomical Work is his *Commentaria in Galeni Librum de Oſſibus*, printed *Panor.* 1603. *Fol. Venet.* 1604. *Fol.*

Andreas Larentius

Was Profeſſor of Phyſic, and Chancellor of the Univerſity of *Montpelier*, and Phyſician to *Henry* the Fourth of *France*. He dy'd in 1619. His Anatomical Works are more remarkable for Elegance of Style, than Correctneſs, with reſpect to the Subject; for he is ſaid to have made a great many Miſtakes, and to have laid Claim to many important Diſcoveries, which were however known to preceding Authors. His Errors are ſaid by *Riolanus* to be owing to his truſting to the Reports of others, without examining the Parts himſelf. His Anatomical Works and Figures are, notwithſtanding, in very good Repute, and are eſteemed very uſeful.

His Works are *Hiſtor. Anatom. humani Corporis*, &c. printed *Pariſ.* 1600. *Fol. Francoſ.* 1600. *Fol.*---1602. *8vo.* 1616. *8vo.* ---1627. *8vo. Opera omnia Anatomica & Medica, Francoſ.* 1627. *Fol.* in *French, à Paris*, 1646. *Fol. Opera Anatomica*, &c. *Hanoviæ*, 1601. *8vo.*

Ludovicus Septalius

Was born at *Milan* in 1550. and dy'd at the ſame Place in 1630. He deſcribes the Structure of the Cartilago Enſiformis, in his Book *de Morbis ex Mucronata Cartilagine evenientibus, Mediolani*, 1632. 8vo.

He alſo publiſh'd a Book *de Nævis*, printed *Mediolani*, 1606. *Patavii*, 1628. *8vo. Argent.* 1629. *8vo. Patavii*, 1651.

Petrus Paaw.

This Anatomiſt was born at *Amſterdam*, in 1564. As he had the Advantage of attending the Lectures of *Bontius, Heurnius*, and *Rembert Dodoneus* at *Leyden*, of *Duretus*, and *Joh. Faber*, at *Paris*; and of ſeeing the Diſſections of *Fabricius ab Aquapendente* at *Padua*, by this, and his own Induſtry, he acquired great Knowledge and Reputation in his Profeſſion, inſomuch that in 1589. he was made Profeſſor of Phyſic at *Leyden*.

His Works are, *Primitiæ Anatomicæ de humani Gorporis Oſſibus, Lugd. Batav.* 1615. 4to. *Amſtelod.* 1633. 4to. *Notæ & Commentarii in Epitomen Andreæ Veſalii, Amſtelod.* 1616. *ibid.* 1633. 4to. *Succenturiatus Anatomicus*, &c. *Lugd. Batav.* 1616. *De Valvula Inteſtini Epiſtolæ Duæ* are extant in the firſt Century of *Fabricius Hildanus*, printed *Oppenhem.* 1619. His *Anatomicæ Obſervationes Selectiores*, publiſhed by *Thomas Bartholine*, are in the third and fourth Centuries of his *Hiſt. Anatom. & Med. rar.*

Bartholomæus Cabrolius

Was of *Aquitain*. He was Profeſſor of Anatomy at *Montpelier*, about 1570.

His Anatomical Works are, *Alphabeton Anatomicon*, printed *Genevæ*, 1604. 4to. and in *French*, 1624. 4to. and the *Collegium Anatomicum Clariſſ. trium Viror. Jaſſolini*, Severini, Ca
brolii, Francoſ. 1668. 4to.

Georgius Horstius

Was born in 1575. and in 1606. was made Profeſſor
Wirtemberg. He dy'd in 1636. at *Ulm*.

His Anatomical Works are, *Scepſis de Naturali Conſerv*
tione & Cruentatione Cadaverum, Wittebergæ, 1607. 8vo. *Lib*
Duo de Natura humana, Wittebergæ, 1607. 8vo. *Franc*
1612. 4to. *Ulmæ*, 1628. 4to. *Norimbergæ*, 1652. 4to. H
Anatome Corporis humani, Greſtæ, 1617. *Fol. Exercitat.*
Natura motus Animalis, Giſſæ, 1617.

Caspar Hoffman

Was born at *Saxe Gotha*, in 1572. and practiſed Phyſic
Norimberg and *Altorff*, about the Year 1600. He died in 1648.

He wrote the following Anatomical Treatiſes: *De U*
Lienis Secundum Ariſtotelem Liber ſingularis: De Uſu Cer
ſecundum Ariſtotelem Diatriba, Lipſiæ, 1619. 8vo. *Co*
mentarii in Galen. de Uſu Partium, Lib. 17. *Francoſ.* 1625. F
De Thorace ejuſque Partibus Commentarius, Francoſ. 162
Fol. De Generatione Hominis, Francoſ. 1629. *Fol. N*
perpetuæ in Galen: de Oſſibus Librum, ibid. 1630. *Inſtitut*
Medicæ, Lugd. 1645. *De Partibus Similaribus Lib. ſingu*
ris, Francofurt. 1667. 4to. *Pro Veritate, Tract.* 3. *Lut*
1647.

Johannes Riolanus

Was born at *Paris*, in the Year 1577. where he was af
wards Royal Profeſſor of Anatomy and Botany, and firſt P
ſician to *Mary* of *Medicis*, Mother to *Lewis* the XIIIth.
was an exceeding dexterous Anatomiſt, and elegant Wri
he enriched Anatomy with many uſeful Diſcoveries, and app
well verſed in the Writings of the Antients.

Amongſt other Diſcoveries, he firſt took Notice of the A
pendiculæ Pingues of the Colon, gave Names to the He
and Cyſtic Ducts of the Liver; and obſerved, that the D
Communis was not furniſhed with a Valve, but inſtead of t
with a kind of Rugoſity, which in ſome Degree ſupplies
Place of one.

With reſpect to the Hymen, he thinks it is a circular M
brane, placed acroſs the Vagina, with a ſmall Foramen in
Middle; and that by the Laceration of this, the Carun
Myrtiformes are form'd.

He allows of the Anaſtomoſes of the Epigaſtric and M
mary Arteries in Women, but not in Men.

He has alſo ſome Obſervations, which are new, conc
the Canal of the Cervix Uteri, the Os Hyoides, Tongue,
a Ligament, which is extended from the Styloide Apophy
the Angle of the lower Jaw.

His Works are *Schola Anatomica*, &c. *Pariſ.* 1607.
1609. *Genev.* 1624. 8vo. *Anatome Corporis human*
Pariſ. 1610. *Fol. Oſteologia*, &c. *Pariſ.* 1614. 8vo.
thropographia, Pariſ. 1618. 8vo. *ibid.* 1626. 4to. Hi
Anatomica, Lutetiæ Pariſ. 1649. *Fol. Opuſcula Anatomica,*
1652. 12mo. *Enchiridion Anatomicum*, &c. *Lugdun.* B
1649. *Pariſ.* 1658. 8vo. *Jenæ & Lipſiæ*, 1674.
Lugdun. Batav. 1675. 8vo. *Francoſ.* 1677. 8vo.
French, à Lyon. 1682. 8vo.

Andreas Libavius.

This Author was Profeſſor of Poetry and Hiſtory at
in 1588. and in 1605 Director of the Univerſity of C
He died in 1616.

His Character is founded on his Chymical Works;
was the firſt who deſcribed the Method of transfuſing the
from one Animal to another. See the Article CHYMIA.

Æmilius Parisanus.

This Author treats on many Anatomical Subjects; but
is ſaid, with a great deal of Ignorance and Inſolence.
nus ſpeaking of this Author, has the following remark
ſage: *Cacata hæc Charta annalium Voluſianorum fato dig*
quæ Pariſani Fatuitatem declarat, deferatur in Vicum
tem Thus, & Odores, & Piper, & quicquid Chartis ami
eptis. His Works are, *Nobilium Exercitationum Lib. d*
printed *Venet.* 1623. *Fol. Par & Sanius Judicium de*
à toto Proventu, &c. *Venet.* 1633. *Altera Pars Nobilium*
citationum, Venet. 1635. *Fol. Nobilium Exercitation*
tertia, Venet. 1638. *Fol.*

Melchior Sebizius.

This Author was born at *Straſburg*, in 1578. and
markable for having ſtudied at twenty-ſeven Univerſities
was Profeſſor at *Straſburg*.

His Works are interſperſed with many Anatomical D
tions; they are, *Exercitationes Medicæ*, &c. *Argentorat.*
1631. 1636. 4to. 1674. 4to. *Diſſertationes tres de Reſp*
Argentorat. 1642. 4to. *Diſput.* 4. *de Dentibus, ibid.* 16
Diſputat. de Concoctione, ibid. 1642. 4to. *Diſputat.*

atibus Naturalibus, *ibid.* 1644. 4to. *Diſputat. de Sudore*, 1657. 4to. *Diſputat. de Fame & Siti*, *ibid.* 1655. 4to. ſputat. *de Pilis duæ*, *ibid.* 1651. 4to. *Prodromi Examinis* ıerum *ſingularum humani Corporis Partium partes quatuor*, entorat. 1632. 4to.

ADRIANUS SPIGELIUS.

his Phyſician was born at *Bruſſels*, in 1578. He was a brated Anatomiſt, Knight of *St. Mark*, and firſt Profeſſor natomy and Surgery at *Padua*. His Works are, *De for-* *Fœtu Liber ſingularis*, *Patav.* 1626. *Fol. Francof.* 1631. *De humani Corporis Forma Lib. decem*, &c. *Venet.* 1627. *Fol. Francof.* 1632. 4to. *De incerto Tempore Partus* ola, 1664. *Opera omnia quæ extant*, *Amſtelodam.* 1645.

ALEXANDER MASSARIAS.

his Phyſician was born at *Vicenza*, and in 1587 was Pro- of Phyſic at *Padua*; he died in 1598.

is remarkable for the extravagant Compliment which he to the Memory of *Galen*, which was, that *he had rather* ith Galen, *than be in the right with the Moderns.*

Tractatus de Urinis & Pulſibus, was publiſhed *Francof.* *Opera Medica*, *Lugdun.* 1634.

MATTHIAS LUDOVICUS GLANDORP.

is Author was a Pupil to *Spigelius*, and a celebrated Sur- of *Bremen.* His Works contain many Anatomical Ob- ions, ſome of which are illuſtrated with Figures. His s are, *Speculum Chirurgorum*, *Bremæ*, 1619. 12mo. tus *de Polypo Narium*, *Bremæ*, 1628. 4to. *Gazophy-* *Polypluſium Fonticulorum & Setonum reſeratum*, &c. , 1632-1633. 4to.

PETRUS LAURENBERGIUS

Profeſſor of Phyſic and Philoſophy at *Roſtoch.* He was, Opinion of *Riolanus*, but an indifferent Anatomiſt. His are, *Iſagoges Anatomicæ Græcæ Interpretatio*, *Lugd.* 1618. 4to. *Proceſtria Anatomica*, *Hamburgi*, 1619. iatomia *Corporis humani*, *Roſtochii*, 1636. 4to. *Francof.* 12mo.

FABRICIUS BARTHOLETUS.

Author was born at *Bologna*, in 1588. and was Pro- *Piſa.* He died in 1630.

rote an Anatomical Piece, intituled, *Anatomica humani* ſmi *Deſcriptio*, *Bononiæ*, 1619. *Fol.*

JOHANNES REMELINUS

of *Ulm*, in *Swabia.* His Work is only remarkable for res, which are contrived in ſuch a manner, that upon p that Part of the Figure, which repreſents the exter- , thoſe which are ſituated underneath are diſcovered; n removing theſe, others, which lie deeper, appear. nus *Michelſpachier* engraved theſe Plates. They were under the Title of, *A Survey of the Microcoſm*, or *The* *of the Bodies of Men and Women*, &c. *London*, 1702. *Latin* it appear'd before, in 1613-1614-1615-1619. utch, 1645.

ROBERT FLUDD.

Author was of *Salop.* He, in his Youth, followed ſſion of Arms; but was afterwards made Doctor of *Oxford*, and Fellow of the College of Phyſicians. n 1637.

ork is intituled, *De Anatomia Triplici*, *Francof.* 1623.

RICHARD BANISTER,

gliſh Surgeon, wrote an Anatomical Deſcription of which is extant in the firſt Part of his Work, inti- worthy *Treatiſe of the Eyes*, *containing the Knowledge of* 113 *Diſeaſes incident unto them and the Eye-lids*, ndon, 1622.

CASPAR ASELLIUS.

atomiſt was born at *Cremona*, and was Profeſſor of t *Pavia.* He is celebrated for being the firſt, amongſt ns, who took Notice of the Lacteal Veſſels in the which he deſcribes as conveying the Chyle to a , ſituated in the Centre of the Inteſtines; but this e confeſſes, is taken from the Appearances in Brute He modeſtly declines the Honour of this Diſcovery, ays theſe Lacteals were known to *Hippocrates*, *Era-* d *Galen.* This Diſcovery was made in 1622.

ks are, *De Lactibus*, *ſeu Lacteis Venis*, *quarto Vaſo-* icorum *genere novo invento*, *Diſſertatio*, *cum Figuris* , *Mediolan.* 1627. *Baſil.* 1628. *Lugd*, *Batav.* 1641. 8vo. It is alſo extant with the Works of viſed by *Vander Linden*, and in *Veſlingius*, illuſtrated

WILLIAM HARVEY.

This celebrated Phyſician was born at *Folkſtone* in *Kent*, in the Year 1577. He ſtudied five Years at *Padua*, where he took a Doctor's Degree; afterwards took the ſame Degree at *Cambridge*; and having been Phyſician to King *James* and King *Charles* the Firſt, and Preſident of the College of Phyſicians, he died in 1657, in the Eightieth Year of his Age.

His Diſcovery of the Circulation of the Blood was of the moſt Importance to Phyſic of any that was ever made, and acquir'd him an immortal Name. But as it has been frivolouſly diſputed, whether the Honour of it belongs to him, I ſhall tranſcribe a Paſſage from *Wotton*'s Reflections on antient and modern Learning, which ſets this Affair in a true Light.

This Diſcovery, firſt made perfectly intelligible by Dr. *Harvey*, is of ſo very great Importance to ſhew the Communication of all the Humours of the Body with each other, that as ſoon as Men were perfectly ſatisfied, that it was not to be conteſted, which they were in a few Years, a great many put in for the Prize, unwilling that Dr. *Harvey* ſhould go away with all the Glory. *Vander Linden*, who publiſh'd a moſt exact Edition of *Hippocrates* in *Holland*, about thirty Years ago, has taken a great deal of Pains to prove, that *Hippocrates* knew the Circulation of the Blood, and that Dr. *Harvey* only revived it. The Subſtance of what has been ſaid in this Matter, is this: That *Hippocrates* ſpeaks, in one Place, *of the uſual and conſtant Motion of the Blood*: That, in another Place, he calls *the Veins and Arteries the Fountains of Human Nature*, *the Rivers that water the whole Body*, *and convey Life*; *and which*, *if they be dried up*, *the Man dies*: That, in a third Place, he ſays, *That the Blood-veſſels*, *which are diſperſed over the whole Body*, *give Spirit*, *Moiſture*, *and Motion*, *and all ſpring from one*; *which one* (Blood-veſſel) *has no Beginning*, *nor no End*; *for where there is a Circle*, *there is no Beginning*.

Theſe are the cleareſt Paſſages that are produced, to prove that *Hippocrates* knew the Circulation of the Blood; and it is plain from them, that he did believe it as an Hypotheſis; that is, in plain *Engliſh*, that he did ſuppoſe the Blood to be carried round the Body by a conſtant accuſtomed Motion: But that he did not know what this conſtant accuſtomed Motion was, and that he had not found that Courſe, which, in our Age, Dr. *Harvey* firſt clearly demonſtrated, will appear evident from the following Conſiderations. (1.) He ſays nothing of the Circulation of the Blood in his Diſcourſe of the Heart, where he anatomizes it as well as he could, and ſpeaks of the Ventricles and the Valves, which are the immediate Inſtruments by which the Work is done. (2.) He believes, that the Auricles of the Heart are like Bellows, which receive the Air to cool the Heart: Now there are other Uſes of them certainly diſcovered, ſince they aſſiſt the Heart in the Receiving of the Blood from the Vena Cava, and the Vena Pulmonaris. This no Man, that knows how the Blood circulates, can be unacquainted with; and accordingly would have been mention'd by *Hippocrates*, had he underſtood it. (3.) *Hippocrates* ſpeaks of Veins, as receiving Blood from the Heart, and going from it; which alſo was the conſtant way of ſpeaking of *Galen*, and all the Antients. Now no Man, that can expreſs himſelf properly, will ever ſay, that any Liquors are carried away from any Ciſtern, as from a Fountain or Source, through thoſe Canals which, to his Knowledge, convey Liquors to that Ciſtern. (4.) *Hippocrates* ſays, the Blood is carried into the Lungs from the Heart, for the Nouriſhment of the Lungs, without aſſigning any other Reaſon. Theſe ſeem to be poſitive Arguments, that *Hippocrates* knew nothing of this Matter; and, accordingly, all his Commentators, antient and modern, before Dr. *Harvey*, never interpreted the former Paſſages of the Circulation of the Blood: Neither would *Vander Linden*, in all Probability, if Dr. *Harvey* had not help'd him to the Notion; which he was then reſolved to find in *Hippocrates*, whom he ſuppoſed to be not the Father only, but the Finiſher alſo, of the whole Medical Art. It is pretended to by none of the Antients, or rather Admirers of them, after *Hippocrates*. As for *Galen*, any Man that reads what he ſays of the Heart and Lungs, in the ſixth Book of his *De Uſu Partium*, muſt own, that he does not diſcourſe as if he were acquainted with modern Diſcoveries; and therefore it is not ſo much as pretended, that he knew this recurrent Motion of the Blood: Which alſo farther ſhews, that if *Hippocrates* did know it, he explain'd himſelf ſo obſcurely, that *Galen* could not underſtand him; who, in all Probability, underſtood *Hippocrates*'s Text as well as any of his Commentators, who have written ſince the *Greek* Tongue, and much more ſince the *Ionic* Dialect, has ceaſed to be a living Language.

Since the Antients have no Right to ſo noble a Diſcovery, it may be worth while to inquire, to whom of the Moderns the Glory of it is due; for this is alſo exceedingly conteſted. The firſt Step that was made towards it, was, the finding that the whole Maſs of the Blood paſſes through the Lungs, by the Pulmonary Artery and Vein.

The firſt that I could ever find, who had a diſtinct Idea of this Matter, was *Michael Servetus*, a *Spaniſh* Phyſician, who was burnt for Arianiſm at *Geneva*, near 140 Years ago. Well had it been for the Church of *Chriſt*, if he had wholly confin'd himſelf to his own Profeſſion! His Sagacity in this Particular, before ſo much in the Dark, gives us great Reaſon to believe, that the World might then have had juſt Cauſe to have bleſſed his Memory. In a Book of his, intituled, *Chriſtianiſmi Reſtitutio*, printed in the Year 1553. he clearly aſſerts, that the Blood paſſes through the Lungs, from the Right to the Left Ventricle of the Heart, and not through the Partition which divides the two Ventricles, as was at that time commonly believed.

Realdus Columbus, of *Cremona*, was the next that ſaid any thing of it, in his Anatomy, printed at *Venice*, 1559. in *Folio*, and at *Paris*, in 1572. in *Octavo*, and afterwards elſewhere. There he aſſerts the ſame Circulation through the Lungs, that *Servetus* had done before; but ſays, that no Man had ever taken Notice of it before him, or had written any thing about it: Which ſhews, that he did not copy from *Servetus*; unleſs one ſhould ſay, that he ſtole the Notion, without mentioning *Servetus*'s Name; which is injurious, ſince, in theſe Matters, the ſame thing may be, and very often is, obſerved by ſeveral Perſons, who never acquainted each other with their Diſcoveries. But *Columbus* is much more particular; for he ſays, That the Veins lodge the whole Maſs of the Blood in the Vena Cava, which carries it into the Heart, and ſo it is thrown into the Left Ventricle; and by the Aorta again, when enliven'd by the Air, diffuſed thro' the whole Body.

Some Years after appear'd *Andreas Cæſalpinus*, who printed his *Peripatetical Queſtions* at *Venice*, in *Quarto*, in 1571. and afterwards, with his *Medical Queſtions*, at the ſame Place, in 1593. He is rather more particular than *Columbus*, eſpecially in examining how Arteries and Veins join at their Extremities; which he ſuppoſes to be by opening their Mouths into each other: And he uſes the Word *Circulation* in his *Peripatetical Queſtions*, which had never been uſed in that Senſe before. He alſo takes Notice, that the Blood ſwells below the Ligature in Veins, and urges that in Confirmation of his Opinion. Some Hints of this Matter are likewiſe to be found in *Conſtantius Varolius*, who printed his Anatomy in the Year 1591.

At laſt Dr. *William Harvey* printed a Diſcourſe on purpoſe, upon this Subject, at *Francfort*, in 1628.

This gave him a juſt Title to the Honour of ſo noble a Diſcovery, ſince what his Predeceſſors had ſaid before him was not enough underſtood, to form juſt Notions from their Words. One may alſo obſerve how gradually this Diſcovery, as all abſtruſe Truths of human Diſquiſition, was explained to the World. *Hippocrates* firſt talked of the uſual Motion of the Blood. *Plato* ſaid, That the Heart was the Original of the Veins, and of the Blood, that was carried about every Member of the Body. *Ariſtotle* alſo, ſomewhere, ſpeaks of a recurrent Motion of the Blood. Still, all this was only Opinion and Belief: It was rational, and became Men of their Genius; but not having as yet been made evident by Experiments, it might as eaſily be denied as affirm'd. *Servetus* firſt ſaw, that the Blood paſſes thro' the Lungs; *Columbus* went farther, and ſhew'd the Uſes of the Valves, or Trap-doors of the Heart, which let the Blood in and out of their reſpective Veſſels, but not the ſelfſame Road. Thus the Way was juſt open when Dr. *Harvey* came, who built upon the firſt Foundations: To make his Work yet the eaſier, the Valves of the Veins, which were diſcover'd by Father *Paul* the *Venetian*, had not long before been explain'd by *Fabricius ab Aquapendente*; whence the Circulation was yet more clearly demonſtrated.

There was one thing ſtill wanting to complete this Theory, and that was, the Knowledge how the Veins received that Blood which the Arteries diſcharged: Firſt, it was believed that the Mouths of each ſort of Veſſels join'd into one another: That Opinion was ſoon laid aſide, becauſe it was found, that the Capillary Veſſels were ſo extremely ſmall, that it was impoſſible, with the naked Eye, to trace them. This put them upon imagining, that the Blood ouzes out of the Arteries, and is abſorb'd by the Veins, whoſe ſmall Orifices receive it, as it lies in the Fibres of the Muſcles, or in the Parenchyma of the Bowels; which Opinion has been generally received by moſt Anatomiſts ſince Dr. *Harvey*'s Time: But *Leeuwenhoeck* has lately found in ſeveral ſorts of Fiſhes, which were more manageable by his Glaſſes than other Animals, that Arteries and Veins are really continued Siphons, variouſly wound round each other towards their Extremities, in numberleſs Mazes, over all the Body: And others have found what he ſays to be very true, in a Water-newt; ſo that this Diſcovery has paſſed unconteſted. And ſince it has been conſtantly found, that Nature follows like Methods in all ſorts of Animals, where ſhe uſes the ſame ſorts of Inſtruments, it will always be believed, that the Blood circulates in Men, after the ſame manner as it does in Eels, Perches, Pikes, Carps, Bats, and ſome other Creatures, in which *Leeuwenhoeck* tried it. Tho' the Ways how it may be viſible to the Eye, in human Bodies, have not, that I know of, been yet diſcovered.

But *Thomas Bartholine* and *Conſentinus* have raiſed up a modern Rival to *Harvey*, for the Honour of the Diſcovery of the Circulation, which is the celebrated Father *Paul*. What they relate amounts only to this; that in a Manuſcript of Father *Paul*'s, which was left in the Hands of Father *Fulgentius* a *Venice*, the Particulars of the true Circulation of the Blood, a publiſh'd by *Harvey*, are contain'd; and hence they conclude that he communicated it to *Fabricius ab Aquapendente*, who to it to *Harvey* whilſt he was at *Padua*.

But the Truth of the Affair appears to be; that after *Harvey*'s Return to *England*, he made a Preſent of his Book, j then publiſh'd, to the *Venetian* Embaſſador; who, immediate after going home, lent it to Father *Paul*, whoſe Curioſity l him to make ſome Extracts from it, which are contain'd in th Manuſcript above-mention'd.

What made this Story the more likely to be true, was Fathe *Paul*'s Sagacity in Anatomical Reſearches, who firſt obſerv the Contraction and Dilatation of the Pupil of the Eye; and ſaid to have communicated to *Fabricius ab Aquapendente* Knowledge of the Valves in the Veins.

Beſides this Diſcovery of the Circulation, *Harvey* ma ſeveral with reſpect to the Generation of Animals.

His Works are, *Exercitatio Anatomica de Motu Cordis* & *Sa guinis in Animalibus*, *Francof.* 1628. 4*to*. *Lugd. Batav.* 16 4*to*. *ibid.* 1647. *Cum Refutationibus Æmilii Pariſiani*, 16 *Patavii*, 1643. It is likewiſe in a Book, intituled, *Recen rum Diſceptationes de Motu Cordis*, &c. printed *Lugd. Ba* 1647. 4*to*. Then it appeared in *Engliſh*, printed at *Rotterd* 1671. His *Exercitationes duæ de Circulatione Sanguinis*, *Ro dami*, 1649. *Epiſtola ad Johan. Dan. Horſtium de Inv Aſellii* & *Pequeti*, are in the Decad of *Medical Epiſtles* of *J Dan. Horſtius*.

Exercitationes de Generatione Animalium, *Londin.* 1651. *Amſtel.* 1651. 1652. 12*mo*. *Hagæ Comitis*, 1680. 12*mo*. *Engliſh* at *London*, 1653.

CASPAR BARTHOLINUS.

This Author was a *Dane*, born in 1585. After viſiting of the moſt famous Univerſities, and attending the Lectur the moſt celebrated Profeſſors, he was made Royal Profeſſ *Copenhagen*; then turn'd his Studies to Divinity, and die 1630. in the Forty-fifth Year of his Age. He was Cote rary with *Harvey*.

His Anatomical Works are in much Eſteem, which ar *Anatomicæ Inſtitutiones*, printed *Albiæ*, 1661. *Argentorati*, *Roſtoch.* 1626. *Goſlariæ*, 1632. *Oxoniæ*, 1632. Theſe tutions were inlarged by *Bartholine* the Son, and publiſh different Years at different Places. They were publiſh'd i *German* Tongue, *Hafniæ*, 1648. His *Controverſiæ micæ*, *Goſlariæ*, 1631. His *Enchiridion Phyſicum*, *Arge* 1652.

To *Caſpar Bartholine* I ſhall ſubjoin his Son and Gr tho' not properly belonging to this Place.

THOMAS BARTHOLINUS.

This Phyſician was the Son of *Caſpar Bartholine*, an at *Copenhagen* in 1616. He was Profeſſor at the Place Birth, and enrich'd Anatomy with many uſeful Diſcoveries claims the Glory of having firſt obſerved the Lymphatic V but the Pretenſions of *Olaus Rudbeckius*, and Dr *Jolliff* *Engliſh* Phyſician, to the ſame Diſcovery, render his Title doubtful. *Rudbeckius* publiſh'd his Obſervations much the ſame time as thoſe of *Bartholine* appear'd; and Dr. *J* ſhewed the ſame to ſeveral of his Friends, but without p ing any thing concerning them. The Diſcoveries bein doubted, and all three working upon the ſame Materials ſeems no Reaſon to deny any of them the Glory of their tions. The thing which they found was, that there ar merable ſmall clear Veſſels in many Parts of the Body, in the lower Belly, which convey a colourleſs Juice eith the common Receptacle of the Chyle, or elſe into the there to mix with the Blood.

He alſo pretends a Title to the Diſcovery of the T *Duct*; but this is alſo diſputed with him by *Van Hor Pequet*.

His Works are *Anatomia ex Caſpari Bartholini parent tutionibus*, &c. *Lugd. Batav.* 1641. *ibid.* 1645. *ibid. Hagæ Comitis*, 1655. *ibid.* 1660. *ibid.* 1663. *Roterod ibid.* 1673. *Anatomica Ancuriſmatis diſſecti Hiſtoria*, *P* 1644. *De Lacteis Thoracicis in Homine Brutiſq; nuper ſervatis Hiſtoria Anatomica*, *Hafniæ*, 1652. *Londini*, *Pariſiis*, 1653. *Genevæ*, 1654. *Lugd. Batav.* & *Ultra* 1654. It is alſo in the *Meſſis Aurea* of *Siboldus Hem* printed *Heidelbergæ*, 1659. and with his own *Opuſcula*, 1670. *Vaſa Lymphatica, nuper Hafniæ in Animantibus* & *in Homine*, *Hafniæ*, 1653, 1654. *Pariſiis.* They extant with *Siboldus Hempſterhuis*, *Meſſis Aurea*, *Hei* 1659. and alſo with his own *Opuſcula*, printed *Hafniæ ſtelodami*, 1670. *Hiſtoria nova Vaſorum Lymphaticor liſh'd with Le Clerc* and *Maugelus*'s *Bibliotheca Anatom* ed *Genev.* 1685. *Dubia Anatomica*, *Hafniæ*, 1653. 1653. *Defenſio Vaſorum Lacteorum*, &c. *Hafniæ*,

his *Opuſcula Anatomica*, 1670. *Hiſtoriarum Anatomica-*
Centuria prima & ſecunda, *Hafniæ*, 1654. *Hiſtoriarum*
micarum Centuria tertia & quarta, ibid. 1657. *Hiſtoriar.*
micar. Cent. quinta & ſexta, *Hafniæ*, 1661. *Vindiciæ*
micæ, *Hafniæ*, 1648. *Opuſcula nova Anatomica*, *Hafniæ*
ſtelod. 1670. *Obſervationes Anatomicæ Petri Pawi*, print-
his third and fourth Centuries of his own Obſervations,
æ, 1657. *Collegium Anatomicum*, *Hafniæ*, 1651. *Speci-*
primum ex Vaſis Lymphaticis, *Hafniæ*, 1655. 1658. *Ro-*
1660. *Amſtelodami*, 1661. Alſo with his *Opuſcula*,
Hafniæ, 1670. *Specilegium ſecundum ex Vaſis Lympha-*
Amſtelod. 1660. *Specilegia bina ex Vaſis Lymphaticis*, *Amſte-*
1661. And with his own *Opuſcula nova Anatomica*,
æ, 1670. *Diſſertatio Anatomica de Hepate defuncto*, *Haf-*
1661. And with his *Opuſcula Anatomica nova*, *Hafniæ*,
Reſponſio de Experimentis Anatomicis Bilſianis, &c. *Haf-*
1661. *Amſtelodami*, 1661. And with his *Opuſcula nova*
mica, *Hafniæ*, 1670. *De Hepatis exautorati Cauſa*
ta, *Hafniæ*, 1666. And with his *Opuſcula Anatomica*
Hafniæ, 1670. *De Cerebri ſubſtantia pingui*, &c. *Haf-*
669. *De Anatome Practica ex Cadaveribus morboſis ador-*
Conſilium, &c. *Hafniæ*, 1674. *De Pulmonum Subſtantia*
u Diatribe, *Hafniæ*, 1663. *Lugd. Batavor.* 1672.-----
r Linden, p. 1003.
left two Sons, *Caſpar* and *Thomas*; the former of whom
ed many of his Father's Works. He alſo wrote upon
aries of Women, Generation, and the Structure of the
agm; and is ſaid to have firſt diſcovered the inferior and
alivary Ducts. He farther ſpeaks of a new Method of
ng the Viſcera for Anatomical Uſes.
Anatomical Works are, *De Ovariis Mulierum*, &c.
1677. *Amſtelodami*, 1678. *Norimbergæ*, 1679. *Epi-*
Nervorum Uſu in Muſculorum Motu, *Pariſiis*, 1676.
ragmatis Structura nova, *Pariſiis*, 1676. *Adminiſtratio-*
natomicarum Specimen, publiſh'd with *Michaelis Lyſeri*
Anatomicum, *Francofurti*, 1679. *Exercitationes Miſcel-*
1675. There are likewiſe ſeveral of his Anatomical
printed in the *Acta Hafnienſia*.
the Time of the great *Harvey*, there have been ſuch
tude of Anatomical Writers, that a particular Detail of
ould of itſelf require a Volume. I ſhall therefore only
alphabetical Catalogue of the principal, and take ſome
of their Diſcoveries, when of any Importance. I muſt,
, remark, that it would have been fortunate for Ana-
and Students in this Science, if Authors could have con-
hemſelves with publiſhing their own Diſcoveries, and
erting upon the Errors of others: But, inſtead of doing
ny have thought, that a Diſcovery, ſometimes trifling
or a Profeſſor's Chair, have intitled them to write an
ſtem; thus making it neceſſary to ſearch large Volumes
overies, which a few Pages were ſufficient to contain.

ALBINUS,

feſſor at *Leyden*, has publiſhed ſome Anatomical Pieces,
e in much Eſteem; and the World is in Expectation
from the ſame Hand. His Works which have come
nowledge, are as follows:
ia Muſculorum Hominis, *Lugdun. Batav.* 1734. 4*to*.
Oſſium Fœtus humani; *accedit Oſteogeniæ brevis Hiſto-*
dun. Batav. 1737. 4*to*.
Anatomicæ, *Lugdun. Batav.* 1741. *Fol.*
ſt is not yet completed.

BELLINI (LAURENTIUS).

natomical Works are,
uctura Renum.
Organum noviſſime detectum.
h which there have been ſeveral Editions. I have ſeen
d *Lugduni Bat.* 1711.

BERGERUS (JOHANNES GODOFREDUS).

of *Hall* in *Saxony*, but Profeſſor of Phyſic at *Wirtem-*

ncipal Anatomical Piece is an Epiſtle concerning the
f the Aorta, principally with reſpect to its aſcending

BESLERUS (MICHAEL RUPERTUS).

of *Nuremberg*, born 1607. died 1661. according to
His Anatomical Works are,
dæ Fabricæ humanæ Mulieris partium Generationi
inſervientium, & *Fœtus*, *fidelis*, *quinque Tabulis*, *ad*
em naturalem & genuinam, *typis æneis impreſſis*, *hacte-*
m viſa, *Delineatio*. *Noribergæ*, *apud Jeremiam*
1640. in *Fol.*
io Anatomico-medica ſingularis cujuſdam, *Calendar.*
44. *tres filios naturalis magnitudinis viventes*, *enixæ*.
ro retentis ſecundinis extremum quaſi halitum ſpirabat,
horarum ſpatium, *dextrâ divinitus adminiculante*,
adſtantium admiratione & ſtupore, *feliciter evaſit*.
1644. in 4*to*.

BIDLOO (GOTTOFREDUS).

He was Profeſſor, at *Leyden*, of Surgery and Anatomy. He publiſh'd a hundred and five magnificent Figures of different Parts of the Body, *Amſtelodam.* 1685. in a very large Folio, ſome of which are ſaid not to be according to the Life. *Cowper* corrected theſe.

Opera omnia Anatomico-Chirurgica edita & inedita, *Lugdun. Batav.* 1715.

His *Exercitationum Anatomico-Chirurgicarum Decas* was printed *Lugdun. Bat.* 1704.

BLANCARDUS (STEPHANUS)

Publiſh'd ſome Anatomical Pieces, which are ſaid to be very indifferent Compilations.

BLASIUS (GERHARDUS)

Publiſh'd ſeveral Anatomical Treatiſes, as,

Commentarius in Syntagma Anatomicum Johannis Veſlingii, *cum Figuris*, *Amſtelodam.* 1659. 4*to*.

This was reprinted at the ſame Place, 1666. 4*to*. This Edition is ſaid to be the beſt.

De Renibus monſtroſis, publiſhed with *Bellini Exercitat. Anatomica de Struct. Renum*, 1665. 12*mo*.

Anatome contracta, *Amſtelodam.* 1666. 12*mo*.

Anatome Medullæ Spinalis, & *Nervorum inde provenientium*, *Amſtelod. apud Caſparum Commelinum*, 1666. in 12*mo*.

Obſervata Anatomica in Homine, *Simiâ*, *Equo*, *Vitulo*, *Teſtudine*, *Echino*, *Glire*, *Serpente*, *Ardeâ*, *variiſque Animalibus aliis. Accedunt extraordinaria in Homine reperta*, *Praxin Medicam æque ac Anatomen illuſtrantia*, *Lugd. Batav.* & *Amſtelod. apud Gaaſbeeck*, 1674. in 8*vo*.

Zootomiæ ſeu Anatomes variorum Animalium pars prima, *Amſtelod. apud Abrahamum Wolffgang*, 1676. in 8*vo*.

Anatome Animalium Terreſtrium variorum, *Volatilium*, *Aquatilium*, *Serpentum*, *Inſectorum*, *Ovorumq*; *Structuram naturalem*, *ex Veterum*, *Recentiorum*, *propriiſq*; *obſervationibus proponens*, *Figuris variis illuſtrata*, *Amſtelod. apud Viduam Johannis a Someren*, 1681. in 4*to*.

BOHNIUS, (JOHANNES)

Profeſſor of Anatomy at *Leipſic*. Several Anatomical Obſervations are diſperſed in his Works, the principal of which are relative to the Biliary Ducts, and Bile.

BONETUS (THEOPHILUS)

Collected with immenſe Labour, and publiſh'd, a prodigious Number of Diſſections, which had been made upon Bodies which died of Diſtempers, or Caſualties, thereby excellently explaining the immediate Cauſes of Diſeaſes and Death. This Work is, perhaps, the moſt valuable Piece which the Moderns have produced, and the beſt adapted to render a Phyſician perfectly acquainted with the Indiſpoſitions of the human Body.

No Phyſician ſhould be a Day without conſulting this Author.

His large Work, intituled, *Sepulchretum ſive Anatomia Practica*, was firſt publiſhed in two Volumes, *Genevæ*, 1679. *Fol.*

Mangetus publiſhed another Edition, with conſiderable Additions, in three Volumes, *Lugd.* 1700.

There is alſo another Piece on the ſame Subject, intituled,

Prodromus Anatomiæ practicæ, *ſive de abditis Morborum Cauſis*, *ex Cadaverum Diſſectione revelatis*, *Libri primi Pars prima*, *de Doloribus capitis*, *ex illius apertione manifeſtis*, *Genevæ*, *apud Franciſcum Miege*, 1675. in 8*vo*.

BONTIUS (JACOBUS)

Publiſh'd ſome Anatomical Obſervations, which are extant, amongſt other Treatiſes, in his *Medicina Indorum*, *Lugd. Batav.* 1642. 12*mo*. *Amſtelodam.* 1658. 12*mo*.

They are alſo amongſt his *Opuſcula varia*, *Amſtelodam.* 1658. *Fol.*

Theſe are alſo printed with *Proſper Alpinus*'s *Medicina Ægyptiorum*, *Pariſiis*, 1646. 4*to*. and *Lugd. Bat.* 1719. 4*to*.

BORELLUS (ALPHONSUS)

Gave a Mechanical Account of the Motion of Animals, drawn from the Structure of the Parts. As he had the Advantages of Dr. *Lower*'s Diſcoveries, with reſpect to the Order of the muſcular Fibres of the Heart, he was enabled to give a Solution of all the Appearances of the Motion of the Heart, and of the Blood in the Arteries, upon Mathematical and Mechanical Principles. His Anatomical Works are,

De Renum Uſu Judicium, publiſh'd with *Bellini de Structura Renum*, *Argentorati*, 1664. 8*vo*.

De Motu Animalium, publiſh'd in the *Bibliotheca Anatomica* of *Manget* and *Le Clerc*.

BRIGGS (WILLIAM)

Wrote an accurate Deſcription of the Eye, with the Method of diſſecting it, intituled, *Ophthalmographia*, *Cambridge*, 1675. 8*vo*. This is alſo extant in *Mangetus*'s *Bibliotheca Anatomica*.

From the Structure of the Eye he form'd a Theory of Viſion, which is extant in the *Acta Eruditorum*, 1683.

He diſcover'd, that in the *Tunica Retiformis*, which is contiguous to the vitreous Humour, the Filaments of the Optic Nerve there expanded lie in a moſt exact and regular Order, all parallel one to another; which, when they are united afterwards in the Nerve, are not ſhuffled confuſedly together, but ſtill preſerve the ſame Order till they come to the Brain. The cryſtalline Humour had already been diſcover'd to be of a double convex Figure, made of two unequal Segments of Spheres, and not perfectly ſpherical, as the Antients thought: So that this farther Diſcovery made by Dr. *Briggs*, ſhews evidently, why all the Parts of the Image are ſo diſtinctly carried to the Brain, ſince every Ray ſtrikes upon a ſeparate Filament of the Optic Nerve; and all thoſe Strings ſo ſtruck are moved equally at the ſame time.

He alſo deſcribes the Ducts which convey Moiſture to the Eyes, from the Glands in the Corners thereof, for the Convenience of their Motion in the Orbit.

BROWN, (JOHN)

A Surgeon of *Saint Thomas*'s Hoſpital, wrote an Epiſtle concerning the glandulous Subſtance of the Liver.

BRUNNERUS (JOHANNES CONRADUS)

Wrote about the Pancreas, Inteſtinal Glands, and the Lymph. His Work is intituled, *Experimenta nova circa Pancreas, Amſtelodami*, 1683. 8*vo*.

CASSEBOHM (JOAN. FREDERICUS)

Wrote an Anatomical Work, under the following Title:

Tractatus quatuor Anatomici de Aure humana, tribus Figurarum Tabulis illuſtrati, Auctore Joan. Frid. Caſſebohm, Halæ Magd. 1734. in 4*to*.

CHARLTON (WALTER)

Publiſh'd ſome Anatomical Works:

Exercitationes Phyſico-Anatomicæ, ſive Oeconomia Animalis, novis in Medicina Hypotheſibus ſuperſtructa, & Mechanicè explicata, Londini, apud R. Danielis, & J. Redmannum, 1659. in 12*mo*. *Amſtelodami, apud Joh. Ravenſteyn*, 1659. in 12*mo*. *Lugduni Batavorum, apud Petrum de Graaf*, 1678. in 12*mo*. *Hagæ Comitis, apud Arnoldum Leers*, 1681. in 12*mo*.

Exercitationes Pathologicæ, in quibus Morborum penè omnium Natura, Generatio, & Cauſæ ex novis Anatomicorum inventis ſedulò inquiruntur, Londini, apud Thomam Newcomb, 1661. in 4*to*.

Onomaſticon Zoinon plerorumque Animalium Differentias & Nomina propria pluribus Linguis exponens. Cui accedunt Mantiſſa Anatomica, & quædam de variis Foſſilium Generibus. Londini, apud Jacobum Alleſtry, 1668. in 4*to*. *Ibidem apud eundem*, 1671. in 4*to*. *Oxonii*, 1673. in *Fol. min.*

CHESELDEN (WILLIAM)

Publiſh'd the ANATOMY OF THE HUMAN BODY, of which there have been five Editions, the laſt of which was printed at *London*, 1740. This Work is interſperſed with many curious Chirurgical Obſervations; and is illuſtrated with forty accurate Copper-plates.

He alſo lately publiſh'd an Oſteology, with magnificent Figures. In this there is an accurate Account of the Diſeaſes of the Bones.

LE CLERC, (DANIEL)

Together with *Mangetus*, publiſh'd the *Bibliotheca Anatomica*, which is a Collection of Anatomical Authors. See MANGETUS.

COWPER (WILLIAM)

Publiſh'd *Bidloo*'s Anatomical Figures, with many Additions and Improvements.

This has lately been reprinted in *Holland*, under the Direction of *Albinus*.

He wrote alſo excellently on the Muſcles. His Works are interſperſed with many curious Chirurgical Obſervations.

This Author is ſaid to be the firſt who gave a Figure of the Thoracic Duct, as it is found in human Subjects; whereas preceding Anatomiſts delineated it from Brutes.

He alſo diſcover'd certain Glands in the Urethra, which have been ſince called *Glandulæ Cowperi*; but *Cheſelden* diſputes their Exiſtence.

DEUSINGIUS (ANTONIUS)

Was Author of a great many Books; an Account of which may be ſeen in *Vander Linden*. Some of theſe were Anatomical; but I don't know that he made any particular Diſcoveries.

DIEMERBROECK (ISBRANDUS *de*)

Was Profeſſor of Anatomy at *Utrecht*. *Goelicke* blames him for not publiſhing his Diſcoveries ſeparately, inſtead of writing a whole Body of Anatomy; a Fault common to him, with Multitude of other Writers. He alſo accuſes him of mak tedious Digreſſions, ſometimes not much to the Purpoſe; a he farther ſays, his Diſcoveries are not always to be depend upon, ſome of them being rather the Offspring of Imaginati than the Reſult of Experience. His Figures are not remark ably exact, for which he blames his Engraver in his Preface.

His Works are, *De Peſte Libri quatuor, Arenaci*, 16 *Amſtelodami*, 1665. *Diſputationum Practicarum Pars pri & ſecunda de Morbis Capitis & Thoracis, Trajecti ad Rhen* 1664. *Anatome Corporis humani, &c. Ultrajecti*, 16 *Genevæ*, 1679. *Lugduni*, 1679. Theſe two laſt-mention Editions are vaſtly more correct than the others, and adorn with far correcter Plates.

DIONIS.

He was Demonſtrator of Anatomy at the Royal Garde *Paris*, where he had great Opportunities of diſſecting Bod He publiſh'd a Book on the Subject of Anatomy, which i pretty good Eſteem, and of which there have been m Editions.

Dionis has had an Honour done him, which very few E *pean* Authors have attain'd to, which is to have his Anat tranſlated into the *Tartar* Language, now uſed at the Co *China*. This was done by Father *Parenni*, a Jeſuit Miſſio at the Command of *Cam-Hi*, Emperor of *China*, who d 1722. But this was a Compliment paid *Dionis* by his Co tryman, the Tranſlator, and not by the Emperor; for *Pa ni*'s Inſtructions were to tranſlate the beſt *European* Syſte Anatomy.

DOUGLAS (JAMES).

This Gentleman was very eminent in the Practice of M wifry, and an accurate Anatomiſt. His Memory is too to make any farther Account of him neceſſary. His pri Anatomical Works are,

Bibliographiæ Anatomicæ Specimen, which was firſt pri at *London*, and afterwards, with Additions, at *Leyden*, by *binus*, 1734. *Octavo*.

Myographiæ comparatæ Specimen, *London*, 1707. In Book, the Author remarks the Differences betwixt the M in Men and in Dogs.

This was tranſlated into *Latin*, and printed at *Leyden*,

A Deſcription of the Peritonæum, *London*, 1730. Dr. F in the firſt Volume of his Hiſtory of Phyſic, ſpeaking Operation for a Hernia, ſays, that to form a right No the Diſtention to which the Peritonæum is ſubject, one to ſee the curious Preparations of that diligent and Anatomiſt, Dr. *Douglas*, who is the firſt that has given true Idea of the Peritonæum; a Part which is much co and whoſe Structure ſhould be ſo much conſider'd, not this Operation, but in the High Way for cutting for the He too is the firſt, who has plainly ſhewn, that the E of the external Lamella of the Peritonæum does not vaginal Coat of the Teſticles, as Authors ſay, but a C culiar to the ſeminal Veſſels, which he very properly c *nica Vaſorum Spermaticorum propria*. And he afterw ſerved, in reading *Paulus*, that this Coat was known deſcribed by him, by the Name of ἑλικοειδὴς, from the Contorſions there are in thoſe Veſſels which it covers.

DRAKE, (JAMES)

An *Engliſh* Phyſician. His Work is intituled *Anth nova*, or, *A New Syſtem of Anatomy*, of which I h two Editions. A great deal of the firſt Edition is le that of 1717. He had ſome very ſingular Notions wi to the Bile, and the Catamenia.

DRELINCOURT, (CHARLES)

A *Frenchman*, was a celebrated Profeſſor of Anato *den*, and wrote very well on many Anatomical Subje Works, principally relating to Anatomy, are,

De Partu Octimeſtri vivaci Diatriba, *L. Bat.* 165

Præludium Anatomicum, 1672. 1680.

Both theſe are amongſt his *Opuſcula*, *L. Bat.* 168 *Idem, Hagæ*, 1727.

De humani Fœtus Membranis Hypomnemata, *L* 1685. 12*mo*.

Experimenta Anatomica ex Vivorum Sectionibus pe Bat. 1681. 1682. 12*mo*.

This Treatiſe is in *Manget*'s *Bibliotheca Anatomica* ſome Pieces of the ſame Author, intituled *De Co mine Virili*; *item*, *De Semine Muliebri, Ovis, U Uteri*; *cum Corollariis de humano Fœtu*.

He was Author of many other Medicinal Pieces.

DUPRE'.

Goelicke mentions this Author, and informs us, liſhed a Deſcription of five Pair of Muſcles, which cerned in moving the Head in different Directions, are inſerted into the firſt and ſecond Vertebra of

, according to the ſame Author, deſcribed two Ligaments, ch connect the Head either to the firſt or ſecond Vertebra he Neck.

Ent (George)

Vas an *Engliſh* Phyſician, and Preſident of the College of ſicians. He wrote an Apology for the Circulation of the d, in Anſwer to *Æmilius Pariſianus:* This was printed at *don*, 1641. 8*vo*.

e alſo publiſhed Animadverſions on *Malachias Thurſton*'s tiſe of the Uſes of Reſpiration, *London*, 1678, 8*vo*.

his Treatiſe is in the *Bibliotheca Anatomica* of *le Clerc* and *get*.

Eustachius.

is *Opuſcula Anatomica* was printed *Delphis*, 1726. 8*vo*.

ncus, (Georgius Fredericus de Franckeneau)

Dane, wrote a Treatiſe on the Nails. *Goelicke*.

Garengeot (Jaques Croissant de)

rote an Anatomical Piece under the following Title, h was printed at *Paris*, 1728. 12*mo*.

otomie humaine, & canine, ou la Maniere de diſſequer les les de l'Homme, & des Chiens ; ſuivie d'une Miologie ou ire abregée des Muſcles.

Gibson (Thomas)

rote a Compendium of Anatomy, which is ſaid to have ng in it new ; but to conſiſt entirely of Collections from . He was an *Engliſh* Phyſician, and Fellow of the ge.

Glisson (Francis)

as an *Engliſh* Phyſician, Profeſſor of Phyſic at *Cambridge*, ellow of the College of Phyſicians. His principal Diſco- was the Duct which conveys the Bile from the Liver to all-bladder. His Works are,

tomia Hepatis, cui præmittuntur quædam ad rem Ana- m universè ſpectantia, Londini, apud Octav. Pullein. in 8*vo*. *Amſtelodami, apud Johan. Ravenſteyn*, 1659. *no. Ibid. apud Joh. Janſſonium à Waſberge & Elizæum ſtraten*, 1665. *in* 12*mo*.

the End of this there is a Treatiſe on the Lymph.

ctatus de Rachitide, ſeu Morbo Puerili, Rickets dicto, i, apud Sadlerum, 1650. *in 8vo. Ibid.* 1660. *in 12mo. ni Batavorum*, 1671. *in 8vo.. Hagæ Comitis, apud Ar- Lees*, 1682. *in 12mo.*

ctatus de Natura Subſtantiæ Energetica, ſeu de Vita æ, ejuſque tribus primis Facultatibus : I. Perceptivâ. petitiva; &, III. Motiva, Naturalibus, &c. Londini, H. Brome & N. Hooke, 1672. *in 4to.*

ctatus de Ventriculo & Inteſtinis ; cui præmittitur alius, ibus continentibus in genere ; & in ſpecie, de iis Abdominis. pud eundem 1677. *in 4to. Amſtelodami, apud Jacobum m*, 1676. *in 12mo.*

Anatomia Hepatis, and *Tractatus de Ventriculo*, are in 's and *Manget*'s *Bibliotheca Anatomica*.

Goelicke (Andreas Ottomarus)

te an Hiſtory of Anatomy, under the Title of *Hiſtoria iæ nova æque ac antiqua, Halæ Magdeburgicæ*, 1713.

Graaf (Regnerus de)

yſician of *Delft* in *Holland*. He publiſhed the follow- atomical Pieces.

utatio Medica, de Natura & Uſu Succi Pancreatici, Batav. ex Officina Hackiana, 1664. *in 12mo. Tracta- tomico-Medicus, de Succi Pancreatici Natura & Uſu. Epiſtola, de Partibus Genitalibus Mulierum. Lugduni rum*, 1671. *in 8vo.*

Treatiſe is in the *Bibliotheca Anatomica*.

Virorum Organis Generationi inſervientibus : de Clyſteri- e Uſu Siphonis in Anatomia. Lugd. Batav. & Rotero- x Officina Hackiana, 1668. *in 8vo. Ibidem*, 1670. *in bid.* 1672. *in 8vo.*

is alſo in the *Bibliotheca Anatomica*.

la de nonnullis circa Partes Genitales Inventis novis, at. 1668. *in 12mo.*

Mulierum Organis Generationi inſervientibus, Tractatus demonſtrans, tam Homines & Animalia cætera omnia, vipara dicuntur, haud minùs, quam Ovipara, ab Ovo ducere. Ibidem ex Officina eâdem, 1672. *in 8vo.*

is alſo in the *Bibliotheca Anatomica*.

ſio Partium Genitalium. Lugd. Bat. 1673. *in 8vo.*

s alſo in the *Bibliotheca Anatomica*.

omnia, Lugduni Batavorum ex Officina Hackiana, 8*vo*.

Two Diſſertations alſo of this Author are extant in the *German* Ephemerides ; one on the Indurations of the carotid Arteries ; the other on a monſtrous Uterus.

Many new Things concerning the reſpective Subjects he treats of, are contained in the Works of this Author ; but he is charged with borrowing them from *Van Horne*, whoſe Pupil he was. 'Tis, however, remarkable, that his Invention of a Syringe gave Birth to all the Diſcoveries in Anatomy which have, ſince his Time, been made by means of Injections.

Graseccius, (Georgius)

Of *Straſburgh*, publiſh'd an Anatomical Work under the following Title:

Μικροκοσμικὸν θεατρὸν. *In quo Fabrica humani Corporis Muſculum repræſentantis affabrè demonſtratur, una cum Icone Muſculi Homini diſſecti ſeorſim expreſſa. Argentorati, apud Johan. Carolum*, 1605. *in 8vo.*

Grew (Nehemiah)

Wrote a comparative Anatomy of the Stomach and Inteſtines, which is, I think, publiſhed at the End of his *Catalogue of Rarities*, &c.

He alſo wrote many Treatiſes on the Anatomy of Vegetables.

Haller (Albertus)

Wrote a Treatiſe, intituled, *De Muſculis Diaphragmatis Diſſertatio Anatomica, Bernæ*, 1733. 4to.

Havers, (Clopton)

An *Engliſh* Phyſician. He wrote admirably well on the Bones, and made ſome conſiderable Diſcoveries with reſpect to the Perioſteum, and the Marrow. He diſcovered, in every Joint, particular Glands, out of which iſſues a mucilaginous Subſtance, whoſe Nature he examined by numerous Experiments, which, with the Marrow ſupplied by the Bones, always ſerves to oil the Wheels, that ſo our Joints and Muſcles might anſwer thoſe Ends of Motion, for which Nature deſigned them. This was a very uſeful Diſcovery, ſince it has made abundance of Things, that were obſcure in that Part of Anatomy, plain, and eaſy to be underſtood : And, among other things, it ſhews the Uſe of that excellent Oil which is contained in our Bones, and there ſeparated, by proper Strainers, from the Maſs of the Blood ; eſpecially, ſince, by a nice Examination of the true inward Texture of all the Bones and Cartilages of the Body, he ſhew'd how this Oil is communicated to the Mucilage, and ſo united, as to perform their Office.

Novæ quædam Obſervationes de Oſſibus, Lugd. Batav. 1734. 8vo.

Heister, (Laurentius)

A celebrated Profeſſor at *Helmſtad*, publiſhed a very valuable Piece of Anatomy, intituled, *Compendium Anatomicum, Veterum, Recentiorumque Obſervationes breviſſimè complectens. Altorfii*, 1717. 4to.

Altorfii & Norinbergæ, 1719. 1727. and 1732.

An *Engliſh* Tranſlation of this Book was publiſhed at *London*, 1721.

Hemsterhuys (Syboldus)

Publiſhed ſome Anatomical Collections under the following Title:

Meſſis aurea, ſeu Collectanea Anatomica, continentia trium Præſtantiſſimorum Anatomicorum Opuſcula : 1. *Joh. Pecqueti Experimenta nova Anatomica.* 2. *Thomæ Bartholini de Lacteis Thoracicis Hiſtoriam Anatomicam, cum ejuſdem, de iiſdem Dubiis : & Vaſorum Lymphaticorum Hiſtoriam novam.* 3. *Olai Rudbeck, Duct. Hepaticos aquoſos : Vaſa Glandularum Seroſa : Obſervationes : Epiſtolas Variorum : Ejuſdem de Vaſis Lymphaticis Tabulas* 13. *æri inciſas, Lugduni Batavorum*, 1654. in 12mo. *Heidelbergæ, Typis Adriani Wyngaerden*, 1659, in 8vo.

Highmore (Nathanael)

Publiſhed an Anatomical Work under the Title of, *Corporis humani Diſquiſitio Anatomica*, &c. *Hagæ Comitum*, 1651. *Fol.*

The large Cavity of the upper Jaw is called from him, *Antrum Highmorianum* ; but he is not the firſt Deſcriber of it ; for *Caſſerius* takes Notice of it under the Name of *Antrum Genæ*.

Hoboken, (Nicolaus)

A *French* Author, publiſh'd, according to *Goelicke*, a Treatiſe on the Method of diſſecting, in *French*. His other Anatomical Works are, *Anatomia Secundinæ humanæ, quindecim Figuris ad vivum propriâ Auctoris manu delineatis illuſtrata. Cum annexo Spicilegio Epiſtolarum, rem potiſſimum generatoriam referentium. Trajecti ad Rhenum, apud Johan. Ribbium*, 1669. in 8vo. *Ibidem*, 1672. in 8vo.

Cognitio Phyſiologica Medica, accuratiſſimâ & clariſſimâ Methodo tradita. Ultrajecti apud Henric. Verſtergh, 1670. in 4to. *Ibidem apud Johannem Van de Water*, 1685. in 4to.

Anatomica Secundinæ humanæ repetita, aucta, roborata, & quadraginta quatuor Figuris, propriâ Auctoris manu delineatis, inſuper illuſtrata: quæ præter noviſſimè obſervatam Naturam ac Conſtitutionem univerſæ Secundinæ illius, ac partium ſingularum uſum quoque & utilitatem docet. Præmittuntur Literæ D. Henrici Euſſonii cum Auctoris Reſponſionibus. Ibid. apud Joh. Ribbium, 1675. in 8vo.

Anatomia Secundinæ Vitulinæ, triginta octo Figuris, propriâ Auctoris manu delineatis, illuſtrata: Ultrajecti, apud Johan. Ribbium, 1675. in 8vo.

HOFFMAN, (JOHANNES MAURITIUS)

Profeſſor of Phyſic in the Univerſity of *Altorff*, publiſhed an Anatomical Work under the Title of,

Diſſertationes Anatomico-Phyſiologicæ: ad Viri Clariſſimi, Johannis Van Horne, in Univerſitate Lugduno Batav. Profeſſ. quondam Meritiſſimi, Microcoſmum, Annotatæ, Obſervationibus & Experimentis Anatomicis recentioribus variis illuſtratæ. Altdorffii, apud Henricum Meyerum, 1680. in 4to.

HORNE (JOHANNES VAN)

Was Profeſſor of Anatomy at *Leyden*. His Anatomical Pieces bear a very good Character. He has the Reputation of having diſcovered the Thoracic Duct, and is ſaid to be the firſt who was acquainted with the true Structure of the Teſticles. He alſo gave the Name of *Ovaria* to what was before called the *Teſtes* of Females. *De Graaf* is ſaid to be much obliged to him for the Diſcoveries he has publiſhed with reſpect to the Parts of Generation. His Works are,

Novus Ductus Chyliferus, nunc primum delineatus, deſcriptus, & Eruditorum Examini expoſitus, Lugduni Batav. apud Franc. Hackium, 1652. in 4to.

Μικρόκοσμος, *ſeu brevis Manuductio ad Hiſtoriam Corporis humani: in Gratiam Diſcipulorum edita, Lugduni Batavorum, apud Jac. Chovet*, 1660. in 12mo. *Ibidem, apud eundem*, 1662. in 12mo. *Ibidem, apud eundem*, 1663. in 12mo. *Lipſiæ apud Johannem Fritſchium*, 1675. in 12mo.

Leonhardi Botalli Opera omnia, Lugduni Batav. apud Daniel. & Abrah. à Gaaſbeeck, 1660. in 8vo.

Prodromus Obſervationum ſuarum circa Partes Genitales in utroque ſexu, Lugd. Batav. 1668. in 12mo.

Obſervationes Anatomico-Medicæ, Amſtelodami, apud Abrah. Wolffgang, 1674. in 12mo.

HORSTIUS, (JOHANNES DANIEL)

Profeſſor at *Marpurg*, was Author of the following Anatomical Pieces:

Decas Obſervationum & Epiſtolarum Anatomicarum, quibus ſingularia ſcitu digna, Lactearum nempe Thoracicarum & Vaſorum Lymphaticorum natura, Embryoniſque per os nutritio, atque alia rariora exponuntur. Francof. apud Wilhelmum Serlinum & Georg. Fickwirthum, 1656. in 4to.

Anatome Corporis humani, Tabulis comprehenſa. Marpurgi, apud Chemlinum, 1639. in 4to.

HOVIUS (JACOBUS)

Advances, that the Humours of the Eye are perpetually waſting, and as perpetually repleniſhed by the Veſſels which terminate in the Eye. That the aqueous Humour may waſte, and be reſtored, is certain; but it is not evident, that the other Humours of the Eye are in the ſame State; though indeed it ſhould ſeem neceſſary for the maintaining their perpetual Tranſparency and Luſtre. I have only ſeen one Edition of his Book, which is intituled, *Tractatus de circulari Humorum Motu in Oculis, Lugduni Batavorum*, 1740. 8vo. *cum Figuris.*

KEILL (JAMES)

Was a Native of *Scotland*; he read Lectures in Anatomy at *Oxford*, and afterwards practiſed Phyſic with great Reputation at *Northampton*, where he died of a Cancer in his Mouth, much regretted.

His *Anatomy of the human Body abridged* is deſervedly in great Eſteem, of which there have been a great many Editions printed at *London*. He wrote alſo ſome other Treatiſes relating to Phyſic.

KERKRINGIUS (JOHANNES THEODORUS)

Wrote the following Anatomical Pieces:

Specilegium Anatomicum, continens Obſervationum Anatomicarum rariorum Centuriam unam: necnon Oſteogeniam Fœtuum, in quo, quid cuique oſſiculo ſingulis accedat menſibus, quidque decedat, & in eo per varia immutetur tempora, accuratiſſimè oculis ſubjicitur. Amſtelodami, apud Andr. Friſium, 1670. in 4to. *Ibid.* 1673. in 4to.

Anthropogeniæ Ichnographia, ſive Conformatio Fœtus ab Ovo uſque ad Oſſificationis principia, in Supplementum Oſteogeniæ Fœtuum, cum Figuris. Ibidem, apud Andr. Friſium, 1670. in 4to.

This is in the *Bibliotheca Anatomica.*

His *Oſteogenia Fœtuum* is alſo in the *Bibliotheca Anatomica.*

KULMUS (JO. ADAMAS)

Publiſhed an Anatomical Work, intituled, *Tabulæ Anatomicæ, in quibus Corporis humani, omniumque ejus Partium Structura & Uſus breviſſimè explicantur*, &c. *Amſtelod.* 1732. and in *French*, *ibid.* 1734. 8vo.

LANCISI (J. MARIA)

Wrote a Treatiſe *De Motu Cordis & Aneuriſmatibus*, which was printed at *Rome*, and afterwards at *Leyden*, 1740.

Lanciſii Opera omnia, Genev. 1718.

He alſo publiſhed *Euſtachius*'s Tables.

LEALIS (LEAL)

In an Epiſtle to *Dominicus de Marchettis*, has ſeveral Diſcoveries relating to the Spermatic Arteries and Veins, and t the Structure of the Veſiculæ Seminales.

LEEUWENHOEK (ANTONY VAN)

Has obliged the World with a great many Diſcoveries relati to Anatomy, particularly by means of his Microſcopes. It not poſſible to give the Particulars of them, unleſs I was t tranſcribe his Works. Many detached Pieces of this Author were publiſhed at different times; but his entire Works w printed *Lugd. Batav.* 1722.

This Author has made evident the Anaſtomoſes of the Ar ries with the Veins, and diſcovered a prodigious Number Animalcula in the Sperm of Male Animals; but the Syſtem Generation, hence deduced, has the Appearance of being utte falſe, as is ſhewn under the proper Article.

LISTER, (MARTIN)

In an Epiſtle to *Henry Oldenburgh*, has ſome Particulari relating to the Inteſtinum Cœcum.

LOWER (RICHARD)

Wrote an excellent Treatiſe on the Heart, wherein he a vances ſeveral things which are new, with reſpect to the ſp Order of the Fibres which compoſe this Part. There are ſe ral Editions of this Work: Thoſe I have ſeen are,

Amſtelodami, 1669. *Londini*, 1670.

Manget and *Le Clerc* have alſo printed it in their *Biblio Anatomica.*

LYSERUS, (MICHAEL)

Of *Leipſic*, was a Pupil, and Favourite of *Thomas Bar line*, and by his Friendſhip and Inſtructions became a very terous Anatomiſt.

The only Anatomical Work he publiſhed, is intituled, *C Anatomicus*, which contains excellent Inſtructions for diſſe Bodies with Dexterity: Of this there have been many tions, as

Hafniæ, 1653. 8vo. 1665. 8vo.
Francofurti, 1679. 8vo.
Lugduni Batav. 1731.

In this laſt Edition are contained, his *Obſervationes Med* the *Obſervationes Medico-Chirurgicæ Henrici a Möinichen*; the *Obſervationes Anatomico-Chirurgicæ Martini Bogdani.*

MALPIGHIUS (MARCELLUS).

This Author flouriſhed in the laſt Century, and was deſe ly celebrated for his great Skill, and ſingular Sagacity, in tomical Reſearches. His Induſtry was not confined to the perfect Animals, but was extended to Inſects, and even to getables, to the great Improvement of natural Knowledge, to his own Honour. He was a Member of the Royal ciety.

Amongſt other Diſcoveries, he found by his Microſc that the Cortical Part of the Brain conſiſts of an innum Company of very ſmall Glandules, which are all ſupplied Blood by Capillary Arteries; and that the Animal Spirit, is ſeparated from the Maſs of the Blood in theſe Glandul carried from them into the Medulla Oblongata, through Pipes, whereof one belongs to every Gland, whoſe other is inſerted into the Medulla Oblongata; and that theſe berleſs Pipes, which, in the Brain of ſome Fiſhes, look the Teeth of a ſmall Ivory Comb, are properly that wh Anatomiſts after *Piccolhominus* have called the *Corpus Cal* or *The medullar Part of the Brain.*

Before his Time, the Texture of the Tongue was but at, which occaſioned great Diſputes concerning the Na its Subſtance, ſome thinking it to be glandulous, ſome lar, and ſome of a peculiar Nature, not to be matched other Part of the Body. This therefore *Malpighius* ex with his Glaſſes, and diſcovered, that it was cloathed double Membrane; that in the inner Membrane th abundance of ſmall Papillæ, which have Extremities of ted into them, by which the Tongue diſcerns Taſtes, and under this Membrane it is of a muſcular Nature, cong of numberleſs Heaps of Fibres, which run all manner of , over one another, like a Mat.

he Lungs, as moſt of the other Viſcera, were believed to f a parenchymous Subſtance, till *Malpighi* found by his es, that they conſiſt of innumerable ſmall Bladders, that into each other, as far as the outermoſt, which are cover- y the outer Membrane, that incloſes the whole Body of Lungs; and that the ſmall Branches of the Wind-pipe are ſerted into theſe Bladders; about every one of which, the s and Arteries are entwined, in an inconceivable Number ets and Mazes, that the inſpir'd Air may preſs upon, or vith, the Maſs of Blood, in ſuch ſmall Parcels as the An- had no Notion of.

ll *Malpighi* diſcovered the Texture of the Liver by Glaſſes, its Nature was very obſcure. But he has found that the Subſtance of the Liver is framed of innumerable les, which are very often of a cubical Figure, and conſiſt eral little Glands, like the Stones of Raiſins; ſo that they like Bunches of Grapes, and are each of them cloathed a diſtinct Membrane; that the whole Bulk of the Liver ts of theſe Grape-ſtone-like Glands, and of divers Sorts eſſels; that the ſmall Branches of the Cava, Porta, and Bilarius, run through all, even the leaſt of theſe Lo- in an equal Number; and that the Branches of the are as Arteries that convey the Blood to, and the hes of the Cava are the Veins which carry the Blood all theſe little Grape-ſtone-like Glands. From whence it n, that the Liver is a glandulous Body with its proper ory Veſſels, which convey away the Gall, that lay before Maſs of Blood.

alſo diſcovered, that the Subſtance of the Spleen deducting merous Blood-veſſels and Nerves, as alſo the Fibres ariſe from its ſecond Membrane, and which ſupport the Parts, is made up of innumerable little Cells, like Honey- in which there are vaſt Numbers of ſmall Glandules, reſemble Bunches of Grapes; and that theſe hang upon res, and are fed by Twigs of Arteries and Nerves, and rth the Blood there purged, into the Ramus Splenicus, carries it into the Liver; to what Purpoſe, is not yet ly diſcovered.

Mechaniſm of the Reins was wholly unknown till *hi* found it out. He by his Glaſſes diſcovered, that dneys are not one uniform Subſtance, but conſiſt of ſmall Globules, which are all like ſo many ſeveral Kid- ound about with one common Membrane; and that lobule has ſmall Twigs from the emulgent Arteries, ry Blood to it; Glands, in which the Urine is ſtrained ; Veins, by which the purified Blood is carried off to lgent Veins, thence to go into the Cava; a Pipe, to the Urine into the great Baſin in the Middle of the ; and a Nipple, towards which ſeveral of thoſe ſmall nd, and through which the Urine ouſes out of them Baſin. This clear Account of the Structure of the as effectually confuted ſeveral Notions, that Men had ned, of ſome ſecondary Uſes of thoſe Parts; ſince appears, that every Part of the Kidneys is immedi- wholly ſubſervient to that ſingle Work of freeing the om its ſuperfluous Serum, and Salt.

o made ſome Obſervations concerning the lymphatic nd the Glands, which are new.

orks are, his *Obſervationes Anatomicæ de Pulmonibus*, long with *Bartholini de Pulmonum Subſtantia & Motu* , *Hafniæ*, 1663. *Lugd. Bat.* 1672. *Diſſertatio* *de Bombyce*, *Londini*, 1669. *De Viſcerum, nomi-* *lmonum, Hepatis, &c. Structura*, *Amſtelod.* 1669. 77. They are alſo in *Le Clerc* and *Mangetus*'s *Bib- natomica* printed *Genevæ*, 1685. *Epiſtolæ Anatomicæ*, and in *Le Clerc* and *Mangetus*'s *Biblioth. Anatomica*, *eneva*, 1685. *Anatome Plantarum*, *Lond.* 1675. *Plantarum Pars altera*, *ibid.* 1679. *Diſſertatio* *de Formatione Pulli in Ovo*, *Lond.* 1666. It is alſo *blioth. Anatomica* of *Le Clerc* and *Mangetus*, printed 1685. in which are likewiſe contained his Diſſerta- *Cornuum Vegetatione*: *De Utero, & Viviparorum* *de Pulmonibus Epiſtolæ*: His *Diſſertatio de Polypo* *Epiſtolæ quædam circa illam de Ovo Diſſertationem*, *ndix repetitas auctaſque de Ovo incubato Obſervationes*

Mangetus (Johannes Jacobus)

Phyſician at *Geneva*, and, together with *Daniel le* liſh'd the *Bibliotheca Auatomica*, *Genev.* 1685. s alſo reprinted at *Geneva*, 1717. Collection the following Treatiſes are contained:

i Gliſſonii Tractatus de Partibus continentibus in in Specie Abdominis.

i Malpighii de Externo Fœtus Organo Exercitatio

Marcelli Malpighii de Cornuum Vegetatione Diſſertatio Epiſtolica.

Franciſſi Gliſſonii Continuatio Tractatus de Partibus Continentibus in Genere, & in Specie de iis Abdominis.

Marcelli Malpighii Exercitatio de Omento, Pinguedine, & Adipoſis Ductibus.

Franciſci Gliſſonii Tractatus de Ventriculo & Inteſtinis.

Thomæ Willis Primarum Viarum Deſcriptio.

Johannis Conradi Exercitatio Anatomica Medica prima de Glandulis Inteſtinorum.

Johannis Conradi Anatome Ventriculi Gallinacei.

Johannis Conradi Exercitatio ſecunda de Glandulis Inteſtinorum.

Ejuſdem Certamen Epiſtolare de Glandulis Inteſtinorum cum Joh. de Muralto.

Excerpta ex Joh. Nicol. Pechlini de Exercitatione & purgantium Medicamentorum Operationibus.

Excerpta ex Johan. Jac. Wepfero de Glandulis Ventriculi.

Chylificationis Hiſtoria ex Variis.

Thomas Whartonus de Meſenterio e Tractatu de Glandulis.

Regneri de Graaf Tractatus Anatomico-Medicus, de Succi pancreatici Natura & Uſu.

Johan. Conridi Brunneri Experimenta Nova circa Pancreas.

Franciſci Gliſſonii Anatomia Hepatis.

Marcelli Malpighii Exercitatio de Hepate.

Marcelli Malpighii Exercitatio de Liene.

Glandularum Renalium, ſeu Renum Succenturiatorum, Hiſtoria ex Variis.

Laurentii Bellini Exercitatio Anatomica de Structura & Uſu Renum.

Marcelli Malpighii Exercitatio de Renibus.

Regneri de Graaf de utriuſque Sexus Organis Generationi inſervientibus Tractatus duo.

Nicolai Stenonis Obſervationes Anatomicæ ſpectantes Ova viviparorum.

Johannis Swammerdam Miraculum Naturæ, ſive Uteri Muliebris Fabrica.

Regneri de Graaf Partium genitalium Defenſio.

Caſpari Bartholini Thomæ Filii Hafniæ Profeſſoris Anatomes de Ovariis Mulierum, & Generationis Hiſtoria, Epiſtolæ duæ.

Marcelli Malpighii de Utero, & Viviparorum Ovis, Diſſertatio.

Gualtheri Needham Diſquiſitio Anatomica, de formato Fœtu.

Marcelli Malpighii Diſſertatio Epiſtolica de Formatione Pulli in Ovo.

Epiſtolæ quædam, circa hanc de ovo Diſſertationem, aliqua ex Occaſione, ſub nata Argumenta ultro citroque ſcripta.

Marcelli Malpighii Appendix, repetitas auctaſque de Ovo incubato Obſervationes continens.

Gulielmi Harvei Exercitationes de Generatione Animalium.

Theodori Aldes, ſeu potius Matthæi Sladi Amſtelædamenſis, Diſſertatio Epiſtolica contra Gulielmum Harveum, tribus Obſervationibus Anatomicis in Vitulis & Vaccino Utero factis, auctior reddita.

Theodori Aldes Obſervationes in Ovis inſtitutæ, An. 1668. *in Variis Incubationis Diebus.*

Frederici Ruyſchii obſervatiuncula de Ovo in Utero humano reperto.

Theodori Aldes Sciagraphia Nutritionis Pulli in Ovo Fœtus vaccini in Utero, ut et Fœtus humani in Utero ſuo, & de Urina.

Caroli Drelingcurtii de Conceptu Conceptus.

Carolus Drelingcurtius de Semine Virili, item de Semine Muliebri, Ovis, Utero, Tubis Uteri, cum Corollariis de Fœtu humano.

In the ſecond Tome are contained the following Treatiſes:

Caſpari Bartholini Thomæ Filii Diaphragmatis Structura Nova.

De Mammis, & Lactis Secretione.

Gulielmi Harvei Exercitatio Anatomica de Motu Cordis & Sanguinis.

Exercitationes Anatomicæ duæ de Circulatione Sanguinis ad J. Riolanum, J. Filium.

Richardi Lower Tractatus de Corde, item de Motu & Colore Sanguinis, & Chyli in eum Tranſitu.

Nicolai Stenonis Obſervationes circa Motum Cordis, ejuſque Auricularum, & Venæ Cavæ, excerptæ a variorum Animalium Sectionibus, hinc inde factis.

Marcelli Malpighii de Polypo Cordis Diſſertatio.

Marcelli Malpighii de Pulmonibus Epiſtolæ duæ.

Thomæ Willis de Reſpirationis Organis & Uſu Diſſertatio.

Johannis Swammerdami Tractatus Phyſico-Anatomico-Medicus de Reſpiratione, Uſuque Pulmonum.

Malachiæ Thruſton de Reſpirationis Uſu primario Diatriba.

Georgii Entii Antidiatriba, ſive Animadverſiones in Malachiæ Thruſton Diatribam de Reſpirationis Uſu primario, cum Reſponſionibus & Inſtantiis.

Johannis Mayow Tractatus de Reſpiratione.

Ejuſdem Tractatus de Reſpiratione Fœtus in Utero & Ovo.

Thomæ Willis Cerebri Anatome.

Marcelli Malpighii Exercitatio Epiſtolica de Cerebro.

Caroli Fracaſſati Diſſertatio Epiſtolica reſponſoria de Cerebro.

Marcelli Malpighii de Cerebri Cortice Diſſertatio.

Nicolai Stenonis de Cerebri Anatome Diſſertatio.

Nicolai Stenonis de Vitulo Hydrocephalo Epiſtola.

Joannis Jac. Wepsferi de Puella ſine Cerebro Nata Hiſtoria.

Theodori Rerckringii de Ovibus aliquot & Puero Cerebro carentibus, &c.

Gulielmi Briggs Ophthalmographia.

Joannis Baptiſt Verle Anatomia Artificialis Oculi.

Guntheri Chriſt. Schelhammeri de Auditu Tractatus.

Joſephi du Verney de Auditus Organo Tractatus.

Marcelli Malpighii Exercitatio Epiſtolica de Lingua.

Laurentii Bellini Guſtus Organum noviſſime deprehenſum.

Theodori Rerckringii Anthropogeniæ Ichnographia.

Theodori Rerckringii Oſteogenia Fœtuum.

Nicolai Stenonis de Muſculis Obſervationum Specimen.

Nicolai Stenonis Elementorum Myologiæ Specimen.

Thomæ Willis Exercitatio Medico-phyſica de Motu Muſculari.

Joannis Mayow Tractatus de Motu Muſculari, & Spiritibus animalibus; obiter de Motu Cerebri, necnon de Uſu Lienis & Pancreatis.

Caroli Sponii Myologia heroico Carmine expreſſa.

Caroli Sponii Muſculorum Microcoſmi Origo & Inſertio.

Thomæ Willis Nervorum Deſcriptio & Uſus.

Thomæ Willis Arteriæ Deſcriptio Anatomica.

Caſpari Aſellii Ticinenſis Hiſtoria Vaſorum Chyli.

J. Pecqueti Diepenſis Experimenta Nova Anatomica circa Lactearum Progreſſum.

Thomæ Bartholini Archiatri Regii, & Hafnienſis Academiæ Profeſſoris Honorarii, de Lacteis thoracicis Hiſtoria Anatomica.

Thomæ Bartholini de Lacteis thoracicis Dubia Anatomica.

Caroli Drelingcurtii Experimenta Anatomica ex Vivorum Sectionibus petita.

Thomæ Bartholini Vaſorum Lymphaticorum Hiſtoria Nova.

Olai Rudbechi Succi Nova Exercitatio Anatomica, exhibens Ductus hepaticos, aquoſos, & Vaſa Glandularum ſeroſa.

Frederici Ruyſch Dilucidatio Valvularum in Vaſis Lymphaticis & Lacteis.

Guntheri Chriſt. Schelhammeri de Lymphæ Ortu, & Lymphaticorum Cauſis, Diſſertatio Epiſtolica.

Thomæ Whartoni Adenographia.

Nicolai Stenonis Obſervationes Anatomicæ de Glandulis Oris, & Novis inde prodeuntibus Salivæ Vaſis.

Nicolai Stenonis de Glandulis Oculorum, noviſque earundem Vaſis.

Ejuſdem Appendix de Narium Vaſis.

Nicolai Stenonis de Glandulis Tractatus.

Gulielmi Cole de Secretione Animali Cogitata.

Johannis Alphonſi Borelli de Motu Animalium Opus poſthumum.

Michaelis Lyſeri Culter Anatomicus.

Simonis Pauli Dani Modus dealbandi Oſſa pro ſceletopœia.

Ejuſdem Obſervationes in Coctura Oſſium, præſertim Sterni.

Caſpari Bartholini Thomæ Filii Adminiſtrationum Anatomicarum Specimen.

Joſephi Zambeccari Experimenta circa Diverſa e Variis Animalibus viventibus exſecta Viſcera.

MARCHETTIS (DOMINICUS DE)

Succeeded *Veſlingius* as Profeſſor of Anatomy at *Padua*. At the ſame Place lived *Petrus de Marchettis*, who applied himſelf to Surgery.

The Works of both are in good Eſteem. That of *Dominicus de Marchettis* is *Anatomia, cui Reſponſiones ad Riolanum Anatomicum Pariſienſem in ipſius Animadverſionibus contra Veſlingium additæ ſunt, Patavii*, 1652. *ibid.* 1654. *Hardervici*, 1656. together with *Petri de Marchettis Nova Obſervatio, & Curatio Chirurgica.*

MAYOW, (JOHN)

A Phyſician of *Oxford*, Fellow of *All Souls* College, and Doctor of Laws, wrote the following Anatomical Treatiſes:

Tractatus Quinque Medico-phyſici, printed *Oxonii*, 1669. *ibid.* 1674. *Hagæ Comitis*, 1681. Theſe Treatiſes, except the firſt and the laſt, are in the *Biblioth. Anatom.* of *Mangetus* and *Le Clerc*, printed *Genev.* 1685. *Tractatus duo ſeorſum editi, quorum prior agit de Reſpiratione, alter de Rachitide, Oxonii*, 1669. *Lugd. Batav.* 1671.

MEIBOMIUS (HENRICUS)

Diſcovered ſome Veſſels of the Eye-lids, which had not been taken Notice of before. Theſe he gives an Account of in an Epiſtle, intituled, *De Vaſis Palpebrarum Novis Epiſtola Vir. Clar. Joelem Langelot, Helmſtadii*, 1666. *De Medicorum Hiſtoria Scribenda Epiſtola ad V. Cl. Georg. Hieronym. Velſchium, Helmſtad.* 1669.

MOLINETTUS, (ANTONIUS)

A Phyſician and Anatomiſt of *Padua*, was Author of the following Treatiſes:

Diſſertationes Anatomicæ & Pathologicæ de Senſibus, & Organis, Patavii, 1669. *Diſſertationes Anatomico-patholog &c. Venetiis*, 1675.

MONRO, (ALEXANDER)

A celebrated Profeſſor of Anatomy, at *Edinburgh*, Au of an Oſteology, which is in much Eſteem. I don't kn that he has publiſhed any thing elſe, except ſome Pieces in th *Medical Eſſays*. The ſecond Edition of this Oſteology w printed *Edinburgh*, 1732.

MORGAGNI (JOHANNES BAPTISTA)

Was born at *Forli* in the Eccleſiaſtical State, and was P feſſor of Anatomy at *Bologna*. He made conſiderable Di veries in Anatomy, relating to the Muſcles of the Os Hyo Uvula, and Pharynx; to the Tongue, and Epiglottis; to Arytenoide Glands; to the Sebaceous Glands; to the Blad Uterus, Vagina, and Breaſts.

His Works are,

Adverſaria Anatomica, which were collected and print *Leyden*, 1723. 4*to*.

Epiſtolæ Anatomicæ duæ, Lugdun. Bat. 1728. 4*to*.

MURALTO (JOHANNES DE)

Was of *Zurich*, where he was Profeſſor of Phyſic. wrote various Eſſays on the Anatomy of Fiſh, Inſects, other medicinal Subjects, which are extant in the G *Ephemerides.*

Beſides theſe, he publiſh'd a Book, intituled, *Vade M Anatomicum, ſive Clavis Medicinæ*, printed *Tiguri* 1677.

NEEDHAM, (WALTER)

An *Engliſh* Phyſician of the laſt Century, gave a good count of the Membranes which involve the Fœtus, in his *De Formatu Fœtus, Londini*, 1667. 8vo. *Amſtelodami*, 12mo.

NICHOLLS (DR. FRANCIS).

I don't know, that this Gentleman has publiſhed any in Anatomy, except his *Compendium Anatomico-Oecono* and ſome Eſſays in the Philoſophical Tranſactions. B uncommon Application to this Science, and his ſingular city in Anatomical Reſearches, make it hoped, that he ſome time oblige the World with an Account of his Diſco The Editors of the *Edinburgh* Medical Eſſays ſomewhe ſerve, that *Albinus* had injected the Veſſels of the Coat o Cryſtalline Humour of the Eye, and ſeem to think it a Diſcovery: On this Occaſion I cannot forbear taking N that I have ſeen Dr. *Nicholls* inject theſe Veſſels ſixteen ago.

NUCK, (ANTONY)

A *Dutch* Phyſician, firſt practiſed his Profeſſion *Hague*, and afterwards was Profeſſor of Anatomy at He was a moſt experienced and indefatigable Anatomiſt, diſſected with his own Hands, in the Space of eight Yea wards of ſixty human Subjects.

The way how the watry Humour of the Eye, when b cident loſt, may be, and is conſtantly ſupplied, was firſt out and deſcribed by *Nuck*, who diſcovered a particular ariſing from the internal Carotid Artery, which, creeping the Sclerotic Coat of the Eye, perforates the Cornea Pupil, and then branching itſelf curiouſly about the Iris, into, and ſupplies the aqueous Humour.

He alſo diſcovered ſome Salival Glands, not mentio *Wharton*, *Steno*, *Bartholine*, or *Rivinus*.

He ſays, that the Breaſts are Heaps of Glands, ſuppl Blood by innumerable Ramifications of the Axillary and racic Arteries; ſome of which, paſſing through the Brea unite with the Veſſels of the oppoſite Side. Theſe A which are inconceivably ſmall, part with the Milk in ſmall Glands into ſmall Pipes, four or five of which, together, make one ſmall Trunk. Of theſe ſmall Tru large Pipes, which terminate in the Nipple, are made before they arrive thither, they ſtreighten into ſo ſmall a paſs, that a ſtiff Hair will juſt paſs through. The which is a fibrous Body, has ſeven or eight, or more through which every Pipe emits its Milk upon Suctio leſt, any one of them being ſtopp'd, the Milk ſhould they all have croſs Paſſages into each other, at the B the Nipple, where it joins to the Breaſt.

He ſays, that the Lympheducts ariſe immediately f Arteries, and that many of them paſs through the C Glands, that are diſperſed in the Abdomen and T their Way to the Receptacle of the Chyle, or thoſe Ve receive them.

His Works, which I have ſeen, are, *Adenographia, phia, & Operationes & Experimenta Chirurgica*, in th Vols. printed *Lugd.* 1722.

Palfyn, (John)

urgeon of *Ghent*, wrote a Book intituled, *Anatomie Chi- le, ou Deſcription exacte des Parties du Corps humain,* *à Paris*, 1734. 8vo. 2 Vols. and another, intituled, *ption Anatomique des Parties de la Femme, qui ſervent à ration, avec une Traité des Monſtres, à Leide*, 1780. His *lle Oſteologie*, &c. *Paris*, 1731. 12mo.

Paschioni, (Antonius)

Italian Phyſician, wrote a Treatiſe about the Dura Mater, he dedicates to *Lanciſi*; in this he deſcribes ſome Con- Glands about the longitudinal Sinus, which had been ked by *Nuck* and *Malpighi*.

Pascolus, (Alexander)

hyſician of *Peruſa*, in *Italy*, wrote a Book, intituled, *humani brevis Hiſtoria*, which is printed in *Italian* at 1727. 8vo. 3 Vols. and at *Rome*, I think, in *Latin*, 8vo. 3 Vols.

Pauli (Simon)

born at *Roſtoch* in 1603. In 1632. he was made Pro- f Phyſic at the Place of his Birth. In 1639. he was ted Profeſſor of Anatomy, Surgery, and Botany, at *gen*: And in 1656. Phyſician to the King of *Den-*

Author of a great many Treatiſes; but his Anatomical are, *Methodus dealbandi Oſſa pro Sceletopœia. vationes in Coctura Oſſium, præſertim Sterni.* Both re in the *Bibliotheca Anatomica.*

Pequet, (Johannes)

Diepe, an Author of the laſt Century, rendered his amous by his Diſcovery of the Receptacle of the Chyle; however, it is ſaid, *Bartholomæus Euſtachius* was ac- with before him. But the World is obliged to *Pequet* ing, beyond all Contradiction, that the Lacteal Veſſels he Chyle to this Receptacle; and for proving, that it e carried, by particular Veſſels, through the Thorax, high as the Left Shoulder, and there thrown into the clavian Vein, and ſo directly carried to the Heart. His re, *Experimenta nova Anatomica*, printed *Hardervici, Pariſiis*, 1654. To this Edition there is added, *Diſſer- Thoracicis Lacteis*, &c. &c. *Amſtelodami*, 1661. They xtant with the *Meſſis Aurea Siboldi Hemſterhuis, Lugd. Heildebergæ*, 1659. alſo in the *Bibliotheca Anatom. erc* and *Mangetus, Genev.* 1685. and with moſt Edi- the *Anatomia Reformata Thomæ Bartholini.*

Petit (Jean Louis)

thor of a Book, intituled, *Traité des Maladies des Os*, there have been many Editions; the laſt was printed 741.

Peyer, (Johannes Conradus)

ive of *Schaffhauſen*, in *Switzerland.* He is famous g firſt given an accurate Account of the Inteſtinal which, in a State of Health, ſeparate a Fluid for the on of the Inteſtines, and which in Diarrhœas, or ng a Purge, ſupply the extraordinary Diſcharge, which upon theſe Occaſions. His Works are, *Exercitatio -medica de Glandulis Inteſtinorum, Schafhuſæ*, 1677. *m.* 1682. This is in the *Biblioth. Anatom.* of *Mangetus Pæonis & Pythagoræ Exercitationes Anatomicæ, Baſil. ethodus Hiſtoriarum Anatomico-medicarum*, &c. 1679. *natomica & Medica, Amſtelodami*, 1682. *Experi- va circa Pancreas*, extant with the *Biblioth. Anatomica c* and *Mangetus.*

Plempius, (Vopiscus Fortunatus)

ſterdam, was famous for giving a good Deſcription of na Treatiſe, intituled, *Ophthalmographia, ſive Tracta- uli Fabrica, Actione, Uſu*, &c. *Amſtelodam.* 1632. 1648.

Ridley (Henry)

ellow of the College of Phyſicians; and, at the latter e laſt Century, publiſhed a Treatiſe on the Brain, in makes ſome Obſervations, which had eſcaped the *Willis* and *Vieuſſens.* His Book is intituled, *The f the Brain, containing its Mechaniſm and Phyſiology, ith ſome new Diſcoveries, and Corrections of modern pon that Subject; to which is annexed, a particular Animal Functions, and Muſcular Motion, illuſtrated tures, London*, printed, 1695.

Rolfinckins (Guernerus)

n at *Hamburg*, in 1590. and was Profeſſor of Anatomy 1629. He wrote the following Books upon Ana- jects: *Diſſertationes Anatomicæ*, printed *Noribergæ, ertatio de Hepate, Jenæ*, 1653. *Diſſertatio de Corde*,

Rudbeckius, (Olaus)

Of *Upſal*, in *Sweden*, had a great Diſpute with *Thomas Bartholine*, about the Diſcovery of the Lymphatic Ducts, to which both laid Claim. It is certain, that Dr. *Jolliffe*, in *England*, remarked theſe Veſſels much about the Time, or ſomething before, theſe Antagoniſts obſerved them; and I ſee no Reaſon why all three may not equally pretend to the Glory of the Diſcovery, ſince, 'tis probable, neither of them took the Hint from either of the other. His Works are, *Exercitatio nova Anatomica*, &c. printed *Aroſiæ*, 1653. *Lugd. Batav.* 1654. It is alſo printed with the *Meſſis Aurea* of *Siboldus Hempſterhuis, Heildebergæ*, 1659. and with the *Biblioth. Anatomica* of *Le Clerc* and *Mangetus, Genevæ*, 1685. *Inſidiæ Structæ Olai Rudbeckii Sueci*, &c. *Lugd. Batav.* 1654. *Pro Ductibus hepaticis contra Bartholinum, Lugd. Batav.* 1654. *Epiſtola ad Thomam Bartholinum de Vaſis Seroſis, Upſaliæ*, 1657.

Ruysch (Frederic)

Was born at the *Hague*, on the 23d of *March* 1638. He was the Son of *Henry Ruyſch*, Secretary to the States General, and to *Anne Van Berghem.* The Family from which he was deſcended, was originally of *Amſterdam*, where from the Year 1365. his Anceſtors had, without Interruption, bore the moſt honourable Offices of the State, till the Year 1576. when a War happening betwixt *Spain* and the States, occaſioned a Revolution in the Fortunes of the Family.

But Mr. *Ruyſch* is far leſs conſiderable on account of his Extraction, than his diſtinguiſhed Merit as a Member of Society, a Phyſician, and an Anatomiſt.

This Gentleman, from his Infancy, devoted himſelf to Phyſic, and began his firſt Reſearches with the Materia Medica. The Virtues of Plants, the Structures of Animals, the Qualities of Mineral Bodies, Chymical Operations, and Anatomical Diſſections, were the Objects that firſt ſtruck his Fancy, and called for his improving Hand. He was none of thoſe ſuperficial Inquirers, who either thro' Prejudice, or Indolence, reſt ſatisfied on this Side of Truth; for he had ſtripp'd his Mind of all thoſe unreaſonable Attachments, which are inconſiſtent with the Temper of a Philoſopher; and acquir'd ſuch an indefatigable Turn, that his hardeſt Labours in Purſuit of Truth became his higheſt Pleaſures, and his only Recreations. And even when he married in 1661. it was in a great meaſure with a View to render his Circumſtances eaſy, that he might purſue Truth to the greater Advantage.

About this Time, the famous *Bilſius*, being appointed Profeſſor of Anatomy at *Louvain*, made his Appearance at *Leyden*. This Phyſician bore it with a high Hand; undervalued thoſe who were juſtly eſteemed the Ornaments of their Profeſſion, and, with all the haughty and ſupercilious Airs of a *Spaniard*, extoll'd his own Diſcoveries above theirs, eſpecially with regard to the Motion of the Bile, the Lymph, the Chyle, and Fat. But as Inſolence ſeldom fails to be chaſtiſed by real Merit, ſo *Deleboe, Sylvius*, and *Van Horne*, then Profeſſors at *Leyden*, had a mind to check the exorbitant Vanity of this Stranger. For this Purpoſe they courted the Aſſiſtance of young *Ruyſch*, who had been more converſant in minute and delicate Diſſections, than they themſelves. Mr. *Ruyſch* came from the *Hague*, where he lived, to *Leyden*, by Night, preſented them with Materials proper for encountering and confounding *Bilſius*, and returned home directly, to make new Preparations for the ſame Purpoſe.

After having thus fought in Secret againſt *Bilſius*, the two Combatants came at laſt to an open Engagement; for *Sylvius* and *Van Horne*, to whom he had lent ſo ſeaſonable an Aid, had no mind to aſſume the Reſults of his Induſtry as their own Diſcoveries. Mr. *Ruyſch*, in the Courſe of the Debate, had aſſerted, that the Reſiſtance he felt upon blowing into the Lymphatic Veſſels, gave him Reaſon to believe, that theſe Veſſels were furniſhed with Valves, which, he confeſs'd, he had not ſeen, but ſaid, he was not ſingular in his Judgment as to that Particular. *Bilſius* not only denied the Fact with uncommon Aſſurance, but even teſtified a ſtrong Contempt for thoſe who pronounced the thing poſſible. *Ruyſch*, who was bleſs'd at once with a clear Head, and an accurate Hand, actually found thoſe Valves, to the Number of above two thouſand, and gave inconteſtable Proofs of the Reality of that, which he had before advanced as a Conjecture only. This Accident gave unſpeakable Satisfaction to Men of Senſe, who always rejoice to ſee Merit triumph over Arrogance and Ignorance. *Bilſius*, who regarded Reputation more than Truth, promiſed to yield the Point as ſoon as he himſelf ſhould ſee theſe Valves: But when the Evidence of his own Senſes reduced him to a Neceſſity of acknowledging their Exiſtence, he added Arrogance to his Ignorance, and confidently aſſerted, That he knew theſe Valves, tho', for Reaſons of his own, he did not chuſe to diſcover his Knowledge in that Particular. *Ruyſch*, in a ſmall Volume, publiſhed in 1665, which, by the way, was the firſt Work of his that ſaw the Light, has given us a particular Account of this Conteſt; in which *Bilſius*, inſenſible of the

Advantages of Modeſty, renders himſelf famous, or rather infamous, for the oppoſite Vice.

Mr. *Ruyſch* was in the Year 1664. created Doctor of Phyſic in the Univerſity of *Leyden*, and had very ſoon after a very fine, but at the ſame time, a very deplorable Opportunity put into his Hand, of convincing the World with how great Juſtice that Dignity was conferr'd upon him; for the Plague began to rage all over *Holland*, and Mr. *Ruyſch* had the Care of thoſe that were infected at the *Hague*, committed to him. This Office, whatever Share of Glory it might procure him, was nevertheleſs far from being deſirable in itſelf: But it is no uncommon thing for Merit and Learning to ſubject their Poſſeſſors to Inconveniencies, from which the Ignorant and Illiterate are entirely free.

But his principal Buſineſs, and the Employment which engroſs'd moſt of his Time, conſiſted in carrying Anatomy to that noble Height of Perfection, at which it had never before arrived. Anatomiſts had long contented themſelves with ſuch Inſtruments as were judged neceſſary for ſeparating thoſe ſolid Parts, the particular Structures, or mutual Relations, of which they wanted to diſcover. *Regnier de Graaf*, an entire Friend, and an intimate Acquaintance of Mr. *Ruyſch's*, was the firſt, who, in order to diſcover the Motion of the Blood in the Veſſels, and the ſeveral Roads it took during Life, invented a new Species of Syringe, by means of which, he filled the Veſſels with ſome high-coloured Subſtance, which ſufficiently diſcovered the Road taken by itſelf, and conſequently that taken by the Blood in a living Animal. This Invention was at firſt approved of; but the Practice was ſoon after diſcountenanced, becauſe the Matter gradually made its Eſcape, and left the Preparation good for nothing.

John Swammerdam endeavour'd to ſupply this Defect in *de Graaf's* Invention, and happily concluded, that there was a Neceſſity for uſing ſome warm Subſtance, which becoming gradually cool, in Proportion as it flow'd into the Veſſels, might at laſt, when arrived at their Extremities, loſe the Nature of a Fluid, and by that means become capable of being retain'd in the Veſſels. This, no doubt, required a very nice and diſcerning Judgment, both with regard to the particular Quality of the injected Matter, its due Degree of Heat, and the juſt Momentum, or Proportion of Force, with which it was to be impell'd. By this means *Swammerdam* firſt render'd the Capillary Arteries and Veins of the Face viſible; but he did not long perſiſt either in the Uſe or Improvement of his new Invention; for an Exceſs of Piety ſoon after ſpoil'd his Anatomical Turn, and made him look upon ſuch Practices as impious. The devout *Swammerdam* was, no doubt, afraid of rivalling the Almighty in the Perfection of his Works; but his Fears in this Particular were ill-founded. But as the moſt exalted Degrees of Devotion rarely extinguiſh all the Motions of Vanity in the Heart, ſo *Swammerdam* was tempted to communicate his Invention to his Friend Mr. *Ruyſch*; who was not only fond of it, but afterwards practiſed it without any Fear of offending God.

Upon his firſt Trial he found the Experiment to hold, and, in all Probability, produced a more perfect Preparation than *Swammerdam* himſelf had done: The Veſſels were ſo curiouſly injected, that the remoteſt Parts of their Ramifications, which were as ſlender as the Threads of a Spider's Web, became viſible; and, which is ſtill more ſurpriſing, ſometimes were not ſo, without the Aſſiſtance of a Microſcope. What then muſt the Nature of that Subſtance be, which is, at once, ſo fine as to enter the imperceptible Cavities of theſe Canals, and at the ſame time is poſſeſs'd of ſuch a Quality as to indurate itſelf there?

Small Ramifications were diſcover'd, which were neither obſervable in the Living, nor to be ſeen in diſſecting the Bodies of thoſe that were newly dead.

The entire Carcaſes of Children were injected; for the Operation was thought very difficult, if not entirely impoſſible, in Adults. Nevertheleſs, in the Year 1666. by the Order of the States General, he undertook to inject the Body of the *Engliſh* Admiral *Bercley*, who was killed on the 11th of *June*, in the Engagement betwixt the *Dutch* and *Engliſh* Fleets: This Body, tho' very much ſpoil'd, before *Ruyſch* put his artful Hand to it, was yet ſent over to *England* as curiouſly prepar'd as if it had been the freſh Carcaſe of an Infant; and the States General beſtow'd a Recompence which was at once proportion'd to their Grandeur, and the Artiſt's Merit.

Every Part of the injected Matter preſerved its Conſiſtence, its Softneſs, its Flexibility, and even gradually acquir'd freſh Degrees of Beauty with Time.

Carcaſes, with all their Viſcera, were ſo far from having a nauſeous Smell, that they even acquired an agreeable one, and that too in Caſes where they ſmell'd very ſtrong before the Operation.

Every Part was preſerved from Corruption by Mr. *Ruyſch's* Secret. A long Life afforded him the Pleaſure of ſeeing, that his Preparations had, till then, been Proof againſt the Shocks of Time, and even put it out of his Power to aſcertain the Length of their future Duration. All his injected Carcaſes glow with

the ſtriking Luſtre and Bloom of Youth; they appear
many living Perſons faſt aſleep; and their pliant Limb
nounce them ready to walk: In ſhort, the Mummies o
Ruyſch were ſo many Prolongations of Life; whereas th
the antient *Egyptians* were only ſo many deplorable Co
tions of Death.

When Mr. *Ruyſch* began to produce ſuch ſurpriſing
rations, abundance of incredulous People pronounced th
impoſſible; but he gently oppoſed their Obſtinacy with
Words, *Come and ſee.* His Muſeum was not only always
but richly ſtor'd, if I may be allow'd the Expreſſion, wi
ing Monuments of his Art, who were ready to pronou
his Favour, and give the Lye to his Oppoſers. A certain
feſſor of Phyſic very ſeriouſly adviſed him to renounce
Novelties, and tread in the ſafe and beaten Paths of his
ceſſors; but as Mr. *Ruyſch* deſpiſed the fooliſh Admo
the Doctor redoubled his Letters, and at laſt told him, t
Conduct in that Particular was inconſiſtent with the Dig
a Profeſſor; to all which *Ruyſch* replied, in a noble and
Laconic Strain, COME AND SEE.

Mr. *Ruyſch* conceals the Name of the Profeſſor, who
friendly, or rather ſo fooliſh, as to give him this Advice
he has acted otherwiſe with regard to Meſſ. *Raw* and
who were both famous for their Skill in Anatomy,
openly declared themſelves againſt him; eſpecially *Bid*
confidently boaſted, that he knew the Secret of prepari
preſerving Carcaſes better than Mr. *Ruyſch* himſelf. Up
Mr. *Ruyſch* aſked him, Why, ſince it was ſo, he had
cover'd ſuch and ſuch Parts? And why he had mangled hi
tomical Tables, by committing notorious Blunders? wh
ſpecifies and points out to him. Thus far the Conduct of
Ruyſch was unexceptionable, and hitherto he appears w
the Advantages that a good Cauſe, and Candour in Diſpu
give him: But ſoon after he loſes the Temper of the P
pher, and the Gentleman; for, upon *Bidloo's* calling him
tile Butcher, he falls into perſonal Reflections, and ſay
he rather choſe to be *Lanio ſubtilis, quam Leno famoſ*
"ſubtile Butcher, than an infamous Pimp." The
of Words, and the imagin'd Antitheſis, betwixt *Lanio* and
may poſſibly have induced him to tranſgreſs ſo far ag
Laws of Decorum, and true Politeneſs: But what had
do with the Morals of his Antagoniſt, when the Extent
Knowledge was the Subject in Diſpute? True it is, th
loo's Conduct was ſo provoking as not to admit of an A
when he call'd him *miſerrimus Anatomicorum*, "th
"miſerable of Anatomiſts." But the Extravagance
Man ought never to unhinge the Mind, or authorize th
neſs of another.

But tho' Falſhood may ſometimes have reſolute Ch
yet Truth never fails to come off victorious in the End
Beauties of Mr. *Ruyſch's* Art were ſeen, and the Adva
it felt. The Subjects neceſſary for Diſſection, which the
ing Superſtition of the Times render'd very few, ſoon f
the Hands of other Anatomiſts; but Mr. *Ruyſch* had the
parable Secret of rendering them of eternal Uſe. Di
were now no more accompanied with thoſe Ideas of Ho
Averſion, which before had proved fatal to Anatomy: H
Anatomical Demonſtrations could only be made in the
Seaſon, but now the moſt ſcorching Heats were equally
for that Purpoſe, provided the Days were equally clear.

Now, conſidering the Advantages of this Secret,
ſtrong Curioſity that naturally reign'd in Mr. *Ruyſch's*
we need not be ſurpriſed, if he diſcover'd things that ha
the Notice of all that went before him, ſuch as the B
Artery, which ſupplies the Lungs with Nouriſhment,
unknown to the moſt minute and accurate Anatom
Perioſteum of the *Oſſicula Auditus*, which were formerly
upon as bare; the Ligaments belonging to the Articu
theſe *Oſſicula*. He likewiſe found, that the Cortical Sub
the Brain was not glandular, as was commonly thoug
conſiſted of Veſſels infinitely ramified; and that ſeveral
Parts, which were falſly look'd upon as glandular Bodies
no more than ſo many Congeries of ſimple Veſſels, wh
differ'd in their reſpective Lengths, their Diameters, th
they deſcribed in their Courſes, and the Diſtance of th
tremities *from the Heart*, Circumſtances on which th
Secretions or Filtrations depend. *Frederic Schreiber*, wh
his Life, when talking of the Extent and Importance of
coveries, ſeems animated with a kind of Enthuſiaſm,
ſtulates the Matter in this warm Strain: *Who before him*
the Veſſels running thro' the Tunica Aranea, the Patella,
Acetabulum Coxæ? Who diſcovered the Veſſels diffuſed
Membrane which ſurrounds the Marrow of the Verte
who found out the Veſſels in the Meditullium of the Bones,
thoſe Tendons and Ligaments which are deſtitute of Blood

Ruyſch, beſides his Practice of Phyſic, and Profeſſ
Anatomy, was, by the Burgo-maſters of *Amſterdam*,
Inſpector of all thoſe who were either kill'd or wounde
ſonal Quarrels. He was likewiſe, for the general Goo
State, created *Maſter of the Midwives*, who, generally

re very ignorant of their Buſineſs; they were too haſty,
nce, in forcibly extracting the *Placenta*, when it came
y; and were often raſh enough to tear it, which fre-
cauſed unavoidable Death: But Mr. *Ruyſch* taught
ho' with ſome Difficulty, to wait with Patience for its
away, or at leaſt only gently to aſſiſt its Expulſion;
an orbicular Muſcle, which he had diſcover'd in the
of the Uterus, naturally thruſt it outwards, and was
ficient to expel it intirely.

t *Ruyſch* was created Profeſſor of Botany, in the Exer-
hich Office he gave the ſame Scope to his natural Ge-
ich he had formerly done in Anatomy. The extenſive
rce of the *Hollanders* ſupplied him with many exotic
which he diſſected and preſerved with incomparable
e dexterouſly ſeparated their Veſſels from their Paren-
and by that means plainly ſhew'd wherein their Life
. Thus Animals and Plants were equally embalmed,
lly ſure of Duration, by the ſkilful Touches of Mr.
Hand.

uſeum, or Repoſitory of Curioſities, contain'd ſuch a
magnificent Variety, that one would have rather taken
e Collection of a King than the Property of a private
ut not ſatisfied with the Store and Variety it afforded,
l beautify the Scene; and join an additional Luſtre to
us Proſpect. He mingled Groves of Plants, and De-
Shell-work, with Skeletons, and diſmember'd Limbs;
t nothing might be wanting, he animated, if I may ſo
e Whole with appoſite Inſcriptions, taken from the
in Poets. This Muſeum was the Admiration of Fo-
: Generals of Armies, Embaſſadors, Electors, and even
nd Kings; were fond to viſit it. When *Peter* the Firſt,
ovy, came into *Holland*, in the Year 1695. he was ſo
ith the View of Mr. *Ruyſch*'s Collection, that he ten-
'd a little Infant, which ſparkled with all the Graces of
, and ſeem'd to ſmile upon him. On his ſecond com-
, in 1714. he purchaſed the Collection, and ſent it to
g; but the Induſtry and long Experience of Mr.
oon ſupplied him with another.

Year 1727. he was choſen Honorary Aſſociate of the
y of *Peterſburg*. He was alſo a Member of the *Leopol-*
demy in *Germany*, and of the Royal Society in *Eng-*

d of a Fever in the 92d Year of his Age in 1731. and
peculiar Advantage over moſt other learned Men, that
to ſee all that Oppoſition, which Malice and Envy
his Merit, huſh'd and laid to ſleep.

uyſch has publiſh'd a great many Pieces at different
which were at laſt reduced into a very confuſed and
ntable Order, and printed, as the Title-page of the firſt
imports, *Amſtelodami, apud Jaſſonio-Waeſbergios*,

is a Peculiarity in one Work of Mr. *Ruyſch*'s, which
to be taken Notice of, which is, that ſome Paſſages of
ſaria, which he publiſh'd in *Latin* and *Dutch*, are left
ted into the *Dutch*. What influenced this Author in
, every one muſt judge for himſelf, from the Nature of
ges untranſlated.

pe the vaſt Variety both of entertaining and inſtruct-
ents that occur in the Life of Mr. *Ruyſch*, will ſuffi-
pologize for its Length, and account for our ſpending
ne upon him than ſome of the reſt.

SANTORINI, (J. DOMINICUS)

emember, a *Venetian*, publiſh'd many curious Anato-
coveries in his *Obſervationes Anatomicæ*, of which there
one or more *Italian* Editions; but the laſt was printed
, 1739-40.
uſcula Medica were printed at *Rotterdam*, 1719.

HAMMERUS, (GUNTHERUS CHRISTOPHERUS)

ſician, who, in the latter Part of the laſt Century,
eſſor of Phyſic at *Jena* for four Years; and afterwards
into *Denmark*, where he ſpent the Remainder of his
He wrote a Book intituled, *In Phyſiologiam Introductio,*
elmæſtadii, 1681. 4*to.* and another intituled, *De Au-*
Unus, Lugd. Bat. 1684. 8*vo.*
ſt, and his *Epiſtolica Diſſertatio de Lymphæ Ortu, &*
orum Vaſorum Cauſis, are extant in the *Bibliotheca*
. He alſo publiſh'd an Edition of *Conringius*'s In-
to Phyſic, with Notes.
kes various Obſervations relative to the Tongue, La-
ivary Glands, Diaphragm, Meſentery, Colon, Inte-
ecum, Receptaculum Chyli, Kidneys, Fingers, Nails,
Lymph, and Lymphatic Ducts, all which are worthy
eration.
etach'd Pieces of this Author are extant in the *Ger-*
emerides, as the *Anatomy of a Mole*, and a Treatiſe
o Cerebri.
I.

SCHILLINGIUS (HENRICUS SIGISMUNDUS)

Was Author of the following Anatomical Works:

Diſcurſus Phyſiologico-Anatomicus de Microcoſmi Miſeria, & Perfectionis Excellentia, Wittebergæ, 1658. in 4*to.*

Tractatus Oſteologicus, ſive Oſteologia Microcoſmica, Dreſdæ, 1669. in 4*to.*

SCHNEIDERUS, (CONRADUS VICTOR)

A Profeſſor of Phyſic at *Wirtemberg*, in the Middle of the laſt Century, wrote a great many Anatomical Pieces; but his principal Subjects are the *Membrana Pituitaria*, and the Bones of the Head, upon which he has ſome excellent Remarks.

His Works are,

Diſſertationes Anatomicæ de Partibus, quas vocant, Principalioribus, Capite, Corde, Hepate, cum Obſervationibus ad Anatomiam, necnon ad Artem Medendi pertinentibus, Wittebergæ, apud Johan. Rotinerum, 1643. in 8*vo.*

Liber de Oſſe cribriformi, & Senſu ac Organo Odoratus, & Morbis ad utrumque ſpectantibus, de Coryza, Hæmorrhagia Narium, Polypo, Sternutatione, Amiſſione Odoratus, Wittebergæ, apud Tobiam Mevium & Elerdum Schumacherum, 1655. in 12*mo.*

Diſputationes Oſteologicæ aliquot, Wittebergæ, apud Michael. Wendtium, 1649. in 8*vo.*

Diſputatio Medica de Oſſibus Sincipitis, Wittebergæ, apud Johan. Rohnerum, 1653. in 8*vo.*

De Oſſe Occipitis, ejuſdemque Vitiis ac Vulneribus. Ibidem, apud Johan. Hacke, anno & formâ eiſd.

Diſputatio Medica, de Oſſibus Temporum. Ibid. apud Johan. Rohnerum, 1653. in 8*vo.*

Oratio de Æquitate ac Juſtitiâ Naturæ, ibid. 1646. in 4*to.*

Oratio de Bellis Naturæ, ibid. in *Fol.*

Diſſertatio Anatomico-Chirurgica, de Natura Oſſis Frontis, & ejus Vulneribus ac Vitiis, ibid. 1650. in 8*vo.*

Liber primus de Catarrhis. Quo agitur de ſpeciebus Catarrhorum, & de Oſſe cuneiformi, per quod Catarrhi decurrere finguntur, Wittebergæ, apud Hær. Tobiæ Mevii, & Elerdi Schumacheri, 1660. in 4*to.*

Liber de Catarrhis ſecundus, quo Galenici Catarrhorum meatus perſpicuè falſi revincuntur, ibid. apud Eoſdem, anno & formâ eiſdem.

Liber de Catarrhis tertius, quo Novi Catarrhorum meatus demonſtrantur, ibid. apud Eoſdem, 1661. in 4*to.*

Liber de Catarrhis quartus, quo generalis Catarrhorum Curatio ad novitia Dogmata & Inventa paratur, ibid. apud Eundem, anno & formâ eiſdem.

Liber Quintus & Ultimus de Catarrhoſorum Diæta, & de ſpeciebus Catarrhorum, &c. Wittebergæ, 1662. in 4*to.*

Liber de Catarrhis ſpecialiſſimus, &c. Wittebergæ, 1674. in 4*to.*

Liber de Morbis Capitis ſeu Cephalicis illis, ut vocant, ſoporoſis, &c. Wittebergæ, 1669. in 4*to.*

Liber de Nova Graviſſimorum trium Morborum Curatione, &c. Francofurti, 1672. in 4*to.*

Liber de Spaſmorum Natura & Subjecto, &c. Wittebergæ, 1678. in 4*to.*

SEVERINUS (MARCUS AURELIUS)

Was Pupil to *Julius Jaſſolinus*, in the Beginning of the laſt Century, and afterwards Profeſſor of Anatomy and Surgery at *Naples*. He is more famous for his Chirurgical than his Anatomical Works, and perhaps excell'd in Surgery by the Help of Anatomy, without which it would be very difficult to make any conſiderable Figure in that Profeſſion. His Anatomical Works are,

Zootomia Democritea, &c. Noribergæ, 1646. in 4*to.*

Hiſtoria Anatomica, Obſervatioq; Medica, eviſcerati Corporis, Neapoli, 1629. in 4*to.*

De Aqua Pericardii Cordis Adipe, Poris Cholidochis, Hanoviæ, 1654. in 4*to.*

His *Quæſtiones Anatomicæ quatuor.* 1. *De Aqua Pericardii.* 2. *De Cordis Adipe.* 3. *De Poris Cholidochis.* 4. *Oſteologia, pro Galeno, adverſus Argutatores. Epidochæ in totidem alias Julii Jaſolini*, are extant in an Anatomical Piece of *Volckamer*'s, *Hanoviæ*, 1654. in 4*to. Francofurti*, 1668. in 12*mo.*

SEVERUS, (NICOLAUS)

About the Middle of the laſt Century, wrote the following Anatomical Pieces:

Reſponſio ad Vindicias Hepatis Redivivi contra Deuſingium, Lugd. Batavorum, 1662. in 12*mo.*

Obſervationes Anatomicæ de Glandulis Oculorum, noviſque eorum Vaſis, Hafniæ, 1664. in 4*to.*

Obſervationes Anatomicæ de Glandulis Oris, Lugd. Batavorum, 1662. in 4*to.* and 12*mo.*

STENO, (NICOLAUS)

A *Dane*; flouriſh'd about the Middle of the laſt Century. He enrich'd Anatomy with many valuable Diſcoveries: Amongſt other Things, he obſerved the Ducts which convey Moiſture to the Eye for the Convenience of its Motion in the Orbit, and in 1662 deſcrib'd a ſalivary Duct not taken Notice of before, which comes from the Glands which lie near the Ears. He alſo obſerved, that the Fibres of the muſcular Coat of the Pharynx are ſpiral in a double Order, one aſcending, and the other deſcending, which run contrary Courſes, and mutually croſs each other in every Winding. Beſides theſe, he made ſeveral Obſervations concerning the Lympheducts.

His Anatomical Works are,

De Muſculis & Glandulis Obſervationum Specimen, &c. Hafniæ, 1667. *in* 4*to*. *Amſtelodami*, 1664. *in* 12*mo*. *Lugduni Batavorum*, 1683. *in* 12*mo*. This is in the *Bibliotheca Anatomica*.

Diſſertatio de Cerebri Anatome. This is tranſlated from the *French* Edition of 1669. by *Guido Fanoiſius*, *Lugd. Bat.* 1671. *in* 12*mo*. This is alſo in the *Bibliotheca Anatomica*.

Obſervationes Anatomicæ, quibus varia Oris, Oculorum & Narium Vaſa deſcribuntur, noviſque Salivæ, Lachrymarum & Muci Fontes deteguntur ; et novum Bilſii de Lymphæ Motu & Uſu Commentum examinatur & rejicitur. Lugd. Bat. 1662. *in* 12*mo*. *Ibid.* 1680. *in* 12*mo*.

This is alſo in the *Bibliotheca Anatomica*.

Elementorum Myologiæ Specimen, ſeu Muſculi Deſcriptio Geometrica. Cui accedunt Canis Carchariæ diſſectum Caput, & diſſectus Piſcis ex Canum genere. Amſtelodami, 1669. *in* 8*vo*.

This is alſo in the *Bibliotheca Anatomica*.

STOCKHAMERUS, (FRANCISCUS)

In the latter End of the laſt Century, publiſhed the following Anatomical Pieces :

Microcoſmographia, ſive Partium humani Corporis omnium, earumque Actionum & Uſuum brevis quidem, accurata tamen & atoma Deſcriptio, novis hujus ſeculi Inventis exornata. Viennæ Auſtriæ, 1682. *in* 12*mo*.

STRAUSSIUS (LAURENTIUS)

Flouriſh'd in the latter Part of the laſt Century. He publiſhed many Pieces, amongſt which, thoſe that are Anatomical, are,

Conatus Anatomicus, aliquot Diſputationibus exhibitus. Francof. 1665. *in* 4*to*.

Microcoſmographia Metrica, ſive humani Corporis Hiſtoria Elegiaco Carmine exhibita, & ad Sanguinis Circulationem, & pleraque nova Anatomicorum Inventa accommodata. Gieſſæ, 1679. *in* 8*vo*.

SWAMMERDAM (JOHANNES).

He was a celebrated Anatomiſt of *Amſterdam*, in the latter Part of the laſt Century, having been a favourite Pupil of *Van Horne*, under whom he made a conſiderable Progreſs in the Art of diſſecting and preparing Bodies.

De Graaf was Pupil to *Van Horne* at the ſame Time with *Swammerdam*, and is charged by *Swammerdam* with Plagiariſm, in ſtealing the Diſcoveries of their common Inſtructor, and claiming them as his own. His Works are in very good Eſteem, and are,

Miraculum Naturæ, ſive Uteri Muliebris Fabrica. Notis in D. Joh. Van Horne Prodromum illuſtrata, & Tabulis a Clariſſ. Expertiſſimiſque Viris cum ipſo Archetypo collatis, adumbrata. Adjecta eſt Nova Methodus, Cavitates Corporis ita præparandi, ut ſuam ſemper genuinam faciem ſervent. Lugd. Bat. 1672. *in* 4*to*. *Ibidem*, 1679. *in* 4*to*. This is in the *Bibliotheca Anatomica*.

Tractatus Phyſico-Anatomico-Medicus, de Reſpiratione Uſúque Pulmonum. Lugd. Bat. 1667. *in* 8*vo*. *Ibid.* 1679. *in* 8*vo*. and *L. Bat.* 1738. This is alſo in the *Bibliotheca Anatomica*.

SYLVIUS (FRANCONIUS DE LA BOE).

He is more known as a practical Author, than as an Anatomiſt. He was born at *Hanover*, in 1614 ; practiſed at *Amſterdam* ; afterwards was a Profeſſor at *Leyden*, where he dy'd in 1678.

What gives him a Title to a Place here, is his Syſtem of the Bile, which, 'tis ſaid, he borrow'd from *Nemeſius* ; and the Diſcovery which he claims of the *Os Orbiculare* of the internal Ear, whoſe Situation, however, he miſtook ; for he thought it was placed on the Side of the Head of the *Stapes*, whereas it is placed betwixt that and the *Incus*.

TAUVRY, (DANIEL)

A *French* Phyſician, who publiſhed a Treatiſe of Anatomy, but of no great Character, being remarkable for extravagant Hypotheſes, and ill-concerted Theory. This he publiſhed under the Title of *Anatomie Renſonnée*, about 1687, being then but eighteen Years old. In 1700 he publiſhed his *Traité de la Generation, et de la Nouriture du Fœtus*. He dy'd in 1701, in the 31ſt Year of his Age.

TILINGIUS (MATTHIAS)

Wrote ſeveral Anatomical Pieces ; but is not remarkable any new Diſcoveries. He liv'd in the latter Part of the Century. His Anatomical Works are,

De Tuba Uteri, deque Fœtu nuper in Gallia, extra *cavitatem, in Tuba concepto, Exercitatio Anatomica.* Rinth 1670. *in* 12*mo*.

De Placenta Uteri Diſquiſitio Anatomica, novis in *cina Hypotheſibus illuſtrata. Rinthelii*, 1672. in 12mo.

De Admiranda Renum Structura, eorumque Uſu nobili *Sanguificatione, Seminis Præparatione, ac Humoris* ſeroſi *Segregatione, conſiſtente, Exercitatio Anatomica*, ex Princip *Circulari Sanguinis Motu illuſtrata. Francof.* 1672. in

Anatomia Lienis, ad Circulationem Sanguinis, aliaque *centiorum inventa, accommodata. Rinthelii*, 1673. in *Ibid.* 1676. *in* 12*mo*.

Παρέκβασις, *ſeu Digreſſio Phyſico-Anatomica Curioſa de brevi Lienis, ejuſq; Uſu nobili ac egregio in Corporis* humani *conomia. Mindæ*, 1676. *in* 12*mo*.

TYSON (EDWARD).

This Gentleman was Phyſician to *Bethlehem* Hoſpital, low of the College of Phyſicians, and Lecturer of Anato Surgeons Hall.

He was a very accurate Anatomiſt, as appears by ſeveral ſertations, of which he was Author, interſpers'd in the *Ph phical Tranſactions*, and the *Acta Eruditorum*, relating human Anatomy, that of Beaſts and Inſects.

His *Phocæna*, or the Anatomy of a Porpus, diſſected at *ſham* College, with a preliminary Diſcourſe concerning Ana and a Natural Hiſtory of Animals, was printed *London*,

VALSALVA (ANTONIUS MARIA)

This Phyſician was born at *Imola*, a City of *Italy*, and Profeſſor of Anatomy at *Bologna*. His Treatiſe on the eſteem'd an excellent Performance, and contains many veries relating to that Organ. He alſo deſcribes, and gives Figures of, the Muſcles of the Uvula and Pharynx.

VERHEYEN (PHILIP).

He was born in 1648. He intended originally to Studies towards Divinity ; but having loſt one of his a Mortification, he apply'd himſelf entirely to Phyſic, Profeſſor of Anatomy and Surgery at *Louvain*, where quir'd great Reputation, and died of a Fever in 1711, regretted by the learned World. His Anatomy bears cellent Character, and has gone through ſeveral Edition third of which is that printed *Brux.* 1726. 2 Vols. 4*to*.

VERLE (JOHANNES BAPTISTA)

Wrote a Treatiſe intituled *Anatomia Artificialis mani*. This was printed at *Amſterdam*, 1680. 12*mo*. extant in the *Miſcellanea Curioſa*, and in the *Bibliotheca tomica*.

VERNEY (GUICHARD JOSEPH DU).

This celebrated Anatomiſt was born at *Feurs en Forez*, *guſt* the 5th, 1648. His Father, *Jaques du Verney*, Phyſician at that Place. He ſtudy'd Phyſic five *Avignon*, and came to *Paris* 1667, where he was ſoon employ'd in diſſecting the Brain, before Aſſemblies of Men, who us'd to meet at the *Abbé Bourdelot's*, and *Denys's*, a learned Phyſician at *Paris*. He acquitted well on theſe Occaſions, that in 1676 he was receiv the Royal Academy of Sciences as a Member ; and after read Lectures to the Dauphin in Anatomy. In 1679 conſtituted Profeſſor of Anatomy at the Royal Garden.

In 1683 he publiſhed his *Traité de l'Organe de l'Oüe*, the following Year was tranſlated into *Latin*, and pri *Nuremberg*. He dy'd the 10th of *September* 1730. above-mentioned Treatiſe on the Ear is in great Eſteem is the only Work he publiſhed.

VESLINGIUS (JOHANNES).

He was Profeſſor of Anatomy and Botany at *Padua*, Beginning of the laſt Century. His *Syntagma* bears a good Character ; of which there have been Editions adorn'd with Figures ; but that of *Amſterdam*, with Notes, and an Appendix by *Gerard Blaſius*, is Eſteem.

VIEUSSENS (RAYMOND).

He was of *Montpelier*, and was famous for with great Accuracy, the Anatomy of the Brain, row, and Nerves, in which he ſometimes diſſents from In his *Neurologia* he gives a very good Deſcription, nificent Figures, of theſe Parts. His *Neurographia* was *Lugd.* 1684.

VIGIERIUS (JOHANNES).

was a celebrated Surgeon, and liv'd about the Middle of t Century. His *Enchiridium Anatomicarum* is printed his *Opera Medicò-Chirurgica*, *Hagæ Comitum*, 1659.

VIRSUGUS (JOHANNES GEORGIUS).

was a *Bavarian*, and a conſiderable Anatomiſt. He pubno Work, but render'd himſelf famous by the Diſcof the Duct of the Pancreas, which diſcharges the Fluid, ed in that glandulous Subſtance, at the ſame Place where uctus communis Cholodochus opens into the Duodenum. e diſcover'd in 1642. He was, not long after, ſhot by *ian*, in his own Study, who, it was thought, had been o murder him. His Name is ſometimes ſpelt *Wir-*

VOLKAMERUS (JOHANNES GEORGIUS).

was a Phyſician of *Norimberg*, about the Middle of the ntury.

e are a great many detach'd Pieces of this Author in the Ephemerides; beſides which he publiſh'd

gium Anatomicum concinnatum ex clariſſimis Triumviris: Jaſolini, Locris, Quæſtionibus Anatomicis. 1. *De Corpe.* 2. *De Aqua Pericardii.* 3. *De Poris Choledochis, a Fellea.* 4. *Oſteologia parva: Marci Aurelii Severurii, totidem Epidochis: & Bartholomæo Cabrolio, Aqui-Hanoviæ*, 1654, *in 4to.* *Francof.* 1668. *in 4to.*

ola de Stomacho, ſcripta ad Doct. Johan. Georgium Sar-Altdorphi Noricor. 1682. *4to.*

WEPFER (JOHANNES JACOBUS).

as a Phyſician of *Schaffhauſen* in the latter Part of the ntury, and oblig'd the World with many curious Ana- Pieces; particularly ſome relating to the Anatomy of who dy'd Apoplectic. His Anatomical Works are,

vationes Anatomicæ, ex Cadaveribus eorum, quos ſuſtulit a, cum Exercitatione de ejus Loco affecto. Schaff. 1658. *Ibid.* 1675. *in 8vo.* *Amſt.* 1681. *in 8vo.*

iarum & Obſervationum Apoplecticarum & ſimilium, po- Anatomæ ſubjectorum Auctarium: cum Scholiis. Ibino & formâ eiſdem.

ia Anatomica de Puellâ ſine Cerebro natâ. Schaffh. *8vo.* This is in the *Bibliotheca Anatomica.*

ubiis Anatomicis Epiſtola. This is publiſh'd, together Treatiſe of *Jacobus Henricus Paullus*, intituled, *Ana-ilſianæ Anatome, Noribergæ*, 1664. *in 4to.* *Argent.* *8vo.*

WESENFELD (CONRADUS).

t know, that this Phyſician ever publiſhed any thing in ; but *Johannes Petrus Albrecht*, in the *German* Ephe- relates, That *Weſenfeld* thought he obſerv'd, in a he diſſected, ſome Ducts which paſs from the *Inteſtium* to the Bladder of Urine: But I don't find, that e been obſerv'd by any one ſince.

WHARTON (THOMAS).

s an *Engliſh* Phyſician, and in 1656 publiſhed a Treae Glands, intituled, *Adenographia*; in which there are ious Particulars not known before. In particular he a Duct, which, ariſing from the conglomerate which are ſituated in the inner Side of the lower Jaw, *Saliva*, which it diſcharges near the Middle of the the Mouth.

WILLIS (THOMAS).

a Phyſician, educated at *Oxford*, where he was of Natural Philoſophy. He was born in 1620, and . He was more eminent for his Practice in *London*, ble for his Theory, which in many Inſtances happens of the beſt. He was, however, an excellent Anarticularly in what relates to the Brain, Nerves, Stod Inteſtines.

minus had obſerv'd before him, that the Brain, prolled, and Cerebellum, conſiſt of two diſtinct Subn outer Aſh-colour'd Subſtance, thro' which the els, which lie under the Pia Mater in innumerable Windings, are diſſeminated; and an inner, everyed to it, of a nervous Nature, that joins this Bark ſually called) to the Medulla Oblongata, which is al of all the Pairs of Nerves that iſſue from the Brain, ſpinal Marrow, and lies under the Brain and Cere- After him, Dr. *Willis* was ſo very exact, that he medullary Subſtance, thro' all its Inſertions, into the bſtance, and the Medulla Oblongata, and examined all the Nerves, and went along with them into every Body, with wonderful Curioſity. Hereby not only was demonſtrably proved to be the Fountain of Senſe , but alſo, by the Courſes of the Nerves, the Manner how every Part of the Body conſpires with any others to procure any one particular Motion, was clearly ſhewn; and thereby it was made plain, even to Senſe, that where-ever many Parts joined at once to cauſe the ſame Motion, that Motion is cauſed by Nerves that go into every one of thoſe Parts, which are all ſtruck together. And tho' *Vieuſſens* and *du Verney* have in many things corrected Dr. *Willis*'s Anatomy of the Nerves; yet they have ſtrengthen'd his general Hypotheſis, even at the Time when they diſcover'd his Miſtakes.

He ſeparated the Coats of the Stomach, and examined the ſeveral Fibres of the middle Coat, with more Exactneſs than formerly; he alſo has been very nice in tracing the Blood-veſſels and Nerves that run amongſt the Coats; has evidently ſhewn, that its Inſide is covered with a glandulous Coat, whoſe Glands ſeparate that Mucilage, which both preſerves the Fibres from being injur'd by the Aliments which the Stomach receives, and concurs with the Spittle to further the Digeſtion there performed; and has given a particular Account of all thoſe ſeveral Rows of Fibres, which compoſe the muſcular Coat.

WINSLOW, (JAMES BENIGNUS)

Profeſſor of Phyſic, Anatomy, and Surgery in the Univerſity of *Paris*; Member of the Royal Academy of Sciences, and of the Royal Society at *Berlin*.

In 1723 he publiſhed an excellent Work intituled *Expoſition Anatomique de la Structure du Corps humain*, *4to.*

This was tranſlated by Dr. *George Douglas* into *Engliſh*, and publiſhed *London*, 1734.

It is eſteem'd the beſt Syſtem of the ſolid Parts of the Body which has yet appeared, and is remarkable for Conciſeneſs and Perſpicuity and for the exact Order of the Work. The Author is, however, charged with introducing new Terms into Anatomy without any Neceſſity, which can only tend to embroil the Science, and perplex Students. The famous *Steno* was great Uncle to *Winſlow*.

ANATON. See ANATRON.

ANATRESIS, ἀνάτρησις, from ἀνὰ and τράω, to perforate. It ſignifies literally Perforation; but by *Galen* is uſed to ſignify Trapanning.

ANATRIBE, ἀνατριβὴ, and

ANATRIPSIS, ἀνάτριψις, from ἀνὰ, and τρίβω, to rub. Friction.

ANATRIS, or, ANTARIS, Mercury.

ANATRON, or, NATRON, is a Salt taken from the River *Nile* in *Egypt*, by Cryſtallization, or by Evaporation. It was very probably the Nitre of the Antients, and is rarely found in *Europe*. It is a little acrid and alcaline to the Taſte.

It ought to be choſen in a Lump, white, looking as if cryſtalliz'd, ponderous, having the Taſte of common Salt, but of a bad Smell, eaſily moiſtening in the Air. The Waſherwomen made uſe of it formerly, inſtead of the Salt of *Kali*, to whiten their Linen; from whence it is improperly called by the Name of that Salt. The Butchers alſo make uſe of it in the room of Sea Salt, to ſeaſon their Fleſh-meats.

This Salt is very aperitive, if taken inwardly; externally taken, it deterges, dries, and reſiſteth a Gangrene. It is an Ingredient in the Compoſition of the Stone of *Crollius*.

There is alſo an artificial Anatron called *Anatron Factitium*; it is compos'd of ten Parts of Saltpetre, four Parts of quick Lime, three Parts of common Salt, two Parts of Roch Alum, and two Parts of Vitriol: All theſe are diſſolved in Wine, and the Diſſolution boiled; then ſtrain it, and evaporate it to the Conſiſtence of Salt. It is uſed as Borax to purify Metals, and put them in Fuſion. *Lemery des Drogues.*

There is a very great Difference between the Nitre, or Natrum, of the Antients, and our Saltpetre; which we do not know whether the Antients were acquainted with or not: And, in like manner, their Nitre is almoſt unknown to us.

By Nitre the Antients underſtood an acrid, alcaline Salt, found in *Egypt*, and other Places, which, as it made an Efferveſcence with Acids, was uſed as a lixivial Salt for cleanſing Cloaths, and for making Glaſs. *Solomon* mentions the Efferveſcence of Nitre with Vinegar, *Prov.* xxv. 20. where he compares a Man that ſings Songs with an heavy or afflicted Heart, to a Mixture of Vinegar and Nitre; which Antipathy, or Contrariety, cannot be underſtood of the common Nitre, or Saltpetre, which raiſes no Efferveſcence with Vinegar. The Antients frequently uſed their Nitre, or Aphronitrum, in Baths, and the Women in their Waſhes; whence *Jeremiah* ſays, Chap. ii. Ver. 22. *Though thou waſheſt thee with Nitre, and takeſt thee much Soap, yet thine Iniquity is marked before me, ſaith the Lord God.* This cannot be ſaid of Saltpetre, but of the Lixivium of that alcaline Salt, which was brought from *Egypt* by the Name of *Nitrum*, or *Aphronitrum*.

This Nitre eaſily relented in the Air, fermented with Vinegar, and had an abſterſive Quality; and even at this Time, in the Fields of Leſſer *Aſia*, near *Smyrna* and *Epheſus*, the Earth riſes in ſmall Hillocks, placed very near each other, like

Molehills, during the Spring and Autumn, of which the Inhabitants prepare a Ley for waſhing Cloaths; as alſo of the Salt they get from that Earth, by diſſolving it in Water, they make Soap; as is related by the great *Tournefort*. This antient Nitre was likewiſe uſed to make Glaſs, being mixed with Sand, as they afterwards did with the Salt of the Plant Kali, or Glaſſwort, as may be gathered from what *Tacitus* ſays, Hiſt. 1. 5. That the Sands of *Paleſtine* and *Syria*, near *Egypt*, were made into Glaſs with Nitre.

It is evident, therefore, that the Nitre of the Antients was quite different from ours. At this Time it is very little uſed, and very rare in *Europe*, tho' it was very much in Uſe amongſt the Antients, both for making of Medicines, and for other Purpoſes of Life. The common Cuſtom of Bathing alone conſumed a vaſt Quantity of it. It ſerved likewiſe for Dying, for ſeaſoning Victuals, and for glazing earthen Veſſels. Very little of it is brought us; and it is very hard to determine the Aphronitrum, or the *African* or *Egyptian* Nitre, or *Spuma Nitri*, which I believe to be the Baurach of the *Arabians*, and the *Grecian* Nitre. Nitre was a native Salt, of a red or white Colour, and bitter Taſte. It did not fly in the Fire like common Salt, nor flaſh like Saltpetre, but melted, and roſe in Bubbles, like Alum and Borax. It made an Effervеſcence with Acids; and hence I look upon it to have been of the ſame Nature with the Salt of Tartar, or Pot-aſh. See NATRON. *Geoffroy*.

ANATRON ſometimes ſignifies the Gall of Glaſs, which is nothing elſe but the Spume caſt up by the Matter of which Glaſs is made.

It is alſo taken for the Terra Saracenica, of which there are three Kinds, which are the Black, the Red, and the Azure.

Sometimes it means a white and ſtony Excreſcence, which grows on Rocks, in Form of a white Moſs, and is called by ſome *Sal Nitrum*. It is alſo called, *Anachron*, *Anatrum*, and *Anaton*. *Caſtellus* from *Ruland*. *Johnſon*, *Schrod*. *Hoffm*.

ANATROPE, 'Ανατροπὴ, from ἀνατρέπω, to ſubvert. A Subverſion, literally, or Relaxation of the Stomach, attended with Loſs of Appetite, Vomiting, and Nauſea. *Galen*. The Verb ἀνατρέπω, in *Hippocrates*, *Lib. de Art*. ſignifies to ſubvert, ruin, and deſtroy.

ANATRUM, the ſame as *Anatron*.

ANATUM, Egg-ſhells. *Johnſon*.

ANAUDOS, Ἄναυδος, the Word is explained by *Galen* on *Hippocrates*, to ſignify one that has loſt the Uſe of Speech, and Aphonos, ἄφωνος, to mean one who can utter no Voice. In the former, the Organs of Speech, or articulate Voice, are injur'd or clogg'd; the other, who has utterly loſt his Voice, has the Inſtruments thereof, as the Larynx, with the Muſcles and Nerves thereto belonging, diſabled from performing their Function. The Word is derived from α Negat. and αὐδὴ, Speech; as Aphonos, ἄφωνος, comes from α Negat. and φωνὴ, Voice.

ANAVINGA. *Baccifera Indica*, *Fructu rotundo cuſpidato*, *Ceraſi Magnitudine*, *polypyreno*. *Anavinga H. M. P*. 4. *T*. 49. *p*. 101.

A Tree of a middle Size, that grows in *Malabar* in the *Eaſt-Indies*, eſpecially about *Cochin*. It is an Evergreen, and its Fruit, or Berries, are ripe in *Auguſt*.

The Juice of the Berries drank excites Sweat, cures malignant Diſtempers, and keeps the Belly ſoluble. The Decoction of the Leaves in Water makes a fit Bath for ſuch are affected with Pains in the Joints. *Raii Hiſt. Plant*.

ANAXYRIS, Ἀναξυρὶς, a Name for a kind of *Lapathum*, called otherwiſe *Oxalis*, and *Lapathum agreſte*. *Oribaſ. Med. Coll. Lib*. 11.

ANAXYRIDES, 'Αναξυρίδες, in *Hippocr. de Aere*, &c. ſignifies a ſort of Breeches, or Drawers, worn by the *Scythians*, From ἀνασύρω, to draw upwards, changing σ into ξ.

ANBLATUM, *Cordi*, *ſive Aphyllon*, J. B. *Orobanche Radice dentata*, *major*, C. B. *Dentaria major Matthiolo*, Ger. *Orob. Radice dentata*, *ſive Dentaria major Matthiolo*, Park. The GREATER TOOTHWORT.

It flowers about the latter End of *April*, and Beginning of *May*. It has been obſerved in a ſhady Lane, not far from *Darking*, in *Surry*; at *Bredgate*, near *Sittingborn*; about *Chiſelhurſt* and *Maidſtone*, in *Kent*; near *Dalſton*, in *Weſtmorland*; and *Heptonſtal*, in *Yorkſhire*. *Syn. Ship. Brit*. 288.

I find no Virtues aſcribed to it. *Martyn's Tournefort*.

ANCHA, a Word uſed by *Aviſenna*, and ſometime by *Foreſtus*, and ſignifies the ſame as *Coxa*. *Caſtellus*.

ANCHILOPS.

The Anchilops is a Tumour ſituate at the great Angle of the Eye, for the moſt part, under the Conjunction of the Eye-lids; it degenerates into an Abſceſs, and is twofold, the one, attended with Pain, the other almoſt without any Pain.

The Anchilops with Pain is often accompanied with a violent Fever, which continues till the Matter is formed and diſcharged.

The Anchilops with little Pain is, for the moſt part, free from a Fever; the Swelling of the great Angle is light, and the Colour of the Skin but little changed.

This Tumour is produced by various Cauſes: 1. By th Lymph, which paſſes from the Eye through the Lachryma *Points*, into the Noſe. For, if this Humour, which ought t enter theſe ſmall Chanels, be vitiated, or the Parts, throug which it ſhould paſs, be obſtructed, it will certainly cauſe, b its Stagnation, an Abſceſs in the great Angle. This Lymp may be vitiated in a twofold manner: 1. When, through it Acrimony, it corrodes the inward Parts of the Lachrymal Bag and ſo cauſes an ouſing of purulent Matter, which enters th Lachrymal Duct, and ſtops it. The Lachrymal Lymph, bein thus intercepted in its Paſſage, fills the Bag, ſwells it, an raiſes the upper Part of it, as appears from an Eminence, o Riſing, under the Union of the Eye-lids: If this Eminence b preſſed, the Matter regorges through the Lachrymal Points.

2. When the Lachrymal Lymph grows too thick or viſcid, as cannot paſs through the Naſal Duct, it ſtagnates in the Lachr mal Bag, and there produces a Riſing like to the before-me tioned Eminence, with this Difference, that, when the T mour is preſs'd, the Humour flows through the Noſe; th does not happen, when the Tumour is produced by the fi Cauſe. Sometimes there is no Defect in the Lymph, but t Membranes, which form the Lachrymal Duct, are inflamed. this Duct is obſtructed through the Diſtention of its ſpon Tiſſue, the Seroſity muſt ſtagnate in the Lachrymal Bag, and ſtagnating becomes acid, and excoriates the Inſide of the B from whence the forementioned Accidents arrive.

This Repletion of the Lachrymal Bag, from the Stagnation its Lymph, is called by ſome a *Dropſy*, whether, when Bag is ſqueezed by the Finger, the Lymph paſſes through Noſe, or flows towards the Eye. But this new Name for Diſeaſe is altogether improper; for all Dropſies ſuppoſe an A cumulation of a watry Humour in ſome Cavity, out of wh it has no Egreſs. But, in the preſent Caſe, the Matter co tained in the Lachrymal Bag may be ſqueezed out; nay, very Lymph paſſes through moſt Peoples Noſes, when they aſleep; ſo that, in the Morning, the Bag is empty, tho' th Hours after the Patient has got up, the Bag fills again, wh obliges him to empty it. This Obſervation ſeems to ſhew, th whilſt the Patient is in an erect Poſture, the Lachrymal Bag fo a ſort of Fold, or Plait, which ſtops its inferior Paſſage.

When the Lachrymal Bag is filled in the above-mentio manner, and the contained Humour is too thick to paſs either through the Lachrymal *Points*, or through the Naſal D it cauſes an Inflammation, which turns to an Abſceſs, and fo the preſent Diſeaſe. What has been premiſed, ſufficiently neates the Signs of an Anchilops, when it is formed; but hard to know it, in the Beginning; notwithſtanding, when Tears ceaſe to flow through their uſual Paſſages, or when flow with more Difficulty, a filmy Humour may be perce at the great Angle, attended with a light Inflammation, Pain, Itching, and a Flux of Tears. Theſe Symptoms acc pany moſt Defluxions.

When the great Angle of the Eye is preſſed, if a wh Humour flows through the Lachrymal *Points*, or the Emin in the Lachrymal Bag appears, there is Reaſon to fear the mour, contained in that Cyſtis, will become acid, and Abſceſs enſue.

Abſceſſes of the great Angle, for the moſt part, degene into a Fiſtula Lachrymalis, and ſometimes into a Cancer, their producive Humour is malignant.

Care muſt be had to examine ſtrictly, whether the Ab opens into the Lachrymal Bag, or whether it be only ſuper between the Skin and the Orbicular Muſcle. In the latter there is no Fear of its changing to a Fiſtula, if the Matter i lodged between the Bag and the Muſcle. When, by the cedent Signs, we perceive the Lymph is obſtructed in the chrymal Bag, we muſt immediately apply Remedies to pr the Increaſe of the Diſtemper; for which Reaſon the Pa muſt be let Blood. Let him take every Morning a made of Veal, Chervil, Bugloſs, Borrage, and Succ he muſt likewiſe be purged from time to time. He mu the Houſe Baths, and other Remedies proper to rectify th Craſis of the Lymph. In this Caſe, Injections through th chrymal *Points* are chiefly uſeful; but you muſt take care, Bag be conſiderably dilated, to preſs it a little with your Fi whilſt you ſyringe; otherwiſe the Injection, inſtead of any Good, will be very pernicious; for, without this Pr tion, the injected Liquor will cauſe a greater Dilatation Bag: After you have uſed the Syringe five or ſix Days, Injection through the Lachrymal *Points* does not paſs in Throat, or flow through the Noſe, it is of no Service; confirms my Opinion, that it is proper only in ſimple O ctions of the Lachrymal Bag, but not in a Fiſtula Lachry

A Bandage, that ſhall compreſs the Lachrymal Bag in vation, will be more efficacious than the Syringe; for i tinually forces the Humour towards its lower Orifice. Outſide of the Eminence be rubbed three times a Da *Hungary* Water.

Let the Inſide of the Eye be waſhed with hot W which you may mix ſome Drops of the Friers Balſam. (Se

MUM COMMENDATORIS). Every Night, let a Compreſs, p'd in this Wine, be laid to the great Angle. Some People cured by this Method, when the Obſtruction of the La- ymal Bag is ſmall, and the Os Unguis is not affected.

The Abbot *de Grace* has ſometimes cured with his Plaiſter, ulas and Abſceſſes of the great Angle; he laid on a Plaiſter, t covered the whole Eye, for the Space of a Month, ſtill ing the Eye Night and Morning, and applying every Day a h Plaiſter. In any of the preceding Caſes, when an Inflam- tion of the Lachrymal Bag ſupervenes, tho' it ſhould be cauſed a Flux of Humours on that Part, the Patient muſt be let Blood, you muſt apply Remedies that will prevent the Increaſe of ſaid Afflux. The Pulp of a roaſted Apple, mixed with the hite of an Egg, or Pulp of Caſſia, and a roaſted Apple, of h an equal Quantity, mixed together, are very good. If Os Unguis be not infected, to cure the Ulcer, make uſe the Plaiſter of the Abbot *de Grace*; at the ſame time you muſt e care to purge the Patient, as the Diſeaſe ſhall require. hen you perceive the Matter in the Lachrymal Bag is changed Pus, you muſt not wait the ſpontaneous Diſcharge of it; , by a long Continuance, it may generate a Caries in the umjacent Bones; for which Reaſon you muſt open it with ancet, ſtill obſerving the Direction of the Fibres of the Or- ular Muſcle; dreſs the Wound with the Plaiſter of the Ab- *de Grace*. See FISTULA LACHRYMALIS. *St. Yves.*

The Plaiſter above-mentioned is made of diſcuſive, and ſome ringent, Ingredients.

ANCHOAS, a Name which the Natives of *Mexico* have the Male Ginger, which differs from the Female, or com- n Ginger, in having rougher and thicker Leaves, with a ater and thicker Root, which has a more acrimonious Taſte, h a kind of Bitterneſs. *Hernand.*

ts Place of Growth, and Virtues, are the ſame with thoſe the common Ginger. See ZINGIBER. *Raii Hiſt. Plant.*

ANCHORALIS PROCESSUS, is the ſame as the *Pro- us Coracoides.* See CORACOIDES.

ANCHUSA, a Plant thus diſtinguiſhed:

ANCHUSA, Offic. Chab. 516. Park. Parad. 250. *Anchuſa nſpeliana*, J. B. 3. 583. Raii Hiſt. 496. *Anchuſa puni- floribus*, C. B. Pin. 255. Boerh. Ind. A. 189. *Anchuſa r purpurea*, Park. Theat. 517. *Anchuſa, Alcibiadion*, Ger. . Emac. 800. *Bugloſſum radice rubrâ, ſive Anchuſa vul- ior, floribus cœruleis.* Tourn. Inſt. 134. *Bugloſſum radice râ, ſive Anchuſa vulgatior*, Elem. Bot. 110. *Bugloſſum nne minus, puniceis floribus.* Hiſt. Oxon. 3. 438. AL- NET. *Dale.*

ANCHUSA, by ſome called *Calyx*, by others, *Onoclea*, has ves like thoſe of the ſharp-leaved Lettice, hairy, rough, k and numerous, lying round about the Root cloſe to the und, prickly. The Root is of a Finger's Thickneſs, in- ing to a Blood-colour, ſends forth Shoots in the Summer, ſtains the Hands; it grows in a fertile Soil.

The Root is aſtringent, and good for Ambuſtions, and old ers, being boiled in Wax and Oil. Apply'd in a Cataplaſm Barley-meal, it cures the Eryſipelas; and, anointed with egar upon the Part affected, cleanſes the Alphus and Le- y. Applied by way of Peſſary, it extracts the dead Child. Decoction of the ſame is given to thoſe who are afflicted the Yellow Jaundice, and Infirmities of the Kidneys or en; and if there be a Fever, it is mixed with Hydromel. Leaves, drank in Wine, bind the Belly. The Dealers in tments alſo uſe the Root to incraſſate their Compoſitions. *ſcorides, Lib.* 4. *Cap.* 23.

nother *Anchuſa*, which ſome call *Alcibiadium*, or *Onochiles*, s from the firſt in having ſmaller Leaves, though rough them, and ſlender Stalks, which bear a purpliſh Flower. Roots are red, of a good Length, and, about the time of eat-harveſt, full of a Blood-like Juice; it grows in a ſandy

oth the Root and the Leaves are good againſt the Bites of omous Beaſts, and eſpecially of Vipers, whether they be , drank, (in Infuſion) or worn as an Amulet, even ſo far, if a Perſon, after chewing them, ſhall ſpit in the Mouth of nomous Creature, he will kill it. *Idem ib. Cap.* 24.

There is a third Species of *Anchuſa*, like the former, bearing ler Seed of a red Colour, which if a Perſon chew, and wards ſpit in the Mouth of a Serpent, it will die. The , taken to the Quantity of an Ounce and half, with op and Naſturtium, expels the broad Worm. *Id. Cap.* 25.

The Root cleaves like the Papyrus; it ſtains the Hands of a dy Hue, and prepares Wool to receive coſtly Colours. It not diſſolve in Water, but in Oil, which is a Proof of being genuine. A Dram of it in Wine is preſcribed for s in the Kidneys; or if there be a Fever, in a Decoction e *Balanus*. The Leaves, bruiſed with Honey and Meal, applied to Luxations; and, drank to the Weight of two ns in Mulſum, ſtop a Looſeneſs. A Decoction of the in Water is ſaid to kill Fleas.

There is another Plant like this, and therefore called the *danchuſa*, and by ſome *Enchuſa*, or *Doris*, and many other Names, being more downy, and not ſo fat, but of a thinner and weaker Leaf. The Root yields no Oil, but a red Juice, by which it is diſtinguiſhed from *Anchuſa*. The Leaves are applied to Hurts received by Blows. It expels the Poiſon of Serpents, and is drank alſo to drive out Thorns from the Fleſh. The Magi order the Leaves to be pluck'd with the Left-hand, and that you ſpecify the Perſon for whom you take them, and then tie them about the Body as an Amulet, againſt a Tertian.

There is yet another Herb, whoſe proper Name is *Onochiles*; but ſome call it *Anchuſa*, others *Anebion*, ſome *Onochelis*, others *Rhexias*, many name it *Enchuſa*. It has a purple Flower, rough Leaves and Branches, a Root, in time of Harveſt, of a Blood-colour, at other times black; but it is moſt efficacious in Harveſt. The Leaves, bruiſed, ſmell like Cucumber. Three Ounces are a Doſe for the Falling down of the Uterus. Thoſe who carry it, they ſay, will not be hurt by Serpents.

Another Herb, like to this, but leſs, has a red Flower, and the ſame Virtues. *Pliny, Lib.* 22. *Cap.* 20, 21.

Anchuſa and Cinnabar were uſed by the Antients, to give an agreeable Colour to their Ointments; and where there was Anchuſa uſed, they put no Salt to prevent the Oil in thoſe Compoſitions from growing rancid. *Idem, Lib.* 13. *Cap.* 1.

The Root of Anchuſa was alſo ſerviceable in colouring Wood and Wax. *Idem, Lib.* 21. *Cap.* 16.

The Root of Alkanet is thick and woody, white within, and covered with a red Bark, which gives a red Dye or Tincture to any thing it is infuſed in: The Leaves are long, rough and hairy, in Shape like the common *Viper's Bugloſs*; the Stalk grows about two Foot high, having many long narrow and hairy Leaves, diſpoſed in alternate Order. On the Top of the Stalks grow the Flowers, thick ſet together in Bunches, of a purple Colour, ſmaller than Bugloſs; each Flower conſiſting of a ſingle Cup, divided at the Top into five ſharp Segments, ſtanding in a long hairy five-leaved Calyx, in which, after the Flowers are fallen, grow four longiſh Seeds.

It grows with us only in Gardens, and flowers in *June*. The Roots only are uſed.

Parkinſon highly commends the Infuſion of the Bark in *Petrolæum*, as excellent in freſh Cuts, and green Wounds; at preſent it is very little uſed. *Miller's Bot. Off.*

The common Alkanet, *Anchuſa*, Offic. is brought from *Languedoc* and *Provence*, being the Root of the *Bugloſſum Radice rubra, ſive Anchuſa vulgatior*. The Root is aſtringent, and proper in Hæmorrhages of all Kinds. Apothecaries employ it to colour their Ointments, particularly the *Uuguentum Roſatum*; but, for this Purpoſe, it muſt be boil'd in Oil; for it does not readily communicate its Tincture to Water. The Antients uſed it as a Coſmetic, as is mentioned by *Galen*. *Geoffroy.*

It contains a great deal of Oil, and a little Salt.

It ſtops Fluxes of the Belly, being made into a Decoction.

They bring from the *Levant* ſometimes a kind of Alkanet, called *Alkanet of Conſtantinople.*

It is a kind of Root, near as thick, or as large, as a Man's Arm; but of a particular Figure; for it appears a Collection of great Leaves, twiſted like a Roll of Tobacco, of different Colours, but generally of an obſcure Red, and of a very fine Violet. There appears at the Top of this Root a kind of white or bluiſh Hoarineſs. They find in the Middle a Heart, which reſembles a thin Bark, roll'd up like Cinnamon, of a fine Red without, and White within: In Appearance, the Root looks as if it was artificial. But whatever it be, it yields a finer Tincture than ours. *Lemery des Drogues.*

ANCHUSA LUTEA, Offic. Ger. 656. Emac. 800. J. B. 3. 583. Raii Hiſt. 1. 497. *Anchuſa lutea major*, Park. Theat. 515. C. B. Pin. 255. *Anchuſa lutea rarior & elegantior*, Chab. 516. *Symphytum Echii folio ampliore, radice rubrâ*, Elem. Bot. 114. *Symphytum Echii folio ampliore, radice rubrâ, flore luteo*, Tourn. Inſt. 138. YELLOW ALKANET.

There are three Species of Anchuſa deſcribed by *Dioſcorides*; but what Plants they are, is not agreed among Authors, one naming this, another that. *Cæſalpinus* and *Thalius* call the common Vipers Bugloſs by this Name. *Turrier*, *Dodonæus*, and *Cordus*, refer two of the Species to Bugloſs, for what Reaſon, I am a Loſs, ſince the characteriſtic Mark, which is the Root's ſtaining the Hands with a Blood-colour, belongs to neither of them.

The more modern Botaniſts acquaint us with ſeveral Species of this Plant: Thoſe two, which I have here given, I am of Opinion, with *C. Bauhine*, are the ſecond and third Species of *Dioſcorides*, whoſe firſt ſeems to be only a larger Sort of the ſecond. *Dale.*

ANCHYLE, the ſame as ANCYLE, which ſee.

ANCHYLOPS, the ſame as *Anchilops.*

ANCHYLOSIS, the ſame as ANCHYLE, ANCYLE, or ANCYLOSIS, which ſee.

ANCHYNOPES, a Name for the *Phœnix*, or *Ray-graſs*, in *Oribaſius, Med. Coll. Lib.* 12.

ANCHYROIDES. See CORACOIDES.

ANCI, in *Greek*, Γαλιάγκωνες, *Weaſel-elbow'd*, from γαλῆ, *a Weaſel*, and ἀγκὼν, *an Elbow*. So *Hippocrates* calls thoſe, who, from ſlipping of the Head of the Os Humeri into the Ala, have an Arm ſhorter and ſmaller than it ought to be, and the Cubit, or Elbow, of a Weaſel, whence they are called by ſome *Muſtelanei*, which fully expreſſes the *Greek* Word; or barely *Anci*.

The Diſorder that gives Occaſion to the Name, happens either in the Womb, where the Os Humeri ſuffers a Luxation from too much Moiſture, or in tender Years, by means of an Abſceſs deeply ſeated about the Head of the Os Humeri. *Foeſius*.

ANCINAR, Borax. *Rulandus*.

ANCISTRON, Ἄγκιςρον, a Hook.

ANCON, Ἀγκὼν, the gibbous Eminence, or Flexure of the Cubit, the Middle of that Eminence, on which we lean, being the greateſt of the two Apophyſes of the Ulna, and the ſame with the *Olecranon*. *Caſtellus*, *Winſlow*.

ANCONÆUS MUSCULUS. It ariſes by a round and ſhort Tendon from the Back-part of the external Condyle of the Os Humeri; this ſoon grows fleſhy, and is ſo intangled with Part of the Brachiæus Externus, that there can be no ſeparating them without Violence.

It is inſerted fleſhy and thin into the Lateral Part of the Ulna, a few Inches below the Olecranon.

Its Uſe is to aſſiſt in extending the Cubitus. *Douglas*.

ANCORA, Calx. *Ruland*. *Johnſ*.

ANCORALIS, the ſame as ANCHORALIS.

ANCOSA, Lacca. *Ruland*. *Johnſ*.

ANCTER, Ἀγκτὴρ, the *Greek* Term for a Fibula, or Button, in Surgery, by which the Lips of Wounds are joined and held together, *Celſus*, *Lib*. 5. *Cap*. 26. which Operation is called *Ancteriaſmus*, Ἀγκτηριασμὸς, according to *Galen*. See FIBULA, and SUTURA.

ANCUBITUS, an old Term, by which was meant that Affection of the Eyes, in which they ſeem'd to contain Sand, or ſmall Pebbles. It was alſo called *Petrification* by *Johannes Anglicus*. *Caſtellus*.

ANCUNULENTÆ. Women are ſo called in the Time of their Menſtruation, as contracting *Inquinamentum* [Pollution]. *Feſtus*. From the *Greek* Κόνις, comes the *Latin Cœnum*, from whence are derived *Cunire* and *Inquinare*.

Ancunulenta is compounded of *Am* for Ἀμφὶ, and *Cunio quaſi* Κονιάω, *Inquino*, to pollute.

ANCUS. "A Name for ſuch as have an Arm bent crooked, "ſo that they cannot extend it." *Feſtus*. From Ἀγκὼν, an Elbow, according to *Servius*. "Ancus, mancus, κυλλὸς, λορδός." *Vet. Gloſſarium*. *Varro* takes it for a *Sabine* Word, but it is certainly derived from the *Greek* Ἀγκὴ, which ſignifies the Bending of the Arm. The *Greeks* alſo uſe Γαλιαγκὼν, [Galiancon] for Ancus. See ANCI. *Baxter's Gloſſarium*.

ANCYLE, and ANCYLOSIS, from Ἀγκύλος, crooked. A Diſtortion, a Fixation (κατοχὴ) of the Joints, cauſed by a Settlement of the Humours, or a Diſtention of the Nerves. *P. Æginet*. *Lib*. 4. *Cap*. 55. *Actuarius*, *Meth*. *Med*. *Lib*. 4. *Cap*. 16.

In this Caſe, Remedies of a mollifying and relaxing Nature are required; in general, ſuch as are appropriated to Scirrhoſities, or rather, to Reſolutions of the Parts. Particular Medidicines are, a Perfuſion of Water and Oil, in which have been boiled Lindſeed, Fœnugreek, Marſh-mallow, Bay, and Root of Wild Cucumber, and *Sycaonian* Oil. After Perfuſion, proper Applications may be made of ſome of the more ſimple *Acopa*, for Inſtance, that prepared of the black Poplar, and another of Fir, or the *Bromion*, *Ariſtophaneum*, *Azanitæ*, *Lyſiponium*, or *Varium*. Proper Plaiſters are that of *Amythaon*, the *Anicetum*, and the following, which is excellent:

> Take of Bdellium, Fat of a Calf, Gum Ammoniac, *Illyrian* Orris, each ſixteen Drams; of Opopanax, Galbanum, Roſemary-ſeeds, Styrax, Frankincenſe, each eight Drams; Grains of Pepper, one hundred and ſixty; Wax, half a Pound; Reſin of Turpentine, half a Pound; Dregs of Oil of Orris, a ſufficient Quantity; Wine, a ſufficient Quantity; beat them up together.

This alſo makes a good *Acopon*, moiſtened with *Unguentum Irinum*, *Cyprinum*, or *Laurinum*. Of a middle Nature, betwixt Acopa and Plaiſters, is the compound *Pharmacon è Pernâ*.

Your Acopa muſt be uſed by long and gentle Affriction, together with Endeavours to bend and ſtretch the affected Joint. *Paulus Ægineta*, *ibid*.

The Malagma of *Euthycleus* for the Joints, for all Sorts of Pain, and particularly in the Bladder, and for Contractions of the Joints, after they have been newly cicatrized, (which the *Greeks* call ἀγκύλαι) conſiſts of

> Soot of Frankincenſe, Rozin, half a quarter of a Pint; Galbanum without the Branches, an Ounce and an half; Gum Ammoniac, Bdellium, of each one Dram two Grains and an half; of Wax, one Dram thirty-three Grains.

Another Malagma is thus prepared:

> Take of Orris, Gum Ammoniac, Galbanum, Nitre, each one Ounce ſix Drams thirty-five Grains; Li Rozin, ſix Drams fifteen Grains; of Wax, two Oun two Scruples. *Celſus*, *Lib*. 5. *Cap*. 18.

I don't well underſtand what *Celſus* means by *Fuligo Th* unleſs the Soot ariſing from Frankincenſe, when burnt Temples as Incenſe.

When a Joint, or Articulation of the Bones, grows ſ and the peccant Matter there ſettles and hardens, which order the *Greeks* call *Ancyloſis*, if it proceeds from an Effu and Concretion of the Juices of ſome broken Bone, the C in ſuch a Caſe, will be very difficult. But if this Stiffneſ the Conſequence of too long a Reſt, or the Inſpiſſation of Humour which lubricates the Joint, it may not be altoge unſeaſonable to ply the Part affected with emollient Fom ations, and Bathings often repeated, eſpecially the na Baths; to be often rubbing it throughly with Oils, Fat Animals, or mollifying Ointments, and with your Hand move and inflect it this way and that way, till its former F bility be perfectly reſtored. *Heiſter*.

The following Caſe is related by Mr. *Maloet* in the Mem of the Academy of Sciences for 1728.

A young Man, three-and-twenty Years of Age, had, more than a Year paſt, his Leg quite bent backwards, out being able, in all that time, to extend it in the leaſt. felt great Pains in his Knees, which were more acute at Seaſons than at others, but ſometimes were ſo violent, when he was in Bed, he could not bear the Weight of the clothes on his Knee, inſomuch that, during four Month was obliged to ſupport them with a Hoop, to prevent touching him. Though theſe Pains were much leſs tro ſome at certain Seaſons, they were always felt, if any Pr was made on the affected Part, and rendered him incapab uſing a wooden Leg, which, through the Compreſſion his Knee muſt have ſuffered by reſting on it, would not failed to render his Pains more acute.

He was no leſs incapable of walking by the Help of Crutches; for whenever he attempted it, the Weight Leg made him endure inſupportable Miſery in his Ham. had tried to free himſelf from this Inconvenience, and the Neceſſity of keeping his Bed, by the Help of a Sw but as this Expedient did not ſecure that Part ſufficientl moveable, it did not eaſe him in the leaſt of his Sufferin

The Surgeons in the Country, who paſſed for Men of being perſuaded that it was an Ancyloſis, in which the and Thigh were oſſify'd together, had for a long time ſeveral Sorts of Remedies in vain, till at laſt, after Conſultations held upon the Affair, they concluded, th other Method was to be taken but Amputation of the Th

Some Perſons of Conſideration, who commiſerated th tient's Caſe, prevailed with him to let himſelf be brou *Paris*, in Hopes that he might there find ſuch Relief as ſave him from coming to that Extremity.

Being arrived there in the Month of *September* laſt, h ſulted the moſt experienced Surgeons in thoſe Sorts of Ma They were of Opinion, there was no other Remedy fo but cutting off his Thigh.

He was ſo diſheartened at the ſad Condition to which reduced, and ſometimes felt ſuch exquiſite Pains, that he made his Choice, and determined to undergo the Ope As the Succeſs was doubtful, and he muſt run a Hazard Life, the Surgeons, by a wiſe Precaution, had given No the Vicar of the Pariſh, that he might adminiſter to hi Sacraments; and becauſe I had an Opportunity to viſit th tient, they made me acquainted with the Reſolution th taken to perform the Operation, as a thing liable to n jections, with an Intent only, that I ſhould prepare him by Purgations, and other Medicines, as I thought prope

Thinking myſelf obliged to examine into the Diſorder gave Occaſion for the Amputation of this Thigh, I h affected Part uncovered, and found, that of the two Condyles of the Os Femoris, that on the Inſide was thicker than it ought to be, as well as the Inſide of the ſu Extremity of the Tibia. This Thickneſs was not painfu even when it was preſſed; and the Pain which the Patie at his Knee, was directly at the Place of the Ligament faſtens the Patella to the Tibia. I obſerved no Tumour Fleſh; on the contrary, the Leg was conſiderably waſte

Tho' the Exceſs in Bigneſs, which I had obſerved i Knee, did not appear to me of Bulk ſufficient to be the why the Patient could not in the leaſt extend his Leg, we may judge from what uſually happens, it might from ſome diſorderly Situation of the Heads of the Bo Conſequence of which they might have been ſolder'd to by a Liquor, diffuſing itſelf at the Joint, and by its Inſpi conglutinating them in ſuch a manner as of two Pieces to but one; a Diſorder but too common, and the Cauſ ne of the ſolder'd Bones thus united can any longer ſtir with proper Motion, nor conſequently play in their Articulations. t as I had made no ſuch Obſervation on the Knee of this ient, whatever Efforts he made to ſtretch out his Leg, I s willing to be aſſured, whether any ſuch Cauſe operated in preſent Caſe.

For this End I endeavour'd to extend the bended Leg, by king an Effort to pull it out ſtrait with my Right-hand, le I kept down his Thigh with my Left. I obſerved, that Leg bended, tho' indeed it was not without Difficulty on Part, and Pain to the Patient. Wherefore I made no ter Efforts to extend it more, as well becauſe I was per- ded, by the Reſiſtance which I found, that I ſhould hardly mpliſh my Deſign, as becauſe I was unwilling to increaſe Pains, and render them inſupportable. However, ſince the return'd to its former State of Flexion, as ſoon as it was at Liberty, and I believed it was of Importance to be red, whether the Leg had this Motion in common with the gh, I repeated at ſeveral times my Efforts to extend it, always with the ſame Succeſs.

was then perſuaded, that the Bones were not ſoldered to- er; for in that Caſe not only the Limb has no more Play in rticulation by its proper Organs, but it is alſo impoſſible rocure it by any outward Aſſiſtance, either in extending it n it is bent, or bending it when it is extended, unleſs the es ſhould unſolder, or break, neither of which, I was ſure, happen'd by the Efforts I had made.

was obliged then to ſearch ſomewhere elſe for the Cauſe h held the Leg in this Poſture of Inflection, and quite diſ- l the Patient from extending it.

examin'd the Tendons of the Muſculi Flexores, and found were extremely tenſe, and drawn back towards their Ori- I was ſatisfy'd there needed no more to hold the Leg in nflected Situation, and thought I had diſcover'd the Cauſe. n order to be better aſſured, if it were poſſible, I queſtion'd atient about the Manner in which this Diſorder happen'd n, in Hopes to procure ſome Light from thence.

told me, that in the Month of *Auguſt* 1726. he had a , which laſted forty-five Days, the firſt fifteen or ſixteen hich he had lain under a Delirium; that during all that , he ſtruggled, and would have come out of his Bed, ſo they were forced to tie him in it; that he had found s to untie himſelf, and to throw himſelf out of Bed upon loor; that he had been blooded ſeven times, four times e Arm, and thrice in the Foot; that he knew all this to e, becauſe his Companions had related it to him, when s come to himſelf; that then he perceived his Right Leg uite bent, ſince which Time he could by no means it out, whereas before it had always been as the other; e had never felt any Pain in his Knee, nor felt any thing rdinary, till this Time.

is Account did the Patient give me of the Condition he when this Diſorder of his Knee ſeiz'd him; and I be- , that I had Reaſon to conclude, that the Illneſs, of which e the Particulars, was a continued Fever, attended with rium; and as ſuch a Symptom is accompany'd with con- Motions, of which it is uſually the Cauſe, I judged this Relation, that the Tenſion which I obſerved in the es Muſculi of the Leg, might well be the Conſequence onvulſion of thoſe Muſcles, at the Time when the Pa- as under the Delirium; in Conſequence of which they continue thus ſhrunk back by means of ſome Matter, was capable, by ſwelling them, of keeping them in this ted Condition, and was of a Nature not fitted to diſ- either of itſelf, or by the Remedies hitherto uſed.

ether this Reaſoning be juſt or not, which I propoſe s a Conjecture concerning the Origin of a Diſeaſe, of I never ſaw the Beginning, I was perſuaded by the Pa- own Account, and by what I obſerved of his preſent ion, that the Reaſon why his Leg was thus inflected, capable of being extended, was becauſe the Flexor s were ſhrunk back and ſhortened.

from conſidering the Diſorder as incurable, on the con- I believed it was very eaſy to be cured. Wherefore I the Amputation of the Thigh, and ſet myſelf to think e Remedies, by which I might cure the Patient, and at e time preſerve his Limbs intire.

rſuance of the Notion which I had formed of the Diſ- I propoſed to myſelf the mollifying and relaxing of the f the Muſcles, which by their Contraction held the t, that I might give them that Suppleneſs which they , in order to extend and ſtretch themſelves out at full I propoſed to myſelf alſo the Diſſolution and Diſcuſ- the Matter which might be lodged in their Interſtices, keeping them ſwelled, hinder'd their Lengthening or on.

ught I ſhould endeavour to anſwer theſe two Indica- once, and that I might ſucceed, by putting the Patient omatic Bath of hot Water, which ſeemed to me the per Means for penetrating to the very Muſcles, which were ſhrunk backwards, and to produce the Effects which I had in View, as well on account of its Heat and Fluidity, as of the volatile Parts with which it would be impregnated.

After ſome general Remedies, which I gave the Patient, I order'd a Bath of this Kind. He went into it twice a Day, and ſtay'd there an Hour, or an Hour and an half, each time (Obſerve it was a whole Bath, which, acting equally upon the whole Maſs of Blood, was much more efficacious than a Semicupium). At the fourth Bathing the Patient's Leg began to extend itſelf, and continued ſo to do in ſuch a manner, that the eighth Time, when he got out, he ſet his Foot to the Ground, and was in a Condition to walk with two Crutches.

From that time the Pain of his Knee went off, and he never felt it ſince. After bathing ſeven Days, that is, fourteen times, I ordered him Reſt, and even during that Reſt his Leg extended itſelf more and more, and at laſt equally with the other, ſo that he had no Need of Crutches, but was obliged to uſe a Stick in walking, becauſe he had ſtill a Pain in his Ham, when he ſtretched it out. When he walked, he felt a Pain in the upper Part of his Foot, which I imputed to the Inaction in which he had been for a long time, by which ſome of the Parts had acquired a Dryneſs, or a Stiffneſs, which put them out of a Condition of readily complying with the different Motions neceſſary for walking.

To remove theſe Symptoms, I ordered Embrocations under the Ham, and upon the Foot, with Oils of Earth-worms, and St. John's-wort, mixed in equal Parts. By the Uſe of theſe Remedies for ten or twelve Days, the Motion of his Foot became leſs painful, and that of his Leg more free.

Mean while, as there ſtill remained ſome little Stiffneſs in the Tendons of the Muſculi Flexores of the Leg, I judg'd it proper for the Patient to repeat his Bathing, after purging him again. At the End of four Days finding him fatigued, I made him intermit it; and in ſhort, after a Reſt of fifteen Days, I made him repeat it for ſix Days, twice every Day. He bore it very well, and was perfectly cured; ſo that from that Time he has felt no Pain in his Knee nor Foot, except ſometimes after he has walked a great deal. He ſtretches and bends his Right Leg as eaſily as his Left, he walks and runs without Cane or Stick; in ſhort, ſince he has been cured, he has employ'd himſelf in clearing a Garden, tho' he is able to live without it, and ſpent his Time in carrying Earth and Stones, and doing other Works of that Nature, without feeling any Inconvenience.

However, tho' his Right Leg has recovered much of its Fleſh, it has not yet attain'd to the Bigneſs of the Left, and his Knee always appears a little bigger than the other. This proves, that it was not this Exceſs in Bigneſs that held his Leg thus bent, and hinder'd its Extenſion.

The Leanneſs of this Leg might be imputed to the Alteration that its Flexion, which laſted above a Year, produced in the Tubular Veſſels appropriated for the Conveyance of nutritive Juices to that Part. Thoſe Tubes, inſtead of ſtrait, as they commonly are, becoming very much bent, and by that means incapable of receiving, and conſequently of ſupplying the Leg with a ſufficient Quantity of thoſe Juices, which occaſion'd its Leanneſs, grew narrow and ſtreighten'd; wherefore, though at preſent they have their firſt Direction, the Leg has not been able to recover its former good Plight, becauſe they have not as yet reſumed their natural Diameter.

With reſpect to the Bigneſs which remains on the Inſide of the Thigh, I don't think, that we ought to regard it as an Exoſtoſis of a bad Kind, that is, which was produced by a Depravation of the nutritive Juices, which had altered the Subſtance of the Bones; becauſe they appear to be in their natural State, and the Bigneſs there obſerved is without Pain, Softneſs, Redneſs, or Swelling of the Skin, and does not incommode the Movement of the Articulation, which is a Symptom, that, for the moſt part, attends Exoſtoſes of a bad Kind.

This Bigneſs then ought to be imputed only to a greater Quantity of nutritious Juices with which that Part was ſupply'd, whether owing to ſome natural Diſpoſition, as we ſee in thoſe Perſons who have naturally one Part bigger than another, or to ſome Blow or Fall; or, laſtly, to the bending Poſture in which that Leg continued for ſo long a time, which State of Flexion, having been capable of making way for the Leanneſs of the fleſhy Parts, might alſo be the Occaſion of this Exceſs in Bigneſs of the bony Parts. Theſe two Effects, tho' contrary, may proceed from the ſame Cauſe; of which we ſee an Example in the Rickets, where the Heads of the Bones increaſe conſiderably, while the fleſhy Parts fall to Decay. But that we might give a Reaſon adapted to the Subject, let us ſuppoſe, that the Blood not having been capable of flowing in ſo large a Quantity as uſual, in the Arteries which ſupply the Leg, becauſe of their extreme Curvature, as I ſaid juſt now, was obliged to ſtop at the Knee, in Conſequence of which the Extremities of the Os Femoris and the Tibia having received a greater Abundance of Lymph, the ſame afforded a greater Quantity of nutritious Juice to thoſe Parts of them which were moſt diſpoſed to receive it.

It may be ſaid, perhaps, that tho' there be no Room to doubt, that the Contraction of the Muſculi Flexores of the Patient's Right Leg was the real Cauſe that held it thus bent, it is ſtill uncertain whether that Contraction was the Conſequence of a Convulſion of thoſe Muſcles, or of a Reſolution of the Extenſores of the ſame Part; that this laſt Diſorder might equally make way for the Muſculi Flexores of that Leg to bend it, and to keep it in that State of Flexion, as long as it ſubſiſted; and that in this Caſe it might alſo have been cured by the Remedy which was uſed; and upon theſe Accounts, the Diſeaſe which I attribute to one Cauſe, might perhaps be imputed to another quite oppoſite.

I anſwer, that 'tis true a Member may as well be bent in Conſequence of a Reſolution of the Muſcles which ſerve to extend it, as by a Convulſion of thoſe which are appointed to bend it; that whether their own Force increaſes, or that of their Antagoniſts diminiſhes, they equally exert themſelves beyond their juſt Bounds, and muſt by Conſequence keep the Part bent, or inflected: But beſides that we ſeldom or ever ſee a Delirium conſequent upon a continual Fever attended with a Reſolution, inſtead of which a Convulſion is the ordinary Symptom; I have obſerved this Difference betwixt a Member bent in Conſequence of a Reſolution of its Muſculi Extenſores, and a Member bent by a Convulſion of its Muſculi Flexores; that in the firſt Caſe, a Force equal to that of the Muſculi Extenſores might perfectly extend the bended Part; that but a ſmall Reſiſtance is to be perceived from the Muſculi Flexores, and that the Patient cannot in the leaſt ſuffer from that Extenſion; but that, inſtead thereof, in the ſecond Caſe, the greateſt Force cannot altogether extend the bended Part, and that there is an invincible Reſiſtance to be perceived on the Part of the Muſculi Extenſores, inſomuch that a Man would run the Riſk of breaking or tearing them aſunder, if he ſhould endeavour with all his Force to extend them to their full Length; and in ſuch a Caſe, the leaſt Extenſion would put the Patient to great Pain.

Thus it happened exactly in the preſent Caſe: With all the Efforts which I made to ſtretch out the bended Leg, I came very ſhort of extending it to the utmoſt, finding too much Reſiſtance. 'Tis true, the Pains which the Patient felt on this Occaſion, prevented me from uſing greater Force; and I have been told, that a Surgeon of an Hoſpital in that Country, having try'd to extend this Leg to its full Length by Strength, had employ'd two or three Men for that Purpoſe, and was not able to accompliſh his Deſign, the Man having fallen into a Swoon, which laſted half a Quarter of an Hour.

Theſe are the Reaſons why I judged, that the Contraction of the Muſculi Flexores of the Patient's Leg was not the Conſequence of a Reſolution of the Muſculi Extenſores.

The Reſult of this Obſervation is, that we ought not always to look upon thoſe Symptoms as the Cauſes of a Diſeaſe, which, though they are often ſo, might yet, for all that, be ſometimes the Conſequences of it; and that in Diſtempers, even thoſe belonging to Surgery, we are not always to rely on thoſe Signs which are the moſt uſual, and which appear the moſt natural, if poſſibly they may deceive us. Of this Nature was the Bigneſs of this Patient's Knee, the Pain which he felt, the Abſence or Failure of a Tumour in the ſoft and fleſhy Parts, the Impoſſibility he lay under of extending his Leg in the leaſt. All this ſeem'd to indicate, and commonly ſhews, a Fault in the Bones, which gives Riſe to all theſe Symptoms; but which were, for all that, the Effects of another Cauſe.

The Paſſion which ſome Surgeons in the Country have for Operations, makes them take all Opportunities of cutting off a Limb. Such may learn from the preceding Caſe, that it is never to be done raſhly. Reaſon and Humanity ſhould alſo inform them, that there is more Reputation and Satisfaction to be acquired by ſaving one, than amputating a thouſand.

When an Ancyloſis is perfectly form'd, that is, when the Bones are oſſify'd together, it appears by the Nature of the Diſtemper, that the Caſe is incurable. But when the Stiffneſs is only cauſed by Humours inſpiſſated in the Articulation, the Methods ſpecify'd in the preceding Hiſtory, and the two following Caſes from *Le Dran*, ſeem to promiſe fair for a Cure, if duly perſiſted in.

Hot Pumping is a Remedy very little uſed; whether it be for want of knowing its Advantages, or from the Difficulty of performing it properly, which has often rendered it unſucceſsful. It is very beneficial, however, in many Caſes, and eſpecially in Anchyloſes, before they arrive to a perfect Hardneſs. A Series of Time is required before it can produce any conſiderable Effect, and it muſt be often repeated, when it begins to operate, having frequently proved unſucceſsful, for want of being long enough continued.

In the Month of *January* 1725. a Man aged twenty-one Years felt an acute Pain in his Left Groin, which ſubſiſted in the ſame Place during the Space of a Fortnight, and then removed its Situation. It varied often, affecting the Thigh one time, and the Rotula another, and then returned to its firſt Point again. After he was bled and purged, they bathed the Part with Lavender-water for above three Weeks. The Patie finding no Relief, but on the contrary, that his Leg and Thi were emaciated, he declined the Uſe of it, and put himſelf u der the Hands of ſeveral Empirics for near three Months, w robbed him of his Money, without doing any Service. Th Gentlemen (according to themſelves) have infallible Noſtrum but if they are ſo, it conſiſts in draining the Patients Purſ who place a Confidence in them. The laſt Remedy he u was dry Baths, ſuch as are performed with Spirit of Win which being attended with the ſame Succeſs as the former, applied himſelf to me.

When I firſt ſaw him, he could not move his Thigh wi out violent Pains, nor ſuffer the leaſt Violence to be uſed moving it; the ſuperior Part, to the Spine of the Ilion, was prodigiouſly ſwelled, as to be twice its ordinary Magnitude. was exceedingly diſtended, and as hard as a Stone; the P was very deep, but not augmented when the Tumour handled.

What increaſed the Bulk of the Thigh to that Extent in ſuperior Part, was, probably, a large Quantity of Lympha ſpiſſated and filtrated in the Interſtices of the Muſcles; perh alſo the Capſula, embracing the Articulation, was fi with Sinovia, as well as the Cavitas Cotyloides. The Proj tion of the Trocanter Major externally afforded ſome Rea to believe, that the Thigh was luxated (This Sort of xation is often ſeen from an internal Cauſe, whereby the H of the Femur is gradually thruſt out of its Cavity). The ternal Part of the Thigh was emaciated to ſuch a Degree, the Bone ſeemed to be covered only by the Skin, and migh embraced with one Hand. The Leg was emaciated alſo.

Seeing the Inutility of all the Remedies hitherto employ'd advifed the Patient to go to *Bourbon* to try the Hot Pu which he had not yet attempted. He told me the Impoſſib there was of undertaking that Journey, both becauſe his cumſtances could not afford it, neither would the Exceſ his Pains ſuffer him to be moved. This gave me a Tho of erecting a Pump at my own Houſe, which might, in ſ meaſure, anſwer the Uſe of the Hot Mineral Waters, ſupply the want of them.

The Place being prepared with all neceſſary Convenien I put the Patient into *La Charité*, from whence I could move him every Day to my Houſe. I ordered him to be t bled and purged, and the 12th of *Auguſt* began to pump him for the Space of an Hour; and when it was finiſhed went to bed, where the whole Part affected was covered Bladders, half filled with hot Water, to a ſupportable De Theſe Bladders were often renewed in the Space of two H and when they were removed, the Part was ſuffered to pe another Hour, covered only with warm Linen. Then Patient was brought back to *La Charité*, where the Bla were again renewed in the Evening.

When he had been pumped a few times, he began to upon his Leg with leſs Pain, but always by the Aſſiſtan Crutches, and without any Motion in the Articulation.

The Part affected ſweated conſiderably at each Pum and appeared much ſofter after it. The Patient had not this Method above a dozen times, but the Swelling on the rior Part of the Thigh began viſibly to diminiſh. Then dered the Motion of the Articulation to be gently forced, withſtanding the Pain, tho' by Degrees, and a little at a moreover, I purged him twice. Theſe Precautions, u with the Pumping, diſſolved the Sinovia, ſo that the P could move his Thigh a little without any Aſſiſtance. In portion as the Tumour diminiſhed, the Leg and Thigh more fleſhy; in ſhort, within the Space of four Months, which he was pumped between forty and fifty times, ſuf him now-and-then to repoſe a Day or two, the Diſtem far yielded, that the Patient was able to walk very faſt Help of a Cane only, feeling no more Pain, and havin Leg and Thigh anſwerable to the other.

In the Year 1728. a Gentleman, belonging to the Kin an inſpiſſated Sinovia upon his Right Foot, which not onl ſeſſed the Articulation, but ſpread over the whole Foot, the Anchyloſis was almoſt formed.

As he was ready to depart for *Bourbon*, to drink the W by the Advice of Mr. *de la Peyronnie*, they mentioned the I had erected at my own Houſe; and having view'd it, tient was prepoſſeſs'd in favour of the Effect it might pr and deferr'd his Journey for ſeveral Days to experience it.

Twelve Pumpings, with the ſame Precautions obſer the preceding Caſe, ſo far cured him, that he laid the Th of his Journey aſide, and has felt nothing ſince.

REMARKS.

We ought not to be ſurpriſed at the ſudden Effect of Pu properly managed; three things act at the ſame tim the ſtagnated and inſpiſſated Fluids.

Firſt, The falling of a Column of Water, of an Inch Di from ſeven or eight Feet high, abrades and communi inſpiſſated Juices, by its Force and Compreſſion. Se ndly, The Nature of the Water may contribute to produce is Effect, if the active Particles contained in it can be immit- d into the Texture of the Part affected: And is there any ing that can ſooner make it penetrate, than the precipitate ll of a Column of Water upon it?

dly, The Heat of the Water, which inſinuates itſelf into Part affected, and warms it to the very Bottom, aſſiſts d accelerates the progreſſive Motion of all the Fluids; per- s even the inteſtine Motion of ſuch as have not entirely it, and communicates a Motion to thoſe that are ſtag- ted.

hence it follows, that one Part of the ſtagnated Fluid nſpires externally, whilſt another takes the Courſe of the culation; and thus the Part is gradually diſengaged. It true, indeed, that every Patient does not receive the ſame lief; but if the Diſtemper begins to give way after a few mpings, the Number is not to be regarded. Several Per- s who have reap'd no Benefit from the Pumps at *Bourbon*, d other Places, have return'd unrelieved, for want of uſing often enough, independent of other Obſtacles oppoſing the re. So far *Le Dran*.

ſt not diſmiſs this Article without obſerving, that though cyle, or Ancyloſis, are uſually taken for a Union of the nes at the Joint in general; yet Ancyle, or Ancyloſis, pro- rly imports a Stiffneſs of the Joint, when the Part is fix'd a bended Poſition; whereas when it is ſtrait, the Diſorder call'd Orthocolon, ὀρθόκωλον.

NCYLIDOTON, ἀγκυλίδωτον. The Word is uſed by crates, and ſignifies, according to *Galen*'s Interpretation, ἔχοντα, Things that have a Handle.

NCYLOBLEPHARON, from ἀγκύλος, bent, and βλέ- , an Eye-lid. A Diſeaſe of the Eye, which cloſes up the lids.

metimes there is a Coalition of the Eye-lids, ſo that the annot be opened; and, what is an uſual Acceſſory to the ſe, a Coheſion of the Eye-lids with the White of the which is owing to Careleſſneſs in the Cure of an Ulcer ing either of the Parts; for, as the Sore heals, what might ught to be ſeparated, will, if neglected, be glued toge- The *Greeks* call both Affections ἀγκυλοβλέφαρον.

hen there is only a Coheſion of the Eye-lids, they may ſily ſeparated, tho' ſometimes to no Purpoſe, for they will afreſh; however, we ought to try, becauſe it often ſuc- Introduce therefore the Specillum, with the blunt Side rds the Eye, and with it ſeparate the Eye-lids; after which me ſmall Pledgets between them, till the exulcerated Place l'd.

t when there is an Adheſion of the Eye-lid to the very e of the Eye, *Heraclides* the *Tarentine* adviſes cutting at ferior Part of the Adheſion, the ſharp Edge of the Knife turn'd upwards; but with great Tenderneſs, that we may cutting off any thing from the Eye or Eye-lid; but, if ary, let it be rather from the Eye-lid. After this, the muſt be anointed with Medicines proper to cure Aſperities, e Eye-lid muſt be turn'd up every Day, not only that the cine may have Acceſs to the Ulcer, but alſo that it may gain adhere; and the Patient himſelf muſt be charg'd to t often with his two Fingers. I don't remember, that ever ne, by this Method, recover'd; and *Meges*, in his Wri- owns, that he had try'd many things, but never once ſuc- d, becauſe the Eye-lid always ſtuck to the Eye afreſh. , *Lib.* 7. *Cap.* 7.

e upper Eye-lid ſometimes grows to the lower, ſometimes *Tunica Adnata*, and ſometimes to the *Cornea*. This e is an Impediment to the Function of the Eye.

this Caſe the Coalition muſt be diſſolved, either by paſſ- Probe under the whole Eye-lid, or by firſt diſtending it a Hook, and then uſing the Pterygotomus; taking care wound the *Cornea*, leſt it ſhould occaſion a Falling out e Sight.

er the Section, and Infuſions into the Eye, the Eye-lids pt aſunder by the Interpoſition of Lint, leſt they ſhould together again; then we apply Wool moiſten'd with an [ἀποβρεχὲς]; and, after the third Day, carry on the Cure ttenuating and cicatrizing Collyriums. *P. Æginet. Lib.* p. 15.

en there is a Coalition of the Eye-lids, either with one r, or with the Eye itſelf, whatever be the Cauſe, it is an *Ancyloblepharon*; and is eaſily diſtinguiſh'd from that nper of the Eyes, when, by the Intervention of ſome ous Matter, as it often happens in the Small-pox, and an almy, they cohere or are glued together for a Time only, t a true Coalition.

netimes the Eye-lids unite ſo cloſely, that the Eye can means be open'd (ſee *Tab.* 36. *Fig.* 23. A. A.); and mes one, ſometimes both Eyes labour under this Diſor- ſometimes again the Eye-lids cohere with the Eye, either White of the Eye, or the *Cornea Tunica*, in a cloſer or manner, according to the Number of Fibres between there is a Coalition. Affections of this Kind uſually hap- pen whenever the Eyes, or Eye-lids, have been injur'd by the Small-pox, or ſome violent Inflammation, or an Ambuſtion, eſpecially with Gun-powder; or, in ſhort, by any other Exulceration whatſoever. 'Tis alſo no unuſual thing for Infants to be born with this Defect, or for adult Perſons to contract the ſame, as when, by means of a preternatural Excreſcence of Fleſh in either Canthus, the Eye-lids grow together, of which I have ſeen an Example.

a I.

Tho' this be, for the moſt part, a dubious and dangerous Diſeaſe, yet it is never more ſo, than when there is a Coheſion of the Eye-lids with the *Cornea*; for, in this Caſe, the Patient is ſeldom or never cur'd without the total Loſs, or great Diminution of Sight. But the Eye and Eye-lids are ſeparated with the greateſt Difficulty, when the Diſeaſe is cauſed by an Ambuſtion; wherefore it is much the beſt way to be diligent in making Injections of moiſtening and mollifying Medicines into the Eyes, to preſerve them always moiſt and moveable, and to prevent the inflamed Parts from being glued together. But when there happens a Coalition of the Eye-lids from the Small-Pox, they uſually alſo grow to the Eye, and eſpecially to the *Cornea*, from which they cannot eaſily be ſeparated without very great Damage to the Eye; for, however circumſpectly and nicely they are divided, there will always remain ſome Spots and Cicatrices in the *Cornea Tunica*, which are a great Impediment to Viſion, and are ſeldom or never removed.

From the Premiſes we may infer, that the principal Part of the Cure conſiſts in ſeparating, by the Help of a ready and expert Hand, the conglutinated Parts. For this Purpoſe let the Patient be placed in Bed, or in a Chair, in ſuch a Poſition as may be moſt convenient for taking a full View of the Eye, and for the commodious Acceſs of the Surgeon. This done, the Surgeon is, firſt of all, to examine whether the Eye-lids be quite cloſed up, or whether there be any ſmall Interſtice to be met with any-where between them; which, if there be any, is commonly found in the great Canthus, or Corner of the Eye neareſt to the Noſe. If there be a perfect Coalition of the Eye-lids, a ſmall Perforation is to be made in either Canthus, as ſhall be moſt convenient; in performing which, the Hand is to be conducted with the greateſt Care and Nicety, for fear of hurting the Eye, and eſpecially the *Cornea*. Into this Perforation is to be introduced one Arm of a fine Pair of Sciſſars, or a crooked ſmall Knife, arm'd with a Button at Top, by the nice and even Management of which the Eye-lids are to be ſeparated from each other. If the Eye-lids are not perfectly united, there is no Neceſſity of making a new Perforation; but the Inſtruments before-mention'd are immediately to be introduced, and the Eye-lids diſunited in manner aforeſaid. But if the Surgeon ſhould not happen to be furniſh'd with this Inſtrument, or Knife arm'd with a Button, to prevent, however, the Eye from being touch'd or injur'd by the Sciſſars, or ſharp Lancet, it will be proper firſt to introduce a fine Probe with a Groove (ſee *Tab.* 36. *Fig.* 24.); and then, by another fine Inſtrument, as a Pair of Sciſſars, or Lancet uſed for Inciſion or Bleeding, with all imaginable Care to disjoin the Eye-lids from one another.

This done, we are to inſpect very narrowly, and examine with the Probe, whether the Eye-lids adhere to the Eye: If this be the Caſe, we are to proceed with ſevering them, by cutting with the greateſt Caution; or, if they ſtick to the Pupil by only a few Fibres, the Separation is to be effected by a Knife arm'd with a Button, or a Lancet blunt at the Point. If there be a perfect Coalition of the Eye-lids with the Eye, or at leaſt with a great Part of it, this Operation by Section is uſually not only troubleſome, but extremely dangerous; for the Eye-lids can hardly be looſen'd from the *Cornea*, without damaging both it and the Sight, as before obſerved: But if the Coalition is only between the Eye-lids and the White of the Eye, their Diviſion is much eaſier to be accompliſh'd, without Danger of Blindneſs; for a Hurt done to the White of the Eye is of ſo ſmall Moment, that I dare maintain, that if an Abſciſſion from one or other of the Parts be unavoidable, it is better to cut off ſomething from that white Tunic, than from the inner Membrane of the Eye-lids; becauſe by injuring this Membrane, the Ducts of the Lachrymal Glands are at the ſame time very liable to be deſtroy'd, which would be of very bad Conſequence. Hence appears the Neceſſity of a ſkilful and well-exercis'd, as well as ſteady, Hand in this Operation, that the Eye may receive no Damage.

But in order to prevent the ſeparated Eye-lids from a freſh Coheſion, which uſually happens, if not prevented by Art, there is no better way than to interpoſe between them a very thin Slip of the fineſt Leather, a Bit of Linen, or Gold-beater's Leaf, or Wax, or a thin Plate of Lead, in the Form of a Half-moon, or of an artificial Eye, and anointed with Oil of Almonds, or ſome ſuch Oil; or elſe put ſome Lint between them. And whatever is thus interpoſed, muſt there remain for ſome Days, or till the Danger of a new Coalition is over; or if any thing happens to fall off, or is voluntarily taken off for ſome particular Reaſon, it muſt immediately be replaced. If any Perſon, as is ſometimes the Caſe, cannot bear to have any thing of this Nature interpoſed, then, in order to prevent, as much as poſſible, a new Coalition, a Collyrium, compounded of Plantain-water, Tutty, and Sugar of Lead, is to be often inſtill'd into the Eye; or a Powder prepar'd of Sugar, Pearls, and Crabs-eyes, from time to time ſprinkled on the Place. The Patients alſo are to be charg'd gently to rub and ſtroke their Eye-lids, and to lift them up with their Hands. In ſhort, the Surgeon himſelf muſt, now-and-then, introduce a blunt Probe between the Eye and its Lids, for the more eaſy Prevention of a new Agglutination.

When by means of the Small-pox, or an Inflammation of the Eyes, as it often happens, the Eye-lids ſtick together during Sleep, thro' the Intervention of ſome viſcid Humours, or glutinous Matter, ſo that the Eye cannot be opened, nor the Patient have the Uſe of Sight; in this Caſe, the Eyes are never to be open'd by Force, but the Humours are rather to be mollify'd by Injection or Inſtillation, or frequent waſhing the Parts with warm Milk, by the Uſe of which the Patients are uſually enabled, in a ſhort time, to open their Eyes, and to ſee again. *Heiſter.*

ANCYLOGLOSSUM, a Contraction of the Ligaments of the Tongue, hindering Speech. From *ἀγκύλος*, crooked, and *γλῶσσα*, the Tongue.

Some are Ancylogloſſi [Crooked-tongued] from the Birth, others from a Diſeaſe. The former are ſuch as have the lower Membrane, which ſupport the Tongue, form'd imperfect, or of too hard a Subſtance, by Nature; the latter are thoſe who are affected with an Incurvation of the Tongue, occaſion'd by a preceding Ulcer, and a hard Cicatrix left under the Tongue; theſe ſpeak with Difficulty, on which account they are call'd by the *Greeks μογιλάλοι*. The Ancylogloſſi by Nature are late before they come to their Speech; but after they have begun to ſpeak, they utter their Words without Impediment, and faſt enough, yet heſitate in pronouncing Words which are difficult of Pronunciation in other reſpects, as are thoſe which have R, L, or K, repeated once or oftener. Ancylogloſſi ought to be cured only by manual Operation, under the Hands of a Surgeon.

To perform this in a convenient Manner, the Patient muſt ſeat himſelf, and raiſe his Tongue to the Palate; then, if the Cauſe of the Incurvation lies in the Membranes themſelves, the Surgeon takes hold of them with his Hook, extends them, and cuts them off, taking care that he does not, at the ſame time, cut the ſubjacent Veins. But if a Cicatrix be the Cauſe of the Curvature, it is in like manner taken up with the Hook, extended, and whatever is hard, and not of a Piece with the natural Fleſh, is cut off. After the Operation the Mouth is to be waſh'd with cold Water, or Poſca, and then the Wound is to be ſprinkled with Powder of Frankincenſe, and Lint muſt be apply'd to the Place. On the Days following the Sore is to be waſh'd with Hydromel, and anointed with *Egyptian* Ointment, and Lint is to be laid thereon, in order to keep the Sides of the Wound ſeparate, that the ſame may not be form'd again. *Aetius, Tetr.* 2. *Serm.* 4. *Cap.* 36. *Paulus Ægineta, Lib.* 6. *Cap.* 39.

That Operation by which the Membrane under the Tongue, commonly call'd the Frenulum by Phyſicians, is divided or cut, is ſtyled *untying the Tongue.* This Operation is moſt generally perform'd upon Infants, and that with two different Intentions: Firſt, in very tender Infants, when the fore Part of their Tongues, from the Moment of their Birth, is ſo cloſely join'd to the ſubjacent Parts, by means of this Membrane, that they cannot move their Tongues ſufficiently, or thruſt them ſo far out of their Mouths as to be able to ſuck. This Operation is alſo perform'd on Children ſomewhat farther advanced, when, by this Membrane's being too ſtreight or ſhort, they cannot pronounce articulately at an Age when it might be expected of them. For both theſe Reaſons, this Operation is abſolutely neceſſary; but it muſt be remember'd, that it is not to be perform'd promiſcuouſly, and at random, upon all new-born Children, as moſt Midwives, Women, and even ſome Men, idly imagine. We have Reaſon rather to aſſert, that it is ſcarce neceſſary in one of a thouſand Infants; for Experience has ſhew'd both myſelf and a great many more ſkilful Phyſicians, that this Caſe occurs far leſs frequently than Hare-lips; for when a Child can thruſt its Tongue without its Lips, there is nothing amiſs about the Frenulum; and it will learn, in Proceſs of Time, both to ſuck and ſpeak, unleſs there be ſome other Defect in the Organs neceſſary for theſe Purpoſes. On the other hand, if the Infant can ſcarce move its Tongue, and cannot thruſt it beyond its Teeth; or if, in ſome other reſpect, this Membrane ſhould fetter the Tongue, then a ſkilful Inciſion becomes very proper: But becauſe this Operation is not to be raſhly perform'd, leſt, as has frequently been the Caſe, the moſt terrible Evils, and ſometimes Death itſelf, ſhould enſue, it will not be amiſs to direct to the ſafeſt and moſt accurate Method of performing it.

The Point of the Tongue, then, ought to be a little elevated with the Left Hand, uſing either a Linen Cloth, that it may not ſlip thro' the Fingers, (ſee *Tab.* 42. *Fig.* 1.) or even with a ſmall Fork made for that Purpoſe (ſee *Tab.* 42. *Fig.* 2. 3. and *Tab.* 22. O. and P.); then as much of the Frenulum, as is neceſſary for Speech and Sucking, is to be cut with blunt-pointed Sciſſars, (ſee *Tab.* 22. C.) or an Inciſion-knife, be the *Venæ Raninæ* and the lower Salivary Ducts: But this be done with a great deal of Caution, leſt either the Sali Ducts, the *Venæ Raninæ*, or the Nerves of the Tongue, ſh happen to be cut at the ſame time; for when theſe are inju very terrible Conſequences enſue. Thus *Dionis*, in his Surg makes mention of an Infant, who by an exceſſive Hæmorrh in conſequence of the *Venæ Raninæ* being cut, died very after the Operation. But if a Vein ſhould be unluckily which may very readily happen in a Frenulum that is too and ſhort, a Compreſs, ſoak'd in Vinegar, is to be held a while under the Tongue, till the Blood ſtops; but if, at the Inciſion, the Tongue is not ſufficiently untied, a few Days even a few Weeks after, as Circumſtances ſhall require, remaining Part of the Frenulum is very cautiouſly to be cut Sciſſars, or an Inciſion-knife: Then, after the Operatio over, the Finger dipp'd in Honey of Roſes, or Syrup of Vi is very frequently to be rubb'd up and down under the To and the Wound is to be anointed with it, leſt the cut Fren ſhould again unite.

From what has been ſaid it appears, that Diſorders of Nature are not only leſs frequent, but of more difficult hazardous Cure, than is generally thought. Upon this Acc thoſe Midwives are miſerably miſtaken, who, concluding the ignorant Multitude, that no Infant is born without th fect, thruſt their whole Fingers into the Infant's Mouth, with their Nails deſtroy the Frenulum; for it muſt nece happen, that ſuch a raſh and fool-hardy Laceration, by Nails, muſt bring an Inflammation of that Membrane, Co ſions, and often the Death of the little Patient: For this ſon, Midwives and fooliſh Women are not only to be cau againſt ſuch Practices, but *Hildanus* is to be carefully conſu for he (in *Cent.* 3. *Obſ.* 28.) hath very accurately laid not only the Nature and Cure of the Diſorder itſelf, bu the ſeveral bad Conſequences that poſſibly may, and gen do, enſue from performing this Operation at an unſeaſo Time, or in an uncautious Manner. But when the cuttin Frenulum is abſolutely neceſſary, it may be done much ſafely, and with much leſs Pain to the Patient, by the S referr'd to, than by the long Nails of a ſimple old Wo *Heiſter.*

There is no Operation belonging to a Surgeon, which is monly eſteem'd of ſo ſlight Moment as cutting the Lig under the Tongue, the Care of which is commonly com to Midwives, who uſe to break it off with their Fingers. this I cannot but diſapprove, becauſe they very often l and break the adjacent Parts, ſo as to occaſion a Pain a flammation, which hinder the Child from Sucking; whe grows froward, lean, and weak. We ought therefore with Prudence in this Operation, and not think too ſlig it, tho' it ſeems to be the leaſt in which we are concern the firſt Place, we ought to examine, whether the Ancy ſus really wants the Operation; for Children are often ble of uttering an articulate Voice, from ſome other Cau the Ligament under the Tongue, being not really To tied; and in ſuch Subjects a Section would be dangerous, appear from the following Example:

A Peaſant of my Neighbourhood, in the Village of Co named *Petit Yeux*, in *May* 1608. brought his Son, two old, to my Houſe, to have his Tongue unty'd; for the were throughly perſuaded, that if the Ligament was c Tongue would perform its Office, and the Child would in a ſhort time. But when the Mouth was open'd, Tongue, which was very thick, was raiſed, no nervou ment appear'd; therefore I ſent back the Parent with the without doing any thing. A Month after came about cumforaneous Empiric, or Mountebank, who had the brought to him: He perſuaded his Parents, that his Tong ty'd by a very hard nervous Ligament; and had the Imp to affirm, that for a Sum of ready Money he could eaſi the Child to ſpeak in a ſhort time. He receives the the Child is placed in a Woman's Lap, and the Impoſ to work; in which, as I was told by ſome who ſtood ſeparated the Tongue both before and on both Sides to Depth from its Baſis. The Conſequence was, that th who before could go upright, on that very Moment forth a moſt loud and bitter Cry, was ſeiz'd with a Con ſo that his Knees were drawn up towards his Groin, Arms towards his Breaſt. On *July* 18. next, I viſit Child, and found that he could not ſpeak a Word, and Legs and Arms were ſtill contracted, and, when exte Force, ſtill fell back into their former Poſture; his To thick, and his Head, and all Parts of his Body, of a ph Conſtitution.

I had a Brother, by the Mother's Side, who was ve when a Child, and, amongſt other Diſorders, could no Word till he was three Years old. As I lived with a S and exerciſed the Operation of cutting this Ligament, every Day, I had once a Fancy, when I viſited my Houſe, to inſpect my Brother's Tongue. I found it l with a groſs thick Ligament in ſuch a manner, that he hardly put it out to his Fore-teeth: I cut it as well as I and for ſome Days after anointed the Place three or four Day with Honey of Roſes. Two Months after the Ab- I found the Ligament in ſome meaſure renew'd, ſo that oblig'd to uſe the ſame Means as before; which, by the Bleſſing, happily ſucceeded; for the Boy began to ſpeak ort time, and has ever ſince continued to ſpeak as well ticulately as any Man.

s Operation is void of all Danger, if it be rightly per- . We are principally to take care, that we do not cut too My way is to raiſe the Tongue, and cut the Ligament only in two, and ſometimes in three Places; by which it is more difficult for it to grow together again, than if ciſion had been only made in one Place. I cut only what vous, ſcarce touching the Fleſh; and if it be not cut the firſt Time; or if it grows together again, the ſame tion may be renew'd. When the Ligament is cut, I or- Nurſe to raiſe the Tongue very often, and gently, with nger anointed with Honey of Roſes, or common Honey, is the way to prevent an Agglutination. *Hildanus*, *Cent.* *ſ*. 28.

CYLOMELE, Ἀγκυλομήλη, from ἀγκύλος, crooked, λη, a Probe. A Surgeon's crooked Probe; or, a Probe Hook.

CYLOSIS. The ſame as ANCYLE, which ſee.

CYLOTOMUS, ANCYLOTOMUM, Ἀγκυλοτό- γκυλοτόμον, from ἀγκύλος, crooked, and τέμνω, to A crooked Knife to cut the Ligament of the Tongue, ſo uſed, as by *P. Ægineta*, to ſignify any crooked Knife eral.

CYRA, Ἄγκυρα, an Anchor, a Hook. See UNCUS.

CYROIDES PROCESSUS, a Proceſs from the upper the Neck of the Scapula, or Shoulder-blade, reſembling chor, whence it takes its Name. It is alſo called *Cora-* and *Sigmoides*, from repreſenting, in ſome meaſure, a s Bill, and the Letter Sigma. *Rufus Epheſius.*

CYROMELE, the ſame as ANCYLOMELE. *Galen* s it ἀγκιστρον, a Surgeon's Hook.

DA, *G. Piſon.* is a Tree of *Braſil*, the Wood of is ſpongy and light; the Leaf longiſh, fibrous, and ; the Flower large and yellow, and the Fruit a grey which incloſes, under a double Rind, two Kernels, of ſte of Cheſtnuts.

Fruit is ſaid to be Purgative, and a little Emetic: Two of the Kernels are a Doſe. They extract Oil by Ex- from theſe Kernels, with which they anoint their

Rinds of the Fruit are eſteemed proper to ſtop a Looſe- Thrown into Ponds, they kill the Fiſh. *Lemery de*

DARAC, red Orpiment. *Rul. Johnſ.*

DAS, a Solution of Salt, or Salt reſolved. *Paracelſus.*

DENA, Steel imported from the Eaſtern Countries, melts in the Fire, and takes any Form. *Rul. Johnſ.*

DIRA, or, ANGELYN, *G. Piſon.* a Tree in *Braſil*, ood of which is hard, and proper for Building: Its Bark n aſh Colour: Its Leaves reſemble thoſe of the Laurel, leſs: It produces blackiſh Buds, from whence proceed Tufts of Flowers, which are fragrant, and of a fine pur- nd blue Colour: Its Fruit is of the Shape and Size of an green at firſt, but grows blacker by Degrees; has, as , a Seam running down one of its Sides, and is of a tter Taſte. It is cover'd with a hard Rind, incloſing a or yellowiſh Kernel, of a bitteriſh, and ſomewhat nt Taſte.

y pulverize this Nut, and give it for the Worms; but antity muſt not be above one Scruple; for more than ey ſay, turns to Poiſon.

Bark, Wood, and Fruit of this Tree are as bitter as in which it differs from another ANDIRA, which re- it in every thing, except the Taſte, which is inſipid. ild Beaſts eat of this Fruit, and it fattens them. *Lemery gues.*

IRA, is alſo an Animal call'd *Andira guacu*; a kind of *Braſil*, the largeſt of which are as big as our Pigeons: all them Horned Bats, becauſe of a ſort of Excreſcence or Body above their Beak: Their Wings are longer than Foot; they are of an aſh Colour, have large Ears, and Teeth; each Foot hath five Toes armed with ſharp They perſecute all Sorts of Animals, and ſuck their Some of theſe are very dangerous; for they get into n the Night, and ſo ſubtilly open the Veins in the Feet who are in Bed, that they are no ſooner perceived than Blood that flows in the Bed, which it is a difficult Mat- ſtop. The Inhabitants of that Country reckon the e and Heart of that Animal amongſt Poiſons. *Lemery gues.*

DRACHNE. Among the homonymous Words of the *a Medica*, which are very numerous, is Ἀνδράχνη, Andrachne, which ſignifies a Tree like the Strawberry-tree, and alſo the Herb *Portulaca*, Purſlain. In vain does *Pliny* diſtinguiſh here between the Herb and the Tree, by changing one Letter; as if the Tree were called Ἀνδράχλη, *Andrachle* [*Pliny*, *Edit. Santandreau*, 1582, *diſtinguiſhes the Tree by leaving out a Letter, that is, the firſt n, calling it* Adrachne]; for this *Attic* Name belongs as well to the Herb as the Tree, the *Attics* uſually ſaying *Andrachle*, inſtead of *Andrachne*, which is the common Word; juſt as they ſay λίτρον, Litron, for what others call νίτρον. No leſs miſtaken is *Galen*, when he labours at making a nominal Diſtinction of Ἀφρόνιτρον, and Ἀφρόλιτρον, Aphronitron, and Aphrolitron.

Andrachne, is the Herb in Latin call'd *Portulaca*, or *Porcacla*, *quaſi a Porcis*, " as taking its Name from Swine; and hence " the later *Greeks* have call'd it χοιροβότανον, Hogwort. " We [the *French*] commonly call it *Pourpier*, when we ſhould ſay *Poulpied*, *quaſi Pulli Pes*, Fowl's Foot; for ſo it was call'd by the *Latins* of the lateſt Ages. The ſpurious *Macer de Herbis*,

> Andrachne *Græcis*, *quæ* Portulaca *Latinis*
> *Dicitur*, *hæc vulgi* Pes Pulli *more vocatur*.

Many other Herbs have Names of the like Kind impoſed upon them; as *Pes Alaudæ*, *Pes Corvinus*, *Pes Columbinus*; Lark's-foot, Crow-foot, Dove's-foot, &c. *Salmaſ. de Homonym. Hyl. Iatr. Cap.* I. See PORTULACA.

ANDRANATOME, or, ANDROTOME, Ἀνδρανατομή, or Ἀνδροτομή, from ἀνήρ, a Man, and τέμνω, to cut. The Diſſection of a human Body, eſpecially of a Male. *Caſtellus* from *Marc. Aurel. Severini Zootome Democrit.*

ANDRAPHAXIS, or, ANDRAPHAX, Ἀνδράφαξις, Ἀνδράφαξ, in *Hippocr.* περὶ γυναικ. ſignify the ſame as Atriplex. Ἀτράφαξις, ſtinking Arrach. *Fœſ. Oecon. Hippoc.*

ANDRAPODOCAPELOI, Ἀνδραποδοκάπηλοι, from ἀνδράποδον, a Slave, and κάπηλος, a Dealer; and Ἀνδροκάπηλοι. Theſe were a certain Species of Brokers, mentioned in many Paſſages of *Galen*. Thoſe People were in antient Times ſo call'd, who kept Boys, Girls, Slaves, Eunuchs, and other Men for Sale; not for the Purpoſes of Luſt, as Pimps did, but on other Accounts. Theſe People, that they might render their Commodities the more ſaleable, apply'd themſelves carefully to beautify the Bodies of thoſe they were to diſpoſe of: Hence we read in *Galen*, that they us'd to waſh the Faces of their Boys with ſtrain'd Ptiſan, Bean-meal, and ſometimes with Nitre, in order to render their Countenances more beautiful and ſparkling; that they ſometimes laſhed the Hips of thoſe which were emaciated, with Rods, and anointed them, that their Bodies might appear fuller and better ſhap'd; that they brac'd up the Ribs of their Girls with ſtrong Rollers, that their Breaſts might appear full, and that the Breadth and Fulneſs of their Haunches, commonly eſteemed an Ornament to a Woman, might be ſet off to the greater Advantage; and that they ſometimes pull'd off, in different Ways, the Hairs growing on their Cheeks, and other Parts of their Bodies, that they might appear more beautiful and young. The *Roman* Ediles enacted a Law, that they ſhould affix certain Titles to their Slaves deſign'd for Sale, expreſſive of the Diſeaſes they labour'd under, or the Vices they were addicted to; that the Faulty, in any of theſe reſpects, might be return'd to their poper *Andropodocapelos*.

ANDREAS, an antient Phyſician, mention'd by *Celſus* in the Preface to his fifth Book. This Gentleman, with *Zeno*, and *Apollonius*, ſurnamed *Mys*, left behind them whole Volumes on the Virtues of purging Medicines. Great Part of theſe Remedies were neglected, and brought into Diſuſe, by *Aſclepiades*, and not without Reaſon, as *Celſus* ſays; for ſince almoſt all Cathartics are of bad Juice, and hurtful to the Stomach, this Phyſician turn'd all his Studies to that Part of Medicine which cures by Regimen.

ANDREÆ COLLYRIUM, *the* Collyrium *of* Andreas, *with which the Forehead is to be anointed in an Inflammation of the Eyes, is thus prepared:*

Take Gum Arabic, one Dram two Grains and a half; Ceruſs, Antimony, each two Drams five Grains; Litharge boil'd and waſh'd, four Drams ten Grains. The Litharge muſt be boil'd in Rain-water, and the dry Ingredients bruiſed with the Juice of Myrtle. *Celſus*, *Lib.* 6. *Cap.* 6.

ANDREÆ MALAGMA, *the Malagma of* ANDREAS, *for Pains in the Side.*

Take of Wax, one Ounce three Drams twenty-ſeven Grains; Miſleto, Tears of the Sycamore-tree, each one Dram two Grains and an half; Pepper round and long, Gum Ammoniac, Bdellium, Illyrian Orris, Cardamoms, Amomum, Xylobalſamum, Male Frankincenſe, Myrrh, dry Roſin, each one Ounce two Drams twenty-five Grains; Pellitory of *Spain*, *Gnidian* Grains, Aphronitrum, Sal Ammoniac, *Cretan* Birthwort, Root of wild Cucumber, Reſin of liquid Turpentine, each two Ounces four Drams fifty Grains: To theſe muſt be added as much Unguentum Irinum, as will ſerve to mollify and make them of a proper Conſiſtence.

This Medicine reſolves, draws out a Humour, ripens Pus, breaks the Skin, and cicatrizes. It is proper to be apply'd to ſmall and great Abſceſſes, and to the Joints; and is therefore good for the Gout and Sciatica. It is good for an inward Bruiſe, and mollifies Hardneſſes and Inflections in the Region of the Stomach, extracts Bones, and, in ſhort, is good in all Caſes where Heat can be of Service. *Celſus*, *Lib.* 5. *Cap.* 18.

ANDRIA, 'Ανδρεία, from ἀνὴρ, a Man. An Hermaphroditical Woman, who has the Parts of both Sexes.

ANDRIUS, 'Ανδρεῖος, manly, metaphorically apply'd to ſtrong generous Wine. 'Ανδρεῖος οἶνος in *Hippocrates*, according to *Erotian*, either ſignifies generous Wine, or Wine from the Iſland of *Andros*.

ANDROGENIA, 'Ανδρογένεια, from ἀνὴρ, a Man, and γεννάω, to generate. This Word in *Hippocrates*, according to *Galen*'s Expoſition, ſignifies a Succeſſion of Males, or a Propagation of the Male Sex.

ANDROGYNI, 'Ανδρόγυνοι, from ἀνὴρ, a Man, and γυνὴ, a Woman. Effeminate Men, in Oppoſition to Andrii, ἀνδρεῖοι, manly. *Hippoc.* περὶ διαιτ. *Lib.* 1. The Word is alſo uſed to ſignify Hermaphrodites.

ANDROMACHUS. *Andromachus* the Elder was a Native of *Crete*, and lived under the Reign of *Nero*, as we may conclude from his Poem upon the *Theriaca*, dedicated to that Emperor. *Galen* alſo obſerves, that *Andromachus* liv'd after *Menecrates*, who liv'd under *Tiberius* and *Claudius*, and before *Crito*, who flouriſh'd under *Trajan*. We know nothing concerning this Phyſician's Sentiments, or the Method of his proceeding in the Cure of Diſeaſes: The only Remains we have of his are a great many Deſcriptions of compound Medicines, which were partly of his own Invention. *Galen*, who took the Pains to tranſmit theſe Deſcriptions to Poſterity, places *Andromachus* among thoſe Authors who have wrote beſt upon Medicines; but blames him for having given the Deſcriptions of them, without ſpecifying their Properties and Virtues; and without having pointed out, except very rarely, thoſe Diſeaſes they were calculated to ſubdue or remove. The moſt famous of all the Compoſitions, either invented or deſcribed by this Phyſician, is the *Antidote* which he diſtinguiſhed by the Epithet γαλήνη, that is, *Calm*; or, rather, according to the Idiom of our Language, *Calm-procuring*; but this Medicine came afterwards to be called *Theriaca*. *Andromachus* wrote a *Greek* Poem in Elegiac Verſe, which he dedicated to *Nero*, and which is extant to this very Day. In this Work he teaches the Manner of preparing his Antidote; and ſpecifies the particular Diſorder for which it is proper. He choſe to give this Deſcription in Verſe, rather than in Proſe, that Alterations might not be eaſily made in it without being diſcover'd. At leaſt *Galen* is of this Opinion, and approves of the Conduct of *Andromachus* in this Particular.

Till that Time the Antidote of *Mithridates* was the only Medicine uſed by every body; but when that of *Andromachus* came to be known, the former was laid aſide as uſeleſs, tho', to ſpeak the Truth, the latter was no more than an Imitation of it; ſince the only eſſential Difference between them conſiſted almoſt in nothing elſe than the Addition of the Vipers as an Ingredient into the *Theriaca*. Notwithſtanding this, the Antidote of *Andromachus* was ſo highly eſteemed at *Rome*, that ſome Emperors would have it made up in their own Palaces; and took particular Care to have all the Ingredients brought from the Places where they were produced, on purpoſe. The Emperor *Antoninus* uſed the Bulk of a Bean of it every Morning faſting, and its Reputation was now ſo effectually eſtabliſhed, that ſeveral Phyſicians endeavour'd, but in vain, to alter it, and compoſe new *Theriacas* in their own Manner: But the *Theriaca* of *Andromachus* retained its Character in ſpite of all the Efforts they could make; and what is ſtill more ſurpriſing is, that tho' a great many Faults or Superfluities have long ago been obſerv'd in its Compoſition, yet, to this very Day, the moſt conſiderable Towns in *Europe* religiouſly follow the Directions of *Andromachus*, in their Method of preparing it.

This Direction comprehends above ſixty Ingredients, moſt Part of which are Aromatics, except ſome common Simples, Gums, and inſpiſſated Juices, the moſt conſiderable of which is Opium. But the Vipers are the Ingredients from which this Medicine receiv'd the Name *Theriaca*; for the Word Θηρίον, among the *Greeks*, imported all Kinds of fierce Animals, but more particularly ſuch as were eſteemed venomous. Before the *Vipers* were uſed as an Ingredient in the *Theriaca*, they were thus prepared: After their Heads and Tails were cut off, they were ſkinn'd, their Entrails taken out, and their Fleſh ſeparated from their Bones: Then the Fleſh was waſh'd, boil'd in Water with Dill and Salt, and kneaded with Crumbs of Bread into ſuch a Conſiſtence, as that the Whole might be form'd into Troches, or little Cakes.

If the Antidote of *Andromachus* was poſſeſt of the wond
Qualities aſcribed to it by its Inventor, we ſhould ſcarcely
Occaſion for any other Remedy; for he preſcribes it ag
Poiſons and Venoms of all Kinds, and pronounces it a Rem
for Pains and Weakneſs of the Stomach; for Aſthmas,
Difficulty of Breathing; for beginning Conſumptions, E
emas, Colics, Jaundice, Dropſies, Weakneſs of Sight,
vulſions, Ulcers of the Bladder, Venereal Impotence, Pa
the Kidneys, and even of the Plague itſelf.

Andromachus the Son, who reduced the Father's Ver
Proſe, aſſerts, in ſo many Words, that the *Antidote*
Theriaca was excellent in all Indiſpoſitions of Body, pro
ing from internal Cauſes, and eſpecially for Diſorders of
Stomach, for Poiſons, and for intermitting Fevers.

Both Father and Son talk'd of their Antidote in this
mantic Strain. But before we go farther, we muſt ma
particular Inquiry into the Time when, and the Manner
theſe Compoſitions came to be uſed, and what it was
People meant by an *Antidote*. *Hippocrates*, and the moſt
tient Phyſicians, ſeem to have founded the principal Maxi
their Practice upon the Obſervation of the ſeveral Motio
Nature in particular Diſtempers; and almoſt the Who
their Method of Cure conſiſted in Diet, that is, in giving
per Rules relating to the Regimen of the Patients. *Hero*
and his Followers were the firſt who made any conſid
Uſe of Medicines, or who began to repoſe a greater Conſi
in their Efficacy, than the Phyſicians who went before
Hippocrates, it muſt be owned, made uſe of them ſometimes
very rarely, and even thoſe he preſcribed were of the moſt
Kind. This Practice was not imitated by the Abettors of
rophilus, nor even by ſome Phyſicians, who liv'd a little
his Time; witneſs the Complaint which *Eraſiſtratus* his
temporary made againſt thoſe who compos'd *Royal Compo*
and Antidotes, which they ſtyled the *Hands of the Gods*
theſe there were Ingredients drawn from Plants, from
mals and Minerals; from the Earth, and from the Sea.

But, compound as theſe Antidotes were, of which *Era*
tus complains, 'tis probable that they were not ſo fau
that reſpect, as thoſe which were afterwards made; an
before the Antidote aſcribed to *Mithridates*, the ſhorteſ
ceipt of which contains thirty-ſix Ingredients, ſo com
Preparations had not been ſeen. There was alſo another
tidote much more ſimple, the Receipt of which was fou
the Cloſet of *Mithridates*, after he was routed by *P*
We don't know at what particular Time this ſecond R
or Preſcription was made public, but 'tis probable it w
very ſoon after the firſt, whether it actually had *Andr*
for its Author, or only uſher'd itſelf into the World, un
Sanction of his Name. Be this as it will, *Celſus*, wh
bably liv'd about an hundred Years after *Mithridates*,
ſcrib'd the *Mithridate*, upon the Model of which the *Th*
and all the other Medicines, conſiſting of a great Nu
Ingredients, were made.

It may be ſaid, in Defence of theſe Compoſitions, th
periments upon Simples being daily multiplied, Phyſicia
gined, that the more of theſe Simples of ſimilar Qualiti
crouded into a Compoſition, the more likely it was to
the End intended by it. It is alſo poſſible, that,
Knowledge, both of the Qualities of Simples, and the
of Diſeaſes, was very imperfect, they might imagine,
mixing a great many Drugs together, they could
Effects which one could not, ſince the Medicine is ofte
than the Phyſician who preſcribes it. But *Pliny*, and
many others after him, have imagin'd, that they croud
a Number of Simples into their Compoſitions, only *ad O*
tionem Artis, rather to make People believe, that there w
of Art and Myſtery in their Profeſſion, than from a Pe
that ſuch a Farrago was of any real Uſe in the Cure
ſeaſes.

The ſame Author, reflecting upon the *Mithridate*
fifty-four Simples in its Compoſition, and upon th
Quantity of each Ingredient that muſt conſequently b
at a Doſe, is ſo provok'd againſt this Abuſe, that he op
clares his Surprize, that Men ſhould be capable of ſo gla
bare-fac'd a Piece of Impoſture. He puts the Theria
the ſame footing, and ſays, that the Theriaca was
for the ſake of Delicacy or Senſuality; that it is comp
Ingredients produced in Foreign Countries; and tha
were every-where Numbers of ſimple Medicines capab
ſwering the ſame Purpoſes equally well. Here he m
tainly mean the *Theriaca* of *Andromachus*; for what
with regard to the Foreign Ingredients, cannot be ap
that other Sort of Theriaca, which he elſewhere d
[*Lib.* 20. *Cap.* 24.] and which, he ſays, conſiſts only
ſmall Number of common Simples. Hence we ma
that the Antidote of *Andromachus*, which was called *G*
its Author, had the Name of *Theriaca* given to it be
Days of *Crito*, as the Author of the Book *De Uſu T*
aſcribed to *Galen*, inſinuates. Now *Crito* liv'd under
whereas *Pliny* liv'd under *Nero* and *Veſpaſian*, and

ly might have ſeen both the elder and younger *Plinys*, Cotemporary he was, tho' he mentions neither one nor ther.

for the Name *Antidote*, which was beſtowed upon the ca, it is compoſed of two *Greek* Words, one of which s *againſt*, and the other *given*; becauſe Antidotes were againſt Poiſons, Corruption of Humours, or other bad ſitions of Body. This Word ſeems in the *Greek* Lan- to be both of the Maſculine and Feminine, and even imes of the Neuter Gender; and the *Latins* have ſaid, *ntidotus*, and *hoc Antidotum*. But, in all Probability, the s at firſt uſed this Word as an Adjective, and not as a ntive. When they uſed the Words ἡ ἀντίδοτος, they un- od the Subſtantive Δύναμις, which ſignifies every Sort of ine, Simple as well as Compound. The *Latins* might ranſlated the Word Δύναμις, by *Potentia*; but the Idiom ir Language, and the particular Idea they had affix'd to Word, would not admit of ſuch a Tranſlation. The then, for want of a proper Word to expreſs the *Greek* s, made uſe of the Words *Medicamentum* and *Compoſi-* ύναμις ἀντίδοτος, *Compoſitio contra data*, as if one ſhould ύναμις τετραφάρμακος, a Compoſition, conſiſting of four Ingredients; Δύναμις ἡπατικὴ, ἀρτηριακὴ, *a Compoſition Liver*, or the *Aſpera Arteria*. The Word Δύναμις ot only ſuppreſs'd by the *Greeks*, when they talk'd of otes, but almoſt upon all other Occaſions: Thus, for ce, they uſed ἡ διὰ κωδειῶν, to expreſs a Compoſition of -heads, and even without the Article, they uſed ἀρτηριακὴ, note a Medicine for the *Aſpera Arteria*; κωλικὴ, for a ine againſt the Colic. We may even venture to ſay, e Conjunction of theſe two Words *Antidotus Tranquilla*, *riaca*, imports, that the former is a Subſtantive, and the an Adjective; but we muſt obſerve, that the Adjective *illa* is an Epithet given to this Compoſition, and that eaning is the ſame, as if one ſhould ſay, *Compoſitio Anti- Tranquilla dicta*; ſo that theſe two laſt Words are equal- ectives. The Caſe is the ſame with regard to the Names er particular Antidotes, ſuch as *Hiera*, or *Sacred*, *Teleia*, *mpliſh'd*, &c. I may alſo ſhew, that the Word *Antido-* s an Adjective, from the Uſe *Scribonius Largus* makes of o calls a Plaiſter, applied to Bites given by mad Dogs, *Em- m Antidotum*. I muſt alſo obſerve, that the *Greeks*, in Turn, had no Word that correſponded directly to the *ſitio* of the *Latins*; for Σύνταξις, 'tis true, ſignifies *Com-* ; but then it is reſtrained to the Act of Compoſing, and t imply the Effect or Reſult of that Act, or the Thing oſed, which the *Latins*, and we ourſelves, mean by the *Compoſition*. In *Artemidorus*, the Word Συνταγὴ occurs, *Cornarius* tranſlates *Compoſitio*; but I am inclined to that it ought rather to be tranſlated by the Word *Præ- m*, or the Receipt of a Phyſician.

ing now hinted at the Name of this Medicine, the Na- nd Number of its Ingredients, and the Properties aſcribed by its Inventor, it now remains, that we ſhould give Account of the Method in which it was prepared, and onſiſtence it had, which was common to it, with all the Antidotes. In order then to prepare the *Theriaca*, the and other Ingredients capable of being reduced into a r, were pounded. The Gums and Juices were diſſolved *tan* or *Falernian* Wine, and paſſed through a Sierce after ere reduced into a Pulp. Then all theſe were mixed *um Artem*, in three times the Quantity of clarified *Attic* . I think it needleſs to enter upon a fuller Detail, or particular Account, of this Medicine, becauſe 'tis in our too well known to call for a more minute and particular ption. What has been ſaid of the Quantity of Honey n this Compoſition, is ſufficient to convince us, that it ave been of a pretty good Conſiſtence. I ſhall not here of the various Antidotes which different Phyſicians in- in Imitation of the *Theriaca*, and the *Mithridate*, nei- hall I conſider thoſe that were in Uſe before only; thus I muſt obſerve in general, that they were all nearly of ne Conſiſtence, ſince they were all made up of various rs, Gums, Juices, and Honey. *Le Clerc Hiſt. de la ine.*

this Account of the Origine of the *Theriaca*, I ſhall the Method of making it, as directed by the College, *uincy*'s Remarks.

ROMACHI THERIACA. The Treacle of *Andromachus*, only called *Venice Treacle*.

e of the Troches of Squills, forty-eight Drams; of the Troches of Vipers, Long-pepper, Opium, and Troches f Hedychroi, each four-and-twenty Drams; of exungu- ted dry red Roſes, of fragrant *Sclavonian* Orris, of Juice f Liquorice, of Sweet Navew-ſeeds, of Tops of Scor- ium, of Opobalſamum, Cinnamon, and the Troches of garic, each twelve Drams; of Myrrh, Sweet Coſtus, Zedoary, Saffron, true Caſſia Bark, Spikenard, Schœnanth, white and black Pepper, Male Frankincenſe, *Cretan* Dittany, Rhapontic, *Arabian* Stœchas, Horehound, *Macedonian* Parſley-ſeeds, Calaminth, *Cyprus* Turpentine, Roots of Cinquefoil, and Ginger, each ſix Drams; of the Tops of *Cretic* Polymountain, of Ground-pine, *Celtic* Spikenard-roots, Amomums, Styrax, Meum-root, Tops of Germander, *Pontic* Phu-root, *Lemnian* Earth, *Indian* Leaf, calcined *Roman* Vitriol, Gentian-root, Gum Arabic, Juice of Hypocyſtis, Carpobalſam, or in its Defect, Nutmegs or Cubebs, of Seeds of Aniſe, Cardamoms, Fenil, and Heartwort, of *Acacia*, or in its ſtead, the inſpiſſated Juice of ſour Plums, of the Seeds of Treacle-muſtard, Tops of St. John's-wort, Seeds of Biſhops-weed, and Sagapenum, each four Drams; of the beſt Caſtor, long Birthwort-root, Bitumen Judaicum, or Amber, *Cretic* Daucus-ſeed, Opopanax, the Leſſer Centaury, and fat Galbanum, each two Drams; of old Canary, a ſufficient Quantity to diſſolve the moiſt and diſſolvible Ingredients; and of clarified Honey, triple the Weight of all the dry Species: Make it into an Electuary. *S. A.*

This is likewiſe made with *Syrupus de Meconio* inſtead of Honey.

This hath continued the ſame in almoſt all the Diſpenſatories it hath yet paſſed through, and is not only the capital Alexipharmic of our Shops, but of all *Europe*. It has a great deal more wrote about it, than could be contained in the largeſt Volume: We ſhall therefore content ourſelves with as ſhort Remarks upon this grand Medicine, as is conſiſtent with that Acquaintance every one in the Practice of Phyſic ought to have with it. That we frequently call it *Venice Treacle*, is from the great Quantities made there, and thence tranſported to moſt Parts of the World. As this has paſſed through many Ages, and the Hands of many, in their own Opinions, able to alter it for the better, there are abundance of different Recipes extant in Diſpenſatory Writers; and this of our College ſeems to be one of the beſt; that in the *Auguſtan* Diſpenſatory differs little from it. *Diemerbroeck* greatly extols the Multiplicity of Ingredients in this Compoſition, and had odd Notions of the united Efficacies of ſuch Ingredients ariſing to a much higher Degree, and exalting the Virtues of each much beyond what they were poſſeſſed of when ſeparate. Monſ. *Chorras*, a *French* Author, has wrote a whole Treatiſe upon the Theriaca, and is very particular upon each Ingredient, but ſays nothing worth Notice here. *Zwelfer*, in his Animadverſions upon the *Auguſtan* Diſpenſatory, ſays moſt to our Purpoſe, in which he has followed *Quercetan*. Many Ingredients are by them juſtly found Fault with, as not at all agreeing with the Intention of the Whole, ſuch as Agaric, Rhubarb, Vitriol, *&c.* The Troches of Squills are likewiſe rejected, with thoſe of the Viper; becauſe the manner of making them into thoſe Forms, deſtroys the Virtues which they are intended to retain. If therefore ſuch were omitted, and others proportionably increaſed, ſo that the Opium might ſtill have the ſame Proportion to the Whole, the Medicine would be much the better.

In the Diſpenſation of this Medicine, *Zwelfer* divides the Ingredients into ſeveral Claſſes, according to their Similitude of Textures; ſome to be diſſolved as the Gums, and the other powdered ſeparately, and afterwards mixed: But ſuch a Trouble ſeems altogether needleſs; for ſome of the more tough and moiſt Ingredients will beat well enough with ſuch as are drier, and more brittle, and paſs the Sieve together; and ſome even powder the Opium itſelf, which is as good a way as any, if it has been already cleanſed of its Fœces. All the Herbs ought to be cleared of their Stalks, and to be as freſh as poſſible; and the Roots ſhould be freed from every thing that is unſound or decaying. The Saffron, if its Colour be inſiſted upon, may be powdered ſeparately, and put into the Wine, drawn from the Vipers. The Galbanum, Turpentine, *&c.* muſt be firſt ſtrained, and mixed with the Honey; and then the Species ſifted in leiſurely, another ſtirring it all the time, that it may be well mixed; and laſt of all, the Wine is to be put in. This is a noble Medicine, and cannot be exceeded by any Compoſition as an Alexipharmic, and a Cephalic; for there is ſcarce any particular View, which any Symptom can give in either of theſe Intentions, for which there are not many Ingredients herein of great Efficacy provided. It is a good Opiate, and may more ſafely be taken than many of the plainer Opiates, in Caſes that require ſome Stimulus to be uſed at the ſame time, with ſuch things as procure Indolence; becauſe ſuch alone are apt to occaſion Stagnations, and other Inconveniencies. There is one Grain of Opium in each four Scruples, and therefore it may be given from one Scruple to two Drams, as the Strength and Circumſtances of the Patient require.

Many here have a Prejudice, that this Medicine, made in *England*, is not ſo good as what comes from *Venice*, as if the Name, which by mere Accident it has obtain'd, confined it to be made good only in that Place; and their Vipers, they ſay, are much better than any other. But there is no Foundation for this; for tho' their Country is hotter, and ſo may the more rarefy the viperine Juices, in which their Efficacy herein conſiſts; yet the manner of their making them into Troches loſes ſo much of their Volatility, that the way we have here directed to manage them, carries much more of their Virtues into the Medicine. Beſides, this is but a naked Suppoſition, and in which there does not ſeem to be any Weight; for if we may judge by their poiſonous Properties, the Bites of our Vipers, at the proper Time of the Year, which is the hotteſt, are as efficacious and deadly as theirs. But to end all Controverſy on this Head, if a proportionable Quantity of the volatile Salt, drawn from theſe Creatures, be put into this Medicine, inſtead of any other Preparation, the Virtues will then be exactly the ſame; for the Salt which is produced from one, tho' it does not riſe in ſuch Plenty, is however of equal Virtues with that which comes from another. But if any other Country has the Advantage over us in this one Ingredient, ours has it much more in another of as great, if not greater Moment; and that is, in the Saffron; for that which our own Country produces, is of four times more Strength and Goodneſs, upon every Account, than any which comes from abroad. This fooliſh Opinion, of the foreign Theriaca being better than what is made here, has occaſioned the common People to be cheated, as they too much deſerve, with the worſt of Medicines for right *Venice* Treacle. For they, imagining that to be the proper Place of its Manufacture, and that it can come from thence genuine, at cheaper Rates than it is here ſold at in our Shops, pleaſe themſelves much with a Tinpot, at a low Price, of a dirty Sailor, who pretends to have imported it, wrapt up with printed Directions in the *Italian* Tongue; whereas ſome of our Druggiſts, and unworthy Wholeſale Dealers in Pharmacy, make this wretched Stuff of little elſe than the Sweepings of their Shops, have the very Bills printed in *London*, and put it off in this Diſguiſe, upon ſuch ſimple People. In Reality, no Country can make this cheaper than ourſelves, and not eaſily ſo cheap, becauſe many of the Ingredients are furniſhed us from both the *Indies*. And no one here, buying every thing to the beſt Advantage, can make it for ſo little as three Shillings a Pound out of Pocket; and therefore any one may judge what that muſt be, which is ſold for leſs, as it is by theſe pretended Importers. They who have any Suſpicion, that this is an Injuſtice upon their *Venice* Treacle Merchants, may be ſatisfied at almoſt any Printer's, who print and keep by them ſuch *Italian* Directions; unleſs they can perſuade themſelves, that an Apothecary at *Venice* is forced to ſend to *London* to have his Bills printed.

This one Remark more the preſent Practice will not ſuffer us to omit, which is making this Medicine into an Electuary with *Syrupus de Meconio*, inſtead of Honey; but ſuch who think there is equal Reaſon for ſo doing, proceed upon a great Miſtake. The Diaſcordium is calculated for an Aſtringent, to which Intention Honey is oppoſite, becauſe it attenuates and deterges, and therefore with great Reaſon was the *Syrupus de Meconio* ſubſtituted in its Room; but in an Alexipharmic Compoſition, as the *Venice* Treacle is, to reject Honey, which is of the ſame Intention, and very powerfully ſo too, and ſubſtitute what is contrary, unleſs by Accident, ſeems to be owing more to Whimſy, or the Vanity of leading an Example, than any good Reaſon. Opiates indeed contribute ſomewhat, which, we ſay, by Accident, forwards the Intention of an Alexipharmic; but in the *Theriaca* there ſeems to be a full Proportion of Opium already; ſo that by the Addition of the Diacodium, inſtead of procuring that eaſy Relaxation which favours the Operation of an Alexipharmic, there is induced ſuch an Inſenſibility, that the Secretions will rather be diminiſhed than inlarged; that is, inſtead of warming the Patient into a Sweat, he will be dozed into a Stagnation, and ſo have a Fever, which might be ſoon thrown off, changed into one of a putrid malignant Kind. And Inſtances of this Nature I have more than once met with, from the common *Venice* Treacle, when imprudently taken, or in an Over-doſe; and therefore ſuch Accidents are much to be feared, when this Alteration comes more to take Place. The greateſt Reaſon which can be alledged for this Practice, is the Honey diſagreeing with ſome particular Conſtitutions; but one Inſtance of this does not happen to a hundred of the contrary: And, if this is ſufficient, it pleads for the ſame Alteration in moſt of the Officinal Electuaries, becauſe there are few of them without it. *Quincy*'s *Diſpenſatory*.

Quincy is undoubtedly right in his Remark with reſpect to the Change of Honey for Diacodium in this Compoſition; for if it is made without Honey, it muſt be a Medicine very different in every reſpect from the true *Theriaca Andromachi*; becauſe Honey, by its Fermentation, induces a very great Change in all the Ingredients which enter the Compoſition of this *Capital* of the Shops, and unites the Virtues of all the Simples together, ſo as to become altogether as one, and to act with Uniformity in the Compound.

The Receipt of *Myrepſus* has the Aſhes of Crawfiſh burnt in this Compoſition.

ANDROMACHI ANTIDOTUS AD CALCULOSOS. *Andro* *chus*'s Medicine for the Stone and Gravel. It breaks the St by Degrees, and expels it, thoroughly cleanſing the Bladd till the Urine is at laſt diſcharged pellucid; and, what is greateſt Moment, works ſo perfect a Cure, that the Sto ſhall not grow again. It is thus prepared:

Take of Seed of Wild Carrots, Aniſe, Cucumber-ſeed h ed, Seed of Smallage, Parſley, Myrrh, each a Dram and half; Caſſia, Cinnamon, *Celtic* Nard, each one Dram; br them in Water, and make them up in the Form of Lupines, to be taken faſting every Day, for thirty D together, in a quarter of a Pint of Water. *Aetius*, 3. *Serm*. 3. *Cap*. 13.

ANDROMACHI COMPOSITIO AD DENTES MOLARES, *dromachus*'s Compoſition for the Grinders or Cheek-te which eaſeth the Pains thereof in an Hour, is made of

Pepper, Pellitory of *Spain*, Juice of Spurge, Galban of each an equal Quantity. Make them up with G num, and put the ſame into the Hollow of your T *Idem*, *Tetr*. 2. *Serm*. 4. *Cap*. 33.

HEPATICA ANDROMACHI CYPHOIDES. The He Cyphoides of *Andromachus*, good in all Diſeaſes of the rax.

Take of Raiſins of the Sun, twenty-five Drams, ſome it a hundred; of Saffron, a Dram; of Calamus Aromat two Drams; of Bbellium, Juncus Odoratus, each Drams and an half; Cinnamon, Caſſia, Spikenard, half a Dram; Myrrh, Turpentime, each four Dr ſome have it ſixteen; Aſpalathum, a Scruple; Ho ſixteen Drams; Wine, a ſufficient Quantity. *Actu* *Meth. Med. Lib*. 5. *Cap*. 6. See CYPHI.

ANDRONIS MEDICAMENTUM PRO CANC *Andron*'s Remedy for a Cancer in any Part of the Body.

Take of the Rind of Pomgranate, ten Drams twenty Grains; of Birthwort, nine Drams twenty-two G and a half; of Aloes, four Drams ten Grains; of M two Drams five Grains; of Galls, eight Drams t Grains; of Plumous Alum, three Drams ſeven G and a half; of Flos Æris, two Drams five Grains. them, and ſift them very carefully; then pour to th much *Cretic* Raiſin-wine, as ſhall make it of the T neſs of Honey. Keep it in a glaſs Veſſel; and there is Occaſion, take it diluted with auſtere Wine. Medicine is good for Carbuncles, for the Ignis Sacer, for the Girdle, which the *Greeks* call *Herpes* [*Scribonius Largus*, *Cap*. 13.

ANDRONIS MEDICAMENTUM IN UVAM. *Andron*' medy for the Swelling of the Uvula, conſiſts of

Plumous Alum, Squama Æris, Vitriol, Galls, Myrrh, Bruiſe and mix them together, adding by Degrees, as auſtere Wine as will make it of the Conſiſtence of H *Celſus*, *Lib*. 6. *Cap*. 14.

ANDRONIS PASTILLI. *Andron*'s Troches.

Theſe Troches, *Aetius* tells us, are good for running U alſo for Inflammations of the Uvula, and Defluxions o Tonſils, if the Parts under the Chin be anointed there They take off Films from the Eyes, and are ſerviceable Beginning of Inflammations of the Glandules about the G and for Abſceſſes in the Inteſtines after they are broken, taken in a Clyſter with two thirds of a Pint of Water, if th a Fever, or with the like Quantity of Wine, if there be They alſo deterge the Calloſities of Ulcers, and are thu pared:

Take of Balauſtines, ten Drams twenty-five Grains; Birthwort, each eight Drams twenty Grains; Ph Alum, Vitriol, each four Drams ten Grains (ſome but half that Quantity); Myrrh, Aloes, Frankin Saffron, each one Dram two Grains and a half. them firſt ſeparately, and then all together, and r them into Troches. *Aetius*, *Tetr*. 4. *Serm*. 2. *Cap*.

P. Ægineta gives a ſomewhat different Preparation of Troches, as follows:

Take of Balauſtines, ten Drams twenty-five Grains; eight Drams twenty Grains; Myrrh, Round Birth each four Drams ten Grains; Vitriol, Saffron, Pl

Alum, Crocomagna, Miſy, Frankincenſe, each two
Drams five Grains; bruiſe them in auſtere Wine or Vi-
negar. *P. Ægineta*, *Lib*. 7. *Cap*. 13.

reckons it among the vehement Kind of Remedies for
erpes and Carbuncle. *Lib*. 4. *Cap*. 20. & 25.
DRONION, the ſame as ANDRONIS PASTILLI.
DROSACES, Offic. Chab. 458. *Androſace annua ſpu-*
Ger. 425. Emac. 531. *Androſace Matthioli altera*, J. B.
8. Raii Hiſt. 2. 1086. *Androſace altera major Mat-*
Park. Theat. 560. *Androſace vulgaris latifolia annua*,
Bot. 101. Tourn. Inſt. 123. Boerh. Ind. A. 201.
Flor. Jen. 13. *Auriculæ urſi affinis*, *Androſace dicta*
Herm, Hort. Lugd. Bat. 82. *Saniculæ affinis Planta*,
ſace dicta major, Hiſt. Oxon. 2. 556. *Alſine affinis*, *An-*
dicta major, C. B. Pin. 251. SUMMER NAVEL-
T. *Dale*.
droſaces grows in the maritime Places of *Syria*. It is a
Herb, with thin Stalks, bitter, leafleſs, bearing ſmall
n the Top, which contain the Seed.
Quantity of two Drams hereof taken in Wine power-
rovokes Urine in hydropical Perſons. The Decoction of
rb, and the Seed, work the ſame Effect. It alſo makes
l Cataplaſm for the Gout. *Dioſc. Lib*. 3. *Cap*. 140.
aſius reads λευκὴ, *white*, inſtead of λεπτὴ, *ſlender*. *Pliny*
s it is white, and in the reſt agrees with *Dioſcorides*.
a Plant which puſhes up many hairy Stalks half a Foot
the Top, dividing itſelf into ſix or ſeven Parts, forms a
Umbel; its Leaves are long and large, hairy, nervous,
t of Plantain; indented all round, ſpreading round about
lk upon the Ground; the Flower is ſmall and white,
g at the Top, and cut into five Segments; when the
withers, a little orbicular Fruit is found as big as a Pea,
ing many longiſh and reddiſh Seeds; its Root is ſhort
ous: It grows in maritime Places, amongſt Corn, and
ods; it contains a great deal of Salt.
aperitive, and good for the Dropſy, for Retention of
and for the Gout.
oſace is ſo called, from its bringing Relief to Men:
ικος φέρουσα. *Lemery de Drogues*.
DROSÆMUM, Offic. *Androſæmum vulgare*, Park.
575. Merc. Bot. 1. 19. Phyt. Brit. 8. Mer. Pin. 8.
ſt. 2. 1020. *Androſæmum maximum fruteſcens*, C. B.
o. Boerh. Ind. A. 242. *Hypericum maximum* (*quaſi*
s) *bacciferum*, Hiſt. Oxon. 2. 472. *Hypericum maxi-*
droſæmum vulgare dictum, Raii Synop. 3. 343. *Sici-*
liis Ciciliana, *vel Androſæmum*, J. B. 3. 384. *Sici-*
el Androſæmum, *tota bona quibuſdam*, Chab. 457. *Cly-*
Italorum, Ger. 435. Emac. 543. TUTSAN, or
LEAVES.
ows in Hedges and Thickets, flowers in *July* and *Au-*
e Flowers, Leaves and Seed are uſed, which have the
rtues as Hypericon, or St. John's-wort. *Dale*.
ROSÆMUM is by ſome called *Dionyſias*, by others
but there is a Difference between this Plant and Hy-
and Aſcyrus. It is a ſhrubby Plant, with ſmall ſlender
and Branches of a ſcarlet Colour, and Leaves three or
es as large as thoſe of Rue, which, being bruiſed, yield
Juice. At the Head it expands itſelf into a Multitude
ches, about which grow ſmall yellow Flowers, pro-
Seed in the Calyx, like that of black Poppy, and di-
ed by Marks, as if they were engraved.
eaves, bruiſed, yield a reſinous Smell. The Seed, pound-
drank to the Weight of two Drams, purges Bile. It
ſeful in the Sciatica; but after Purging, the Patient is
Draught of Water. The Herb, uſed in a Cataplaſm,
rns, and ſtops Hæmorrhages. *Dioſcorides*, *Lib*. 3.

ROSÆMON, or, as others call it, *Aſcyros*, is not
ypericon, only has greater, thicker, and redder Stalks.
ves are white, and ſhaped like thoſe of Rue. The
he Herb, bruiſed, yield a Blood-like Juice. It ſprings
the Vines, and is commonly digged out about the
Autumn, and hung up. Bruiſed with the Seed, and
the Weight of two Drams, either in the Morning or
er, in Hydromel, Wine, or pure Water, it is a good
But the next Day, the Patient muſt take the Weight
n of Caper-root mixed with Roſin, and four Days
is to do the ſame. After Purging, the Patient, if of
Conſtitution, ought to drink Wine; if weak, Water.
ib. 27. *Cap*. 4.
lled *Androſæmon*, from ἀνὴρ, a Man, and αἷμα, Blood,
aking the Fingers of thoſe who rub it, look bloody.
Med. Coll. Lib. 11.
talks of *Tutſan* grow to be two or three Foot
ooth, reddiſh, and not much branched, having
oval browniſh green Leaves ſet oppoſite at every
very ſhort Foot-ſtalks; thoſe next the Ground,
lly ſmalleſt. On the Top of the Stalks grow the Flowers, ſeveral together, on pretty long Foot-ſtalks, of five ſmall yellow roundiſh Leaves apiece, with Stamina in the Middle, of the ſame Colour, yielding a reddiſh Juice, upon being rubbed between the Fingers, and are ſucceeded by Berry-like Seed-veſſels, green at firſt, and afterwards of a deep-ſhining Purple, almoſt black, containing ſmall Seed in a purpliſh Juice. The Root is ſomewhat thick, of a reddiſh Colour, with many Fibres. It grows in Hedges and Thickets, and flowers in *July*.

The Leaves and Flowers are ſometimes uſed, and are counted much of the Nature of St. John's-wort, being a good Wound-herb, uſed both inwardly and outwardly; and is therefore called in *French*, *Toutſain*, ſignifying *All-heal*, and from thence by us corruptly, *Tutſan*. *Miller Bot. Off*.

It contains a great deal of Oil, and a moderate Quantity of Salt and Phlegm.

It is aperitive, vulnerary, reſolutive, good for the Stone, to kill Worms, to reſiſt Malignity, and guard againſt Madneſs, being externally or internally apply'd. *Lemery de Drogues*.

ANDROTOME. See ANDRANATOME.

ANECPYETUS, Ἀνεκπύετος, unſuppurated, from α Neg. and ἐκπύετος, ſuppurated. See ECPYEMA.

ANEILEMA, ANEILESIS, Ἀνείλημα, Ἀνείλησις, from ἀνειλέω, to roll up, or involve. An Involution, particularly ſuch as is cauſed by Gripes and Flatulencies in the Inteſtines. *Hippoc. de vet. Med*.

ANEMONE, a Plant which Botaniſts, from the Time of *Dioſcorides*, have diſtinguiſh'd into the cultivated, and wild Sort. The firſt is,

Anemone hortenſis, Offic. *Anemone Geranii Rupertiani folio cæruleo: an Dioſcoridis*, C. B. Pin. 174. Tourn. Inſt. 277. Hiſt. Oxon. 2. 426. *Anemone Geranifolia*, Ger. 304. Emac. 377. Raii Hiſt. 1. 625. J. B. 3. 405. *Anemone Geranii folio, radice tuberoſa, flore cæruleo & albo*, Chab. 462. *Anemone tenuifolia ſive Geranifolia cærulea*, Park. Parad. 208. GARDEN-ANEMONE. *Dale*.

The wild Sort is call'd

Anemone ſylveſtris, Offic. *Anemone Matthioli*, Ger. 304. Emac. 377. *Anemone ſylveſtris alba major*, C. B. Pin. 176. Raii Hiſt. 1. 627. Rupp. Flor. Jen. 128. Tourn. Inſt. 277. Elem. Bot. 239. Boerh. Ind. A. 37. Buxb. 23. Hiſt. Oxon. 2. 425. *Anemone ſylveſtris latifolia alba, ſive tertia Matthioli*, Park. Parad. 202. *Anemone magna alba, plurimâ parte anni florens*, J. B. 3. 411. *Anemone magna alba, capitulo tuberoſo, caule denſa lanugine caneſcente*, Chab. 464. WILD ANEMONE.

Of this Plant there are two diſtinct Species, the garden and the wild ANEMONE; and each of theſe Species is ſubdivided into ſeveral others, but eſpecially the former, which is carefully cultivated in Gardens, on account of the Beauty of its Flowers. Their Roots ſend forth Leaves, that are almoſt round, and reſemble thoſe of *Sow-bread*, *Mallows*, *Crane's-bill*, or *Sanicle*. Some of theſe Leaves are pretty large, and others ſmaller; ſome of them are deeply indented, and others not ſo much; but ſtill each Leaf has its proper Stalk. From the Middle of theſe Leaves ariſe ſmall Stalks, bare half way up, where they are adorned with three Leaves, diſpoſed in Form of a *Collar*. Each of theſe Stalks bears at its Top a beautiful large round Flower, with ſeveral Leaves diſpoſed like thoſe of a Roſe. This Flower is ſingle or double, yellow or white, purple or carnation, blue or red, violet, or diverſified with ſeveral Colours, and ſometimes adorned with a Tuft. When this Flower falls, a Fruit appears in its Place, which is generally of an oblong Figure, and includes a Nut filled with ſeveral Seeds, each of which is covered with its proper Huſk, which is generally ſoft like Cotton. Its Root is fungous or knotty, and has many Fibres ſprouting out from it. The wild Anemone grows in riſing Grounds, and mountainous Places. Both Species of this Plant contain a great deal of Salt and Oil.

This Plant is deterſive, aperient, inciding, vulnerary, deſiccative, but generally 'tis only uſed externally. It is uſed in Errhines and Collyriums for Ulcers of the Eyes. *Lemery de Drogues*.

There are two Kinds of Anemone, the wild, and the cultivated. Of the latter, one Sort bears a ſcarlet Flower, another a whitiſh, or milk-white, and another a purple one. The Leaves are like thoſe of Coriander, tho' but ſlightly jagged near the Ground. The Stalks are downy, ſlender, bearing Flowers like thoſe of the Poppy, and incloſing a black or ſky-coloured Head in the Middle. The Root is of the Bigneſs of that of the Olive, or bigger, and divided as it were by Joints. The wild Kind is larger in all reſpects than the other, having broader and harder Leaves, and a longer Head, a ſcarlet Flower, with ſmall and ſlender Roots, more in Number than the former. There is one Sort of it which has black Leaves, and more of Acrimony than the reſt.

Both Kinds are acrimonious; for which Reaſon the Juice of the Root, ſnuffed up the Noſtrils, is good to purge the Head. The Root, chewed, draws out Phlegm. Boiled in Paſſum, [γλυκὺ, Wine made of Grapes that have hung on the Vine till wither'd by the Sun] and apply'd as a Cataplaſm, it cures Inflammations of the Eyes, deterges Specks, and whatever cauſes Dimneſs of Sight, and cleanſes Ulcers of Filth. The Leaves and Stalks boiled in Ptiſan, and eaten, breed Plenty of Milk in the Breaſts, and made into a Peſſary, provoke the Menſes; apply'd in a Cataplaſm, they remove the Leproſy.

Anemone is by ſome called *Phenion*. There are two Kinds, the wild, and what is cultivated in Gardens; both delight in a ſandy Soil. Of the garden Kind there are ſeveral Sorts; for one bears a ſcarlet Flower, which is the moſt common, another a purple, and a third a milk-white Flower. The Leaves of theſe three Sorts are like thoſe of Smallage. They ſeldom exceed half a Foot in Height, and have a Top like that of Aſparagus. The Flower never opens but when the Wind blows, whence it takes its Name. The wild Kind is the larger, has broader Leaves, and a ſcarlet Flower. Many have miſtaken this for the Argemone, others for the red Poppy; but there is a great Difference between them, for both theſe come later in Flower, nor have they the Juice or Flower-cups of Anemone, and are only like it in having an Aſparagus-top.

The Anemones are good for the Pains of the Head, and for Inflammations; help Diſeaſes of the Uterus, and procure Milk in the Breaſts. Taken in Ptiſan, or apply'd to the Part in Wool, they provoke the Menſes. The Root chewed in the Mouth draws out Phlegm, and makes the Teeth ſound; and the Decoction thereof cures Inflammations in the Eyes.

The Magi aſcribe much to their Virtues. They order, that as ſoon as you ſee the Plant that Year, you take it up, ſaying theſe Words, That you gather it as a Remedy for Tertian and Quartan Agues; then wrap it up in a red Cloth, and keep it in a ſhady Place, till there be Occaſion to tye it about the Patient. The Root of that which bears a ſcarlet Flower, bruiſed, and apply'd to the Fleſh of any Animal, by its putrefactive Quality, cauſes an Ulcer, and is therefore uſed as a Deterſive for Ulcers. *Pliny*, *Lib.* 21. *Cap.* 23.

All the Anemonies are acrimonious and deterſive, Drawers, and endu'd with the Faculty of opening the Mouths of the Veins. *Oribaſ. Med. Coll. Lib.* 15.

Emplaſtrum ex Anemone. The Plaiſter of Anemone.

> Take of Colophony, ſeventy-four Drams; liquid Reſin of the Pine-tree, Wax, each four Ounces; Oil, nine Ounces; freſh Flowers of Anemone, taking out the black that is in them, and cutting off their Bottoms, eight Ounces: Boil the Colophony with the Oil over a Fire made of the Wood of the Pine-tree, ſtirring it with a Spathula of the Tæda, [a Sort of Pine-tree] till it comes to a ſolid Maſs; then add the Reſin, and boil it again, till it will no longer foul; when put in the Wax, and as ſoon as this is melted, take the Medicine off the Fire, and pour it upon the Flowers bruiſed in a Mortar, and work them together with your Hand, ſmeared in Oil; for they are glutinous, and no Water muſt come near them.

It is good for green Wounds, and bruiſed Fleſh; for old, malignant, over-grown Ulcers, which are hard to cicatrize; for Bites of venomous Creatures; for ſwell'd and inflamed Joints, that are painful, and not without Difficulty moveable; for Strumæ, Fiſtulas, a Ganglion, Steatoma, and Furunculus; for ſinuous as well as ſpreading Ulcers; for Abſceſſes in any Part, but eſpecially the Breaſt. To ſtop an Hæmorrhage at the Noſe, they lay a Bolſter of it upon the Stomach, or it may be apply'd to the Forehead; in ſhort, it mollifies, diſcuſſes, contracts, dries, and is an Anodyne.

If you had rather have it prepared with Vinegar,

> Let the Flowers of the Anemone be cleanſed, and their Bottoms cut off as before, and then dry'd in the Sun, and afterwards kept in a glaſs Veſſel; then take of them eight Ounces, and pour thereto three Attic Half-pints of the ſtrongeſt white Vinegar, in which let them macerate a Day and a Night. After this, work it with your Hands, and by Degrees preſs out all the Juice: Then take of the brighteſt Colophony, forty-two Drams; liquid Reſin of the Pine-tree, Wax, Oil, each four Ounces; Juice of the Anemone, two Attic Half-pints and a quarter of a Pint: Boil the Colophony with the Oil at a ſlow Fire of the Wood of the Tæda, ſtirring it continually with a Spathula of the ſame Wood, till it comes to a proper Conſiſtence; then put in the Reſin by Degrees, leſt it ſhould boil over the Veſſel, and boil all again till they come to a ſolid Maſs; when put in the Wax, which being melted, take it off the Fire, ſtirring it with the Spathula, till it ceaſes boiling; then pour in the Juice by Degrees, carefully watching that there be no Ebullition, to which it is very ſubject, ſo as to run over. While the Mixture is thus gradually made, the Medicine takes a various, purple, and pleaſing Colour. All the Juice being thus poured in, and united with the reſt, remove the Whole in Mortar, and when it is cold work the ſame with Hands, till all the Juice is abſorbed.

This Medicine is good for the ſame Purpoſes as the for only is of a milder Nature, and more accommodated to Bites of Dogs, and venomous Creatures. Being diluted Oil of Roſes, it is proper for Ulcers in the Arms and Pude when they need only mild Remedies. *Aetius*, *Tetr.* 4. *Ser Cap.* 12.

ANEMONOIDES,

Offic. *Anemonoides flore albo*, Boerh. Ind. A. 36. *A noides flore majore*, Dill. Cat. Giſſ. 39. *Anemone nemoroſa, majore*, C. B. Pin. 176. Buxb. 20. *Anemone nemorum* Ger. 306. Emac. 387. Raii Hiſt. 1. 614. Synop. 3. *Anemone nemorum*, Merc. Bot. 1. 19. Phyt. Brit. 8. Pin. 8. *Ranunculus phragmites albus vernus*, J. B. 3. Chomel. 653. Tourn. Inſt. 285. Elem. Bot. 241. *Ra lus nemoroſus albus ſimplex*, Park. Theat. 325. *Ranun* Chab. 465. *Nemoroſa, flore roſeo albo expanſo*, Rupp. Jen. 128. WOOD ANEMONE. *Dale.*

The Word is derived from Ἀνεμώνη, Anemone, and Form, that is, in the Form or Image of Anemone.

The Characters are;

The Root is perennial, and for the moſt part grumo creeping; the Leaves are finely cut, three of which, f moſt part, ſurround the Stalk; it hath a ſingle Flower each Stalk, which conſiſts of many Leaves, and are exp in Form of an Anemone, having many Stamina or Thre the Middle; the Seeds are collected into an oblong Head are, in Shape, like thoſe of the Ranunculus, having no adhering to them.

Miller enumerates ſix Species, and *Boerhaave* twel this Plant.

The *Anemonoides flore albo* is found wild in the W in moſt Parts of *England*; ſome of the other Varieties ſays he hath gathered in great Plenty, in the Wilderne longing to the Gardens at *Wimbleton* in *Surry*, which we bably at firſt taken from ſome Woods in *England.* Place they increaſe ſo faſt, that the Surface of the Gro cover'd with them in the Spring; and what is more rema there the large blue and double Sorts are the moſt co *Miller's Dictionary.*

It is an hot and acrimonious Plant, that will raiſe Bliſ the Skin. *Dale.*

ANEMONOSPERMOS, from ἄνεμος, Wind σπέρμα, Seed, becauſe the Wind eaſily bears away the Se

The Characters are;

It hath an hemiſpherical ſcaly Cup; the Flower is like the Ragwort; but the Seeds are copiouſly ſurround a pappous Down, as are thoſe of Anemone.

Miller enumerates four, and *Boerhaave* ſix, Species Plant.

They were originally brought from about the *Cape Hope*, into the curious Gardens in *Holland*, where th been propagated, and from whence they have been di into the ſeveral Parts of *Europe*, where they are now g *Miller's Dictionary.*

ANEMOS, Ἄνεμος, Wind. See VENTUS.

ANENCEPHALOS, Ἀνεγκέφαλος, brainleſs, from and ἐγκέφαλος, the Brain. In general it ſignifies foolish, but in a more reſtrained Senſe may be apply'd Monſters as are born without Brains, on which *Bonet Medic. Septentr.* has made a Collection of Obſe *Caſtellus.*

ANEOS, Ἄνεως, in *Hippocrates*, as expounded by ſignifies ἄφωνος καὶ τὸν νοῦν ἐμπεπλεγμένος, "one ſtru "the Loſs of his Voice and Reaſon;" and by H ἄνεῳ are ſaid to be ἄφωνοι καὶ ἐκπλήξει ἥσυχοι, "ſeized "Stupor and Loſs of Voice." Ἄνεως is put for cording to the *Attic* Dialect. *Foeſius.*

ANEPICRITON, Ἀνεπίκριτον, ſomething of Judgment can be formed, that is neither the Object of derſtanding nor Senſes, from α Neg. and ἐπικρίνω, Thus ἀνεπίκριτος διαφωνία, with the Empirics, [a Sec ſicians among the Antients] ſignifies a Controverſy and ment in Words about a thing that can never be deter defined, becauſe of its Acatalepſia, which was a Wo in Uſe among that Sect, as *Galen* ſays, *Lib. de Se* See ACATALEPSIA.

ANERECTOS, ἀνέρεκτος, ἀνέρεικτος, ἀνήρεικτος. Neg. and ῥήγνυμι, to break. Apply'd to Fruit or C hull'd or broken in the Mill, or with the Peſtle. ἄρτος, in *Hippocrates*, *Lib.* περὶ παθῶν, ſignifies Bread Wheat not cleanſed from the Bran.

ANESIS, Remiſſion. See REMISSIO.

ANESTRAMMENA, ἀνεστραμμένα, from change, or ſubvert, in *Hippocrates*, is expounded by mean the ſame as *Anatetaragmena*, ἀνατεταραγμένα, fro to trouble, or diſturb; and 'tis apply'd, he ſays, to Urine, nify ſuch as is turbid or thick, without depoſiting any Se-nt after ſtanding.

NETHOXYLA, 'Ανεθόξυλα. So the Tranſlator of *My*-reads the Word, inſtead of ἀνυθόξυλα, as it is in the *Greek* ſcript, and underſtands it of the woody Root of Dill. pſus, *Sect.* 8.

NETHUM, Offic. Ger. 878. Emac. 1033. Raii Hiſt. 1. Mor. Umb. 36. J. B. 3. 6. Chab. 384. Dillen. Cat. 136. Rivin. Irr. Pent. *Anethum hortenſe*, C. B. Pin. 147. Oxon. 3. 311. Tourn. Inſt. 318. Elem. Bot. 268. Ind. A. 65. Buxb. 20. Rupp. Flor. Jen. 222. *Anethum* *ſe ſive vulgare*, Park. Theat. 886. DILL. *Dale*.

e Decoction of the Tops and Seed of dried Anethum, being , promotes the breeding of Milk, and eaſeth the Gripes nflations, ſtops a Looſeneſs and Vomiting, occaſion'd by ours floating in the Stomach, provokes Urine, and aſſwages ickups. Often uſed, it renders the Sight dull, and con-the Seed. The ſame is alſo good in an Inſeſſion for hyſte-Women. The Seed burnt, and ſprinkled on the Part, takes Condyloma. *Dioſcorides*, *Lib.* 3. *Cap.* 67.

iny adds, that the Root is uſed, in Water or Wine, to t Inflammations of the Eyes [*Epiphoræ*]. The Seed, vehe-y heated, and ſmell'd to, ſtops the Hickups. Taken in r, it takes off Uneaſineſs from Crudities. The Aſhes Relief in a *Prolapſus Uvulæ*. *Pliny*, *Lib.* 20. *Cap.* 18.

e Root, heated, and applied to the Mouth of the Uterus, kes the Menſes. *Oribaſ. Synop. Lib.* 1. *Cap.* 22.

nt, and the Aſhes ſprinkled upon humid Ulcers, eſpecially the Pudenda, diſpoſes them to heal; and cicatrizes inve-Ulcerations under the Prepuce. The green Herb, as leſs Heat, and more Moiſture, is a better Digeſtive and otic, but the dry is more diſcuſſive. *Aetius*, *Tetr.* 1. 1.

s Herb, both in Root, Stalk, and Leaf, very much bles common Fennel, except that it ſeldom grows ſo tall, or ch branch'd; it bears ſuch yellow Umbels of Flowers, which come Seeds rounder, broader, and flatter than thoſe nel. The whole Plant is of a ſtrong Scent, leſs pleaſant Fennel. *Dill* grows in Gardens, and flowers and ſeeds y and *Auguſt*. The Leaves and the Seed are uſed.

icinal Preparations from *Dill* are only the *Oleum Anethi*-made by Infuſion, and gentle Coction of the Leaves and in Oil. *Miller Bot. Offi.*

eet with nothing with reſpect to the Virtues of *Dill* ſt the Moderns, but what has been ſpecified from *Dioſco*-and the Authors above quoted.

The Preparation of the Anethinum.

e of the Flowers of Anethum, eleven Pounds eight Ounces, and infuſe them in eight Pounds and nine Ounces f Oil for a Day; then preſs them out with your Hands, d ſet the Oil by for Uſe. If you think fit to make a cond Maceration, take freſh Flowers, and infuſe them like manner.

s the Virtue of mollifying and relaxing the Parts about erus; and is of Service in the periodical Returns of a Ri-eing of a warming Quality, by which it relieves under des, and helps Pains in the Joints. *Dioſcorides*, *Lib.* 1. 1.

aſius, who every-where tranſcribes *Dioſcorides*, reads appointing equal Quantities of Oil and Flowers, that is, Pounds eight Ounces of each. *Orib. Med. Col. Lib.* 11.

ANETHINUM VINUM, *Dill Wine*.

e of ripe, freſh, and ſifted Seed of Anethum, nine unces; tie them up in a Linen Bag, and put them into n Gallons two Pints of *Muſtum* [Wine unfermented]; t them macerate for three Months, and afterwards put up ur Wine into proper Veſſels.

eates an Appetite, helps Sickneſs at the Stomach, and ty of Urine, and makes a ſweet Breath.

r the ſame manner are made Wines of Parſley, Fennel, allage, which have the ſame Virtues as that of Dill. ides, *Lib.* 5. *Cap.* 73, 74, 75.

OLEUM ANETHINUM, *Oil of Dill*,

de of the freſh Tops of Dill, before the Seeds are grown d acrimonious; for it would be unfit for this Purpoſe, if wers were wanting.

e only the green tender Tops, or Shoots, to the Quantity an Ounce, and infuſe them in an *Italic* Pint of Sweet l. Let the Mouth of the Veſſel be well cloſed, and the ſſel ſet to ſtand in the Sun for forty Days.

s hotter than Oil of Chamomile, and is therefore pro-Laſſitudes in the Winter, for it mollifies and moiſtens. I.

It is alſo ſerviceable in feveriſh Diſorders ariſing from Phlegm, and in all Diſtempers cauſed by Cold, eſpecially where the Tendons or Muſcles are affected. *Aetius*, *Tetr.* 1. *Serm.* 1.

This Oil may be made, in caſe of Neceſſity, without Inſolation; that is, by boiling the dry Tops of the Dill in a double Veſſel; and ſo may Oil of Chamomile, &c. be prepar'd; but then theſe Oils are weaker than thoſe which are made of the green Tops, and ſuffer'd to ſtand in the Sun. *P. Ægineta*, *Lib.* 7. *Cap.* 20.

The Method directed by the College for making the *Oleum Anethinum*, is thus:

> Take of the Flowers and Leaves of Dill, bruiſed in a marble Mortar, with a wooden Peſtle, four Ounces; Oil of Olives, one Pound: Expoſe them to the Mid-day Sun, in a glaſs Veſſel well ſtopp'd, for a whole Week, and ſhake them together every Day; then let them gently ſimmer in a Bath-heat, and preſs out the Oil: Put in freſh Dill, which manage after the ſame manner, and repeat the Proceſs a third time; then let them ſtand together for forty Days; at the Expiration of which ſet by the Oil for Uſe, without preſſing out the Dill.

There is alſo a Chymical Oil prepar'd from the Seeds of Dill, in the following manner:

> Take two Pounds of Dill-ſeed bruiſed; of Spring-water twenty Pints: Let them be diſtill'd in an Alembic, with its Refrigeratory; and then let the Oil be ſeparated by a proper Funnel.

Theſe Oils partake of the Virtues of the Plant.

ANETICUS, ἀνετικὸς, from ἀνίημι, to remit. An Epithet of ſuch Remedies as have the Virtue of remitting Pain, and are call'd Paregorics. *Caſtellus*.

ANEURYSMA, from ἀνευρύνω, to dilate much. An Aneuryſm.

An Aneuryſm may affect any Part of the Body, but moſt frequently happens in the Throat, where it produces a Tumour call'd Bronchocele, which is moſt incident to Women in Labour, becauſe of the violent Retention of their Breath. This Diſeaſe alſo affects the Head in the Parts about the Arteries, or any Part of the Body where an Artery happens to be wounded; as, for Inſtance, when an unſkilful Operator, in attempting to open the Vein of the Cubit, at the ſame time cuts the ſubjacent Artery.

Every Aneuryſm is occaſion'd either by a Tranſudation, an Anaſtomoſis, or a Rupture, in both which Caſes there is a gradual Extravaſation of the Blood and Spirits, which are collected under the Skin.

The Characters of an Aneuryſm are a ſmall or great Tumour, of the Colour of the Skin, void of Pain, ſoft to the Touch, and ſeeming to be of a looſe ſpongy Subſtance, yielding to the Compreſſion of the Fingers ſo as almoſt to vaniſh, but recurring as ſoon as the Fingers are taken off; which Character is moſt remarkable in Aneuryſms of the Chin, and ſuch others as are not occaſion'd by a Wound: But where a Wound of the Artery has preceded, and, the Skin afterwards cloſing up, there has follow'd a Dilatation of the Veſſels, the Tumour is leſs ſoft; for the Blood, more abounding with Spirits, runs into grumous Concretions, and extends the Tumour.

As to the Therapeutic Part, thoſe Aneuryſms which happen in the Head or Throat are accounted deſperate, and are not attempted by Surgeons: For as ſoon as the Aneuryſm is cut, there follows an exceſſive Hæmorrhage, with ſuch a Profuſion of vital Spirits, that the Patient often dies under the Operation. But as to an Aneuryſm in the Cubit, we treat it in the following manner:

Firſt, we mark out the Artery that extends itſelf along the internal Part of the Arm, from the Arm-pit to the Cubit. Then, in the ſame internal Part of the Arm, three or four Inches below the Arm-pit, we make a ſimple Inciſion lengthways, in the Place where the Artery is moſt obvious to the Touch; then by degrees we lay the Artery bare, by ſeparating it from the Skin and the other incumbent Corpuſcles; we then take hold of the Artery with a blunt Hook, extend it, and ſecure it by two firm Ligatures. This done, we make an Inciſion in the Part between the Ligatures, and fill the Wound with Powder of Frankincenſe, and, laying Lint thereon, apply a proper Bandage: After this, we proceed, with great Security, to cut the Tumour in the Cavity or Flexure of the Cubit, being under no Apprehenſion of an Hæmorrhage. After Evacuation of the grumous Contents of the Tumour, we ſearch out the Artery whence the Blood made an Eruption, and having diſcover'd it, take it with a Hook, tie it in two Places, and make an Inciſion between them, as we did in the former Part; then filling up the Wound with Powder of Frankincenſe, as before, we procure a Suppuration.

For an Aneuryſm in the Throat, a Plaiſter of Cypreſs is a proper topical Remedy. *Aetius*, *Tetr.* 7. *Serm.* 3. *Cap.* 10.

The Aneuryſm is a Tumour, ſoft to the Touch, and yielding to the Fingers, and owing its Generation to Blood and Spirits. *Galen* ſays of it: “ When the Mouth of an Artery is open'd, the Affection is call'd ἀνεύρυσμα [a Dilatation]: The ſame thing happens, when, the Artery being wounded, the incumbent Skin is cicatrized, but the Wound of the Artery remains, being neither conglutinated, cover'd with a Cicatrix, nor ſhut by Incarnation. Affections of this Kind are known by the Pulſation of the Arteries, or more eſpecially by compreſſing the Artery; for then all the Tumour diſappears, the Matter that cauſed it recurring into the Artery.” So far *Galen*; but we diſtinguiſh theſe Affections in the following manner: Thoſe which proceed from the Anaſtomoſis of an Artery, appear of a more oblong Form, are deeply ſituated, and, when impreſs'd by the Fingers, a Noiſe is perceiv'd. When the Affection is cauſed by a Rupture, no Sound is heard, but the Tumour is rounder, and more ſuperficial.

Aneuryſms which happen in the Arm-pits, the Groins, or the Neck, or in other Places, if they are of a remarkable Bigneſs, are not attempted by the Surgeons, becauſe of the Largeneſs of the Veſſels; but thoſe in the extreme Parts, the Joints, or the Head, are treated as follows:

If the Tumour proceeds from a *Dilatation* of the Artery, we make a direct Inciſion lengthwiſe; then taking hold of the Lips of the Wound with Hooks, we ſeparate the Artery, by the Help of proper Inſtruments, from the Skin and Membranes, laying it bare; then paſſing a Needle under it, we make a Ligature with two Threads: After this we prick the intermediate Part of the Artery with the Inciſion-knife, evacuate its Contents, and endeavour a Suppuration till the Threads fall off.

When the Aneuryſm is cauſed by a Rupture, we take entire Hold of it, as far as may be done, together with the Skin, with our Fingers; then paſs under it a Needle with a double Thread, and, after it is paſs'd, cut the Loop, by which means we have two Threads, in order to make a Ligature on each Side the Tumour. If we are apprehenſive, that the Threads ſhould ſlip, we may paſs another Needle, exactly by the ſame Perforation, threaded alſo with a double Thread; which being cut like the former, you may have four Ligatures upon the Tumour; then opening the Tumour in the Middle, we take away the Contents by the Aperture of the Skin, leaving the Ligature; then we apply a Compreſs moiſten'd with Wine and Oil, and proſecute the Cure with Lint. *P. Ægineta*, *Lib*. 6. *Cap*. 37.

Dr. *Freind* takes Occaſion, from the Doctrine of *Paulus*, with reſpect to an Aneuryſm, to make the following Obſervations on this Subject:

An Aneuryſm by *Galen*, and we ſee here by *Paulus*, is deſcribed to be a Tumour, which riſes from arterial Blood extravaſated; and that it proceeded from a Rupture in the Coats of the Arteries, was the conſtant Opinion of all the *Greek* and *Arabian* Writers. *Fernelius* was the firſt, who aſſerted, that the Artery was only dilated, but not burſt, in an Aneuryſm: And *Veſalius* ſeems to be of the ſame Opinion; for *Adolphus Occo* gives us the Relation of a Patient he had the Care of, in Conjunction with *Achilles Graſſerus*. The Caſe was a Tumour in the Back, and that excellent Anatomiſt being call'd in, ſoon diſcover'd what it was by the Pulſation, and pronounced it an Aneuryſm ariſing from a Dilatation of the great Artery; and, at the ſame time, he ſaid, that the Blood was contain'd within the Coats of it, as 'tis in thoſe of a Vein in a Varix; that he had found in theſe Swellings ſometimes an Humour, concreted like Ice, or Cryſtal, ſometimes like Suet, and ſometimes Blood, grumous like a Mola. Upon Diſſection, the Cavity of the Aorta was found vaſtly diſtended, and much clotted Blood in it, as *Veſalius* had foretold, which gain'd him a great Reputation. That the Arteries are capable of Diſtention, we find often in Perſons who are poiſon'd, and in ſome morbid Caſes. 'Tis a remarkable Inſtance which *Vidus Vidius* relates, and owns it to be a rare one, of a prodigious Intumeſcency in all the Arteries of the Head, quite round, ſo as to reſemble large Varices. He adds, that *Fallopius* having undertaken to open it, juſt as he was going to attempt the Operation, being diſcouraged by the Bigneſs of the Tumour, alter'd his Opinion, and would not proceed: But ſuch a Diſtention as this, which ſpreads itſelf equally through ſo many Branches, would ſcarce, I believe, be call'd an Aneuryſm, which is a Tumour of a quite different Nature, and more circumſcrib'd.

Sennertus, refining upon the Notion of *Fernelius*, and not ſatisfied with a bare Dilatation, makes the Nature of all Aneuryſms to conſiſt in a Rupture of the Muſcular, or inner Coat of the Artery, while the outer, in the mean while, remains unbroken. It ſeems to me very plain, that he borrows this Doctrine, tho' he mentions nothing of it, from *Hildanus*, who, in expreſs Words, ſaid the very ſame thing before him. The Caſe *Hildanus* deſcribes is that of an Aneuryſm, ſucceeding upon a Puncture; and in that Caſe it may poſſibly happen, as he conjectures, that the outer Coat may upon Compreſſion unite, being compos'd of membranous and very glutinous Parts, as is evident from all Glue being extracted from ſuch Skins; but the Fibres of the inner Coats, being muſcular, when they are once broken, muſt of courſe contract and ſhrink up, and ſtarting from one another, be more difficultly brought to a union: And I can ſcarce think it well conceivable, that other Aneuryſm can be form'd in this manner, than that o and that not always, which comes upon a Puncture; for it not ſeem probable, that, when the Cauſe is intrinſical, a F which is ſuppoſed able to burſt the inner Coat, ſhould find Reſiſtance from the outer, which is own'd to be at leaſt times weaker. But, however, the Notion we have mentio though ſcarce ſo much as plauſible, was embraced by W *Barbette*, and others, and became the faſhionable Definitio an Aneuryſm for many Years. And, indeed, ſince the Opi of the Blood being not extravaſated was firſt ſtarted, it ma obſerved, that all the Writers of Bodies either of Phyſic or A tomy, have run into this Hypotheſis, without knowing of the Subject they writ upon, or indeed of what they writ the Subject. To give an Example: *Foreſtus* contends mently, that all Aneuryſms come from a Dilatation of the tery; and yet, in the very Inſtance, which is the only his Works he gives us of an Aneuryſm, the Tumour came a Rupture, and the Blood was extravaſated. And *Diemerb* in Complaiſance to the Doctrine then in Faſhion, defin Aneuryſm, in Oppoſition to Mr. *Regi*, who was for a Ru in the Artery: Then he tells a Story of an Aneuryſm, there was a Rupture; but at laſt judiciouſly concludes, 'twas no Aneuryſm at all, for no other Reaſon but becauſe was a Rupture, and ſo conſequently did not come with Definition.

The chief Arguments which the Aſſertors of Dilatation and which thoſe who acknowledge a Rupture in the Arte at a Loſs to anſwer, are only two: How comes it to p the Blood be not confin'd within the Coats of the Veſſels, there is a Pulſation in an Aneuryſm? How is it, that the B if extravaſated, does not turn to Pus? As to Pulſation, it I preſume, be eaſily conceived, how the conſtant Impu the Blood of the Arteries may communicate a Motion t which lies contiguous to it, though extravaſated. The of Percuſſion is vaſtly great; and we find, by Experimen a Bladder full of Air, the leaſt freſh Impulſe from a Syring move all that is contain'd in it, and diſtend its Sides. Artery is large, if it lies ſuperficial, and near the Centre Tumour, and if the Aneuryſm be not diffuſed too much l ways, the Pulſation will be ſtrong, tho' the Coat of the A be burſt; and this may be proved not only from Reaſo from Matter of Fact. We have a Caſe in *Severinus*, upon a Wound in the great Artery of the Thigh, there Effuſion of ſix Pounds of Blood in the Interſtices of the cles; there was ſo violent a Pulſation in the Swelling, as up both one's Hands, when laid upon it. When the An lies deep among the Muſcles, very often the Pulſation ſenſible. We may add to this, that it may grow more o and at laſt be utterly extinguiſh'd, as the Coagulation Blood increaſes; and of this we have Inſtances, both in *nus* and Mr. *Littre*, where the Pulſation was very vi firſt, and afterwards entirely vaniſh'd; and, therefore, w not look upon this as a conſtant Concomitant in the Caſe. Indeed, in moſt Swellings, we ought rather to negatively; and if we are not ſure of Pus, we ought al be ſuſpicious of an Aneuryſm; and, for want of this Fear, ſome have miſtaken, and fatally cut it for an A What has been ſaid of Pulſation, may let us into the S of the ſecond Objection; for if we can conceive how can be a Motion communicated to the Tumour, we ma rally and eaſily comprehend, how the ſame Motion m ſerve the Blood from Putrefaction, as well as if it we tain'd in the Coats of the Artery, inlarged by Diſtentio A very little Degree of Impulſe will ſerve to hinder a larg of any Fluid from an entire Stagnation. Accordingly, Ecchymoſis, the extravaſated Blood, we ſee, very ofte ſuppurates; or, when it does, there is ſome Part of i turn'd to a red Coagulum, diſtinct and ſeparate from th without any Mixture of Pus. The very Caſe we have mention'd in *Severinus*, comes up to the Purpoſe; whe the Tumour had been growing forty Days, there we out of it ſix Pounds of pure Blood, extravaſated betw Interſtices of the Muſcles, and it had no ſort of Tend Pus. Beſides, I believe, the very Poſition which theſe lay down, that all extravaſated Blood turns to Pus, juſtly queſtion'd: What Quality 'tis in the Blood, o Particles they are which diſpoſe it to Suppuration, is a P I confeſs, difficult to be ſolved; but, ſure I am, there i thing in arterial Blood which often hinders it from being into Pus, though extravaſated.

Thus we ſee, how inſufficient theſe Arguments made are to overthrow the Opinion of the Antients; and w find, that Experience itſelf, from Diſſections in theſe generally decides the Controverſy in their Favour. return to the very Caſe, where we mentioned *Veſalius* (which indeed is the firſt Hiſtory of an Aneuryſm diſſect we meet with) beſides a Dilatation of the Artery, ther

Rupture, as *Achilles Graſſerus*, one of the Phyſicians con- , gives us an Account. *Saporta*, who was contempo- ith *Fernelius*, and ſeems to have him in his Eye, tho' he ot mention his Name, relates three Caſes, with all the lars, where the Artery was burſt. The firſt is ſingled nd repeated at length, by *Sennertus*, who pronounces it to Aneuryſm: Though I can't imagine why he choſe this o object againſt, when, of all the three, 'twas the moſt , and leaſt liable to Objection; for, upon Diſſection, a leal of pure Blood was taken out, and the Artery dilated urſt; and, while the Patient was alive, the Tumour had Pulſation, and receded upon Preſſure; and if this be not Aneuryſm, I can't tell what Words can be found out to e one. *Bartholine* gives us the Hiſtory of ſeveral Aneu- diſſected, particularly of one at *Naples*, which he has the Subject of a Book, writ indeed in a romantic Style, here the Fact is clearly enough delivered. This was in m, and happen'd from a Puncture; the Arm was cut t the Patient died: The axillary Artery was vaſtly di- p to the Arm-pit; it was whole, only where the Puncture en made; on the other Side, all the Coats were burſt, Branches which came from it could not be traced; as it perficial, there was grumous Blood lying along all the of the Muſcles. *Van Horne*, in his Epiſtle, which is with this Treatiſe of *Bartholine*, has another very re- ble Caſe: Becauſe the Inſtance may ſuggeſt to us ſeveral l Reflections, give me Leave juſt, in ſhort, to relate the lars. This was a Tumour in the Calf of the Leg; *An- Vacca* pronounced it an Aneuryſm; others were of a dif- Opinion, and, out-voting him, prevail'd, and treated it Abſceſs: This Method made the Swelling extend itſelf very Toes, and there occaſioned a Gangrene, ſo that ere forced to cut off the Foot above the Ancle, for fear ortification ſhould ſpread up to the Thigh: The third ter, they attempted to open the Tumour, and the Patient the Middle of the Operation. Tho' the Artery was ſo as to be ſix times bigger than natural, the Side the Skin was eaten thro' and burſt; and between the li was a Parenchyma of grumous Blood, very ſolid, and Conſiſtence of Fleſh. Somewhat a like Caſe I was an itneſs to myſelf, with the Surgeons of St. *Bartholomew*'s l: The Perſon was old, and of an ill Conſtitution; the ſm had been, by his own Account, twelve Years grow- d of late it had increaſed extremely: It ſurrounded all lf, almoſt up to the Knee; and the Pulſation was very not only along the Skin, but upon the Muſcles, in the Part of the Calf. The Valves of the Veins (many of were ſo entirely broken, that there were Varices both nd below the Knee, of a prodigious Bigneſs, which eleſs ſubſided upon holding up the Leg. Upon Ampu- notwithſtanding the Ligatures were ſtrong, and the Ope- erform'd with great Diſpatch, there was diſcharged from ſels above a Pint of Blood, the Diameters of the Arteries ins were ſo greatly inlarged. In the Aneuryſm, upon on, were found, beſides fluid Blood, two or three Pounds mbi, which lay like ſo many Plates upon one another: hole Tract of the Crural Artery was greatly dilated, and eral little Branches were broken off from the Trunk, e a Quarter of an Inch from their Riſe; and from theſe d was thrown into the Interſtices of the Muſcles, and trocnemii; neither was there any Communication at all e Bottom. The Bones were ſo carious, that there was Hole in the Tibia, and four Inches at leaſt in the Fibula wanting. This Circumſtance of the Bones being cari- n attends an Aneuryſm: *Ruyſch* has two Caſes, where rue Ribs, and the Sternum, were almoſt conſum'd, and which remain'd was all rotten: And we may eaſily , how ſuch a Tumour, by a conſtant Preſſure, may e Perioſteum, and cauſe an Obſtruction there, and by ns gradually waſte the Bone itſelf. We may learn an- ing too from this Circumſtance, that, ſince ſo ſolid a e as the Bone cannot reſiſt the Preſſure of an Aneuryſm, rial Coats may be thought more likely to yield to its nd have their Fibres deſtroy'd by it. *Lanciſi* gives us ory of an Aneuryſm in the aſcending Trunk of the where the Patient, who had ſome time before com- f a Palpitation, Fainting, Pain, Streightneſs, and Beat- e Thorax, died ſuddenly: The upper Part of the Ster- preſs'd a little outward on one Side. Upon Diſſection, hole Curvature of the Aorta, was found a Subſtance d, incloſed in a Cyſtis; there was a Hole into the very um, in which accordingly were found two Pounds of He is of Opinion, that all Aneuryſms come from a n of the Artery; and ſo, very probably, at firſt moſt do: Yet, in the preſent Inſtance, he ſpeaks of the ing corroded, and from thence accounts for the Dilo- as he calls it, of them, in which the true Nature of yſm (he ſays) conſiſts; that is, in *Engliſh*, I think, in ing or tearing of the arterial Coats. A Caſe, exactly we find in *Laurentius* of *Guicciardin*, where not only the Cava and its Valves were all burſt, but the Orifice of the Aorta inlarged to the Bigneſs of one's Arm. So it was, in a like Caſe, related by *Paré*, where the inner Coat of the Artery, tho' oſſified, yet at the ſame time was burſt. Certain it is, the Aorta, before its bending, is eaſier dilated, upon the Account of the Reſiſtance the Blood meets with from the Curvature there; and, for this Reaſon, Aneuryſms ofteneſt happen in this Part of the Artery; and one may eaſily conceive, that if they can conſiſt in Dilatation only, it can no-where elſe ſo likely take Place as here.

Mr. *Littre* in the *French* Memoirs, gives a long and particular Detail of two Aneuryſms in this Place; where the Artery was thruſt out ſo, as to form a Sack, which reached up into the Thorax and Neck, and in one Caſe, even along the Neck to the lower Jaw. [*See theſe Caſes below*]. In both theſe Caſes, at firſt the Perſons complained of a Beating, which exactly anſwered that of the Arteries, and of an uneaſy Struggling in the Thorax, attended at length with a great Oppreſſion, a Difficulty of Breathing, and an univerſal Languor, ſome time before any thing was perceived outwardly above the Clavicles; afterwards other Symptoms appeared, much like what I have obſerved myſelf in a parallel Caſe, ſuch as Pain, not only in the Cheſt, but in the Shoulders, the Arms, and the Head; in the laſt, often a Pulſation likewiſe; very little Sleep, and that often interrupted; and Inability often to lie down in Bed, and always a greater Eaſe in a leaning Poſture forwards; the Breathing ſometimes ſo diſturbed, as to give Apprehenſions of a ſudden Suffocation. In the firſt of theſe Inſtances, ſome Part of the Ribs, the Sternum and the Clavicles were found carious. A Quack, by ſuppurating Medicines, had made ſome Part of it burſt, upon which followed a Gangrene, and, in three Days, Death. Each of theſe Aneuryſms, he ſays, was only a Dilatation of the Artery: But, I muſt confeſs, though his Deſcription be very minute and exact, I have ſtill ſome Scruples upon me, and am not perfectly ſatisfied, that in this Caſe there was a mere Dilatation alone of the arterial Coats. For, beſides that he ſays himſelf, there was not only a firm Adheſion every-where of this Aneuryſmal Pouch to the Ribs, the Sternum, the Clavicles, and the Muſcles, but a Corroſion of its Membranes in all thoſe Places, where it adhered; theſe Membranes, which he attributes to his Pouch, might be Portions of the *Mediaſtinum*, and the *Pleura*, or Expanſions of thoſe belonging to the Muſcles. But yet further, it may not be abſurd, if, in Anſwer to this, we ſhould affirm, that Humours extravaſated may form a particular Membrane to themſelves, which is no Part of the Veſſels, from whence thoſe Humours are diſcharged. What we obſerve every Day of an Hernia Carnoſa, and Wens, conſiſting of a vaſt Number of Cyſtis's, each of which has its particular Membrane, and is filled often with a different ſort of Subſtance, may give ſo much Countenance to this Opinion, that we may at leaſt think it worth conſidering, before we determine any thing in this Point. The Account *Ruyſch* gives of an Aneuryſm in the Thorax, which filled the whole Cavity of it, without any outward Swelling, ſeems to anſwer this Idea: For it conſiſted, he ſays, of innumerable thick Coats, which lay like ſo many Plates one over another, between which was incloſed a great deal of coagulated Blood. Thus the Blood lay like Leaves one upon another, ſo as to form a ſort of Polypus, in the Caſe recited by Mr. *Littre*. This is certain, that we may find Examples of this Kind in *Severinus*, *Marchetti*, and others. Our Countryman *Wiſeman* tells us, that he always found both Coats of the Artery open. In ſhort, as Matter of Fact is the beſt Argument, I can't but obſerve, that among all the Accounts Anatomiſts give us of the Diſſection of an Aneuryſm, there is ſcarce an Inſtance upon Record, of a large one, at leaſt, where there was not a Rupture in the Artery, according to the Doctrine of *Paulus*. What has been ſaid will, I believe, be ſufficient to ſhew, how ill founded is that Diviſion, which ſome Moderns have made of Aneuryſms, into true and ſpurious; whereas the whole Difference lies only in the Form of a Tumour. And if you conſider what they have advanced upon this Head, you will find that, as this Diſtinction is generally wrong in Theory, it ſignifies ſtill leſs in point of Practice. *Freind's Hiſt. of Phyſic.*

I have inſerted the preceding Diſſertation, becauſe there are many curious Paſſages in it, which ſhould not be omitted in a Treatiſe on an Aneuryſm. But in Juſtice to the Reader I muſt remark, that Dr. *Freind* has abſolutely miſtaken the Paſſage in *Paulus*; for this laſt Author plainly diſtinguiſhes betwixt an Aneuryſm by Dilatation, and one by the Rupture of the Artery, in deſcribing the Operation. His Words are Εἰ μὲν κατ᾽ ἀνευρυσμὸν ὁ ὄγκος ἐγένετο. *Cornarius*, the Interpreter of *Paulus*, tranſlates this, *Si ex Apertione Tumor factus eſt*; but how erroneouſly, the learned Reader will readily ſee. I am ſenſible, that, a little before, *Paulus* ſeems to make a Diſtinction betwixt an Aneuryſm δι᾽ ἀναστόμωσιν ἀρτηρίας, and one κατὰ ῥῆξιν. But as no ſuch thing as an *Anaſtomoſis* can be meant here, in the Senſe it is generally uſed in by the *Greek* Writers; and as he ſeems to explain it afterwards by ἀνευρισμὸν, when he ſpeaks of the Operation, I am inclined to think he means by Anaſtomoſis a Dilatation of the Artery.

I muſt not omit here a Remark of ſome Importance to Students in Phyſic, with reſpect to the *Latin* Tranſlations of the *Greek* medicinal Authors: It is that they are ſo little to be depended on, that it is very dangerous to quote a Paſſage on their Authority. I have frequently been miſled by their Inaccuracy, when I had no Opportunity of conſulting the Originals, being at a Diſtance from Libraries; and I will not be anſwerable that I have corrected all the Miſtakes they have led me into.

The following Hiſtories of Aneuryſms will ſet their Nature and Origins in a true Point of Light, and prove evidently, that the Diſtinction of Aneuryſms into *true* and *ſpurious*, is not without Foundation.

HISTORY I. *By Mr.* LITTRE.

A Man of fifty-ſix Years of Age, who had always enjoyed a good State of Health, ſent for me the tenth of *July* laſt.

I found him by the Fire, in an Elbow-chair, to which he had been confined four Months; for he could not keep in Bed, nor walk, becauſe he was almoſt choaked ſo ſoon as he lay down, and could not walk without being in Danger of fainting.

He told me, that he ſlept very little, that his Sleep was unſound, and interrupted, that he was grown very lean and weak, and ſometimes fainted, even in his Elbow-chair, altho' he took nutritive Food, and in ſufficient Quantities; that his Reſpiration was difficult; that he could not turn nor bend his Neck and Head, without great Pain; that for five Months he had a Tumour upon his Neck, which increaſed by Degrees, altho' now-and-then it diminiſhed very ſenſibly; but that this Diminution did not continue long, the Tumour quickly returning to its former Bulk; that it was painful, but eſpecially in the inferior Part, and accompany'd with a continual Pulſation, which for a Month paſt had been gradually decreaſing.

I felt his Pulſe, which I found weak; and upon examining the Tumour, found a Part of it on the Neck, and a Part of it upon the Breaſt. This Tumour was ſoft, and yielded to the Preſſure of the Fingers, but recovered its former Shape, ſo ſoon as I forbore preſſing it. I felt a ſmall Pulſation in it, which exactly agreed with that of the Arteries; the Colour of the Skin that covered it was natural. All theſe Circumſtances made me conclude, that this Tumour was a real Aneuryſm, formed by the extraordinary Dilatation of ſome Artery.

I aſked the Patient, if he had received any Blow upon the Neck or Breaſt, or if he had ſtrain'd himſelf in Coughing, Sneezing, or Vomiting, &c. He anſwered, that he was conſcious of having received no Blows, but that for five Days ſucceſſively he had uſed great and almoſt continual Efforts to vomit, and go to ſtool, which he ſaid were the fatal Effects of Pills a Quack had given him to cure him of a Rheumatiſm; that three Weeks after he began to feel, towards the Middle of his Breaſt, a Beating he had not before felt; that ſix Weeks after a Difficulty of Reſpiration ſucceeded this Beating; and that the Difficulty of Reſpiration three Months after was followed by a Swelling on the Neck; that the Beating, and Difficulty of Reſpiration, had always inſenſibly increaſed, till this Tumour appeared; upon which he no more felt the Beating at his Breaſt, but began to perceive another Beating in that Part of the Neck where the Tumour was, and that the Difficulty of Reſpiration did no more increaſe, but continue the ſame.

I adviſed the Patient to take little Food, or what was not very nouriſhing, or to let Blood now-and-then, if he took a good deal of Nouriſhment. I alſo adviſed him to put a Bandage upon the Tumour, not with a View to compreſs it, but only to ſupport the Integuments, that by being rendered more capable of reſiſting the Impulſe of the Blood, they might in ſome meaſure prevent the Increaſe of the Tumour.

The Patient having ſent for me again fifteen Days after my firſt Viſit, told me, that his Faintings were more violent and frequent. I found him much weaker, and the Tumour larger; there was no more Pulſation, but about three Inches of the Skin towards the Right Armpit was become livid. In the Middle of the diſcolour'd Place there were two Holes almoſt imperceptible, whence now-and-then proceeded ſome Drops of Blood. Theſe new Symptoms were probably occaſioned by acrid Medicines, which another Quack had apply'd to the Tumour to make it reſolve or ſuppurate, who doubtleſs knew not the Nature of the Diſtemper, or was ignorant that real Aneuryſms are not cured by reſolutive nor ſuppurative Medicines.

Two Days after, a dry Gangrene in the diſcoloured Part of the Tumour enſued, three Days after which the Patient died. I laid open his Body, which was ſo lean, that ſcarce any thing remained but Skin and Bones. I obſerved nothing extraordinary in the Parts contained in the Cavity of the Abdomen, nor in that of the Cranium, except that there was but little Blood in their Veſſels, as alſo in thoſe of the Face and Extremities.

Before I laid open the Breaſt with an Inciſion-knife, I diſengaged the Integuments which covered the Tumour, except in the gangren'd Part, where I left them; for it was impoſſible to diſengage them from it, without cutting or tearing a Part of the Tumour, ſo firm was their Adherence to one anoth afterwards ſeparated the Tumour from the Neck, fro Clavicles, and from the exterior Parts of the Breaſt; but her'd very ſtrongly in thoſe Places that touch'd upon the the Sternum, and the Clavicles, where it was corroded the Bones become carious; the reſt of the Tumour adher little. The ſoft Parts ſituated upon the Breaſt under th mour were full of a ſerous Humour of a yellow Colour.

I then raiſed the Sternum with a Part of the Ribs, a Clavicles that are join'd thereto on both-Sides, that I examine with more Freedom the Parts contain'd in the C of the Breaſt, and extirpate the Tumour whole.

I obſerved, firſt, That the Lungs were dry, wither'd collaps'd; and that the Trunk and Branches of the Blood- retained their natural Shapes.

Secondly, That there was a Spoonful and an half of Se the Pericardium, and no Fat about the Heart.

Thirdly, That the Trunk of the Aorta, from nine Breadth above the Heart to the Place where it takes the of Aorta deſcendens, had its Coats much thinner, and wa much dilated, ſo that almoſt all the Dilatation was made ſuperior and anterior Parts; and the three Branches which poſe the Aorta aſcendens, and which commonly riſe fro Middle and Upper-part of the Trunk of the Aorta, were in the poſterior Part of this Trunk.

Fourthly, That the dilated Part of the Trunk of the extended itſelf as far as the Under-jaw, cover'd the Fo and the Sides of the Neck fell back upon all the upper and rior Part of the Breaſt, from one Armpit to the other, form'd a Cyſtis not unlike a Bottle, the Neck of whic within the Breaſt, and Bottom without. This Cyſtis wa Inches and an half long from the Trunk of the Aorta Under-jaw; it was two Inches broad at its Origin, and at its Egreſs out of the Breaſt. Its Diameter upon the was betwixt nine and ten Inches, and thirteen upon the Upon the Whole, this Cyſtis was half a Foot in Depth Neck, and ſeven Inches and an half on the Breaſt.

Fifthly, The Thickneſs of the Sides of this Cyſtis was ferent in different Parts, that it varied in all the interm Degrees between the fifth Part of a Line, and ten Lines. the thickeſt and the thinneſt Parts were without the B the thinneſt lay chiefly in the gangren'd Part, and the t in the Part ſituated upon the Breaſt.

Within this Pouch there was about two Pints of Bloo which one third was black, coagulated, and very ſtrong hering to its inner Surface; the other third was of a re brown Colour, and half coagulated; the remaining thir liquid, and had almoſt its natural Colour and Conſiſtence.

Laſtly, The internal Surface of the Cyſtis of the Tru the Aorta was ſmooth and even in ſome Places, and rou others. This Smoothneſs of the Surface was natural, a owing to the internal Coat of the Cyſtis being kept entire. Unevenneſs of the ſame Surface was unnatural, and dep upon two Cauſes, the Eroſion of a Part of the proper C the Pouch, and the Adherence of certain Fibres, whic fer'd not from theſe of a Polypus of the Heart, but in this they were larger, plainer, firmer, and more red. Theſe compoſed ſeveral Laminæ, that were eaſily ſeparated fro another.

Having now given ſome Account of this Man's Diſ enumerated, with the ſeveral Symptoms that attended i declar'd what I found extraordinary in his Body, I ſhall vour to aſſign the Cauſe of the Diſtemper itſelf, and acco the moſt material of its concomitant Symptoms.

The Pills which this Man had taken, being compoſed o violent Purgatives, as one may readily ſuppoſe from the of their Operation, probably gave Occaſion to the extrao Dilatation of the Trunk of the Aorta. My Reaſons for ing ſo are theſe: Firſt, In the Efforts the Pills produced to vomit and go to ſtool, the Diaphragm, being violently tracted, compreſs'd the Aorta deſcendens ſtrongly, and intercepted the Paſſage of the Blood to it; then the Bloo from the Heart to the Trunk of the *Aorta*, finding o Branches of the *Aorta deſcendens* open, but uncapable to it, muſt of Neceſſity do Violence to theſe Branches, in force itſelf a Paſſage. Now if the Sides of the Trunk thinner in Proportion, or of a leſs cloſe Texture th Branches, the Trunk muſt of Conſequence have been d and not the Branches; and this Dilatation muſt have be in the weakeſt Parts of the Trunk, that is, in its Midd Left anterior Parts, as has been already obſerved. Th Parts being once ſtretch'd by the Impulſe, and the extra Quantity of Blood, could no longer reſiſt it, altho' it wa impelled to them with its ordinary Momentum, and in ina nary Quantity; conſequently they muſt afterwards yiel be more and more dilated.

The Efforts alſo occaſioned by theſe Pills might excite a Agitation in the animal Spirits, determine them to flow Heart in greater Quantity, and with greater Velocity th nary, and thus render its Contractions more ſtrong so that it muſt of Conſequence have thrown more and that with a greater Impetus, into the Trunk of the forc'd its Sides to dilate themſelves to receive it, and have laid a Foundation for the extraordinary Dilatation Artery.

poſterior Part of the Trunk of the Aorta ſcarcely ſuf- ny Dilatation, becauſe it was thicker, and of a more Texture: But as the Trunk was dilated towards its Part, the three Branches, which compoſe the Aorta cris, muſt of Neceſſity have been ſituated in the poſte- rt.

Sides of the Cyſtis of the Aorta were very thin in ſome and very thick in others. Two Reaſons may be aſſign'd e Parts were thin: 1. Becauſe they conſiſted of nothing ſimple Coats of the Artery. 2. Becauſe of the vaſt ion which theſe Coats had ſuffer'd, by the Impulſe of od, and by its Coacervation in the Cavity of the Cyſtis. des of the Cyſtis were thick in the Places where the po- Fibres were faſtened to its inner Surface, and the Thick- s greater or leſs, juſt as there were more or fewer of ibres, laid upon one another. Theſe Fibres, and even f the Polypus, muſt have been formed by the Slowneſs Blood's Motion, by the Groſſneſs and Viſcoſity of its and by their Surfaces coming into a great many Points tact.

Slowneſs of the Blood's Motion might have alſo occa- its being pent up in the Cyſtis, and its Coagulation Hence alſo the weak Pulſations, and the Separation of art of its Serum. The Motion of the Blood was ſlow Cyſtis, becauſe becoming gradually larger and larger, and om being imperforate, the Blood muſt come out at the lace where it went in. Now the Blood which had iven into the Cyſtis by one Contraction of the Heart, der'd from coming out by that which the next Con- ſent to it.

oon as the Tumor appeared on the Patient's Neck, he Pulſation there; but felt it no more in his Breaſt, be- he Impulſe of the Blood, which was the Cauſe of the on, made a much greater Effort againſt the Bottom of ſtis, that form'd the Tumor, than againſt the other and becauſe this Bottom was then out of the Cavity of aſt. The Pulſation by Degrees diminiſhed in the Tu- n proportion as the Blood coagulated in the Cyſtis, as olypous Fibres were formed, and as the Contractions of t became weaker.

Difficulty of Reſpiration increaſed no more after the of the Neck appeared, becauſe the Impulſe of the eing chiefly in a rectilinear Direction, the Cyſtis of the nly increaſed in Length within the Breaſt. Thus, when 'd the Neck, it increas'd no more in the Breaſt, conſe- the Difficulty of Reſpiration continued the ſame.

Patient was in Danger of Suffocation when he lay down: uſe in this Situation, the Blood driven by the Heart e Trunk of the Aorta, flowing more eaſily into the of this Artery, than in a vertical Situation, it conſe- received a greater Quantity of it on this Occaſion. uſe the Blood contained in that Part of the Cyſtis, ſitu- ernally upon the Breaſt, fell then into that Part of the within the Breaſt, and from thence a Part of it fell into nk of the Aorta. Laſtly, In the horizontal, or ſomewhat Situation, the Blood contain'd in the Part of the Cyſtis, med the Tumor of the Neck, had a greater Weight e Trachea, than in the vertical Situation, and therefore ſs'd it more. Theſe three Cauſes muſt neceſſarily pro- e Danger of Suffocation in the Man, when he lay down.

s the laſt Stage of the Diſtemper, the Tumor now- n diminiſhed, but ſoon after returned to its former Big- The Tumor diminiſhed now-and-then, 1. By the Con- t and Coagulation of the Blood. 2. When the Heart ittle Blood into the Trunk of the Aorta, or that its thither was ſlow and weak; becauſe then the Blood d in the Tumor might with Eaſe fall into the Trunk Aorta, and from thence paſs into its Branches.

Tumor might return to its former Bigneſs, 1. By the e Motion and Rarefaction of the Blood. 2. When ſome f Blood ſhut up its Paſſage from the Tumor into the of the Aorta, in ſuch a manner, that it allow'd freſh o enter, but ſuffer'd none to get out. The Sides of the of the Aorta were corroded in the Places where they the Ribs, the Sternum, and Clavicles; and theſe f the Bones were become carious, becauſe the Trunk Body of this Man being always vertical, a Part of the ontained in the Cavity of the Tumor preſs'd with a Weight upon the Coats of the Pouch, and upon the um of theſe Bones, compreſſed them ſtrongly, and or at leaſt retarded, the Return of the Blood, and of the into their Veſſels; and thereby gave occaſion to the Se- of a Part of the Serum. Now this Serum being always ated with Salts, which it diſſolved, and carry'd along muſt have firſt ſtimulated and corroded the Coats of the Cyſtis, afterwards the Perioſteum, and then the Bones. The Coats of the Cyſtis in theſe Places were ſooner corroded than in others, becauſe they, being ſupported there by Bones, were more preſs'd upon, reſiſted more, and conſequently were more directly expoſed to the Action of theſe Salts. The ſoft Parts ſituated upon the Breaſt, below the Tumor, were filled with a great deal of Serum, which was extravaſated by the Preſſure of the Tumor on theſe Parts.

The Body of the Patient was vaſtly extenuated, tho' he uſed a nouriſhing Diet, and that in conſiderable Quantity, becauſe the Circulation being render'd very ſlow by the bad Diſpoſition of the Trunk of the Aorta, the Parts of the Blood could neither be ſufficiently attenuated, nor propelled with Force enough into the Pores of the ſolid Parts, in order to furniſh them with a ſufficient Quantity of Nouriſhment.

As for his great Weakneſs, and the fainting Fits that often ſeiz'd him, they might ariſe from the ſame Cauſes that the Leanneſs did; beſides this, they might have been cauſed by ſome Clots of Blood, which falling from the Cyſtis of the Aorta into its Trunk, might, in ſome meaſure, ſhut up ſome of its Branches. Theſe continued till the Clots were diſſolved and attenuated by a freſh Impulſe of the Blood, and by the Conſtruction of the Artery. *Mem. de l'Acad. R.* 1707.

HISTORY II. *By Mr.* LITTRE.

A Man of 44 Years of Age dying of an Aneuryſm, I laid open his Body to examine the Particulars of this Diſtemper: This was a true Aneuryſm, that is, an extraordinary Dilatation of the Artery, ſituated partly upon the Neck, and partly in the Breaſt, parallel to the Spina, and extending itſelf from the third ſuperior Vertebra of the Back, to the fifth inferior of the Neck, and laid all along upon the Oeſophagus; its middle, and ſuperior Parts lay upon the Trachea, and its middle inferior Part upon the Body of the Lungs themſelves. It was four Inches long, and above two Inches and a half broad: Where its Diameter was largeſt, its Thickneſs was unequal, being thicker in its inferior Part, than in its ſuperior; and in its ſuperior, than in its middle. It was round and oblong, plain and ſmooth, of a reddiſh-brown Colour, and ſo hard, that tho' I preſs'd it down very much with my Finger, it yielded but little. It adhered pretty cloſe to the Fore-part of the Sternum, to the firſt Rib on each Side, and to the Skin, and behind to the Muſcles which cover the Trachea Arteria; and by its whole Baſis it was join'd to the ſuperior Right Part of the Trunk of the large Artery, of which it was only an Extenſion and Production.

After I had examined the Situation of this Aneuryſm, I ſeparated it from every thing to which it was fixed, and laid it open. I made the following Obſervations:

1. That the Sides were very denſe, and of an unequal Thickneſs, being a quarter of a Line thick in the thinneſt, and about a Line in the thickeſt Places; ſo that in the laſt the Sides were little leſs thick than in the reſt of the Trunk.

2. That half of the Cavity of the Aneuryſm was filled up with a ſort of polypous Fleſh, ranged in Laminæ fixed to one another, the outermoſt to the internal Surface of the Tumor, ſo that they might have been ſeparated without breaking, if they had been gently handled.

3. That the ſame Surface of this Aneuryſm was ſmooth in the Places where the polypous Fleſh was not fixed; and that it was uneven in the Places where it adher'd. It was probably the Inequality of this Surface that cauſed the Attachment of the polypous Fleſh; and the Inequality was the Effect of the Eroſion of the Membrane, occaſioned by ſome Salts ſeparated from the Blood in the Cavity of the Aneuryſm, by reaſon of the Stay it was obliged to make there.

Laſtly, The Sides of this Aneuryſm formed internally two Bodies of Strings; the one was ſituated about the middle Part; it was of a reddiſh Colour, one Line thick, and deſcribed only three quarters of the Circumference. The other String was placed in the inferior Part: It was of a whitiſh Colour: It was much harder than the other, two Lines thick, and went quite round the Aneuryſm. At the Place where the two Strings were, the Aneuryſm was not ſo big as in the Places near it. which made a ſort of a Strangulation there. All the Trunk of the Aorta, unleſs where the Aneuryſm was, had kept its former tubular Form. It was grown bigger, and its Sides ſomewhat more denſe, but the Thickneſs ſeemed natural.

This Trunk, towards its Origin or Baſe, was two Inches and ſix Lines in Circumference, ſix Inches ten Lines towards its Middle, and two Inches ſix Lines towards its Extremity. One might obſerve, in the Thickneſs of its internal Sides, ſmall ſtony Laminæ, of a whitiſh Colour, pretty brittle, of different Bulks, and of different Thickneſſes. The interior Surface, in the Places where there was none of theſe Laminæ, had a great many Pores, from whence, when I preſſed the Artery, a ſort of Lymph came out, which was clear, and a little mucilaginous. This Lymph might have imparted ſome Fluidity to the Blood, moiſten'd the interior Surface of the Artery, made it ſmooth and ſlippery, and ſecur'd it from the Action of the Salts of the Blood.

The Right Axillary preſerv'd its ordinary Bigneſs, and its exterior Surface was every-where ſmooth as uſual. But the interior, four Lines from its Beginning, was, for half an Inch, unequal; there the Sides were ſomewhat more denſe, and twice as thick as in the Parts near it, and the Cavity narrower in Proportion.

The Left Subclavian was alſo as big as uſual, and its exterior Surface equal; but the interior was unequal in its Beginning, for the Space of three Lines; its Sides, in the ſame Extent, were ſomewhat more compact, three times thicker, and there the Cavity was proportionably narrower. In the above-mentioned Places, a faint Tincture of Yellow was obſerved in the Sides of theſe two Arteries. Laſtly, the left carotid Artery, and the Aorta deſcendens, were in their natural State.

The Heart was big; the Cavities of its Ventricles were large, but eſpecially that of the Left; their Sides alſo were ſomewhat thinner than uſual.

The Lungs were full of a thick, blackiſh Blood: The Trachea, in the Place where the Aneuryſm lay, was thicker, more compact, and not ſo round as in other Places; and the Branches and the Veſicles of this Part contained in their Cavity a great deal of Humour, which was viſcous, tenacious, and of a yellowiſh Colour.

REFLECTIONS *on the Circumſtances above-mentioned.*

Firſt Reflection. A true Aneuryſm being only, as I ſaid, an extraordinary Dilatation of the Artery, one may affirm, that in the Trunk of the Aorta, the Man I ſpeak of, had two true Aneuryſms; one particular, the other univerſal. The former, which has been the Subject of my Obſervation, was only form'd of a Part of this Trunk; and what remain'd, form'd the other.

Second Reflection. Theſe two Aneuryſms were produced by the ſame Cauſes: The Diminution of the Cavity of the Right Axillary, and the Left Subclavian Arteries, was the occaſional Cauſe of them, the Blood the inſtrumental, and the Heart the efficient.

It is eaſy to comprehend, 1. That the Blood, continually thrown from the Left Ventricle of the Heart into the Trunk of the Aorta, finding no more, after the Diminution of the Cavity of theſe Arteries, the ſame Facility in its Diſtribution, muſt have ſtruck with a greater Impetus upon the Sides of this Trunk, ſtretch'd them by Degrees, dilated them in an extraordinary Manner, and, at laſt, have form'd a total Aneuryſm, if all their Parts had equally yielded to this Impulſe; but a partial one, accompany'd with a total, if ſome of them were more diſtended than others, either becauſe they were thinner, or of a Texture leſs compact, or, perhaps, more expoſed to the Impetus of the Blood. It is eaſy to comprehend, 2. That the Circulation of the Blood, partly interrupted in the Sides of theſe ſame Arteries, might cauſe the Blood to coagulate there; this Interruption might have been occaſioned by the Shriveling of the Fibres which compoſe theſe Sides, and which may have been ſtimulated by ſome extravaſated Salts; or by the Elaſticity of their reſpective Membranes and Veſſels being weaken'd by the Blood which is continually driven thither by the Heart.

In theſe Caſes, the Blood, not having its free Courſe, or not being propell'd in its ordinary Manner, muſt ſtop, and coagulate in the Cavities of theſe particular Veſſels, dilate them, ſeparate their Fibres, inlarge their Pores, give occaſion to a greater Quantity of nutritive Juice to be diſcharged, to get between the ſeveral Laminæ of the Membranes of the Sides, diffuſe itſelf among their Fibres, ſeparate and diſjoin them, adhere firmly to them on all Hands, and conſequently increaſe the Thickneſs of the Sides of theſe Arteries.

Third Reflection. The conſiderable Diminution of the Cavities of theſe Arteries was the Effect of the extraordinary Thickneſs of their Sides, eſpecially ſince the Thickneſs was wholly form'd on the inner Side; either becauſe the Circulation had been only intercepted on this Side, or becauſe the external Laminæ had more oppos'd their Separation than the internal. Thus the internal Sides incroached upon the Cavity, and diminiſhed it in Proportion.

Fourth Reflection. It may poſſibly be asked, Whether the extraordinary Thickneſs of the Sides of theſe Arteries was a Fault in their original Conformation; or, Whether it was afterwards contracted by any particular Accident. The latter of theſe Opinions, to me, appears the more probable of the two, for the following Reaſons:

1. The Patient, ſome Days before his Death, told me, that for about eight Months paſt, he had felt in the Middle of his Breaſt an extraordinary Heat, Palpitation, and Oppreſſion, which had daily augmented from their very firſt Appearance. Theſe three Symptoms may eaſily be accounted for, from the Deſcription I have now given of the Aneuryſm itſelf.

2. The Patient alſo aſſured me, that before that Time he had never been ſenſible of the leaſt Indiſpoſition, or Diſorder, in his Breaſt.

Moreover, the Texture of the Sides of the Arteries irregular, and their internal Surface uneven. We have t fore no Reaſon to believe, that this was a Fault of forty ſtanding, (for ſo long the Patient had liv'd) or even of any ſiderable Number of Years; ſince in Infants, and eve Adults, we can with Difficulty obſerve the *Callus of a which has been broken about a Year before.*

Fifth Reflection. The Membranes of the Trunk o Aorta, which in this Caſe, as one would imagine, muſt n ſarily be very thin, by reaſon of the great Dilatation they ſuffer'd, had nevertheleſs preſerved their natural Thick probably, becauſe in proportion as theſe Membranes were ted, their Pores had proportionably opened and inlarged, more nutritive Juice had inſinuated itſelf into the Interſtic the Fibres, adher'd to their Surfaces, and increas'd the T neſs of the Membranes.

Sixth Reflection. The particular Aneuryſm muſt have formed at that particular Part of the Aorta where I obſerv rather than any other, ſince all its Parts are ſuppoſed equal Thickneſs, and endow'd with an equal Power of R ance; and that ſo much the rather, becauſe that Trunk o Artery, which is nearly of a ſemicircular Figure, does no gin to bend itſelf, till it reaches the Place where this Aneu was ſituated. Thus the Blood thrown out of the Heart of Conſequence, have produced more conſiderable Effects this particular Part, dilated it more, and brought on an A ryſm in it.

Seventh and laſt Reflection. The particular Aneuryſm have been formed rather at the ſuperior Part of the Aorta, in the inferior and lateral Parts; becauſe the Blood, was the inſtrumental Cauſe of it, is directed in its Mo from below, upwards; and conſequently its Action muſt been greater on the ſuperior, than any of the other Parts. upper Part then muſt of courſe have been thruſt upwards ſenſibly dilated, and form'd into an Aneuryſm, which inlarge itſelf towards that particular Side.

The principal Symptoms, with which this Aneuryſm was a pany'd, accounted for.

The Patient complain'd of a Weight and Pain in his and of a Weakneſs of the principal Functions of his These three Symptoms were produced by one and the Cauſe, that is, the Compreſſion of the Jugular Veins, ſioned by the Aneuryſms.

The Caſe ſtands thus: Theſe Veins being compreſs'd Return of the Blood from the Brain to the Heart is not and uninterrupted; ſo that leſs Blood returning, the g Quantity muſt conſequently remain in the Head, and the itſelf of courſe muſt ſeem heavy: Becauſe in ſuch a Caſe is too much Blood in the Brain, the Coats of its Blood-v its Membranes, &c. muſt of courſe be ſtretched and vellic and ſuffer a kind of Diſtortion and Dilaceration, in whi Pain conſiſts.

The ſame Veſſels, ſo diſtended with Blood, muſt compre Nerves ſituated in their Interſtices, deprive the animal of their free and eaſy Motions in the Brain, and conſeq weaken the Functions and Operations of the Soul, whic pend upon theſe very Motions.

The Patient felt alſo a Pain in his Neck, Shoulders Arms; becauſe the Aneuryſm, being ſituated upon the J as well as the Subclavian Veins, by which the Blood retu the Heart from theſe Parts, muſt compreſs them, rend Motion of the Blood thro' them ſlow and difficult, and in ſome meaſure, ſtop it in them. The Blood, thus lod the Veins, muſt diſtend and ſtretch them by its exceſſive tity, and ſtimulate and irritate them by the Salts whi ſecreted from the Blood, by reaſon of its Continuance ther thus, by theſe two Means, the Pain in theſe Parts is exci

He was likewiſe troubled with a Difficulty of Reſp and Deglutition, becauſe the Aneuryſm being ſituated up Trachea, and Oeſophagus, which are, as it were, the duits of Reſpiration and Deglutition, compreſs'd them ſo, it was with Difficulty they performed their reſpective ctions, eſpecially about the Beginning of the Sternum, the Paſſage being ſurrounded on all Sides with bony whoſe Reſiſtance cannot be ſurmounted, theſe two Co cannot of courſe elude this Preſſure.

The Pulſe of the Patient's Right Wriſt was ſmall and becauſe, as I have obſerved, the Entrance of that Branch, whence the particular Branch occaſioning this ſprung, being very ſmall, there muſt, of conſequence, Blood convey'd into it, and that too muſt flow very in it, ſince the Branch itſelf was too large and capacio proportion to the Blood carry'd thro' it. Thus that could neither fill the Cavity of the arterial Branch, and by occaſion a full Pulſe, nor dilate the Sides of it with and Impetuoſity enough to produce a ſtrong one; ſo th Pulſe, in his Right Wriſt, muſt have been both ſmall and

The Pulſe alſo of the Patient's Left Wriſt was ſo fi weak, that it could ſcarcely be felt. We have alre ed, that the Entry of the arterial Branch, from which the nch producing this Pulſe ſprung, was much leſs than that he Right Arm. The Artery where this Pulſe is, muſt con- ently receive much leſs Blood, its Sides be leſs dilated, with a proportionably ſmaller Degree of Force, by which ns the Beating of it was almoſt imperceptible.

aſt of all, the Patient fainted, when, being weary'd of holding Neck and Head upright, he let them fall to one Side.

When the Head and Neck are inclin'd forwards, the Jugular ns form a kind of Bend, and are, as it were, choaked: en the Head and Neck, on the other hand, are reclin'd wards, theſe Veins are too much ſtretched, and the Dia- ers of their Cavities are diminiſh'd; becauſe their Sides of conſequence approach nearer to one another; and when Head and Neck are inclin'd, either to the Right, or Left , the Jugulars of the one Side are bended, whilſt thoſe he other are too much ſtretch'd.

ow in all theſe Situations, the Jugular Veins are com- 'd, and their Cavities diminiſhed; and the Return of the d from the Brain to the Heart is by that very Means ded and render'd more difficult. If to theſe Compreſſions dd that made upon the ſame Veins by the Aneuryſm, we find no great Difficulty in comprehending how the Veins e Brain muſt be choaked up, and how theſe choak'd up s muſt compreſs the Nerves to ſuch a Degree, that, in preſent Caſe, a ſufficient Quantity of animal Spirits could e convey'd to the Heart, in order to carry on its Motion out Interruption. Now this Interruption of the Motion e Heart is always followed with Faintings, which are er or leſs, according as the Interruption is ſhorter or r. *Mem. de l'Acad. R.* 1712.

HISTORY III.

n the 5th of *June* 1721, a Soldier came into the Houſe valids with an Aneuryſm, almoſt of a Year's ſtanding, on nterior, right and upper Part of his Breaſt. The external our, which was about a Finger's Breadth diſtant from the um, ſeem'd to be divided into two Parts, one of which ed the intercoſtal Space between the ſecond and third ages of the Sternum; and the other that between the and fourth. This Aneuryſm roſe ſeveral Lines above the of theſe Cartilages, altho' they were ſenſibly more arch'd, rojected farther, than thoſe of the Left Side, which was oned by the quick aud continual Beating of the Aneuryſm. were even viſible at ſome Diſtance; and all the adjoining were ſo ſenſible of Pain, that the Patient could ſcarce his Cloaths to touch them. He could not call to Mind ternal Accident, which might be aſſign'd as the Cauſe Diſorder; however, he ſpun out his Life under all the es of his Diſeaſe, till the 22d of *October*, when Death End at once to his Life and his Pain.

Morand, the younger, laid his Body open, and found neuryſm in the Aorta. But a Circumſtance which appears hat miraculous, was, that the Aorta, already preterna- inlarg'd at the Place of its Egreſs from the Heart, about h farther, form'd itſelf into a large Bag, thirteen Inches cumference, and capable of holding a Pint of Water. ards it contracted itſelf in order to continue its ordinary , ſend forth its four ſuperior Branches, and form its and at its upper and arterior Part, it was very cloſely with that Part of the Pleura which covers the Cartilages Sternum.

o Polypi fill'd the Cavity of the Aneuryſm. The one t the lower Part of the Aorta, cover'd the internal Sur- that Part of it which is next the Baſe of the Heart, and rds form'd a kind of Plate, pierc'd with a Hole, parallel Opening of the Left Ventricle. The other Polypus co- the ſuperior Part of the *Aorta*, which adher'd to the . They both had this Circumſtance peculiar to them, e red Subſtance, of which they were compoſed, ſerv'd d of Ground-work for a beautiful Contexture of ſmall, Filaments, which, by their Ramifications, interſected ther, and repreſented various Figures, ſuch as Rays from a common Centre, Lozenges, Nets, and the Ramifications obſerved on the Leaves of Trees. The ſtances were undoubtedly Concretions of Blood, form'd Congeſtion in the dilated Aorta. But if it ſhould be what the white Filaments were; I anſwer, They were y the lymphatic and nutritive Parts of the Blood, d from the reſt, by its Stay in the Bag, and again as much as their Nature would admit of. If, on the and, it ſhould be aſked, why theſe lymphatic and nu- Parts of the Blood ſhould rather unite themſelves in Fi- , than in any other given Form; I anſwer, That tho' not account mechanically for this Phænomenon, yet we ſonably ſuppoſe, that they are naturally diſpoſed ſo to d that this Effect is very agreeable to their Functions, nfirmed by the Formation of new Membranes, and which are found upon certain Occaſions.

Mr. *Morand* obſerved how ſurpriſingly ſkilful Nature was, in finding out Expedients for her own Relief; and drawing, as it were, from the very Diſorders into which the animal Machine is thrown, the Means of preſerving herſelf, or, at leaſt, of warding off her Deſtruction. The Polypuſes, as is uſual, occaſion'd a great Inequality in the Patient's Pulſe; ſometimes an Intermittence, and at other times too great a Frequency; but without theſe Inequalities in the Pulſe, the Diſorder would have been ſtill greater, ſince the dilated Aorta would have received a larger Quantity of Blood, than the Heart would have been able to propel; the Polypuſes, by filling the Cavity of the Aneuryſm, made amends for its exceſſive Dilatation, and directed the Courſe of the Blood thro' a Canal which had all along been kept open. In the two Polypuſes alſo, a Part of one of which was pierced with a Hole, this Hole was parallel to the Opening of the laſt Ventricle, thro' which the Blood flows from the Heart. The upper Part of the Aneuryſm adher'd to the Pleura, and, by its Union with it, had ſo fortify'd the Membrane of the Aorta, as to prevent its breaking by the Action of the Blood, and ſave the Patient from an Effuſion of Blood in the Cavity of his Breaſt, which would have proved immediate Death. *Hiſt. de l'Acad. R.* 1721.

HISTORY IV.

A certain Surgeon gave our Society an Account of a very ſurpriſing and uncommon Caſe: A Man, as he informed us, who had gone a hunting, happening to turn his Head haſtily, and with ſome Degree of Violence, to the Right Side, was not able, without a good deal of Pain, to return it to its natural Situation; ever after which Accident he was ſo much indiſpos'd, that he could neither ſwallow nor breathe without a very great Difficulty. About fifteen Months after the Accident, the Patient died; and upon ſearching for the Cauſe of his Diſorder, we found the Aorta very much dilated, a large aneuryſmal Cyſtis in the Right Subclavian, the Oeſophagus and Trachea ſtrongly compreſſed by this Cyſtis, the Clavicles removed out of their natural Situation, and a Piece of Bone, which was wanting in the Sternum, included in the Cyſtis. 'Tis no eaſy Matter to account for the Bone's being lodg'd in this Place. *Hiſt. de l'Acad.* 1700.

HISTORY V. By Mr. MALOET.

On the 26th of *June* laſt, in the Afternoon, a Soldier of 45 Years of Age came into the Royal Hoſpital of Invalids, where I ſaw him the ſame Day; and upon aſking him for what Diſorder he came there, he told me, that for ſix Weeks paſt he had been troubled with a Defluxion in his Breaſt, for which he had been blooded ſix or ſeven times; that he had cough'd a great deal, and ſpit Blood, and that his Cough, and a Pain in his Throat, were ſtill remaining. I look'd at his Neck to ſee whether there was any Riſing or Elevation about it, and found on the lower and anterior Part of it a Tumour as large as a Nut, immediately above the Cavity of the Sternum, on which it reſted: It was ſoft, round, and ſmooth. The Skin which cover'd it retain'd its natural Colour. It had a very perceptible, and a very regular Pulſation, and yielded to the Preſſure of one's Finger; but reſtor'd itſelf to its former Dimenſions very quickly, and with a kind of Force. From all theſe Symptoms I eaſily concluded, that it was a true Aneuryſm; and ſuſpected it to lie at the ſuperior Part of the Aorta, which I imagin'd to be lengthen'd out independently of the Aneuryſm. I aſked the Patient how long he had been afflicted with that Tumour, and whether he was ſenſible of any Circumſtance, which might have poſſibly laid a Foundation for it.

He told me, that he had only perceived it ſince the Defluxion in his Breaſt; and that he could think of nothing to which he could ſo properly attribute it, as to the Efforts he had made in Coughing.

As his Cough remain'd as yet, I order'd him compoſing Medicines; and becauſe his Pulſe was a little too frequent, I reduced him to Broths and Ptiſans; and order'd him to abſtain from making any Kinds of Efforts, becauſe of the Aneuryſm.

The Patient having continued under this Regimen till the 29th of the ſame Month, he aſked me one Morning, when I made him a Viſit, if it was by my Orders that he had no Wine allow'd him: When I told him it was, he ſaid, I cut his Throat, as it were, by diſcharging him the Uſe of it: That as he had work'd at his Buſineſs in the Quarries, he had been accuſtomed to it; and therefore begg'd, that I would let him have ſome Allowance of it. Finding his Pulſe calmer than it was on the Day in which he came to the Hoſpital, I made him be marked among the Number of the Patients who were to have Wine.

I had no ſooner reached the Bed next to the Patient's, than I heard behind me a Noiſe, as it were, of one vomiting. Upon returning, I found the Man, with whom I had juſt then parted, diſcharging Torrents of Blood from his Mouth. I ran to his Aſſiſtance, as did likewiſe the Apothecary of the Hoſpital, who attended me during my Viſit. But as he cover'd not only himſelf, but every one that came near him, with Blood, the firſt Step we took, was with all Haſte to provide a Veſſel for receiving the Blood, which he diſcharged without any Effort, in great Quantities, which came up immediately upon the Back of one another. As I thought the Caſe very deſperate, I deſired a Siſter of the Infirmary to call a Prieſt with all poſſible Haſte. The Patient, having laid himſelf on his Bed, in the Poſture which he judged moſt advantageous, diſcharged great Quantities of Blood in the Veſſel, which the Apothecary held for that Purpoſe, and expired in a Moment, before the Prieſt, who was in the Hoſpital at the very Time the Accident happened, could have an Opportunity of diſcharging the Functions of his Office, with regard to his Soul; for there was ſcarce a Minute betwixt his Death, and the Time of his beginning to throw up the Blood, which was frothy, and of a vermilion Colour.

Tho' I expected very fatal Conſequences from the abovementioned Tumour, yet, I muſt own, I did not imagine the Patient's Death ſo near at hand; and much leſs did I ſuſpect, that the Aneuryſm ſhould have been diſcharged by the Mouth.

But there was no Reaſon to doubt of its having burſt, and of the Patient's having loſt all his Blood by that Means, ſince upon his Death the Tumor of his Throat diſappeared entirely. But how did it appear poſſible, that this Blood ſhould have reached the Mouth, ſince nothing is more evident, than that the Tumor was a dilated Artery, none of which have an immediate Communication with the Mouth, nor with any of theſe Canals by which this prodigious Quantity of Blood could be furniſhed? I ſaw plainly, that the Blood muſt have forced a preternatural Road to itſelf; but it could not have poſſibly diſcharged itſelf ſo ſuddenly without two Openings, one in the Artery, where the Aneuryſm was, and the other in the Trachea, which I judged the only way by which the Blood could reach the Mouth. This too appeared ſomewhat hard to conceive, ſince the Fluid contained in the Tumor did not ſeem capable of corroding the Sides of the Canals; and even tho' it had, it muſt have pierced the Sides of the Aorta, before it could produce any Effect upon thoſe of the Arteria Trachea; in which Caſe, that is, after it has pierced this Artery, it muſt have thrown itſelf into the Cavity of the Breaſt, and by that very Circumſtance become incapable of corroding the Trachea, or coming through it to the Mouth.

Upon laying the Patient's Body open, my Difficulties were removed. This I did the very Night on which he died, and, before I began the Work, I obſerved a kind of bloody Froth flowing from his Mouth, and the ſmalleſt Remains of the Tumour on his Neck were not to be ſeen. I opened the Breaſt, and after having diſengaged the great Artery, and its three large Branches, the Right Subclavian, the Left Carotid, and the Left Subclavian, I found ſomething peculiar and uncommon in the Aorta; for it was dilated in the upper Part of its Arch, between the Right Subclavian, and the Left Carotid, betwixt which, juſt at their Origin, there was, contrary to what commonly happens, a Space of ſix Lines. The Right Subclavian Artery was larger and longer than ordinary; for it was about an Inch in Diameter, and two Inches long, before it ſent forth the Carotid. There was on its upper Part, where it ſprings from the Aorta, a Cyſtis, which had form'd the Tumour, which appeared on the lower Part of his Neck. Hence it was, that this Aneuryſm was not, as I had ſuſpected, altogether in the Aorta, which nevertheleſs contributed ſomewhat to its Formation; for it was really dilated, or lengthened out, in its upper Part, as I had ſuſpected.

The Cavity of this Cyſtis was about two Inches in Diameter every way. It was placed before the anterior Part of the Arteria Trachea, between the tenth and fifth cartilaginous Segments incluſively; ſo that it covered ſix of theſe Segments, and in its poſterior Part adhered very cloſely to them, as it likewiſe did on the Left Side, which I did not touch.

I endeavoured to diſengage it from the Arteria Trachea, but it opened as ſoon as I touched it with the Knife, though I did it with all the Gentleneſs I poſſibly could. Finding that it was not poſſible to ſeparate the whole Cyſtis, which I at firſt intended, I inlarged the Orifice which I had made in its Right lateral Part, that I might look into its Cavity. I found nothing in it, but was ſurpriſed to ſee the Cartilages of the Arteria Trachea diſcovered. I endeavoured to find out the poſterior Side of the Cyſtis, or dilated Artery, which, in Conſequence of its Situation, ſhould have been oppoſite to the ſaid Cartilages; but I found no Side there, except a little Shred, which ſeemed to be very weak, decay'd, and even torn. I alſo obſerved, that the Cartilages upon which the Cyſtis touched, were weaker, flatter before, and leſs projected than the reſt. And laſtly, I obſerved between the ſixth and ſeventh of theſe Cartilages, on the Right anterior Part of the Trachea, a Hole almoſt round, of two Lines tranſverſe, and two and an half of vertical Diameter.

This Hole was made in the ligamentous Membrane, by which the cartilaginous Segments are tied to one another; and it even bordered upon the ſixth and ſeventh, which by that means had become a little arched at that particular Place.

Upon ſounding the Hole with a Probe, I found it paſſed i the Cavity of the Arteria Trachea, but yet in ſuch a mann that it was larger at its Entrance, than in any other Part. alſo judged it proper to take a View of the Stomach, wh when I did, I found it filled with Clots of Blood.

I was then no longer at a Loſs to judge which way the Bl diſcharged by the Mouth had come, and why it had b thrown up ſo quickly, and in ſo large Quantities; and e why it had not been thrown up ſooner, though the Hole in Trachea ſeemed to be of a conſiderably old Date.

'Tis not, in my Opinion, to be doubted of, but the Bl paſſed, by means of this Hole, from the Cyſtis into the T chea; thence it muſt needs either mount up into the Lary or deſcend into the Bronchia; but the Air included in t prevented its taking that Courſe, tho' it was carried thither its own Weight; ſo that it was forced to the Larynx, from thence towards the Palate, from which it was diſchar by the Mouth.

Though the Ho'e ſeemed to have been made in the abo mentioned ligamentous Membrane, ſome time before the tient's Death, or rather before his Hæmorrhage, yet the Bl did not paſs from the Cyſtis into the Cavity of the Trac becauſe the internal Membrane of that Canal had remained tire, block'd up the Hole on the Side of the Cavity, and pro as it were, a Defence to its Entrance. But this Memb being broken and dilacerated, the Moment before the Pa died, the Blood contained in the Aneuryſm, or rather th the Subclavian Artery, found nothing to oppoſe its Paſſage the Trachea.

I ſay this laſt-mentioned Membrane muſt have been firſt tended, and then broke, which could not well happen otherw ſince, being pretty lax, it muſt have yielded, and be dr inwards by the Blood, which came from the Subclavian tery.

This appeared from the Form of its Opening, the Li which projected conſiderably into the Cavity of the Arteria T chea; ſo that by laying them back towards the Hole forme the ligamentous Membrane, they cloſed up the greater of it.

It now remains, that we conſider how this Hole may been made, between theſe two Cartilages, in the Membran which they are tied to one another; and this is not very to be conceived; for the poſterior Side of this Cyſtis, w adhered to the Arteria Trachea, having been ſtretched, at laſt broken, by the impetuous Efforts of the Blood, w arrived continually at it; and even deſtroyed, ſince it was ſlender, and on one Side, apply'd to Subſtances harder tha ſelf, and on the other, expoſed to the Shocks of the Blood th very forcibly upon it, the Blood acted immediately upo Trachea, but was not thrown forth from the Cyſtis, by ſon of its cloſe Adherence to the Trachea, which ſerved Side to its poſterior Part. This ſame Blood, whether b Seroſity, or ſome of the ſaline Parts, or by the Effort which it had been thrown into the Cyſtis, had gradually w the Interſtices of the cartilaginous Segments, which conc to form the Trachea, and had produced this Opening be the ſixth and ſeventh of them, becauſe that Place might poſſibly been weaker, or more expoſed to the Efforts o Blood in Conſequence of its Direction.

But this Opening was not formed inſtantaneouſly, b little and little. It was begun, and even pretty well advan at that time the Patient ſpoke to me with ſo much Reſolu and accuſed me of cutting his Throat, as it were, by deba him the Uſe of Wine. He did not certainly at that time t that he was ſo near the Point of having it really cut, o leaſt, pierced. The Blood had already broken through t gamentous Membrane betwixt two of the cartilaginous ments of the Trachea, and had arrived at the internal M brane of that Canal, which was now the only Obſtacle for it to ſurmount in its Paſſage. At this particular ti might have been truly ſaid, that the Life of this Soldier h as it were, by a Hair, ſince it only depended on the ſhort the longer Time, which ſo ſlender a Membrane might be poſed to hold it out againſt the Shocks of the Blood, ſu by the firſt and largeſt Branch of the Aorta. It was poſſible, that ſuch a Membrane could, for any conſiderable hold it out againſt a Force capable of overcoming a vaſtly g Reſiſtance: Thus it was broken in a Moment; and tha the very Moment preceding the Death of the Patient.

As the Communication betwixt the Aneuryſm and the teria Trachea had become free and uninterrupted by the b ing of this Membrane, the Blood contained in the Aneu or rather in the Subclavian Artery, paſſed with all its Im oſity into that Canal, and was from it convey'd, as I have al ſaid, through the Larynx towards the Palate, by which i diſcharged thro' the Mouth, as long as the Patient had St enough to ſit up; but being obliged to lie down, or falling backwards, by reaſon of the extreme Weakneſs ſioned by ſuch a Loſs of Blood, and the Blood, in the time, continuing to flow towards the Palate, a Part of it into the Pharynx, and from thence into the Oeſophagus Stomach ; this it might the more eaſily be ſuppoſed to do, uſe the Poſture of the Patient favoured its Direction that , by its proper Weight, whereas it oppoſed its Diſcharge he Mouth. Hence we may account for the Blood found e Stomach, where it was coagulated.

he Effort of the Blood, which flow'd from the Subclavian ry to the Aneuryſm, beating continually and immediately the Cartilages of the Arteria Trachea, could not fail to h them, and render them flat and weak, as I have ob- d they were.

his Aneuryſm ſeems to me to have been the Conſequence of Augmentation of the Diameter of the Right Subclavian ry, from whatever Cauſe ſuch an Augmentation might ed; for as the Diameter of this Artery could not be aug- ed without its Sides being at the ſame time diſtended, and quently rendered thinner, which they were in Reality, in rtion as they were dilated, it is plain, that theſe Sides, be- ng thinner, muſt, of courſe, have leſs Force to reſiſt the tuoſity of the Blood, which was carried towards them, and h was ſo much the greater, as it came immediately from Aorta. Theſe Sides then were forced to yield, and ſtretch in ſome Places than in others, that is, in thoſe Parts moſt were moſt expoſed, or weakeſt ; and as they loſt their r Tone, and a Power of reſtoring themſelves, the Cyſtis, avity of the Aneuryſm, was by that means formed.

e Efforts which this Soldier uſed to make when working Trade in the Quarries, might have laid a Foundation for ugmentation of the Diameter of the Right Subclavian Ar- and by that means rather prove the Cauſe of the Aneu- than thoſe Efforts which he made in Coughing, during efluxion of his Breaſt, to which he attributed it ; becauſe the Work in which he was employed, the Muſcles of ms muſt be violently contracted, and remain for a long n that State, they could not fail to intercept the Courſe Blood in thoſe Arteries, which ſupply them with it ; and muſt have happened more remarkably in the Right, n the Left Arm ; becauſe the former makes ſtronger and frequent Efforts than the latter. The Courſe of the being intercepted in the Arteries of the Right Arm, it of courſe have ſtopped in the Trunk of the Subclavian, which theſe Arteries take their Origin, and which was om all Compreſſion. The Blood being ſtopped in that , and rendered incapable of circulating forwards, in tion as it was propell'd by the Heart, and accumulated it muſt have dilated the Veſſel, and occaſioned an Aug- ion of its Diameter.

very rare, that a true Aneuryſm opens, and kills the in ſo ſhort a time, eſpecially when it is not more con- e than this was ; for one may ſee very large ones ſup- by Patients for a great Number of Years, whereas this in about the Space of ſix Weeks.

Circumſtance, which, in my Opinion, beſt accounts , is, that the Aneuryſm touched upon the Cartilages of teria Trachea. I have already taken Notice of the ſe Cartilages had in deſtroying the poſterior Side of this and conſequently in its becoming open.

perhaps ſtill rarer, that one ſhould diſcharge, by the Blood, which comes immediately from the Trunk of clavian Artery. As I never ſaw another Inſtance of it, e not met with a Caſe of the like Nature in all the Au- have read with that very View, I thought proper to nicate the Particulars of a Caſe ſo ſingular. *Mem. de R.* 1733.

STORY VI. *From the Philoſophical Tranſactions.*

e Year 1685. a Servant to my Lord *Culpeper* got a hich cauſed him a heavy Pain in the Breaſt for a while. a Month after this Accident, a Muſket burſt in his and gave ſo violent a Recoil againſt his Right Side, that him ſpit Blood immediately, and continued for ſix . A Year after, he began to feel a Pulſation on that d then he ſpit Blood again, which continued but only pring and the Fall, till he died.

ed likewiſe by the Noſe twice a Year, for a Month me. In 1695. or 1696. a Tumour began to appear e Right Nipple, which, growing by little and little, an extravagant Bigneſs, and at laſt, after uſing ſome t Ointments upon it, (of its own Accord) it broke , and he ſoon after died. Mr. *Laſage* open'd the Body, d that two of the Cartilages of the Ribs were worn off, ontinual Pulſation of the Tumour : Part of the *Ster-* was alſo worn off, by the ſame Cauſe. The Dila- the Artery began preciſely on its Trunk next to the efore it divided itſelf into the aſcending and deſcending and though there is but a little Place, yet it did di- f ſo exceſſively, that the Bag did fill up the whole f the *Thorax* on the Right Side, and preſſed the Lungs that they were thereby much diminiſhed ; the Bag Outſide did adhere to the *Mediaſtinum*, to the *Diaphragma*, the *Pleura*, and to the *Sternum*, in which it had digg'd two great Holes, ſo ſtrong was the Impulſion : The Inſide of that Bag was lined, almoſt all over, with bony *Laminæ*, ſome larger, ſome leſſer, like ſo many Shells ; the Heart was mightily relaxed, inſomuch that it was twice as large as it ought to be ; and amongſt its Fibres there were ſome Stones, like them which are ſometimes found in the Lungs of ſcrophulous Bodies. *Philoſoph. Tranſ. Abr. Vol.* 3.

HISTORY VII. *From the Philoſophical Tranſactions.*

We had lately an Opportunity of examining into the Nature of an Aneuryſm, by means of a Patient, who was taken into *St. Bartholomew's* Hoſpital. She was about four-and-thirty Years of Age, and of a good Conſtitution ; but there was a Tumour, bigger than one's Fiſt, which began from the upper Part of the *Sternum*, between the Origins of the *Muſculi Maſtoidæi*, and extended itſelf to the *Pomum Adami*, almoſt up to her Chin, and poſſeſſed all the Breadth between the two *Carotid Arteries*. The Account that ſhe gave of the Occaſion of it was, that her Huſband, being a paſſionate Man, took her by the Throat one Day, as ſhe was crying out upon ſome Occaſion or other, and griped her ſo hard, as almoſt to throttle her. She was then with Child, and immediately perceived ſomething of a Pain a little above her Heart ; and a few Days afterwards there appeared a Tumour about the Bigneſs of the Top of her Finger, juſt above the *Sternum*, and ſo continued without Increaſe or Pulſation, till ſhe was brought to Bed, when it began to be inlarged, upon her having a hard Labour, agreeable to what Practitioners have obſerved, that Accidents of this Nature often happen to Women in Labour. This was about four Years ſince, and from that time it had continued gradually increaſing, until it was arrived to almoſt the higheſt Pitch of Extenſion ; and ſhe had all along been troubled with a Palpitation, Pain, and Streightneſs within the *Thorax*, great Interruptions in her Reſt, and frequent Sinkings, together with a conſtant Beating along the Cheſt up to the Tumour ; in which likewiſe there was a Pulſation correſpondent to the regular Pulſe, ſhaking the Tumour at every Stroke, and manifeſt to the Eye as well as the Touch. Notwithſtanding this, ſhe was otherwiſe hearty, had her *Menſes* regularly, had a good Appetite, and was moſtly chearful and lively, and never more ſo than juſt before the fatal Period of her Tumour. The *Apex* of the Tumour, which was towards the Middle, in the prominent Part of it, was beginning to mortify, through an Over-diſtention, and the common outward Integuments were the firſt that ſeemed to ſuffer : But the Diſtention continuing, the Mortification increaſed, and was quickly communicated to the outer Coat of the Artery likewiſe, which therefore ſloughed off as well as the other Integuments, and being at length worn away, juſt at the Extremity, made a ſudden Aperture, about twice the Bigneſs of a Gooſe's Quill. The Blood inſtantly guſhed forth, as from a Stream or Torrent, and the poor Patient died in leſs than a Minute.

Upon opening the Body, we began from the Heart, in which there was little remarkable, except that the Left Ventricle was ſomewhat larger, as were likewiſe the *Columnæ Carneæ*, than they naturally ſhould be. There was little obſervable likewiſe in the *Aorta* itſelf, till we came to the *Curvature* ; upon the upper Side of which was the *Baſis* of the Tumour, forming a cylindrical Stem of four Inches long, while in the Cavity of the *Thorax* ; but extending itſelf into a circular Form of a larger Dimenſion, when it became external. Upon opening the under Part of the *Aorta*, oppoſite to this Baſis, and carrying the Inciſion throughout its whole Extent in the *Thorax*, the Trunk retained its uſual Form and Dimenſions, and was not at all dilated ; but in the upper Part above deſcribed, juſt on this Side the Orifice of the Right *Subclavian Artery*, (which was nearer than uſual to the Orifice of the Left *Carotid*) there was a preternatural circular Aperture of half an Inch Diameter. Upon dividing this Aperture, and carrying on the Inciſion to the *Apex* of the Tumour, its whole internal Subſtance appeared. The Edges of the Aperture, at the Baſis of the Tumour, were hard, and almoſt cartilaginous, and ſeemingly the Remains of thick and fleſhy Fibres, which, upon a nicer Inſpection, they appeared to be in Fact ; *viz.* the broken Fibres of the Inner, or what is commonly called, the Muſcular Coat of the Artery, which terminating here, the Tumour immediately increaſed to two Inches Diameter, and continued of that Dimenſion, till it came out of the Neck, between the Clavicles ; but then extended itſelf circularly to a Diameter of above three Inches, the Covering of which was nothing elſe but the outer Coat of the ſame Artery, all along dilated from the Baſe, even to the Extremity of the Tumour. The Cavity was, for the moſt part, filled with a ſort of *Polypus*, or *Sarcoma*, in which, nevertheleſs, there were three Sinuſes, or Paſſages, that were kept open by the conſtant Influx of the Blood, and communicated near the *Apex* with one another, (that in the Middle being the largeſt) and terminating in one towards the Extremity of the Tumour, not far from where it broke. *Philoſp. Tranſact. abridg'd, Vol.* 8.

I ſhall conclude theſe Hiſtories of Aneuryſms with the following Remarks by Dr. *Nichholls*, which I find in the *Philoſophical Tranſactions*, becauſe they ſeem to ſet the Nature of theſe Tumours in a juſt Light.

An Aneuryſm is, by all Authors, defin'd to be a ſoft, circumſcribed Tumour, in which there is a ſenſible Pulſation of the Artery, to which it adheres. As it is certain, that any Tumour, of what Kind ſoever, lying on, or adhering to, any conſiderable Artery, muſt neceſſarily be mov'd by every Pulſation of ſuch Artery; ſo this Pulſation (unleſs underſtood in ſuch manner as I ſhall hereafter explain) can no ways be admitted as the true Diagnoſtic, whereby to ſpecify the Difference between this kind of Tumour and any other. An *Aneuryſm* is found moſt commonly to ſucceed Falls, Vomitings, Labour-ſtrains, and ſuch other Motions or Indiſpoſitions of the Body, as, by compreſſing the great Branches of an Artery, any ways ſtop the progreſſive Motion of the Blood. It is obvious, that, as the Section of the Artery, above the Compreſſure, muſt, in its natural State, be ſometimes very incapable of containing at once the whole Quantity of Blood, which ought only to have paſs'd thro' it ſucceſſively; and as the Force of the Heart may frequently exceed the Reſiſtance it may meet with from the Coats of the Artery, ſo the Conſequence of ſuch a Stop to the progreſſive Motion of the Blood, may occaſion either a Rupture of the Artery, or a Diſtention of the Artery without a Rupture, or a Rupture of the internal Coats of the Artery, and a Diſtention of its external. A Rupture of the large Branches of the *Aorta* neceſſarily allows ſo plentiful Effuſions of the Blood, as to occaſion immediate Death; while the Capillaries may be burſt, without any other Injury but a ſlight *Ecchymoſis*; and the Tumour form'd by the Effuſion from them, will be diffuſed and ſuperficial. A Rupture of the mean Branches (ſuch as deſcend between the *Tibia* and *Fibula*, the *Radius* and *Ulna*, &c.) will be attended with a conſiderable Effuſion of Blood; but as the Blood will find a Paſſage between the Interſtices of the Muſcles, it will never form a circumſcribed Tumour. However, the Effuſion being continued, *per Saltum*, thro' the ruptured Artery, will give a faint Pulſation, and conſequently ſome Reſemblance of the *Aneuryſm*; for which Reaſon it is, by ſome Surgeons, term'd a *Baſtard Aneuryſm*. Whether or no an *Aneuryſm* be a Tumour form'd by the *Dilatation* of the Artery, or by a *Rupture* of the *internal* Coats of the Artery, and a *Diſtention* of the *external*, has for ſome time been a Matter of great Diſpute; each Party proteſting (perhaps too unjuſtly) againſt the Poſſibility of the other's Opinion: As to the Poſſibility of an Artery's being dilated, it ſtands ſupported by Reaſon and Autopſy. We find the Uterine Arteries conſtantly increaſed in Thickneſs and Diameter, in proportion as the *Uterus* is diſtended; and many Caſes of Palpitations of the Heart have been attended with great Dilatations of the *Aorta*: Inſtances of which I have ſeen both in human and brute Subjects. Such a Dilatation will neceſſarily follow a conſtant or frequent Preſſure on any Part of the *Aorta*, provided ſuch Preſſure does not entirely ſtop the progreſſive Motion of the Blood thro' the *Aorta*: But, on the other hand, ſuch a Dilatation will always retain ſomewhat of the Form of the Artery. The Reſiſtance will not be every way equal, as in the extravaſate Tumours; becauſe the quaquaverſal Preſſure of the Blood will be controul'd by the Preſſure on the Artery, and the Reſiſtance from the Coats of the Arteries, ſo as neceſſarily to form a Cylindroid; and the Conſequence of ſuch a Dilatation cannot (if conſider'd abſtractedly from its Preſſures) be worſe (if ſo bad) than from a varicous Vein. Again, they who conceive an Aneuryſm to be a *Rupture* of both Coats of the Artery, oppoſe their Opinion who imagine the internal Coat to be ruptured, and the external to be diſtended, by comparing the two Coats in Queſtion, and urging, that, as the internal Coat is ſo much thicker than the external, it ſeems impoſſible the laſt ſhould be ſufficient to reſiſt a Force capable of deſtroying the firſt. Were theſe two Coats ſimilar, as to their Structure, we might then compute their Strength by their Thickneſs, and this Argument would be of much greater Force than at preſent it can be; becauſe the internal Coat being compoſed of annular *Faſciculi*, whoſe Sides have but a very weak Coheſion, their Power of reſiſting will not be meaſurable by the Strength of thoſe *Annuli*, but by the Force with which they adhere laterally. And, on the other hand, the external Coat being compoſed of Fibres equally interwoven, and of a quite different Compoſition, it may either exert a greater Reſiſtance, or be capable of much greater Dilatations than the internal: But, that *Autopſy* may evince the Truth of this Difference in the Strength of theſe Coats, it will be found, by any one who pleaſes to try the Experiment, that by blowing into the Pulmonary Artery, the internal Coat will ſoon burſt, and the external form itſelf into aneuryſmous Tumours (*which Experiment was accordingly tried before the Society, to their Satisfaction*).

Upon conſidering all which, and having, by *Order of the Society*, both privately and publickly examined an *Aneuryſm*, which I find to be round, like other extravaſate Tumours, unleſs when controul'd by any notable Preſſure, and that the *Sacculus* does not divide into Coats, as the Artery from whence
ariſes does, I am induced to think, that this Aneuryſm i
Tumour form'd by the Blood's being forced thro' the *Ligam*
tous, or what is call'd the Muſcular Coat, and diſtending
membranous or outer one: And becauſe the Impetus of
Blood will, as it were, perpetually preſs through the Apertu
into the Tumour, and be again (at leaſt in Part) return'd
the Elaſticity of the external Coat; therefore ſuch a Tumo
will rather have a pulſatile Dilatation, than a *Pulſation*, for
true Diagnoſtic. *Phil. Tranſ. Abr. Vol.* 8.

As Aneuryſms frequently happen from Accidents in Bleedin
I ſhall firſt ſpecify the neceſſary Method of proceeding, in or
to prevent an Aneuryſm, when a caſual Wound of an Arte
in Phlebotomy, makes it ſuſpected, that one may enſue.

In letting Blood, it ſometimes happens, that the Artery is
inſtead of the Vein, or that the Vein and the Artery
wounded at one and the ſame time. This Misfortune gener
happens, when the Surgeon intends to open the *Baſilic Vein*
the Arm; for near this Vein there uſually lies ſome large
tery, and generally the principal one in the Arm (though I h
often obſerved the large Artery near the Cephalic Vein);
pricking of this brings on, for the moſt part, a terrible Effu
of Blood, an Aneuryſm, or even, as *Hildanus*, ſome oth
and I myſelf have obſerved, a Gangrene of the Arm, from
Circulation of the Blood being ſtopp'd in it; or, which is
more terrible, Death itſelf, from an immoderate Effuſion
Blood. Now, that an Artery is wounded, may be pretty
known from theſe Signs:

The Blood burſts from the Orifice at certain Intervals,
as it were, by Starts; and ſpringing forth, in a more vio
manner than when no ſuch Accident happens, it deſcribes
tain Arches in its Progreſs. Its Colour is alſo more red
florid, than that which flows from a Vein open'd as it oug
be. Beſides, if the Part below the Orifice is preſs'd with
Finger, the Blood burſts forth with the greater Impetu
but if any Preſſure is made above the Wound, the Impet
the flowing Blood is diminiſh'd. The Reverſe of all this
pens when a Vein is duly open'd; but if at any time this
fortune ſhould happen, 'tis reaſonable the Surgeon ſhould b
priſed of the Danger that attends it, that he may both pre
ſuch a Preſence of Mind, and Turn of Thought, as may e
him to take proper Meaſures, and conceal, if poſſible, hi
ror both from the Patient and the By-ſtanders. He muſt t
fore diligently obſerve, in the firſt place, whether the B
flows freely from the Orifice, or whether it inſinuates
copiouſly between the Muſcles and the Skin; if it flows fr
a very large Quantity of Blood is to be taken from the Pa
and even till he faints away. The Patient, in the mean
and the By-ſtanders, are, according to the Advice of Dio
be artfully wrought up into a Perſuaſion, that the P
abounds too much in Blood; that 'tis too hot, and, as it
boiling; and that, in conſequence of theſe Circumſtance
Caſe calls for ſo large an Evacuation: For ſince the Blood
to flow when the Deliquium comes on, the Wound may b
veniently tied up, and the Abundance or Impetuoſity
Blood, by that very Means, hinder'd from burſting out a
producing an Aneuryſm, or at leaſt from preventing the A
tination of the Wound. In the mean time, the Surgeon
if poſſible, to catch an Opportunity of privately conve
Piece of Money into the firſt Compreſs, which he is to
immediately to the Wound, for its more effectual Compr
then, after cleanſing the Patient's Arm, he is to apply a
Compreſs, broader than the firſt; and even a third, b
than the ſecond; and all of them ſufficiently thick: And
bending the Patient's Elbow, he is to apply a double B
both with a View to retain the Compreſſes more firmly
compreſs and agglutinate the Wound of the Artery mo
ctually. Theſe Bandages are to be applied in the ſame
as in common and ordinary Veneſections. It is alſo
proper to apply a narrow, thick, and long Compreſs up
Tract of the *Brachial Artery*, all along from the Wo
the Arm-pit; and this Compreſs is to be fix'd with a B
applied in obtuſe ſpiral Wreaths, that the Brachial Arte
thus gently compreſs'd, the Impetus of the Blood u
Wound may, by that means, be conſiderably diminiſh'd
that the By-ſtanders may not ſo much as entertain the
Suſpicion of the Error committed, they are, with a g
ſerious Air, to be told, that it was abſolutely impoſſible
the impetuous boiling Blood of the Patient, without th
ance of ſo artful and curious a Bandage. *I hope Father*
nin, *when he tranſlated* Dionis's *Surgery into the* T
modern Chineſe *Language, left out this Advice above-m*
otherwiſe it would give the Chineſe *a horrid Idea of the*
the European *Surgeons, which Charity obliges us to pre*
are ſeldom guilty of. As the moſt political thing a Sur
poſſibly do, is to be honeſt, I ſhould adviſe him, in the Ca
us, to diſcover fairly the Accident, that farther Advice a
ance may be immediately procur'd; for the Welfare of the
is of infinitely more Importance, than the Reputation of a
geon whatever. Inſtead of the firſt Compreſs, arm'd

Money, a little chew'd Paper, eſpecially if immerſed d Greaſe, and well wrung out, may be applied to the vith the ſame, if not more Propriety; and ſome Com- becoming gradually broader, as in the other Caſe, are pt upon it, and ſecured with the ſame Bandages, and me manner.

this is over, if the Patient has not recover'd from his m, he is to be rous'd, by applying to his Noſtrils a loth ſoak'd in Vinegar or *Hungary* Water, by pouring a ne into his Mouth, and by opening the Windows, that njoy the Benefit of the free Air: When this trouble- ne is cloſed, Reſt, together with a ſpare and ſlender carefully to be recommended to the Patient: He is e told, in plain Terms, that a moſt dangerous Effuſion will enſue, if either by an improper Regimen, Mo- his Arm, or any other Cauſe, the Bandages ſhould be or give way. For this Reaſon, 'tis not only expedient, lutely neceſſary, that the wounded Arm, moderately uld be ſupported in the Day-time with a Towel, or ng about his Neck, and by ſeveral Pins fix'd to his that his Arm may the more effectually be kept from and in the Night-time it is to be laid on a ſoft Pil-

Hours after the Application of the Bandage, the Sur- ht frequently to viſit the Patient, take a careful Survey ndages, and the wounded Arm; and obſerve whether fuſion of Blood, a hard and painful Tumour, a vehe- ammation, or a Gangrene, have already happen'd, or to happen; and whether the Bandages are ſtill firm

If all other Appearances are favourable, tho' a large, ſame time a ſoft, Tumour ariſes about the Part af- e Bandages are to remain in that State, and not to be ore the fourth Day; for a Tumour of that Kind por- ll, even tho' it ſhould diffuſe itſelf thro' the whole t when the Bandages appear too looſe, they muſt be with the greateſt Caution, and again applied more tight- they are taking off, the Brachial Artery ſhould al- ompreſs'd with a Torcular, or at leaſt with the Thumb ſtant, about the Middle of the Arm; and the Wound ld always be compreſs'd with the Thumb or Finger geon, till the ſame Bandages, or others, together with preſſes, are again applied: But we are to take parti- , that the Compreſſes, eſpecially the undermoſt, or d Paper, if adhering to the Orifice, be not pull'd t rather be allow'd to fall off of their own Accord: ed, this Bandage is carefully to be ſurvey'd, and when s looſe, to be made tighter, after putting a little Balſam r *Capaivi* into the Wound, ſo long as there is even apparent Danger of a freſh Effuſion, and till the s effectually agglutinated. But if, unluckily, a freſh come on, the Trunk of the Brachial Artery, about e of the Arm, is to be ſtrongly compreſs'd, either rcular, or the Thumb or Fingers of an Aſſiſtant, as d above, till other and longer Bandages, together and thicker Compreſſes, are prepar'd, as in the firſt the former Applications are to be removed, the carefully to be cleanſed with warm Wine, or Spirit of d the Compreſſes and Bandages are again to be applied nner above directed, till the Wound is agglutinated. Gangrene appears, and is occaſion'd by the Tightneſs ndages, in that Caſe they are to be remov'd with the already given; and, after inlarging the Compreſſes, gain to be applied a little more gently, and the Arm be ply'd with ſuch Medicines as are good againſt s: But if the Gangrene proceed from an Obſtruction culation of the Blood, for want of another Artery in which, by the way, is rarely wanting, in this Caſe n abſolute Neceſſity for having recourſe to Amputa-

n tho' none of theſe Misfortunes ſhould happen, and ound ſhould, for ſome time, remain in this hopeful , the Patient is nevertheleſs to be adviſed to keep a n the Wound for eight, ten, or fourteen Days, and longer the better; and to keep his Arm in a State of the Impetus of the Blood ſhould again deſtroy the atrix, or raiſe it into an Aneuryſm. The Regimen the Beginning of the Diſorder, muſt as yet be ſpare r: Wine, and other ſtrong Liquors, are entirely to be hat a too violent Motion of the Blood may be pre- hich, if it ſhould happen, is to be taken off by open- in ſome other Part: For thus the moſt dangerous t is, an exceſſive Effuſion of Blood, and an Aneu- not only guarded againſt, but the wounded Artery is tually agglutinated; eſpecially if, when the under or the chew'd Paper uſed for that Purpoſe, falls off, lſam of *Peru* or *Capaivi*, or any other balſamic Eſ- applied to the Wound. By theſe means the Patient ly reſtor'd ſo effectually, that he ſuſtains no manner y the Error of the Surgeon.

Theſe are the Meaſures to be taken, and this the Courſe to be follow'd, by the Surgeon, when neither Patient nor By-ſtanders ſuſpect the Error; but if any one ſhould at firſt ſuſpect the Misfortune, and ſee the Surgeon's Error, in this Caſe 'tis better ingenuouſly to own his Blunder, which indeed may be committed by any one; and after laying down the Cauſes of the Error, which could not have been guarded againſt even by the moſt ſkilful and quick-ſighted Surgeon, he is to encourage the Patient and By-ſtanders by the Promiſe of a ſpeedy and effectual Cure, provided his Directions are follow'd. This open Ingenuity, and frank Confeſſion, of the Surgeon frequently lays a Foundation for a ſpeedier and ſurer Cure, than if the Patient had not ſuſpected the Error; becauſe, being by this means appriſed of the Danger, he is the more careful to follow his Surgeon's Directions, and both do and ſuffer whatever is thought neceſſary to his Cure.

But when the Orifices of the Skin and Artery do not exactly correſpond to each other, but the Blood, flowing from the wounded Artery, inſinuates itſelf between the Muſcles and the Skin, the Surgeon is then to proceed in a quite different Method: For, in this Caſe, 'tis by no means proper to bleed the Patient, *ad Animi Deliquium*; becauſe, in the mean time, ſuch a Quantity of Blood may poſſibly inſinuate itſelf between the Muſcles and the Skin, as may lay a Foundation for a Sphacelus by its Corruption, or at leaſt create an immediate Neceſſity of performing the Operation for the Aneuryſm. In this perplexing State of Things, therefore, if the Orifice of the Skin cannot, by the Aſſiſtance of the Finger, be made to correſpond ſo to the Orifice of the wounded Veſſel, that the Blood may not inſinuate itſelf between the Muſcles and the Skin, but flow freely out of the Body, the Orifice is immediately to be ſtopp'd with the Finger, or a Piece of chew'd Paper; and ſeveral Compreſſes, becoming gradually broader, are to be applied to it; and the Compreſſes are to be retain'd and fix'd by Bandages in the manner above-directed; nor is the Application of that long Compreſs, and Bandage, which we have recommended for compreſſing the Trunk of the Brachial Artery, to be neglected. A large Quantity of Blood muſt alſo be taken from ſome other Part of the Patient's Body, if Circumſtances call for it: After this the ſame Steps muſt be taken which we have directed above, till the Wound be effectually agglutinated. Soon after the Patient muſt again be viſited; for it ſometimes happens, that, after the Application of the Bandage, no Blood flows from the Wound, but ſo inſinuates itſelf between the Muſcles and Skin, as to diſtend the Arm ſometimes to a prodigious Size. *Dionis* gives us a memorable Caſe of this Nature, in which he was obliged to lay open the Skin of the whole Arm, and evacuate four Pints of Blood, which had fill'd all the intermediate Space of the Arm, between the Elbow and the Scapula. *Ruyſch* alſo gives us an Inſtance much of the ſame Nature, where the Blood was found coagulated almoſt thro' the whole Arm. *Heiſter*.

CURE *of* ANEURYSMS.

ANEURYSM is a Term in Uſe among the Surgeons, by which they ſignify a Tumour cauſed by a Dilatation, Percuſſion, or Rupture of an Artery, full of Blood, and commonly attended with a Pulſation. They reckon two Kinds of Aneuryſms, the *Spurious* and the *True*: The true Aneuryſm is, when a Tumour, with more or leſs Pulſation, ariſes from a Dilatation either of the whole Artery, or only of one Side thereof, almoſt in the ſame manner as the Tumours call'd *Varices* are generated in the Veins. Both theſe Sorts of Tumours may be conſider'd as Hernias of the Arteries and Veins; and by ſome, for that Reaſon, are ſo call'd. On the other hand, a *ſpurious* Aneuryſm happens from an Aperture made in an Artery, either by external Violence, as in Phlebotomy, a Wound, or a Contuſion; or by an Eroſion, however cauſed, whence there is produced an Extravaſation of Blood betwixt the Skin and the other Parts; from whoſe Effuſion, and Detention under the Skin, the Part affected ſwells, by little and little, to an exceſſive Degree, and becomes of a livid or black Colour; or when a true Aneuryſm happens to ſwell in ſo extraordinary a manner, that its containing Coats being diſtended and broken, Blood either iſſues from a Wound, or there is an Effuſion of the ſame under the Skin, which remains whole and unperforated. Hence ariſes a very troubleſome Tumour, which has little or no Pulſation, and leſs Elevation than in the true Aneuryſm. Sometimes a Gangrene follows the Corruption of this Effuſion of Blood, or Death itſelf, from the profuſe Hæmorrhage. But we may alſo diſtinguiſh Aneuryſms by the Accidents which accompany them: Thus ſome are deſtitute of the bad Symptoms which attend other Kinds; and there are ſome, particularly ſuch as are called *ſpurious*, which are accompanied with Immobility, a great Pain, and a Corruption and Sphacelation of the Part: Theſe may, not improperly, be ſtyl'd *complicated*; and the former Kind, *ſimple*. They may alſo be diſtinguiſh'd into *external* and *internal*; the firſt affects ſome external, the other an internal Artery: And, to name no more, there ſeems to be a very remarkable Difference between Aneuryſms, as ſome of them, tho' of a good a good Bigneſs, are now-and-then void of Pulſation; others are conſtantly attended with the ſame, in a greater or leſs Degree; for you muſt obſerve, as was ſaid before, that the *ſpurious* Aneuryſms, eſpecially the larger Sort, have ſcarce any Pulſation; but in the true Kind, and principally thoſe of a ſmall Size, the Pulſation is pretty ſtrong; and in ſome of theſe Aneuryſms diminiſhes as the Tumour increaſes, but in others is not diminiſh'd, but rather increaſes with the Tumour.

The true external Aneuryſm, beſides the Properties juſt now mention'd, is commonly at firſt a very ſmall Tumour, often no bigger than a Haſle-nut, with a conſtant Pulſation. As for internal Aneuryſms, becauſe they are inviſible in the Beginning, we can ſay nothing of their Size. To proceed then with the other; the Place of the Tumour is, for the moſt part, ſoft to the Touch, and a fluctuating and renitent Liquid is perceiv'd in it. It very ſeldom deviates from the natural Colour of the Skin, and beats like other Arteries. The Tumour, when preſs'd with the Finger, while it is yet ſmall, vaniſhes, and returns when the Finger is removed; but this Trial very ſeldom or never ſucceeds, after the Tumour is advanced to any conſiderable Size; for the Tumour increaſes by degrees, and ſometimes arrives to a vaſt Bigneſs. The ſpurious Aneuryſm ſwells, with a Pain, and Hardneſs, and a Lividneſs of the Skin; but the Tumour is more flat than in the other, and generally without a Pulſe; when it is preſs'd, a Noiſe is perceiv'd; and oftentimes the whole Member, or at leaſt a great Part of it, being more and more inflated, at laſt putrifies, and becomes ſphacelated.

Aneuryſms very often ariſe in the Arms, that is, whenever the Surgeon, in opening a Vein, eſpecially the Baſilica, pricks an Artery at the ſame time, or at leaſt touches it with his Lancet. For, in ſuch Caſes, the other Coats of the Artery, or thoſe which were newly agglutinated, being worn and preſs'd by the continual Pulſation of the Blood, are more and more debilitated and diſtended, till at laſt they give way for the Riſe of a very terrible Tumour. Wherefore if, in the Space of ſome Days or Weeks after Venæſection in the Arm, there ariſes a Tubercle with a Pulſe in it, as deſcribed in the preceding Paragraph, you may conclude, that you ſee the Appearance of an Aneuryſm. But, beſides the Surgeon's Inſtrument, there are a Multitude of other Cauſes, both internal and external, that give Birth to Aneuryſms, as well in other Parts as in the Arms: For it is no unuſual thing for remarkable Tumours to ariſe in ſeveral Parts of the Body, from Wounds, Bruiſes, and Suppurations of the Arteries, by external Cauſes. And 'tis not impoſſible for the Breaſt and Abdomen to be inwardly affected with Aneuryſms, from the Weakneſs of the outer or inner Coats of the Arteries, however occaſion'd, whether by Exulceration, for Inſtance, or Eroſion. This is abundantly confirm'd by undoubted Obſervations of *Fallopius*, *Severinus*, *Ruyſch*, *Lanciſi*, and myſelf. The Cauſes, indeed, eſpecially of internal Aneuryſms, are often doubtful, or wholly uncertain; however, they muſt be either internal or external: And 'tis probable, that Aneuryſms, many times, owe their Riſe to a Fall, or to Blows, or former Fractures, to violent Motions in lifting or puſhing great Weights, to Leaping, hard Riding, or any other violent Concuſſion, by which an Artery may happen to ſuſtain too great a Percuſſion, and be debilitated, or be too much preſs'd, and by that means diſtended into a Tumour: Or they may be owing to an Inflammation, Suppuration, and Eroſion, occaſion'd by an Ulcer of an adjacent Part, or a Part of the ſame Artery, whereby its other Coats are render'd too weak to ſuſtain the Force of the Blood that ruſhes into them, and ſo are obliged to ſtretch and give way, and by degrees to expand into a Tumour. So it has been often ſeen, that from a ſlight Hurt of the Artery, by a Knife, a Dart, or any other ſharp Inſtrument, eſpecially in Phlebotomy of the Arm, as before obſerv'd, Aneuryſms have proceeded; and even when the Artery has been but juſt touch'd, and only its outer Coat ſlightly wounded, by the Point of the Lancet, the inner Coat remaining entire: For this ſlight Hurt is the Occaſion, that the inner Coat, at the Place where the Injury is received, becomes unable to reſiſt and ſuſtain the Pulſe of the Heart, and the preſſing Influx of the Blood, but is forced to give way; by which means the weak and injur'd Part is by degrees dilated into a very ſenſible Tumour, call'd an Aneuryſm. Now if we apply this mechanical Theory of an Aneuryſm from external to internal Aneuryſms, many things may happen to injure the Coats of the internal Arteries: Thus an Artery may be weaker, and have leſs renitent Force, in a certain Place than elſewhere, whether the Cauſe of the Defect operates on the external Superficies of the Artery, or within its Tunics. So alſo from a Fall, a Blow, a Bruiſe, an Inflammation, Suppuration, Ulcer, &c. ſome Part of an Artery may be ſo debilitated, or corroded, as to become unable to ſuſtain the Impreſſions of the Heart and Blood, and ſo an Aneuryſm may be produced; eſpecially if ſome external Force, as violent Motion, a Fall, Concuſſion, or the like, happen to concur.

How to prevent an Aneuryſm, from an Accident in Bleeding, is ſpecify'd above. I am now to give the Signs by which you may know, whether, in opening a Vein, you happen to hurt an Artery, tho' but ſlightly; but as there are no certain,
they call them, pathognomic Marks of a ſlight Hurt
Kind, we muſt truſt to probable Conjectures. Wh
then, we plainly perceive a Pulſation againſt the Point
Lancet held to the Arm, but no Blood ſprings out of the
ry, we may reaſonably ſuſpect, that the outer Coat of th
tery has been touch'd, and ſuffer'd Injury: To avoid th
the Danger of a ſupervening Aneuryſm, you are to enter
Method of Cure directed above.

But if, through the Imprudence or Negligence of the P
or the Surgeon himſelf, the thing be diſregarded, or th
dage, there adviſed, left off too ſoon, an Aneuryſm is ver
ly form'd, and ſhews itſelf. For it is to be obſerv'd
whenever a Tubercle, with a Pulſation in it, ariſes with
Space of a Month after a Vein has been open'd, there
Aneuryſm, which owed its Riſe to a ſlight Hurt of the
in the Arm. But a true Aneuryſm, while it is yet fre
ſmall, brings little or no Inconvenience with it, beſides
eaſy Pulſation, and a ſlight Tumour; but afterwards, w
little and little it is increaſed, and grown to the Bigneſs
Egg, or a Man's Fiſt, or his Head, of which laſt th
Inſtances, (ſee *Tab.* 32. *Fig.* 6.) it is attended with
intenſe Pain, an Immobility of the Part, a Weakneſs, a
ill Symptoms; the Conſequences of which are, that,
immediate Aſſiſtance, the Coats of the Arteries, be
every Day thinner, are at laſt burſt, to the great Prej
the miſerable Patient, and oftentimes not without inſta
ger of Death; for either the outward Skin is burſt at th
time, and a dreadful Hæmorrhage ſucceeds, or it rema
tire; in which Caſe there comes on, by little and little,
ruption of the retain'd Blood, and a Gangrene. Tho'
all Aneuryſms are attended with Danger, and, as *Bartho*
Harder aſſures us, few ever ſaw a happy Event of an Ane
yet the moſt troubleſome and dangerous are uſually
affect either the internal and largeſt Arteries, or thoſe
lie very much conceal'd, and out of Reach. Of this K
thoſe Aneuryſms which ariſe in the Aorta, in the Begin
the Brachial, Subclavian, or the Carotid Arteries, &c.
for the moſt part, are thoſe Aneuryſms incurable whi
the Carotid Artery in the Neck, the Subclavian and
near the Shoulder, and alſo the Crural Artery, eſpeci
the Belly. For, during the Operation, there uſually h
dreadful, and often mortal, Hæmorrhage; or they term
a Gangrene and Sphacelus. Aneuryſms in the extern
ries are of a leſs dangerous Nature, and are frequently
of this Sort, in particular, are ſuch as affect the Arter
Cranium, thoſe on the Outſide of the Ribs, of the Foot,
and lower Part of the Arm. But in an Aneuryſm in th
which is cauſed by the Prick of a Lancet, unleſs it b
care of in the Beginning, in which State, by Compre
Ligatures, it is often cured, the Operation is of doubtful
For, in this Caſe, as the Trunk of the Artery wants to
glutinated and cloſed, it can hardly be avoided but th
and Hand, either through a Deficiency in the larger B
the Smallneſs of the leſſer Ramifications, muſt begin
ſufficient Blood and Nutriment; in which Circumſtance
grene and Sphacelus, and oftentimes a Mortification of t
are nigh at hand, as I have learn'd from long Experienc
firm'd by the Obſervations of ſeveral Phyſicians; ſo th
often obliged to cut off the corrupted Part, to ſave the
Life, who yet, for all that we can do, many times
after the Amputation. Whenever an Aneuryſm brea
taneouſly, and contrary to Expectation, there is ge
great an Effuſion of Blood, that the exhauſted Patient
immediately, if not very ſpeedily aſſiſted by means of th
niquet, and other things of that Nature, under a ſkilfu
tor. Equal, almoſt, is the Danger, when a Tumour
kind is treated like an Abſceſs, and ſuffers an Inciſion
ignorant Surgeon. But there is one thing, which,
others, merits Obſervation, which is, that the ſpurio
ryſms are far more dangerous than the true ones:
latter, eſpecially if they are of no extraordinary Size,
endur'd for many Years, and even to the End of Life,
much Trouble or Hazard, eſpecially with the Uſe of
Ligature or Bandage; whereas, on the contrary, the
Sort immediately betray their Tendency either to an
Hæmorrhage, or to a Corruption and Sphacelus. In
Kinds of Aneuryſms are to be dreaded, in proportion
Largeneſs, and dangerous Situation; inſomuch that th
and moſt experienced *Hildanus* never attempted any
cal Operation upon them; and *Ruyſch* expreſly ſays of
geons of *Amſterdam*, that not one of them, for abo
Years, undertook an Operation of that kind. So, al
rious Aneuryſm is generally more difficult to be treat
Knife than the true Sort; becauſe the extravaſated B
diffuſed on all Sides, and concreted, creates a gre
Trouble to the Surgeon in removing it. As for inter
ryſms, ſince they frequently lie conceal'd, 'tis plain,
are out of the Reach of the ſalutary Art of Surgery

are not ſo to be come at by the Hands; or if theſe inter- ones ſhould, in ſome meaſure, offer themſelves to Sight, e is no opening, or making an Inciſion in them, without ediate Hazard of Life; for which Reaſons thoſe conſum- Surgeons, *Fallopius*, *Paré*, and *Severinus*, never attempted Cure. Upon this Conſideration we alſo, for our Part, leſt ſhould be thought to throw away Time and Advice upon a erate Caſe, ſhall only treat, in the therapeutic Part, of ex- al Aneuryſms, where there is ſome Proſpect of a Cure.

hat every Perſon may be inſtructed in the beſt Method of g ſo dangerous a Diſorder, we ſhall make it our principal eavour, in the firſt place, briefly to explain by what Me- Aneuryſms, that ariſe in the Flexures of the Cubit, or w, which happen more frequently than elſewhere, are properly to be treated; whence it will ſufficiently appear, what manner other Aneuryſms, which are leſs frequent, t to be managed. Now when a true Aneuryſm ariſes in lexure of the Cubit, while it is in the Beginning, and but , or at leaſt of no conſiderable Bigneſs, there are two s of Cure, one by Compreſs and Bandage, the other e Knife. The former of theſe is executed in two differ- manners, that is, by Bolſters and Fillets; or by ſome pe- Inſtruments, adapted to the Purpoſe. The Method of preſſion for a true Aneuryſm, while it is little, and for a ous one, where is no Effuſion of Blood between the Parts, ays to be try'd in the firſt Place; for it would be Cruelty t about a dangerous Inciſion, when a milder Method of would anſwer the End. After we have made a Repreſſion the Blood from the Tumor, the Aneuryſm may be con- d, and kept down, by means of Compreſſes of chew'd , or an aſtringent Plaiſter, and afterwards with larger preſſes, and proper Bandages, which, if kept on the Place me Weeks or Months, may be of great Service. This od, to paſs over more modern Examples, was long ago ſed by *Hildanus*, *Tulpius*, and *Rogerius*. But if a Liga- f this Kind will not anſwer the Purpoſe, as M. *Bourdelot*, cian to the King of *France*, experienced in his own Caſe, urgeons have invented proper Machines, by means of the ſmaller Sort of Aneuryſms are not only repreſſed and down, but with the Help eſpecially of a ſtrengthening r, are uſually cured. Two of theſe, among many, are ented *Tab*. 32. *Fig*. 8. and 9. tho' their Application ſe are better demonſtrated by Inſpection, than deſcribed ultitude of Words. In the mean time we hope they will rly enough underſtood from the Explication of the above- oned Plate, which ſee.

e Aneuryſm be too large to ſubmit to Repreſſion, either gature or Inſtruments, or if a true Aneuryſm, by the g of the Coat of the Artery, be degenerated into a us one, eſpecially if the Blood diffuſed amongſt the Fleſh owards a Gangrene; if there be any Immobility of the attended with Pain; in ſhort, if there be any Danger, om the Burſting of the Tumor and Skin together, the ant Hæmorrhage ſhould kill the Patient on a ſudden; in e Caſes Recourſe muſt be had to the Knife. The Ope- however, being very painful and dangerous, is not to ertaken raſhly, but with the utmoſt Caution and Cir- ction, and after Conſultations had with Phyſicians, and ſt experienced Surgeons, for fear that if any ill Accidents happen, that were unforeſeen, they ſhould readily be d to the Ignorance or Temerity of the Operator, who, l be pretended, was under no Neceſſity of proceeding in ethod.

Buſineſs of the Operation conſiſts in two principal which are, firſt, removing the Tumor of the Aneu- and afterwards the Agglutination of the Artery. In no longer ago than the laſt Century, the Practice was to te an Arm affected with an Aneuryſm, and to ſear the Arteries with an hot Iron, as appears from *Bartholin*'s of an Aneuryſm. At preſent we endeavour to pre- e Arm, and carry on the Cure by gentler Means. That geon may be the more ready and exact in performing his he ought to direct his Intentions to the three following Firſt, by means of the Tourniquet, to ſtop the Blood, s a Contrivance unknown to the Antients; in the next o find out and diſcover the Artery; and, laſtly, to com- d bind it faſt by the Help of ſome Topical Medicine or . He ought, therefore, before he enters upon the on, to be provided with all the neceſſary Inſtruments, e them ready by him, diſpos'd in Order, in a Diſh, Board or Table. The common Apparatus of Inſtru- or things neceſſary, is as follows: A Tourniquet, for ing the Artery of the Arm, and ſtopping the Blood, either a common one, or one of better Sort (deſcribed e Article AMPUTATIO); then an Inciſion-knife, for re the Artery (*Tab*. 22. G); ſome ſmall Hooks (*Tab*. 2, 3.); a Sponge dipt in hot Wine, or Spirit of Wine; Sciſſars, with a blunt Point (*Tab*. 22. C or D); Lint ; ſome ſmall ſquare Bolſters of different Sizes; a nar- thick, Bolſter, a Span long; two large linen Cloths, big enough to envelop and cover the whole Arm; and, laſtly, two or three Fillets, of the Breadth of two Fingers, but three or four times as long as thoſe uſed about Bleeding in the Arm. Beſides thoſe we have mentioned, if any one chuſes a Method of Cure which proceeds by Aſtringents and Corroſives, which, however, is a very uncertain way, he muſt have in Readineſs a Bit of blue Vitriol, or ſome of *Weber*'s Styptic Water, or Butter of Antimony, or ſome other thing of the like Nature. If you think it beſt to make a Ligature upon the Artery, which is the ſureſt way to prevent a freſh Hæmorrhage, and is, for that Reaſon, practiſed of late by the beſt Surgeons, becauſe the Falling-off of the Eſchar is often followed by a Flux of Blood, with great Danger of Death, provide yourſelf with a crooked Needle, threaded with a double or triple waxed Thread, or inſtead thereof, with a peculiar Inſtrument invented by myſelf for that Purpoſe (See *Tab*. 29. *Fig*. 4.).

Being furniſhed with all things requiſite for the Purpoſe, the Patient is to be ſeated in a Chair, bending forwards, with his Arm extended as for Bleeding. Then four Aſſiſtants are to be diſpoſed in Situations where they may be moſt uſeful and ſerviceable to the Operator. For Example: When the Right Arm is affected, I think it moſt convenient for the Surgeon himſelf to ſtand by the Right Side of the Patient, and to place one of the moſt dextrous of his Aſſiſtants at the Right Shoulder, who may lay hold of the Arm above the Tumour, together with the Tourniquet apply'd thereto, in order to ſtrain it tighter, or relax it, according to the preſent Exigency, or the Surgeon's Word of Command. Another ſhould be ordered to ſtand before the Patient, and ſtrongly to hold the Arm above the Wriſt, that it may not eaſily be drawn back while under the Operation. Let a third ſtand by the Left Side, holding the Diſh, or Table, with the Inſtruments, and the reſt of the Apparatus. And the fourth muſt ſtand ready, as Occaſion ſerves, to furniſh the Surgeon with whatever he ſhall think neceſſary for completing the Operation. In what Order and Poſition the Operator and Aſſiſtants ought to place themſelves when the Diſeaſe affects the Left Arm, is very obvious from the Premiſes, being only a Diſpoſition of the Perſons in an Order directly contrary to the former.

The firſt Buſineſs of the Operation conſiſts in a very exact Application of the Tourniquet upon the Brachial Artery, nearly between the Middle and the upper Part of the Arm (See *Tab*. 24. *Fig*. 1. K); which muſt be gently ſtreighten'd, till no Pulſe remains either in the Aneuryſm itſelf, or at the Wriſt of the Hand; for this is the beſt Precaution we can take againſt an Effuſion of Blood. But we muſt take care, that the Conſtriction be not too hard, ſo as to injure the Nerves, and other tender Parts. Let the Aſſiſtant on the Right Side hold the Stick placed in the Tourniquet, or if the Surgeon chuſes a Tourniquet furniſhed with a Screw, (ſee *Tab*. 26. and 27.) it will remain fixed on the Part, by that means, without further Trouble.

The Tourniquet being thus rightly fixed, there are three different ways of Operation, which, we think, deſerve a particular Deſcription.

The firſt Operation conſiſts principally in paſſing the Inciſion-knife, when the Tourniquet is fixed, through the whole Aneuryſm, if it be a true one, from the Bottom upwards, according to the Length and Situation of the Artery. A Wound being thus made of ſufficient Largeneſs, either with the Knife, or by Sciſſars, either lengthwiſe or acroſs, the Surgeon, by means of his Fingers, his Probe, and a Sponge, is to cleanſe and deterge it from all the corrupted Blood and Matter. The Wound being cleanſed, the Tourniquet muſt be a little relaxed, that the Diſcharge of Blood may diſcover the ſuperior Orifice of the Artery. If the Patient be robuſt, and full of Blood, the Tourniquet is not preſently to be ſtreighten'd again, but ſome Ounces of Blood, as far as is conſiſtent with Safety, may be ſuffer'd to flow from the Wound. The Tourniquet being ſtreighten'd with all poſſible Care, if any Topics are thought proper, a little Bit of blue Vitriol, wrapt in Lint or Cotton, may be apply'd to the upper Orifice of the Artery; and over this may be laid ſome ſmall Bolſters, in ſuch Order, that the leaſt of them lying innermoſt, the reſt increaſe in Size gradually to the biggeſt, which is outermoſt, with good Store of Pledgets of Lint, roughly twiſted, diſpoſed on each Side. All theſe things muſt be well kept and held together with the Fingers, but eſpecially the Thumb, of the Left Hand, and be cloſely compreſs'd upon the wounded Artery. Inſtead of a Bit of Vitriol, you may apply a twiſted Pledget, expreſs'd out of *Weber*'s Styptic Water, or Butter of Antimony, to the ſuperior Orifice of the Artery, with the ſame or better Effect, taking care to lay over it every one of the things before-mentioned. All theſe muſt be cover'd with a ſquare Plaiſter, ſlit on each Side, and a large ſquare Bolſter of a conſiderable Thickneſs; and, laſtly, the Whole muſt be encompaſs'd, and bound up, with a Fillet three or four times as large as thoſe which are commonly uſed in Phlebotomy. Thoſe who follow *Dionis*, perform the Bandage in ſuch a manner, that, omitting the Vitriol, they firſt apply a Bit or two of chew'd Paper, or a ſmall

Bolſter moiſtened with ſome Styptic Water, over which they bind a Multitude of ſmall Bolſters, one ſtill larger than another, like thoſe we have mention'd, upon the open Orifice of the Artery; and this Method may ſometimes well enough anſwer the Purpoſe.

But for the better Security againſt an Hæmorrhage, over the firſt Fillet muſt be brought another like it, which, after ſome Windings, like the former, about the affected Part, is to paſs over the long, thick, and narrow Bolſter, upon the Inſide of the Arm, in order to ſtrain it cloſe to the Brachial Artery, in the Line of its Direction, and keep it tight, by paſſing over it as it winds upwards; and that this Fillet may hold the faſter, it ſhould go once round the Breaſt, and have its End firmly faſten'd to the Shoulder or Arm, and then the Patient is to be left to his Repoſe. Having proceeded thus far, and the Tourniquet being a little relaxed, we are to examine whether any Blood has made its way through the Bandage; and if no Sign thereof appears, the Operation is well performed.

If any Blood appears, the Tourniquet is again to be ſtreightened, and all the Bandage being looſened, either the Ligature is to be renewed in the ſame manner as before, and with all imaginable Care; or if there be no truſting to ſo uncertain a Method of Cure, the Extremity of the Artery, agreeably to the Advice of *Paulus Ægineta*, is to be ſkilfully ty'd, by paſſing under it a crooked blunt Needle, and a ſtrong double Thread; for there is ſcarce any other Means left to ſave the Life of the Patient. But here are two things neceſſary to be obſerved, which are, that the Surgeon be very careful, in the firſt place, to avoid hurting the Artery; and, ſecondly, that he be no leſs wary, leſt he ſhould hurt or prick the Nerve that lies near it. For this Reaſon it will be moſt adviſable to make a ſufficient Inciſion in the upper Skin, and with a ſmall Hook, as exactly as may be, to remove or looſen the Nerve from the Artery, if it be poſſible; after which, to avoid wounding either of thoſe Parts, you are to paſs the blunt End of the Needle, which they call the Head, under the Artery, till you can take hold of the Thread, that you may not hurt the Artery with the ſharp End of the Needle; or you may make uſe of that peculiar Inſtrument of my own Invention (ſee *Tab.* 29. *Fig.* 4.); which, after you have paſſed the Thread far enough through it, and cut it, may be withdrawn; and the ſuperior Orifice of the Artery muſt be ty'd up, after laying upon it ſome Lint, or a little thin linen Bolſter, and the Thread ſhould be left to hang the Length of about four Fingers Breadth out of the Wound, till, as the Artery heals, it looſens, and falls off. Some adviſe the tying alſo of the lower Part of the divided Artery, but other Surgeons hold it abſurd, needleſs, and even pernicious; and indeed in ſome Circumſtances, as when the Flexure of the Cubit is concern'd, they are much in the Right; for in this Caſe a much greater Wound and Cicatrix is to be made, either of which may eaſily endanger a Stiffneſs of the Cubit. But if the Aneuryſm in the Arm be out of the Flexure of the Cubit, and particularly below the Cubit, and the lower Part of the Artery, after the ſuperior is ty'd, continues to bleed, it may be ty'd without Injury, and even ought to be ty'd. For Inſtance, in the Cure of an Aneuryſm of the cubital Artery in the Middle of the Arm, that is, betwixt the Hand and the Flexure of the Cubit, after I had ty'd the upper Extremity of the wounded Artery; and the lower, the Tourniquet being looſen'd, ſtill continued to diſcharge Blood in a conſiderable Quantity; I ty'd it up, by paſſing under it a crooked Needle, with a ſtrong Thread; and the Patient, who was near Death, perfectly recover'd his Health, without any ill Accident, by the Help of balſamic Medicines. Wherefore, if there happens a Neceſſity of tying the Artery near the Cubit, it muſt be ty'd; otherwiſe it muſt be well compreſs'd with Bolſters, and a convenient Ligature; for by this means, without tying, I have perfectly cured the Wound of the lower Part of the Artery, without the leaſt Effuſion of Blood. It is the Cuſtom with ſome, after tying the Artery, to cut it acroſs juſt under the Ligature, with a View of preventing Effuſions of Blood, as the two Extremities of the divided Artery, retiring within the Fleſh, are by this means cloſed up. But I look upon this Method as pernicious, or at beſt inſignificant; and I myſelf have twice undertaken the Operation, without cutting the Artery, and yet my Patients did very well. As to the reſt, the Wound muſt be well filled up with Lint and Rags, or with Bolſters cloſely compreſs'd together, and afterwards bound up in the moſt exact and ſkilful manner.

Some think it not amiſs, in order to prevent an Inflammation, to wrap thoſe Parts of the Arm which are near the Cubit on both Sides, in Linen dipt in Oxycras, and over that to make a ſpiral Bandage, and ſometimes to take away Blood from the oppoſite Arm. This is a good Precaution with reſpect to Perſons of a hot Temperament, and full of Blood: But for ſuch as are already refrigerated, and debilitated, with too great a Profuſion of Blood, the taking away of more, tho' recommended by the *French* Surgeons without any Exception, and the Application of Refrigerants, are deſtructive; for I have cured ſuch, without taking away a Drop of Blood; and in cold

Habits of Body, inſtead of Oxycras, or Vinegar, have ta
care to foment the Arm with hot Spirit of Wine camphora
or impregnated with Theriaca, and ſo I have bound it
When this is over, the Patient muſt be put to-bed, and
Arm, gently bent, ſhould be laid on a Pillow, that it may
on a ſoft Place, and by that means all vehement Sallies and P
ſations of the Blood may be prevented; for Reſt in this Ca
highly neceſſary. However, if the Arm happens to ſwell
tremely, we muſt be very cautious, leſt a dangerous Inflam
tion ſhould be occaſion'd by the Streightneſs of the Band
for if any ſuch thing be apprehended, the Bandage is to be ta
off, and renewed. But upon other Accounts we are not
to be prevailed upon to looſen the Bandage, for fear of an H
morrhage; for I know, by Experience, that in theſe Caſes
Arms can bear to ſwell to a very great Degree, and even
they turn livid, without any conſiderable Injury, provided
Tumor be not too hard and painful, and there be no Sign
a Gangrene.

But to ſecure the Patient from being exhauſted by a ſu
Effuſion of Blood, which may eaſily happen, when Aſtring
and Corroſives have been uſed, or in caſe of a bad Ligatur
Perſon provided with a Tourniquet ſhould be order'd to w
for ſome Days and Nights together, who, if an Hæmorrh
ſhould happen, may be ready to ſtop the Blood by applying
Thumb, or ſoon reſtrain it by clapping on the Tourniquet;
then call a Surgeon to make a Ligature on the Artery, if t
were none before, or a better and ſtronger one, where it
been ill made, that the Patient may not periſh by the Lo
Blood; on which Account, it is, in my Opinion, ſafer to
the Artery, than to leave it unty'd; a Ligature there
ſhould be made upon the Artery at firſt, with a ſtrong Th
as accurately as is poſſible. Wherefore thoſe Surgeons are
in the Wrong, who paſs a triple Thread under the Artery,
leave one of them looſe, in order to be ſerviceable upon
an Emergency; and, that, if the other two are not ſuffic
they may tye it up afreſh with the third Thread.

Now the firſt Bandage, provided it be ſufficiently fir
there be no Effuſion of Blood, great Inflammation or Tu
or any other ill Accidents of that Kind, ought not to be l
till the third or fourth Day, that the Wound of the Artery
be the better conglutinated. But when it comes to be lo
the Surgeon ought to take all imaginable Care, in the
place, that the Artery be compreſſed, either by the Aſſiſ
Fingers, or by means of the Tourniquet; and next, th
Compreſſes which ſtick to the Place, and eſpecially thoſe
the Wound, be not imprudently taken off, and ſo occa
new Effuſion of Blood. The Wound, however, as far
convenient, ought to be cleanſed from Sordes, and to be d
with freſh Lint, and ſome digeſtive Ointment, till wh
adheres to it reſolves of itſelf, and comes off in the reſt o
Dreſſings. But it is by much the ſafeſt Way not to be
frequent in looſing the Dreſſings for the firſt fifteen Days,
then always to obſerve the ſame Precautions as I juſt no
viſed, leſt ſome extraordinary Effuſion of Blood, eſpeci
the Artery be not ty'd, ſhould occaſion a freſh Trouble t
Operator.

But if within a few Days after the Operation there be a
tenſe Heat, with a quick and vehement Motion of the B
that is, a Fever, which may endanger an Hæmorrhage
Gangrene, we are to have immediate recourſe to Phlebo
in the other Arm, which is ſometimes neceſſary to be re
eſpecially in ſuch as abound with Blood, and Medicines
be preſcrib'd for allaying the Heat. As to Diet, the ſafe
is to avoid all heating, hard, and ſolid Meats; and, o
contrary, to ſubſiſt on very thin Broths, and ſorbile Food,
much diluted and refrigerating, and ſuch as is uſually pre
in dangerous Wounds and Inflammations.

As ſoon as the Orifice of the Artery is thus cloſed, w
in Aneuryſms of the milder Sort, generally happens abo
tenth or twelfth Day, but later in others which are of a
Kind, we are to ſet about conglutinating the external W
with dry Lint, or ſome vulnerary Balſam, not omitting
now and then gently to extend the Arm, and bend it
again; for without this Precaution there is Reaſon to fe
the Arm, by the too great Stricture from the Cicatrix, o
too long intermitted Motion of the Joint, ſhould be
crooked and inflexible.

Another Method of curing Aneuryſms is after the fol
manner:

The firſt Step which is made, is to place and adj
Tourniquet, and put the Arm in the Situation above de
Then an Inciſion is made in the outer Skin, without to
the Aneuryſm; then the Artery, above and below th
mor, is carefully ſeparated from the adjoining Nerves,
Help of a ſmall Hook is ſo raiſed, that a crooked and
Needle, or my Inſtrument before-mentioned, with a
waxed Thread, may paſs through under it. In ſtraini
Thread there is always a little Bolſter, or Bit of Linen,
the Knot, to ſave the Artery from being cut. The Art
ing thus ty'd on both Sides, the Tumor ſituated betw

with the Inciſion-knife, and the Wound treated in the
before-mention'd. This was the Method by which
nnus, as he relates it himſelf, extirpated a moſt dreadful
ſm, (ſee *Tab.* 32. *Fig.* 6.) and healed the Wound in
ce of a Month.

third Method of curing a true Aneuryſm, is as follows:
the Tourniquet is fixed on; next, after preſſing, if poſ-
he Blood out of the Tumor down towards the Hand,
ſion is made with the Knife in the outer Skin length-
ithout touching the Aneuryſm; then the Artery next
he Tumor being ſeparated from the adjacent Parts,
ecially the Nerve, is ty'd with a double or triple Thread,
twice, as Occaſion ſhall require, till the Influx of the
into the Tumour, after taking off the Tourniquet, be
ſtopped. This done, the Wound muſt be very ſki-
und up, and treated with all due Care, till the Thread
of itſelf, and falls off, and the Place is perfectly con-
ed. This Method of curing without inflicting any con-
Wound, or cauſing a remarkable Cicatrix, was intro-
y *Anelius*, as he ſays himſelf, by which he once cured a
ngerous Aneuryſm at *Rome*, within the Space of a
For as to the general Practice, which has hitherto
, of laying open an Aneuryſm, and with the Help of
gers or Inſtruments, exhauſting all the Blood there col-
ſeems more inconvenient, both as it requires more Time,
ſions greater Pain, and a larger Cicatrix. The Ope-
ing finiſhed, *Anelius* blooded the Patient four times in
ſite Arm, which the *French* Surgeons in general alſo
. This frequent Bleeding, as it is oftentimes of ſingu-
ce in tempering the Heat and Motion of the Blood in
rmer Regions, ſo in our Countries, becauſe of a colder
d a different Habit of Body, I judge it leſs neceſſary,
rally improper, eſpecially when the Patient is already
d; and alſo becauſe ſome Aneuryſms are very well
ithout it.

Tumor of an Artery, as I have ſometimes obſerv'd it,
reak of itſelf, and degenerate into a ſpurious Aneu-
ere is ſcarcely any ſure way to ſave the Patient, but
peration. In this Caſe therefore, as I have elſewhere
the Tourniquet is firſt of all to be apply'd, for the Pre-
of an Hæmorrhage; after which an Inciſion is to be
the Skin, deep enough to exhauſt all the Blood and
and the Wound, having been very carefully deterged,
cautiouſly conglutinated by Aſtringents or Corroſives,
h is much the better way, by tying the Artery with a
as in a true Aneuryſm.

Brachial, or Cubital, or ſuppoſe the Tibial, Artery,
wounded or cut by a Sword, or any other Wea-
hat no Medicines or Bandage can put a Stop to the
of Blood, there is no readier or better Remedy, in my
than what has been propoſed for an Aneuryſm, which
ly the Tourniquet, and then ſearch for the wounded
the ſmaller of which may be ſtopped with Aſtrin-
d the larger ty'd with Threads, in the manner already
; for by ſuch Means I myſelf have often ſaved Men,
all Appearance, were near expiring, after they had
oſt totally exhauſted of their Blood and Strength, and
under the Hands of other Surgeons for ten and twelve
d been treated in vain with Styptic Remedies, and
hard Ligatures, by which their Arms were ſwell'd to
ous Size. Whether ſuch Methods will, at any time,
pon the Crural Artery, I have never read, nor as yet
pportunity of trying.

yſms in other Parts are to be treated nearly in the
nner, provided they are curable, which muſt be de-
from a thorough Inſpection and Conſideration of their
uation, and Magnitude. However, it will not be
touch upon ſome Particulars, for the ſake of young
ers, and becauſe our modern Surgeons have offer'd
thing about them. The firſt I ſhall mention is an
, which aroſe between the Thumb and Fore-finger,
Prick of a Penknife, and which *Tulpius* cured by
on. To this he apply'd an aſtringent Plaiſter, and
it upon the Part, by a thin Plate of Lead, and
and within the Space of four Months, the Blood be-
d out of the Tumor, and the Lips of the Wound
ether, the Aneuryſm totally vaniſhed. The like
re may be try'd upon any Aneuryſm whatſoever,
whilſt recent, and of no extraordinary Size, firſt
he Blood into the Artery, whenever it can be done.
d Inſtance is of an Aneuryſm in the Head: A Wo-
her Son, ſeven Years old, a ſmart Blow with a
e Left Side of the Head, where the Carotid Artery
mediately there aroſe a beating Tumour, as big as a
blackiſh at firſt, and yielding to the Touch, which,
ce of eight Days, grew to ſuch Dimenſions, as to
e half of the Head, extending itſelf from the Sagittal
ng the Temples and Forehead, as far as the Eyes.
nſultation of Surgeons it was agreed, that a dubious
as better than none in a deſperate Caſe; in Conſequence of which they open'd the Tumor with the Inciſion-knife, and taking away part of the Blood which was diſcharg'd abundantly, cloſed up the Wound with Aſtringents, and a tight Ligature, and healed the Patient in a ſhort time. After the ſame manner was an Aneuryſm of the Artery behind the Ear, not without a great deal of Trouble, conglutinated at laſt by Aſtringents and a Ligature. If an Aneuryſm ſhould ariſe about the Ankle-bone, ſuch as *Ruyſch* deſcribes, and which the Surgeon had imprudently open'd as an Abſceſs, it muſt either be laid open with the Knife, and the Wound, like the preceding, conſolidated with Aſtringents, and a proper Ligature; or the Artery muſt be ſearch'd out, and ty'd up with a Thread. In the ſame manner are we to proceed with Aneuryſms in other Parts of the Body, where there is any Proſpect of a Cure. On the other hand, *Harder* gives an Inſtance of Death conſequent upon opening an Aneuryſm in the Neck; and *Van Horne* has another which was follow'd by the like Event, from opening an Aneuryſm in the Leg.

Thoſe who are willing to form to themſelves a clearer Idea of the Ligature of Arteries in Aneuryſms, may conſult *Tab.* 32. *Fig.* 7. where the Letter *A* repreſents the Part of the Artery ſituated above the Tumor, *B* the Part beneath, *C* the Aneuryſm, *D* the ſuperior Ligature, *E* the inferior. But here it is to be obſerv'd once more, that the lower Part of the Artery in the Flexure of the Cubit ought very rarely to be ty'd, except Neceſſity requires it, for the Reaſons above given. To draw to a Concluſion: How the Circulation of the Blood in the Arm is perform'd after an Operation of this Kind, eſpecially where there is but one Trunk of an Artery, as it often happens, about the Joint; and how it comes to paſs, that, as in the Example alleg'd by *Aneſius*, the refluent Blood in the lower Artery, which has no Ligature upon it, is not elevated into a Tumor; I have not hitherto been able clearly to determine. To be ſatisfy'd in theſe two Points, we ought to make a more narrow Search into, and inſpect the dead Bodies of thoſe who had undergone this Operation when alive. *Harris*, an *Engliſhman*, in his eighth Chirurgical Diſſertation, abſolutely condemns this Operation, and does not ſtick to call it a raſh and horrid Butchering; but for what Reaſons, is beſt known to himſelf. In my Opinion, that Surgeon, who, out of Fear, rejects the moſt difficult and noble Operations of his Art, betrays too much Puſillanimity, which is too often a fatal Obſtacle to the Recovery of the Patient. *Heiſter*.

The following Caſes, from the *Edinburgh Medical Eſſays*, will illuſtrate the Treatment due to an Aneuryſm.

CASE I. *By Mr.* MACGILL.

James Forreſt, a Coachman, forty Years of Age, a hail, ſtrong Man, being thrown from the Coach-box, broke the Bones of his Right Leg into a great many ſmall Pieces; and a Gangrene coming ſoon on, there was a Neceſſity to perform the Amputation in the Country where he then was. The third Day after this Operation he was let Blood by a young Surgeon there, who opened the Baſilic Vein of the Right Arm. The Patient felt a very ſharp pricking Pain, while the ſmall Inciſion was made with the Lancet; and four Days after he obſerved a Tumor, about the Bigneſs of a ſmall Cherry, at the Wound, which he believed to be the common one of coagulated Blood, called by Surgeons Thrombus, and therefore did not mention it to the Gentleman who performed the Amputation.

On the twelfth Day after his unfortunate Fall, he was carried to Town, and received into the Infirmary, where the Cure of his Stump went on as well as could be wiſhed, without any Accident or Symptom to retard the Cure. After he had been eight Days in the Hoſpital, he told the Phyſician and Surgeon then attending, that he had ſome Uneaſineſs from a Swelling at the Bending of his Elbow. When it was examined, a Tumor appeared of an oval Form, as big as a ſmall Hen-egg, ſituated behind the Baſilic Vein. The Skin over this Tumor was of a natural Colour; no Pulſation could be felt, and it adhered as firmly to the Tendon of the Biceps Muſcle, as Ganglions commonly do to Tendons. Two Days after, a Pulſation exactly ſynchronous to that of the Arteries, was diſtinctly ſeen and felt. When the Tumor was ſtrongly preſſed, it ſeemed to be leſs, but could never be made to diſappear. There was ſcarce any Pain at this Part, either in moving his Fore-arm, or when the Tumor was handled.

A Conſultation of ſeveral Phyſicians, and of all the Surgeons who attended the Infirmary, being called, the Diſeaſe was unanimouſly determined to be a true Aneuryſm; but the Patient being ſtill weak, it was reſolved to try the Effects of artful Compreſſion, and to delay the Operation till the Patient had Strength enough to undergo it, unleſs the Tumor ſeemed before that to be in Hazard of Burſting. Graduate Compreſſes, wet in Oxycrate, were therefore applied, with the proper Bandage, which at firſt had an exceeding good Effect in diminiſhing the Tumor, but it ſoon after began again to increaſe; and then ſeveral Machines, ſuch as that with a Screw for the Fiſtula Lachrymalis, Mr. *Petit*'s Tourniquet, &c. were uſed, but without any Succeſs; on the contrary, the Tumor ſtill increaſed, and the Skin began to inflame; and a ſmall Suppuration was brought on the moſt prominent Part of it. By laying aſide theſe more forcible Machines, and returning to the Uſe of the former Compreſſes and Bandage, after covering the ſmall ſuperficial Ulcer with white Ointment, the Inflammation went off, and the Ulcer was cured. The Tumor was now all firm and hard, ſcarce yielding at all to Preſſure, except at that prominent Point where it was ſoft, and where only the Pulſation could be felt, when the Fore-arm was bended; when the Member was extended, no Pulſation could be obſerved any where in the Tumor.

The Patient was not yet ſufficiently recruited, and therefore the Operation of the Aneuryſm was ſtill delayed; but to prevent any Danger from the ſudden burſting of the Aneuryſm, the Tourniquet was kept conſtantly applied to the Patient's Arm.

In the Beginning of *January* 1733, the Patient was judged to be ſtrong enough to ſuffer the Operation, and the Tumor increaſed ſo faſt, that there was great Danger of the Teguments yielding ſuddenly, and therefore the Operation was not to be delayed any longer. This happening to be the Month of my Attendance, I was of courſe to perform; but previouſly brought all the Surgeons of the Hoſpital together, to examine the State of the Tumor, and to determine the Method to be followed in operating.

The Tumor was of a very great Bulk and Height, its Baſe extending internally as far as the internal Condyle of the Humeral Bone, and externally it had puſhed the Tendon of the Biceps Flexor Cubiti, as far as the Cephalic Vein; it aſcended about three Inches along the internal Side of the Biceps, and deſcended as far below the Joint of the Elbow, being alſo conſiderably prominent forward.

Being uncertain whether this Tumor was formed without the Artery, or if it was the Body of the Artery dilated, we determined to do the Operation in the moſt cautious, tho' more tedious way, *viz.* by Diſſection, having alſo all the Inſtruments and Dreſſing for an Amputation ready, in caſe there was no Hope of Succeſs from the Operation of the Aneuryſm.

Having applied the Tourniquet in the common way to prevent any Hæmorrhage, the Skin was pinched up about the Middle of the Tumor, and cut with a Biſtory; then a ſmall Directory being puſhed into the fat cellular Membrane, firſt upwards, then downwards, and to each Side, I cut upon it with a Biſtory, and thus made a crucial Inciſion on the whole Extent of the Tumor. After which I diſſected the four Angles of the Teguments from the Tumor, with a convex edged Scalpel, ſtitching a cutaneous Artery, that would otherwiſe have been uneaſy to me. The Tumor, thus laid bare, appeared covered, at its upper Part, with a thin cellular Membrane, but below it ſeemed to have a very ſtrong tendinous-like Coat, which we ſoon diſcovered to be no other than the Aponeuroſis of the Biceps Muſcle; after ſeparating the Adheſion this had to the Tumor below it with my Fingers, I cut it through to the loweſt Part of the Aneuryſm, which now was all bare, and full in View. The Coat of it was only a very thin tender Membrane, which appeared eroded, as well as the firm Subſtance it contained, at that prominent ſoft Part, where, as I mentioned before, the Pulſation only was to be felt. In endeavouring to ſeparate the Tumor from the adjacent Parts with my Finger, its tender Membrane was eaſily torn in ſeveral Places; and therefore, without inſiſting on ſuch a Separation, I opened the Membrane from one End to the other, when ſeveral Ounces of a blackiſh grey-coloured Liquor, like to Coffee made of half-burnt Beans, ran out, and ſeveral Pieces of coagulated grumous Blood, and of polypous Concretions, fell down to the Floor. What remained was one large polypus-like Subſtance, that weighed ſix Ounces, below which ſome Spoonfuls of that blackiſh Liquor, mixed with pretty pure Blood, were taken out with a Sponge. There were no Bridles or fleſhy Beams ſtretched tranſverſly from one Side of the Cavity to the other, but the Humeral Artery, involved in all its Coats, came fully in View. About the Middle of the bare Part of the Artery we ſaw a Hole, large enough to receive the largeſt Surgeon's Probe, without any retorted Lips, or other Sign of the interior Membranes having been extended through the exterior, but exactly of the ſame Appearance, as if it had been made by an oval ſharp-pointed Inſtrument. After by unlooſing the Tourniquet a little, we made ſure of what we ſaw, being the wounded Artery, one of the Gentlemen who aſſiſted me, put in a ſtrong Probe by the Orifice, and with it raiſed the Artery ſo, that I eaſily paſſed the Aneuryſm Needle, with proper Thread, behind the Artery, both above and below the Orifice, without engaging the Nerve or Vein within the Thread. I made the two Ligatures in the common way, the Patient complaining much of Pain, while I tied the ſuperior Threads; and then untwiſting the Tourniquet, only ſome few Drops of Blood ouſed out at the Aperture in the Artery, and the other common Dreſſings and Bandages were applied.

The polypous Lump we took out, was very hard and firm on the Side next to the Skin, except where, I ſaid already, it was

eroded in the Middle; but turned ſofter, in a lamellated
as it approached the Artery, till it degenerated graduall
mere coagulated Blood.

During half an Hour, after the Dreſſings were applie
Right Hand remained cold, and ſcarce ſenſible; but gr
then recovered Senſe and Heat. Next Day, that Hand
little ſwelled; and on the ſecond Day became ſo big, a
lige me to take off the thick Compreſs, that was preſ
the Humeral Veſſels by the exterior Bandage; after whic
fomenting the Hand with warm Water and Brandy, the
ling decreaſed.

On the fifth Day after the Operation, the Dreſſings
removed, and the Wound began to ſuppurate in a very
way, and was cured entirely before the End of *March*,
out any Accident, unleſs that on the 22d of *January*,
made its way through all the Dreſſings. It had come out fr
Hole of the Artery, but ſtopped as ſoon as the Dreſſing
removed; and no Hæmorrhage ever happened afterwar
the Time of the Cure, the Hand often became œdemato
ſometimes a gentle Eryſipelas attacked the Skin of it, b
yielded to an Embrocation with the Aqu. Minderi,
Aqu. Calcis, with ſome Brandy. The Threads with
the Artery had been tied, did not come out till the Mi
March.

We never could feel any Pulſe below the Elbow ſi
Operation. The Member is weak, but he can perfo
Motions of the Fore-arm, Hand, and Fingers. He ſti
plains of a Numbneſs, and Difficulty of Motion, in the T
and Fore-finger, more than in any of the reſt, tho' it
two Months ſince the Wound was ſkinned over. *Edi*
Med. Eſſ. Vol. 2.

Case II. *By Mr.* Monroe.

Andrew Rady, living in *Galloway*, had the Misfort
being bled in the Baſilic Vein of the Right Arm, by
Gardener there, to have his Artery hurt, which was fo
by an Aneuryſm. Somewhat more than a Year after, he c
Town here, and was received into the Infirmary in *Ma*
On the 22d Day of that Month, Mr. *George Cunningha*
Surgeon then in Attendance, performed the Operation.
the Tourniquet was applied, Mr. *Cunningham* laid o
Tumor from one End to the other, with one longitud
ciſion; then taking out the polypous Subſtance, and
Quantity of liquid Blood, the ſmall Aperture of the
was ſo plainly ſeen, that I put a Probe into it, and ra
Trunk of the Artery, while he paſſed the Needle be
the Sides of the Wound being held aſunder, in the me
by two blunt Hooks. The proper Membrane of the
was conſiderably thicker and ſtronger, than in *James*
Aneuryſm, and required Force to puſh the blunt An
needle through it; but the Nerve was preſſed by the T
good way from the Trunk of the Artery, ſo that there
Danger of taking the Nerve within the Ligature. Aft
ing the ſuperior Ligature, the Tourniquet was untwi
no Blood came by the Orifice, which ſhewed the Anaſ
Canals to be very ſmall. The ſecond Ligature was
made below the Orifice for Security. The Cavity w
with ſoft Lint, and the other ordinary Dreſſings applied
Afternoon his Hand ſwelled, and became warm, which
all our Fears of the Circulation being entirely ſtoppe
Pulſe was to be felt on either Side of the Wriſt fo
Days; but before the 5th of *June*, when both the L
ſuppurated off, the Pulſe was plainly to be felt on both
the Wriſt, and he was ſoon cured, having as much
and Motion in that whole Member as ever.

To make this Operation more ſpeedy and ſafe, I wo
poſe, that as ſoon as the longitudinal Inciſion is made,
Polypus with the Blood is removed, the Patient's Elbo
bended ſome way, the Operator ſhould take hold of
meral Artery with the Thumb and Fore-finger of
Hand, and, griping it towards the Back-part, ſhould
Needle cloſe upon his own Nails, by which he has a
rection whereby he may ſhun the Nerve, which he ca
diſtinguiſh from the Artery by feeling, and can,
Poſture of the Arm, eaſily draw the Artery ſo far o
as to keep free of the Nerve.

The Operation then of the Aneuryſm, which app
the Deſcription Surgeons gave of it, to be very nice,
tedious, and precarious, may be done eaſily, quickly, a
by opening the whole Tumor at once, and then pa
Ligature about the Artery, as juſt now deſcribed. *E*
Med. Eſſ. Vol. 4.

As it may be agreeable to the Reader to know th
Method generally purſued in our Hoſpitals, I ſhall
Sharp's Account of it, as follows:

Having applied the Tourniquet near the Shoulder,
the Arm in a convenient Situation, make an Inciſion
Inſide of the Biceps Muſcle, above and below the Elbo
ſiderable Length, which being in the Courſe of the Ar

r it as ſoon as you have removed the coagulated Blood, muſt be all pulled away with the Fingers, the Wound ilated ſufficiently for that Purpoſe: If the Orifice does dily appear, let the Tourniquet be looſened, and the n of Blood will direct you to it; then carefully carrying ed Needle with a Ligature under it, tie the Veſſel juſt he Orifice, and paſſing the Needle again, make a ſecond e below it, to prevent the Return of the Blood, and he intermediate Piece of the Veſſel to ſlough away, withiding it. To avoid wounding, or tying the Nerve in the Ligature, the Artery may be cleared away from it nd held up with a Hook; but, I think, if we are aware Situation of the Nerve, there is no great Danger of it. After the Operation, the Arm muſt be laid eaſy, llow in Bed, and the Wound be treated in the comethod, keeping it in that Poſture a Fortnight, or three , eſpecially if it ſhould ſwell much, and not digeſt

oing this Operation, it will be proper to have the ampunſtruments ready, leſt it ſhould be impracticable to tie ery; and even after having tied it, the Arm muſt be y watched, that in caſe of a Mortification it may be ff, which though from Experience we learn is very the Conſequence, ſhould, to all Appearance, be the perone: For theſe Aneuryſms following always upon bleed- Baſilic Vein, muſt neceſſarily be Aneuryſms of the l Artery, an Inch, at leaſt, above its Diviſion, which bſtructed by the Ligature, one would think, muſt nebring on a Mortification; but we ſee the contrary, ſome time after the Operation, we can hardly diſtinhe leaſt Degree of Pulſe, and ever after they continue . If the Humeral Artery happens to divide above the which is not uncommon, the Proſpect of Cure is better, e Pulſe will be ſtronger after the Operation. *Sharp's*

to be obſerved, that *Heiſter* eſteems the inferior Ligathe Artery generally ſuperfluous, and often pernicious, cify'd above.

FAKA, a Coagulum. *Rul. Johnſ.*

IR-FILIUS, Mercury. *Johnſ.*

IRARTO-SPIRITUS, Salt. *Idem.*

GEILOGIA, 'Αγγειολογία. See ANGIOLOGIA.

GEION, 'Αγγεῖον, a Veſſel. See VAS.

GEIOTOMIA, 'Αγγειοτομία, from ἀγγεῖον, a Veſſel, νω, to cut. A Diſſection of the Veſſels, as in Phlebond Arteriotomy. It alſo imports a particular Diſſection Veſſels for Anatomical Purpoſes. See ANGIOLOGIA.

GELICA, a Plant thus called, of which *Dale* enumeur Species. The firſt is,

ELICA, Offic. Chab. 400. P. Parad. 529. *Angelica* C. B. Pin. 155. J. B. 3. 140. Ger. 846. Emac. rk. Theat. 939. Raii Hiſt. 1. 434. Synop. 3. 208. Ind. A. 53. Rupp. Flor. Jen. 222. Phyt. Brit. 8. in. 8. Mor. Umb. 9. Hiſt. Oxon. 3. 280. *Imperativa*, Tourn. Inſt. 317. Elem. Bot. 267. ANGE-

is one of the greateſt of the umbelliferous Plants; is large, thick, and branched, running deep in the from which ariſes one large hollow round Stalk, and half, or two Yards high, ſpreading out into ranches. The Leaves are large and winged, divided nto three Partitions, or leſſer Wings, each ſingle Leaf errated, or indented about the Edges. On the Tops of nches grow large round Umbels, of ſmall five-leaved owers; the Umbels, as the Seed ripens, grow out into bular Heads, bearing the Seed at the Ends, which is thick, ſtriated, or furrowed pretty deep, of a whitiſh two Seeds being joined together, as in other umbellilants. Both Root, Stalks, and Seeds, are of a grateful Savour. It grows in Gardens, and flowers and ſeeds and *July*, the Root periſhing after the ripening of , which is the ſecond Year of its ſpringing from the

ca is a Plant of many Virtues, being Stomachic, Corexipharmic; of great Uſe in malignant peſtilential Feall contagious Diſtempers, and the Plague itſelf: It weat, and drives out all noxious Humours through the the Skin. It is very uſeful in Diſorders of the Womb, eric Affections; it provokes Urine, and the *Catamenia*, ls the Secundines. The Root, Stalks, Leaves, and uſed.

al Preparations of *Angelica* are a ſimple and compound and the Stalks candied. *Miller Bot. Off.*

it of it chears the Heart, and revives the Spirits to a The Chymical Oil operates powerfully in all IntenBeſides which, it cures Palſies, Apoplexies, Convulamps, and Rheumatiſms. *Pomet.*

id to be good for the Bite of a mad Dog, and for the

lſus boaſts, that at *Milan*, in the Year 1510. he did little leſs than Miracles with this Plant in the Plague. And its Virtues in this terrible Diſorder are confirm'd by a Multitude of Authors. It is alſo eſteem'd an excellent Pectoral, and hence has been called *Herba Pectoraria*. The inſpiſſated Juice of Angelica is ſaid to prevent Putrefaction of the Gums, and Rottenneſs of the Teeth; and the Chymiſts agree, that the Quinteſſence of Angelica is the greateſt Reſtorative and Cardiac in Nature. Angelica is farther recommended for the Leproſy.

The Stalk of Angelica ſends forth a very agreeable Smell; the Seeds of it a different one; its Roots are more aromatic than any of theſe Parts, and its Parenchyma is filled with reſinous Veſicles. It is very ſubject to be deſtroyed by Worms, which prey upon the Parenchyma, and leave the reſinous Parts uncovered. This ſame Obſervation holds good in Maſterwort, Ginger, Fennel, and in the Roots almoſt of all umbelliferous Plants. *Memoires de l'Acad.* 1721.

Aromatic volatile Salt of Angelica.

Take of the freſh ſmall Roots of Angelica, dug up in *February*, two Ounces; cut them to pieces, put them into a Retort, pour upon them twelve times as much Spirit of Wine once rectified, and then add one Ounce of pounded Sal Ammoniac, and three Drams of Salt of Tartar. This being done, immediately lute on a Receiver, and diſtil with a gentle Heat, not exceeding 150 Degrees. By this means, there will come over into the Receiver a white alcaline, alcoholiſated Salt. When this ceaſes to riſe, increaſe your Fire a little, and the Spirit of Wine will come off, and appear in very oily Streaks. Proceed as long as you have any of theſe Spirits, and when the Salt begins to be diſſolved by the watry Part that aſcends laſt, deſiſt from the Operation, and put the Liquor thus prepared into a Veſſel, which muſt be ſtopped very cloſe. What remains after the Diſtillation, throw away.

Take an Ounce more of the ſame Roots, cut very ſmall, put them into a Retort, pour upon them the Liquor drawn off before, and diſtil till the Salt, which will come off firſt, begins to be diſſolved. Shake the Salt and Spirit till they are thoroughly mixed together, and ſtop them in a Veſſel as cloſe as poſſible.

REMARKS.

The Alcali of the Tartar, abſorbing the Acid of the Sal Ammoniac, ſets its pure Alcali free, and ſo renders it volatile, which, being united with the pure diſtilled Spirits of Wine, makes with theſe the volatile Salt of the preceding Proceſs; and with this again, from the natural Diſpoſition of the Alcohol, the Spiritus Rector of the Angelica unites itſelf, which reſides in its balſamic oily Parts, and is very volatile. Hence the Nature of the Alcohol, which equally unites with all theſe Kinds of Spirits, is here determined by the particular Spirit of Angelica. In the mean time, the volatile and fixed alcaline Salts, and the acid Spirit of the Sea Salt, help to open the Body of the Angelica during the Diſtillation, and thus diſpoſe it to give out its Oils and Spirits more ſucceſsfully. The Liquor thus produced, on account of its Fragrance, grateful Taſte, Penetrability, Mobility, and ſaponaceous, anti-acid, and anti-auſtere Virtue, furniſhes us with a Medicine, which, in the Hand of a ſkilful Phyſician, may be uſed with great Succeſs; for it is of Service in all watry, pituitous, cold, acid, and auſtere Diſeaſes, in Caſes where the Bile does not perform its Office, and in almoſt every Diſorder, where there is a Languor without any Inflammation and Putrefaction; particularly, when, at the ſame time, an irregular Mobility of the Nerves and Spirits cauſes troubleſome hypochondriacal and hyſterical Paroxyſms; and in Flatuſes, that ariſe hence, it proves an excellent Remedy. It is a noble Cardiac, Stomachic, Calefacient, Sudorific, Diuretic, Diaphoretic, Antiparalytic, Antiſpaſmodic, and Antiepileptic Medicine, where the Diſorders are owing to the Cauſes above-mentioned. The Credit of this is particularly due to *Baſil Valentine*, and *Franciſcus Sylvius*, who firſt introduced this noble kind of Medicine into Phyſic. The Followers of *Sylvius*, however, by an unreaſonable Uſe of it, have frequently brought it into Diſgrace. *Boerhaave's Chymiſtry.*

The ſecond Species is the

ANGELICA SYLVESTRIS, Offic. Buxb. 20. Mor. Umb. 9. Park. Theat. 940. Ger. 846. Emac. 999. Raii Hiſt. 1. 434. Synop. 3. 208. Merc. Bot. 1. 19. Phyt. Brit. 8. Mer. Pin. 8. *Angelica ſylveſtris major*, C. B. Pin. 155. Boerh. Ind. A. 51. Hiſt. Oxon. 3. 280. Rupp. Flor. Jen. 222. *Angelica ſylveſtris magna & vulgatior*, J. B. 3. 144. *Angelica ſylveſtris vulgatior*,

vulgatior, Chab. 400. *Angelica aquatica*, Dill. Cat. Giſſ. 156. *Angelica paluſtris*, Rivin. Irr. Pent. *Imperatoria pratenſis major*, Tourn. Inſt. 317. Elem. Bot. 267. WATER-ANGELICA.

It delights in watry Places, and flowers in *July*. The Herb is uſed in Medicine, and is ſuppoſed to be endued with the ſame Virtues as the garden Angelica, but weaker. *Dale.*

The third Species is the

HERBA GERARDI, Offic. Ger. 848. Emac. 1001. Merc. Bot. 1. 42. Phyt. Brit. 58. Mer. Pin. 61. *Podagraria* Rivin. Irr. Pent. Dill. Cat. Giſſ. 90. *Podagraria Rivini & Lobelii*, Rupp. Flor. Jen. 225. *Podagraria vulgaris*, Park. Theat. 943. *Angelica Podagraria dicta*, Mor. Umb. 9. *Angelica ſylveſtris minor ſeu erratica*, C. B. Pin. 155. Raii Hiſt. 1. 435. Synop. 3. 208. Boerh. Ind. A. 53. Tourn. Inſt. 313. Elem. Bot. 262. *Angelica ſylveſtris repens*, J. B. 3. 145. Chab. 400. Hiſt. Oxon. 3. 281. GOUT-WEED.

This grows principally in the Hedges of Gardens. It flowers in *June* and *July*. The Herb and Root are recommended for the Gout. *Dale.*

The fourth is the

ARCHANGELICA, Offic. J. B. 3. 143. Raii Hiſt. 1. 454. Chab. 400. *Angelica Scandiaca, ſive Archangelica Tabernæmontani, quæ umbellâ eſt flavâ, ſemine rotundiore.* C. B. Pin. 155. Boerh. Ind. A. 53. *Archangelica ſeu Angelica Tabernæmontani, ſeu Scandiaca*, Herm. Prælect. *Angelica prima*, Boerh. Hiſt. P. 84. *Imperatoria Archangelica dicta*, Tourn. Inſt. 317. Elem. Bot. 267. GREAT WILD ANGELICA.

It agrees in Virtues with the former.

ANGELICUS PULVIS, Angelic Powder. Another Name for the MERCURIUS VITÆ. *Caſtellus.* See MERCURIUS VITÆ.

ANGELINA ZANONI ACOSTÆ. *Caſtanea Malabarica Angelina dicta Anſjeli*, H. M. *An Angelina Arbor*, C. B.?

This is a Tree of vaſt Bigneſs, ſometimes above ſixteen Foot thick, which grows on rocky and ſandy Places in the Country of *Malabar*, in the *Eaſt-Indies*, and bears ripe Fruit in *December*, and continues bearing for a whole Century.

The dry'd Leaves, heated, alleviate the Pain and Stiffneſs of the Joints, and diſcuſs an Intumeſcence of the Teſtes occaſioned by a Contuſion, or any external Violence; and alſo an Hydrocele, or Pneumatocele. Being reduced to Powder, and applied outwardly with white camphorated Ointment, they cure Venereal Buboes. The ſame, bruiſed with the Root of Turmeric, and rubbed every Day on the Part, by their aſtringent Virtue in conſolidating the Orifices of the Veſſels, abſolutely cure an inveterate Flux of the Hæmorrhoids. The unripe Fruit, too greedily eaten, excite a Diarrhœa, to which the Root and Bark put a Stop with the ſame Facility. The Oil expreſſed from the Fruit, boiled, taken inwardly, or applied outwardly, excites an Appetite, and helps Digeſtion. The ſame uſed with roaſted and pounded Garlick, or fried in coagulated Milk, and applied to the Place, is an effectual Anodyne in the Pains of the Hæmorrhoids. *Raii Hiſt. Plant.*

ANGELOCALOS, the true Name of the twenty-fourth Antidote of *Myrepſus*, according to his Tranſlator and Commentator *Fuchſius*, inſtead of the common Reading, *Alcanεali*. This he infers partly from the corrupted Word, and partly from the *Latin* Copies of *Myrepſus*, which read *Alcancalus*, and interpret it *bonus Nuntius*, a good Meſſenger, the very Meaning of *Angelocalos*. See ALCANCALI.

ANGELUS, a Confection. *Johnſon.*

ANGELYN, *ſive Andira*, Piſon. Marcgrav. *Arbor nucifera Braſilienſis, Fructu Ovi Figura & Magnitudine.* Raii Hiſt. Plant. The ſame as *Andira* before.

ANGI, Buboes, or Tumors in the Groin. *Fallopius de Morb. Gall.*

ANGIGLOSSI, Stammerers. *Blancard.*

ANGINA, from ἄγχω, to ſtrangle, a Quinſey.

OBSERVATION I.

A certain Butcher, about Noon, began to be ſenſible of a Pain about his Larynx and Fauces, which was accompanied with ſome Difficulty in eating and drinking; towards the Evening he went to an Apothecary, who gave him a Gargariſm of Plantain and Lettice-water, Diamoron, and Vinegar. After he had uſed this Medicine, he was ſeized with intenſe Pain, and was ſuddenly choaked in the Night-time; but preſerved his Senſes to the laſt.

Upon opening his Body, the Subſtance or Parenchyma of his Lungs was found converted into Pus; and in one of his Sides there was alſo an Abſceſs filled with Pus. He had never been troubled with a Cough before, nor had a Spitting of Blood preceded his deplorable Fate; on the contrary, he had all along appeared to be bleſs'd with a ſound and robuſt Body, and was ſo far from being meagre, that he was fat. *Dodonæus, Cap.* 18. *Obſervat.*

OBSERVATION II.

One *Abraham Perrow*, a Soldier in the *French* Service,
a Man of fifty Years of Age, in order to prevent the C
quences of an *Enterocele*, ſubmitted to Caſtration, which
ration was ſucceſsfully performed in the Beginning of *Sept*
1677. Three Weeks after, when every thing ſeem'd to
a good way, when the Conſolidation of the Wound was j
to be juſt at hand, and the Patient beginning to walk th
the Town, he was ſeiz'd at once with a Difficulty of D
tition and of Breathing. As he was in imminent Dang
was called the third Day. All his Tongue, except the
Tip, was as black as a Coal. He lay with his Breaſt in an
Poſture; and if any thing was given him out of a Spoo
brought on a kind of Suffocation; for which Reaſon, not
ſtanding his great Weakneſs, he obſtinately refuſed the
that were offered him. Tho' the Seaſon was actually co
would allow no Part of his Body to remain covered with C
except his Feet. I forthwith ordered a Clergyman to be c
for the ſake of his ſpiritual Intereſt. I perceived all the
ptoms of an Angina, tho' nothing appeared either inte
or externally, except the Blackneſs of his Tongue. He
pronounced, that there was an internal Gangrene, the R
and Offspring, as it were, of the Inflammation which
ſpected to be in the Lungs. There is a remarkable Conſe
tween the Teſtes and the Breaſt, to which Circumſtance
pocrates [*Lib.* 6. *Epidem.*] adviſes the Phyſician to give d
tention. The miſerable Patient died about an Hour a
half after my Departure.

The Wound, made in this Patient's Right Groin,
carefully inſpected, the Operation, which was performe
young Man of the Name of *Colet*, had all the Appeara
its having been done by the Hand of an Artiſt; for no
of an Inflammation appeared. He proceeded from belo
wards in his Operation. The interior Part of his Neck w
gitudinally diſſected, where the *Arteria Trachea* was fou
from every kind of Phlegmon, as were likewiſe the adjacent
cles. The Gland called *Thymus* was ſwelled, ſtuffed with
Blood, and preſſed upon the *Trachea*. The Thorax
compreſſed, there ouſed a Sanies from an Inciſion th
made in it; and when it was quite laid open, we diſc
moſt evident Marks of an uncommon Inflammation i
Lungs; for they were diſtended with a very black Blood,
beſpangled with a vaſt Number of black Spots, and the
evident Signs of a Gangrene, eſpecially towards the
Hence it appears, that the Difficulty of Deglutition a
ſpiration, as alſo the Loſs of Speech, (for the Patient co
pronounce the Letters A and O) are to be aſcribed, as
to the Compreſſion of the *Trachea* by that tumid Gland,
its being drawn downwards by the Weight of the Mat
lected in the Lungs; but we had not an Opportunity of
vering the latent Abſceſs from which the Sanies came,
he was buried ſooner than we could have wiſhed. His
which was ill coloured, and very tumid, diſcovered itſel
his Diaphragm, which it had forced upwards. I heard
a very voracious Stomach. *Boneti Sepulch.*

OBSERVATION III.

In the Year 1618. there appeared in our own C
an extraordinary and uncommon Diſtemper, which
mortal to many People, and eſpecially Children, by ex
ing or ſtopping their Breath. This was called by the
ἀγχόνη λοιμώδης, by others *The Suffocating Diſorder*
Fauces, or *The peſtilential Carbuncle*; by moſt 'tis calle
Anginoſa, the *Syriac* Ulcer by *Aretæus*, or *The* p
Tonſillæ by *Aetius*. But many things plainly point ou
that the Diſorder has its Seat in ſome Part higher than t
ſillæ, which Part is the Brain; and this Conjecture
is favoured by the Diſſection of many who have died
Diſtemper, in whoſe Heads Grumes of Blood have be
diffuſed for a good way under the largeſt Sinuſes of t
Mater [*Severinus de Abſceſſibus, Tract. ult.*]. We h
wiſe found the Nerves paſſing through the Foramen O
to the Muſcles of the Neck, Larynx, Os Hyoides, and
very much injured in this Diſtemper [*Thom. Bartholin*
ment. in dictum affectum, Exercit. 1.]. See ÆGYPTI
CERA.

OBSERVATION IV.

A Man, who ſeemed to have been ſuffocated by an
had nothing preternatural in his Larynx; but his Li
was putrified to ſuch a Degree, that it might have bee
ered away like a Piece of Earth. The Reaſon was, th
dance of Exhalations and Ichor, which flow'd from th
faction, being diffuſed thro' the Membranes of the La
contracted it, that he died in the Space of thirty Ho
there was as yet no Streightneſs in his Fauces; but
be owned, that this Effect was principally owing to th
five Load of putrid Matter contained in his Liver.

This ſeems to be confirm'd by a Diſeaſe incident to
which we call the *Vives*, and which generally ſeizes th
their drinking Water when they are over-heated by
Ex

rciſes; for when they are allowed to do ſo, the Glands of Necks ſwell, and they generally die within two Days; according to the Obſervation of *Gliſſon*, their Livers found entirely diſſolved into a putrified Matter. *Boneti lchretum Anatomicum.*

DIAGNOSTICS *and* PROGNOSTICS.

hat Diſeaſe which the *Latins* call *Angina*, is by the *Greeks* guiſhed into ſeveral Species, each of which has its reſpe- Name. Sometimes neither any Redneſs nor Swelling , but the Body is parch'd, the Patient breathes with Dif- ar, and a general Imbecillity ſeizes him. This Species is ty, and a general Imbecillity ſeizes him. This Species is συνάγχη. Sometimes the Tongue and Fauces ſwell, and ne red, the Voice is intercepted, the Eyes are turned up, ace grows pale, and the Patient is affected with Hiccups. Species they call the συνάγχη. Both theſe Species of the mper have theſe Symptoms in common, that the Patient either eat nor drink, and has his Reſpiration interrupted. Diſeaſe is ſtill milder, where there is only a Swelling and eſs, without any of the other Symptoms; and this Spe- called ασυνάγχη. *Celſus, Lib.* 4. *Cap.* 4.

Quinſey is a very acute Diſeaſe, as it is an Impediment to ration. Of this there are two Species; one is an Inflam- n of the Organs of Reſpiration; the Cauſe of the other s in the Breath, which is reſpir'd.

e Organs which are the Seat of the firſt Species, are, the ls, the Epiglottis, the Fauces, the Uvula, and the ſupe- Extremity of the Aſpera Arteria; and if the Inflammation s much, the Tongue and Inſide of the Cheeks are alſo d; inſomuch that the Tongue is ſo inlarged, as to hang yond the Teeth, for want of Room in the Mouth. This ed Cynanche, κυνάγχη, either becauſe Dogs are much t to theſe Diſorders, or becauſe theſe Animals, even in h, have a Habit of putting out their Tongues.

he other Species, the Organs above-mention'd collapſe, e each more extenuated than in a natural State; and an ve Strangulation attends it, inſomuch that the Patient to perceive a hidden Inflammation in the Breaſt. *Are- ιεὶ ὀξέων παθῶν, Lib.* 1. *Cap.* 7.

Author proceeds to prove, that the Cauſe of this ſecond Spe- ſides in the Air reſpired; but as in this he is evidently I ſhall omit taking more Notice of it.

hat Species of Quinſey call'd *Cynanche*, the Patients la- nder an Inflammation of the Tonſils, Fauces, and of ole Mouth; the Tongue hangs out beyond the Teeth s; a large Quantity of Saliva is diſcharged; and a viſ- d Phlegm flows from the Parts affected; the Face is ſwell'd; the Eyes are prominent, ſtaring, and inflam'd; s drank returns by the Noſtrils, the Paſſage into the h being obſtructed; the Pain is exceſſive, but, in ſome , leſs perceiv'd on account of the violent Strangulation; a Senſation of Heat in the Thorax, and about the a perpetual Deſire of freſh Air attends, tho' but little inſpir'd, till at laſt the Paſſage thereof into the Thorax ntirely obſtructed, the Patient is ſuffocated. In ſome order is readily remov'd to the Lungs, and Death is the uence of ſuch a Tranſlation: The Fever is ſlow, gentle,) and not eaſily relieved.

e Diſtemper verges towards a happy Concluſion, Abſ- e form'd here and there, either externally about the internally in the Tonſils; and if theſe ſuppurate ſlowly, out acute Pain, the Patient may recover; however, out much Trouble and Danger: But if a larger Tu- lines to ſuppurate, the Patient is ſuddenly ſtrangled, n the Elevation of the Abſceſs into a Point. This is n of a Cynanche.

ynanche, the Parts above-mention'd collapſe, and ap- nuated and pale; the Eyes are hollow, and ſunk; the (φάρυγξ, he means the Parts about the Fauces) and e drawn backward: the Tonſils retire; the Speech is this the Strangulation is much greater than in the cauſe the Seat of the Diſeaſe is in the Thorax, where n of Reſpiration reſides. Theſe Caſes are very acute, e fatal the very Day that they ſeize, ſometimes even Phyſician can be called; or, if he is called, he can e of any Service, the Patient expiring before his Art any good Effect.

the Diſeaſe takes a Turn for the better, all the Parts and the Inflammation is elevated into a Tumor exter- large Tumor, or Eryſipelas, appearing on the Breaſt, Signs. Hence a ſkilful Phyſician will invite the Diſ- wards, by Cupping-glaſſes upon the Thorax, or by apply'd to the Breaſt, or about the Jaws; will endea- raw the offending Matter outward, and thus make it thro' the Pores. It ſometimes, however, happens, Diſeaſe is by theſe means, for a ſhort Time, depo- n the external Parts; but ſoon after retiring, imme- ffocates the Patient.

auſes of this Diſtemper are various; as Cold fre- Heat not ſo often; Wounds; the Bones of Fiſh ſticking in the Tonſils; drinking cold Water; Intemperance in Drinking or Eating; beſides the ill Qualities of the Air reſpir'd. *Aretæus*, περὶ ὀξέων παθῶν, *Lib.* 1. *Cap.* 7.

To this Doctrine of a Quinſey, I ſhall add that of *Cœlius Aurelianus*, who informs us, that this Diſtemper is called *Lycanche*, as well as *Cynanche*, becauſe the Patient, under this Diſorder, exerts a Voice like a *Dog*, or *Wolf*. But it muſt be remark'd, that, as *Aretæus* diſtinguiſhes betwixt a *Cynanche*, and a *Synanche*, *Cœlius Aurelianus* comprehends both Sorts under *Synanche*.

It is the diſtinguiſhing Character of theſe two Authors, that their Deſcriptions of Diſtempers are extremely picturesque, and in this they excel all other Authors. For this Reaſon, I have given both, as they may illuſtrate and confirm each other.

One Species of Synanche is attended with no manifeſt Tumor; in another it is viſible and manifeſt; one affects the Inſide, another the Outſide of the Mouth; another both the internal and external Parts on the Right or Left, or on both Sides; ſome, as for Inſtance, *Valens* the Phyſician, in his third Book of Cures, have given Names to each particular Diſtinction. That Species, indeed, which is without manifeſt Tumor, they have left without a Name; but that which comes attended with a viſible Tumor, if it affect both the interior Sides of the Fauces, they call a *Cynanche*; for it cauſes a Difficulty of Reſpiration, and a Prominence of the Eyes, and a Faltering of the Tongue; as it often happens to greedy Dogs, who, ſtimulated by a Senſe of Hunger, fall fearleſs on a Piece of Meat, which, thro' their Haſte, ſticks in their Throat, and they can neither ſwallow nor bring it up again. If the Diſtemper only lies in one Side, they call it a *Paracynanche*. If the external Parts on both Sides be affected with a Tumour, it has the Appellation of *Hyanche*, [from ὗς, a Swine, and ἄγχω, to ſtrangle] becauſe the Necks of Swine are very ſubject to theſe Inflations, which the *Greeks* call *Hyai* [ὗαι]. If the Tumor affects both the internal and external Parts on both Sides, it is properly called, as they tell us, a *Synanche*. If it be only on one Side, a *Paraſynanche*. To give Names to their ſpecific Differences, is not material.

The antecedent Cauſes of this Diſeaſe are ſome of them occult, others evident, and common to other Diſorders, but eſpecially ſtrained and laborious Vomiting, more particularly after corrupted Food. Ebriety alſo, and drinking of Snow-water, and vehement Exclamation, kept up to the ſame Height and Tone of Voice, which the *Greeks* call *Monotonon*, may be reckon'd among the Cauſes of this Diſorder. It is produced alſo by a Catarrh, by acrimonious Food, eaten contrary to Cuſtom, by Medicines of a hot and fiery Quality, taken inwardly, by a purging Doſe of Hellebore, and in ſome Women by a Retention of the Menſes. Men are more ſubject to it than Women; and young Men, and thoſe of a middle Age, than Boys or old Men.

Aſclepiades, in the ſecond Book of his Commentaries on *Hippocrates*'s Aphoriſms, defines a Synanche to be a Flux of Humour, or Humectation of the Fauces, or their upper Part, uſually derived from the Head. But this is an imperfect Definition; for, every Flux of Humour, which they call a Rheumatiſm, is the Falling down or Diſcharge of a copious Liquor. But in Perſons afflicted with a Synanche, there appears, indeed, a Tumor, but no great Diſcharge of a Humour is perceiv'd, unleſs it may ſometimes happen from a Preſſure.

We, according to the Sentiment of *Soranus*, define a Synanche to be a Difficulty of Deglutition, and an acute Strangulation, proceeding from a vehement Tumor of the Fauces, or the Parts by which Deglutition is performed.

In our Definition, we join an acute or very quick Strangulation with a Difficulty of Deglutition, to diſtinguiſh this Diſorder from a Tumour of the Tonſils, or Uvula. For where there is a Synanche, there muſt of Neceſſity be a Tumor of the before-mentioned Parts; but it does not follow, that whenever this Tumor happens, there muſt preſently be what we call a Synanche: For thoſe who are moleſted with a Difficulty of Deglutition in a moderate Degree, do not ſeem arrived to the Pitch of a *Synanche*, ſince the Eſſence of this Affection is underſtood to conſiſt in the Greatneſs of the Tumor, which alſo diſtinguiſhes the Strangulation, occaſioned by this Diſorder, from what is cauſed by the Conſtriction of a Cord; for, in the latter Caſe, there is alſo a very acute and ſudden Strangulation, but not owing to a Tumor. *Cœlius Aurelianus, Acut. Morb. Lib.* 3. *Cap.* 1.

The Symptoms which afflict the Patient under a Synanche, are, at firſt, Pains without evident Cauſe, a Difficulty of moving the Neck and Throat, a conſiderable Diſcharge of Saliva, without any viſible Tumor, with a dull Pain, and ſenſible Aſperity of the Fauces; a Difficulty of ſwallowing the uſual Fluid which gathers in the Mouth like Spittle; after theſe, an Impediment of Reſpiration, as if clogg'd with ſome groſs Humour.

As the Diſeaſe increaſes, the Part grows red, with a manifeſt Tumor; and, at laſt, the Fauces, Uvula, the Parts above the Tongue, and the ſuperior Part of the Throat, are elevated by the Tumor to a remarkable Degree, which is attended with a Difficulty of ſwallowing whatever is received at the Mouth; beſides a Strangulation in Proportion to the Tumor, a Difficulty of Reſpiration, and a Nauſea. If the Mouth of the Patient be open'd, a dry Tenſion of the Tongue, when compreſſed with the Finger, is perceived.

When the Diſtemper is increaſed to a vehement Degree, the Tumor ſpreads over the Neck and Face, the Mouth flows with Spittle, and a viſcid Humour; the Eyes are prominent, bloodſhot, and the Veins appear diſtended.

If the Patient ſtill grows worſe, the Tongue falls without the Teeth, there is a Dryneſs of the Fauces, a cold Numbneſs of the Joints, a ſwift and frequent Pulſe, a Difficulty of lying, eſpecially on the Back or Side, with a frequent Deſire to ſit, and an inarticulate confuſed Speech, not without Pain.

If the Diſeaſe tends to the Deſtruction of the Patient, as he grows worſe, he becomes livid in the Face, and ſpeechleſs; there is a Stertor in the Throat and Breaſt; whatever Liquid he takes, recurs; and there is a Failure in the Pulſe, which the *Greeks* call ἀσφυγμία. Some utter a Voice like a Dog, others froth at the Mouth. Upon theſe Symptoms Death neceſſarily enſues.

If the Diſorder be without a manifeſt Tumor, there is a Slenderneſs of the Neck, with an inflexible Erection and Extenſion of the ſame; the Face and Eyes are hollow, the Forehead is diſtended, the Colour like Lead, Reſpiration is extremely difficult, but with no manifeſt Tumor, as I ſaid before, or Inflammation, either in the internal or external Parts. The Patient labours under an extreme Weakneſs and Dulneſs, and dies under a very quick and acute Suffocation.

If an Eryſipelas breaks out about the Neck or Breaſt, and continues, it is very often a good Prognoſtic; for it ſeems to ſignify a Tranſlation of the Humour from the inner Parts to the Superficies. But if, in ſpite of all the Aſſiſtance of Medicines, the Eryſipelas on a ſudden diſappears, it is a fatal Sign; for it ſhews a Tranſlation of the Humour from the Superficies inwards. If an Eryſipelas appears not while the Diſtemper is in its State, nor, proceeding from the inner Parts, ſhews itſelf outwardly, but is either antecedent to the Diſorder, or concomitant with it, it is, on all Accounts, a bad Prognoſtic. Plenty of Humour, or viſcid Saliva, is bad, in the State of the Diſeaſe, but good and ſalutary in the Decline; for, in the firſt Caſe, it ſignifies a very great Strangulation, but in the latter, a Relaxation. Sometimes this Diſorder increaſes to ſuch a Height, as to cauſe a Stricture in the Fauces, Throat, and Chin. Now a Stricture is an acute, quick, and violent Diſtemper, and very often continual, but ſometimes intermittent. *Cælius Aurel. Acut. Morb. Lib.* 3. *Cap.* 2. See STRICTURA.

A Quinſey without any evident Tumor in the Neck or Fauces, (φάρυγξι) but attended with violent Strangulation, and difficult Reſpiration, is fatal either the firſt Day, or the third. *Hippoc. Coac. Prænot.*

Quinſeys equally troubleſome with the former, as to Strangulation, and difficult Reſpiration, but attended with a Tumor and Redneſs of the Fauces, are extremely dangerous; but, however, do not threaten ſo immediate Deſtruction, if the Redneſs is conſiderable. *Hippoc. Prædict.*

If a conſiderable Redneſs appears at the ſame time in the Fauces, (φάρυγξ) upon the Neck and Breaſt, the Caſe is leſs acute; moſt, who are thus affected, recover, unleſs the Redneſs ſuddenly diſappears. *Id. Coac. Prænot.*

But if the Tumor and Redneſs diſappear, without any external Abſceſs, or gentle and unpainful Expectoration of Pus; or if this does not happen upon critical Days, the Diſorder is fatal. Perhaps alſo the Lungs ſuppurate. It is therefore much the ſafeſt, when the Redneſs and Apoſtemation verge towards the external Parts. *Id. ibid.*

When the Eryſipelas tends from the internal to the external Parts, it is a good Symptom; on the contrary, when it tends from the external Parts inwards, it is fatal. It verges inward, when the Redneſs diſappearing, the Breaſt is oppreſs'd, and the Difficulty of Reſpiration increaſed. *Id. ibid.*

When a Quinſey removes to the Lungs, the Patient generally periſhes within ſeven Days; but if he eſcapes, a Suppuration of the Lungs enſues, unleſs a large Quantity of Phlegm is expectorated. *Id. ibid.*

When, by reaſon of the violent Suffocation, the Fœces are ſuddenly diſcharged, the Caſe is deſperate. *Id. ibid.*

In Quinſeys, if the Spit is dryiſh, (ὑπόξηρα, thick and viſcid) without any Tumor of the Fauces, it is of bad Preſage. *Id. ibid.*

In Quinſeys, if the Tumor of the Tongue ſubſides without ſufficient Reaſon, it is a fatal Symptom. The Pain alſo vaniſhing ſuddenly, and without any manifeſt Cauſe, portends Death. *Id. ibid.*

The Doctrine of the latter Part of this *Prognoſtic* cannot be too often inculcated, becauſe it is alſo applicable to all internal Inflammations whatever. The ſudden Diſappearance of Pain, without ſufficient Cauſe, is a Sign, that a Mortification is begun.

In Quinſeys, if a well-concocted Saliva is not ſoon charged, the Caſe is deſperate. *Hippoc. Coac. Prænot.*

In a Quinſey, Pains in the Head with a Fever, without Alleviation of the Symptoms of the Quinſey, portend *Id. ibid.*

In a Quinſey, Pains in the Legs, attended with a Fe whilſt the particular Symptoms of the Quinſey remain, out Alleviation, portend ill. *Id. ibid.*

Pains in the Hypochondria, ſubſequent to a Quinſey, nated without a regular Criſis, together with great Imbecilli and a Torpor, prove fatal unexpectedly, tho' the Patient, Appearance, is upon the Recovery. *Id. ibid.*

In Quinſeys, if the tumefy'd Parts ſubſide, without Signs, and the Pain removes to the Breaſt and Belly, with of the Part where it fixes, a purulent Diarrhœa enſues, othe there will be no Solution of the Diſeaſe. *Id. ibid.*

In Quinſeys, all Pains have a fatal Tendency, which do manifeſt themſelves externally. Sometimes Pains are to the Legs, which prove very chronical, and do not Suppuration, without great Difficulty. *Id. ibid.*

In a Quinſey, the Spit, which is viſcid, thick, whitiſh, which is brought up with Difficulty, is bad; as are all ſuch perfect Concoctions. In ſuch Caſes, a great Number of reduces the Patient to a Paraplegia, and Death enſues. *Id.*

If the Spit, which happens from a Quinſey, is dryiſh, thick and viſcid) and is frequently diſcharged with a and Pain of the Side, it is a fatal Symptom. If the cannot drink without Difficulty, and if what he drinks is back with a Cough, the Caſe is dangerous. *Id. ibid.*

A Quinſey is an Inflammation of the Fauces, attended an ardent Pain, Tumor, Redneſs, a Difficulty of and Deglutition, and a Fever. It ariſes from a Blood, or of an acrimonious and viſcid Serum in the or lymphatic Tubes, and is not void of Danger.

In order to form a Judgment of this Diſtemper, we are and principally to conſider the Parts where it is ſeated, are the Fauces, and eſpecially the Pharynx and Larynx, the adjacent Parts. In this are included many Parts, are of very great Uſe, and of quick Senſation; ſuch are Root of the Tongue, with the Os Hyoides, the Holes Noſtrils, which open into the Mouth, the Beginning Oeſophagus, the Muſcles of the Pharynx, with the and external Muſcles of the Larynx, in Number ſides the greater and leſſer Glandules, the Tonſils, the that move the Jaws, the ſmaller ſanguineous and Veſſels, with the tender Branches of the Nerves.

The Quinſey is eſteemed more or leſs dangerous, to the Parts affected by the Inflammation, and goes ferent Names on the ſame Account. There is a very ſtinction of a Quinſey in general, into an inward and Quinſey: The firſt is ſeated in the inner nervous and Membranes of the Fauces, and does not diſcover itſelf outward Tumor or Inflammation, either in the Neck or but there is an inward burning Heat, with an acute and if the Caſe be worſe than ordinary, not only a of Reſpiration, but of Deglutition, and the Patient is Danger.

The external Quinſey is more conſpicuous to Sight, cipally affects the external Muſcules, and glandulous Tonſils, with the Root of the Tongue, and the Uvula alſo more eaſily cured.

If we conſider this Diſeaſe, more particularly with to the Part affected, the moſt terrible and dangerous is uſually that which is ſeated in the internal Muſcles Larynx, and does not diſcover itſelf outwardly by any or other Symptoms about the Neck or Throat; but tient is afflicted with a vehement internal Heat and by reaſon of the Contraction of the Orifice of the teria, not only the Voice is ſuppreſſed, but Reſpiration formed with Difficulty, and ſometimes wholly in ſo ſhort a Time, if we believe Obſervation, as to Patient within the Space of four-and-twenty Hours, or third Day. This the *Greeks* call *Cynanche*.

What they call *Synanche*, affects the internal Pharynx, and is, like the other, without any ternal Tumor or Redneſs, but attended with a culty of Deglutition than Reſpiration; for what endeavours to ſwallow, is violently diſcharged by the But when the Tumor and Redneſs render themſelves to the Sight and Touch, the Inflammation, which has in the external Muſcles of the Pharynx, is, by the called *Paraſynanche*, as the other, which ſeizes Larynx, is named *Paracynanche*.

Again, a Quinſey is diſtinguiſhed, by practical into the true or perfect Quinſey, and the ſpurious one.

The true Quinſey ariſes from a Stagnation of the the ſpurious one is rather owing to an inflammatory of Serum, than of Blood, in the interior Parts of the Neck. The true Quinſey is an acute Diſeaſe, and out Shiverings and a Fever; the ſpurious Quinſey

r with a lymphatical and catarrhous, than an acute Fever.
e per.ect Quinſey there is not only a burning and pungent
about the inward Parts of the Fauces, but the Tongue
is turgid with Blood, and of a dark red Colour; there is
a Redneſs of the Face, and a great Pulſe of the temporal
ries, which are attended ſometimes with a Pain in the
, and a Drowſineſs and Numbneſs of the Senſes, and
imes Faintings. If the Diſeaſe be violent, there is a Dif-
y of Reſpiration, with great Anxiety, Reſtleſſneſs, and
neſs of the extreme Parts. This is a very dangerous Caſe,
equires immediate Relief. But in the ſpurious Quinſey,
Symptoms are ſome of them wholly abſent, others leſs
nt, and there is leſs to be feared under a right Manage-
. Moreover, a Quinſey may be divided into a very hot
ry, and into a moiſt, or very mucous one. The former
its Riſe from the Blood, and is accompany'd with a very
Fever, as was ſaid of the true Quinſey. The other is
chronical, and comes attended with a catarrhous Fever,
iliar to cachectical and ſcorbutic Perſons, and covers the
ue and Fauces with a thick ſlimy Mucus, which cauſes a
Breath.

theſe Species of Quinſey deſerve to be diſtinguiſhed from
Affections of the Fauces. The true and dry Quinſey
not be miſtaken for that mucous Inflammation of the
h and Oeſophagus, commonly called *Prunella Alba*. For
latter, the whole Region of the Fauces, and the Tongue,
ver'd with a white Mucus, the Tongue contracts painful
es, and there is a burning Heat, which reaches even to
iaphragm. This frequently happens in malignant Fevers,
for the moſt part a bad Symptom, becauſe it indicates an
mation of the Stomach and Oeſophagus. Nor is every
mation of the Fauces a Quinſey, but that only which is
ed with a Difficulty of Reſpiration and Deglutition.
efore there is a wide Difference betwixt a Quinſey, and
Inflammation of the Neck, and the internal Parts of
uces, with a Tumor and Pain of the Glandules, which
ntly happens to ſcorbutical Perſons, and thoſe affected
he Venereal Diſeaſe, if it proves obſtinate, and is accom-
with Eroſion. The true and internal Quinſey muſt
diſtinguiſhed from thoſe Spaſms which are uſually inci-
o hyſterical and hypochondriacal Patients, which con-
e Face, and cauſe a Difficulty of Reſpiration, as well
glutition. Theſe Symptoms happen without a Fever,
n remit, and leave the Patient, and eaſily give way to
ines. Laſtly, The Quinſey differs from thoſe hot and
Puſtules on the Tongue, which they call *Aphthæ*. For
ffect only certain Parts, and are accompany'd with a
nd Redneſs; nor are they ſo conſtantly attended with a
as the Quinſey.

immediate Cauſe, then, of a Quinſey is a Stagnation of
od, or ſometimes an inflammatory Collection of Serum
internal Parts of the Fauces; to produce which, many
may concur. For 'tis evident, from Obſervation, that
quently conſequent upon the Suppreſſion of a ſpontane-
acuation, as of Blood, either by the Noſtrils, Uterus,
rhoidal Veins, or of the Lochia, or upon the Omiſſion
abitual artificial Evacuation, by Scarification or Phlebo-
In Bodies thus prediſpoſed, the Diſeaſe is ſoon form'd,
more than ordinary Commotion of the Blood, drinking
f Spirituous Liquors, violent Exerciſe, or even too high
g the Voice, eſpecially in the cold Air. I have obſerv'd
Beginning of an Inflammation like that of the Quin-
er taking a pretty ſtrong Sudorific, follow'd by a too
Admiſſion of the cool Air; or taking a Draught of cold
after coming out of an over-hot Bath; which, how-
y the Help of proper Remedies, both internal and ex-
have in a ſhort time been happily diſcuſs'd. A Quin-
o leſs frequently generated by oppreſſing the Fauces with
ious things, which too much irritate and overſtrain the
nd Veſſels. We know by Experience, that a fatal In-
ion of the Fauces has often ſurpriſed thoſe who have
d ſlept in Rooms, which have been newly plaſter'd over
me; and I myſelf knew ſeveral Infants kill'd at once by
e Means. That the ſame inflammatory Quality belongs
ics, is agreed by all. Among Cathartics, White Hel-
by a kind of ſpecific Property, communicates its In-
to the Fauces, and cauſes a Strangulation. Quickſilver,
cially ill Preparations of it, are known to incommode
me the Fauces. The ſame Effect is obſerv'd, by Phy-
to follow the Uſe of the *Solanum Furioſum*, and the
a mad Dog. The Fumes ariſing from arſenical and
l Ores, and the Vapours of mineral Spirits, unwarily
n with the Breath, have a principal Tendency to pro-
s Diſorder; for the very ſubtle and penetrating pointed
of all theſe Subſtances, deeply inſinuating themſelves
Muſcles which move the Cartilages of the Larynx, by
aining the nervous Membranes, and intercepting the
age of the Blood through the Veſſels, excite an inflam-
Tumor of this kind, with a Pulſation, and a pungent
hich is often fatal.

That the bare Inheſion of ſharp and pointed things in theſe ſolid Parts, is ſufficient to cauſe this Affection, is evident from the Effects which the ſmall prickly Bones of Fiſh produce by ſticking in the Fauces, which are very often Inflammations of this kind. You have a remarkable Obſervation to this Purpoſe in *Hildanus*, *Cent.* 3. *Obſ.* 42.

By ſome of the before-mention'd Ways is a Quinſey ſpontaneouſly excited: But it often ſucceeds ſome other Diſeaſe as a Symptom; which happens frequently in a Diarrhœa and Dyſentery, eſpecially if the Flux be unſeaſonably ſtopp'd; of which we have a memorable Example in *Hildanus*, *Cent.* 3. *Obſ.* 27. The ſame Event follows the prepoſterous repelling of an Eryſipelas, or the Application of improper Topics to the Gout. The Quinſey alſo frequently ſupervenes upon the Small-pox, and malignant and peſtilential Fevers. In particular, anatomico-practical Obſervations upon the Diſtemper call'd the *Hungarian Fever*, aſſure us, that it commonly ended in a Inflammation of the Meninges and Fauces, which ſpread itſelf to the Stomach and Oeſophagus, and carried off the Patient: But the Cauſe of this ſymptomatical Quinſey might, for the moſt part, be found to be a too long Conſtipation of the Belly, an imprudent Checking of Perſpiration, or a prepoſterous repelling of the acrid cauſtic Matter, upon the inward Parts. When the Diſtemper is epidemical, it muſt be attributed to ſome Fault in the Air, which uſually, on theſe Occaſions, has in it ſome degree of Malignity. It often happens in the Spring or Autumn, after a long rainy and moiſt Conſtitution of the Air, as *Hippocrates* of old obſerved, *Sect.* 3. *Aph.* 16. 20. 22. and *Bartholine* confirms by his own Experience, *Cent.* 1. *Obſ.* 81. This Diſorder alſo uſually attacks thoſe who breathe an Air impregnated with Effluvia of the Nature of a very acrid ſubtle Salt, communicated to it by a Multitude of Inſects there reſiding, eſpecially at the Setting of the Sun. From this Cauſe, *Hollerius*, *Prax. Lib.* 1. *Cap.* 23. aſſures, that the Quinſey is very common at *Rome*, and ſometimes rages like the Plague.

A Quinſey is very dangerous, not only on account of the Fever, which is often acute, but the Fear of Suffocation. The moſt dangerous is the true, internal, and hidden Quinſey, as we ſaid before; and of this Sort muſt be underſtood what *Hippocrates* pronounces, *Prædict. Lib.* 3. *Cap.* 8. "The Quinſey "is a very terrible Diſeaſe, and ſoon proves fatal, if it ſhews "nothing conſpicuous to the Sight, either in the Neck or "Fauces; for the ſame Day, or the ſecond, or the third, or "fourth, it ſtrangles the Patient." The greateſt Danger of Suffocation is, when the Muſcle call'd the *Thyroaritenoideus*, whoſe Office it is to cloſe the Larynx, is affected. The ſymptomatical Quinſey is alſo very dubious, and full of Hazard; for the Patient, by reaſon of the Weakneſs of his Body, already exhauſted, and the Virulence of the Matter, ſeldom gets over it. It is a very bad Sign alſo, when the external Tumor ſuddenly diſappears, the Symptoms not being mitigated, but rather exaſperated: For, in ſuch a Caſe, the morbific Matter paſſes over the other nervous Parts, and directs its Courſe either to the Brain, where it excites a Phrenſy with Convulſions; or to the Lungs, where it cauſes a Peripneumony, which, according to *Hippocrates*, *Sect.* 5. *Aph.* 10. ends in Death. But when the ſuffocating Strangulation remits, and the Tumor, Pain, and Redneſs tend principally to the outward Parts, and vaniſh by degrees, it prognoſticates a happy Event; if the Caſe be otherwiſe, the Diſeaſe terminates in Death, or an Abſceſs; if in an Abſceſs, and there be an Effuſion of Pus into the Bronchia and Lungs, according to *Foreſtus*, *Lib.* 15. *Obſ.* 24. the Event is very doubtful; if in Death, Frothing at the Mouth, a Tongue very much ſwell'd, and of a purpliſh black Colour, Coldneſs of the Extremities, an uncommon Anxiety, and Compreſſion about the Præcordia, and a hard, convulſive, and intermitting Pulſe, prognoſticate its Approach.

CURE *of a* QUINSEY.

The Method of Cure recommended by *Hippocrates*, conſiſts in bleeding in both Arms, and opening the Veins under the Tongue, in Lambitives capable of inciding the Humours, in hot Gargariſms, and evacuating a Part of the Humours by an increaſed Diſcharge of Saliva, and in ſhaving the Head. A Cerate ſhould alſo, according to him, be applied to the Head and Neck, and over this Wool; and the external Parts muſt be fomented with ſoft Sponges, wrung out of warm Water. The Drink ought to be Water and Hydromel, but by no means cold; or Cremor of Ptiſan, when the Danger is judged, from the Criſis, to be over. *De Ratione Victus in Acutis.*

In both Species of Quinſey, if the Strength of the Patient will permit, Blood is to be taken away, even tho' it ſhould not abound in him. The next Step is to purge. Cupping Glaſſes muſt alſo be applied directly under the Chin, and about the Fauces, that the Humours, which cauſe the Strangulation, may be invited outwards. Moiſt Fomentations alſo muſt be made uſe of, for dry ones render Reſpiration more difficult: Therefore Sponges are to be applied, which are frequently to be dipp'd in warm Oil, rather than in warm Water. Warm Bags of Salt are alſo of great Efficacy in theſe Intentions. It is alſo adviſeable to gargle the Mouth with a Decoction of Hyſſop, or Catmint, or Thyme, or Wormwood, or even of Bran, or of dried Figs, in Hydromel; after theſe anoint the Palate with Bull's Gall, or the Compoſition which derives its Name from Mulberries. Powder'd Pepper may alſo, with very good Effect, be ſprinkled upon it.

If theſe have but little Effect, the laſt Remedy is to make deep Inciſions under the Jaws, above the Neck; or in the Palate about the Uvula; or to open the Veins under the Tongue, that by theſe Wounds the Humours, which cauſe the Diſtemper, may be diſcharged.

If by theſe means the Patient is not eaſed, we may know, that the Diſeaſe will prove fatal: But if he is ſo far reliev'd, as to be able to eat and drink, the Tranſition to Health is not difficult. In ſome Caſes, Nature will aſſiſt, provided the Diſeaſe removes from a narrower to a wider Part. Therefore, if a Tumor or Redneſs ariſe about the Præcordia, we may be ſatisfy'd, that the Fauces are ſet at Liberty.

But by whatever means Relief is procur'd, the firſt Aliments which are given muſt be liquid, and in particular Hydromel; after theſe, ſolid Foods, which are ſoft, and not acrid, till the Fauces recover their uſual Habit.

It is commonly reported, that if any one eats a young Swallow, he will be in no Danger of a Quinſey for that Year: And it is farther affirm'd, that if the ſame be preſerved with Salt, and burnt, upon an Attack of this Diſtemper, and the Aſhes are powder'd, and put into Hydromel, which is given to drink, it will be of Service. This I thought worthy of inſerting, tho' I have not met with it in Medicinal Writers; becauſe it is a popular Remedy in ſome Reputation, and cannot poſſibly have any ill Effect. *Celſus*, *Lib.* 4. *Cap.* 4.

For the Cure of a Cynanche, that Species of Quinſey which is attended with a Tumor of the Fauces, *Aretæus* adviſes the following Method, which, he ſays, muſt be immediately purſued; becauſe the Diſtemper, being extremely acute, ſoon proves fatal.

If the Diſorder is cauſed by a Debauch, either in eating, or in drinking, the Inteſtines muſt be waſh'd not only with one, but with two Clyſters. The firſt muſt be of the common Sort, being only intended to diſcharge the Excrement; the ſecond is deſign'd to draw a Part of the Humours from the Tonſils and Breaſt; therefore let it not be ſimple, but made of a Decoction of Centaury, Hyſſop, *Wormwood*, *Calamint*, *and Birth-wort*, *with an Addition of Honey*, *and a great deal of Nitre*; for theſe draw away Phlegm. And tho' the Patient has lived temperately, the Vein in the Cubit muſt be open'd, and with a large Orifice, that the Blood may flow from it with Impetuoſity, and in a large Quantity; for by theſe means it will be more likely to moderate the Heat, relieve the Strangulation, and mitigate all the Symptoms. It will not be amiſs to let the Patient bleed till he is near fainting, but not till he actually faints; for ſome have, upon theſe Occaſions, died in the fainting Fit: Mean time, Ligatures muſt be made above the Ankles and Knees, but particularly upon the Wriſt near the Cubit, and upon the Cubit near the Humerus. If the Patient can ſwallow eaſily, give him as much Elaterium as is ſufficient to purge him, in Hydromel and Whey; for, of all Cathartics, Elaterium is, in this Caſe, the beſt: Cneoron and Muſtard [νάπυ] are alſo of Service; for both theſe purge the Belly.

If, by the Uſe of theſe Remedies, the Inflammation is not mitigated, bending the Tongue upwards, open the Veins on the under Side, and if a large Quantity of Blood is diſcharged from theſe, it gives greater Relief than all the reſt. Let the inflam'd Parts be moiſten'd with Reſtringents at firſt, that the Inundation of Humours may be ſomewhat check'd; for this Purpoſe uſe Wool, greaſy with the natural Sweat, and let it be impregnated with Wine, and the Oil of unripe Olives. Cataplaſms alſo of the ſame Nature muſt be applied, as of Dates moiſten'd and bruis'd with Wine, together with Roſe-flowers; and that theſe Cataplaſms may have a proper Conſiſtence, that is, be viſcid and ſoft, let Meal and Lin-ſeed, and Honey and Oil, enter their Compoſition.

But if it verges towards Suppuration, make uſe of warm Topics, as in the other Species of Quinſey: Let therefore the Meal be that of Fenugreek; and let the Powder of Frankincenſe [μάννα] and Reſin be melted; and let the Tops of Poley-mountain be ſtrew'd in: To theſe add hot Fomentations, by means of Sponges, preſs'd out of a Decoction of Laurel-berries and Hyſſop. The Dung alſo of Doves and Dogs are powerful Promoters of Suppuration, paſs'd thro' a Sieve, and applied to the Part. Proper Lotions are prepared of Hydromel, with the Decoction of Lentils, or Hyſſop, or Roſes, or Dates, or of all together. The Mouth muſt alſo be anointed as far as the Pharynx, either with ſimple Medicines, as the Juice of Mulberries, or of Pomegranates bruiſed with Water, or a Decoction of Dates; or elſe with Compounds, as thoſe which take their Names from Mulberries, from Rue, the Juice of Pomegranates, or from Swallows. But if there are Ulcers in the Mouth, with Eſchars, proper Lotions and Gargariſms are prepar'd of Decoctions of Hyſſop in Hydromel, or of fat Figs in Water, with an Addition of *Amylum*, moiſten'd with Hyd mel, or the Juice of *Ptiſan*, or of *Tragus*.

But in that Species of Quinſey which is attended with an E tenuation of the Parts, and is called *Synanche*, all poſſible E deavours muſt be uſed to invite the Humours, and the He and the Fleſh, outwards, that all the external Parts may ſwe Let therefore the Embrocations be hot, and made with Rue Dill, with an Addition of Nitre; and let the Cataplaſms, abo ſpecify'd, be laid on with theſe. It will alſo be of Service apply a Cerate, with Nitre and Muſtard, in order to exc Heat; for Heat in the external Parts contributes much to Cure of theſe Diſorders, and to the Swelling of the Neck; a Tumor, riſing externally, preſerves the Patient from a P pneumony; but if it retires inward in a Quinſey, it is a f Evil.

Thoſe who, apprehending the Suffocation in a Quinſ make an Inciſion in the *Aſpera Arteria*, in order to render ſpiration eaſy, do not ſeem to me to have confirm'd this P tice by Experience; for the Heat, ariſing from the Inflamma is increaſed by the Wound, and adds to the Fatigue and D ger of the Strangulation and Cough: Beſides, if the Pati eſcape this Danger, the Lips of the Wound will not u becauſe, being cartilaginous, they cannot heal. *Aretæu* *Curatione Acutorum*, *Lib.* 1. *Cap.* 8.

There is, after this, ſomething omitted in the Copies of *tæus* now extant; for *Aetius* quotes ſome things from this thor, not to be found here, as is ſpecified below.

By *Nitre*, *Aretæus* means *Natron*, a Salt very different f our *Nitre*. See ANATRON.

Cælius Aurelianus has preſerved the Practice of a great m of the antient Phyſicians, which would otherwiſe have loſt to us; and is very free in finding Faults, for which ſometimes gives but indifferent Reaſons. He was of the thodic Sect, and as he believed the Cauſes of Diſeaſes reſide the Solids, and were nothing but too tenſe or lax a To their Fibres, he reduced moſt Diſeaſes under two Heads, w were thoſe of *Stricture* and *Solution*: Thus, for Inſtanc Phrenſy was, with him, a Diſeaſe of *Stricture*; but a D rhœa, on the contrary, was called a Diſeaſe of *Solution*.

The Patient under this Diſtemper muſt lie in a ligh Place, moderately ſpacious, warm, and free from off Smells. Air, thus qualify'd, is of a laxative Diſpoſition, proper to inſinuate into the tumid Parts. The Poſture of cubiture ought to be ſupine, the Head a little raiſed, in a and immoveable Poſition, or one in which the Patien they find moſt Eaſe; for all Motion is painful to Perſons l ing under a Tumor. The Neck and Breaſt are to be cover' cheriſh'd with clean, ſoft, and undy'd Wool, dipp'd in ſweet Oil, not omitting gentle Frictions of the Joints; f Relaxation, conſequent on Perſpiration thus promoted, is municated to the affected Parts.

Reſt and Abſtinence are to be injoin'd for the firſt Days, together with a laxative Gargariſm. Fomentations warm ſweet Oil are to be uſed, and Bladders, half-full o ſame, are to be applied to the outward Parts. If the Diſe violent, Phlebotomy is to be adminiſter'd within the Days; for quick and ſudden Bleeding is neceſſary for a ſpeedy Relaxation. If there be no urgent Neceſſity, Bl may be omitted till the third Day, or, if the Strength co till after it, and then uſed, if any emergent Occaſion re it.

The Perſon to whom Bleeding has been adminiſter'd w the three Days, is afterwards to have his Head and Ne mented with hot ſweet Oil, and have ſome of the ſam ſtill'd into his Ears; and then to uſe a Gargariſm. His muſt be warm Water, or Mulſum, and not by Draughts Sippings, leſt the tumid Parts ſhould be irritated by a tr ſome Deglutition and Percuſſion.

If we bleed the Patient on the third Day, he muſt wards have his Body anointed round with ſweet Oil w and his Face moderately fomented with warm Water; we may give him ſorbile Food, but very thin or fluid; ſome Bread dipp'd in Mulſum.

If Deglutition be difficult, ſo as to prevent the Sick receiving into his Stomach what is given him for that P it will be ſufficient, for ſupporting his Strength, to inſtil ſum, Drop by Drop, into the Fauces. We muſt alſo tinue to give him Food every other Day, till the Decline Diſtemper.

It will alſo be convenient, for ſome Days after Phlebo to make uſe of Cataplaſms, which may be outwardly round about the Neck, but let them be of the mild and Kind; ſuch as hot Bread dipp'd in Water and Oil, or mollify'd in Mulſum, or Flour of Wheat, or Barley, ſeed, or Fenugreek. The fore-mention'd Simples may or mix'd together, be taken out of warm Water, Honey, or a Decoction or Infuſion of the Root of Ma lows, and ſo applied. Theſe Cataplaſms are frequen chang'd, leſt, by long Continuance on the Part, they a Sourneſs from the corrupt Exhalations of the Body.

to be heated, that their Vapour may continue the longer; tward Applications are to be made of Sacks of Bran boil'd ter, or Bladders half full of hot Water and Oil. The tion of Sponges, ſqueez'd out of warm Water, alone or with Oil, or a Decoction of the mild Laxatives, is good Caſe. Sponges are alſo to be applied to the Neck and , and thoſe Parts which, by their Swelling or Inflam- , hinder Deglutition, or to the Mouth and Noſtrils; the alſo is to be exhorted to ſuck in the Vapour with open ; for Vaporations received this way deſcend deep, and e Tumor.

ariſms are to be uſed, which have a Congruity with Ca- , ſuch as warm and ſweet Oil, or hot Water and Oil; lſum, diluted with Water, and boil'd; Milk alone, or with Honey or Water, ſo that there be an entire Deter- all the curdling Parts; leſt, if any ſhould remain, they contract a Sourneſs from the Heat of the Places.

are alſo to make uſe of a Decoction of Bran and Liquo- of Lin-ſeed and Fenugreek, but never boil'd to the eſs of a Cremor; leſt by its viſcous Tenacity, in Con- with the Viſcidity of the Humours, it ſhould occaſion ulty of Reſpiration. Beſides theſe, the Decoctions of mallow, Wild-mallow, *Syrian* Sebeſtens, Club-moſs, s, or juicy Figs, are all recommended, as well as the Alica, or Ptiſan.

n the Diſeaſe begins to decline, *Sybaritic*, *Cretic*, and Wines are proper: But as for light Aſtringents, and ey call Inſpiſſants, [*Stymmata*] I think them at this onvenient; for theſe are Remedies that we uſe in the ng of the Diſorder, while the Symptoms are light, and ient only complains of a ſlight Pain in the Fauces and for *Theſſalus* himſelf orders Poſca, when he is call'd to hoſe who are threaten'd, but not actually ſeiz'd, with a e:

rt, we muſt make uſe not only of Poſca, but of a on of gentle Aſtringents, ſuch as Roſes, *Thebaic* Dates, Myrtle, Lentiſk, and Maſtich, any one of which may d in Mulſum, or ſome other of the fore-mention'd whenever we find, that their aſtringent Quality requires on by the Mixture of a laxative Liquor. The Juice of is of Service, and the Medicine call'd *Diacodion* diſ- n Mulſum, and oftentimes in Subſtance, if the Fauces nted with it. Of the ſame Virtue are Diamoron, Dia- Diamyrrhion, the Troches of Andron, and the Sphragis das, Anthera with Honey, and all Medicines prepared ces or Pomgranates, Roſes, the Rinds of Pomgranates, e Juice of unripe Grapes, Box-thorn, and the like.

hen the Diſeaſe is form'd, we are to do as before ad- eſides which, if we find the Humours, which are con- y the Heat, become glutinous, and appear outwardly, ge them with a hot Sponge; but if they lie deep, the [an Inſtrument for cleanſing the Throat] muſt be in- , with its Head wrapp'd in fine ſoft Wool; for the thick ous Humours, if ſuffer'd to remain, would accelerate on. If they lie ſo deep as to be out of Sight, they attenuated by taking Mulſum, but boil'd beforehand, akes it of greater Efficacy; ſome give Ptiſan mix'd tle Salt.

edicines endued with a ſenſibly biting Quality are to be for, by irritating the Tumor, they would incraſſate ours flowing to the Part.

Belly does not perform its Office, Clyſters are to be arm Water and Oil, ſometimes with, and ſometimes Honey; for the Vapour which aſcends from the Liquor e tumid Parts about the Neck, and an exonerated Bel- a free Reſpiration, not only under a Synanche, but Health; whereas an undue Retention of the Fœces Nature, and, by a ſort of Compreſſion, is the Cauſe rimonious Exhalations in the Body, by which Tumors d, and the Head fill'd.

Clyſter, Cupping and Scarifying will be proper in the Remiſſion; but if there be a Continuation, and the roceeds without remitting, they are beſt applied, as her *diſtrictive* Remedies, (which take away Stricture) wn of Day. Cupping Glaſſes then are to be applied e-part of the Neck, or to the Throat, which Places e *Greeks* call'd *Anthereona*; alſo to the hinder Part of , and thoſe large Nerves which they call *Tenontes*, and h Part under the Pits of the Ears, [*ſub Aurium Lacu-* ich Places the Poſition of the Fauces is plainly to be

he Diſeaſe does not abate, and the Patient is too deli- is Method of Cure, and fearful of being touch'd with of a Lancet, we are obliged to apply Leeches, which call βδέλλαι, to the Places we have mention'd; and hey are fallen off, the Evacuation they make is not we take care to apply Cupping Glaſſes to the Pun- have inflicted, in order to draw off as much as ſhall ; beſides, we uſe Fomentations of Oil, with pro- aſms and Vaporations. After theſe we ply the Patient with Epithems infuſed in hot Oil, and vaporate with Sponges ſqueez'd out of the ſame Matter; for we diſapprove the dry Vaporation by Sacks, as capable of Condenſation. In an extraordinary Tumor we ſcarify alſo the Tongue, with the Fauces and Palate, by means of a ſlender and pretty long Bleeding-lancet [*Phlebotomus*]; for the tumid Parts are relax'd by drawing off Blood from the Places.

After Scarification we uſe mild Gargariſms, and if the Diſeaſe begins to decline, Unctions of the Fauces, or of the interior Parts, as with boil'd Honey, or with a Medicine prepar'd of a Decoction of the Wild-mallow, with the Seed of Fenugreek, Lin-ſeed, Amylum, Honey, and Oil; or with ſtoned Raiſins bruiſed, with Bread; or a Decoction of Linſeed; or with Honey, and *Cretic* Raiſin-wine, in which have been boil'd the Root of the Wild-mallow; or the Flour of Alica and Linſeed.

If the Diſtemper continues without Abatement, we uſe Scarification a ſecond or a third time, not only of the Throat, or Parts adjacent to the Tonſils, which the *Greeks* call *Anthereon*, and the great Nerves of the Neck call'd *Tenontes*, but to the hinder Part of the Head, the Scapula, and Interſcapula, which the *Greeks* call *Metaphrenon*, and to the Breaſt: For tho' the Parts adminiſtering to Deglutition be moſt eminently affected, other Places of the Body ſuffer by Conſent.

Many there are, who, not underſtanding the Method of ſubduing the Diſeaſe, but only labouring to divert the peccant Matter, and placing the Cauſes in the Fluids, adviſe above all things to apply Cupping Glaſſes to the Groin, then to the Region of the Diaphragm, then upon the Breaſts, with Scarification; after this they apply the ſame to the Throat, the Neck, and the Parts thereto belonging.

If the Diſeaſe be evidently on the Decline, we ſhould diet the Patient upon Pulſe [a Sort of Panada] and poach'd Eggs, or Hog's Brain, utterly rejecting all acrimonious, high-ſeaſon'd, heating, vinous, rough or dry Food, or whatever may irritate the Parts appropriated to Deglutition; for the Diſorder eaſily returns on a very ſlight Occaſion. We ſhould alſo apply Cerecloths, prepar'd with ſweet Oil, or *Oleum Cyprinum*, or Gleucinum, or Irinum, or Malabathrinum, [*ſee the Compoſition of theſe Oils under their proper Adjectives*] with the Root of Marſh-mallow. Then let the Patient bathe, and afterwards drink Wine. *Cœlius*, *Acut. Morb. Lib.* 3. *Cap.* 3.

Among the Antients, *Hippocrates*, in his Treatiſe upon the *Cnidian Sentences* (on Regimen in acute Diſeaſes) tells us, that Patients under a Synanche are to be blooded in both Arms; but this muſt be avoided; for a coacervated Effuſion of Blood may cauſe a Fainting, for which Reaſon we are reſtrain'd from taking away ſo much as would be ſufficient for relaxing the Stricture.

He alſo directs the Opening of the ſublingual Veins, which is not only uſeleſs, but hurtful; for the Matter, flowing in great Abundance to the Paſſage, is there ſtopp'd for want of ſufficient Vent, and fills the Parts; which by this means are rather loaded by the Acceſſion, than relieved by the Receſs of Matter.

Again, a Fillet is to be bound about the Neck, in order to raiſe the Veins, and eſpecially when the Synanche is without any manifeſt Tumor. Now a Fillet, as every body knows, muſt increaſe the Difficulty of Breathing: Beſides, 'tis very certain, that the Flux of Blood from the forementio'd Veins is difficult to be ſtopp'd; for we can apply no Reſtringent to the Place without Danger, and 'tis impoſſible to tie the Veins. 'Tis alſo natural for Tumors, after opening, to incline to an Hæmorrhage.

The Author afore-mention'd uſes warm Gargariſms and Vaporations, but with what Ingredients, he does not tell us: He then orders the Head to be ſhaved, and to be inceſſantly vaporated with Sponges, and then cover'd with a Cere-cloth and Wool. He allows his Patients, for Drink, warm Water and Mulſum; and, in the Decline of the Diſtemper, feeds them with Cremor, of what Kind, he does not ſpecify; being ignorant alſo, that this Decline generally happens not till after five or ſix Days, and Abſtinence from Food during that Time would be unreaſonable. Vaporation ought indeed to be uſed, but not to the Head more than to the Neck, and the Beginning of the Throat, which the *Greeks* call *Anthereon*. After Vaporation, the Part muſt be kept warm; and in the Decline of the Diſeaſe a Cere-cloth is to be applied.

Moreover, as to Drink, he does not tell us in what Quantity, nor after what Manner, nor at what Times he allows it. Again, in his ſecond Book *of Diſeaſes*, he ſays, they ought to be relieved with Clyſters, and purging Medicines, which the *Greeks* call *Cathartics*, by whoſe Acrimony the tumid Parts are the more exaſperated.

As to bleeding in the Parts ſituated under the Breaſt, we judge it hurtful and needleſs; hurtful, becauſe many Bodies muſt be divided, for 'tis not eaſy to come to the Sight of the Vein; and needleſs, becauſe Blood may, with Eaſe, be taken from the Arm to very good Purpoſe; beſides, the continued and joint Detraction of Matter by Clyſters, Purgatives, and Phlebotomy, is plainly intolerable.

Again, if there be great Danger of Suffocation, ſays he, the Auliſcus, which we may call the Pipe of a Clyſter, muſt be intruded into the Fauces, and the Patient muſt receive by this the Fumes of burnt Hyſſop, Sulphur, and Bitumen. Here is certainly a Miſtake; for he tries to thruſt a Pipe into the Fauces, when, through the Violence of the Diſeaſe, they can't admit the thinneſt Air; and he thinks the Patients ought to be fill'd with an auſtere Smoke, by which ſound Perſons are often affected with a Suffocation.

In the laſt Place, he approves of Phlebotomy in both Arms, and in the ſublingual Veins, which we have condemn'd, and proved to be of no Service; for it cannot be done without great Moleſtation to the Body.

Diocles, in the Book which he wrote upon Diſeaſes, their Cauſes, and Cures, ſays, That ſanguine Perſons ſhould be blooded in both Arms; but thoſe who do not abound with Blood ſhould only be ſcarified. Then he would have the Patients continually anointed with Bull's Gall, mixed with Herba Pedicularis, which they call *Staveſacre*, and Nitre, and *Cnidian* Grains, and have the ſame uſed for Gargariſms. He alſo preſcribes Pepper to be held under the Tongue, the Neck to be vaporated with Sponges, and covered with Cere-cloths, ordering the Sick to be extenuated beyond all Reaſon.

As for our Part, we approve of Phlebotomy, not only for the Sanguine, but for all Perſons affected with this Diſtemper, if their Strength permit, tho' not in both Arms, as we ſaid before; nor are we for thoſe extremely acrimonious Ointments and Gargariſms, nor do we uſe any ſuch Inunctions in Tumors of the Eyes. For Staveſacre will bring a Synanche upon a ſound Perſon, by cauſing a ſudden Inflammation of the Fauces. Nor is it agreeable with Medicine to reduce the Body, or its Habit, by Extenuation, but to relax the tumid Parts by proper Remiſſives.

Praxagoras, in his fourth Book of Cures, treats his Patients under a Synanche, with Clyſters, and extenuates them by Sweating; ſometimes he uſes Phlebotomy, and adminiſters a vomiting Medicine, which they call an *Emetic*. Then he cuts off the Uvula, or ſometimes ſcarifies it, and heals up the Wounds with Tar. We are content, that others ſhould give their Opinion of this Method; for exceſſive Vomiting, by Diſtention and Suffocation, has often been mortal, and a tumify'd Uvula wants Relaxation, not Amputation, as well as other Parts of the Body, which muſt, of Neceſſity, be relaxed by ſoft and gentle Means.

Eraſiſtratus, in his ſecond Book of Anatomics, in which he treats of Diſeaſes in particular, preſcribes, in ſome Caſes of a Synanche, Vaporation with Sponges, Cataplaſms, and a Medicine, which he called a *Catapotium*, [Pill] prepared of Caſtor, to be taken in Wine. But he did wrong in every Particular; for Wine is an Aſtringent, and every one knows, that Caſtor is of a very acrimonious Nature, and conſequently both contrary to a Tumor. *Herophilus* has ſaid nothing of a Synanche.

Aſclepiades, in his ſecond Book of ſwift, or acute, Diſeaſes, ſays, That Perſons under a Synanche are to be treated with Bleeding, Purging, Cataplaſms, Collutions of the Mouth, Gargariſms, with attenuating and opening Inunctions, ſuch as thoſe prepared of Hyſſop, Origanum, Thyme, Melilot, Wormwood, Decoction of Figs, Nitre, Staveſacre, Centaury, Elaterium, Bull's Gall, Reſin of Cedar; to which he adds, the Uſe of Cupping and Scarification. He denies that Blood can be drawn by Cupping, either, ſays he, becauſe this Diſeaſe is attended with a Fever, or elſe, by the Prevalency of the efficient Cauſe of the Tumor, the Heat of the Cupping-glaſs is over-powered, and diverted the contrary way, ſo as to be incapacitated for Detraction. Phlebotomy he adviſes to be exerciſed in the Forehead, in the Corners of the Eyes, in the ſublingual Veins, or in the Arm. If the Diſeaſe be violent, the Fauces are to be ſcarify'd, that is, the Tonſils, and the Parts above the Uvula; for the principal Relief may be expected from an equal and even Inciſion in thoſe Parts, which he called *Homoiotomy*. Beſides, he approves the Opening of the Aſpera Arteria, agreeing with the Antients, who call it Laryngotomy.

In this Method of his, the Miſtakes are many and various; for whatever is of an acrimonious Nature, is an Incentive to the Humours; Phlebotomy alſo is hurtful to the affected Parts, as we ſhew'd before. Beſides, he is guilty of an Abſurdity, in directing the Uſe of Clyſters, in order to divert and derive the Matter from the ſuffering Parts, becauſe it is contrary to the Evacuation of thoſe Parts, by cutting their Veins, to which he gives his Approbation. He was wrong in judging, that Scarification was to be uſed firſt, and then the Veins to be cut; for we are utterly againſt thoſe local ways of draining the Part, while the Diſeaſe is in its confirm'd State. Beſides, it argues a Phyſician of little Experience, to imagine that the peccant Matter cannot be drawn out by the Attraction of a Cupping-glaſs, becauſe a Fever hinders; ſince we commonly ſee thoſe Glaſſes produce their Effects without Impediment in Fevers, and to extract Matter; for Fleſh, Blood and Spirit, are attracted and drawn together by their Force. It is to be conſidered alſo, that we do not uſe Cupping-glaſſes whilſt the is increaſing, when the Matter is retired into the int Parts.

Again, Scarification of the tumid Parts is very troubleſo and alſo dangerous; for it cauſes vehement Hæmorrhages, ſuch as cannot be ſtopped. For if we endeavour to reſ them, ſpeedy Suffocation will be the Conſequence; and if let them alone, a more ſpeedy Death appears to be the E of this Effuſion of Blood; or if the Patient eſcapes an Hæ rhage, he will not avoid a Cancer, or a Gangrene, from Increaſe of the Tumor: For ſince we very often obſerve, thoſe Parts, which are perfectly ſound, and in their na State, do yet riſe into a Tumor, when ſcarified, tho' tr with Aſtringents; we may very well expect, that Parts al ſwelled, if they ſhould be ſcarified, and have not the Aſſi of Aſtringents, ſhould ſwell to a more vehement Degree. tainly, in ſo conſiderable a Tumor, and ſo exaſperated a to bear the Touch of a Finger, and where the Patient can much Difficulty ſuffer the Uſe of Cataplaſms and Gargar a deep Inciſion, or ſcarifying of the interior Parts, mu ceſſarily be hurtful and dangerous.

As to opening the Aſpera Arteria, which they call *La tomy*, for the ſake of Reſpiration, it is a mere Fable, and no Authority of Antiquity, but is a raſh and unreaſonabl vention of *Aſclepiades*. But to ſpend no more Time in futing this Author, nor uſe too few Words in ſhewi Abhorrence of ſo deſperate an Operation, we ſhall anſwe more at large, in a Treatiſe we deſign to write on au Remedies [*Adjutoria*]. *Themiſon*, who approves of *Aſclep* Method of curing acute Diſeaſes, which are not attended a Fever, incurs the ſame Cenſure with him.

Serapion, in his firſt Book of Cures, for a Synanche, ſcribes Evacuation by Clyſters, and Phlebotomy, and r mends the Uſe of acrimonious, irritating, and aperitive plaſms and Ointments, which they call *Anaſtomotics*. alſo very rigorous in injoining Abſtinence.

This Phyſician alſo lies very open to Cenſure; for every knows, that Tumors are irritated by acrimonious and ating things; and Phlebotomy, in Conjunction with C is acknowledged to be very troubleſome and emba Again, in enumerating the Names of the Materia M he omits thoſe which enter the Compoſition of Auxili medies, tho' Meat and Drink are of no leſs Importanc any other Auxiliary Remedy whatſoever, when under Regimen.

Heraclides Tarentinus, in his third Bood of Cures writing ternals, tells us, that “ To thoſe who labour under a R “ dancy of Blood, we firſt preſcribe Evacuation by C “ and then uſe Phlebotomy, ſometimes in the Arm, ſom “ in the Sublingual Veins. We alſo make uſe of Vapo “ to the Neck and Throat, with Sponges dipp'd in “ Water, which has had Rue and Penyroyal boiled in it.” he gives his Approbation of a Cataplaſm, which *ὠμὴ λύσις*, prepared of Mulſum, mixed with Groun *Illyrian* Orris, or Figs. At Night, he ſays, we muſt Cere-cloth prepared of Oleum Irinum, with Rozin and of each an equal Weight.

In Caſes where he ſuſpects a Thickneſs of the Ju orders the Fauces to be anointed with Honey and Omp and preſcribes for a Gargariſm, Mulſum, in which ha boiled Figs, or Origanum, and Pepper mixed with it. uſes Elaterium to the Weight of ſeven Drams, (an imm Doſe) and gives to many five Grains, in Hydromel or M After theſe he adminiſters a Remedy, which he calls an that is, of a vomiting Quality; and is thus prepared:

Take, ſays he, of Origanum and *Hercules*'s Alheal, Handful, and put them in a copper Veſſel; then what we call *Red Sumach* [Rhus rubrum] two and twenty *German* Onions [*Cepulæ Germanæ*, Squills] the outer Rind peeled off; and ſhaking t gether, put them into the Veſſel. Pour upon th Pints of *Chian*, *Rhodian*, or *Cnidian* Wine, and to ſtand in the Sun twenty Days before the Riſing Dog-ſtar, and twenty Days after. When the L conſumed, put in another two Pints, and leave it in the Sun; at laſt, put the Whole into a Mor make it into Troches, the largeſt of a Dram others of a Dram, and the leaſt of half a Dra given one at a time, with reſpect to the Strength Patient, in Mulſum, or like an Electuary in Ho it promotes Evacuation of the viſcous Humour by ing, and looſens the Belly. Some, he ſays, add teria, and half a Dram of the Juice of Thapſia Patient be difficult to vomit, a Feather dipp'd in and intruded into the Fauces, will promote it. S he makes uſe of a Medicine prepared of Omphac terium, and Diagrydium, with black Hellebore

if the Patients are difficult to vomit; or he uſes Elaterium
with Vinegar and Rue, or Elaterium with Muſtard and
Salt.

As for thoſe who fall into a Synanche, from taking Cold, he
, we forbid them Bleeding and Clyſters, but in all other
es we uſe them: He alſo orders his Patients to be ſupported
lieted with nothing but Water, or Mulſum.

But all theſe Experiments, or Eſſays, ſeem to be nothing
ready Expedients to anſwer ſome dubious Conjectures. For
Empiric, who has nothing in View but *Obſervation*, which
call τήρησις, thinks Phlebotomy proper only for the San-
e, not conſidering, that all Synanchical Patients, if Strength
permit, ought to be blooded, on account of the Vehe-
ce of the Stricture. In ſhort, when he forbids Bleeding
r a Synanche, occaſioned by Cold, he deſerves to be
hed at, for overlooking the preſent Caſe, and inquiring
the Cauſes.

The Cataplaſms, which he adviſes, are alſo hurtful, and ſo
s Vaporation, on account of the Acrimony of the Ingre-
ts, which are of a fiery Nature. Alſo his vomiting Medi-
, which he calls *Emetics*, cauſe Swellings where none were
e. For the ferulaceous Plant, which they call *Thapſia*,
ficient to burn the Parts to which it is applied, and to in-
thoſe which are ſound and in their natural State. The
Judgment is to be form'd of thoſe which are compoſed of
n, Omphacium, and Red Sumach, and ſuch-like; old
alſo has an acrimonious Quality. What he calls *Ca-
ics*, which we name *Purgatives*, to be adminiſtered Clyſter-
cauſe a great Diſturbance in all Humours, and Moleſta-
to the Stomach, and other nervous Parts. It alſo argues
igence to preſcribe no Time when the Patient ſhould take
ood.

here are ſome Phyſicians alſo of our own Sect (*the Methodic*)
being ſtill addicted to the Errors of the Antients, have
their Approbation to unuſual and violent Remedies; ſome-
adviſing human Urine or Ordure, with Honey, Myrrh,
Rue; ſometimes Centaury, Wormwood, Southernwood,
ne, Birthwort, Tymbra, which we call *Satureia*, [Savory]
Muſtard; ſometimes one ſhall preſcribe the *Pythagoric* and
ian Troche, ſo called from their Inventor; another adviſes
they call the *Sphragis* of *Polyidas*, and Conſtrictives, with
ions, and Cerates of the Ointments of Sampſuchus and
nary; all which Medicines, through their exceſſive Heat,
their drying and drawing Qualities, are provocative of a
or; whereas the Diſeaſe is vehement and precipitate of
and ought to be treated with gentle and ſimple Medi-
Cœlius Aurelian. Lib. 3. *Cap.* 4.

the Quinſey,

ke of Laſer of *Cyrene*, if it can be procured, if not, take
e *Syrian* Laſer, and diluting it with Water, anoint the
Fauces therewith by means of a Feather, laying it on
retty thick; or uſe Euphorbium diluted in the ſame
manner.

e of Ox-gall, Salt, Vinegar, Honey, old Oil, equal
Quantities; mix them well together, and therewith anoint
e Fauces for a good while together, uſing a Feather for
at Purpoſe: Or,

e Fennel-flower fry'd, two Drams five Grains; Pelli-
ory of *Spain*, one Dram two Grains and an half; Saga-
enum, thirty-one Grains; powder them together, and
ake them into a Maſs with Honey.

ery good Medicine is compoſed of

gall, two Drams five Grains; Elaterium, one Dram
o Grains and an half; the Seed of Roſemary, one
ram two Grains and an half; powder them, and make
em up with Honey. Anoint the Fauces with this di-
ted in warm Water, and compel the Patient to ſwallow
much of it as poſſible; for it looſens the Belly, and in
doing gives great Relief. *Scribonius Largus, Cap.* 16.

uman Dung I have the following Experiment:
ertain Perſon was frequently afflicted with Phlegmons
s Throat, in ſuch a deplorable manner, that he was in
of Suffocation, and to prevent it was obliged to bleed.
pened to meet with a Perſon, who promiſed him a Re-
and deſir'd, that whenever a Phlegmon aroſe again in
t of his Throat, he might be ſent for before Bleeding.
alled, he anointed the Part with his Medicine, and cured
n immediately. He had the ſame Succeſs upon others,
oured under the ſame Diſorder, till, at length, the Gen-
who was in continual Danger of being ſuffocated, and
des rich, and of a liberal Diſpoſition, deſired to pur-
e Receipt. When they had agreed on the Price, the
ys to the other, "This Medicine has its Virtue from
I.

"Antipathy, which Antipathy conſiſts in that the Perſon who "is cured, ſhould be ignorant of its Compoſition." He therefore prevailed with him to ſubſtitute another in his ſtead, on whoſe Fidelity he could depend, and to whom the Secret might be communicated, upon his taking an Oath to diſcover it to no Perſon while the Author lived. After the Author's Death, the Perſon entruſted cured not only the Purchaſer, but others, with this Remedy, and freely and heartily offered to communicate the ſame to me, tho' I never aſked him. It was the Dung of a Boy, mixed with *Attic* Honey, dry'd and pulverized. The Boy, according to the Author's Preſcription, lived on Lupines, ſuch as we uſually eat with Bread that is well baked, and ſeaſoned with a moderate Quantity of Salt and Leaven. The Boy's Drink was old Wine; but both that and the Lupines were in moderate Proportions, that he might be able to make a perfect Concoction. When the Boy had been thus dieted for one Day, he did not take his Dung the next Day, but ſtill fed him in the ſame manner, and the third Day he ſaved his Dung. He preferred Lupines, avoiding other Food becauſe of the Stench; but he who told me, ſaid, that he had often, for Experiment ſake, given the Fleſh of Fowls and Partridges well boiled, and ſerved in Water, or ſmall Broth, and that the Medicine operated never the worſe. *Galen. de Simpl. Medic. Facul. Lib.* 10.

A Stoppage from a Quinſey is to be looked upon as a dangerous Caſe, and ſo much the more if the Inflammation be ſeated inwardly, ſo as that no outward Sign appears, and eſpecially if both the Tonſils and the Uvula are inflamed. In this Circumſtance, immediate Recourſe is to be had to Phlebotomy; but if the Patient be unfit for it, he is to be ſcarify'd upon the Shinbones, and ſuffered to bleed plentifully, acrimonious Clyſters are to be uſed, Abſtinence is to be injoined, and drawing Medicines are to be applied to the Neck; for if the Matter lodged in thoſe Parts can be attracted outwardly, ſo as that a Tumor ariſes, there is good Hope of ſaving the Patient. The Cremor of *Ptiſan*, mixed with thin Honey, is to be uſed for a Gargle, or a Decoction of dry'd Figs, or of Hyſſop, Origanum, and Horehound, by which means the groſs and glutinous Humours, fixed in thoſe Parts, are digeſted. *Oribaſ. de Loc. Affect. curat. Lib.* 4. *Cap.* 71.

Archigenes ſays, that the Cauſe of a ſecret or inward Quinſey, in ſome, is to be aſcribed to the Nerves which ſerve the Stomach: Theſe being diſordered, occaſion an Inflammation in the ſubjacent Parts, which are the Heart and Lungs, the Principles of Reſpiration, from whence it is communicated to the Arteries called *Carotides*, and the Parts adjacent. The Reaſon why the Patients in this Caſe are not apoplectic, is, that the Cauſe of this Diſeaſe is only an Intemperies, without a Compreſſion of the Parts. Medicines of an emetic Quality, ſays the ſame Phyſician, are proper in this Quinſey; ſuch as Elaterium, and Squama Æris with Honey, anointed upon the Part. "I relieve many, ſays he, under an inward Quinſey, with a "Gargle of Muſtard-ſeed, and ſoon after carry them to the "Bath; by which means I have ſaved many, and reſtored them "to Health by a Diſtribution [of the Matter] over the whole "Body." *Aretæus* adviſes [*This is not found in the Works of* Aretæus, *which are extant*] to apply a Cupping-glaſs firſt below the Navel, and ſoon after to the Sides, Back, and Scapulæ, ſtill removing it from place to place, and ſetting it on in ſuch a manner as to draw from the upper Parts downwards. If the Patient be much oppreſſed, bruiſe Muſtard-ſeed in Water, and, ſpreading it upon an old Rag, apply it to the Breaſt. Let a Linctus alſo be prepared of Muſtard-ſeed, Nitre, Hyſſop, roaſted Squills, Sulphur Vivum, of each an equal Quantity; to be well mixed with a ſmall Spoonful of Honey, and ſo given. So far *Aretæus*. In Phlebotomy, the Orifice of the Vein muſt not be made ſo narrow, that the Blood being in a manner ſtrained, the thicker Part of it, which is the Cauſe of the Affection, might be left behind. If any thing forbids opening of a Vein, Clyſters are to be given of the Decoction of Centaury, Wormwood, Calamint, and Birthwort, mixed with Honey, and a good deal of Nitre. The Patient is alſo to be purged with Phlegmagogues, of which Elaterium ſeems moſt proper ſometimes in a Quinſey; but it ought never to be taken but in Whey, with Carduus Benedictus boiled in it. Pills of Aloes and Coloquintida are alſo good, if the Patient can ſwallow them. It would be proper alſo to infuſe three Drams of Hiera Archigenis, in one of the before-mentioned Decoctions, for a Clyſter, when the Belly has been already cleanſed by a preparatory Clyſter before. After general Evacuations, Cupping-glaſſes are to be applied; and if there be any Tumor about the Jaws, or under the Chin, they are to be affixed on the ſame, and the Place is to be ſcarify'd, a good deal of Blood extracted, and the Inciſions ſprinkled and rubbed with Salt. If no Tumor appear outwardly, as in the occult Quinſey, the Cupping-glaſs is to be apply'd under the Tendon of the Neck, near the firſt Vertebra, and often removed, with a conſtant Attraction, by which means the Diſlocation and Luxation of the Vertebræ are well prevented. After ſome Reſt, from the Remedies above-mentioned, Cataplaſms are to be uſed both on the ſame and the next Day. But our principal Dependence for the following Days is, on Lituſes and Gargles; therefore if the Diſtemper at firſt be very inflammatory, we begin with mild Aſtringents, ſuch as a Decoction of Roſes, Lentils, and Dates, an Infuſion of Roſe-leaves in Hydromel, a Decoction of Sumach in Hydromel, or a Decoction of Sebeſtens. If there happen an Excoriation of the Parts, the Cremor of Bread is to be given warm, or the Mouth is to be waſhed with a Decoction of Bran, or Milk alone. "I, ſays *Archigenes*, am always provided "with a dry Medicine, which conſiſts of eight Drams of common Sumach, four Drams of Roſe-leaves, and two Drams "each of Coſtus and Saffron; theſe I put in Hydromel, and "uſe as a Gargle, with which I have very eaſily cured Inflammations and Ulcerations of the Tonſils, which threatened "very bad Conſequences." The milder Lituſes are very agreeable to the inflamed Parts, ſuch as the Cremor of common Sumach, boiled in Hydromel to a ſolid Conſiſtence; but the Sumach is firſt to be macerated, till the Hydromel be deeply coloured, and taſte ſtrongly of the ſame. The Juice of a whole Pomgranate, Rind and all, bruiſed, and mixed with a third of its Quantity in Honey, and the affected Parts anointed with it, is a good Medicine.

If the Diſeaſe yields to none of theſe Remedies, but the Conflux of Humours increaſes, the Veins under the Tongue, or thoſe in the Forehead, or about the great Canthi, [inner Corners of the Eye] are to be cut, the Neck is to be wrapp'd in Cloths moiſtened with warm Oil, which muſt be often renewed; or apply a Cerate, prepared with Oleum Cyprinum, or Oleum Gleucinum, or Muſteum [Oil of Cyperus, and Oil prepared of Muſt, that is, Wine unfermented: See the Preparation of theſe Oils under the Words CYPRINUM and GLEUCINUM]. If the Diſeaſe continue long, you muſt expect an Abſceſs, in which Caſe it will be very convenient to waſh the Mouth with a Decoction of Figs, which will be rendered much more effectual by an Addition of Hyſſop. For Ulcerations, Saffron in Hydromel, and a Decoction of Liquorice, are proper Medicines. In the State of the Diſeaſe, there is nothing better than to waſh the Mouth with the Juice of Ptiſan or Alica, which frees the Patient from many Inconveniencies, and prevents an Abſceſs.

A Fomentation for the Quinſey, to be received at the Mouth, is as follows:

Take Origanum, Hyſſop, Savory, and Fennel-ſeed, with a good Quantity of Vinegar and Nitre; beat them in a Pot, that is carefully ſtopped, with only a Hole in the Middle of the Cover, to which, and the Patient's Mouth, muſt be fitted a hollow Cane, through which the Vapour may be tranſmitted. If the Cane grow too hot for the Lips, let the Patient hold in his Mouth an empty Egg, perforated at both Extremities, for the Cane to paſs into. The Fomentation will be the milder, if inſtead of Vinegar you put Poſca or Water. Sometimes ſharper and more ſevere Remedies are required to make the Fleſh riſe, and to remove the inward and deeply-ſeated Streightneſs and Compreſſion, under which the Patient labours; for the Diſeaſe often grows ſo deſperate, that it has been thought neceſſary to uſe things odious and abominable, ſuch as human Dung, which, it is certain, has been preſcribed for a Litus, with the deſired Succeſs; ſome uſe it freſh, others dry'd and powder'd, mixing it with Nard or Myrrh, to take off the Stench.

From acrimonious and lacerating Medicines, we are to paſs to thoſe of a milder Nature, ſuch as *Andron*'s Troches, and the like. Emetics are beneficial, eſpecially to thoſe who have a Senſe of Weight about the Belly. *Archigenes*'s Remedy, which I uſe for an inward Quinſey, and is admirable alſo in an Aſthma, conſiſts of

Four or five Grains of Elaterium, twenty-ſeven Grains of Spuma Nitri, and a Dram of Muſtard-ſeed; bruiſe them, and make them up in Water.

Elaterium bruiſed with Oil or Honey, and rubbed upon the Parts as deep as it will go, excites Vomiting, and much more effectually, if it be mixed with Spuma Nitri. The ſame Effect has burnt Copper, bruiſed with Oil of *Cyperus*, anointed upon the Parts. Ox-gall, ſo uſed, is very good for the ſame Purpoſe, and ſo is Nitre drank in Oxymel, the Juice of Centaury with Honey, and Millipedes made into a Linctus with Honey. Some have given a Spoonful of the bruiſed Seed of Naſturtium in Hydromel, and ſoon after the Patients have vomited up a thick and tenacious ſort of Phlegm, by which they have been greatly relieved.

Take a good Quantity of the Dung of a Cock, that is of the Colour of Ceruſs, dry it, and keep it, and when a Caſe requires, give a Spoonful of it diluted in Water or Hydromel. It cures thoſe who are given over; but if the
Patient cannot drink it, the Parts are to be rubbed wi
it as deep as you can make it go: Or,

Take Centaury, Nitre, common Salt, of each eight Dram
bruiſe them, and lay them aſide dry; when Occaſion cal
mix them with Honey, and lay it on with a Feather,
as you think fit: You may confide in the Uſe of it;
it is an approved Medicine: Or, bruiſe Wormwood, an
ſtraining the Juice, add to it ſome bruiſed Nitre,
make it into a Litus with Honey: Or, make a Li
of Elaterium, Ox-gall, and Honey.

The *Diabeſaſa*, in the Beginning of the Diſtemper, is to
taken in a moderately aſtringent Decoction, ſuch as thoſe
have preſcribed: When the Diſeaſe is arrived near its He
give it in Juice of Ptiſan; in its Remiſſion or Decline, it muſ
taken in Honey, Hydromel, or Mulſum; and for an invete
and in a manner hardened Inflammation, it is given in O
mel.

Philagrius adviſes us after the aforeſaid Evacuations of
whole Body, Cupping, and opening the Veins under the To
to mix other things with the Diabeſaſa, partly ſuch as wi
ſtrain the Influx of the Matter, and partly ſuch as will di
what is ſettled in the Parts: For Example;

Take of Diabeſaſa, Galls, called *Omphacitides*, White D
dung, human Dung dry'd, each eight Drams; but
Dogs muſt be fed with nothing but Bones for two
before.

Marcian's Emetic for inward and outward Quinſeys. "
"mand your Reward, ſays he, before you give it" [in
fidence of a Cure].

Take burnt Copper, Vitriol, each twelve Drams; M
Elaterium, Spuma Nitri, each one Dram; Ox-gall,
Drams. Make them up with Honey, and with a Fe
anoint the Parts affected as far as you can reach.

Archigenes adviſes to take human Dung, qualify'd as b
and dry it, then burn it in an old Rag, and afterwards
it to be drank in Hydromel; it cures thoſe that are at the
of Suffocation.

Antonius Muſa preſcribes dry'd Dog's-dung, ſuch as afo
bruiſed and ſifted, to be mixed with Honey, and anoint
the Parts ſo deeply, as that it may be ſwallowed: "For
"*Galen*, I know no better Remedy for the Quinſey, or
"Inflammations of the Tonſils, or dangerous Suffocation
"the Glandules and Tubercles of the Throat." The
very effectual, when mixed with Oxymel and Tar, and th
anointed therewith.

An excellent Remedy for the Quinſey is prepared of
Swallows, in manner following:

Take of burnt Swallows, eight Drams; Saffron, two D
Spikenard, a Dram; make them up with Honey,
it while the Diſtemper is ſtrong upon the Patient.
Swallows are thus burnt: Take the young Swallow
they are feathered, and put them alive into an
Pot with a convenient Quantity of Salt, and, ſtopp
Pot cloſe, heap burning Coals upon it, till its C
are reduced to Powder and Aſhes, which levigate,
uſe it.

Another Preparation of Swallows for the Quinſey:

Take young Swallows burnt, in Number eleven;
green Myrtle, a Pint and an half; Myrtle, twen
Grains; Honey, a quarter of a Pint. Burn the
Swallows, and pulverize them, and then mix
Ingredients.

A Medicine, whoſe Efficacy is proved by Experience

Take of Malabathrum, Coſtus, Cloves, Pepper,
Ounce; Sandarach, four Ounces; mix them w
fied Honey for a Litus: Or,

Take Snails which have no Shells, ſuch as are found
dens, and burn them in a Pot to Aſhes, which
Honey, and ſo uſe them; it gives preſent Relief.

In like manner the Aſhes of burnt Crabs are to be
Honey, and the Decoction of Crabs is good to waſh the
I uſe to bruiſe a Crab in half a Pint of Water, and, ſt
the Liquor, give it warm for a Gargle: It draws off a
of groſs Humours, by which the Patient finds imme
lief.

Dry the Leſſer Centaury, then burn it, and, with th
mixed with Honey, make a Litus: Or,

e of the burnt Jaw-bone of a young Hog, an Ounce;
Album Græcum, four Drams; Rind of Pomgranates,
alls, each an Ounce; Coſtus, four Drams; Pepper
aſted, ſix Scruples: Mix them with Honey.

way of Caution, we ought to be very ſolicitous and
when the Diſeaſe ſeems to remit, that the Matter,
was attracted from the innermoſt Parts of the Body to the
does not, by an unexpected Metaſtaſis, fall down upon
gs, and ſuddenly carry off the Patient. *Aetius*, *Tetrab.*
. 4. *Cap.* 47.

From TRALLIAN.

moſt antient Phyſicians uſually called every Kind of In-
tion about the Throat, whether inward or outward, a
e; but their Succeſſors have diſtinguiſh'd this Inflam-
into four Kinds: Thus an internal Inflammation of the
of the upper Part they named *Cynanche*, an external one
anche; in like manner they called an internal Inflam-
of the Pharynx, or Fauces, a *Synanche*; and an exter-
mmation of the ſame Sort *Paraſynanche*. [To theſe
P. Egineta adds a fifth, which, tho' rarely, affects
, and is owing to a Luxation of the Vertebræ of the
this, he ſays, is incurable, *Lib.* 3. *Cap.* 27.]
Diſtinction being thus eſtabliſhed, we are next to direct
er Cure for each of theſe Kinds. In general then we
know, that neither repellent nor diſcutient Remedies
uſed alone, but in Conjunction; and, that with regard
, ſometimes Repellents, at other times Diſcutients, are
eſcribed. In the Beginning of the Diſorder, and while
ter ſeems to be in a Flux, Repellents are to be choſen;
tate of the Diſeaſe, Diſcutients are generally proper;
s Decline, ſtronger Diſcuſſives. They who uſe only a
Method, either inwardly or outwardly, do a great deal
ief, by inducing a very acute Suffocation, or increaſing
mmation, to the utmoſt Danger of the Patient. And
ot only to conſider the Times, but the Nature of the
s. For tender and delicate Conſtitutions, ſuch as Eu-
Boys, and Women, mild and gentle Remedies are moſt
nt; but to hardy and robuſt Bodies, ſtronger and
Medicines are beſt adapted. For as ſtrong and hardy
ions in Health can bear Refrigerants without being ſick,
diſorder'd, they require more powerful Remedies to
em to their natural State; but Perſons of a ſofter Ha-
ience the contrary, for they bear well enough with
gentle, but are hurt by ſtrong Medicines. Where-
muſt carefully weigh with ourſelves, and conſider when
proper to increaſe or remit the Force of any Medi-
as that it may be contrary to the Diſeaſe, but at the
e familiar and friendly to the Patient. We ſhall be-
with the moſt ſimple and weak Remedies, and proceed
ronger, and direct when they are to be uſed in their
mple State, and when mixed.
f the moſt ſimple Medicines in this Caſe is prepared of
nd the Juice of Mulberries, and is good in the Begin-
for any moderate Degree, of all inflammatory Diſor-
e Tonſils, Uvula, Fauces, or any of the Parts about
at, eſpecially in Bodies of a ſoft and white Fleſh.
dicine, which we call *Diamoron*, when compounded,
not only in the Beginning, but in the State of the In-
n. It is render'd a more powerful Diſcuſſive, by
ed with Myrrh, as moſt indeed prepare it in the Be-
f the Diſtemper; but it would be better ſuited to its
ich requires both Digeſtives and Diſcuſſives; and if at
you add a little of the Antidote called *Diabeſaſa*, the
ill be much more effectual.
the Heat of the Inflammation is aſſwaged, but a ſort of
remains, it will be proper to add a little Sulphur and
nd if there be any thing of a groſs and viſcous Sub-
ply ſeated, ſix Drams of Nitre, and one of Sulphur,
fficient. But if the Patient cannot bear ſo penetrating
e, but labours under an Imbecillity of Stomach, which
is ſubverted by this Topic, the Nitre and Sulphur
ft out, and we muſt be contented with the Addition
e Diabeſaſa, or Penyroyal, and Origanum, or Cala-
Hyſſop, or Pepper; but to preſerve the Fauces from
perated, there muſt be a Mixture of the Juice of Li-
hich will render the Medicine in all reſpects inno-
not the leſs effectual.
mpoſition of the Diamoron for the Quinſey is as

f the Juice of Mulberries, three Pints; of Myrrh,
, Omphacium, each two Drams; of Honey, half a
: Boil the Juice of the Mulberries for an Hour,
hen let it cool, and thicken by Degrees; after this
e Honey to it, and boil them again to the Conſum-
of Two-thirds; and when they are cool, mix with
the dry Ingredients.

The incomparable *Galen* prepared this Medicine after the following manner:

> Take of Honey, a Pound; of the Juice of Mulberries, two Pints and an half; of Saffron, Myrrh, Omphacium, each a Dram; of auſtere Wine, two Pints and an half. If Omphacium cannot be had, ſubſtitute in its room the Juice of Sumach. Let this be firſt boiled to a ſtrigmentitious Conſiſtence, and then add the Honey; after they have boiled for ſome time together, remove the Veſſel off the Fire; and, putting in the dry Ingredients, boil them well together, till they are thoroughly incorporated.

The prepared Juice of the wild Mulberries is an excellent Medicine, and ſo is the Juice of Quinces; and, for want of theſe, the Juice of wild Pears, Medlars, Damaſk Prunes, Services, and wild Plums. Theſe aſtringent Fruits plainly require to be mixed with a good Quantity of Honey, ſometimes double, ſometimes triple their Weight; and all theſe Medicines are friendly to the Stomach, and not at all dangerous, and may properly be taken in a moderate Degree of Inflammation. Theſe Juices may be prepared with the ſame Ingredients as the Juice of the Mulberries.

The Medicine prepared of the Juice of Walnuts is ſomewhat more effectual, as well as what is prepared of Blackberries, Pomgranates, and Quinces, which is a Strengthener and Stomachic.

The Medicine of Walnuts, called *Diacaryon*, is thus prepared:

> Take the external Rind of Walnuts, while they are in their moſt flouriſhing State, and pound it in a Mortar; ſtrain the Juice through a linen Cloth, and after boiling it, mix it with a moderate Quantity of Honey, as before in the Diamoron, and boil it again to the Conſiſtence of Honey. In this State, without any further Mixture, it is proper for Women and Children to take, eſpecially in the Beginning of the Diſtemper; if you add Myrrh, it may be uſed when the Diſeaſe is arriv'd at its Height; and with a further Addition of Sulphur and Nitre, in the Decline of the ſame, and where the Aſpera Arteria, and its Top, are affected with a Hardneſs and Conſtriction, as we ſaid before.

Another excellent and very effectual Medicine, which has ſaved many Lives, is thus prepared:

> Take of Orris, Balauſtines, Pepper, Saffron, each an Ounce; *Syrian* Sumach, two Ounces; Wine, three Pints; Muſt, boiled to the Conſumption of a third Part, a Pint; Honey, a Pound; Alum, an Ounce. This Remedy may be uſed at any time, eſpecially where Heating and Attenuation of ſome ſtubborn Hardneſs are required.

The Preparation of the *Diabeſaſa*, for malignant and deſperate Inflammations: It is called alſo *Diaharmala*, from *Harmala*, wild Rue:

> Take of Aniſe, Seeds of Smallage, Biſhop's-weed, the Flowers of common Ruſhes, Alum, Illyrian Orris, wild Rue, each one Ounce; of Caſſia, Crocomagma, [Dregs of the expreſſed Ointment of Saffron] dry'd Roſes, each two Ounces; Ivy, freſh Aſhes of young Swallows burnt, each three Ounces; Spikenard, Amomum, each four Ounces; Saffron, an Ounce and an half; of the Galls called Omphacitides, [the ſmall, tuberous, ſolid ſort of Galls, *Dioſcorides*, *L.* 1. *C.* 146.] eight in Number: Pulverize them, and make them up with Honey.

Aetius aſcribes this Compoſition to *Andromachus*, and quotes him, as ſaying, that he uſed it in deſperate Quinſeys, and that it was alſo an excellent Remedy for Pains of the Stomach, and the Griping of the Guts. His Receipt is ſomewhat different from *Trallian*'s, and here follows:

> Take Seeds of Aniſe, Seeds of Smallage, Flowers of the Juncus Odoratus, Biſhop's-weed, plumous Alum, Illyrian Orris, the Seeds of wild Rue, Cinnamon, Troglodytic Myrrh, long Birthwort, Caſſia, Crocomagma, dry'd Roſes, of each one Ounce; Coſtus, Aſhes of Swallows newly burnt, each three Ounces; Saffron, an Ounce and an half; Spikenard, Amomum, each four Drams; Galls called Omphacitides, eight in Number: Make them up with Honey. The Doſe is the Quantity of a Bean. *Aetius*, *Tetr.* 2. *Serm.* 4. *Cap.* 47.

This Medicine may be uſed alone, if the Diſtemper be moderate; and its Strength may be abated, by mixing with it Amylum, or dry'd Roſes, or Earth of Crete or Lemnos, or

Barley-meal, or any other thing of that Nature, according to Diſcretion. If a more powerful Remedy be required, its Strength may be increaſed by an Addition of Nitre, Elaterium, (ſo they call the Juice of the wild Cowcumber) and Swallow's Dung, burnt or not burnt. The Medicine may alſo be improved by a Mixture of the Excrements of Dogs, and much more by an Addition of human Ordure, burnt or not burnt; but the burnt is the weakeſt. But Regard is to be had to the Time when we make theſe Additions: Thus, for Inſtance, we mix Sal Ammoniac, when not only Repellents, but Diſcutients, are required; and if we add the Root of Bryony, we ſhall make it a far more powerfully diſcuſſive Medicine; for Remedies of this Nature are manifeſtly wanted, where there is no Influx of Humours, but the Inflammation is hard and ſcirrhous. Many have mixed Muſtard-ſeed, prepared as they continually eat it for Sauce, with Oxymel, and ſo give it warm for a Gargle; and then afterwards, by anointing the Parts with Diabeſaſa, have diſcuſſed a ſcirrhous Inflammation in a ſurpriſing manner. For in every Conflux of Humours we muſt reſtrain their Courſe; but when they are ſettled on a Part, we are to uſe Diſcuſſives, for fear the Paſſage of the Breath ſhould be obſtructed, and ſo the Patient be ſtrangled as with a Cord.

You may anoint the Parts to very good Purpoſe, if to the Diabeſaſa you add but three things, which have ſaved many without the Help of Bleeding and Purging, and they are Dogs and human Excrements, and Elaterium; but if ſome abominate human Excrements, the other two will ſuffice, for they do well with Honey; and where Inunction cannot be performed, may be blown through a Quill, with the ſame Effect, on the Part. That the Dung may not have a fœtid Smell, the Dogs are to feed on nothing but Bones for three Days before. To correct the Fœtor of the human Ordure, let a Boy eat nothing but boiled Lupines, for three Days before, that his Stools may be well concocted and coherent; theſe Lupines are uſually eaten in ſmall Quantities, with well-baked Bread [κλιβανίτης ἄρτος]. The Boy's two firſt Stools are to be thrown away, and the third preſerved; and after 'tis dry'd, to be mixed with Honey. For the Uſe of this we have the Authority of the very wiſe *Galen*, and *Philagrius*, and many others of the Antients, corroborated by our own Experience. But the Moderns reject human Excrements as an Abomination, and only make uſe of thoſe of Dogs, as having nothing of a fœtid Smell, and yet are effectual to the ſame Purpoſe. But if any be averſe alſo to the Uſe of this, they may keep to the Lituſes prepared of the Swallows, [Diachelidonium, the Preparation of which ſee from *Aetius*] and what has Sumach for an Ingredient, which are admirable Remedies; the former of theſe may be mixed with the Preparation of the Juice of Walnuts. Obſerve, that the Diabeſaſa is not only good in Affections of the Throat, but in many others; for it cures Diſorders of the Stomach and Colon, and is an excellent Stomachic and Anti-dyſenteric, when mixed with Album Græcum, or Dog's Dung, which itſelf cures the Dyſentery, if it be mixed with Milk in which heated Sea-pebbles have been quenched; and is no leſs effectual in Inflammations of the Fauces, Tonſils, and Uvula, if uſed with the Juices of auſtere Grapes, the Rind of Walnuts, Cornelian Cherries, Acorns of the Ilex, or Services; it is alſo properly mixed with Ægyptia and Anthera. In the Beginning and Increaſe of Inflammations Aſtringents are plainly indicated; but when they are come to their full State, and ought to be diſſipated, Diſcutients are required. Dog's Dung has alſo many other Virtues; for it cures the Aphthæ, and old Ulcers which are hard to cicatrize.

If the aforeſaid Remedies are not to be had, we muſt make uſe of ſuch as follow, which are both good and eaſy to be prepared:

> Take the Seed of Radiſh, pulverized in Oxymel, for a Gargle: It has a very good Effect by generating Plenty of Humidity.

Another Gargle for the Quinſey, which I uſe, as did my Father *Stephen* before me, is thus prepared:

> Take of *Egyptian* Thorn, a Dram; Orris, and Liquorice, each half a Dram; Bran of Bread-corn, an Handful; dry'd Roſes, a ſmall Quantity; Dates, five or ſeven: Boil them in Wine boil'd to a Conſumption of a Third, or Water, and let the Patient take the Decoction, with a very little Honey, for a Gargle, to be renew'd every Hour.

A very good Medicine in the State of the Diſtemper, is the following:

> Take of burnt and waſhed Braſs, a Dram; of red Nitre, two Drams: Give them a moderate Boiling in Honey, in a copper Veſſel, and ſo uſe them. Wormwood alſo, and Honey, give great Relief in this Caſe.

Another for inveterate Quinſies, that are void of Ulcerations:

> Take of Euphorbium, two Drams; of Honey, a Quar
> a Pint: Boil the Honey well, and add the Eupho
> Make them into Pills, and give two of them in the
> of an Egg. They gently looſen the Belly, and p
> a Suffocation. This is a very effectual Medicine
> Inflammations, proceeding from groſs and viſcou
> mours, which are not attended with Ulcerations.

As to Bleeding in the Quinſey, it ought to be uſed in th
place, but not all at once; for particular Evacuations are
to draw off the Cauſe of the Diſeaſe from the affected
therefore Phlebotomy is to be adminiſter'd three or four
only taking care to ſtop the Blood before the Patient faint
nothing is more improper and dangerous in a Quinſey than
ing, which is often the Cauſe of a Confluence of all the H
inwards. If there be no Relaxation after Bleeding, but t
ſages of Food and Air [of the Gullet and Aſpera Arteria]
obſtructed, we are not to ſcruple cutting the ſublingual
nor defer it till To-morrow, but do it the ſame Day. I
in a very urgent Caſe, have opened a Vein very early
Morning, cut the Sublinguals at Day-break, and in the E
adminiſter'd a Purge of Scammony in Cremor of Ptiſa
with all theſe Means had much Difficulty to relax the S
lation which the Inflammation had cauſed. To another
opening the Vein of the Cubit in both Arms, I adm
the ſame Day ten Grains of the newly expreſſed Juice of
while it was yet in its liquid State, and before Inſpiſſation
is the Method to be uſed with Perſons who are of a robuſt
in the Vigour of their Age, and vehemently affected
Diſtemper, which gives no Reſpite, but requires in
Help. I have alſo cut the Jugular Veins when I could
the Sublinquals, and by that means very much relieved
tient. For a Woman I have open'd the Veins at the
when I underſtood ſhe wanted her monthly Purgations,
was the Occaſion of the Diſeaſe. Hence ſhe received
Benefit, the Reſtoration of the Menſes to their uſual
and Relief from the Diſtemper. The ſame is to be
Men, if ſubject to the Hæmorrhoids.

Cupping is adviſable in theſe Diſorders, but it muſt
after the Influx of the Matter has ceaſed; for while it
the Part, Reſtringents and Repellents are more pro
Drawers. But when the Influx is over, and the Matt
to be diſcuſſed, Cupping and Fomentations are conve
if needful, a Cataplaſm is to be apply'd; for when t
Body is free from Recrements of ill Humours, there i
of a new Conflux to the affected Parts; and it is cert
Cupping-glaſſes have the Virtue of attracting the pecc
ter, which is the ſole Cauſe of the Danger, from the in
to the Superficies.

Externally may be apply'd Wool moiſten'd with
mollifying Cerates, prepared with Wax, Butter, and
of a Gooſe.

Cataplaſms are to be ſuch as digeſt and diſcuſs Infla
prepared, for Example, of Barley-meal, Linſeed, a
boiled in Water; or Saffron and Crums of Bread bo
ther. But Cataplaſms which only relax, or ſtrong
are to be avoided. If the Inflammation be of pretty lo
ing, and hard, it will be proper to add dry'd Figs,
Fats, and a little Nitre; for the Matter ought to be
and Nature aſſiſted in her Endeavours that way.

Old and ſcirrhous Inflammations are proper to be
with a warm Decoction of Chamomile or Marſh-m
which if you add Bays, eſpecially in cold and ſtubborn
which are deeply ſeated, the Fomentation will be m
effectual.

As to Diet, let the Patient's only Suſtenance at fir
dromel, which of itſelf produces all the good Effects
be deſired; for it attenuates and purges both by Stool
It is, in a particular manner, proper to be given in a
upon the Breaſt or Lungs, or where thoſe Parts a
with a Streightneſs; and there is Reaſon to fear, leſt
mation, Peripneumony, and in ſome meaſure anoth
che ſhould ariſe. Give Hydromel till the Inflamma
derated, and Reſpiration more free. After the thi
Patient is to take Cremor of Ptiſan, which is no le
to all good Purpoſes than the former; for it abſterge
nouriſhes, and has a Virtue of aſſwaging the Heat o
mation. When the inflammatory Matter is atte
the Heat moderated, the Sick is to be indulg'd with
ſoft Yolks of Eggs, but not many; for the narrow
ſoon ſtreighten'd with copious Aliment, and are in D
new Strangulation. In this Diſorder we are by al
avoid an Inflammation, which is ſooner cauſed by a
ſparing Diet. *Trallian, Lib.* 4.

Of thoſe which are ſtrangled in this Diſtemper,
over all Hopes, when the Froth appears about th
relying upon the Opinion of *Hippocrates*. Others
to Life by inſtilling Vinegar and Pepper, or the Seed
bruiſed in very ſtrong Vinegar; but as they wil
them without much Difficulty, they muſt be compe

Redneſs about the Neck is diſpell'd, they immediately look nd are relax'd. The ſame Means are to be uſed for thoſe are ſhipwreck'd; and, in ſhort, for all who are under cation, to revive the natural Heat. *P. Æginet. Lib.* 3. 27.

e Method of treating this Diſeaſe varies according to its ent Species, and the Cauſes of each; to the Knowledge of , in order to their Removal, the Phyſician is to direct all tentions. As ſoon therefore as it is known by manifeſt , that there is a Congeſtion of the Blood in the Head, does not only increaſe the Inflammation, but is alſo the of fatal Symptoms, the Phyſician's firſt and immediate is to divert the Impetus of the Blood from the Part affect- hich is moſt conveniently done by opening a Vein near r, in this Remedy, Phyſicians of all Ages, both antient odern, have placed their principal and almoſt only Hope ieving the Patient. Let *Hippocrates* ſpeak for all, who, in ok *de Loc. in Hom. Sect.* 1. thus directs the Cure of a ey: "They who are affected with a Quinſey from Blood lected and coagulated in the Veins of the Neck, are to blooded in the Arms and Feet; and at the ſame time to evacuated by Stool, in order to divert and draw off what ds the Diſeaſe." But where, and after what manner, to be done, all are not agreed. There are a great many dviſe opening of the Veins under the Tongue; which reject, becauſe if the Orifice be not made wide enough, tle Blood comes out; from a wide Orifice proceeds an rrhage, which is ſometimes known to prove fatal. Among ho deſpiſe it, *Tulpius* is one of the chief, and for this , becauſe the Blood is hereby drawn to a Place narrow of and a Suffocation eaſily induced. Others, as *Zacutus* us, *Hiſt. Med. princ. Lib.* 1. *Hiſt.* 76. *Joh. Steph. in de Struct. Hom. Trallianus*, and *Freind* in his Commen- on the Epidemics of *Hippocrates*, are extremely zealous ning the external Jugular Veins; eſpecially in a deſperate , and where there is preſent Danger of Suffocation. ommend Scarification on the Nape of the Neck, and the as *Platerus*, *Amatus Luſitanus*, *Zacutus Luſitanus*. *Rio-* ould have it done about the Larynx. *Capivaccius* and us are for applying Leeches behind the Ears, and on the

r Phlebotomy, according to the Advice of *Hippocrates*, y is to be purg'd, by which means the Humours may cted to the lower Parts, and evacuated: And this is to cted by Cathartics, not at all acrimonious, or in the Powders or Pills, but of the milder Kind, and in a orm: But that we may anſwer two Intentions at once, draw off the ſuperfluous, and at the ſame time attem- ſweeten the acrid and ſalt Humour, it will be very pro- preſcribe a Decoction of two Ounces of Manna, and a nd half of antimoniated Nitre, in ten Ounces of Whey. ng can be received by the Mouth, a Clyſter muſt be made of Milk, Honey, Oil of ſweet Almonds, com- t, and Nitre.

ſuperfluous Blood, and impure Humours, being thus d, we are next to direct our Endeavours to the Re- f the ſanguineous or ſerous Humour that ſtuffs the Veſ- proper Remedies, both internal and external, which he ſame time allay the feveriſh Heat. Moſt conducive urpoſe, is the frequent Uſe of a diaphoretic and gently Mixture of antiſpaſmodic and perſpirative Waters of ers of Elder, the Lime-tree, Cowſlips, Acacia, Goat's- the Herb Carduus Benedictus, Scordium, [Water Ger- with Dioſcordium, diaphoretic Antimony, and Sal , Vinegar alſo, with Crabs-eyes, and the Syrup of the py. Very proper alſo are moiſtening and diluting indulged in good Quantities, ſuch as Whey, ſweet and nd prepar'd with the Juice of Lemon and Sugar, Ptiſan cleanſed, the Root of Scorzonera, and the Shavings orn, with the Syrup of Lemon-juice, Water-gruel, itſelf, if mix'd with an equal Quantity of Water, Sugar, and a little Nitre.

angerous a Diſtemper as the Quinſey, we are alſo to e Patient, as much as poſſible, by Topics, applying he Inſide of the Mouth, others externally to the Neck at, that, by theſe means, the Pain and inflammatory be mitigated, the Acrimony of the Humours attem- d the Juices, which ſtick faſt in the narrow Paſſages of s, may be diſſolved. The moſt common Topics are, s of paregoric and diſcuſſive Ingredients, as the Flow- der, Melilot, common Chamomile, Mullein, the white Lillies, Figs, Saffron, the Seeds of Aniſe and the Meal of Lin-ſeed, boil'd in Milk; to which ſome pecifics, Swallows Neſts and *Album Græcum*. Uſeful is Purpoſe are lenient and emollient Plaiſters, as Dia- plex, or a Plaiſter of Melilot, mollify'd with Oil of onds; or render'd more efficacious by a Mixture of ti, Saffron, and Camphire. I am not fond of ad- gariſms, or ſyringing the Places where the great Pain, urning Heat and Dryneſs, lies. It is ſufficient, now-and-then, to waſh the Mouth with ſome proper warm Liquor, which may be prepared of ſeveral things, as with Rob Dianucum, Diamoron, Syrup of the ſweet Juice of Pomgranates, of red Poppies, of Violets, Mucilage of Quince-ſeeds, Cream, Sal Prunellæ; any of which, as Circumſtances ſhall require, may be mix'd with Milk, a Decoction of Liquorice, or of Figs, or with Water-gruel: Nor is there leſs Virtue in the freſh Oil of ſweet Almonds, mix'd with Sperma Ceti, Saffron, and Syrup of Violets, infuſed in Water-gruel, and held a while in the Mouth.

Clinical Cautions *and* Observations.

In a ſanguine Quinſey, and plethoric Body, the Cure muſt begin with Bleeding, which in this, if in any Diſtemper, delivers from immediate Danger of Death; but we muſt be quick with our Aſſiſtance, for we have not a Moment to ſpare. The Patient finds moſt Relief by opening the Jugular Veins; but if this be impracticable, the Veins under the Tongue muſt be cut, taking care firſt to open a Vein in the Arm. When a ſanguine Quinſey comes upon a burning and *Hungarian* Fever, and there is Danger of a Phrenſy, but not Strength enough to bear the Loſs of much Blood, the ſublingual Veins are however to be open'd with all Speed: But when the Diſorder owes its Riſe to a cauſtic Acrimony, inherent in the nervous Membranes of the Fauces and Larynx, and there is no manifeſt Redundancy of Blood, Scarification of the hinder Part of the Neck or Chin, or Application of Leeches, are rather indicated. And in cacochymical and phlegmatical Conſtitutions, when, from the Plenty of viſcid Serum, a Tumour, with a Pain and a gentle Inflammation, affects the Fauces, and the external Parts of the Neck, Scarification on the Nape of the Neck, and the Scapulæ, is to be preferr'd before Phlebotomy.

In the Uſe of Topics, due regard is to be had to the different Kinds of Inflammations in the Fauces, and proper Remedies are to be accommodated to each Kind. Thus, in every painful and hot Inflammation of the Fauces, a Julep of Roſes, with Nitre and a little Camphire, ſwallow'd, is of excellent Service. Alſo Jelly of Hartſhorn, with the White of an Egg, well depurated, and the Juice of *China* Oranges, and ſweeten'd with Sugar, repeated frequently, are of wonderful Relief. If the Fauces are dry, and parch'd with Heat, the Tongue ſwell'd, and there is a Difficulty of Reſpiration, as well as Deglutition, a Linctus is to be prepar'd, with two Ounces of the White of an Egg, beaten in Water, one Ounce of Roſe-water, Syrup of Pomgranates, and Diamoron, of each half an Ounce, and Sal Prunellæ, twelve Grains; with theſe, according to the Condition of Circumſtances, twenty or thirty Drops of ſome anodyne Liquor may be mix'd: Outwardly the Neck, before and behind, is to be anointed with camphorated Oil, prepar'd of one Ounce of the Oil of ſweet Almonds, two Drams of the Oil of white Poppy, and half a Dram of Camphire.

In the internal and occult Quinſey, attended with a violent Heat, the Mouth is, now-and-then, to be waſh'd with Milk only; and its Cream, with an Addition of Sal Prunellæ, and Syrup of red Poppy, and Whey, is to be frequently drank. In an Inflammation of the Œſophagus, which is often acceſſary to a malignant Fever, when come to its State, what is commonly uſed is a Powder made of a Dram of Nitre, three Grains of Camphire, and an Ounce of Sugar, together with an Emulſion of ſweet Almonds, to be both taken inwardly, and outwardly to be held for ſome time in the Mouth. And when there is any Danger of Suffocation, from receiving inwardly the acrimonious Exhalations of Metals, Minerals, Quick-lime, and Mercury, there is no room for Bleeding or Purging in ſuch a Caſe; but the fitteſt Remedies are Moiſteners and Demulcents, both internal and external, as Milk and Nitre, the Cataplaſms beforemention'd, and Clyſters.

The inflammatory Pain, cauſed by the ſalt acrimonious Serum, in the glandulous Fleſh of the Fauces, near the Precincts of the Pharyx and Larynx, with a Redneſs and copious Salivation, without a Fever, is beſt diſcuſs'd in the Beginning, by immediately taking a Gargariſm of Spirit of *Rheniſh* or *Franconian* Wine. The preſent Effects of this Remedy are atteſted by *Walæus*, *Method. Med. p.* 112. "Let him who is affected "with a Quinſey, ſays he, gargarize himſelf in the Beginning "with Spirit of Wine, and all the Inflammation will ceaſe in "the Space of three Hours, whether he uſes it by itſelf, or "mix'd with other things." And, for this Reaſon, *Martianus* commends, in a true Cynanche, things which are actually hot: And I myſelf have known an Inflammation of the Fauces diſcuſs'd in a ſhort time, by gently paſſing down the Fauces eight or ten Drops of Spirit of Wine camphorated, in which a Grain of Nitre has been diſſolved. Some recommend, for this Purpoſe, Eſſence of white Burnet, made with Spirit of Wine.

When a great Load of impure ſerous Humours oppreſſes the Glandules of the Palate and Fauces, the milder Laxatives are to be frequently uſed, ſuch as thoſe prepar'd with Manna, Rhubarb, Tartar, and Raiſins of the Sun, and Currans. There is alſo an excellent Gargariſm for this Purpoſe, which has for its Baſis the Sal Pharyngeum, deſcribed by *Zobelius* in his *Tartaro-*

logia: It is prepared of an Ounce of Cremor of Tartar and Nitre, with half an Ounce of burnt Alum, diſſolved in diſtill'd Vinegar; and this Solution is afterwards to be coagulated according to Art. A Dram of the Salt thus prepar'd, with two Drams of Honey, is to be diſſolved in five Ounces of Plantain-water; and with this Liquor the Fauces are to be often waſh'd, and the ſame is to be now-and-then injected with a Syringe.

In inflammatory Tumors of the Fauces and Glandules, the mollifying Plaiſters above preſcrib'd have juſtly the Preference before Cataplaſms, which, on account of ſeveral Difficulties, I ſeldom uſe; but more frequently make uſe of a Decoction of Emollients made in Milk, and kept in a Bladder. But as to the Uſe of Gargariſms, obſerve, that they are not to be injected with a Syringe; for the too vehement Attrition of the Parts by this Method would the more exaſperate the Pain and Inflammation. It is therefore the better and ſafer way to waſh out the Mouth, now-and-then, with the Liquor appointed for a Gargariſm: But if even this, by reaſon of Weakneſs, cannot be effected, the Injection is to be forced in the moſt gentle manner, leſt there ſhould be an Irritation to vomit; the Head alſo is to be bent forward, and not backward, for fear the Liquor, by ſlipping wrong, ſhould paſs into the *Aſpera Arteria*, and endanger Suffocation; and if there be a great Quantity of Mucus inherent in the Parts, the Injection is to be renew'd. Moreover, in all theſe Affections of the Fauces, it is beſt to abſtain from ſpeaking, becauſe the frequent and ſtrong Agitation of the Tongue exaſperates the Diſeaſe.

If the Tumors of the Fauces tend to a Suppuration, the ſame may moſt commodiouſly be promoted by the Application of fat dry'd Figs: And when the inflammatory Tumor of the Tonſils is full of Ichor, I find no external Remedy better than Honey of Roſes, mix'd with Spirit of Vitriol, and often applied with a Pledget; it leſſens the Tumor, cleanſes it, prevents any further Afflux, and diſſolves the Phlegm already about the Parts. In the Aphthæ of Infants, which beſet the Tongue, and are attended with Pain and Heat, there is nothing better to mitigate them, than, now-and-then, to anoint the Puſtules with Cream, with a little Nitre. Sometimes it will be convenient, in order to diſcuſs the Phlegm, and reſtrain the Afflux of the Humours, to apply white Vitriol diſſolved in Rain-water, or, what is better, Roſe-water, or Elder-flower-water.

That the Inflammation of the Fauces may not return, as it often happens, we muſt carefully avoid ſuch things as we ſaid before were diſpos'd to induce it. Perſpiration eſpecially muſt be maintain'd, and 'tis good to defend the Head, Neck, and Shoulders, from all Refrigeration, that the Humours, and acrimonious Matter, which ought to paſs off thro' the Pores, and be diſperſed, may not be repell'd inwardly, and take up their Settlement in the ſoft Subſtance of the Fauces. Beware alſo of every thing, that may put the Juices in too great an Agitation, and eſpecially of Vociferation, and high-ſtraining the Voice, by which the Humours are attracted to the upper Parts. If the Body be plethoric, ſeaſonable Bleeding muſt be adminiſter'd; and if ſpontaneous Hæmorrhages obſerve not their ſtated Times, or fail in other reſpects, they muſt be regulated, and reduced to Order. Nor is leſs Care to be taken to keep the Belly ſoluble, by taking now-and-then a gentle Purge, by which Impurities may be carry'd off, and their confluent Motion upwards may be intercepted.

HISTORIES *of* CASES.

CASE I.

A Woman, thirty Years old, choleric, and very ſubject to Rheums and Catarrhs, roſe out of her Bed in Autumn, thinly cloath'd, and careleſly expoſed herſelf to the cold Air. By this means ſhe contracted a Hoarſeneſs, with a burning Heat and Pain of the Throat, ſo that ſhe could neither ſwallow nor ſpeak without Difficulty; and her Pulſe, eſpecially in the Night, was quicker than it ought to be. Her Menſes having ceaſed, ſhe was firſt blooded in the Arm, and then had a Clyſter adminiſter'd, but received no Relief; as for Gargariſms, ſo great were her Pains, ſhe could not bear them. Mean while, the Tumor of the Throat, both internal and external, extremely increas'd, and to ſuch a Degree as to want but little of ſtrangling the Patient; but it ſubſided a little on the fifth Day, and the Pain was mitigated. At this time was outwardly applied to the Neck a ripening Plaiſter of Melilot and Saffron, on which were laid warm Rags, and her Mouth was waſh'd with a Decoction of Emollients. By theſe means the Tumor was brought to Maturation, and happily broke in the Night, unknown to the Patient; but the acrimonious Matter was certainly fallen down upon the Lungs, and ſeem'd to threaten Suffocation. To remedy this, was preſcrib'd Hyſſop-water, with Eſſence of Caſtor and Liquorice, with an Addition of ſome Drops of Spirit of Hartſhorn, prepar'd with Amber; alſo an Infuſion of the pectoral Herbs in hot Water, after the manner of Tea: Upon this a Sweat broke out over all her Body; and at the ſame time a tough, viſcid Matter, ſix times at leaſt in a Day, came off by Stool, not without griping Contractions of the Belly. But the Phyſician, being apprehenſive, that this Diarrhœa might be hurtful, conſider'd how to ſuppreſs it; and for that End order'
Electuary of Diaſcordium, Conſerve of Roſes, the Po
of the Hæmatites, and Nutmeg. The Looſeneſs was im
diately ſtopp'd, but was ſucceeded by Hickups, with a bur
Heat in all the Region of the Œſophagus, a Spitting of
Matter, and a Decay of Strength. Under theſe Circumſta
another Phyſician was conſulted, who judged theſe Sympton
proceed from the wrong and injudicious Suppreſſion of the
of the Belly; wherefore he preſcribed Pills of choice M
Diagrydium ſulphurated, *Mercurius dulcis*, Saffron, Caſtor,
Salt of Amber, to be taken in a hot Vehicle. By theſe m
the Hickups were not only cured, but the Excretion of
Matter by Stool was recall'd, to the great Relief of the Pa
who afterwards by degrees recover'd her Health.

REFLECTION.

It is very remarkable in this Caſe, that the Inflammation o
Fauces had a Solution by the ſerous and pituitous Flux o
Belly; that the prepoſterous Reſtraining of this Flux
ſion'd grievous Symptoms, which vaniſh'd at its Re
But very often, in inflammatory Affections of the F
the Œſophagus and the Stomach itſelf are afflicted, ſo
they ſeem to labour under the ſame Diſtemper. O
Aphthæ I have often obſerved, that they infeſt the Œ
gus and the Stomach, which appears from that burning
which runs through the Œſophagus, and reaches even
Diaphragm. Under this Circumſtance the Patient can
means ſuffer any thing that is ſalt, acrid, or hot; but
Relief from Barley-broth, Water-gruel, and Infuſi
dried Turneps, after the Manner of Tea, with Milk
which means the Heat, Dryneſs, Pain, and Anxiety
the Diaphragm, have been removed. On the other ha
have known, that when the Stomach has been infla
burning Fevers, by Poiſons, or by ſome of the more
monious Cathartics, the Inflammation has been prop
to the Fauces, and the Muſcles of the Larynx. He
may take it as an eſtabliſh'd Truth, that in Affections
Fauces and Mouth, eſpecially if they are infeſted with
cid and thick Phlegm, laxative Medicines afford pref
lief.

CASE II.

A Man, ſixty Years of Age, had been long afflicted
Quartan; and after he was cured, became very ſubject
tarrhs, and Weakneſs of the Stomach. After travelli
rainy Night he fell into a Diſorder of the Fauces, in
manner, that he could ſwallow ſolid Food, but not L
without much Straining, Anxiety, and a ſubſequent
Excretion of Phlegm. Inwardly the Fauces appear'd
what red, but nothing of a Tumor could be ſeen out
We judged therefore, that the Epiglottis, which, like
covers the Orifice of the *Aſpera Arteria*, was embarra
turgid with a mucous Serum, and by that means render'
pable of exactly cloſing the ſubjected Orifice: Hence, in
tition, the Liquids ſlipp'd into the *Aſpera Arteria*, wh
the Cauſe of the ſubſequent Anxieties. Upon this Acc
order'd, outwardly, an Application of Spirit of Wine c
rated; and inwardly, for the Mouth, a Collution of W
Elder-flowers, mix'd with Spirit of Sal Ammoniac, and
of Saffron, to be uſed now-and-then; and my Pills to
every Day (*of Aloes with Balſamics*). By theſe Reme
Diſorder was happily removed in a few Days, and the
recover'd his Health.

REFLECTION.

The proper Symptom of a Quinſey is, a Difficulty of
tion, as well with reſpect to Solids as Liquids; for if
ty large Tumor affects the Beginning of the Œſopha
contracts it, then Liquids, but not Solids, may be
ted through it; but if the Tumor be ſeated in the B
of the Throat, which is cover'd by the Epiglottis, ſo
ſtances, by compreſſing the tumid Epiglottis, find a
the Œſophagus; while Liquids, not preſſing with
Force as the others, ſlide through the gaping Space,
Tumors, into the *Aſpera Arteria*, and there occa
Moleſtation.

CASE III.

A Woman was thought by the Phyſicians to be inf
the *Lues Venerea*, upon which Preſumption they ha
her to be ſalivated with Mercury: From that time, u
ſlight Occaſion, as from cold or foggy Air, a Fit of
acrimonious Meats, Refrigeration of the Head, or
gularity in the Menſes, ſhe would be ſeiz'd with an
Pain, and burning Heat, in the internal Parts of the
about the Larynx and Pharynx, with a Difficulty of
tion, but without a Fever. Now it happen'd, tha
man ſlept in a low Chamber newly built, and full of
pours of Lime; whence ſhe was taken not only
in the Head, but a vehement Heat and Pain in the F
Neck, with Reſtleſſneſs, Streightneſs of Breath, An

s. Being call'd to attend her, I omitted Bleeding, be-
ere was no Redundancy in the Veſſels, and only order'd
laſm to be applied to the Neck, prepar'd of Meal of
d, Flowers of Elder, Figs, Saffron, Oil of ſweet Al-
and Milk. I adviſed alſo a Clyſter of Milk, Nitre,
n Salt, Honey, and Oil. For Drink, I allow'd Milk,
ith half the Quantity of Barley-water, or Ptiſan, with
tion of a proper Quantity of Nitre, or Syrup of Violets:
ſhe drank plentifully, and often held it in her Mouth.
means the Diſeaſe in a ſhort time was diſcuſs'd. To
her frequent Relapſes, I adviſed the Drinking of the
r the *Selteran* Waters, with Milk, for a Month or more;
y Day, in the Morning, either to gargarize the Fauces,
aſh them with the *Aqua Sclopetaria*, (*Eau d'Arquebu-*
a Decoction of Plantain in Wine.

REFLECTION.

ſey is very ſpeedily produced, when the fibrous, glan-
, and tubular Compages of the Fauces, is weaken'd and
ed of its Tone, which is frequently done by a mercu-
livation: For this Reaſon, thoſe who have once or twice
'd under a Quinſey, which has not been carried off by
r Means, and a due Regimen, very readily fall into the
Diſorder again, by raiſing their Voice too high, Exceſs
ſſion, or of Wine, or by drawing in a cold moiſt Air:
elapſes are moſt effectually prevented by a ſpeedy and
Cure, which leaves the Parts free from all Taint.

CASE IV.

an honeſt Man, upwards of fifty Years old, of a ſan-
elancholic, but robuſt Conſtitution, who had never
d taken from him, but enjoy'd an excellent State of
even tho' addicted to the drinking of hopp'd Ale, and
Liquors: This Man, happening to be put into a vio-
ion by his Wife, was ſeiz'd with an exquiſite Pain in
, the Arteries of which became turgid, his Face red,
yes ſtern; in fine, his Nights were paſs'd without
d his Arteries beat ſo ſtrong, that he complain'd of a
nſation, reſembling the Beating of a Hammer, in his
Upon this, a Cataplaſm made of the Crums of Bread,
Juniper-berries, with Vinegar of Roſes, was laid to
; and, by the Advice of an old Woman, the White of
beat up with Alum, was applied to his Forehead and
The Patient, having uſed theſe things for ſome time,
'd at laſt of an exquiſite and pricking Pain of his Fauces,
ty of Deglutition, and a Shortneſs of Breathing; his
ſwell'd prodigiouſly, and became black: He thruſt his
ongue out of his Mouth, and had an inſatiable Craving
nk; the Pulſe in his Arm was quick and vehement.
ing theſe terrible Symptoms, the following Method
with Succeſs: He was blooded plentifully, and had a
p Clyſter injected. A Cataplaſm of Dog's Dung,
neſts, Figs, roaſted Onions, Elder-flowers, Chamo-
elilot, Cummin-ſeed, Nitre, and Camphire, with
er-water and Wine, was applied warm to his Neck.
nternally a Mixture of Elder-flower and Roſe-water,
o Ounces; diſtill'd Vinegar, ſix Drams; of Crabs-
Dram; Nitre, half a Dram; Camphire, four Grains,
n Oil of ſweet Almonds, and a ſufficient Quantity of
oſes, given pretty often, in the Quantity of ſome
; and for his ordinary Drink, an Infuſion of Male
, Elder-flowers, and Liquorice-root; by which means
r of Suffocation was happily carried off. Afterwards
Preparation of ſolutive Syrup of Roſes, Cream of
iagrydium, and Rhubarb, was adminiſter'd, which
a Stool each time. His Mouth alſo was frequently
th Rain-water, in which a little Nitre and Vitriol had
ved, and to which as much Sugar was added as ren-
latable: By theſe means this dangerous Diſeaſe was, in
e, throughly carried off.

REFLECTION.

n of this terrible Diſorder juſtly claims our greateſt
on; for it proceeded from a Congeſtion of Blood in
d. The external Applications for that Diſorder were
nts; by theſe the Blood was driven inwards, and
the Fauces themſelves: Here the Blood, being col-
a great Quantity, ceaſed to flow, and brought on
, and all the Train of other Symptoms; for that the
f an Egg, beat up with Alum, is a ſtrong Repel-
Aſtringent, is plain from its Uſe in Diſorders of the
nd that, from a Conſtriction of the external Parts,
veyance to the internal is eaſy, is plain from the mu-
munication of the Veſſels: But the Cure could not
uccеſs, when the Stagnation was encounter'd by
, and by internal as well as external Diſcutients;
portunity is ever ſpeedily to be embraced, 'tis cer-
inflammatory Congeſtions, which, unleſs ſpeedily
, degenerate into a ſphacelous and deadly Corrup-
Hoffman. Medicin. Rational. Syſtemat.

CASE *from* HILDANUS.

Laſt Autumn Mr. *John Merulam*, a Clergyman of great Learning and Worth, was, for two Months ſucceſſively, afflicted with a violent Dyſentery; from which when he was almoſt recover'd, he was, during my Abſence, ſeiz'd with a new and very terrible Diſorder: For Nature being in him weaken'd, both by the Diſtemper itſelf, and his great Age, (for he was now paſt Sixty-ſix) could not drive thoſe Puſtules, which generally appear on the Lips towards the End of the Diſeaſe, ſo far; but threw them out about the Uvula and Root of the Tongue, with very conſiderable Pain and Inflammation. Whilſt Matters ſtood thus, he took the Advice of a fooliſh Barber, who three or four times a Day blow'd Powder of Pepper and Saffron into his Throat and Fauces; upon which the Pain, Inflammation, and Fever, were augmented, and fainting Fits ſeiz'd him at certain Intervals. Then, in order to diſpatch the Patient the more ſpeedily and effectually, he gave him a Medicine which operated both by Vomit and Stool, and which, from its Effects, I conceived to be Antimony. I, being call'd, went to him with all imaginable Haſte, but found him as if in the Agonies of Death; for he could ſcarce breathe, and his Inquietudes were very great. His Tongue alſo and Fauces were ſo ſwell'd, that he could neither breathe, nor ſwallow a little Broth without the greateſt Pain, accompanied with involuntary and convulſive Agitations of his whole Body.

I cured him in the following manner: Firſt, I order'd him to waſh his Mouth and Fauces with Milk, juſt come from the Cow; he alſo waſh'd his Mouth, now-and-then, with Barley, Roſe, or Scabious Water, mix'd with Honey of Roſes: He every Hour alſo took a little of the Oil of ſweet Almonds. We alſo, three or four times a Day, and as often by Night, anointed his Throat, Neck, and Breaſt, with Oil of white Lillies and ſweet Almonds, and applied warm greaſy Wool to them. We alſo, by means of Clyſters, drew downwards the Matter which the immoderate Pain had drawn to the affected Parts; and after treating him in this Matter for about the Space of thirty Hours, an Impoſtumation broke in his Fauces, from which he diſcharg'd a purulent Matter by his Mouth.

Upon this his Pain was immediately leſſen'd, and he began to breathe more freely, and ſup a little Broth: Then by waſhing his Mouth frequently with Barley-water, and ſometimes taking a little Honey of Roſes, and by uſing a proper Regimen, and reſtorative Medicines, he was at laſt, thro' the Bleſſing of God, reſtored to Health in a miraculous Manner, and beyond the Expectation of all that were acquainted with his Situation. And tho' he is now in the ſeventieth Year of his Age, he nevertheleſs enjoys a good State of Health, and diſcharges the ſeveral Offices of his Function with Applauſe to himſelf, and Advantage to the Church. *Hildanus, Cent.* 3. *Obſervat.* 27.

The Sentiments and Practice of our Countryman Dr. *Sydenham* muſt not be omitted; it muſt be obſerved, that his Practice correſponds pretty exactly with that of *Hippocrates*, and his Tranſcribers.

1. This Diſeaſe comes at any time of the Year, but eſpecially between Spring and Summer: It principally attacks the Young and Sanguine, and alſo red-hair'd Perſons. It begins (firſt) with a Chilneſs and Shivering; (ſecondly) a Fever ſucceeds; and (thirdly) immediately after, a Pain and Inflammation of the Fauces, which, without ſpeedy Relief, hinder Deglutition, and prevent Breathing thro' the Noſe; whence Suffocation is endanger'd from the Inflammation and Tumor of the Uvula, Tonſillæ, and Larynx. This Diſeaſe is extremely dangerous, and ſometimes kills the Patient in a few Hours; that is, when a large Quantity of the febrile Matter is thrown upon the abovemention'd Parts, and the approaching Tumult is not timely enough prevented by proper Remedies.

2. In order to the Cure, I immediately bleed plentifully in the Arm, and preſently afterwards in the Veins under the Tongue; and then I order the inflamed Parts to be anointed with Honey of Roſes, ſtrongly acidulated with Spirit of Sulphur; and preſcribe a Gargariſm to be uſed, not in the common way, but to be held quietly in the Mouth till it grows warm, and then ſpit out; and this to be repeated between whiles. *The Preſcription for this Gargariſm is ſpecify'd in the laſt Paragraph of the Article* ALBUMEN, *which ſee.*

I alſo order the following Emulſion, or the like, to be taken daily:

> Take ſeven blanch'd ſweet Almonds, the Seeds of Melons and Pumpions, of each half an Ounce; the Seeds of white Poppies, two Drams; beat them together in a marble Mortar; then pour on, by degrees, a Pint and half of Barley-water; mix them well, and, when ſtrain'd, add two Drams of Roſe-water, and half an Ounce of white Sugar: Let four Ounces be taken every fourth Hour.

This would be much better with an Addition of Nitre.

3. I bleed again in the Arm the next Morning, unleſs the Fever, and Difficulty of ſwallowing, be in ſome meaſure abated; in which Caſe I give a gentle Purge, much Experience having taught me, that this is highly neceſſary and uſeful after Bleeding.

ing. If the Fever, and other Symptoms, threaten Diſturbance even after purging, which yet ſeldom happens, they are to be quieted by repeated Bleeding, and applying a large and ſtrong Epiſpaſtic between the Shoulders. During the whole Courſe of the Diſeaſe, a cooling and emollient Clyſter muſt be given every Morning, except on the purging Day.

4. I injoin a total Abſtinence from Fleſh, and Broths made thereof; allowing Barley-broth, Water-gruel, roaſted Apples, and the like, for Diet; and Ptiſan and ſmall Beer for Drink. The Patient muſt likewiſe ſit up ſome Hours every Day; for the Warmth of the Bed increaſes the Fever, and its Concomitants, which I endeavour to conquer by this Method. *Sydenham.*

Of BRONCHOTOMY.

As Bronchotomy is principally of Uſe in a Quinſey, I ſhall chuſe to give a particular Account of the Operation in this Place, rather than under the proper Article.

Paulus is, according to Dr. *Freind*, the firſt Author who deſcribes the Operation of Bronchotomy. Our beſt Surgeons, ſays he, have deſcribed this Operation; *Antyllus* particularly thus. We think this Practice uſeleſs, and not to be attempted, where all the Arteries and the Lungs are affected; but when the Inflammation lies principally about the Throat, the Chin, and the Tonſils, which cover the Top of the Wind-pipe, and the Artery is unaffected, this Experiment is very rational to prevent the Danger of Suffocation. When we proceed to perform it, we muſt cut thorough ſome Part of the Wind-pipe, below the Larynx about the third or fourth Ring; for to divide the whole would be dangerous. This Place is the moſt commodious, becauſe it is not cover'd with any Fleſh, and becauſe it has no Veſſels near it. Therefore bending the Head of the Patient backward, ſo that the Wind-pipe may come more forward to the View, we make a tranſverſe Section between two of the Rings; ſo that in this Caſe, not the Cartilage, but the Membrane, which incloſes and unites the Cartilages together, is divided. If the Operator be a little fearful, he may firſt divide the Skin, extended by a Hook; then proceeding to the Pipe, and ſeparating the Veſſels, if any are in the Way, he muſt make the Inciſion. Thus far *Antyllus*. *Paulus* adds, That he (*Antillus*) thought upon this Way of cutting, by obſerving (when it was, I ſuppoſe, cut by chance) that the Air ruſh'd through it with great Violence, and that the Voice was interrupted. When the Danger of Suffocation is over, the Lips of the Wounds muſt be united by Suture, that is, by ſowing the Skin, and not the Cartilage; then proper vulnerary Medicines are to be applied. If theſe do not agglutinate, an Incarnant muſt be uſed. The ſame Method muſt be purſued with thoſe who cut their Throat, with a Deſign of murdering themſelves.

Heiſter gives the following Account of this Operation. What he obſerves with reſpect to People juſt drown'd, is of Importance enough to deſerve Regard, as it may poſſibly ſave the Lives of many, if properly practiſed.

The Words Bronchotomy, Laryngotomy, and Tracheotomy, are convertible Terms, and mean no more than an Inciſion of the Aſpera Arteria, or what we commonly call the Throat; and, indeed, various are the Cauſes and Reaſons which may render this Operation neceſſary; for, in the firſt Place, it becomes principally and indiſpenſably ſo, when, in a Quinſey, the Fauces are ſo terribly inflamed, that the Patient is in imminent Danger of having his Reſpiration quite ſtopp'd, and a thorough Suffocation brought on. Secondly, It becomes neceſſary, when a Bean, a Prune, or Cherry-ſtone, a Pea, little Stone, or any other foreign and adventitious Subſtance, falls into the Aſpera Arteria, and ſeems to threaten a Suffocation. Thirdly, The Aſpera Arteria may alſo be open'd in ſuch Perſons as have been ſuffocated, in conſequence of their having been immers'd in Water, or, as we expreſs it, in newly drown'd People. For ſometimes a Power of Breathing has been reſtored to People in this Situation, by opening the Aſpera Arteria, and by that means giving the Air free Acceſs to the Lungs (See *Dethardingii Diſſert. de Methodo Subveniendi Submerſis per Laryngotomiam*). I am ſufficiently appriſed, that a great many Phyſicians forbid making an Inciſion in the Aſpera Arteria, and conſequently condemn this Operation, becauſe they think it productive of Death, and are therefore prompted by a fooliſh Zeal to brand their Fellow-phyſicians, who attempt an Operation ſo dangerous in their Eyes, with the odious Appellations of barbarous and inhuman. But the Gentlemen who are in this narrow and confin'd Way of Thinking, are highly miſtaken. For, in this Operation, the ſmall Inciſions made in the Aſpera Arteria are ſo far from killing the Patient, that they do not even produce that Effect, when made conſiderably large; and *Garengeot* gives Examples of various Cures performed by this Operation: For this Reaſon we think ourſelves juſtly authorized with *Caſſerius* [in *Tractat. de Vocis Audituſq; Organis*] to pronounce thoſe Men unſkilful, cowardly, and even cruel, who, in the Caſes above-mentioned, fooliſhly neglecting this Operation, which is often ſafe in itſelf, and attended with the moſt ſpeedy and ſalutary Effects, ſuffer the Patients to die, for want of this proper and ſeaſonable Aſſiſtan Inſtances of this Nature may be ſeen in *Nicolaus Fontanus* *ſervat. Rarior. Analect.* and in *Caſſerius.*

Now when this Operation is to be performed, that Part the Trachea ſeems moſt proper for making the Aperture which is ſituated betwixt its ſecond and third cartilaginous *nuli*, or Ringlets. The Inciſion may nevertheleſs be made little lower, without any Danger. The Method of perform the Operation, eſpecially when the Stone of any Fruit, a Be a large Pea, a ſmall Stone, or any other ſuch Subſtance, fal into the Aſpera Arteria, and threatening a Suffocation, is be extracted, is in this Manner: The Patient is firſt of all placed in a reclining Poſture, either in Bed, or in ſome co nient Chair, and his Head is to be held firm by an Aſſi ſtanding behind his Back. Then a longitudinal Inciſion t Skin, Fat, and Muſcles, is to be made, from about two Fin Breadth below the *Cartilago Thyroides*, or *Scutiformis*, or *Pomum Adami*, in the Middle of the *Trachea*; down to very *Sternum*; ſo that the Length of the Inciſion may equal to two or three, or even, in tall Patients, to four Fin Breadth (See *Tab.* 42. *Trib.* 14. *A. A.*).

Then an Aſſiſtant is carefully to draw the Lips of this Or from each other, either with proper Hooks, or his Fing and having abſorb'd and wip'd away the Blood, either Sponge, or a linen Cloth, ſo that the *Aſpera Arteria* ma ſeen, three or four of the Annuli or Ringlets of this Pipe are to be cut in ſuch a manner, that the Inciſions in the Whole may form one continued Line: And thus, ever Subſtance may have ſlipt into it, muſt be artfully warily extricated, either by a Probe, Hook, or Forceps. being done, the Wound is to be cleanſed with a Sponge, its Lips being kept in Contact by agglutinating Plaiſters, pr Compreſs and Bandage are to be apply'd. 'Tis afterwards fully to be agglutinated by means of vulnerary Balſams, as in of Wounds in the Aſpera Arteria: And in this very man here in *Helmſtadt*, I myſelf happily extracted a Piece of b Muſhroom from a Patient, who happening to laugh whi was ſupping Broth, in which, among other things, there Muſhrooms, had the Misfortune to have a Piece of o them ſlip into his Arteria Aſpera, by which he was in D of being ſuffocated. *Ravius* alſo informed me, that, in very Method, he happily extracted a Bean from the Thro a Patient; but the modern Surgeons are entirely ſilent regard to this Method. Some, in order to induce a ſpeedy and *ſeemly* Cicatrix on the Wound, recommend the thod of Agglutination by Suture, as in the Cure of Hair-li paſſing Needles thro' them, whether the Operation be perfo for a Quinſey, or for ſome other Diſorder. But, in my nion, 'tis highly improper to follow a Practice which is att with immenſe Pain to the Patient, when, at the ſame ti Method that is far milder, and equally ſafe and ſecure, be fallen upon.

But if in a Quinſey, after the Uſe of proper Medicines, repeated Evacuations of Blood from different Veins, th ſtill a Neceſſity for making an Inciſion in the Trachea, in to prevent a Suffocation, the Operation may be perfor three different Manners, a Deſcription of each of which preſent Deſign calls for.

Firſt then the Patient muſt be plac'd in a Bed, or C with his Head reclin'd at the Surgeon's Diſcretion, and firm by an Aſſiſtant, as we have already ſaid. Then l Surgeon make an Inciſion in that middle Part of the T and in that Manner we have above directed, till he reache Trachea itſelf; or, if 'tis thought proper, the Skin a both Sides may be laid hold on by the Surgeon, and his Aſſ Then it may be raiſed and cut longitudinally: After the Fat and Muſcles lying above the Trachea may be Some would have theſe Muſcles firſt diſengaged from the chea, or very warily ſeparated from each other; but th no Occaſion for all this Labour, ſince they may be cut and without any Danger. Then the Surgeon cleanſe Wound with a Sponge wrung out of warm Wine, or Spirit of Wine, for the more effectual ſtopping of the and orders his Aſſiſtant to ſeparate and retract its Lips, by Hooks, or his Fingers. Then he paſſes his Knife be two of the Annuli of the Trachea, or, in my Opinion, b even paſs it in ſuch a manner, as to cut one of them, by that means any Silver or Leaden Pipe, whether ro flat, ſuch as we have repreſented, (Tab. 23. T, U, a may the more conveniently be inſerted into the Wound. before the Surgeon withdraws his Knife, ſome Probe, fit Purpoſe, ought to be inſerted into the Wound, by the S the Knife, that by its Aſſiſtance a Pipe may afterwards be commodiouſly put into it. This Pipe is fixed in the W by means of a Ligature paſs'd thro' its Annuli, or ſmall and carry'd round the Neck, and by a perforated Plaiſter great Care is to be taken, that the End of the Pipe, inſerted into the Wound, be not allow'd to touch the rior Part of the Aſpera Arteria, leſt by that means a ſome Cough ſhould be created. But that the Lungs

e injured by the external Cold, or by any Filth falling upon
em, 'tis highly proper to lay upon the Pipe a Sponge often
npregnated with warm Wine, and again wrung out; or, as *Ga-*
ngeot adviſes, a thin linen Cloth, and afterwards a perforated
laiſter. Theſe Directions being duly obſerved, Blood is to be
rawn from the Veins in the Arms, or thoſe of the Feet, thoſe
nder the Tongue, or thoſe ſituated in the Neck. Then
lyſters, Gargariſms, Injections into the Fauces, Malagmas
nder the Chin, deep Cuppings on the Sides of the Neck,
d on the Inſides of the Thighs a little above the Knees, with
ch other Medicines as are effectual againſt a Quinſey, are
ligently to be applied and continu'd, till ſuch time as the
eſpiration either becomes free and eaſy, or the Patient dies;
e or other of which generally happens within four Days after
e Operation is performed. When, after the third or fourth
y, the Diſeaſe is found milder, and Reſpiration more eaſy,
hich may be moſt quickly and expeditiouſly judg'd of, by ſtop-
g up the Pipe with one Finger, the Pipe is to be taken out,
d the Wound to be agglutinated and treated in the manner
eady directed. But when the Difficulty of Breathing at the
outh is as yet found conſiderable, the Pipe ought to be al-
'd to remain for ſome time longer in the Wound, and the
er Medicines to be continued, either till Reſpiration becomes
re free, or the Patient expires.

Another and more expeditious Manner of opening the Tra-
a is this: A two-edg'd Knife (repreſented Tab. 22. I)
pply'd to the above-mention'd Part of the Throat, and
iouſly paſs'd thro' Skin, Fat, and Muſcles, into the Ca-
of the Trachea itſelf, and a Pipe is forthwith inſerted into
Wound, and artfully fix'd and ſecur'd in the Manner alrea-
directed. This Method of Operation is not only quicker,
the Cicatrix is leſs, than in the former Method.

The third and laſt Method of Operation is by an Inſtru-
t which the Surgeons call a *Trocar*, (ſee Tab. 42. Fig. 15,
and is to be performed in ſuch a Manner, that this Inſtru-
t, apply'd to the very Middle of the Trachea, may, as it
, at one Thruſt, be paſſed thro' the Skin, Fat, and Muſ-
into its very Cavity, and, having drawn out the perforating
, let the Pipe remain in the Orifice, till the Patient breathes
y, or dies. This Method of Cure I learnt from the wor-
Fredericus Decker, ſome time Profeſſor of Phyſic at *Ley-*
and my old Maſter, who has alſo deſcribed it in Page 243.
s *Exercitat. Pract.* This Method of performing the Ope-
n ſeems, in one reſpect, to have the Advantage of all the
which is, that it is ſoon over, and the Pipe, at the ſame
, introduc'd into the Wound with far leſs Pain to the
nt, than by any other Method. But even in this Caſe,
ame Caution ought to be uſed, and the ſame Directions
w'd, which we have above ſpecified.

or ought this material Caution to be forgot, that the Ope-
n is to be performed as ſoon as poſſible, and whilſt as yet
trength of the Patient lays a Foundation for the Hopes
Surgeon: For, when the Patient's Strength is too far
ſted, and he already ſinking, as it were, under the Ago-
f Death, 'tis then too late, and, generally ſpeaking, to
rpoſe, to attempt the Operation for his Relief. It alſo
to be a ſafe and prudent Step, in a Caſe of imminent
er, to call in the Aid and Advice of the moſt ſkilful Phy-
that can be had, before the Operation be attempted:
ſince this Operation is by moſt, who are ignorant of its
ature, eſteemed ſo dangerous, and pronounced ſo fatal to
'tis highly probable, that if the Cure does not ſucceed ſo well
ld be wiſhed, the Surgeon ſhall be ſaid to have murder'd
atient, who is, in Reality, cut off by the Violence of his
Diſtemper; and thus the innocent Operator ſhall be loaded
ll the Infamy and Reproach that Ignorance, and popular
ice, can throw upon him.

Perſons drowned in Water are already, tho' but juſt
their Aſpera Arteria is to be open'd with all Expedition,
with an Inciſion-knife, or any other Inſtrument the Phy-
ſhall judge fitting. Then 'tis proper ſtrongly to blow
e Orifice made, either with the naked Mouth, or by
of a Pipe, if any ſuch Thing is at hand, becauſe, in
aſe, above all others, Delays are dangerous. For
ſtly celebrated Phyſician *Dethardingius*, ſome time Pro-
f Phyſic at *Roſtoch*, now at *Copenhagen*, in a Diſſer-
upon this very Subject, publiſh'd not long ago, informs
t by this Method, if ſpeedily put in Execution, Life re-
the ſuffocated Patient with the injected Air, and that
n a manner, miraculouſly raiſed from the Dead. For
aſon I think the Operation is not, in Caſes of this Na-
be neglected, but performed, whenever the Oppor-
offers, with all the Haſte and Expedition imaginable.

ſt here likewiſe obſerve, that this Operation, as it is
performed in the *Larynx*, nor in the *Bronchia*, but in
era Arteria, or *Trachea*, ought neither to be called
tomy, nor *Bronchotomy*, as it commonly is by moſt Phy-
nd Surgeons; but rather, and that too more properly,
tomy.

ricus Montanus, and *Scacherus*, Profeſſor at *Leipſic*, have each of them publiſhed a Book on Bronchotomy; and *Julius Caſſerius* has treated of Laryngotomy in the Book above quoted, where he illuſtrates this Operation by a Variety of elegant Cuts. *René Moreau* alſo, in his *Epiſtola de Laryngotomia*, and *Th. Ficnus*, in his Chirurgical Books, have written very learnedly upon this Operation.

Mr. *Sharp* obſerves, that this Operation is eaſy to perform, and utterly void of any Danger whatſoever, notwithſtanding the frightful Cautions laid down by Authors.

The Manner of doing it is by making a longitudinal Inciſion thro' the Skin, three Quarters of an Inch long, between the third and fourth Ring of the Trachea, if you have the Choice of the Place; and when you cannot make it ſo high, the Rule will be to wound a little below the Tumor. It is always adviſ'd to pinch up the Skin for this Proceſs, which, however, may be left to the Diſcretion of the Surgeon. When the Skin is cut thro', you muſt make a ſmall tranſverſe Inciſion into the Wind-pipe, and immediately introduce a crooked Cannula near half an Inch long, of Silver or Lead, with a couple of little Rings at the Top of it, thro' which a Ribband may be paſs'd round the Neck to keep it fix'd in the Wound.

Some have preſcribed making an Inciſion thro' the Skin and Trachea at once, with a Lancet, or Knife, as the more eaſy and expeditious Method, and I once ſaw it perform'd in that Manner; but it prov'd very inconvenient; for the Wind-pipe in Reſpiration, moving up and down, ſlipp'd from the Orifice of the Skin, and made it very difficult to introduce the Cannula, and afterwards to maintain it in its Situation: Wherefore I think it abſolutely neceſſary to make the external Inciſion longitudinal, and even pretty large, as I have directed above.

The Caution laid down of raiſing the Sternohyoidei, and Sternothyroidei Muſcules, before cutting the Wind-pipe, is not to be regarded; and as to the Diviſion of the recurrent Nerves, and great Blood-veſſels, ſo much apprehended in this Operation, 'tis not in the leaſt to be feared, ſince they are quite out of the Reach of the Inſtrument, as any one ſkill'd in the Anatomy of thoſe Parts muſt very well know.

The Method of Dreſſing will be eaſily underſtood, ſince after the Patient can breathe by the natural Paſſage, if you withdraw the hollow Tent, the Wound will become a ſimple one; and, notwithſtanding its Penetration thro' a Cartilage into a large Cavity, require a ſuperficial Application only. *Sharp's Surgery.*

The following Caſe, communicated to the Royal Society by Dr. *Martyn*, contains ſomething new and ingenious, and muſt not, for that Reaſon, be omitted.

A young Lad, being in a good State of Health, was all of a ſudden taken ill with a violent Diſorder in his Throat; in which, however, I could ſee nothing wrong, the Amygdalæ, and other Parts in View, being in all Appearance ſound enough, but only looking a little drier than ordinary, without any external Tumor appearing about the Larynx, and no conſiderable Frequency or Strength in his Pulſe: But he had great Pain and a Dyſpnœa, with an Impoſſibility of ſwallowing either Liquids or Solids; every thing returning forcibly by the Mouth and Noſe, when he made an Effort to get it over. From all which I reckon'd it an Angina of one of the worſt Kinds, without any apparent Tumor, and the Seat of the Diſeaſe in the Larynx and the Fibres common to it, and the Top of the Gullet.

Notwithſtanding repeated Bloodings, Bliſterings between his Shoulders, Cupping, *&c.* the Diſeaſe continu'd ſo obſtinate, and the Patient ſo like to ſuffocate, that next Day in the Afternoon his Friends, altho' very averſe in the Morning, when I firſt propos'd the piercing the Wind-pipe, at length, earneſtly deſired, that the Operation might be performed; and the poor Lad bad us try any Experiment to preſerve his Life. He had good Reaſon ſo to do; for, indeed, in all Probability, in a few Hours he would have been ſtrangled to Death moſt miſerably. We directly ſet about the Operation, which was done with ſuch Succeſs, that in leſs than four Days his Breathing being perfectly eaſy, and his Deglutition being almoſt ſo, we remov'd the Cannula, and left the Glottis to do its own Office.

According to *Cœlius Aurelianus*, and the Author of the *Liber Introductorius*, aſcribed to *Galen*, Bronchotomy was propoſed by *Aſclepiades*, (however inconſiſtent with his Delicacy, and the reſt of his Character, the ſeeming Harſhneſs of this Operation may appear) and is deſcribed and earneſtly recommended by almoſt all the Syſtematical Writers of Surgery, from *Paulus* of *Ægine*, and, as he ſays, *Antyllus*, and ſome others of the beſt Surgeons before him, down to the preſent Times. But when they are at ſo much Pains to defend the Reaſonableneſs of it, and when they ſhew ſo much Fondneſs of citing and telling Examples of healing accidental Wounds of the Trachea, without ever mentioning their own regular Performance of the Operation (which would have been a ſhorter, and much more effectual Recommendation of it); when, I ſay, I conſider all this, I find myſelf obliged to think, that it has very ſeldom been reduced to Practice. So rare had it been, that *Aretæus*, a Man of vaſt Judgment and Skill in Diſeaſes, thought the Operation had never been actually done with Succeſs. And *Cœlius Aure-*

lianus looked on it as an impracticable Whim of *Aſclepiades.* Neither *Avenzoar*, nor *Albucaſis*, knew any thing of their Countrymen who had undertaken it. And the *Arabians* are reputed to have been hardy Surgeons enough. The moſt I know of amongſt them of this Kind is in *Avenzoar*, who try'd the Experiment on a Goat, and cured the Wound, which ſhews the Ingenuouſneſs and Induſtry of the Author: For as to what you will find ſome Writers telling you, that *Raſes* ſaw *Andruſius* the Phyſician do it (the Copy I looked into, printed at *Venice* 1505. calls him *Ancaliſius*; and, perhaps, it ſhould be *Antyllus* for them both); I think this flows from a miſtaken Interpretation of that Author's Meaning. If you read the whole Context, I think you will eaſily conceive, that all he ſays of the Operation is upon Hearſay; and conſequently, that he had only ſeen in Books, that ſuch an one had done it. That moſt accompliſhed Anatomiſt and Surgeon *Fabricius ab Aquapendente* frankly acknowledges, that neither he, nor any of his Contemporaries, had ever ventur'd to perform it: Neither does his Succeſſor in the Profeſſion of Surgery, and his Rival in Anatomy, *Julius Caſſerius* of *Placentia*, pretend to have done it, tho' he has endeavour'd to illuſtrate the Operation by ſome very neat Figures, which you will not readily ſuſpect to be from any but dead Bodies. And next to him *M. Aurelius Severinus*, who was a very judicious and learned Man, and the beſt and boldeſt Surgeon of his Time, though he recommends it with a great deal of Warmth and Keenneſs, yet it ſeems, even in his latter Days, he never had Occaſion to try it; ſo that the firſt undoubted and diſtinctly recorded Hiſtory I can find of this Operation being actually practiſed, is in the learned *Anton. Muſa Braſavolus*, who performed it in a deſperate Quinſey, when the Surgeon refuſed to do it; and repeated it again in the like Caſe. Mr. *Arnaud*, the *Frenchman*, did it, but his Patient died: However, his Countryman, Mr. *Binard*, had better Succeſs. Dr. *Freind* cites *Purman* doing it; and tells us of another Caſe communicated to him by a Surgeon, whom he does not name. And beſides theſe, I believe there are but few Inſtances can be produced, of any who really performed the Operation on a living Perſon. I hear now, that Mr. *Baxter*, a Surgeon in *Coupar*, of *Fiſe*, not far from us, and Dr. *Oliphant*, in *Gaſk* in *Perthſhire*, did it with very good Succeſs within theſe few Years.

In the actual Performance of the Operation they certainly did, or might have obſerved ſome things omitted by Authors, and even ſome not perfectly agreeing with the common Accounts that are given of it. I think it worth while to obſerve, that in the very Cutting, before we got a free Aperture into the Trachea, and the Pipe introduced, the Patient felt ſome Relief; which, I thought, might be aſcribed to the Effuſion of Blood in the Operation; a ſmall Quantity whereof, evacuated ſo near the Part affected, could not, according to the true Laws of Hydraulics, and the Obſervations and Practice of the Antients, (however diſagreeing with *Bellini*'s Theory) but make a more conſiderable Revulſion, than a much greater, taken away at a great Diſtance. Whence the judicious *Fabricius ab Aquapendente*, with very good Reaſon, ſuppoſed, that by the Derivation here, the Patient would be more apt to feel ſome Relief, than Trouble; of which *Julius Guaſtavinus* too made no Doubt in his Diſpute upon this Subject againſt *Aretæus*. And now their Suppoſition and Conjecture is confirmed by Experience. And ſince there continued a greater Flux of Blood to the Wound while it was ſuppurating, I reckoned the Circulation in the Muſcles of the Larynx to be with leſs Force than ordinary, and ſo probably to contribute to the diminiſhing the Strength of the Voice, which, for a good many Days after the Operation, was obſerved to be much weaker than it uſed to be; which I all along thought was rather owing to this, and the Lowneſs of his Body by his ſlender Diet, than to any Hurt of the recurrent Nerves, which, being cut, do indeed deſtroy the Voice; but by their Deepneſs, are in leſs Hazard than ſome in old Times uſed to think.

In doing the Operation on a living Perſon, one cannot but remark at the very firſt, that the Cannula ſhould not be made near ſo ſhort as is ordinarily propoſed in Books and chirurgical Lectures: For we found, that, upon cutting, the Parts, eſpecially the Thyroid Gland, (which is not ſo much minded in moſt of the common Deſcriptions of this Operation as ſhould be) ſoon become ſo tumified, that it will require a Pipe above an Inch long, to penetrate ſufficiently into the Aſpera Arteria, which is double *Garengeot*'s Allowance of ſix Lines; who is one of the recenteſt Writers, and has communicated to us all the Surgery the *French* are Maſters of. The leaden Pipe we had prepared not anſwering the Deſign, that which we made uſe of was too long, and too ſmall, being the common Cannula for tapping in the Dropſy, flattened a little at the End, and hindered by a very thick Compreſs, perforated in the Middle, from penetrating too deep into the Trachea.

The mucous Particles, and Steams ariſing from the Lungs, made a conſtant Weeping of a thin ſlavery Liquor, from the Mouth of the Pipe, Part whereof thickening, and ſtuffing its Cavity, ſometimes very much incommoded the Patient's Reſpiration by it, ſo as to render it neceſſary to have it taken out an cleaned. And hence, when ſome Moderns very preciſely bi us put a thin Slice of Sponge, or a Bit of Muſlin, &c. cloſ over the Orifice of the Cannula, to prevent the Ingreſs o Duſt, Down, or the like, into the Lungs, it confirms what ſaid before, of the Unuſualneſs of the Operation, and looks if they had only contemplated the Matter in Abſtraction, as th Metaphyſicians ſay, without conſidering they had not to d with a pure thin dry Air, but with a heterogeneous Fluid, th is moiſtened and thickened with viſcid Particles, which are ap to run together in ſtiff Concretions. And therefore, though muſt be acknowledged, that there would have been leſs Hazar of a Stoppage, if our Cannula had been ſhorter, and wider, eſp cially at the Mouth, I cannot but think it an ingenious Pr poſal of one of our Miniſters here, to make the Pipe doubl or one within another, that the innermoſt might ſafely an eaſily be taken out and cleaned when neceſſary, without an Moleſtation to the Patient: For it is no ſmall Trouble to hi to be obliged to have the Bandage frequently removed, and t Pipe fitted anew to the Orifice made in the Trachea.

And indeed we found no Inconvenience in our Patien breathing the Air as it paſſed through the Pipe, without a cleanſing or intercepting Medium, though the Houſe was no of the cleaneſt, being an ordinary Tradeſman's here. But by a larger, and conſequently a more patent Tube, one, eſp cially of more delicate and tickliſh Lungs, ſhould be inco moded that way, I think the Acceſs of Duſt, &c. might co veniently enough be hindered by a Piece of Muſlin, or t Hair Crape, tied ſlackly about the Neck over the Orifice of t Cannula, ſo however, as not to touch it, or to be wetted by t Liquor coming from it.

The Patient was ſoon perfectly recovered: He breathes, ſpea eats, drinks, and performs all the other Offices of Life, a goes about his Calling as formerly. And now I cannot take Notice of the needleſs Pains ſome Writers are in ab healing up the Wound by Bandaging, Stitching, &c. For found it eaſily to fill up of itſelf, in a very few Days, by o dreſſing it every other Day, or ſo, with a ſoft Tent, m leſs and leſs every Dreſſing, and armed in the common with *Linimentum Arcei*. I believe indeed it would have ta a little more Time to heal, if our Patient had been ol *Phil. Tranſ. Abr. Vol.* 8.

In the preceding Account of a Quinſey, I have purpo omitted *Boerhaave*'s Sentiments concerning this Diſtem which I reſerved for this Place, that they may ſerve as a Re pitulation of what has been already ſpecify'd, and that Reader may have in one View, the Sum of what has been livered by a Multitude of Authors; and at the ſame time Opinion of this Author, an excellent Judge of Medicinal S jects.

A very difficult and exceſſively painful Deglutition, or Re ration, or both together, which happens from any morbid C acting upon the Organs ſubſervient to theſe Functions ſitu above the Lungs and Stomach, is called a *Quinſey*, of w two Species have been obſerved; one without any manifeſt mor, either internal, or external; in the other, ſome ſo Tumor is always diſcovered in ſome of the Organs before- tioned.

The firſt Species uſually happens at the End of Chro Diſtempers, principally after great and frequently repeated cuations. It is attended with a Paleneſs, Extenuation, Dryneſs of the Fauces; whence 'tis evident, that the N and Muſcles of the Parts affected are paralytic. It is a always a Sign of approaching Death, and very ſeldom adm any Cure; but, whenever it does, it muſt be perform Remedies which are warming and corroborating, and fill the empty Veſſels with good vital Juices, ſuch as no ing Aliment taken in Quantities proportioned to the dig Powers, and Wine.

This Species alſo ſometimes appears without any m Signs of a preceding Diſtemper, and then is generally Diſſections of Bodies after Death, have diſcovered that th is almoſt always attended with a Suppuration of the Lung

That Species which appears with a Tumor, takes di Denominations, either from the Nature of the Tumor, Part which it affects. Hence Quinſeys are diſtinguiſhe Œdematous, Catarrhous, Inflammatory, Purulent, Sci Cancerous, and Convulſive.

Theſe Tumors affect the Tongue, and its Muſcles Palate, Tonſils, the Uvula, and its Muſcles; the Cavi the Os Frontis, the Maxilla ſuperior, and Os Sphe when a Polypus, ariſing in any of theſe, increaſes to ſuch gree as to ſtop up the Noſtrils, depreſs the pendulous the Palate, ſtreighten the Fauces, and obſtruct the Paſſ the Pharynx and Larynx; either ſome or all the Mu the Os Hyoides; the Muſcles of the Larynx, whether in external, proper or common; the internal Muſcular Me of the Aſpera Arteria; the ſuperior Muſcles of the P and Œſophagus, otherwiſe called *Sphincter Gulæ*; th cular Parts of the Œſophagus; and thoſe Glands wh

d ſo near the Aſpera Arteria and Œſophagus, that, by
Tumefaction, theſe Conduits may be compreſſed, amongſt
are all the Salival Glands, and others diſperſed about theſe
and laſtly, the Thyroide Glands.
n this Hiſtory of the Diſeaſe, Reaſons may be readily
d for all thoſe various, unforeſeen, and fatal Accidents,
ſometimes attend a Quinſey.
as this Diſtemper is attended with a Variety of Circum-
, which are productive of various Events, it will be
ry to ſpecify Particulars.

uinſey ariſing from a watry, œdematoſe, and catarrhous Tumor.

is a laborious and painful Exerciſe of Reſpiration and
ition, from a lymphatic or œdematoſe Tumor of the
eſtined for theſe Functions, or thoſe adjacent to them.
Seat of ſuch a Tumor, like that of every Coacervation
nph, is in that Part of the Glands, where the Lymph,
d by the Arteries, is ſeparated from the Maſs of Blood,
oſited.
Cauſe therefore of ſuch a Tumor is, whatever prevents
Diſcharge of the Lymph from theſe Reſervoirs; and the
of ſuch Obſtructions are manifold and various, as,
Compreſſure of the Veſſels into which the excretory
f theſe Glands naturally diſcharge the ſecreted Fluid.
Obſtruction formed in the Follicule of the Glands, from
pituitous, calculous, fungous, or ſuch-like Concre-

ſame Kind of Concretions in the Emiſſaries, or excre-
cts, of theſe Glands.
mpreſſure of any of the Parts above-mentioned.
apply'd to the Extremities of the Excretory Ducts.
guid Circulation of the Humours.
Effects of theſe Obſtructions are a watry, white, cold
; a Compreſſion of the adjacent Parts; and conſequent-
npediment of thoſe Functions, which depend upon the
State of theſe Parts.
e the Diagnoſtic Signs will be eaſily known; and alſo
noſtic, which is, that if the Tumor is ſuffered to ad-
uch, the Patient will ſoon be ſuffocated.
Cure is to be attempted by reſolving and removing the
ing Matter, by means of emollient, aperient, and re-
emedies, apply'd either in the Form of Fomentations,
ms, Gargariſms, Injections, Collutions, or Vapours;
ceſſary, by Frictions apply'd to the Part affected,
convey'd through a Cannula to the Part, or by Inci-
hich are preferable to Cauſtics.
time, ſuch Remedies as diminiſh the Quantity of
by evacuating a Portion of it either at the Mouth, or
Parts of the Body, are by no means to be neglected.

legmatiſms, which conſiſt of ſuch Ingredients as by ſtimu-
Parts affected, or thoſe adjacent to them, incline them
ge a conſiderable Quantity of the morbific Matter, or of
aſily convertible into it. Of this Sort are the Roots
ry of *Spain*, and Horſe-radiſh, Maſtich, Ginger,
and particularly Nitre. In the *Pharmacopœia Paupe-*
re is a Powder under the Title of *Pulvis Synanchicus*,
very well adapted to theſe Purpoſes, and ſhould ſeem
y in an œdematous Quinſey, tho' for one of the in-
y Kind, for which the Author recommends it, much

alt of Prunella, (or Nitre) an Ounce and an half;
e Pepper, three Drams; white Sugar, four Ounces;
e into a Powder for the Patient to hold in his Mouth,
ſwallow gently. This cauſes a large Evacuation of
a.

catories draw off a conſiderable Quantity of Lymph,
it from the Fauces to diſtant Parts, where it is leſs
doing Miſchief; theſe are alſo of ſingular Uſe in a
f this Kind. They are to be apply'd to the Back,
Ears, or to any other Part.
ntle Sudorifics alſo as are not accompany'd with any
le Degree of Heat, as they contribute to the Diſ-
the ſerous Humours, are of Service, if adminiſtered
or apply'd externally, in a dry Form. As are, for
aſons, Diuretics of the ſame Kind. But thoſe Kinds
ics, which are called *Hydragogues*, from their Efficacy
ing watry Humours, are, in this Caſe, of ſingular
this Sort are Jallop, Scammony, and their Prepara-

ime, the Patient muſt avoid large Quantities of
d take Aliments which are warm and drying; for
ans he will be carrying on the End propoſed, that of
g the Quantity of Lymph in the Habit.
the Circulation of Blood muſt be conſidered; and if
nd too languid, it muſt be accelerated by means adapt-
Purpoſe; amongſt which are Frictions of the external Parts; and volatile oily aromatic Salts adminiſtered internally.

A Scirrhous Quinſey.

It ſometimes happens, that a ſcirrhous Tumor occupies the Tonſils, or ſome other of the Glands mentioned above; and this is ſaid to be frequently cauſed by expoſing theſe Glands, weakened by a preceding Tumor, before they have recovered their natural Tone and Strength, to the cold Air, or too cold Applications.

This Caſe may be diſtinguiſhed by the ordinary Signs of a Scirrhus (See SCIRRHUS). And if it be foreſeen, that it will be, or if it actually is, any Impediment to Deglutition, or Reſpiration, or both, the ſafeſt way is to extirpate the Scirrhus by Exciſion, if it can be eaſily come at. Or it may be waſted by Degrees with corroding Applications. For this Purpoſe, let a Pledget of Lint, fitted to the Shape of a Quill, be impregnated with Oil of Tartar *per Deliquium*, and apply'd immediately to the Part affected, by means of a Cannula.

A ſtronger Cathæretic may be prepared of Quick-lime; but there is more Danger in the Application.

An inflammatory Quinſey.

When the Muſcles and Glands employed in Reſpiration and Deglutition, or thoſe adjacent to them, are by any means inflamed, an inflammatory Quinſey is formed, which is particularly to be regarded, becauſe of its exceſſive Acuteneſs, and often inſuperable Violence.

The Cauſes of this, in general, are the ſame as thoſe which are productive of Inflammations in other Parts (See INFLAMMATIO). But a great many Cauſes may contribute to determine the Inflammation to the Parts above ſpecify'd, particularly to the Larynx, Pharynx, Os Hyoides, and their Muſcles, and to the ſuperior Part of the Aſpera Arteria, which, juſt under the Glottis, is furniſhed with a prodigious Number of Blood-veſſels, running in Directions ſomewhat peculiar.

Among theſe Cauſes may be numbered, a natural Diſpoſition, which principally prevails in young Conſtitutions, abounding with Blood, and particularly in thoſe who have red Hair.

Frequent and violent Exerciſe of the Parts above-mentioned, either in Declaiming, Singing, or Vociferation; riding briſkly againſt a cold Wind; blowing into muſical Inſtruments; great Heat ſucceeding intenſe Cold, in the Spring; Dryneſs of the Fauces, occaſioned by reſpiring hot Air, in the Summer; or in an inflammatory Fever.

When an Inflammation is produced by the Cauſes above-mentioned, very terrible Symptoms are excited, which are various, as the Diſorder happens principally to affect different Parts.

Thus, if the internal Muſcular Membrane of the Aſpera Arteria is only affected, a Tumor, Heat, Pain, and burning acute Fever are excited, without any external Signs of the Diſtemper. In this Caſe the Voice is ſmall, ſhrill, and uttered with a hiſſing Noiſe. Inſpiration is exceſſively painful; Reſpiration is ſmall and frequent, and ſcarcely performed but in an erect Poſture, and then not without much Difficulty; hence the Circulation of the Blood through the Lungs is much obſtructed, the Pulſe begins to ſink ſurpriſingly ſoon, great Anxieties come on, and the Patient quickly expires. This is one of thoſe fatal Caſes, which deſtroy without any external Appearance; and the nearer the Seat is to the Glottis and Epiglottis, the more fatal it is.

If the Larynx is affected with an acute Inflammation, which principally ſeizes the Muſculus Albus of the Glottis, together with the fleſhy Muſcles, which, when they act, cloſe it, a moſt terrible and ſtrangulating Quinſey ariſes, becauſe, upon this Occaſion, the Paſſage of the Air from and to the Lungs is utterly obſtructed by the cloſing of the Glottis.

The Signs of this Species of Quinſey are much the ſame as thoſe of the preceding, except that the Pain is intolerable during the Elevation of the Larynx, in order to ſwallow; and is remarkably increaſed by Speaking, or Vociferation; the Voice is extremely acute and ſhrill; exceſſive Anxieties come on, and Death quickly enſues. This is, of all thoſe Quinſeys, without any external Signs, the moſt dangerous.

If the Muſcles only, which are employ'd in elevating the Os Hyoides and Larynx, ſuffer an acute Inflammation, it may be diſtinguiſhed by theſe evident Signs: Reſpiration is tolerably free and eaſy; but the firſt Part of the Action of Deglutition is attended with exceſſive Pain, becauſe on this Occaſion the Muſcles above-mentioned act. Add to theſe the general Signs of an Inflammation, which will appear evidently in theſe Muſcles upon Examination.

When the Pharynx alone is affected, the ſpecific Signs of it will appear upon inſpecting the Fauces. In this Caſe, Reſpiration is tolerably eaſy; but Deglutition extremely painful, or utterly impoſſible; for upon any Attempt to ſwallow, the Subſtance intended to be convey'd to the Stomach, is return'd by the Noſe, or ſometimes forced into the Aſpera Arteria, there exciting a violent Cough. Hence ariſes an Impoſſibility of taking any Aliment, either ſolid or fluid, the Conſequence of which is, that the Body muſt become extenuated and dry; and that the Fluids muſt contract an Acrimony, for want of a freſh Supply of balſamic Chyle. The Fever, however, in this Caſe, is not ſo intenſe, as in thoſe preceding; nor does it ſo ſuddenly terminate in Death.

If the Tonſils, Uvula, and pendulous Veil of the Palate, together with the Muſcles called *Pterygoſtaphylini*, are much inflam'd, nearly the ſame Symptoms will ariſe as in the preceding Caſe. Reſpiration is, however, ſomewhat laborious, and is little, or not at all perform'd thro' the Noſe, and by the Fauces not without ſome Difficulty; whatever is attempted to be ſwallowed, is forced back again thro' the Mouth, by reaſon of the Obſtruction it meets with, and the exceſſive Pain it excites; there is a perpetual Diſcharge of Saliva by hawking, and a continual and copious Diſtillation of Phlegm into the Cavities of the Tonſils; an acute Pain is perceiv'd in the internal Ear, and the *Tuba Euſtachiana*, which paſſes from the Fauces to the Ear; a crackling Noiſe is perceived in the Ear, during Deglutition, and ſometimes utter Deafneſs enſues. This Caſe is in our Days frequent from the Venereal Diſeaſe, and is attended with much Danger.

If all or moſt of theſe Parts are inflam'd, the Diſeaſe is in Proportion more ſevere, as the Inflammation affects the greater Number of the Parts above ſpecify'd; and hence more Symptoms may be expected to ariſe, and thoſe of a worſe Kind.

For the Return of the Blood into or thro' the external Jugulars now compreſs'd, being intercepted, the Fauces, Lips, Tongue, and Face, ſwell; the Tongue hangs out of the Mouth, is intorted and inflamed; the Eyes are red, prominent, and ghaſtly; the Brain is, as it were, ſuffocated by an Abundance of Blood retained in it; hence the Sight, Hearing and Feeling, are rendered dull; hence alſo a Delirium, a perpetual Gaping of the Mouth, a Stertor, an Impoſſibility of lying down, becauſe of the Strangulation attending that Poſture; and a manifeſt Redneſs, Tumor, Pain, and Pulſation, in the Breaſt and Neck; whence the Jugular, and Frontal Veins, and thoſe under the Tongue, called *Raninæ*, becoming varicoſe, are diſtended.

Theſe inflammatory Quinſeys run thro' the ſame Stages as other Inflammations, are ſuſceptible of the ſame Alterations, and, like them, terminate in Reſolution, Suppuration, a Gangrene, or Scirrhus, unleſs they ſtrangle the Patient before any of theſe can happen. See INFLAMMATIO.

Therefore as ſoon as we are ſatisfied by the Signs above ſpecify'd, that the internal Muſcular Membrane of the Aſpera Arteria, or the Muſcles about the Glottis and Larynx, are affected, we muſt immediately inquire, whether the Diſtemper is ſtill in a State of Inflammation, which may be diſcovered by the Signs mentioned under the Article INFLAMMATIO; and, if we find it is, Reſolution muſt by all poſſible means be inſtantly attempted. See INFLAMMATIO.

Therefore let Blood be immediately taken away by a large Orifice, and in great Quantities, and let this be repeated, till ſuch time as a general Weakneſs, Paleneſs, Refrigeration, and Subſiding of the Veſſels, ſhew that the Force of what remains is not capable of augmenting the Tumor and Rigidity of the ſmall Veſſels about the Parts affected.

This is nearly the Direction of *Hippocrates*, who, in his third Book of Diſeaſes, adviſes, as the firſt Step in the Cure of a Quinſey, *to take away Blood*, which, he ſays, is of moſt Service, *if drawn from under the Breaſt*. He alſo orders *Blood to be taken from the Cubit*.

Next, ſtrong Purges muſt be adminiſtered, either by the Mouth, or by Clyſters, and theſe muſt be repeated.

The following Purge is adapted to this Intention:

> Take of Diagrydium, eight Grains; make an Emulſion with half an Ounce of Water; to which add an Ounce and an half of Syrup of Sena, for a Draught.

A proper Clyſter may be thus prepared:

> Take Sena-leaves, an Ounce; boil theſe in a ſufficient Quantity of Water to eight Ounces; and to the ſtrained Liquor, add of Nitre and Syrup of Sena, each an Ounce. *Boerh. de Mat. Medic.*

This is exactly conformable to the Advice of *Hippocrates*, who, in the Place above quoted, ſays, that *the Belly muſt be purged downwards with a purging Medicine, or a Clyſter*.

The Regimen muſt be extremely ſlender, both with reſpect to ſolid and fluid Aliments.

Hippocrates alſo orders the Patient to *abſtain entirely from Wine, and to ſup the ſtrained Juice of Ptiſan*, in the Treatiſe above-mentioned.

The other Medicines ſhould be principally nitrous and ſubacid; for Nitre is of all Remedies, perhaps, the moſt powerful for reſolving Inflammations.

Mean time, let the Patient receive ſome tepid, moiſt,
ſolving Vapour at his Mouth; let Fomentations be uſed ex
nally; and let Veſicatories be apply'd, in order to derive a
tion of the offending Humours from the Parts affected.

The following Form may ſerve for an Example of a
pour:

> Take Elder, Roſe, and Marigold Vinegar, each an Ou
> Elder-flower Water, ſix Ounces: Mix together; let
> Vapour of this be convey'd to the Fauces by means
> Funnel. *De Mat. Medic.*

Hippocrates alſo adviſes Fumigations of the Fauces,
Cilician Hyſſop, Sulphur, and Aſphaltus.

When the Muſcles which are employ'd in elevating th
Hyoides and Larynx, are only affected, the Caſe is not ſo
gerous; the ſame Sort of Remedies, however, are requ
tho' not ſo powerful. In this Caſe, anodyne, relaxing,
emollient Cataplaſms, apply'd externally, are particularly u
For this Purpoſe,

> Take of the Lens Paluſtris, (Ducks Meat) ſix Ounces
> the Flowers of Water-lillies, five Ounces; Flowe
> Poppies, eight Ounces; of Marſh-mallows, ſix Ou
> of Elder and Melilot, each four Ounces. Boil th
> Water, adding at the End of the Decoction, two S
> lows Neſts, and a ſufficient Quantity of Meal of Lin-
> make a Cataplaſm with three Ounces of Oil of W
> Lillies.

The ſtrained Liquor may be uſed for a Fomentation.
Mater. Medica.

If the Diſorder affects the Pharynx only, or the To
Uvula, and pendulous Veil of the Palate, with the *M*
Pterygoſtaphylini, or many of theſe Parts together, an
State of Inflammation ſtill ſubſiſts, all the Remedies above
cify'd are to be called in to our Aſſiſtance, that by their
Force they may relieve the Patient. But beſides theſe
Mouth and Fauces muſt be kept continually moiſt, by
attenuating nitrous Liquids, diluting aqueous Fluids, or
ing Decoctions of pinguious Ingredients; theſe muſt be
perpetually in the Mouth, without Motion, or they m
gargled gently, or injected with a Syringe. But the B
ariſing from theſe depends upon their continual Uſe; for
wiſe the Parts grow immediately dry.

> Take of the Decoction of the Ingredients, ſpecify'd i
> preceding Preſcription, twelve Ounces; Elder Vi
> Syrup of Marſh-mallows, each two Ounces; p
> Nitre, two Ounces; mix for a Gargariſm: Or,

> Take of fat Figs, twenty-two; Leaves of Marſh-ma
> two Ounces. Boil for a conſiderable time, and u
> ſtrained Liquor in the Manner above directed.

But if the Remedies above-mentioned are not at all m
of, or are applied too late, or without Effect, provi
Diſtemper is recent, threatens Strangulation, and reſides
Part above the Place where the Inciſion is to be made, th
ration of Bronchotomy muſt be performed, after pro
cating the Danger of the Diſtemper.

After this Operation, the Cauſes of the Difficulty in
ration, which rendered it neceſſary, muſt be removed
Methods above ſpecify'd; and if, during the Cure,
tient is not able to ſwallow ſufficiently for his Nouri
nutritive Clyſters muſt be frequently adminiſtered, after
ing the Inteſtines by one which is cathartic.

> Take of good Broth of Fleſh-meat, ten Ounces; Ni
> Grains; Spirit of Salt, ſix Drops; make a Clyſter
> injected every eight Hours, and retain'd as lo
> poſſible.

If the Inflammation has proceeded ſo far, that th
affected begins to ſuppurate, which may be known
Signs of an Abſceſs, (See ABSCESSUS, and INFLAMM
Reſolution being no longer poſſible, we muſt endeavou
the Patient from the offending Matter, by promoting
ceſs. See ABSCESSUS.

Uſe therefore emollient Gargariſms perpetually; ap
relaxing Cataplaſms; and, when the Matter of the A
perfectly formed, and the exact Situation of it is di
let it be opened. Mean time, if it ſhould be abſolute
ſary for the ſake of Reſpiration, the Operation of Bron
may be performed.

It muſt be remark'd, that the Species of Quinſey w
fects the internal Membrane of the Aſpera Arteria,
Larynx with its Muſcles, can very ſeldom arrive at S
tion, becauſe, if not reſolv'd, it muſt be fatal before
happen.

s all Inflammations may terminate in a Gangrene, that ch cauſes any Species of inflammatory Quinſey may do ſo wiſe. This Caſe may be diſtinguiſh'd by the general Signs Gangrene (ſee GANGRENE) apply'd to the Parts affected, whoſe Functions are impair'd; and alſo by Signs which are liar to this Diſeaſe.

hus if a Tumor, and Redneſs, which were before conſpicu- ſuddenly diſappear without evident Cauſe; if the Pain hes in like manner; if the Fauces on a ſudden become l, ſmooth, dry, and livid; we may be certain, that a Gan- e is begun; and if ſo, it admits of no Remedy.

n Inflammation of the Tonſils, Uvula, and Palate, may inate in a Scirrhus, which may be readily diſcover'd by the al Signs of a Scirrhus, (ſee SCIRRHUS) but is not ſo eaſily , eſpecially when it degenerates into a Cancer.

the Nerves which convey Senſation and Motion to the ns of Deglutition and Reſpiration, are by any means pre- d from exerciſing their Functions upon thoſe Parts, a ner- or paralytic Quinſey is form'd: This is ſaid ſometimes to n from a Luxation of the Tooth-like Proceſs of the ſecond bra of the Neck inwards.

the Muſcles of the Larynx or Pharynx are convulſed by Cauſe whatever, a ſudden and ſuffocating Quinſey may This frequently happens in Epileptic, Spaſmodic, Hy- ndriac, and Hyſteric Caſes, where it frequently goes off, eturns, without any great Danger. As it is only a Sym- of the original Diſorder, and depends upon that, it is to 'd by Remedies adapted to remove its Cauſe.

e Muſculus Oeſophagæus, or Sphincter Gulæ, when it preſſes the Pharynx to the back Part of the Larynx, and the Orifice of the Pharynx; now this alſo happens in in- ary Contractions of this Muſcle, ſo that Wind coming he Stomach, and not being able to paſs the Orifice of arynx, ſwells the Oeſophagus, and cauſes a Senſation of lling in the Throat.

m the preceding Hiſtory of Quinſeys, all the Prognoſtics above are readily accounted for, and confirm'd. I ſhall emark farther in this Place, that any artificial Compreſ- f the Jugular Veins will cauſe a Diſcharge of frothy from the Mouth, as well as that Compreſſure of theſe which happens from a Quinſey.

GIOSPERMOS, Ἀγγειόσπερμος, from ἀγγεῖον, a Veſ- d σπέρμα, a Seed, an Epithet for ſuch Plants as have ed or Fruit incloſed in two Membranes, not eaſily ſepa- om the Nucleus, by way of Diſtinction from the *Gymno-* , γυμνόσπερμοι, derived from γυμνὸς, naked, *&c.* which eir Seed for the moſt part ſurrounded with three Integu- *Caſtellus* from *Volcamer's Flor. Noremberg*, and the *rudit. Lipſ.*

GLICUS SUDOR. See SUDOR ANGLICUS.

GOLAM, H. M. P. 4. T. 17. p. 39. *Arbor Indica a, Fructu umbilicato rotundo, Ceraſi Magnitudine*,

very tall and beautiful Tree, running up to an hun- et in Height, and about twelve Feet in Thickneſs, and in the rocky, ſandy, and mountainous Parts of *Man-* nd other Provinces of *Malabar*; it is an Evergreen, Fruit like a Cherry, and lives a long time.

Tree is accounted by the *Malabarians* an Emblem of ajeſty, becauſe its Flowers ſtick along upon its ſtiff in the Form of an Imperial Diadem.

expreſſed Juice of the Root kills Worms, and purges nd phlegmatic Humours, and evacuates the Water of al Perſons. The Root pulverized is accounted good the Bites of Serpents, and other venomous Creatures. *ſt. Plant.*

OR, Ἀγωνία, ἀδημονία, is a Contraction and Con- n of the natural Heat, the Conſequence of which is a he Heart, Palpitation, and Sadneſs; and if it happens Beginning of acute Fevers, it is a very bad Prognoſtic. *Hippocr. Epid. L.* 1. See AGONIA.

OS, Ἄγγος, the ſame as ἀγγεῖον, ſignifying a Veſſel l, and a Receptacle of Humours. Uſed once by *Hip- Lib.* 6. *Epid.* as *Galen* expounds him, in a ſpecial the *Uterus.*

SANA, Offic. *Angſava*, Ephem. Germ. *Anno* 13. r. 11. *Anno* 13. *p.* 107. *Draco arbor Indica ſili- puli folio, Angſana vel Angſava Javanica*, Commel. nſt. 1. 213. Tab. 109. Raii Dendr. 113.

s in the *Eaſt-Indies*; the Part uſed in Medicine is the hich diſtils from the wounded Tree, and condenſes into r, wrapt in thin, reedy Coverings, as ſold in the Shops. um of this Tree, as the very learned and ingenious ſays, is ſold in the Shops for Sanguis Draconis. cannot but obſerve, that either our Botanical Authors great Loſs, and in much Confuſion and Perplexity, t Kind of Tree this ſhould be, or elſe there are ſeve- f Trees which produce this Gum.

eem'd an Aſtringent, and an excellent Remedy in l. *Dale. Raii Hiſt. Plant.*

ANGUILLA, the Eel, thus diſtinguiſh'd:

Anguilla, Offic. Schrod. 325. Mer. Pin. 188. Aldrov. de Piſc. 544. Geſn. de Aquat. 40. Charlt. de Piſc. 34. Salv. de Aquat. 75. Rondel. de Piſc. 2. 198. Schoneſ. Ichth. 14. Bellon. de Aquat. 295. Raii Ichth. 109. Ejuſd. Synop. Piſc. 37. Jonſ. de Piſc. 81. THE EEL.

There are two Sorts of them, the large and the ſmall, of both which you are to chuſe thoſe that are tender, fat, well fed, and that have been taken in a fine clear River.

They are very nouriſhing, and well taſted; they are ſometimes ſalted for the better keeping of them, and then they are more wholſome, than at any other time.

They produce a viſcous and thick Juice, are hard of Digeſtion, cauſe Wind, are injurious to thoſe who are afflicted with the Gout, or Stone, and have a bad Stomach: It is alſo pretended, that they hinder the Catamenia. *Hippocrates, L. de intern. Aff.* would have them uſed by thoſe that are lean and waſted, and ſubject to the Spleen. Laſtly, there are ſome who will not eat the Head of an Eel, becauſe they fancy it is prejudicial to their Health.

The Eel contains much Oil, volatile Salt, and viſcous and groſs Phlegm.

It agrees at all times with young People of a bilious and hot Conſtitution, who abound with thin and ſharp Humours, provided they have a good Stomach, and that they uſe it moderately.

REMARKS.

The Eel is a freſh-water Fiſh well known; ſometimes it is found in the Sea, not that 'tis produced there, but becauſe it goes often out of Rivers into the Sea, and ſo back again into Rivers; it delights in pure and running Waters; and they aſſure us ſhe grows lean, poor, and dies at laſt, when confined to muddy Water. She requires alſo a great deal of Water, for otherwiſe ſhe dies; as alſo it happens to many other Fiſhes. It is ſaid ſhe cannot bear any conſiderable Difference of living; for in Caſe ſhe ſhould in Summer-time be conveyed into a much colder Water than that wherein ſhe was before, ſhe is ſoon deſtroyed. In the mean time, they ſay, ſhe can live out of the Water five or ſix Days, provided the North Wind blows at that time; ſhe feeds upon Roots, Herbs, Fiſh, Inſects, and any thing ſhe can find in the Bottom of Rivers. *Athéneus* ſays, he had ſeen Eels in a certain Country, which were ſo far tamed, that if they offered them any thing to eat, they would come and take it out of the Perſons Hands. This Fiſh lives commonly ſeven or eight Years. *Ariſtotle* aſſures us, that in diſſecting Eels, he found no Difference of Sex in them; that they had neither Seed, Eggs, Matrix, nor Seminal Pipes; and that they did not ingender, inſomuch that 'tis pretended, they were generated out of the Corruption that is in Mud. *Pliny* frames another Symptom for the Explication of it: He ſays, that when the Eels rub themſelves againſt Rocks, the Off-ſcouring of their Bodies comes afterwards to take Life, and ſo gives Being to an Infinity of ſmall Eels; but neither of the Explications ſeem to be eaſily apprehended. I am confident, if thoſe two famous Authors were now alive, and acquainted with the new Anatomy, they would be more cautious of advancing Notions, that have ſo little Reſemblance of Truth in them. It is now diſcover'd, that they are viviparous.

The Eel is good Aliment, and much uſed; ſhe is tender, ſoft, and nouriſhing, becauſe ſhe contains many oily and balſamic Parts: She has alſo a great many that are dull, viſcous, and groſs, which makes the Eel hard of Digeſtion, and apt to produce the many ill Effects we have before-mentioned. In the mean time the Eel that has been ſalted to keep, doth not produce ſo many bad Effects; becauſe one Part of its viſcous and groſs Phlegm is ſpent, and the other attenuated and ſcattered by the Salt.

They eat Eels either roaſted or boiled: Thoſe that are roaſted, ſeem to me to be more wholſome than the other; and the Reaſon is, becauſe they are thereby the more diveſted of their viſcous Phlegm, than by the other way. They ſhould alſo be well ſeaſon'd, and you ſhould drink good Wine upon them, in order to help the digeſting of their Phlegm in the Stomach.

The Fat of an Eel is looked upon to be good to take away the Signs of the Small-pox in the Face, to cure the Piles, and to make the Hair grow: It is alſo put into the Ears to help Hearing.

They make a kind of Mucilage of Eel's Skin, by ſteeping and boiling it in Water, which is applied to Swellings, in order to the ſoftening and diſſolving of them: It is good for Hernia's. *Lemery on Foods.*

The Oil of the Eel is ſo offenſive to ſome Stomachs, that they cannot bear it without being ſick.

As the Eel is a Fiſh of Prey, the Salts for that Reaſon muſt be more plentiful and exalted.

ANGUIS.

Serpens, Offic. Schrod. 5. 305. *Serpens Anguis*, Schw. Rept. 137. *Anguis*, Geſn. de Serp. 43. *Anguis Coluber*, Mer. Pin. 204. *Natrix torquata*, Aldrov. Hiſt. Serp. 287. Jonſ. de Serp. 89. Raii Synop. A. 334. Charlt. Exer. 35. THE SNAKE.

The Fat and Slough, or laſt Skin, are uſed in Medicine. The Fat mollifies ſtrumous Swellings, cures Redneſs of the Eyes, clears them of Specks, and ſharpens the Sight; it mitigates the Pain of the Gout. *Dale.* See ANGUIUM SENECTA.

Snakes are not ſo venomous or terrible in *Italy*, and the colder Countries, as in warmer Climates. For a Remedy againſt their Bites, it will be ſufficient to make uſe of Betony, Cantabrica, [Lavender-leav'd Bindweed, according to *Dale*] or Centaury, or Agrimony, or Germander, or Burdock, or Water-parſnips. One or two of theſe Simples bruiſed, the Juice drank in Wine, and the Herb apply'd to the Place, are enough to work a Cure.

We ought to know, that the Bites of all Serpents are moſt venomous, when they are hungry, and do moſt Harm when the Patient is faſting. Therefore theſe Creatures are moſt pernicious in the Time of their Incubation; and the beſt way, when you are under any Apprehenſions of Danger from them, is not to ſtir out of your Houſe upon an empty Stomach. *Celſus, Lib.* 5. *Cap.* 27.

Our Snakes are perfectly innocent, as is generally believ'd, and their Bite is not attended with any Danger; tho' they have ſometimes been blam'd for the Miſchief which Vipers have done, by Miſtake.

ANGUIS ÆSCULAPII, *Johnſton*,

Is the only Species of Serpent now known, which can be made ſo tame, as to do no Harm. It is found in many Parts of *Italy*, *Germany*, *Poland*, *Spain*, *Aſia*, *Africa*, and *America*; it is of a gentle Nature, and People confide ſo much in its Gentleneſs, that they ſometimes leave it in their Beds, where it is found, without Fear of being bit; it is full of volatile Salt and Oil; they prepare it in the ſame manner as the Vipers.

It is good againſt the Plague, reſiſts Poiſon, and carries off Humours by Tranſpiration. *Lemery de Drogues.*

ANGUIUM SENECTA. The caſt Skin, or Slough, of a Serpent, boiled in Wine, and the Decoction inſtilled into the Ears, eaſes their Pains; and, uſed as a Collution, helps the Tooth-ach. It is alſo an Ingredient in Medicines for the Eyes, eſpecially the Slough of the Viper. *Dioſcorides, Lib.* 2. *Cap.* 19.

The Slough of a Snake, burnt and pulverized, then mixed with Oil, and reduced to the Conſiſtence of Honey, is an admirable Remedy for the greateſt Pain of the Teeth, if apply'd to them, and thruſt into their Cavities; or rub the unſound and aching Teeth with the Slough itſelf not burnt, and they will fall out. *Aetius, Tetr.* 2. *Serm.* 4. *Cap.* 33.

ANGULI OCULI, Κανθοὶ, the Corners of the Eyes. See CANTHUS.

ANGURIA, a Plant of the cucurbitaceous Kind. See CITRULLUS and CUCUMIS.

ANGUSTIA, in the common Senſe, imports an Anxiety or Reſtleſsneſs in Diſtempers; but ANGUSTIA, or ANGUSTATIO, alſo ſignifies a Narrowneſs of the Veſſels, or Paſſages.

ANHALDINUM, an Epithet of a Corroſive deſcribed by *Hartman, Praxis Chym. Tom.* 1. *Caſtellus.*

ANHALTINA REMEDIA, Medicines which facilitate Reſpiration, ſuch as vulnerary Plants, ſome Preparations of Sulphur, *&c.*

ANHALTINUS, an Epithet of a very rich and comforting medicinal Water and Spirit, deſcrib'd in ſome old foreign Diſpenſatories.

ANHELATIO, ANHELITUS, Ἆσθμα, a Shortneſs of Breath, or a difficult, and ſmall, but quick Reſpiration, which happens to ſound Perſons, but eſpecially to Valetudinarians, after vehement Exerciſe, getting up an Aſcent, running or dancing. Fat Perſons, with prominent Bellies, are much ſubject to this Diſorder, which alſo happens after Repletions, eſpecially with the cruder or flatulent Sorts of Aliment, whether the Patient be ſitting or lying; and worſe, if he be running, or getting up an Aſcent; and worſt of all, if it be in the Summer Seaſon. In Fevers, Dropſy, Tumors of the Viſcera, Pleuriſy, Cardialgy [Heartburn], and Aſthma, there is always an Anhelatio, or Shortneſs of Breath. See ASTHMA and ORTHOPNOEA.

ANHELITUS, with the Chymiſts, ſignifies Smoke, and ſometimes Horſe-dung. *Rulandus.*

ANHIMA.

Anhima, Johnſton, is an *Aquatic* Bird of Prey, of *Braſil*, bigger than a Swan; its Head is no larger than a Cock's, and its Beak is black, and crooked near the Point; it has fine Eyes of the Colour of Gold, ſurrounded with a black Circle; the Ball of the Eye is black; on the Top of its Head, near the Root of the Beak, ariſes a Horn, as thick as one of the largeſt Strings of a Fiddle, and about the Length of two Inches, crooked at its Extremity, round, as white as a Bone, ſurrounded with ſmall and very ſhort Feathers, black and white; its Neck is above ſeven Inches in Length, and its Body Foot and an half; the Wings are large, and of different lours; its Tail is ten Inches long, and as large as that Gooſe; each Foot hath four Toes, armed with Claws; it a ſtrong Voice, crying *vihu, vihu*; they never find it the Female is always accompanied with the Male; and one of the two dies, the other preſently follows. It is the male that I am here deſcribing, the Male is as big again. makes her Neſt with Dirt, in Form of an Oven, in the of Trees, upon the Ground.

The Horn of this Bird is eſteemed a good Remedy Poiſon, for Suffocation of the Matrix, and to provoke they infuſe it for a Night, and next Day order the be taken. *Lemery de Drogues.*

ANHUIBA. See SASSAFRAS.

ANIADA, the Term by which the Alchymiſts they call the Fruits and Powers of Paradiſe and Heaven; the Chriſtian Sacraments. In Phyſics it means the celeſtial Powers; which, by Influence, Imagination, tion, and Phantaſy, promote in us long Life. *Rulandus.*

ANIADAY, in the Jargon of the Alchymiſts, the Spring, and the new World and Paradiſe to come.

ANIADON, ANIADUM, ANIADUS, Terms in *celſus*, ſignifying either the Efficacy and eſſential things, or the celeſtial Body planted in Chriſtians by the Spirit by means of the Sacraments, or the ſpiritual Man nerated. *Caſtellus.*

Theſe ſeem the ſame as Aniada and Aniaday.

ANICETON, Ἀνίκητον, Invincible, an Epithet of a aſcribed to *Crito*, and ſo called, becauſe it was an medy for the Achores. It is thus deſcribed by *Galen*, *Pharm. Sec. Loc. L.* 1. *C.* 8.

Take of Litharge, three hundred and twelve Drams; [a ſort of Rhubarb] an hundred and four Drams put but fifty-two); of Ceruſs, an hundred Drams; Frankincenſe, twenty-ſix Drams; Alum, ſixteen Drams forty Grains; Turpentine, ſix Drams; white Pepper, three Drams ſeven Oil, one Pint: Pound the dry Ingredients, but Oil, Litharge, and Ceruſs, in a new earthen when they have received an Alteration, put in Roſin, and ſtir them about till it will no longer Hands; then take it off the Fire, and when it what cooled, add the dry Ingredients, and beat together in a Mortar. Spread it on Linen, and Plaiſter every third Day.

Another *Emplaſtrum Anicetum* deſcrib'd by *Aetius.*

It is very much in Uſe; for it draws, breaks, glutinates, extracts Pus thro' the Bolſter, and is uſed rium. It diſcuſſes Hardneſſes, and helps contracted applied without Embrocation, that they might not be rated. Being diſſolved, it ſerves inſtead of an Ointment ſitudes, removing ſuch as ariſe in the Beginning of a from an obſcure Cauſe. Apply'd on large Bolſters, the extreme Parts. It is an Agglutinant of bleeding after a Suture, or Impoſition of Hooks; a folded Linen, moiſten'd only with Vinegar, being laid upon preſs, which muſt be cold in the Summer, and Winter. It is good for Soreneſs or Putridneſs of the the Feet, or Maladies of the Fingers, and for Fractures; and you may ſafely rely on it for an Cicatrizer, without any other Medicine. It cures the Men, Dogs, and wild Beaſts: But one extraordinary which is, to prevent any ſecret Abſceſs from forming lon or Peritonæum, if there be yet no Suppuration; or, be one to attenuate it, and divert its Rupture upon the but a Bolſter muſt be laid upon the Place, and upon that Wool, moiſten'd with Vinegar or warm Oil; which ing muſt be renew'd twice in a Day, but the Plaiſter be removed till after three or four Days; and then, menting the Place, laid on again. It takes its Name manifold and wonderful Effects, and is thus prepared:

Take of Squama Æris, fifty-eight Drams; Pellitory Staveſacre, *Cnidian* Grains, Muſtard-ſeed, Pigeons Dung, long Birthwort, Verdegriſe, Rocket-ſeed, Cummin, each ſixteen Drams; Ammoniac, each thirty-two Drams; Manna of cenſe, Bay-berries, Orris, each one hundred Drams; of the ſtrongeſt Vinegar, ſixteen Pints; coction of dry'd Figs, half a Pint: Let five dry'd Figs be boiled in ſix Pints of Water to Let all theſe, together with the Vinegar, be ſifted, and then levigated in the Heat of the When the Medicine is grown dry, and looks upon it the Decoction of the dry'd Figs, and and then lay it up in a Box of red Copper.

When Occaſion requires, mix one Part of this Medicine, ted with Vinegar to a ſtrigmentitious Conſiſtence, with ſix s of Wax and Colophony melted in a moderate Quantity of If you would have it harder, take four Parts to one of x and Colophony ; if you like it ſofter, take eight to one he ſame. It is ſaid to be good for malignant Tetters, if with little Mixture. *Aetius*, *Tetr.* 4. *Serm.* 3. *Cap.* 16.

NIDROS, ἄνιδρος, ſweatleſs. From α Neg. and ἰδρόω, weat. Ἄνιδρος πυρετὸς καὶ ἄκειτος, in *Hippoc. de Rat. Vict. Morb. Acut.* ſignifies a Fever protracted to a great Length, out critical Sweats ; becauſe Nature has been diſturbed by ing Medicines.

NIDROSIS, ἀνίδρωσις, a Nullity or Privation of Sweat. ocr. L. 7. *Epidem.*

NIDROTI, ἀνιδρωτὶ, an Adverb expounded by *Galen* in al Places of his *Comment.* upon *Hippocr.* and by *Heſychius*, nify *without Sweat.*

NIL. *Anil*, Garz. Acoſt. *Nil*, *ſive Anil*, Cam. *Agnil*, oſo. *Coachira Indor. Annil ſive Indigo*, *Gali ſive Nil*, *herba arini facie*, Linſc. 4. Part. Ind. Orient. *Herba Anil*, *nger*, 4. Part. Ind. Orient.

is a Plant of *Braſil*, about the Height of two Feet, re- ing Roſemary ; the Leaves are round, thick, the Flowers bling thoſe of Peas, and reddiſh ; they are ſucceeded by nd crooked Pods, containing Seeds like thoſe of a Radiſh, Olive-colour. All the Plant hath a bitter and pungent : They extract from it Indigo. It is vulnerary, deterges leanſes old Ulcers, being applied in Powder on the Part : uſed alſo as a Frontal for the Head-ach. *Lemery de es.*

l alia Species, Marcgrav. *Caachira ſecunda*, Piſon. *An affinis*, C. B.

rows to the Height of two or more Feet ; the Stalk is full of Joints, of a viſcous, juicy, ſpongy, or Reed- bſtance. At the Joints of the Stalk and the Branches two Leaves, directly oppoſite, without Pedicles, of the of three or four Fingers Breadth, and narrow like the of yellow Willow-herb, green, and ſet with ſhort white n both Superficies, feeling a little rough. At the ſame where the Leaves are, on each Side, grow two Pedicles, e another, ſtanding upright, two or three Fingers Breadth nd bearing at Top a round white Flower, of the Big- a Daiſy, with ſmall white Leaves, ſet round about with white Stamina. The Root is half a Foot long, or a lit- e, ſomewhat bent, with few Sprays, of a viſcous and s Subſtance, and cover'd with a Bark of a dark Colour, may be ſtripp'd off. The whole Plant, with its Root, is Juice ; and if any one breaks the Stalk or Root, there ately iſſues a Juice of an azure Colour.

make *Anil* of it, only by bruiſing the Herb, and pour- ter on it. They then leave it to ſubſide ; and after off the Water, dry the Sediment in the Sun.

Plant is of a quite different Kind from the other Anil, h they make Indigo. *Raii Hiſt. Plant.*

Plant Anil, the Method of extracting its fœcu- ts, and the ſeveral Uſes to which they are applied, have often, and ſo fully, inſiſted on by Phyſicians and Travel- t we have no Occaſion to enter upon theſe Points at

the Medicinal Uſes of Anil in the *Indies* are unknown ecauſe of the Scarcity of this Plant ; and ſince the ſe- thors who have handed down their Accounts of it to r from one another, not only with regard to its Deſcri- ut its Medicinal Virtues, we ſhall only mention ſuch operties as are moſt univerſally agreed upon by Botaniſts ſicians. 'Tis then generally concluded, that a De- of its Root is good againſt a Nephritic Colic ; that its bruiſed and macerated in Water, are ſucceſsfully ap- he Belly in Suppreſſions of Urine ; and that, applied of Cataplaſm, they aſſwage and mitigate Pains of the *Mem. de l' Acad. A.* 1718.

MAL. Every organiz'd Body endowed with Life, and ous Motion, is call'd an Animal. Hence all Subſtances e procured from Animals, are ſaid to belong to the Kingdom, in order to diſtinguiſh them from others, long to the Vegetable and Mineral Kingdoms.

arth of Animals is not found to differ from that of Ve- n any reſpect ; but the Salts of Animals differ remark- thoſe of Vegetables, in being volatile ; that is, in the Force of Fire in Diſtillation ; whereas thoſe of etables, before they have undergone Putrefaction, are as not to be capable of being elevated by the moſt in- . See Analysis.

ils of Animals alſo are different from thoſe of Vegeta- any Particulars ; which are ſpecified in the following ons of *Haffman*, with reſpect to Animal Oils.

Bodies produced by the Earth there is a fat, oily, and le Subſtance contain'd ; but this Subſtance is not con- eſe Bodies alone, for 'tis found in great Plenty in all of every Species ; neither is it poſſible to find an Animal, that has not ſome Portion of Fat lodged in its internal Parts. In all their ſolid Parts alſo, in their Fleſh, in their Bones, and even in their Fluids, duly dry'd, this inflammable Principle diſcovers itſelf ; ſince they are very eaſily made to flame, and alſo yield a great Quantity of Oil in Diſtillation : But there is this Difference between Vegetable and Animal Oils, that the finer of the latter Sort are not, like the former, procured by a moiſt, but by a dry Diſtillation, that is, by Combuſtion ; and for this Reaſon, all Animal Oils have an empyreumatic Smell, and ſtrike the Nerves of the Noſtrils in an ungrateful and diſagreeable Manner.

Then again, all Fats and Oils, drawn from Animals, differ much in another reſpect from thoſe of Vegetables ; ſince the latter have a ſubtile Acid intimately mix'd with them ; whereas the former contain, inſtead of that, a certain alcaline Principle. An Acid manifeſts and diſcovers itſelf in Oils expreſs'd from Seeds and Fruits ; ſince theſe Oils, by remaining any conſiderable time in Copper Veſſels, extract a greeniſh Colour from them, which can only be done by an Acid ; whereas the Fats of Animals, if kept for any time in Copper or Silver Veſſels, aſſume a beautiful blue Colour, which Effect can only be produced by an alcaline Principle.

Beſides, that the æthereal Oils of Vegetables contain a certain acid Salt, is plain from the following Experiment : Let Salt of Tartar be levigated very finely on a *Marble* ; let ſome diſtill'd Oil, that of Juniper, for Inſtance, Turpentine, or even Lavender, be dropp'd into it ; continue the Trituration for ſome Hours, till ſuch time as the ſmalleſt oleous Particles are mixed with the lixivial Salt, and the Maſs aſſumes the Form of a Pultis, without the Oil being any more diſcovered. This Maſs is to be expoſed to the free Air, upon the Marble, for a conſiderable time, till the Salt, becoming dry, is again render'd capable of being levigated ; after which, let it be a ſecond time impregnated with Oil. Let this Method be follow'd, till, at leaſt, two Pounds of the Oil are abſorb'd by one Pound of the Salt of Tartar. This Maſs, when become dry, is to be diſſolved in common Water ; and, after Filtration, let the Water be drawn off ; and then there remains a Salt of a neutral Nature, ſuch as the *Arcanum Tartari*, or vitriolated Tartar.

Now there is no Doubt to be made, but this Acid, by means of which the Alcali was converted into a Subſtance of a neutral Nature, was originally contained in the Oil pour'd into it, ſince the Air alone could not poſſibly produce ſuch an Effect ; however, I don't deny but the univerſal Acid, contained in the Air, concurs, and has its proper Influence in this Affair.

That an Acid enters the Compoſition even of the fineſt Oils, is plain from an Experiment, in which is ſhewn, that the moſt highly rectified Spirit of Wine may, by the Addition of the moſt acid Oil of Vitriol, be converted into the moſt ſubtile and penetrating Oil.

But in the diſtilled Oils of Animals the Caſe is quite different ; for they are richly impregnated with a volatile Salt, which may be drawn from them in great Plenty ; and, which is more, the diſtill'd Oils of Animals, that of Hartſhorn, for Inſtance, or Ivory, if long digeſted with a lixivial Salt, are themſelves converted into volatile Salts.

The volatile alcaline Salt, therefore, contained in the Oils of Animals, is the Reaſon why they are far more ſubtile and penetrating than the diſtill'd Oils of Vegetables, and have a more immediate Tendency to put the Maſs of Blood into a Commotion ; for 'tis well known, that the moſt highly rectified Spirit of Wine quickly imbibes and reſolves Oils extracted from Animal Subſtances, that of Ivory, for Inſtance, Worms, or Hartſhorn ; but yet in ſuch a Manner, that a few Drops of theſe Oils not only tinge a great Quantity of this Spirit, but alſo communicate an adventitious Taſte and Quality to it ; for three or four Drops of theſe Oils are ſufficient for tinging at leaſt three Ounces of the Spirit of Wine with a browniſh Colour.

Hence we plainly diſcover the ſubtile Nature, and the Smallneſs of the Parts, of theſe Oils, which entirely preſerve their original Texture and Qualities ; for two ſmall Drops of the Oil of Hartſhorn, intimately mix'd with half an Ounce of highly rectified Spirit of Wine, are ſufficient to produce a copious and plentiful Sweat, if divided into four Doſes, and exhibited to four different Men. Hence we learn, how cautious Phyſicians ought to be in preſcribing theſe Oils, eſpecially for young People, and in Diſtempers accompanied with intenſe and preternatural Heat : Hence we alſo diſcover the Reaſon, why Oils are ſo powerful and efficacious in diſcuſſing and reſolving Tumors, which will not yield to any other Medicines.

But what moſt of all deſerves our Attention is, that all Oils, extracted from Animal Subſtances, may, by a frequent and reiterated Rectification, acquire ſuch a Degree of Subtilty as to be able, if exhibited in a pretty large Doſe, to eradicate the moſt terrible and inveterate Diſorders.

The Preparation is made thus :

Take any Oil diſtilled from Animal Subſtance, that of human Blood, for Inſtance, that of Worms, Ivory, or Hartſhorn ;

horn; and, without the Addition of any thing, let it be drawn off from a Glaſs Retort, and rectified to ſuch a Degree, that no black and burnt Fœces may remain in the Bottom, which can ſcarce be obtain'd by twelve repeated Diſtillations.

This Oil, which was formerly thick, and of a diſagreeable and fœtid Smell, gradually aſſumes a more grateful one, and becomes more pungent to the Taſte.

Twenty or more Drops of ſuch an Oil, taken on an empty Stomach, before the Acceſs of an Intermitting Fever, bring on a calm and gentle Sleep, and wonderfully carry off feveriſh Diſorders. This is alſo an efficacious Medicine for the Cure of Epilepſies of long Standing, and allaying convulſive Motions, eſpecially when taken before the ordinary Time of the Acceſs, and when ſuch Medicines are previouſly uſed, are as proper for evacuating the too great Quantity of Humours.

It produces its Effects by its gentle, ſafe, anodyne, and ſomniferous Qualities; for it induces a calm and pleaſant Sleep, which often laſts for twenty Hours, and which is ſo far from being followed by Drowſineſs, Torpor, and Weakneſs, that it rather exhilarates and enlivens the Body. Beſides, it promotes a gentle Sweat, without increaſing the Heat of the Blood. The Effects produced by this Medicine are owing to the prodigious Smallneſs of its ſulphureous Parts, occaſioned by its frequent and reiterated Rectifications; and ſince its ſulphureous Particles, in conſequence of their Subtilty, penetrate all the ſmalleſt Meanders of the Parts, and diffuſe themſelves thro' the whole Maſs of Humours, the Tenſity and Elaſticity of the *Dura Mater*, and of the whole nervous and membranous Syſtem, the depraved and preternatural ſpaſmodic Motion of which is the very Eſſence and Cauſe of Intermitting Fevers, and Epileptic Motions, are by this Medicine ſo much changed and diminiſhed, as afterwards to become unſuſceptible of ſuch ſpaſmodic Motions.

By this chymical and practical Obſervation, we are taught, that uncommon Medicinal Virtues are treaſured up in the minuteſt Particles of ſulphureous and oily Subſtances; which Circumſtance is owing to their reaching the inmoſt Receſſes of the ſolid Parts, eſpecially thoſe of the Nerves and Membranes; upon the due Tone and Motion of which, almoſt all the Functions and Motions of our Bodies depend.

This Experiment, and practical Obſervation alſo, proves, that the hotteſt Medicine, and ſuch as, when adminiſter'd in a very ſmall Doſe, is ſufficient to throw the whole Maſs of Blood into a vaſtly quick Motion, may be render'd ſo mild and ſafe, that, when exhibited in a larger Doſe, it ſhall be ſo very far from increaſing the Motion of the Blood, that it will rather quell it, and induce a moderate Calm; and we plainly find, that this Circumſtance is owing only to the Change produced in the Texture of the Medicine; that is, by rendering the tenacious viſcid Oil as ſubtile as poſſible.

In fine, this Experiment explains and accounts for the anodyne and ſomniferous Qualities of Camphire, which is no more than a moſt ſubtile coagulated Oil, when uſed prudently, and as Exigencies require. *Hoffman. Obſervat. Phyſico-Chym. L.* 1. *C.* 15.

The rectified Oil, above deſcrib'd, is certainly poſſeſs'd of many and conſiderable Virtues. Its Character is, that it is a moſt excellent Remedy againſt the Plague, or any peſtilential Diſorder: It cures the Pleuriſy, it ſtrongly fortifies Nature, it chears the Heart, and revives the Spirits; it cauſes a free Circulation of the Blood, and thoroughly purifies the whole Maſs, and clears the Skin from Eryſipelas, Scurfs, and Scabs. It cures the Itch, ſcald Heads, Tetters, Ring-worms, &c. It is moſt powerful in the Cure of the Leproſy and Elephantiaſis; it opens the Obſtructions of the Liver and Spleen; it cures all the Diſorders of the Head and Brain, as Lethargies, Apoplexies, Megrims, Vertigoes, Convulſions, Palſies, &c. It ſtrengthens the Stomach, and helps Digeſtion; it ſurpriſingly prevails in Faintings, Swoonings, and Palpitation of the Heart. A ſafer, ſpeedier, better, or more effectual Medicine, is not to be found in the whole Art of Phyſic: Its Doſe is from twenty to thirty Drops upon a Lump of Sugar, drinking after it a Glaſs of Wine.

ANIMAL BEZOARTICUM Orientale. The Bezoar Goat. See Bezoar.

ANIMAL BEZOARTICUM Occidentale. The leſſer *American* Deer. See Bezoar.

ANIMAL MOSCHIFERUM. The Muſk Animal. See Moschus.

ANIMAL ZIBETHICUM. The Civet Cat. See Zibethum.

ANIMALCULA. Thoſe who have made the moſt minute Reſearches, and the moſt accurate Inquiries, into the Natures of the ſeveral Objects ſubjected to their Senſes, have found, that the Subſtances upon which they employ'd their Curioſity, were often quite different from what, at firſt View, they appear'd to be. Thus, for Inſtance, the whole Earth has been found repleniſh'd with an inexhauſtible Store of what we ſhould leaſt of all ſuſpect, that is, an infinite Number of Animalcules floating in the Air we breathe, ſporting in the Fluids we drink, adhering to the ſeveral Objects we ſee and handle. The C jectures and Hypotheſes relating to the Production, Generati Structures, and Uſes of theſe Animalcules, have been as vari and perhaps as far remote from Truth, as any that ever either contrived by the Caprice, or embraced by the Credul of Mankind: But Conjecture, Obſcurity, and Darkneſs, now, in a great meaſure, baniſhed from this Branch of Le ing; ſince, by the Aſſiſtance of Microſcopes, we not only kn that theſe Animacules exiſt, but are alſo enabled to diſc their particular Shapes, and various Degrees of Motion.

Water, the ſimpleſt and leaſt compounded of any Fluid are yet acquainted with, not only contains a large Numb theſe Animalcules, but alſo proves a proper Medium for Multiplication.

This is confirmed by a Story told of a Gentleman, in *Hiſtory of the Royal Academy of Sciences for* 1707. who gined, that, in ſome of the Experiments he had made, the malcules, diſcovered by a Microſcope in Water, did not m ply in it, but that they proceeded from certain ſmall and i ble Flies, which laid their Eggs in the Air; and that ſince Animalcules were a Species of ſmall Worms, they might rally be ſuppoſed, as well as ſome other Worms, to pro from ſome wing'd Species of Inſect. But he was convinc his Miſtake by the following Experiment: He boiled Wate Dung, mixed together, and filled two equal Phials wi When the Liquor, contain'd in theſe Phials, was become he put into one of them two ſmall Drops of Water, taken a Veſſel, the Water of which was ſtored with Animalc and eight Days after he found that ſame Phial ſtock'd wi infinite Number of Animalcules, of the ſame Species with contain'd in the Liquor, from which the two Drops of W had been taken. As for the other Phial, nothing of the Nature was diſcovered in it, tho' the Dung, as one would thought, might have, in all Appearance, produced ſome malcules. Both Phials had been very carefully ſtopp'd. Th periment, then, eſtabliſhes the Multiplication of theſe A cules in the Water; but it will be more effectually conf if what this Philoſopher aſſerts be true, that he ſaw them late. True it is, he ſaw them unite by Pairs, one may ſay, but it was perhaps to beat one another; but why they never beat one another, except in Pairs?

If then Water, the moſt ſimple of all other Fluids, abounds in Animalcules, and proves, if I may ſo ſpeak, per Medium for their Production and Multiplication, how more muſt we ſuppoſe this to be the Caſe with other Flui richer Texture, and a more compound Nature? Wh Inſtance, muſt we think of the vaſt Store, and ſurpriſi riety, of Animalcules contained in that heterogeneous Fl Air? What Numbers of them muſt be contained in fer Liquors, generous Wines, and Acids of every Kind? muſt they abound in the Teſticles, the Seed, and other of Animals? What muſt their Number be in Fowls and and even in Reptiles, and in Inſects of the moſt ſmall and ſiderable Size? However romantic this may appear to on cuſtomed to pry into the hidden Wonders of the Works ture, 'tis nevertheleſs far from being one of thoſe curious theſes, which tantalize the Mind with deluſive Appear Truth for a while, and leave it at laſt to ſit down in a State, and bewail its want of Evidence; for Mr. *Leu* that great Enricher of Natural Hiſtory, and accurate O of the minuteſt Works of God, has ſubjected theſe M the Evidence of Senſe; and even given an irrefragable D ſtration that the Number of Animalcules contain'd in the one Cod-fiſh, is more than ten times that of all the Me upon the whole Surface of our Globe.

In ſhort, Animalcules abound ſo much in every Part ture, that the very Food we uſe is mix'd and inco with the Eggs laid by them. Thus Mr. *Homberg* Hiſtory of the Royal Academy of Sciences for 1707) a us with the Caſe of a young Man of his Acquaintanc enjoy'd a very good State of Health, and diſcharged ev by Stool, for the Space of four or five Years, a grea ber of Worms five or ſix Lines long, tho' he eat neith nor Sallad, and us'd all the Medicines that could p thought of, in order to perfect his Cure. He once alſo diſcharged an Ell and a half of a flat knotted Wor by the *French*, *Solitaire*. From this he thinks we have to conclude, that there are vaſt Stores of the Eggs of mix'd with, and treaſur'd up in, all thoſe Aliments, w leaſt ſuſpect them; and that nothing is wanting but a S or an Oven, as it were, to hatch them.

Our own Philoſophical Tranſactions give very ſurp counts of ſmall Animals found in various Subſtances, different Sorts. Thus an anonymous Author takes n very extraordinary Inſect found amongſt Sand.

As we examin'd, ſays he, with an excellent Microſc little Grains of Sand ſearced, we perceived an Ani many Feet, its Back white and ſcaly, but leſs tha thoſe hitherto obſerved. For altho' the Microſcope y Grain of Sand as big as an ordinary Nut, yet this Ani- appeared no bigger than one of thoſe Grains of Sand ſeen out a Microſcope.

r. *J. Harris* alſo gives the following Account of Ani- ula *July* 7. 1694: I examin'd a ſmall Drop of Rain r, that had ſtood in a Gally-pot in my Window for two Months. I took it (with the Head of a ſmall Pin) the diſcolour'd Surface of the Water, and in it I obſerv'd Sorts of Animals. In the clear Part of the Drop were Kinds, and both very ſmall. Some were of the Figure of Eggs; theſe were in continual Motion, and that very : And I find, that this Kind of oval Figure is the moſt non to the Animalcula found in Liquors. The other Sort, were in the Clear of the Drop, were much more oblong, three times as long as broad: theſe were exceeding nu- us, but their Motion was ſlow, in compariſon of the r.

the third Part of the Drop (for the Water, from whence it, had contracted a thickiſh Scum) I found alſo two Sorts imals, as a kind of Eels, like thoſe in Vinegar, but much r, and with thin Extremes more ſharp. Theſe would le out into the clear Part, and then ſuddenly betake them- back again, and hide in the thick and muddy Part of the , much like common Eels in the Water. I ſaw here alſo imal like a large Maggot, which would contract itſelf up ſpherical Figure, and then ſtretch itſelf out again: the of its Tail appeared with a Forceps, like that of an Ear- and I could plainly ſee it open and ſhut its Mouth, from e Air-bubbles would frequently be diſcharged. Of theſe d number about four or five, and they ſeemed to be buſy heir Mouths, as if feeding.

ſe four Kinds of living Creatures I found afterwards many other Drops of the ſame corrupted Water; that its Film, or Scum which was on the Surface. For under in the lower Parts of the Water, I could never find any ls at all, unleſs when the Water was diſturbed, and the ſhaken down into, and mingled with, the lower Parts.

il 27. 1696. With a much better Microſcope, I exa- ſome Rain-water that ſtood uncover'd a pretty while, d not contracted any ſuch thick and diſcolour'd Scum, before-mentioned had. In this, where it was clear, d not find any Animals at all: But a little, thin, white that, like Greaſe, began to appear on the Surface, I o be a Congeries of exceeding ſmall Animalcula of dif- Shapes and Sizes, much like thoſe produced by ſteeping in Water.

he ſame time I look'd on a ſmall Drop of the green Sur- ſome Puddle-water which ſtood in my Yard: This I o be altogether compoſed of Animals of ſeveral Shapes gnitudes; but the moſt remarkable were thoſe which I ave the Water that green Colour, and were oval Crea- whoſe middle Part were of a Graſs-green, but each End d tranſparent. They would contract and dilate them- tumble over-and-over many times together, and then way like Fiſhes: their Head was at their broadeſt End; y ſtill moved that Way. They were very numerous, ſo large, that I could diſtinguiſh them very plainly, Glaſs that did not magnify very much. Among theſe terſperſed many other ſmaller and tranſparent Animals, ſe mention'd but now, as found in the whitiſh Scum s on ſome Rain-water which had ſtood a while un-

29. 1769. I found another Sort of Creatures in the (ſome of which I had kept in a Window, in an open they were as large as three of the other, with a green about their Middles, but theſe were perfectly clear and s.

alſo examining more accurately the Belts, or Girdles, n, that were about the Animals mentioned above, I em to be compoſed of Globules, ſo like the Rowes or f Fiſh, that I could not but fancy they ſerved for the e in theſe little Creatures. For I found now, ſince . many of them without any thing at all of that green Girdle; others with it very much, and that unequally, d, and the Water filled with a vaſt Number of ſmall which before I ſaw not there, and which I now look'd young animated Fry, which the old ones had ſhed. ed looking on them, at times, for two Days; during ime, the Number of the old ones, with the green decreaſed more and more, and at laſt I could not ſee em ſo encompaſs'd, but they were all clear and colour- End to End.

8. 1696. I look'd on ſome of the Surface of Puddle- hich was bluiſh, or, rather, of a changeable Colour, Blue and Red; in a very ſmall Drop of which I found Numbers of Animals, and of various Bigneſſes; but oſe were none with thoſe Girdles before-mentioned, Green or any other Colour.

alſo examined the Surface of ſome other Puddle-water, 'd a little greeniſh; and this I found ſtock'd with ſuch infinite Numbers of Animals, that I never ſaw the like any-where, but in the Genitura Maſculina of ſome Creatures. Among theſe there were very many of a greeniſh Colour; but they all moved ſo ſtrangely ſwift, and were ſo near to each other, that tho' I tired my Eyes, I could not diſtinguiſh whether the green Colour were all over their Bodies, or whether it were only round their Middle in Girdles, as before. But from the Roundneſs of their Figure, and their Smallneſs, I judge that they chiefly conſiſted of the young animated Spawn of that Kind of Animals I mention'd above. I found, that the Point of a Pin dipp'd in Spittle would preſently kill them all, as I ſuppoſe it will other Animalcula of this Sort.

The ſame Day alſo I looked on the Surface of ſome Mineral (Chalybeate) Water, which had ſtood in a Phial ſtopp'd for about thee Weeks: in it I ſaw two Kinds of Animals, one exceeding ſmall, and the other very large; which latter Sort had on the Tail ſomething that looked like Fins. There were but very few of either Sort.

The compounded Salt, or Vitriol of the Water, was ſhot into pretty Figures, but all irregular. They looked all like a ſmall Heap of little Sticks, laid acroſs each other at all Angles and Poſitions; only they were tranſparent, and a little greeniſh, as Cryſtals of a chalybeate Nature uſe to be.

I infuſed whole Pepper-corns, Bay-berries, Oats, Barley, and Wheat, in Water, whoſe Scum, after two or three Days, afforded Animals, as hath been often already found by others, at leaſt, as to ſome of them: But I found the greateſt Numbers and Variety in Wheat and Barley Water, and the feweſt in that wherein Bay-berries had been ſteeped.

How ſuch vaſt Numbers of Animals can be thus (as it were, at Pleaſure) produced, without having recourſe to equivocal Generation, ſeems a very great Difficulty to account for. But though the ſolving of it that way makes ſhort Work of the Matter, (for 'tis eaſy enough to ſay, they are bred there by Putrefaction) yet the aſſerting equivocal Generation ſeems to me to imply more Abſurdities and Difficulties, than perhaps may appear at firſt Sight: I wiſh therefore, that this Matter would a while employ the Thoughts of ſome ingenious and inquiſitive Man. In the mean time, I have conjectured, that theſe Animalcula may be produced by one or both of the following ways:

1. I have thought, that the Eggs of ſome exceeding ſmall Inſects, which are very numerous, may have been laid or lodged in the Plicæ, or Rugæ, of the Coats of the Grain, by ſome Kinds that inhabit on thoſe Seeds, as their proper Places. For that Inſects of the larger Kinds do frequently thus depoſit their Eggs on the Flowers and Leaves of Plants, is often experimented; and 'tis very probable, that the ſmaller or microſcopical Inſects do the ſame. Now theſe being waſhed out of the Seeds, by their Immerſion in Water, may riſe to the Surface, and there be hatched into thoſe Animals which we ſee ſo plentifully to abound there.

2. Or the Surface of the Water may receive the ſtraggling Eggs of ſome microſcopical Inſects, that perhaps were about in the Air, and being fitted and prepared for this Purpoſe, by the Infuſion of proper Grain, or a proportionable Degree of Heat, may compoſe ſo proper a Nidus for them, that they may by the Warmth of the Sun be eaſily hatched into living Creatures, which, it is probable, (like the ſtrange Water-inſect, from whence a Gnat is produced, mentioned by the learned Dr. *Hook*, in his *Micrographia*, whoſe Metamorphoſis I have often with Pleaſure ſeen) may afterwards turn into Flies, or winged Inſects of the ſame Species of the Animal Parent. And, perhaps, ſometimes, both theſe Circumſtances, and other of the like Nature, concur for their Production.

Mr. Gray's *Account of Animalcula.*

I have obſerved in Hæmiſphærules of Water, duly apply'd to the End of a Wire, two Sorts of microſcopical Inſects, globular and elliptical. Thoſe of a globular Form are but little leſs tranſparent than the Water they ſwim in; they have ſometimes two dark Spots diametrically oppoſite, but theſe are rarely ſeen; there are ſometimes two of theſe globular Inſects ſticking together; where they are joined, 'tis opacous: poſſibly they may be in the Act of Generation. They have a twofold Motion, a ſwift progreſſive irregular one, and at the ſame time a Rotation on their Axes at Right Angles to the Diameter that has the dark Spots: But this is ſeen only when they move ſlowly. They are almoſt of an incredible Minuteneſs.

I have examined many tranſparent Fluids, as Water, Wine, Brandy, Vinegar, Beer, Spittle, Urine, *&c.* and do not remember to have found any of them without more or leſs of the Bodies of theſe Inſects; but I have not ſeen any in Motion, except in common Water, that has ſtood for ſometimes a longer, at others a ſhorter time, as has been obſerved by M. *Leewenhoeck*; though I do not remember he has obſerved, that they are exiſtent in the Water, before they revive. In the River, after the Water has been thickened by Rain, there are ſuch infinite Numbers of them, that the Water ſeems in great part to owe its Opacity and Whiteneſs to theſe Globules. Rain-water, ſo ſoon as it falls, has many; and Snow-water has more, of theſe Globules. The Dew, that ſtands on glaſs Windows, has them; and foraſmuch as Rains and Dews are continually aſcending or deſcending, I believe we may ſay, the Air is full of them. They ſeem to be of the ſame ſpecific Gravity with the Water they ſwim in, the Dead remaining in all Parts of the Water. Of many Thouſands that I have ſeen, I could diſcern no ſenſible Difference in their Diameters, they appearing of equal Bigneſs. In Water that has been boiled, they retain their Shapes, and will ſometimes revive.

There is another Sort of Inſects I have this way ſeen, but theſe are not ſo frequently (at leaſt this Winter-ſeaſon) to be found; they are much longer than the former; they can transform themſelves into many Shapes; they are for the moſt part elliptical; but ſometimes they contract themſelves ſo as to be almoſt globular; and ſometimes they contract themſelves ſo, as to be twice or three times longer than broad; theſe ſometimes turn themſelves round on their Axes and Diameters as they go; they conſiſt of tranſparent and opacous Parts. *Philoſ. Tranſ. Abr. Vol.* 3.

Sir Edmund King*'s Obſervations of Animalcula.*

Having ſteep'd Oats in Rain-water ſome Days, (perhaps nine or ten) and looking upon it with my bare Eye, I ſaw a Subſtance, that ſeemed to me like that uſually called a *Mother* (on other Liquors); and laying as much of it as a ſmall Pin's Head upon the Object Plate of my beſt Microſcope, I could very eaſily diſcern ſeven or eight Sorts of *Animalcula* of different Sizes and Shapes (or more) ſwimming in this Subſtance. Their Shapes and Sizes were after this manner, as near as I could gueſs: They were all very nimble in their Motions, by Computation, ſeven thouſand times magnified.

The thin Scum upon a Pepper-water, that reſembled Flakes of Salt upon ſome Sorts of human Urine, applied in the ſame manner to the Object Plate of the Microſcope, was only Cluſters of *Animalcula*, that had liquid Matter enough to ſwim in; and I was in Admiration at their Numbers, Motions, Variety, and Minuteneſs.

In a Decoction of Herbs, that was ſtrained, and ſet by for a particular Uſe; in a little of the Settling of that, (as much as a Pin's Head) I ſaw Creatures like little Eels, which ſeemed to be ſharp at both Ends, with a wriggling Motion.

I obſerve theſe ſmall Creatures above-mentioned (if I may ſo call them) reſemble the Nature of Fiſh, in ſeveral reſpects:

1. They'll flock together, and lie cloſe together, as if they were in Shoals like Carps in a Pond, that has been ſhallow, as I have often ſeen, ſometimes in one Place, ſometimes in another; but when diſturbed, they are, as to your Sight, all diſperſed and loſt in a trice; and ſo are theſe little Creatures in their original Liquor, if you ſhake the Liquor before you look to find them in Shoals, or after; at leaſt, I am ſure I did, and could never find any in that Parcel of Liquor, till next Day, or till they aſſociated again.

2. They will follow their Liquor, to act in, to the laſt Particle of it, till they have no more to ſwim in, and then will ſeem to ſtruggle for want of it, till their Strength fails them, and then after a Minute they will ſeem dead upon the Object Plate, when the watry Parts are dried away.

3. They will lie as if they were dead, near half an Hour, or more; then put a little Water to them, in half a Minute they will begin to move themſelves again, and by Degrees begin to ſwim faintly and feebly at firſt (as Fiſh will do); then recovering their Strength again, will perform their briſk Motion as vigorouſly as ever.

4. Thoſe that are almoſt dead, will look flat, as if preſſed thin; but when they move, turn themſelves over and over, without any regular Motion; ſo that you might ſee them as thin as the thinneſt Spangle you ever ſaw, and like it in Shape; and they will continue ſo, ſo long as they are faint and ſick: But within about an Hour's time, they will grow plump and well again, if you add freſh Liquor to them in time.

Theſe *Animalcula* chuſe, for the moſt part, the Top of the Liquor; I ſuppoſe, for the ſake of the Air.

If you perceive them lie dead upon the Object Plate, as I did, and do not remember to add Water to revive them, within an Hour, they will be dead indeed: But you may ſee them in the Poſture you left them, many Days after.

Now to give farther Teſtimony, that they are Animalcula, which ſome doubt, I have noted the following Obſervations:

If you take a fine Needle, and put the Point into Spirit of Vitriol, though you can ſee none of the Spirit with your bare Eye upon its Point when you take it out, yet if you prick the ſame Point of that Needle into the Middle of that Drop, no bigger than a ſmall Pin's Head, when ſome Hundreds of theſe *Animalcula* are ſwimming, very nimbly friſking about, you ſhall immediately ſee theſe minute Creatures (if I may ſo call them) preſently affected from the acid Particles, ſo as to ſpread themſelves, and tumble down ſeemingly dead.

If you diſſolve Salt, and, with the Point of the ſame Needle, repeat the Experiment (in the ſame manner) in ſome of the
ſame Liquor that contains ſome of the ſame Parcel of *Anim*
cula, you ſhall ſee the Creatures afore-mentioned be affe
too, ſtop in their Motion, but in another manner quite;
ſpread flat, as thoſe with Spirit of Vitriol did, but ſhrink
and round, in Form and Figure of that we call whole Oatme
or an excoriated Oat. And whereas the firſt with the Spirit
down flat without turning; theſe, as ſoon as affected,
round, when they begin to be ſick, and wabble, as we
before they fall down to the Bottom and die, unleſs you qui
ly recover them with freſh Water, and then you will perc
them get a new Life by Degrees.

Tincture of Salt of Tartar, put into them in the ſame mann
kills them more immediately; but yet they will be firſt ſo
or ſo affected, call it what you pleaſe, as you may ſee
ſurpriſing convulſive Motion, they will grow faint and lan
apace, as you may ſee them fall to the Bottom of the D
upon your Object Plate dead, but in their own Shape, as
were before you applied your Needle; and will neither be
as with Spirit of Vitriol, nor cylindrical, as with com
ſalt Liquor.

Ink kills them as ſoon as Spirit of Vitriol, but makes
ſeem to ſhrink divers ways; I ſuppoſe by the Solution of C
peras, which is in its Compoſition.

Blood (newly preſſed from a Prick purpoſely made in
Finger) kills them almoſt as ſoon as Spirit of Vitriol, by r
(I ſuppoſe) of the Salt therein: But it is a fine and ſurpr
Sight, to obſerve them ſwimming and buſtling, firſt amon
Globules of the Blood juſtling one another, like Fiſh th
ſuddenly deprived of Water, and buſtle together amongſt
for ſo they appeared to me.

Urine kills them too, in a little time, tho' not ſo ſoon.

Sugar, diſſolved like Salt, kills them alſo, if uſed in the
manner, and with that ſome die flat, and ſome die round.

Sack will kill them, but not ſo ſpeedily as the other Li
Phil. Tranſ. Abr. Vol. 3.

Animalcula in the Itch, by Dr. Bononio.

I found an itchy Perſon, and aſking him where he fe
greateſt and moſt acute Itching, he pointed to a great
Puſtules not ſcabbed over; of which picking out one with
fine Needle, and ſqueezing from it a fine Water, I took
very ſmall white Globule, ſcarcely diſcernible. Obſervi
with a Miſcroſcope, I found it to be a very minute living
ture, in Shape reſembling a Tortoiſe, of whitiſh a Co
little dark upon the Back, with thin and long Hairs, o
ble Motion, with ſix Feet, a ſharp Head, with two
Horns at the End of the Snout.

Not ſatisfied with the firſt Diſcovery, I repeated the
in ſeveral itchy Perſons of different Age, Complexion a
and at differing Seaſons of the Year, and found in all th
Animals, and that in moſt of the watry Puſtules; for no
then, in ſome few, I could not ſee any.

And though by reaſon of their Minuteneſs, and Colo
ſame with the Skin, 'tis hard to diſcern theſe Creatures u
Surface of the Body; nevertheleſs I have ſometimes ſee
upon the Joints of the Fingers in the little Furrows of t
ticula, where with their ſharp Head they firſt begin to
and, by this gnawing and working in with their Body
cauſe a troubleſome Itching, till they are got quite u
Cuticula; and then 'tis eaſy to ſee, how they make wa
Place to Place by their biting and eating, one ſingle one
ing ſometimes to make ſeveral Puſtules, of which I hav
found two or three together, and for the moſt part ve
to one another.

I examined whether or no theſe Animalcules laid Eg
at laſt, from the hinder Part I ſaw drop a very ſmall and
ly viſible white Egg, almoſt tranſparent, and oblon
the Seed of a Pine-apple. I oftentimes found theſe Eg
wards, from which, no doubt, theſe Creatures are gene

From this Diſcovery it may be no difficult matter to
more rational Account of the Itch, than Authors have
delivered; it being very probable, that this contagious
is no other than the continual Biting of theſe Animal
the Skin, by means of which ſome Portion of the
ouſing out through the ſmall Apertures of the Cuti
watry Bladders are made, within which the Inſects co
to gnaw, the Infected are forced to ſcratch, and by Sc
increaſe the Miſchief, and thus renew the troubleſome
breaking not only the little Puſtules, but the Skin
ſome little Blood-veſſels, and ſo making Scabs, cruſty
and ſuch-like filthy Symptoms.

From hence we come to underſtand how the Itch
be a Diſtemper ſo very catching, ſince theſe Creatures
ple Contact, can eaſily paſs from one Body to another,
tion being wonderfully ſwift, and they as well crawli
the Surface of the Body as under the Cuticula, being
to ſtick to every thing that touches them; and a ver
them being once lodged, they multiply apace by the Eg
they lay. Neither is it any wonder, if this Infection
pagated by the means of Sheets, Towels, Handk

es, &c. uſed by itchy Perſons; it being eaſy enough for of theſe Creepers to be lodged in ſuch things as thoſe; ndeed I have obſerved, that they will live out of the Body or three Days.

or ſhall we be at a Loſs to know the Reaſon of the Cure is Malady, by Lixivials, Waſhes, Baths, and Ointments up with Salts, Sulphurs, Vitriols, Mercuries Simple, pitate or Sublimate, and ſuch Sort of corroſive and peneg Medicines; theſe being infallibly powerful to kill the in lodged in the Cavities of the Skin, which Scratching never do, partly by reaſon of their Hardneſs, and partly ſe they are ſo minute as ſcarcely to be found by the Nails. er do inward Medicines perform any real Service in this And if in Practice we oftentimes experience, that this e, when we think it is quite cured by Unction, does heleſs in a ſhort time return again, this is not ſtrange, hough the Ointment may have killed all the living Crea- yet it may not probably have deſtroyed all their Eggs, s it were, in the Neſts of the Skin, from which they fterwards breed again, and renew the Diſtemper. And this Account, 'tis very adviſeable, after the Cure is once med, ſtill to continue the Anointing for a Day or two which it is the eaſier to do, becauſe theſe Liniments e made agreeable enough, and of a good Smell, as parly is that compounded of the Ointment of Orange-flow- Roſes, and a ſmall Quantity of red Precipitate. *Phil. Abr. Vol.* 4.

wenhoeck calculates, that a thouſand Million of Animal- which are diſcovered in common Water, are not, altogeo large as a common Grain of Sand. This Author, upon ing the Male Sperm of various Animals, diſcovered, in infinite Numbers of Animalcula, not larger than thoſe mentioned. The white Matter alſo, which ſticks to the abounds with Animalcula of various Figures, to which r is fatal. And we have ſeen under the Article Acetum, negar contains Animalcula in the Shape of Eels. In there is ſcarcely any thing which corrupts, without pro- Animalcules; but I am not yet ſatisfy'd, that Animalcula overable in any Animal Subſtance in Nature, which is not ate of Putrefaction, notwithſtanding what the Author uoted has aſſerted. It is certain, that Animal Subſtances on incline to Putrefaction, and the Sperm the ſooneſt of s, that is, in a very few Minutes, or perhaps Moments. not from hence infer, that Animalcules are generated by ction; but I am inclined to think the Heat neceſſary to ction may hatch the Seeds of Animalcula depoſited in vari- ſtances thus putrefy'd; and perhaps theſe Subſtances ord them a convenient Medium to ſubſiſt in.

s moſt Diſcoveries in Natural Philoſophy have laid a ion for the warm Imaginations of ſome Men to build Theory upon, to the great Prejudice of real Knowledge; relating to Animalcula have been drawn in, however rly, to ſupport the moſt whimſical and chimerical

ſome have aſſerted, that the Animalcules found in the f Male Animals, were the future Animals in Miniad that by theſe Generation was perform'd. Others empted to prove, that all Diſeaſes were produced by ula, not conſidering that theſe, when found in the pus of Animals, were the Effects, and not the Cauſes of ers. Thus *Deſault* has with much Labour endeavourke it appear, that the Venereal Diſeaſe, and Hydrowere cauſed by Animalcula; and I remember ſomewhere met with a Theory of the Plague, which makes that Diſorder produced by Inſects brought by the Eaſt

MALIS FACULTAS, *vel* VIRTUS. The Animal or Power. See Facultas.

MALIS MOTUS, Animal Motion.

MALIS SPIRITUS, Animal Spirit. See Spiritus.

MATIO, Animation; an enigmatical Word uſed by ymiſts in the Affair of Tranſmutation of Metals, when foliated Earth is to be fermented with the phi- or celeſtial Water of Sulphur. Mercury is ſaid to be when, by Conjunction with a perfect Metal, it is re- certain Species. *Libav. Apoc. Hermet. Part.* 1. *Cap.* 10. ercury is wanted by the Spagiriſts to help them to the er's Stone. *Caſtellus.*

E. *Anime gummi, Gummi Aminea*, Serap. *Minea, Aminea, Myrrha*, Cæſ. *Anümum*, Amato.

m, or white Reſin, brought to us from *America*; it n an Inciſion made in a Tree, of a moderate Bigneſs, s of which are much like thoſe of Myrtle; its Fruit d Size, and called *Lobus*.

t Gum Animé ought to be white, dry, friable, clean, Smell, that ſoon conſumes when thrown into the ontains a great deal of Oil, and eſſential Salt. oper to diſcuſs, to ſoften and diſſipate cold Humours, ad-ach; to ſtrengthen the Brain, they apply it to the Top of the Head, and perfume Night-caps with it: It is alſo uſed for cleanſing and cicatrizing Wounds. *Lemery de Drogues.*

Its principal Uſe in Medicine is external, in cold, painful, rheumatic, flatulent Affections of the Head, Nerves and Joints, Palſies, Contractions, Relaxations, Contuſions, &c. It is an Ingredient in Plaiſters and Cerates for theſe Purpoſes. *Raii Hiſt. Plant.* 1846.

There are two Sorts of Gum Animé, the Oriental, and the Weſtern.

The Weſtern Animé is the Tear, or white Reſin, of a Tree that grows in *New Spain*. It is ſomewhat inclining to the Colour of Frankincenſe, [pellucid, white, inclining to a Citron-colour] but more oleaginous than Copal. We have it imported in Grains like Frankincenſe, but they are bigger, and, if broken, appear of a yellow Colour like Roſin. It is of a moſt grateful and fragrant Smell; and, thrown upon hot Coals, is eaſily conſumed. It differs from the Oriental, in that it is not ſo white or ſhining. The Oriental alſo is imported in great tranſparent Lumps.

The Oriental is of three Kinds; firſt, the white; ſecondly, the blackiſh, which is ſomewhat like Myrrh, ſweet-ſcented, and reckoned, by *Dioſcorides*, a bad Species of Myrrh. He calls it *Minæa*, from the Country where it principally grew. *Serapio* calls it *Aminæa*, which Word the *Portugueſe* corrupted into *Animé*. A third Kind is added by *Cluſius*, which is the pale, reſinous, and very dry and ſcorch'd Sort. All the Kinds exhale a grateful Odour in Suffumigations.

J. Bauhine reckons up five Species of Gum Animé.

1. The Animé of the Colour of yellow Amber.
2. What is like Roſin, being of a White inclining to Yellow.
3. The white, pellucid Sort, of the Taſte of Vernix, [the Gum of the Juniper-tree] and the Smell of Maſtich.
4. What is of the Colour of Colophony.
5. The white Species, which the *Indians* call *Copal*.

Raii Hiſt. Plant. See Bdellium.

ANIMELLÆ. The Glandules ſeated under the Ears, and all along under the lower Jaw. They are otherwiſe called *Lacticinia*. *Caſtellus* from *Veſalius*.

ANIMI & ANIMÆ DELIQUIUM. See Deliquium, Lipothymia, and Syncope.

ANIMI PATHEMATA. Affections of the Mind.

ANIMUS, Νοῦς, *νόος, θυμὸς, γνώμη, διάνοια*. The ſame as *Mens*, the Mind. It is uſually taken, in a ſtrict Senſe, for that Power and Faculty of the human Soul, whereby it diſcerns, judges, and ratiocinates.

As there is a very ſtrict Connection betwixt the Mind, or Soul, and the Body, inſomuch that it is impoſſible, that one ſhould be diſturbed without Injury to the other, the following Obſervations, with reſpect to their Effects upon each other, will not be foreign to a Work of which Medicine is the Subject.

A laudable and temperate Blood, duly carried through the Veſſels of the Brain, imparts Vigour and Strength to the Faculties of the Soul.

'Tis confirmed to us, by daily Experience, that Preſence of Mind, Moderation of Paſſions, and even Brightneſs and Force of Genius, in a great meaſure depend upon the due and moderate Circulation of a laudable Blood thro' the Brain; for as ſoon as its Motion begins to grow impetuous, or too much accelerated, ſo ſoon a Propenſity to Raſhneſs, and Exceſs of Paſſion, lays a Foundation for Wrath and Diſcord: When its Motion becomes too quick, Madneſs is to be dreaded as the Conſequence, as may be obſerved in Fevers. If the Quantity of the Blood is too ſmall, Dread and Terror enſue; if it moves too ſlowly, a mournful and dejected State of Mind is the Reſult.

The various Inclinations and Propenſities of our Minds, either to Virtue or Vice, depend very much on the Circulation of the Blood thro' the Head.

This accounts for the Affections of the Mind being influenced by the Temperament and Conſtitution of the Body; for we obſerve, that the Actions, commonly called *Animal*, are regulated, as it were, by the Motion of the Blood. Choleric People, whoſe Blood flows very rapidly, are exceeding prone to Raſhneſs, Ambition, Factions, Seditions, Enmities, and Hatreds. People of ſanguine Conſtitutions, whoſe Blood flows in a gentle, eaſy Stream, are inclined to Pleaſures, Luxury, Eaſe, Luſt, and all the other Means of gratifying the Senſes. Thoſe of phlegmatic Habits, whoſe Blood flows in a faint and languid Manner, are prone to Sloth, Lazineſs, Naſtineſs, Baſeneſs, and a Turn for eſteeming or valuing nothing. And thoſe who have a Tincture of Melancholy in their Conſtitutions, and whoſe Blood moves very ſlow, are cowardly, jealous, and obſtinate.

The Diſpoſitions of our Minds, and the Operations of our Souls, receive a different Turn, and are variouſly modified, not only by the Quality and Motion, but alſo by the Quantity of our Blood.

As there is a wide Difference betwixt the Quantity and Effects of that Degree of Motion wherewith a ſmall Body, and that whereby one larger, is moved; ſo likewiſe, in the Animal Œconomy, a certain Degree of Force is impreſs'd on the Mind by the Circulation of a large Quantity of Blood, and a proportionably leſs, by the Circulation of a ſmall Quantity of Blood. Thus we obſerve, that if a choleric Man abounds in Blood, all the Operations of his Mind are vehement, hot, and impetuous; by which means his Vigour of Mind, his Courage, his Solidity, his Conſtancy, and his vehement and indefatigable Inclination to bring about his own Meaſures, are augmented; all which are proportionably impair'd and leſſen'd, by diminiſhing the Quantity of the Blood. In melancholic Conſtitutions, if a large Quantity of thick Blood is carried thro' the Membranes of the Brain, and their minuteſt Veſſels, a great Steadineſs or Compoſure of Ideas, ſure and laſting Impreſſions of Objects, and uncommon Conſtancy and Reſolution in acting, are the Reſult. When Perſons of ſanguine Conſtitutions abound in Blood, they are voluptuous, luſtful, and fierce; but if a ſcanty Portion of Blood flows in their Veins, they become cowardly, fluctuating, and inconſtant.

As a large Quantity of thick Blood contributes to Strength of Body and Fortitude, ſo a ſmall Quantity of thin Blood lays a Foundation for Cowardice, and is, as it were, the Inſtrument of a quick and lively Senſation.

The Sentiments of *Ariſtotle*, upon this Point, are excellent, when [*Lib.* 2. *De Partibus*, *Cap.* 4.] he talks in this Strain: “Thoſe Animals whoſe Blood abounds with many thick Fibres, are bold and furious; for all ſolid Bodies, when heated, convey a ſtrong Degree of Heat: Hence it is, that Bulls and Boars are courageous, wrathful and fierce; for their Blood is repleniſh'd with Fibres.” The ſame venerable Author aſſerts, [*Lib.* 2. *De Partibus Animalium*, *Cap.* 2.] “That a thick hot Blood contributes to Strength, but not to Underſtanding; and that a thin Blood is better calculated for the ſeveral Purpoſes of Senſation and Underſtanding.”

Thus the Circulation of the Blood not only unites the Soul with the Body, but alſo governs and directs its Operations.

So long as the Circulation of the Blood is duly carried on, the vital and animal Functions are regularly and exactly performed; or, in other Words, the Man perceives, ſees, hears, thinks, and reaſons: But as ſoon as the Circulation of the Blood is impaired, diminiſhed, or quite ſtopp'd, ſo ſoon his Senſes, and his Memory, the Force of his Imagination, and the Faculty of his Reaſon, are proportionably diminiſh'd, impair'd, or loſt. Whoever is deſirous, therefore, that his Soul and Body ſhould long maintain their darling Union, and carry on their mutual Intercourſe; or that his Soul ſhould perform her Operations with Eaſe, Delight, and Freedom; ought to bend all his Thoughts, and direct his principal Care, to this one Point, the preſerving ſound and entire the Circulation of the Blood, and thoſe vital Motions, which, as it were, influence and govern it; which End is moſt effectually obtained by a proper Regimen, with regard to the Non-naturals. Whoever alſo is fond of that happy State, which is the genuine Reſult of a ſound Mind in a healthy Body, muſt be at due Pains to preſerve the Circulation of his Blood temperate, or in a due Medium; for juſt and excellent is that Obſervation of *Hippocrates*, [*Lib. de Flatibus*] where he talks in this Strain: “I am of Opinion, that nothing in the whole Body is more conducive to Wiſdom than the Blood; therefore, ſo long as it remains in a good and natural State, Wiſdom and Prudence are not wanting; but when the State of it is changed, Prudence ſhares its Fate, and vaniſhes. This is very obſervable in Perſons that are drunk, where, by the ſudden Increaſe of the Blood, the Mind itſelf, and its Prudence, receive, as it were, a ſudden Shock; and they become inſenſible of preſent Evils, and bleſs themſelves in the flattering and deluſive Proſpect of future Good.” There is a very remarkable Paſſage, to this Purpoſe, in a certain Letter which *Democritus* wrote to *Hippocrates*, where he ſays, “That the Underſtanding is increaſed by the Preſence of Blood, of which thoſe who think aright are bleſs'd with Store; but when the Body is diſeaſed, and the Mind void of ſufficient Force to think on Virtue, the Diſeaſe darkens the Mind herſelf, and draws her Prudence into Conſent.” *Hoffman*'s *Medicin. Rational. Syſtemat. Vol.* 1.

There is ſo noble and ſublime an Harmony and Conſent between the Œconomy of the vital and animal Motions, that the leaſt Defect in the Circulation of the Blood, forthwith produces a proportionable Alteration in the animal Functions; as, on the other hand, a depraved Imagination not only influences, but even vitiates and ſpoils, the Functions of the whole Body.

This Truth might be illuſtrated and confirm'd by numberleſs Inſtances; a few of which will well enough anſwer my preſent Purpoſe. Whenever the Motion of the Heart ceaſes, the Mind forthwith forbears to exert her ſeveral Operations, and all Reflection and Thought are at an End with her. A due Circulation of the Blood thro' the Brain maintains the Powers of the Soul, and the Force of the Genius, in their native Splendor and Vigour; but as ſoon as this due Circulation is diſturbed or changed, either by a Diminution or an Acceleration of Motion,
the Mind is forthwith diſpoſed to inordinate Affections;
Deviations from the Laws of Reaſon: Hence it is, that
Diſpoſitions and Propenſions of the Mind depend upon
Temperament of the Body, or the due Circulation of the Bl
thro' the Brain. The drinking Wine, or taking any other S
ſtance, which can impart a briſk and lively Motion to the Blo
uſes generally to brighten the Genius, and advance the
above its common Standard. Medicines which, by their
grateful Steams, contaminate the Juices, ſuch as Narcot
impair and ſometimes quite deſtroy, the Reaſon, the Memo
the Genius, and all the Senſes. How great the Influence of a
praved and ill-governed Fancy is, in changing the Motions of
Parts, may be proved from the vehement Paſſions of the Mi
the obſtinate Fancies of melancholy People, and all the
quieting and uneaſy Train of unreaſonable and ill-grounded
ſires and Averſions. *Hoffman. Medicin. Rational. Syſte*
Vol. 1.

The Paſſions and Affections of the Mind plainly prove,
the nervous Fluid, when ill-diſpoſed, or put into a preterna
Commotion, induces a Change upon the Tone, the Elaſti
and the Strength of the Parts.

Thus we obſerve, that Fear or Terror contract and com
the external Parts ſo ſtrongly, that the Blood is forced from
Circumference to the large internal Veſſels about the Heart
Lungs; which ſufficiently accounts for the Palpitation of
Heart, the Uneaſineſs in the Bowels, and the Cold in the
treme Parts, which are found in People upon ſuch Occaſ
By Sadneſs the Influx of the nervous Fluid is conſiderably i
cepted; hence almoſt all the Parts of the Body loſe their
and Strength, and a great Diſpoſition to chronical Diſo
enſues. Beſides, Diſorders, that are otherwiſe benign and
tle, eaſily acquire a dangerous Malignity, by reaſon of the
of Strength. The Paſſion of Anger, by putting the ne
Fluid into a violent Commotion, occaſions a ſtrong Strictu
all the nervous Syſtem: Hence the Pulſe and Breathing be
quick, the natural Heat is increaſed, and Men are at that
poſſeſs'd of moſt Strength and Vigour. *Hoffman. Me*
Rational. Syſtem. Vol. 1.

Since the Blood and its Motion have, by means of the
of the Brain, ſuch an Influence on the Operations of the
tive Soul, it muſt of courſe follow, that all ſuch Things
poſſeſs'd of a Power of altering the Quality or Motion
Blood, muſt have a proportionable Influence on the Mind.

We are not therefore to be ſurpriſed, if particular Cli
Regimens, or Medicines, are capable of inducing a Cha
our Minds, Diſpoſitions, and Underſtandings; for *Hipp*
has very juſtly maintained, [*Lib.* 1. *de Diæt.*] that the
may be improved and rendered wiſer by Diet; and in the
Book he aſſerts, that if *the Body be ſound*, *and free from*
eaſes, *the Frame and State of the Mind muſt*, *in Conſequ*
that, *be bleſs'd with Wiſdom*; and that the Temperam
the Blood conduces much to Wiſdom, is likewiſe aſſert
the ſame Author. Beſides, Experience teaches us, that,
the People of different Climates, ſome are acute, others
ſome excel their Neighbours in Force of Genius, and Re
Thought; and others are addicted to various Vices, alm
known to People of other Climates. It is alſo confirm
Experience, that rich and generous Wine renders Men
ful and witty; whereas flatulent Subſtances, ſuch as Pe
Beans, and alſo fœtid Subſtances, ſuch as Opium, and
bane-ſeeds, render Men dull and mad; and 'tis well kn
every Phyſician of Skill or Experience, that ardent Feve
duce Deliriums, and the Flatulencies of hypochondriac
Melancholy, and even Madneſs. *Hoffman. Medic. R*
Syſtem. Vol. 1.

The Power of Fancy exerts itſelf alſo very ſtrongly in
ing the natural Actions. How pernicious to the Fœtus
taſtical, ſudden, and ſtrong Impreſſions of Women wit
are, eſpecially when accompanied with any Degree of
ſufficiently proved from the Deformity of the Parts, the
and Spots left upon their Bodies; and how deſtructive of
all vehement Deſires are, is abundantly ſhewn from the
of a furious and diſtracted Love, the Longings of Women
Geſtation, and the intenſe Deſire of ſeeing one's native
try, and Relations. The Loathings, excited either
Smell or Sight of ungrateful and diſagreeable Subſta
diſorder the Stomach, as to produce painful and uneaſy
ings. Daily Experience ſhews us, what violent Com
are raiſed through the whole Body by the innate Ave
Cheeſe, Cats, Effuſion of Blood, or other diſagreeable
Profound Meditation, and ſtrong Application of Mind,
the whole Body, and the Stomach itſelf. We likewiſe
that they ſo contract, or ſometimes relax, the Membran
Brain, as to prove the fruitful Sources of ſome very
Diſorders of the Head. Accounts of Phyſicians, ever
to be met with, inform us, that on the bare Sight of
People, or ſuch as have the Small-pox, many have fall
theſe very Diſtempers. Nothing is more certain, than t
People, from the very Dread of the Plague, have bee
with it, even tho' it did not rage in the Country whe

d; and Experience has ſeveral times convinced us, that ne have been purged, vomited, ſweated, and even ſalivated, pure Force of Imagination. Theſe Accidents principally ppen to delicate Conſtitutions, or ſuch as have been previouſ- weaken'd and enervated by the Shocks of ſome Diſtemper, by ſome other Cauſe.

Hence it follows, that the more diſengaged and calm the te of the Mind is, the leſs it diſturbs and injures the Motions the Body, the Operation of Medicines, and the ſalutary ects of Aliments; and, for this very Reaſon, the Philoſo- ers of all Ages, and all Countries, have, with one Voice, ommended Tranquillity of Mind, as the beſt and moſt effe- al Means of lengthening our Life, and preſerving the Con- ution ſound and vigorous. *Hoffman. Medicin. Rational. ſtemat. Vol.* I.

The Female Sex, as daily Experience ſhews us, ſuffer gene- ly very much by the menſtrual Diſcharge being either diſturb'd obſtructed; but enjoy a good State of Health when this uſe- and neceſſary Evacuation is duly and regularly carried on.

For this Reaſon a Phyſician ought to make it his principal e to promote this Diſcharge in ſufficient Quantities, and at and proper Seaſons: But nothing is more fatal to the due cretion of this Recrement than violent Commotions of Mind, more eſpecially an Exceſs of Dread and Terror, the In- nce of which is often powerful enough to put an immediate p to the Diſcharge, when going on in a natural, undiſturb'd, eaſy Manner. *Hoffman. Medicin. Ration. Syſtemat. Vol.* I.

As a further Confirmation of the general Doctrine here laid n by *Hoffman*, I cannot help mentioning the real, tho' ce credible, Caſe of a young Lady, " who, from her na- tural Turn, or the Strictneſs of her Education, had become remarkable *Devotee*. Her Diſeaſe, for ſuch it was, at laſt degenerated into that moſt fatal of all Calamities, *a religious Melancholy*. Her falſe Apprehenſions of the Supreme Being, and the Meaſures of his Adminiſtration, filled her Mind with all the black and ghaſtly Ideas of Gloom and Terror: Upon this, ſuch a Suppreſſion of her Menſes enſued, as would yield to no *Emmenagogue*, even the moſt efficacious and beſt choſen. This unlucky Circumſtance was attended with ſuch fatal Conſequences to her Health, that Life itſelf became a Burden, rather than a Bleſſing. During this diſconſolate and deplorable State, ſhe happily got acquainted with a Clergyman of a free and rational Turn of Thought, who, partly by the Graces of his Perſon, which ſometimes are very effectual in convincing, and partly by the Strength of his Arguments, baniſh'd her religious Horrors, convinced her of the amiable Character of her Maker, reconciled her to Life, and reduced her clouded Mind to an eaſy and comfortable State: Upon this her Menſes began to flow regularly, and in a due Quantity; ſhe reſumed her freſh Complexion, and her former Sprightlineſs returned. Her Regimen and Diet, in the mean time, were the ſame in both theſe ſo oppoſite States. But as the Diſeaſes of the Mind, as well as thoſe of the Body, are apt to recur on certain Occaſions, ſo this Lady had a Relapſe; her former State of Mind return'd, and brought along with it the ſame Diſorder, with all its concomitant Train of Symptoms: She got cured a ſecond time, by Means of the ſame Nature; upon which her Menſes, together with her Health, return'd. In ſhort, her Life, for ſome Years, was a Scene diverſify'd with various Intervals of Superſtition, and rational Religion: When ſhe was under the direful Influences of the former, her Menſes were obſtructed, and her Health ſenſibly impair'd; but when under the benign Influences of the latter, her Menſes flow'd regularly, and the State of her Health was good."

This, in my Opinion, is an Argument hitherto not inſiſted why young Ladies ſhould be taught early to diveſt them- es of thoſe unreaſonable Fears, and gloomy Prejudices, ch thoſe who have the Care of their Education in their ten- Years too frequently inſtil into them; for what is the Caſe one of the Sex, may poſſibly be ſo with another. By this not mean to encourage that indecent and unpolite Scoff- at Things ſacred, which has of late become too faſhionable ng the gayer Part of the World; but only to ſtrip the Mind thoſe dark and narrow Notions, which repreſent God and gion in a gloomy and diſadvantageous Point of Light. Phyſicians of the Platonic Sect were ſo ſenſible of the hap- Influences even of natural Religion upon Health, that they only a few ſimple Remedies, and ply'd their Patients with al Precepts, and Arguments againſt Bigotry and Superſti- , Enthuſiaſm, and ill-founded Horrors of the religious d.

This is ſo ſingular a Caſe, that I could not forbear inſerting a Confirmation of *Hoffman*'s Sentiments, with regard to Influence of the Paſſions on the menſtrual Evacuations of men. The Account is Part of a Letter from a Gentleman, has both Knowledge enough to repreſent the Caſe as it real- as, and Candour enough to ſay nothing but what he knows e true.

The following Caſe will farther illuſtrate the Effects of the Mind upon the Body:

A Muſician, who was a Connoiſſeur in his Art, and famed for his Compoſitions, was ſeiz'd with a Fever, which, gradually augmenting, became at laſt of the continued Kind, and was accompanied with terrible Paroxyſms. On the ſeventh Day he fell into a very violent and almoſt uninterrupted Delirium, accompanied with Shrieks, Tears, Horrors, and a perpetual Want of Sleep. On the third Day of his Delirium one of thoſe natural Inſtincts, which are commonly ſaid to prompt Animals, when in Diſtreſs, to ſeek for thoſe Herbs that are proper for their Caſe, made him deſire to hear a ſmall Concert in his Chamber. His Phyſician did not conſent to the Propoſal without ſome Reluctance. The thing, however, being agreed to, the *Cantatas* of Mr. *Bernier* were ſung to him: No ſooner had the ſoft melodious Strain touched him, than his Countenance aſſumed an Air of Sweetneſs and Serenity, his Eyes became calm, his Convulſions ceaſed entirely, he ſhed Tears of Joy, and was more affected with that particular Muſic than ever he had been with any before his Diſorder, or has been with any he has heard ſince his Cure. He was free from the Fever whilſt the Concert laſted, but, when it was at an End, relapſed into his former State. The Uſe of a Remedy, whoſe Succeſs had been at once ſo happy and unexpected, was continued; the Fever and Delirium were always ſuſpended during the Concert; and Muſic was become ſo neceſſary to the Patient, that in the Night-time he made a Relation of his own, who ſometimes attended him, ſing, and even dance, to him: This Relation, being pretty much afflicted, paid him ſuch Pieces of Complaiſance with a Kind of Reluctance. One Night in particular, when he had but his Nurſe along with him, who could only blunder out the harſh and unharmonious Notes of ſome Country Ballad, he was obliged to put up with her Muſic, and even felt ſome Effects from it. A Continuation of the Muſic for ten Days cured him entirely, without the Aſſiſtance of any other Remedy, except once letting Blood from his Ankle, which was the ſecond time that Operation had been perform'd on him during his Diſorder, and which was follow'd with a very liberal Evacuation. Mr. *Dodart* acquaints us with this Caſe, which he ſays is a genuine one, but does not pretend, that it is to be ſet up as a Model or Standard in Caſes of a like Nature. But 'tis worth while to obſerve, how effectually Concerts reſtored the Spirits, by little and little, to their natural Courſe in this Patient; in whom Muſic, by a long and protracted Habit, had become the very Soul. 'Tis not, however, probable, that a Painter ſhould be cured by viewing the exquiſite and maſterly Touches of his Neighbour Artiſt in a Piece of Painting; ſince Performances in that way are not found to have the ſame Influences on the Spirits with Muſic: Neither, indeed, can the Productions of any other Art come up to it in this Particular. *Hiſt. de l' Acad.* 1707.

ANINGA-IBA Piſonis *et* Marcgr. *Arbor Braſilienſis aquatica, folio Nymphææ, fructu reticulato, pulpa alba humida.*

It grows in the Water to the Height of five or ſix Feet, with no more than one brittle Stem, which is divided by a ſort of Joints, and is of an Aſh-colour like the Walnuts; on its Top are large, thick, ſmooth Leaves, of a chearful Green, ſhaped almoſt like the Leaves of Water-lily, or Sagittalis, [Arrowhead] and remarkably conſpicuous for their ſtrait main Rib, and Fibres that run off tranſverſely from it; each Leaf is ſupported by a juicy Pedicle, above a Foot long; between the Leaves ſhoots forth one large, concave Flower, conſiſting of a ſingle incarnated Leaf, of a pale-yellow Colour, with a thick yellow Style in the Centre, which is ſucceeded by a Catkin, that grows to be a Fruit, of the Shape, and about the Size, of an Oſtrich's Egg, green, and full of a white moiſt Pulp, which, maturated and dry'd, becomes of a farinaceous Savour, and in a time of Famine is eaten, but is dangerous, if taken to Exceſs; becauſe by its Coldneſs and Flatulency, like Muſhrooms, it threatens Suffocation.

The Wood of thoſe that are grown to the Bigneſs of a Tree is uſed for various mechanical Purpoſes; for the Trunk, being light, tenacious, and of a corky Subſtance, is what is moſt uſed by the Natives, and the Negroes, to make their *Jangadæ*, which are Rafts conſiſting of three Pieces of Wood join'd together for the haſty paſſing of Rivers; but the Medicinal Virtue conſiſts in the bulbous Root, as ſpecify'd below. *Raii Hiſt. Plant.*

ANINGA *ſimpliciter dicta*, *ſeu* J. Piſonis,

Grows in the ſame Place, and to the ſame Height, as the former. It has alſo one Stem, but which ſoon runs out into various, thick, ſoft, and reedy Branches, like the Plantain-tree, from every one of which grows out a very large oblong Leaf, conſpicuous for its Veins here-and-there interſperſed. It has only one large white Flower, which produces an extraordinary Fruit, firſt green, then aſh-coloured inclining to yellow, of an oblong Figure, thick, compact, marked over with a ſort of Grains and Points. The Natives eat it for want of better Aliment.

Both Aningas have a thick, bulbous Root, which is of more Uſe in Medicine than the Leaves or Fruit; for being of fine Parts, and a Deobſtruent, it is apply'd to various Uſes by the *Portugueſe*, and the Natives. It is uſed in Fomentations againſt Inflations and Obſtructions of the Reins and Hypochondria. The expreſſed Oil is accounted excellent in the ſame Diſorders, and ſupplies the want of Oil of Water-lily, or of Capers. A hot Bath, made of the Decoction of the Root in Urine, and ſeveral times renewed, affords the higheſt Relief under the Gout, whether recent or inveterate. *Raii Hiſt.*

ANINGA PERI. *Piſon.*

A ſhrubby Plant, which grows plentifully in the thick Woods, and bears a ſmall whitiſh Flower, which is ſucceeded by a few Grapes reſembling Elder-berries, but of an azure Colour, inclining to black. The Leaves are downy, of an oval Figure, of a ſad green Colour, but very pleaſing to the Sight, ſoft to the Touch, feeling like Dead-nettle, and diſtinguiſh'd by numerous and thick Fibres.

The freſh Leaves bruiſed, or pulverized, cure both recent and inveterate Ulcers by the firſt Intention. *Raii Hiſt. Plant.*

ANISCALPTOR, from *Anus*, the Breech, and *Scalpo*, to ſcratch; that very broad Muſcle, which, with its Fellow, covers almoſt the whole Back; ſo call'd, becauſe it is in Uſe when that Office is perform'd. See LATISSIMUS DORSI.

ANISOS, Ἄνισος, from α Neg. and ἶσος, equal; unequal.

ANISOSTHENES, Ἀνισοσθενὴς, from α Neg. ἶσος, equal, and σθένος, Strength; unequal in Strength.

ANISOTACHYS, Ἀνισόταχὺς, from α Neg. ἶσος, equal, and ταχὺς, ſwift; unequal in Celerity, an Epithet of the Pulſe.

ANISUM, a Plant thus diſtinguiſh'd:

Aniſum, Offic. Ger. 880. Emac. 1035. Park. Theat. 911. Raii Hiſt. 1. 450. *Aniſum veteribus*, J. B. 3. 92. *Aniſum vel Aneſum*, Chab. 396. *Aniſum Herbariis*, C. B. Pin. 159. *Aniſum vulgare*, Mor. Umb. 25. Buxb. 21. *Aniſum officinarum*, Rupp. Flor. Jen. 229. *Aniſum vulgatius minus annuum*, Hiſt. Oxon. 3. 297. *Apium Aniſum dictum, ſemine ſuaveolente*, Tourn. Inſt. 305. Boerh. Ind. A. 59. ANISE. *Dale.*

Aniſe, in general, is of a heating and drying Quality, makes the Breath ſweet, is an Anodyne, Diaphoretic, Diuretic, and Diſcutient. Being drank, it reſtrains Thirſt in a Dropſy, is good againſt the Poiſons of venomous Creatures, and Inflations; its ſtops a Looſeneſs, and the Fluor albus; draws Milk to the Breaſts, and ſtimulates to Venery. The Fume received up the Noſtrils eaſes the Pain of the Head. The Powder, mixed with Oil of Roſes, and inſtilled, cures Ruptures in the Ears.

The beſt Seed is what is freſh, full, free from Mouldineſs, and has a very ſtrong Smell. The Aniſe of *Crete* is accounted the beſt of the Kind; and next to that the *Egyptian*. *Dioſcorides, Lib.* 3. *Cap.* 65.

Aniſe, drank in Wine, is good againſt the Venom of Scorpions. It is one of thoſe Simples which are moſt highly commended by *Pythagoras*, whether raw, or in Decoction. Green or dry it is an uſual Ingredient in all Pickles and Sauces, and is put in the lower Cruſts of Loaves, and in medicated Bags. It is uſed with bitter Almonds to add a Briſkneſs to Wine. Eaten in the Morning with Alexanders and a little Honey, and waſhed down with a Draught of Wine, it takes off a ſtinking Breath, and makes the Countenance youthful. Put in a Pillow, ſo that it may be ſmelled, it relieves a Perſon under want of Sleep. It gives an Appetite to Food; for Luxury, among other Inventions, has found out a Method to render Labour unneceſſary for procuring a good Stomach. For theſe Virtues ſome have called it *Anicetum* [inſuperable]. It ſerves inſtead of Liguſticum [Lovage] in Pickles. *Jollas* applies its Root bruiſed in Wine to ſore Eyes afflicted with Rheums: He alſo uſes Aniſe bruiſed with Wine and Saffron, or bruiſed alone, and made into a Pultis, for great Defluxions on the Eyes, or to extract any thing that may have fallen into them. Uſed with Water, it conſumes the Polypus in the Noſe; mixed with Honey and Hyſſop, and gargarized with Vinegar, it aſſwages the Quinſey; being roaſted, it expectorates Phlegm, and the more effectually, if it be mixed with Honey; with half a quarter of a Pint of Aniſe bruiſe fifty bitter Almonds cleanſed in Honey, for a Cough. A very eaſy Preſcription is, to

> Take three Drams ſeven Grains of Aniſe, and two Drams five Grains of Poppy; mix them with Honey to the Size of a Bean, and take one for three Days together.

It is particularly ſerviceable in Eructations, and therefore cures Inflations of the Stomach, the Gripes, and the Colic. Being ſmelled to, or the Decoction of it drank, it repreſſes the Hiccups. A Decoction of the Leaves digeſts Crudities; the Smell of the Decoction, with Smallage, ſtops Sneezing; being drank, it procures Sleep, repreſſes Vomiting, and Tumors of the Præcordia, and is very uſeful in Diſorders of the Breaſt and Nerves: There is nothing thought more friendly to the Belly and Inteſtines; wherefore it is given roaſted in the Dyſen and Teneſmus: Some add Opium, and preſcribe three Pill it in a Day, of the Size of a Lupine, diluted in a Glaſ Wine. *Dieuches* gave the Juice of it for Pains in the Lo and the Seed, bruiſed with Mint in Wine, to Perſons affli with the Dropſy or Colic; and the Root in Diſeaſes of Kidneys. *Dalian*, the Botaniſt, apply'd a Cataplaſm of Herb and Smallage to Women in Labour, and for Pains in Pudenda; and order'd it alſo to be drank with Dill in Time of their Labour. In a Phrenſy they rub the Patient the green Herb and Polenta, and treat Infants under an lepſy or Convulſions after the ſame manner. *Pythagoras* aff it impoſſible for one to be ſeized with a Fit of the Epile while this Herb is held in the Hand; that therefore it oug be very much cultivated in the Gardens of ſuch as are to this Diſtemper; and that the Smell of it facilitates the Bi and adviſes, that the Woman ſhould drink it mix'd with lenta, immediately after Delivery. *Soſimenes* uſed it with V gar for all Hardneſſes, and alſo for Laſſitudes; for which Purpoſe he boiled it in Oil, and added Nitre. The Seed, dr infallibly relieves the Traveller under Laſſitude. *Herac* preſcrib'd as much of the Seed as may be taken up with Thumb and two Fingers, and eighteen Grains of Ca to be taken in Mulſum, for Inflations of the Stomach. In ſame manner is it given in Inflations of the Belly and Inteſt For the Orthopnœa (a kind of Aſthma) the ſame Quantit Seed is given, with as much Seed of Henbane, in Aſs's M Many will adviſe half a quarter of a Pint of its Seed, with Bay-leaves bruiſed in Water, to be taken at Supper, by who are inclin'd to vomit; eaten, and anointed warm drank with Caſtor in Oxymel, it appeaſeth the Strangulatio the Uterus. Taken with the Seed of Cowcumbers and ſeed, each as much as may be graſped with three Fingers quarter of a Pint of White-wine, it cures the Vertigo comes after Childbirth. *Tlepolemus* uſed the ſame Meaſur the Seed, with the like of Fennel-ſeed, in Vinegar a Glaſs of Honey, for a Quartan. It eaſes the Pains of Gout, if the Place be anointed with it, and bitter Almo Taken in Wine, it gently promotes Sweat; it alſo pre Garments from the Moths.

The neweſt and blackeſt is the beſt. It is not proper fo Stomach, except in caſe of Inflations. *Pliny*, *L.* 20. *C.*

It is a ſmall tender Plant, producing one Stalk, ſeldom a above two Feet high, whoſe lower Leaves are whole, ro and indented about the Edges; but thoſe which grow upo Stalk, are winged, and finely divided, of a pale green Col the Top is branch'd into ſeveral Umbels of ſmall Flowers, which are ſucceeded by round longiſh Seeds, ling toward the Bottom, and ending in a bluntiſh Point greeniſh Colour, which are of a pleaſant Smell, and of a but very ſweet Taſte It flowers and ſeeds in *July*, the dying every Year, after it has yielded Seed. It is culti in *Germany*; but the beſt Seed, which is a ſmaller Sort, c from *Spain*. The Seed only is uſed, being one of the greater hot Seeds.

Aniſeed is Carminative, expelling Wind out of the Sto and Bowels, both given at the Mouth, and in Clyſters. frequently put into Childrens Victuals, for the Gripes Wind. It is very uſeful againſt cold Affections of the L Difficulty of Breathing, and *Aſthma*. Some commend it to be taken frequently by Nurſes to increaſe their Milk. often uſed as a Corrector of the ſtronger purgative Medi The Oil, diſtill'd from the Seed, is uſed for the ſame Purp and often applied outwardly in *Carminative* and *Anodyne* ments, and particularly for the Pleuriſy, and other Pains i Side.

Officinal Preparations are only the Chymical Oil di from the Seed. *Miller's Bot. Off.*

The Moderns have added nothing to the Virtues ſpe by the Antients, except that it is a Corrector of Scammon

For the Method of making Oil of Aniſe, ſee OLEUM.

ANISUM CHINÆ. See ZINGI.

ANISATUM, an artificial Wine, prepared of ten Pi Honey, thirty Pints of Wine of *Aſcalon*, (a maritime Ci *Syria)* and five Ounces of Aniſeeds. *Oribaſ. Med. Lib.* 5. *Cap.* 33.

ANNETESTES. The *Galeniſts* ſo call'd by *Parac Frag. de Morb. Gall.* by way of Deriſion, as ignorant blind with reſpect to the Principles and Cauſes of th *Caſtellus.*

ANNORA, calcin'd Egg-ſhells, or Quick-lime. *Rul. Johnſ.*

ANNOTATIO, the very Beginning of a febrile Parox when the Patients uſe to ſhiver, to be refrigerated, to y ſtretch, and be drowſy, &c. *Gal.* 2. *Aph.* 1. It is alſo c ἐπισημασία, and εἰσβολὴ παροξυσμȣ̃, the Attack of the roxyſm.

There is another *Annotatio* or *Epiſemaſia*, which is prop Hectic Fevers, and happens when the Patient, an Hour or r eating, feels an Increaſe of Heat, with a ſwifter and fuller ſe than before, but without a Shivering, Refrigeration, or of the forementioned Symptoms. Hence it is called by . *Lib. de Diff. Feb. Cap.* 9. ἐπισημασία ἄθλιπτος, an in- reſſive *Annotatio. Caſtellus.*

ANNUENTES MUSCULI, the ſame as *Recti Interni mi-* s, which ſee.

ANNUITIO. So *Pliny* calls the Motion of the Head for- d.

ANNULARIS CARTILAGO, the Ring-like Cartilage Griſtle at the Head of the Larynx. See CRICOIDES.

ANNULARIS DIGITUS, the Ring-finger, or fourth ger of the Hand.

ANNULARIS VENA, the Vein between the Ring- r and the little Finger, which *Aetius* adviſes to be open'd Affections of the Spleen. *Aetius, Tetrab.* 1. *Serm.* 3. 12.

ANNULUS, Δακτυλίδιον, κρίκος. A Ring. *Quercetan de . Hermet.* and from him *Libavius*, mention a purging Ring ared of Glaſs of Antimony. You find alſo in *Trallian*, *Marcellus Empiricus*, ſeveral ſuperſtitious Rings recom- ded to be worn as Amulets againſt the Colic and Epilep- *Scultetus*, in his *Armament. Chirurg.* gives us the Deſcrip- and Figures of ſeveral Chirurgical Rings; and *Zecchius de . Gallic.* writes, that a Gold Ring held in the Mouth ex- s Quickſilver out of the Body.

ANNUS, Ἔτος, ἐνιαυτὸς, the Year. The Antients divided Year into *Summer* and *Winter*, as *Lind. Ex.* 11. *Sect.* 196. nſtrates out of *Theophraſtus*; but thoſe who came after made a new Diviſion of it into four Quarters, by adding g and *Antumn.*

nus *Philoſophicus*, the Philoſophical Year, is a common th. *Dorn.* and *Ruland.*

nus *Amadin*, is long Life. *Dorn.*

e Seaſons of the Year, and their Viciſſitudes, are the Oc- of various Changes of Diſeaſes, as *Hippocrates* obſerves; hich Reaſon their Temperatures and Alterations are to be bſerved.

i *Tempora Conſtantia*, καθεστεῶτες καιροὶ, conſiſtent Sea- f the Year, are ſuch as keep their uſual and expected erature, and promiſe none but Diſeaſes of a favourable and eaſy to be judged. On the contrary, the *Tempora ntia*, καιροὶ ἀκατάστατοι, inconſiſtent Seaſons, are un- nt, unſtable, and unfit for forming a Judgment. *Hip. Aph.*

i *unius Opus*, the Work of one Year, is ſaid of the Phi- ers Stone, becauſe it may be brought to Perfection, and ole Proceſs finiſhed, in one Year, being no more than ng Groſs into Subtile, and Fixed into Volatile. *Caſtellus.*

O, Ἄνω, upwards. It is oppoſed to κάτω, downwards, ports the ſuperior Parts. In *Hippocrates*, and others, verb is often join'd with κοιλία, the Belly; or κοιλία rſtood when it implies Vomiting; as κάτω join'd with underſtood, implies Purging. Of purgative Medicines me are term'd ἄνω, which are Emetics, others κάτω, purge downwards.

OCHEILON, Ἀνώχειλον, from ἄνω and χεῖλος, a Lip. pper Lip, which is oppoſed to κατώχειλον, the under Lip. us.

ODIA, Ἀνοδία, from α Neg. and ὁδὸς, a Way. An ble Way. Metaphorically it ſignifies an improper Me- Teaching or Learning, *Hippoc.* ἐν παραγγελ. and is op- o εὐοδίην, Euodia, an eaſy and expeditious Way of ar- t Knowledge, *Hippoc.* περὶ εὐσχημον.

ODINA, narcotic Medicines. *Johnſon.*

ODMON, Ἄνοδμον, from α Neg. and ὀδμὴ, a Smell. t Smell. Thus ἄνοδμον πῦον in *Hippoc. Coac.* is Pus s no Smell, or at leaſt no fœtid Smell. It is the ſame *mon*, ἄνοσμον, and is oppoſed to *dyſodes*, fœtid.

ODON, Ἄνωδον in *Hippocrates* is expounded by *Ero-* θμὸν καὶ οἷον οὐδὸν, the Threſhold and Step of a Door, ne at the Threſhold of the Door, by which an Entrance to the Houſe. The ſame, he ſays, is alſo called φλιά. this Interpretation of *Erotian* be right, he ſeems to View that Paſſage *Lib. de Art.* where *Hippocrates* ῆς κλίνης τὰς πόδας ἐρηρεῖσθαι πρὸς τὸν οὐδόν, the Feet ed to be faſten'd to the Threſhold of the Door. And ther Paſſage in the ſame Book, which runs thus: ρὰ τὸν οὐδὸν ἐρείδεται, τὸ δὲ παρὰ τὸ ξύλον τὸ παραβε- , One of them (the Levers) is faſten'd to the Threſhold, ther to a Piece of Wood ſet up for the Purpoſe: So *tian* ſeems to have read ἄνωδον for τὸν οὐδόν. In *Suidas*, nifies βατὴρ, φλιὰ καὶ βαθμὸς, and τὸ κάτω τῆς θύρας, e, or wooden Step or Threſhold, at the Foot of the which you enter the Houſe. *Heſychius*, οὐδὸς βατὴρ ὁ θύρας, the Step before the Door: It is alſo called ὀδὸς, *Foeſius.*

DUS is the Chymiſts Word for what is ſeparated from riſhment by the Kidneys. *Rul. Johnſon.* The *Greek* νόδους, Anodus, from α Neg. and ὀδοὺς, a Tooth, ſig- othleſs.

ANODYNA, ἀνώδυνα, from α Negat. and ὀδύνη, Pain. Anodynes.

Medicines which procure Sleep, and Eaſe from Pain, were by the *Greeks* called *Hypnotic*, and *Anodyne*; and, if of a ſtronger Nature, *Narcotic*, or ſtupifying; and are ſuch Subſtances as by their ſubtile, nauſeous, and diſagreeable Exhalations ſometimes diminiſh, and ſometimes quite deſtroy, the Motion and Senſation of the ſolid Parts.

Among the principal of the Hypnotic and Anodyne Medicines, are all the medicinal Preparations of the Poppy, eſpecially Opium, which was by the Antients called the Tears of the Poppy, or Meconium, and is an Extract of the Poppy procured by boiling. But as for the Narcotic, or ſtupifying Medicines, all thoſe of ſtronger Qualities may be reckon'd among them, ſuch as the Preparatives of Mandrake, Henbane, Nightſhade, Thorn-apple, and Dutroy (*Datura*).

Narcotics and Anodynes are juſtly rank'd in the Claſs of Poiſons; for they quickly prove hurtful when given in a very ſmall Doſe, and kill entirely when exhibited in a little larger. Beſides, they exert their Influences, and produce their Effects, principally upon the more noble Parts of our Bodies, in which the Powers of Senſation and Motion reſide.

Celſus is of Opinion, that theſe ſhould never be given without abſolute Neceſſity, becauſe they are of a violent Nature, and hurtful to the Stomach. And *Galen* ſays of Narcotics, that they are called Anodynes as improperly as a Man who was dead would be ſaid to feel no Pain.

It is recorded of *Sylvius*, that he ſaid he would not practiſe Phyſic without the Uſe of Opium; but notwithſtanding this great Encomium, I am ſatisfy'd, that for one who receives any Benefit from Opium, a hundred loſe their Lives. As Opium and its Preparations ſeldom fail to induce Eaſe from Pain, they too often lay a Temptation in the Way of People in the lower Claſs of Phyſic, to ſatisfy the Impatience of thoſe they attend, tho' at the Expence of Life; inſomuch that I was once a Witneſs of the Deſtruction of three People in this Way, by one and the ſame Perſon, and that in leſs than ſix Months: And in ſuch Caſes Phyſicians are uſually called in too late to remedy the Evil.

It muſt, however, be confeſſed, that Anodynes are, in ſome Caſes, of great Importance, if adminiſter'd with Prudence and Judgment. Thus, if in Miſcarriages the Placenta, or any Part of it, remains in the Uterus, Anodynes, by relaxing the Parts, and removing the Stricture, which is increas'd by Pain, make room for the Expulſion of what is retained. In like manner alſo, Anodynes are of Service, when a Stone is fixed in one of the Ureters, after proper Evacuations. And when a Suppreſſion of Urine is cauſed by a painful Stimulation, and conſequent Contraction, of the Sphincter Muſcle of the Bladder, Anodynes, by removing the Cauſe, make way for a ready Diſcharge of Urine.

Hoffman is of Opinion, that Sleep and Anodyne Medicines quench Thirſt, becauſe they remove the Stricture from the Glands, and relax the Ducts of the Fauces, by which means a more plentiful Affuſion of Moiſture to them is procur'd.

But by Anodynes, in a more lax Senſe, may be underſtood, all Remedies which relieve Pain. Thus a Lancet may, not improperly, be ſaid to be an Anodyne, becauſe, by evacuating a Part of the Blood, it mitigates inflammatory Pains. Thus all relaxing Remedies, Diluters, and Medicines which by any means deſtroy Acrimony, or expel Wind, are, in their Effects, Anodynes, when properly apply'd.

ANODYNIA, Ἀνωδυνία, Indolence, or Abſence of Pain. *Caſtellus.*

ANODYNUM minerale, Sal Prunellæ. *Caſtellus.*

ANOEA, Ἄνοια, from α Neg. and νόος, the Mind; the ſame as *Amentia*, Madneſs.

ANOMALIA, ANOMALUS, ἀνωμαλία, ἀνώμαλος, from α Neg. and ὁμαλὸς, equal, ſmooth. Irregularity, Inequality, unequal, irregular.

An unequal or irregular Pulſe is one, that falling higher in one Part of the Artery, which ſwells and dilates itſelf to a greater Degree, than in another Part which is more narrow, and, in a manner, contracted, beats with unequal Force, ſo that one Part of the Artery ſeems to be lifted up with vigorous, the other with weak Efforts. *Galen. in Definit. Med.*

An unequal Pulſe is one that gives ſometimes a ſtronger, ſometimes a weaker Stroke. *Galen. ibid.*

We call that an irregular or unequal Pulſe, which conſiſts of one, two, three, or more Kinds of Pulſes. This Irregularity lies ſometimes in one Pulſe, ſometimes in more. We call it an Irregularity in one Pulſe, when, feeling the Pulſe with our Fore Fingers, we find a different Pulſation under each Finger. Sometimes we feel one kind of Pulſe under two Fingers, and another kind under the other two Fingers; and ſometimes one kind of Pulſe under one Finger, and a different one under the other three. *Actuarius, Lib.* 1. περὶ διαγνώσ. παθῶν, *Cap.* 1.

Of unequal Pulſes, ſome deſtroy the Equality in one Pulſation of the Artery, others in more; this latter Inequality is commonly called by Phyſicians Syſtematic (*collective*). *Galen de Cauſ. Pulſ.*

ANOMOEOMERES, Ἀνομοιομερὲς, from α Neg. ὅμοιος, like, and μέρος, a Part. Diſſimilar in Subſtance, or conſiſting of Parts of a different Kind. *Blancard.*

It is alſo called ἑτερογενὲς, heterogeneous.

ANOMOEOS, Ἀνόμοιος, diſſimilar, or heterogeneous. The Word is apply'd by *Hippocrates* to preternatural and vicious Humours generated in the Parts, which, if they tend upwards, he adviſes, by way of Revulſion, to purge downwards; if downwards, to endeavour their Solution by Revulſion upwards. *Foeſius.*

ANOMPHALOS, Ἀνόμφαλος, from α Neg. and ὀμφαλὸς, a Navel. Without a Navel, as were *Adam* and *Eve*, being created, and not nouriſhed by the Umbilical Veſſels, as ſome of the Learned have been at much ſuperfluous Pains to prove.

ANONA.

The Characters are:

It is a Tree growing to the Height of an Apple-tree; the Leaves are for the moſt part ſingle and oblong; the Flowers, for the moſt part, conſiſt of three thick narrow Petals or Flower-leaves, and are produc'd ſingle upon their Foot-ſtalks: Theſe Flowers are ſucceeded by conical, ſquamous, or netted Fruit, which have a pulpy Subſtance ſurrounding the Cells, in which are contain'd oblong hard Seeds.

The Species are,

1. *Anona maxima, foliis latis ſplendentibus, fructu maximo viridi conoide, tuberculis ſeu ſpinulis innocentibus aſpero.* Sloan. Cat. Pl. Jam. THE SOUR-SOP; *vulgô.*

2. *Anona maxima, foliis oblongis anguſtis, fructu maximo luteo conoide, cortice glabro, in areolas diſtincto.* Sloan. Cat. Pl. Jam. THE CUSTARD-APPLE; *vulgô.*

3. *Anona foliis odoratis minoribus, fructu conoide ſquamoſo parvo dulci.* Sloan. Cat. Pl. Jam. THE SWEET-SOP; *vulgô.*

4. *Anona aquatica, foliis laurinis atrovirentibus, fructu minore conoide luteo, cortice glabro, in areolas diſtincto.* Sloan. Cat. Pl. Jam. THE WATER OR SWEET-APPLE; *vulgô.*

5. *Anona foliis ſubtus ferrugineis, fructu rotundo majore lævi purpureo, ſemine nigro, partim rugoſo, partim glabro.* Sloan. Cat. Pl. Jam. THE STAR-APPLE; *vulgô.*

6. *Anona foliis laurinis glabris viridi-fuſcis, fructu minore rotundo viridi-flavo ſcabro, ſeminibus fuſcis ſplendentibus, fiſſurâ albâ notatis.* Sloan. Cat. Pl. Jam. THE SAPPADILLA OR NASEBERRY-TREE; *vulgô.*

7. *Anona maxima, foliis laurinis glabris viridi-fuſcis, fructu minimo rotundo viridi-flavo, ſeminibus fuſcis ſplendentibus, fiſſurâ albâ notatis.* Sloan. Cat. Pl. Jam. THE BULLY-TREE; *vulgô.*

Theſe Trees are the Produce of the warmeſt Parts of the *Weſt-Indies*, as in *Jamaica*, *Barbados*, &c. where they are cultivated for their Fruits, which are in thoſe Countries in very great Eſteem, eſpecially the *Sappadilla*, which they value more than any of the other Sorts, and hath been but lately introduc'd into ſome of thoſe Iſlands. It is very probable, that none of theſe Trees were originally Natives of theſe Countries, but have been tranſplanted from ſome other Parts of the World; but being there planted, they thrive equally as well as if it were their native Soil, the *Sappadilla* only excepted, which is of a tenderer Nature than the others. *Miller's Dictionary.*

I take the firſt of theſe to be the AHATE DE PANUCHO RECCHI.

ANONIS, a Plant thus diſtinguiſh'd:

Anonis, Ononis, Areſta bovis, Offic. Chab. 168. *Anonis ſive Reſta bovis,* Ger. 1141. Emac. 1322. *Anonis ſive Reſta bovis vulgaris, purpurea & alba, ſpinoſa,* J. B. 2. 391. *Anonis ſpinoſa, flore purpureo,* C. P. Pin. 389. Park. Theat. 994. Raii Hiſt. 1. 957. Synop. 3. 332. Tourn. Inſt. 408. Elem. Bot. 325. Boerh. Ind. A. 2. 33. Rupp. Flor. Jen. 214. Buxb. 21. *Anonis,* Rivin. Irr. Tetr. Dill. Cat. Giſſ. 147. *Anonis, ſive Ononis, Reſta bovis, Remora aratri,* Merc. Bot. 1. 19. Phyt. Brit. 8. *Anonis purpurea vulgaris ſpinoſa, flore purpureo, ſiliquis erectis lentiformibus,* Hiſt. Oxon. 2. 169. REST-HARROW. *Dale.*

Miller enumerates twenty-ſix Species of this Plant.

Anonis, which ſome call *Ononis,* (I read ὠνωνίδα, according to *Theophraſtus* and *Galen*) has Branches three Quarters of a Foot or more in Length, ſhrubby, full of Joints, and running out into many leſſer Branches, or Sprays, with round Heads, and little thin Leaves like thoſe of Lentils, and ſhaped like the Leaves of Rue or Meadow Trefoil, ſomewhat hairy, ſcented, and not of an unpleaſant Smell.

Being gather'd before it produces Prickles, it makes a very grateful Pickle. The Branches are thick ſet with ſharp, ſtiff Thorns, like a Paliſade.

The Root is heating and attenuating. The Bark hereof, drank in Wine, provokes Urine, and breaks the Stone; the ſame abſterges Ulcers which are cruſted over. The Root boiled in Oxycras, and the Mouth waſhed therewith, eaſes the Tooth-ach. *Dioſcorides, Lib. 3. Cap. 21.*

It is like Fenugreek, only more ſhrubby and hairy; af
Spring it ſhoots forth Prickles. The freſh Herb abſterg
Margins of Ulcers. The Root is boiled in Poſca for th
of the Teeth; and, drank in Wine, expels Stones and G
Boiled in Oxymel to one half, it is given to thoſe who a
ject to the Falling Sickneſs. *Pliny, Lib. 21. Cap. 4.*

The Roots of Reſt-harrow are very tough and w
of a white Colour, running deep into the Earth, and
ing out many ſhrubby Twigs or Branches, ſmooth an
der at the firſt ſpringing, but afterwards tough, and
long ſharp Thorns, one growing at every Setting-on
Leaves, which grow ſeveral together at the Joints, each
made of three Parts like Trefoil, and faſtened to the S
a flat Appendix: They are ſmall, about half an Inch
and crenated about the Edges; among theſe, towa
Tops of the Branches, grow the Flowers which are
onaceous, or like the Flower of a Pea, but leſs and fla
reddiſh-purple Colour, growing in hairy five-pointed C
After theſe are fallen, come ſmall flat Pods, each con
two or three ſmall kidney-like Seeds. It grows in
Grounds, and by the Road-ſides, and frequently among
flowering in *June* and *July.*

This Root, which is one of the five opening Roots,
only Part that is uſed, chiefly the cortical Part, and is
Medicine againſt the Stoppage of Urine, Gravel, and
to cleanſe the Reins and Ureters from tough ſlimy Hu
It opens Obſtructions of the Liver and Spleen, and he
Jaundice. A Decoction of it in Vinegar and Water, u
Gargle, helps the Tooth-ach from a Defluxion of Hu
Miller Bot. Off.

ANONTAGIUS, the Philoſophers Stone, the Gift o
the Sulphur fixed by Nature. *Dornæus.*

ANONYMOS, Ἀνώνυμος, from α Neg. and ὄν
Name. It was formerly an Epithet of the ſecond Car
the Throat, afterwards called CRICOIDES, or ANNULA

ANONYMOS is alſo an Epithet of ſeveral Exotic T
Shrubs; as

ANONYMOS *Ribeſii foliis* is a particular kind of Shru
Leaves like thoſe of Currans, and pentapetalous Flowe
faint-whitiſh Colour, and ſet together on the Extrem
the Sprays, in Form of an Umbella, and ſupported b
oblong Pedicles, the Flower-cup conſiſting of five
Each Flower is ſucceeded by two, and ſometimes thr
veſſels, or Pods, like thoſe of Comfrey, but void of S
our Gardens, becauſe of the Inclemency of the Seaſo
brought from *Virginia* and *Canada.* *Raii Hiſt. Plant.*

ANONYMUS *flore Coluteæ Cluſii, Myrto-geniſta qu
Chamæbuxus ſive Chamæpyxos quibuſdam,* J. B. *Cha
flore Coluteæ,* Ger. C. B. *Pſeudo-chamæbuxus,* Pa
grows in ſeveral Parts of *Germany.* *Idem.*

ANONYMOS *frutex Braſilianus, flore keiri,* Marcgra

Its Bark is aſh-coloured; the Leaves grow alternate
ſite, keel-ſhaped, indented about the Extremity, of a
Green, bright, and elegantly diſtinguiſh'd with oblique
the Flowers grow in Spikes at the Extremities of the
and the Spike, before the Flowers open, is of a very
nation Colour, but then becomes yellow, as the Flowe
opening, which are pentapetalous, each Petal ſupporte
acuminated pale-coloured Leaf; the Flower contai
yellow Stamina, and has a ſweet Smell like our Wal
Idem.

ANONYMOS *Braſiliana, floribus umbellatis albis hexa*

ANONYMOS *baccifera, foliis ſalignis, Braſiliana,* M

ANORA. See ANNORA. *Idem.*

ANORCHIDES, Ἀνόρχιδες, from α Neg. and
Teſticle. Such as are born without Teſticles. *Caſtel*

ANOREXIA, Ἀνορεξία, from α Neg. and ὄρεξι
tite. Inappetency, a want of Appetite, or Loathing
Paulus, Lib. 3. Cap. 27. Ἀνορεξία σιτίων ἐςὶν ἀποσ
δυσκρασίας ὑπερεχούσης κατὰ τὸν ςόμαχον, ἢ χυμῶν π
"An Anorexy is an Averſion to Food, occaſion'd
"a Diſtemperature of the Stomach, or a Redundancy
"mours." Hence ἀνόρεκτοι (Anorecti) are called
as will take no Food for want of Appetite. *Galen.*
in Lib. 1. Epidem. Τοὺς ἀνορέκτους καὶ ἀσίτους ὀνομά
Ἕλληνες τοὺς μὴ προσενεγμένους σιτία, τοὺς δ' ἀποσ
προσίεσθαι καλοῦσιν ἀποσίτους. "The *Greeks* call ſuch as
"Food *Anorecti* and *Aſiti*; but ſuch as have an Av
"Food when offer'd, are named ἀπόσιτοι."

ANORGISMENON, Ἀνωργισμένον, in *Hippoc*
explain'd by *Galen in Exeg.* by ἀναμεμαλαγμένον, (*a
lagmenon*) mollify'd afreſh. It is from ἀνὰ, and ὀργ
ſame as ὀργάζω, to prepare by mollifying, or othe
Thus ἀνωργασμένον, or ἀνωργισμένον σῶμα, ſignifie
mollified and prepared for taking of Medicines. *Foeſi*

ANOSIA, Ἀνοσία, from α Neg. and νόσος, a Diſea
Abſence of a Diſeaſe. *Caſtellus.*

ANOTASIER, Sal Ammoniac. *Ruland. John*

NOTHEN, Ἄνωθεν, an Adverb, as well as *ἄνω*, of Time
Place, according to *Galen*, being ſignificative of the Be-
ng of a Diſeaſe, and the upper Parts in the Body. *Foeſius.*

NSER, a Fowl very well known, and of much Uſe, of
h there are two Sorts, the tame, and the wild. The tame
s thus diſtinguiſh'd:
ſer, Offic. Charlt. Exer. 103. Bellon. des Oyſe, 157.
domeſticus, Schrod. 5. 314. Raii Ornith. 358. Ejuſd.
). A. 136. Will. Ornith. 273. Aldrov. Ornith. 3. 102.
. de Avib. 125. Jonſ. de Avib. 92. Mer. Pin. 179. THE
OSE. *Dale.*

e wild Sort is thus diſtinguiſh'd:
ſer ferus, Offic. Schrod. 5. 314. Aldrov. Ornith. 3. 147.
Pin. 179. Raii Ornith. 358. Ejuſd. Synop. A. 136. Will.
th. 274. Geſn. de Avib. 140. Jonſ. de Avib. 93. Charlt.
103. *De L'Oye ſauvage*, Bellon. des Oyſe, 158. THE
D GOOSE. *Dale.*

nery ſays you are to chuſe of either of them, that which
der, neither too young nor too old, well fed, and that
been bred in a pure and ſerene Air.

eſe are nouriſhing enough, and very ſolid and durable

Gooſe is a little hard of Digeſtion; and when it is too
, its Fleſh is viſcous, and apt to produce groſs and excre-
tious Humours; whereas, on the contrary, when 'tis too
t is dry, hard, has a bad Juice, and cauſes Indigeſtions
evers.

oſe contains much Oil, and volatile Salts. The tame
lſo contains much Phlegm, but the wild one has not ſo

h the one and the other, in Winter-time, agree with
bilious People, who have a good Stomach, and are uſed
ercife and Labour.

REMARKS.

is a Food that is pleaſing enough to the Taſte. The
d one taſtes better than the tame one; becauſe that being
ch more upon the Motion than the other, its Fleſh is not
ull of viſcous and groſs Juices.

Gooſe lives in cold, moiſt, and watery Places. You meet
h this Bird almoſt in all Countries; they live long, eſpe-
ly the wild Gooſe, if we believe ſome Authors. *William*
tarolus obſerves, that they'll live to be twenty; and
rtus ſays ſixty Years old. The tame Gooſe flies but lit-
and riſes not far from the Ground; whereas the wild
flies high and ſwift.

oſe lives by Land and Water, as amphibious Animals do:
the tame one lives more upon Land than the other. In
t, wild Geeſe are almoſt always found in moiſt and
ſhy Places; and there are a great many of them in
iopia, which make great Havock in the Country.

bſerved, that a Gooſe is very vigilant, and ſleeps ſo
tly, that the leaſt Noiſe awakes her; and ſome People
end, that this Bird is at leaſt as uſeful as a Dog in the
ht, to watch a Houſe; for as ſoon as it hears any thing,
eaſes not to make a Noiſe, when ſhe ſeems to call the
ple of the Houſe to her Relief, of which there is indeed a
arkable Example: When the *Gauls* were in the Night
n entering the Capital of *Rome*, they gave the Dogs that
e therein ſome Victuals, to prevent their barking, which
the deſired Effect; but nothing of Food that they threw
re the Geeſe could hinder their Clamour, which awak'd
Romans.

be ſaid in general, that the Fleſh of a Gooſe is more
eable to the Taſte, than it is wholſome. In ſhort it al-
s abounds with heavy and groſs Juices, that make it
of Digeſtion, and therefore it ought to be very mode-
ly uſed; however, 'tis proper enough for robuſt People
have a good Stomach, becauſe it is nouriſhing, and a
ble and ſolid Food.

pretend to tell us, that Gooſe-fleſh, on which the Jews
uently feed, does not a little contribute to make them of
elancholy Temper, of a dull, ſad, gloomy Humour, and
bad Colour. The antient *Britains* ſcrupled to eat
ſe; but the *Engliſh* do it now with Pleaſure.

the Parts of a Gooſe, *Galen* approves of none but the
r and Stomach for Food; however, the Wing is alſo
good. Some pretend, that *Scipio Metellus*, a *Roman*
ful, was the firſt who uſed Gooſe-liver; others aſcribe
Honour to *M. Seſtius*, a *Roman* Knight.

kin of a Gooſe's Feet is looked upon to be aſtringent,
good to ſtop Bleeding, or immoderate Fluxes of the
ſes, if taken to the Quantity of half a Dram inwardly,
it has been firſt reduced to Powder.

's Blood is looked upon to be good againſt Poiſon, of
ch two or three Drams are preſcribed.

at of a Gooſe is uſed in Phyſic. It is of a diſſolving and
lifying Nature. It eaſes the Piles; and Pains in the
s, if put into them. When taken inwardly, it looſens
the Body; and thoſe Parts of the Body, which are affected with the Rheumatiſm, they rub with it.

They reduce Gooſe-dung into a Powder; and half a Dram of it is preſcribed, in order to rarefy and attenuate the Humours; to provoke Sweating, Urine, and the Menſes; as alſo to haſten Delivery. *Lemery on Foods.*

Dale, from *Schroder*, farther relates, that the Fat of a Gooſe is good in an Alopecia; and that it cures Fiſſures in the Lips (ſee ADEPS); that the Dung dries, incides, and opens to a very great Degree; promotes the Diſcharge of the Secundines; and is excellent in the Jaundice, Dropſy, and Scurvy; and that the Cuticle of the Feet is a good Application to Chilblains.

The Salts of the wild Gooſe muſt be more highly exalted than thoſe of the tame Sort, by reaſon of their habitual Exerciſe; and the Food of both Sorts, which conſiſts of Worms, and other Inſects, as well as Vegetables, furniſhes their Fleſh and Fat with a highly volatile and penetrating Salt: Hence they are ſubject to be very rank.

ANSERINA. See POTENTILLA.

ANSJELI. See ANGELINA.

ANTACHATES, Ἀνταχάτης, Amber, or a bituminous Stone of another Colour, which in burning ſmells of Myrrh, as *Agricola* writes of it. *Gorræus.*

ANTACIDA. Such Remedies as reſiſt or correct the Acidity of the Humours.

ANTAGONISTA, Ἀνταγωνιστὴς, from ἀντὶ, againſt, and ἀγωνίζω, to ſtrive. Antagoniſt, a Word apply'd to ſuch Muſcles as are contrary to others; for Inſtance, the Muſculus Abductor, and the Muſculus Adductor Brachii, are Antagoniſts.

ANTALGICUS, Ἀνταλγικὸς, from ἀντὶ, againſt, and ἄλγος, Pain. 'Tis apply'd in general to ſuch Remedies as eaſe Pain. *Caſtellus.*

ANTALIUM, *ſive Antale, Tubulus Marinus. Rondel.*

Is a little Shell like a Pipe, about an Inch and an half long, of the Bigneſs of a large Quill at the thick End, and that of a little Quill at the other, having little ſtrait hollow Lines, reaching from one End to the other, of a white or greeniſh-white Colour. It is found upon Rocks, and at the Bottom of the Sea. It incloſes a ſmall Sea-worm; and contains a little fix'd and volatile Salt, with a very little Oil, and a great deal of Earth.

It is alcaline, reſolutive, and deſiccative. *Lemery de Drogues.*

ANTAPHRODISIACOS, Ἀνταφροδισιακὸς, from ἀντὶ, againſt, and Ἀφροδίτη, Venus. Antivenereal, an Epithet of ſuch Medicines as extinguiſh amorous Deſires.

ANTAPHRODITICA, the ſame as *Antaphrodiſiaca.*

ANTAPODOSIES, ἀνταποδόσιες, from ἀνταποδίδωμι, to reciprocate. I think this may properly be tranſlated Returns, or Periods, or Viciſſitudes of the Paroxyſms of Fevers. *Hippocrates, Aph.* 12. *Section* the firſt, ſays, That the Paroxyſms and Forms of a Diſtemper are made evident from a Conſideration of the Diſeaſe in itſelf, the Seaſons of the Year, and the Reciprocations of the Periods, (ἀνταποδόσιες τῶν περιόδων πρὸς ἀλλήλας) that is, the Manner of, or Time in which they ſucceed each other, whether every Day, or every other Day, or at longer Intervals.

ANTARTHRITICUM, Ἀνταρθριτικὸν, from ἀντὶ, againſt, and ἀρθρῖτις, the Gout. A Medicine againſt the Gout. *Blancard.*

ANTASTHMATICA, Ἀντασθματικὰ, from ἀντὶ, againſt, and ἄσθμα, an Aſthma. Remedies againſt the Aſthma. *Blancard.*

ANTATROPHON, Ἀντάτροφον, from ἀντὶ, and ἀτροφία, a Conſumption. An Epithet of ſome Medicines againſt Conſumptions.

ANTECEDENS, Προηγουμένη, from πρὸ, before, and ἡγέομαι, to lead. Preceding, commonly apply'd to Cauſe. See CAUSA.

Antecedentia Signa, preceding Signs, are ſuch as are obſerv'd before a Diſeaſe, as a bad Diſpoſition of the Blood, which is the Cauſe of infinite Diſeaſes.

ANTELABIA, Πρόχειλα, from πρὸ, and χεῖλος, a Lip. The Extremities of the Lips.

ANTEMBALLOMENOS, Ἀντεμβαλλόμενος, from ἀντὶ, inſtead of, and ἐμβάλλω, to contribute. Subſtituted, ſpoken of ſuch Medicines as may be ſubſtituted in the room of others. They are alſo called *ſuccedanea*, ſuccedaneous. *Caſtellus.*

ANTEMBASIS, Ἀντέμβασις, from ἀντὶ, mutually, and ἐμβαίνω, to enter. A mutual Inſertion, or Ingreſs, apply'd by *Galen* to the Bones.

ANTEMETICA, Ἀντεμετικὰ, from ἀντὶ, againſt, and ἐμετικὸς, vomitory. Remedies againſt preternatural Vomiting.

ANTENDEIXIS, Ἀντένδειξις, from ἀντὶ, againſt, and ἐνδείκνυμι, to indicate. A Contra-indication; as when any thing happens in a Diſtemper contrary to the primary Indication; as, for Inſtance, an inflammatory Pleuriſy indicates Phlebotomy, but the Weakneſs of the Patient indicates the contrary.

ANTENEASMUS, or ANTENEASMUM, a particular Kind of *Mania*, or Madneſs, when the Patients are furiouſly irritated, and endeavour to lay violent Hands on themſelves.

ANTEPHIALTICUS, Ἀντεφιαλτικὸς, from ἀντὶ, and ἐφιάλτης, the Incubus, or Night-mare. An Epithet of Remedies adapted to the ſaid Diſorder.

ANTEPILEPTICA, Ἀντεπιληπτικὰ, from ἀντὶ, againſt, and ἐπίληψις, the Epilepſy. Remedies againſt the Epilepſy, and convulſive Diſorders.

ANTEPRIMA MATERIA, in *Paracelſus*, *Chirurg. Mag. Lib.* 3. *Cap.* 11. is a Name for that Tincture, which has a Power of tincturing and altering the *Prima Materia* (firſt Matter) of the Body, agreeably with, or contrary to Nature. *Caſtellus.*

ANTERA. See ANTHERA.

ANTEREISIS, Ἀντέρεισις, from ἀντὶ, and ἐρείδω, to prop or ſuſtain. The Renitency, or Reſiſtance, which a firm and hard Body makes againſt an Impreſſion. In this Senſe the Word is uſed with reſpect to the Bones of the Ribs by *Hippocrates*, *Lib. de Artic.*

ANTERIT, Mercury. *Ruland. Johnſon.*

ANTEROS, Ἀντέρως, the Stone properly called AMETHYSTUS, which ſee. *Gorræus.*

ANTHEDON, the Name of a Tree in *Theophraſtus*, which *Ray* takes for the *Meſpilus Aronia*. See MESPILUS.

ANTHELIX, Ἀνθέλιξ, from ἀντὶ, and ἕλιξ, the Helix. The inward Protuberance of the external Ear, within the HELIX, which ſee.

ANTHELMINTHICA, Ἀνθελμινθικὰ, from ἀντὶ, and ἕλμινς, a Worm. Remedies againſt Worms.

ANTHEMIS. See CHAMÆMELUM.

ANTHERA, Ἀνθηρὰ, from ἄνθος, a Flower. A compound Medicine, ſo called from its florid and very red Colour. Of this there are various Compoſitions. The following are from *Celſus*, which he preſcribes for incruſtated Ulcers in the Mouth:

> Take of Juncus Quadratus, (round-rooted Cyperus, according to *Parkinſon*) Myrrh, Sandarach, Alum, each an equal Quantity: Or,
>
> Take Saffron, Myrrh, each two Drams five Grains; Orris, Plumous Alum, Sandarach, each four Drams ten Grains; Juncus Quadratus, eight Drams twenty Grains: Or,
>
> Galls, Myrrh, each two Drams five Grains; Plumous Alum, two Drams five Grains; Roſe-leaves, four Drams twelve Grains. Some, he ſays, take
>
> Saffron, Plumous Alum, Myrrh, each one Dram two Grains and an half; Sandarach, two Drams five Grains; Juncus Quadratus, four Drams twelve Grains. The three former Compoſitions are pulverized, and ſprinkled on the Parts affected; but this laſt is made into a Litus with Honey. *Celſus*, *Lib.* 6. *Cap.* 11.

An *Anthera* for incruſtated Ulcers in the Mouth, and for ſwelled and ſtinking Gums:

> Take Iris Illyrica, (*Florentine* Orris) Sandarach, Cyperus, each four Drams ten Grains; Plumous Alum, (ſome Copies add Myrrh) Saffron, Crocomagma, each two Drams; pound them, and mix them together. *Galen. de Comp. Medic. Sec. Loc. Lib.* 6. *Cap.* 2.

An *Anthera*, or *Collyrium*, for Defluxions and Pains in the Eyes, which gives Relief within an Hour:

> Take of Saffron, four Drams ten Grains; Frankincenſe, two Drams five Grains; Cinnabar, four Drams ten Grains; Gum Arabic, two Drams five Grains. Infuſe them in Wine, and when there is Occaſion, bruiſe them till you have reduced them to a ſolid Maſs, which make into a Litus with Honey. *Idem ibid. Lib.* 4. *Cap.* 7.

This Compoſition, as prepared by *Oribaſius* and *Aetius*, *Aetii Tetr.* 2. *Sem.* 4. *Cap.* 22. is little different from the preceding, and recommended by them in Ulcerations of the Mouth.

This Medicine *Anthera* is recommended by *Cælius Aurel. Acut. Morb. Lib.* 3. *Cap.* 3. as good in a Quinſey.

The ſame is recommended by *P. Æginet. Lib.* 3. *Cap.* 66. in an Ulceration of the Womb.

ANTHERA in *Galen*, *Celſus*, *Paulus*, *Aetius*, and others, is the Name of a compounded Medicine appointed for different Parts of the Body, as *Anthera Stomachica*, &c. ſome in the Form of Powders, and ſome made up with Honey, ſtill keeping the ſame Name, not taken from the Flowers of Roſes, whereof in many of them there were none, but from the lively Colour of the Ingredients.

ANTHERÆ, in Botany, ſignifies the Summits, or little Heads, in the Middle of the Flower, ſupported by the Sta but properly thoſe of Roſes.

ANTHEREON, Ἀνθερεὼν, the Chin, and that Part o Face where the Beard grows. *Heſychius* takes it for that under the Chin whence the Beard begins to ſprout. *Pollu.* 2. underſtands it much in the ſame Senſe. *Suidas* explai of the Beginning of the Neck and Throat; and in this S it is taken by *Cælius Aurel. Lib.* 3. *Cap.* 3. & 4. *Acut.* he renders it *Gutturis Exordium*, "the Beginning o "Throat." And again, *Lib.* 1. *Cap.* 3. *Tard.* he ſays, *U que Gutturis Partem, quam Græci* Ἀνθερεῶνα *vocant*, " "Parts of the Throat, which are called by the *Greeks*, *A* "*reon*, by the *Latins*, *Ruma*." *Hippocr. Lib.* 5. *Ep* and *Lib.* περὶ ὀστέων φύσ. ſeems by Ἀνθερεὼν to mean the C

ANTHERICOS, Ἀνθερικὸς, the Name the Antients to the Stalk or Stem of the Aſphodel. "*Theophraſtus*, as "ſays, *Lib.* 21. *Cap.* 17. and the *Greeks* for the Gener "and amongſt them their principal Leader *Pythagoras*, "the Stalk of this Plant, which is a Cubit, and oftentime "Cubits long, with Leaves like the Wild Leek, by the "of *Anthericos*; and its bulbous Root they called *Aſph* "We, ſays he, call the Stalk *Albucus*, and the Aſphode "our *Haſtula Regia*." *Dioſcorides*, *Lib.* 1. *Cap.* 199. *Anthericos* to be the Flower of the Aſphodel. *Heſychiu* pounds ἀνθέρικας, the Stalk of the Aſphodel, and alſo a K Herb. *Euſtathius*, *Varinus*, and the Scholiaſt on the fir of *Theocritus*, make it the Fruit or Stalk of the Aſphodel. *pocrates* (*Coacæ Præ.*) ſeems to take it for the cubital St the Aſphodel, when, in order to examine whether there Bone of the Head broken or not, he adviſes the putti the Stalk of Aſphodel, or of Galbanum, ἀνθερικὸν ἢ between the Teeth, and bidding the Patient to chew it.

Suidas tells us, that the Stalks of the Aſphodel were by *Theocritus* and *Herodotus*, ἀνθέρικες, which he ſays, ſo tenacious a Subſtance, that they could not be broken. ſame Author ſays, that ἀνθέριξ, (*Antherix*) is ſo to be t the Scholiaſt on *Theocritus*, in *Theophraſtus* and *Idæus*. *lodorus Dorienſis* will only have the Stalk called by that Some take ἀνθέριξ for the Tops of the Beards of Corn, the Stalks.

Plutarch, in his Banquet of the Seven Wiſe Men, explains that noted Paſſage in *Heſiod*, Ὅσον ἐν μαλάχῃ τ φοδέλῳ μέγ' ὄνειαρ, "What great Refreſhment there is i "lows and Aſphodel," ſeems to take Ἀνθερικὸς for t phodel.

ANTHERON, Ἀνθηρὸν, florid. See ANTHOS.

ANTHEROPHYLLUS, ANTHOPHYLLUS. S RYOPHYLLUS.

ANTHIA, Ἀνθία, a kind of Fiſh, as appears from *Ariſtot. Rondeletius*, and *Aldrovandus*; but they diſagree Deſcriptions. The Gall of this Fiſh is recommended b *mides*, as he is quoted by *Aldrovandus*, as good againſt E mata, and the Fat againſt Tumors and Abſceſſes. *Caſt*

ANTHINES, ANTHINOS, Ἀνθινὴς, ἄνθινος, from a Flower. An Epithet of ſome medicated Wines an Such Wines had Flowers infuſed, or were ſweet-ſcent called *Vina Odorata*, ſmelling like Flowers. The Oil this Epithet, was *Oleum Liliaceum*, or *Lirinum*, or which are all the ſame. There was alſo the ἀνθινὸν *Anthinum Unguentum*, the ſame alſo as the *Suſinum* or *Li* and differed from the Oil of that Name only, as *Gal* by the Mixture of ſome Spices.

ANTHONOR, the ſame as ATHANOR, which ſe

ANTHORA. See ACONITUM.

ANTHOS, Ἄνθος, a Flower. Ἄνθος, in *Hippocra* nifies not only all Sorts of Flowers, but ſometimes, a to *Galen*, ſignifies Seeds alſo; and in *Coac. Præn.* (in the plural Number) means the ſame as ἐρ Redneſſes. He alſo frequently puts ἄνθος, for the *Flo* The Adjective *Antheron*, ἀνθηρὸν, in *Hippocrates*, is uſe nify florid, very red, and bloody. Thus, *Lib.* 6. *Epi* explains ἀνθηρὰ πτύσματα, (florid Spit) by ἐρυθρὰ καὶ and bloody; and ſo in many other Places. *Aretæus* *Peripn.* has πτύελον δίαιμον, ἀνθηρὸν σφόδρα, "bloody S "tremely florid." Such as are of a very red Complexi called by *Hippocr. in Prorrhet.* Ἀνθηροὶ, "florid;" and σῶμα, "a florid Body," in *Epid.* 6. *Aph.* 3. *Sect.* 3. is that has a Redneſs diffuſed over it, by the Increaſe of the Heat, and recalling the Blood and Spirits to the externa which is the Sign of a plentiful and laudable Supply ment.

ANTHOS, when uſed alone, ſignifies the Flowers mary; and is ſometimes taken for the Plant, tho' impr

ANTHOSMIAS, Ἀνθοσμίας, from Ἄνθος, a Flow ὀσμὴ, Smell. An Epithet applied to Wines that are ſcented, and of a moſt fragrant Smell. *Foeſius.*

ANTHOUS, properly *Roſemary*; but, transferr'd to ſignifies the fifth Eſſence, or Elixir of Gold. *Rulan*

ANTHRACIA, ANTHRACOSIS, ANTHRA CARBUNCULUS.

THRACITES, 'Ανθρακίτης. See SCHISTOS.

THRISCUS. See SCANDIX.

THROPE, 'Ανθρωπὴ, or 'Ανθρωπὶν, from ἄνθρωπος, a The human Skin, ſo called by *Herodotus*, as *Veſalius* es, *Lib. 2. Cap. 5.*

THROPOLOGIA, 'Ανθρωπολογία, from ἄνθρωπος, a and λόγος, a Diſcourſe. A Deſcription of Man. *Blan-*

THROPOMETRIA, 'Ανθρωπομετρεία, from ἄνθρωπος, , and μέτρον, a Meaſure. A Survey of Man in all his ſions. *Caſtellus.*

THROPOMORPHOS, 'Ανθρωπόμορφος, from ἄνθρωπος, and μορφὴ, Shape. A Name for the *Mandragoras*, or ake.

THROPOSOPHIA, 'Ανθρωποσοφία, from ἄνθρωπος, a and σοφία, Wiſdom, or Knowledge. The Knowledge Nature of Man. *Caſtellus.*

THYLLIS is a Plant, of which there are two Species : rſt is,

THYLLIS PRIOR, Offic. *Anthyllis leguminoſa marina , vel Cretica, ſive Auricula muris Camerarii*, Park. 1094. *Anthyllis falcata Cretica*, ejuſd. *Loto affinis, ſili- eſutis circinatis*, C. B. Pin. 333. *Loto affinis, ſiliquis circinatis, C. Bauhini*, Hiſt. Oxon. 2. 181. *Loto affi- nthyllis falcata Cretica Parkinſono*, Ejuſd. *Tripholium m*, Alp. Exot. 257. *Auricula muris Camerarii*, J. B. . Chab. 167. Raii Hiſt. 1. 922. *Medicago Cretica, riæ facie*, Elem. Bot. 328. Tourn. Inſt. 412. *Me- Vulnerariæ facie, Hiſpanica*, Ejuſd. & Boerh. Ind. A. 2.

EA KIDNEY-VETCH.

rows in *Candy* and *Sicily*, &c. by the Sea-ſhores, and in the Summer. *Dale.*

HYLLIS LEGUMINOSA; *Vulneraria*, Offic. *Vulnera- ica*, J. B. 2. 362. Raii Synop. 3. 325. Tourn. Inſt. Elem. Bot. 311. Boerh. Ind. A. 2. 48. Dill. Cat. Giſſ. *Vulneraria ruſtica*; *Anthyllis magna*, *Anthyllis legumi-* Chab. 167. *Anthyllis leguminoſa*, Ger. 1060. Emac. Raii Hiſt. 1. 922. Mer. Pin. 8. *Anthyllis leguminoſa m*, Merc. Bot. 1. 20. Phyt. Brit. 9. *Anthyllis legu- vulgaris*, Park. *Anthyllis leguminoſa, Loto affinis, Vul- pratenſis*, Hiſt. Oxon. 2. 182. *Anthyllis*, Rivin. Irr. *Anthyllis Rivini*, Buxb. 22. Rupp. Flor. Jen. 208. *s Loto affinis, Vulneraria pratenſis*, C. B. P. 332.

EY-VETCH, LADY's-FINGER.

ows in Paſtures, and flowers in *June*. The Herb is in nd accounted a Vulnerary. *Dale.*

e are two Species of *Anthyllis* ; one has ſoft Leaves very e of Lentils, a Palm in Height; the Root is ſmall and It grows in ſandy and ſunny Places, and is of a ſaltiſh

other Species has Leaves and Branches reſembling pine, but more hairy, ſhorter, and rougher. It bears Flower, which has a very ſtrong Smell, and has a ke Succory.

Herb, drank to the Quantity of four Drams ten Grains, erful Remedy againſt a Difficulty of Urine, and Diſeaſes Kidneys. Both Kinds bruiſed, and applied as a Peſſary il of Roſes and Milk, aſſwage Inflammations of the and are alſo Vulneraries. That Species which is like pine, beſides other Virtues, being taken in Oxymel, e Falling-ſickneſs. *Dioſcorides, Lib. 3. Cap. 153.*

d no Virtues attributed to the Anthyllis, but what are ed from *Dioſcorides*. *Dale* tranſlates φλεγμονὰς τὰς , *Uteri Pituitas*, which is a Miſtake ; for it ſignifies ations of the Uterus.

HYPNOTICA, 'Ανθυπνωτικὰ, from ἀντὶ, againſt, and Sleep. Medicines againſt exceſſive or preternatural *Blanc.*

HYPOCHONDRIACA, 'Ανθυποχονδριακὰ, from ainſt, and ὑποχόνδρεια, the Hypochondria. Medicines Diſorders in the Hypochondria. *Blancard.*

HYSTERICA, 'Ανθυστερικὰ, from ἀντὶ, and ὑστέρα, rus, Medicines againſt the Hyſterical Paſſion. *Blanc.*

IADES, 'Αντιάδες, the Tonſils. It ſometimes ſigni- Tonſils when inflamed.

IAGRI, from 'Αντιάδες, and ἄγρα, a Prey. Tumors Tonſils.

IARTHRITICA, 'Αντιαρθριτικὰ, from ἀντὶ, and the Gout. Medicines againſt the Gout.

IBALLOMENA, 'Αντιβαλλόμενα. See ANTEMBAL- os.

ICACHECTICA, 'Αντικαχεκτικὰ, from ἀντὶ, againſt, εξία, a Cachexy. Remedies which amend a Cachexy. CHEXY.

ICADMIA, a Species of Cadmia, called alſo *Pſeudo-* ἀντὶ is here joined with it, to expreſs its being ſub- for the true Cadmia. See CADMIA.

ICAR, Borax. *Dorn. Rulandus, Johnſon, Caſtellus.*

ICARDIUM, the ſame as SCROBICULUM CORDIS, c.

ANTICATARRHALIS, the Epithet of any Remedy for a Catarrh.

ANTICAUSOTICUS, from ἀντὶ, againſt, and καῦσος, a burning Fever. An Epithet for Remedies againſt a *Cauſus*, or burning Fever.

ANTICHEIR, ἀντίχειρ, from ἀντὶ, over-againſt, and χεὶρ, the Hand. The Thumb. See POLLEX.

ANTICIPANS, this the *Greeks* expreſs by προληπτικός. It is applied to Diſeaſes, whoſe Paroxyſms anticipate the Time of the preceding Paroxyſm; that is, each of whoſe Fits begin ſomewhat ſooner than the preceding. Thus, if a Quotidian comes one Day at Four in an Afternoon, the next Day at Three, and the next at Two, it is ſaid to anticipate.

If the Catamenia alſo arrive ſooner than the ordinary Period, they are ſaid to anticipate.

ANTICNEMION, ἀντικνήμιον, from ἀντὶ, over-againſt, and κνήμη, the Leg, or Calf of the Leg. In *Hippocrates* it ſignifies the Fore-part of the Tibia, which is bare of Fleſh.

ANTICOLICA, Remedies againſt the Colic.

ANTICONTOSIS, ἀντικόντωσις, from ἀντὶ, againſt, and κόντος, a Staff, or Pole. In *Hippocrates* it ſignifies the ſupporting a Perſon with a Staff, or Crutch.

ANTIDINICA, from ἀντὶ, againſt, and δῖνος, Circumgyration. Medicines againſt a Vertigo, according to *Blancard*.

ANTIDOTARIUM, a Book wherein Antidotes are deſcribed, or the Place where they are made. It is much the ſame as *Diſpenſatory*.

ANTIDOTUS, or ANTIDOTUM, from ἀντὶ, againſt, and δίδωμι, to give. An Antidote. This Word is explained under the Article ANDROMACHUS, which ſee.

The Philoſopher's Stone alſo is called by ſome Chymical Authors ANTIDOTUS, by way of Excellence.

ANTIDYSENTERICA, Remedies againſt a Dyſentery.

ANTIFEBRILE, an Epithet for a Remedy againſt a Fever.

ANTIFIDES, the Calx of Metals. *Rulandus.*

ANTIGONI COLLYRIUM NIGRUM, the black Collyrium, invented by *Antigonus*, is thus prepared:

> Take of Cadmia, thirty-ſix Drams twenty Grains; Antimony, twenty-five Drams; Pepper, eight Drams twenty Grains; Verdegris, eight Drams twenty Grains; Gum Arabic, twenty-five Drams; bruiſe them, and make them up in Rain-water. *Coſmus* added to this Remedy, ten Drams twenty-five Grains of the Juice of Centaury; in which he did right, in my Opinion. *Marcellus Empiricus.*

ANTIHECTICA, Remedies againſt a Hectic Fever. *Blancard.*

ANTIHECTICUM POTERII, a Medicine invented by *Poterius*, called alſo *Antimonium Diaphoreticum Joviale*. It is thus prepared:

> Take equal Quantities of Tin, and Martial Regulus of Antimony, melt them in a large Crucible; then put to them, by little and little, three times the Quantity of Nitre; after the Detonation and Noiſe is over, waſh the Whole with warm Water, till no Saltneſs remains.

This is accounted a forcible penetrating Medicine, inſomuch as to make way through the minuteſt Paſſages, and ſearch even the nervous Cells; whence, in all Diſorders of that Original, it is reckoned very effectual. In thoſe Heavineſſes of the Head, Giddineſs, and Dimneſs of Sight, whence proceed Apoplexies and Epilepſies, it does great Service. And in all Affections and Foulneſſes of the Viſcera of the lower Belly, it is reckoned inferior to nothing in cleanſing away and diſcharging their Impurities. Thus it obtains in the Jaundice, Dropſies, and all Kinds of Cachexies. It is likewiſe eſteemed of great Service even in obſtinate Venereal Caſes, in clearing the Blood from all Impreſſions of Contagion, and cleanſing the Glands from thoſe corroſive Recrements which ſuch Diſtempers frequently lodge upon them, and occaſion Blotches, and ulcerous Deformities. In ſhort, there is hardly a Preparation in the Chymical Pharmacy, of greater Efficacy in moſt obſtinate Chronic Diſtempers; but it is not often met with in Preſcription, although conſtantly kept in the Shops. The Doſe is from ſix Grains to a Scruple in grown Perſons; for it is ſeldom given to Children, their tender Veſſels not well bearing the Force of ſuch Medicines. *Quincy's Diſpenſatory.*

ANTILEPSIS, ἀντίληψις, from ἀντιλαμβάνω, or ἀντιλαμβάνομαι, to lay hold of. *Hippocrates* in his Book κατ' ἰητρεῖον, ſpeaking of Bandages, ſays, that if there is any Danger of a Bandage ſlipping upwards, the ANTILEPSIS muſt be below; but if the Danger is of its ſlipping downwards, it muſt be above. By ANTILEPSIS, therefore, he means the Hold or Fixation of a Bandage upon a ſound Part, either above or below the Part to be defended, in order to ſecure it from ſlipping off.

ANTILOBIUM, ἀντιλόβιον, that Part of the Ear which is oppoſite to the Lobe. I ſuppoſe it means the Tragus.

ANTILOGIA, from ἀντὶ, againſt, and λέγω, to ſpeak. Contradiction.

ANTILOIMICA, from ἀντὶ, againſt, and λοιμὸς, the Plague. Remedies againſt the Plague.

ANTILOPUS, Offic. *Gazella Africana*, Raii Synop. A. 79. *Capra ſtrepſiceros*, Aldrov. de Quad. Biſul. 740. Charlt. Exer. 10. *Strepſiciceros*, Bellon. Obſ. *ed.* Cluſ. 21. Caii de Animal. 56. Gaſn. de Quad. 294. THE ANTELOPE. *Dale.*

This is an *African* Beaſt like a Deer, remarkable for Swiftneſs. The Hoofs and Horns are uſed in Medicine, and are eſteemed good againſt the Epilepſy and Hyſterics.

ANTILYSSUS, from ἀντὶ, againſt, and λύσσα, that Species of Madneſs which is cauſed by the Bite of a mad Dog. An Epithet for a Compoſition againſt this Madneſs. Thus a Compoſition of equal Parts of the *Lichen Cinereus Terreſtris*, Greyground Liverwort, and black Pepper, is given in the College Diſpenſatory, under the Title of *Pulvis Antilyſſus*.

ANTIMONIUM, Antimony. A great many excellent Medicines are furniſhed by this Mineral, to the regular Practice of Phyſic ; and moſt of the empirical Noſtrums which have made any conſiderable Figure, have been found to be Preparations thereof. Hence it has become a very important Subject, inſomuch that many Volumes have been written concerning it. Amongſt theſe are *Baſil Valentine*'s *Currus Triumphalis* of Antimony, which, by the way, is not always to be depended on ; and *Lemery*'s *Traité de l'Antimonie*. *Angelus Sala* has alſo written well upon it.

Stibium, or Antimony of the Shops, σίμμι of *Dioſcorides*, probably the τετράγωνον of *Hippocrates*, *Lapis Spumæ candidæ nitentiſque, non tamen tranſlucentis*, of *Pliny* ; *Ailmad*, or *Alamad*, of the *Arabians* ; is a metallic, ſolid, heavy, brittle Subſtance, of a Lead-colour, with long ſhining Streaks, fuſible by Fire, but not ductile. Native Antimony is of different Kinds ; ſome is dug up with the Appearances of poliſhed Iron or Lead, but brittle, and mixed with white or cryſtalline Stones. Some is compoſed of fine ſhining Lines like Needles, ſometimes diſpoſed in regular Ranks, ſometimes without any obſervable Order, which is termed Male Antimony. Some is diſpoſed in thin broad Plates, or *Laminæ*, called Female Antimony by *Pliny*. Some is a Congeries of ſmall Lead-colour'd Rods, got from a tender white Stone, and eaſily melting in the Fire like Sulphur, which enters its Compoſition in great Quantities. Antimony of this Kind is found in ſeveral Parts of *Italy*. Some is marked with Saffron-colour'd or reddiſh Spots, as the *Hungarian* Antimony, mightily eſteem'd by Chymiſts, becauſe of the Golden Sulphur with which they imagine it to be ſtor'd. Antimony is ſometimes found in a particular Ore, but moſt commonly mixed with other Metals ; and hence its Name may have been derived, Antimony being the ſame as ἀντίμονον, an Enemy to Solitude.

Ores of Antimony are found in many Countries, and very plentifully in ſeveral Provinces of *France*, as *Auvergne*, *Poictou*, *Britany*, and others. The Glebes of Antimony are dug out of the Earth, mixed with a ſtony Matter, and the pure Mineral or Metal is ſeparated by breaking the Glebe into ſmall Pieces, and afterwards treating it in the ſame Manner as in refining other imperfect Metals.

The *French* Antimony conſiſts of almoſt equal Parts of common Sulphur, and of a Reguline Subſtance. The Sulphur in Antimony is diſcover'd by the Smell, and the blue Flame which it emits, when calcin'd in a dark Place ; and when thrown into a Crucible with Nitre, it fulgurates in the ſame manner as a Mixture of Nitre and Sulphur. By diſtilling Antimony with corroſive Sublimate, we get the Cinnabar of Antimony, which conſiſts of the Sulphur of Antimony, and the Quickſilver of the Sublimate. If Antimony be boiled in common Water, mixed with four times its Quantity of Quick-lime, or Pot-aſh, the Sulphur it contains, being diſſolved in the Water, by means of the alcaline Salts, may be precipitated by Vinegar, or any other Acid. The Reguline Subſtance is fuſible, not ductile, ſhining like poliſh'd Iron, and ſeems to conſiſt of broad Laminæ ; which, when the Regulus is rightly prepared, are diſpoſed in a radiated Manner, ſo as to exhibit the Appearance of a Star on its upper Surface. This Regulus may, by being calcin'd in the Sun, be ſeparated from almoſt all its Sulphur, and turned to an aſh-colour'd, true, vitrifiable Calx ; which, being melted by a ſtrong Fire, is converted into a hyacinth-colour'd Glaſs. If to this Glaſs, while in Fuſion, any ſulphurous or other inflammable Subſtance be added, it preſently recovers its Reguline Form and Splendor. Becauſe of the great Quantity of Sulphur which Antimony contains, an acid Liquor may be extracted from it, in nothing different from Spirit of Sulphur. From all which Obſervations, it is evident, that Antimony conſiſts of a ſulphurous Acid, of a bituminous, inflammable Part, and of a vitrifiable, metallic Earth. The Regulus of Antimony is diſſolved by *Aqua Regia* ; but is only calcined by the other Diſſolvents of Metals. Antimony diſſolves and deſtroys all Metals, except Gold, when melted with them. From this Property of Antimony, many Names have been given it by Chymiſts ; ſuch as, the devouring Wolf ;
turn, who eats his Children ; the Lead of the Wiſe,
the Sugar of the Sun ; becauſe Gold, melted with Antim
is purified from all other Metals with which it is mixed,
comes out brighter and cleaner than before. Antimony is
monly thought by Chymiſts to contain a true, but u
ſolar Sulphur ; and hence it has been called Leprous Gold,
the *Ens primum ſolare* ; but the Sulphur of Metals is not
ent from the pure, original Sulphur, or Oil of Animals
Vegetables.

Among the Antients, Antimony was uſed to dye the *Supe*
and *Cilia* black. Accordingly we find in Scripture, tha
wicked Queen *Jezebel*, in order to charm the King her
band, painted her Eyes with Antimony ; and the Wo
who uſed that Practice, are alſo reproved by the Prophets
from thence it was, that this Mineral got the Name of
κεῖον. See ALCOHOL.

Antimony, according to *Dioſcorides*, is aſtringent, obſ
the Paſſages, cools, prevents Excreſcences in the Fleſh,
trizes Ulcers, ſtops Bleeding, and cleanſes the Filth and
of the Eyes. *Galen* mentions its aſtringent and drying V
and ſays, that it was uſed by Oculiſts in their dry Collyriu
that Intention. It was the Cuſtom of the Antients to
it, then to quench it in Womens Milk, or Wine, and,
ing afterwards reduced it to Powder, to make it up into
Paſtils, which being perhaps of a quadrangular Figure,
from thence called τετράγωνον by *Hippocrates*. The
Virtue of Antimony ſeems to have been unknown to th
tients, or, at leaſt, they ſeldom uſed it as ſuch, or as a C
tic. *Dioſcorides*, indeed, mentions it in one Place, as
gredient in a purging Medicine made of *Elaterium* and
but the Antimony ſeems to have been there ordered o
give a Colour to the Compoſition. Its cathartic Quali
came generally known about the twelfth Century, in
a *German* Benedictine Monk, named *Baſil Valentine*,
liſhed a Book called *Currus Triumphalis Antimonii*, wh
extols the Virtues of that Mineral, and its Preparations
Cure of an infinite Number of Diſeaſes. In the 15th
tury, *Paracelſus*, following the reigning Opinion, ma
Fame of the Virtues of Antimony become ſtill more uni
however, Phyſicians diſputed afterwards with great W
and Virulence, concerning the beneficial and deleterious
lities of Antimony. At preſent they are all agreed, th
a very powerful and ſafe Medicine ; and they ackno
two Virtues in it, depending on its different Prepa
one emetic, or cathartic, the other diaphoretic ; for a
dicines prepared from Antimony do either purge up
downward, or are diaphoretic and ſudorific. Crude An
is ſeldom uſed in Phyſic ; tho' it is certain, that it poſſ
hurtful Qualities, ſince it may be taken inwardly in the
tity of a Dram or two, without exciting any Nauſe
is often boil'd in ſudorific and drying Apozems, without c
nicating to them any emetic or other prejudicial Quality
indeed, that Way of treating Antimony has no Effect
ſince it communicates nothing to the Water, at leaſt
that the Water can retain, how long ſoever it be boiled
The active Qualities of this Mineral are therefore entire
ing to its Preparations, except it be render'd emetic b
acid Juices which it meets with in the Stomach.

Crude Antimony, taken inwardly, in the above-me
Quantity, diſſolves Viſcidities in the Fluids, opens
ctions, and is commended by ſome as a ſafe Remedy i
neous Diſeaſes, in Conſumptions and Epilepſies. It
wiſe of great Uſe in fattening Brutes. The external U
is likewiſe recommended for drying Ulcers, in curing t
and other Diſeaſes of the Skin, when mixed in Oin
in Plaiſters for reſolving Tumors ; and in *Collyria* for
mations, and other Affections of the Eyes.

The moſt common Preparations of Antimony are the
or Liver of Antimony ; *Crocus Metallorum*, *Vinum St*
Emetic Tartar, Glaſs of Antimony ; the Golden Sul
Antimony ; and the Flowers, Butter, and Cinnabar o
mony ; the Powder of Algaroth ; the univerſal
Bezoar Mineral ; Diaphoretic Calx, or Diaphoretic
and the Tincture. *Geoffroy.*

Mr. *Reaumur* gives the following Account of the Co
of Antimony.

Nothing is more common than to obſerve, as it we
and ſhining Needles on the Surface of broken Antimo
that on which they are moſt diſtinct and viſible, is eſte
beſt. Sometimes theſe Streaks are rang'd with ſo muc
and branch out with ſo much Regularity in certain Di
that even thoſe who have daily Opportunities of obſer
Phenomenon, can't help being ſtruck with its Beaut
Figures of the conſtituent Molecules of this Mineral
ſibly contribute ſomething to the Formation of theſe
But the Texture and Configuration of the conſtituent
not alone account for the Diſpoſition of theſe Str
their Arrangement with regard to each other ; ſi
breaking different Lumps of the ſame Antimony, an

Shape, we often obſerve quite different Arrangements of
Streaks or Needles. Let us take, for Inſtance, equal
s of Antimony, of a regular conical Figure, becauſe this
ral is generally melted in a Species of Crucibles which re-
e a Funnel, or an inverted Cone. Let ſeveral of theſe
l Maſſes be broken, each into ſeveral Parts; and we ſhall
he Needles of the ſame Cone diſpoſed in different Di-
ns, and varying in each different Piece. In one of theſe
s, from a certain Height, we may obſerve all the Nee-
irected to the Point of the Cone; a little higher, the
es ſhal be horizontal, or nearly perpendicular to the for-
above theſe we ſhall obſerve others which ſhall ſome-
be all directed to ſome Point of the Baſe of the Cone,
metimes divide themſelves into Cones, which ſhall have
nt Summits. In another of theſe Maſſes we ſhall not
he Needles diſpoſed in an horizontal Direction, but running
onical Parcels, in Directions quite the reverſe of each
; that is, one conical Parcel ſhall have its Summit point-
the Apex of the Cone, and that of the other ſhall be di-
to the Baſe. In ſome Lumps we ſhall perceive Needles
where; in others we ſhall diſcover none at all. Often
Needles appear in one Part of the Lump, when no ſuch
is to be ſeen in the reſt. Very commonly we ſee them
d in Parcels of a conical Figure, whatever the external
and Shape of the Lump is; for the internal Cones have
pendence upon the external conical Form of the common
Sometimes the Needles are diſpoſed along the Sides of
one, and their Direction ſeems to follow the Sides of the
in which they became fixed.

twithſtanding theſe Varieties, the Cauſe which contri-
to the Production and Arrangement of theſe Needles, is
ſt; and however little we may advert to it, ſeems to be
to nothing elſe but that Refrigeration, by means of which
ineral Subſtance is changed from a fluid into a ſolid State.
this Refrigeration, and its Progreſs, that the Needles of
ony owe their Production and Direction: Any Sub-
, whoſe Fluidity depends only on the groſs Particles of
re, which ſeparate and agitate its conſtituent Molecules,
s its former Solidity, when 'tis left to itſelf, and when
rticles of the Fire are diſſipated: Now theſe cannot poſ-
e diſſipated but ſucceſſively, and in a certain Order,
is generally ſuch, that thoſe Parts of the melted Sub-
, which are either next to the Sides or the Mouth of the
le, firſt aſſume a Conſiſtence; then the Molecules next
ſe become fixed, and ſo on till the whole Maſs loſes its
ty: Now each fixed Molecule applies itſelf ſo much the
effectually and neceſſarily to that which is contiguous, as
ontact of each fix'd Molecule with that which is con-
s, contributes not a little to fix it, and deprive it of
n.

lecules, ſucceſſively added to each other, form a kind of
, Threads, or Needles, the Directions of which ſhew the
lar Order in which the Refrigeration has been carry'd on.
Crucible was of the Shape of a hollow Bowl; if its
were every-where equally thick, equally warm, of the
Conſiſtence, and equally acted upon by an Air equally
and if the melted Subſtance was of the ſame uniform
e in all its Parts, all the Needles or Fibres would be ſo
Rays terminating in the Centre of the Bowl. If the
nce was ſuch, that its fix'd Particles were almoſt all of
gth, we ſhould find alſo concentrical Beds of Needles,
d by Parcels of each Ray, and lying at equal Diſtances
the Centre.

t ſo many remarkable Circumſtances do by no means
r in the ordinary Refrigeration of Antimony; neither
poſſible they ſhould: Hence the Irregularities, of which
ave been talking, muſt neceſſarily ariſe. I have, never-
s, made ſome Experiments in Crucibles of a conical
, in which I have generally given the Needles Directions
near thoſe I intended they ſhould have. When the
ble, immediately after it is taken off the Fire full of fluid
nony, is plac'd upon any Subſtance more capable of cool-
than the common Air, then the Bottom and the Top of
ntimony contained in the Crucible, muſt neceſſarily be-
cool firſt. Accordingly, I have, upon trying the Experi-
, often found the Needles divided into two Cones, one
ich had its Apex at the Bottom of the Crucible, and the
its Apex near the ſuperior Surface of the Antimony.
n, after taking the Crucible from the Furnace, I have
t upon ſome Coals, and alſo laid ſome upon the ſuperior
ce of the Antimony, that the Sides might cool as ſoon,
t ſooner than the reſt, I have then found a Part of the
les diſpoſed horizontally, or, at leaſt, there were Parcels
em which form'd Cones, ſome of which were almoſt per-
cular to certain Parts of the Sides of the Crucible. I have
more ſurely produced the ſame Effect, by accelerating
efrigeration of particular Parts of the Crucible by touch-
hem with a wet linen Cloth. Sometimes there is a Hol-
form'd in the Middle of the conical Maſs of Antimony,
and in that Caſe we ſee Needles directed from the Sides of this Hollow; the firſt Beds which have become fixed, have ſerv'd inſtead of the Sides of the Crucible in this Caſe.

That the Needles may be arranged with Regularity, 'tis above all things neceſſary, that the Refrigeration be carried on ſlowly, or otherwiſe one Molecule becomes fixed before it can be well adapted and adjuſted to the End of another fix'd Molecule. If, nevertheleſs, the Refrigeration is too ſlowly made, we ſhall have no more Needles than if it had been too precipitately carry'd on; that ſame Arrangement, which exiſted during the State of Fuſion, remaining, the Particles of the Fire make their Eſcape inſenſibly, and almoſt equally, from all the Parts of the Maſs: In this Caſe, all the Molecules owe their Diſpoſitions, as well as their State of Reſt, to the Fire's ceaſing to agitate them; and here the Contact of the Molecules already fixed, does not any more contribute much to ſtop the Motions of the other Molecules. Thus when I have left the Crucible full of melted Antimony upon live Coals, till they were extinguiſhed, it has ſometimes happened that I have not found a ſingle Groupe of Needles in all the Maſs; and even when I found any, they were very few in Number.

In ſhort, it ſeems ſo probable, that the Formation and Diſpoſition of the Needles of Antimony are the Effects of a Refrigeration, that is neither too quick, nor too ſlow, that it would be ſuperfluous to ſupport and maintain this Opinion by a longer Detail of Experiments. Inſtead of being ſurpriſed at ſuch a Phenomenon in this Mineral, methinks we ought rather to be aſtoniſh'd, that we do not find the ſame Appearances in all other Subſtances, which have been melted by the Fire, and afterwards become fixed. The Refrigeration in them muſt be made in the ſame Order as in Antimony, and muſt conſequently produce ſimilar Arrangements. This is, indeed, a plauſible Dilemma, and a Circumſtance, which throws a kind of Diffidence into the Mind, with regard to the Truth of a very ſpecious and probable Hypotheſis: For Maſſes of Metal, upon being broken, do not preſent us with the ſame Appearances that Antimony does. I am not ignorant, that curious and ſkilful Naturaliſts have purpoſely cool'd Maſſes of Metal as ſlowly as poſſible, without ever being able by that means to render the Arrangement of their Parts ſenſible. But becauſe the Arrangement of the Parts is not perceptible in a Maſs of Metal, as it is in Antimony, does it thence follow, that there is no ſuch Arrangement in the former, as well as in the latter? Surely not. The Maſs of Antimony is a brittle Subſtance, and its Parts are ſo much the more eaſily and thoroughly diſengaged, as they do not mutually yield to each other. If one ſtrikes a Maſs of Antimony, it flies into Pieces, every one of which retains the ſame Arrangement of Parts it did before the common Maſs was broken. This is not the Caſe with Maſſes of Metal; for they yield to Blows, a Circumſtance which makes their Parts aſſume new Arrangements. One cannot break them till theſe new Arrangements have put the Parts into ſuch a State, as that it is more eaſy for them to ſeparate from one another, than to diſpoſe themſelves otherwiſe than they are; and conſequently this State is very different from that which they were in originally. All the Parts then may be as regularly arrang'd in a ductile Maſs, as in a brittle one, without our being able to diſcover that Arrangement, which we muſt neceſſarily conceive to be in it. But there are Means, notwithſtanding the Ductility, and even the greateſt Ductility, of a Metal, of obſerving this Arrangement of Parts which has hitherto eſcap'd our Eyes. Lead itſelf will even diſcover its Arrangement, if obſerv'd in the favourable Moment. All Metals are more or leſs ductile when cold; they alſo are ſo, when hot in a certain Degree, beyond which they are no more, properly ſpeaking, ductile; their Molecules, being too far removed from each other, cohere but ſlightly, and may be entirely ſeparated by the firſt Blow they receive, provided it is but moderately ſevere. What happens to all brittle Bodies, happens partly to them on this Occaſion; ſo that their being broken, when in this State, allows us to diſcover the Diſpoſition and Arrangement of their internal Parts. This Obſervation I made firſt upon Lead. If it is broken when cold, we obſerve no Granulations in it; but I happen'd to break a Maſs of it when pretty hot, and was ſurpriſed to find it as much granulated as a Piece of temper'd Steel when broken. The ſame Lead, when become cold, could not be broken without reiterated Blows, neither did Granulations appear any more in the Parts where it was broken: Now ſince Lead, when hot, has Granulations; ſince it retains them at the very Time it acquires a perfect Conſiſtence, and when its Heat is too faint to keep it in a State of Fuſion; hence it is evident, that it muſt alſo have Granulations when entirely cold. There is no Cauſe to reunite theſe Granulations, and reduce many of them into one, in the one Caſe more than in the other; but the Blows of the Hammer will occaſion ſuch a Reunion in the cold Lead, whereas they will produce no ſuch Effect in that which is hot.

Having obſerved the Granulation of Lead, I imagin'd I might alſo diſcover a regular Arrangement of Parts in it: With this View I melted ſome of this Metal in a conical Crucible, and allow'd it to aſſume a Conſiſtence by little and little; and when it had acquir’d a ſufficient one, I took it, as yet very hot, from the Crucible; then a Blow of a Hammer eaſily divided it into ſome large Lumps; the fractured Parts of which diſcovered to me thoſe Needles and Fibres which I wanted to ſee: The Granulations, applied one againſt another, in certain Directions, formed theſe Fibres; there were Groupes of them parallel to each other, and almoſt perpendicular to the Sides of the Crucible. In other Groupes all the Fibres were perpendicular to the Bottom of the Crucible; and, in a Word, I ſaw, in the Lead, Fibres, ſuch as are obſerved in Antimony, and whoſe Arrangement and Diſpoſition were the ſame.

But, at the ſame time, I obſerved certain Differences between the Fibres of Lead, for I ſhall give them that Name, and the Needles of Antimony: Theſe latter are very ſhining, have a lively ſparkling Gloſs, and are like ſo many Mirrors, or ſmall Glaſſes, applied to each other’s Ends; whereas the Fibres of the Lead are leſs ſparkling, and are ſo very far from being flat, that they are viſibly round: To the naked Sight, or even with a Glaſs that magnifies moderately, they only have the Appearance of a Groupe of ſmall Bowls, arranged like the Grains of a Chaplet: A Glaſs which magnifies more, or a Microſcope, repreſents each of theſe Fibres not as very round; and by their means it appears, that the Fibre is form’d of Grains applied one againſt another, only by a ſmall Part of their Ends; and that, whereas the Sides of the Needles of Antimony are ſtrait, thoſe of the Fibres of Lead are denticulated. When this Affair, which I only hint at, at preſent, is more narrowly inquir’d into, it will perhaps be found, that it is upon this Figure of the Granulations, and their Arrangement, that the Ductility of Metals, and ſome other Subſtances, depends. We perceive already, that this Diſpoſition leaves empty Spaces, which are filled up by the Parcels put out of their former Situation by the Blows of the Hammer; that, by the Force of Blows, theſe Vacuities, or empty Spaces, muſt be in ſome meaſure filled up; and that the Subſtance then becomes leſs malleable. In fine, Laminæ, applied one above another, or one againſt another, without leaving between them Interſtices proportion’d to their Largeneſs, muſt neceſſarily compoſe brittle Maſſes, ſuch as that of Antimony. I have already hinted, but I here repeat it again, that, in order to ſee the Diſpoſition of the Fibres of Lead, it is neceſſary to catch it in the favourable Moment. If a Metal is ſtruck when too hot, it is too much divided by the Blows of the Hammer, and crumbled into Parcels, moſt of which are no larger than Grains of Sand: If, on the other hand, the Metal is ſtruck when it is not ſufficiently hot, it yields to the Blows, and diſcovers neither the Arrangement of the Granulations, nor the Granulations themſelves. By repeating the Experiment twice or thrice, one may find the exact Moment.

I have broken Maſſes of Tin, Copper, and Zinc, when hot, and was at no great Loſs to find, in each of them, the ſame Granulation, and the ſame Fibres, I had diſcovered in Lead. We have no Reaſon to doubt, but the ſame Filaments are to be diſcovered in Gold and Silver; but I have not, as yet, made any Experiment with that View.

All ſoft Bodies, or ſuch as are eaſily ſoften’d, as Wax, Tallow, Fat, Butter, have no Occaſion for ſuch a Diſpoſition of Parts; or if they have, we can never perceive it, becauſe they never become brittle.

All Maſſes which have been melted, tho’ brittle, may poſſibly not diſcover this Arrangement of their Parts upon their being broken. We have already obſerved, that too quick, or too ſlow a Refrigeration, may prevent their being diſcovered, even in Antimony. In thoſe Salts which are moſt diſpoſed to form themſelves into Cryſtals, if they are made to cryſtalize too quickly, or agitated whilſt the Cryſtalization ſhould be carrying on, none will appear. The Parts of melted Bodies, in like manner, do not aſſume a regular Arrangement, if they are too quickly refrigerated, or agitated during the Refrigeration. Another Cauſe may, as yet, concur to diſturb, or even totally prevent this Arrangement; which is, when the melted Body is not an uniform Fluid; when it is compoſed of Parts, ſome of which have a greater Diſpoſition to become fix’d than others, which have only the ſame Degree of Heat with themſelves. The Formation of Fibres, Filaments, and Needles, is the Effect of a ſucceſſive Refrigeration; or, to ſpeak more accurately, of the Parts acquiring a ſucceſſive Conſiſtence. If thoſe Parts of any melted Subſtance, which are remote from the Sides of the Veſſel, ſhould become fixed, before ſuch Parts as are nearer them have loſt their Fluidity, there is no more any Reaſon, why theſe Parts ſhould form a continued right Line with the others. The more any Fluid is mixed with theſe Parts, which have an equal Diſpoſition to become fixed, the more difficult it will be for Needles to form themſelves in it; and when it aſſumes a Conſiſtence, the Threads will be the more interrupted in it. *Mem. de l’ Acad. Roy.* 1724.

Mr. *Geoffroy* makes the farther following Remarks upon Antimony, and its Preparations:

Vegetable Acids, being, of their own Nature, more attenuated than thoſe which belong to Minerals, eaſily unite wi
rarefied Sulphur of Antimony; and thus ſeparating tha
phur from the vitriolic Acid contained in the Antimon
emetic Compound is formed; but mineral Acids, being
denſe, fix and wrap up the ſulphurous Parts of Antimon
as not to ſtimulate the Stomach and Inteſtines, but to let
paſs freely into the Blood, before they can be diſengaged
act according to their own Nature. Spirit of Wine de
the emetic Quality of Antimony, becauſe of the too great
portion of ſulphurous Parts, by which the ſaline *Spicu*
ſo much involved, as not to be able to act on the Stomac

Antimony is the moſt excellent Emetic we have, an
moſt ſovereign Remedy in many Diſeaſes, when rightly
bited. In giving Emetics, three things are to be conſid
the Patient, the Diſeaſe, and the Medicine. We ought
of all, to be informed, whether the Patient vomits eaſily:
Perſons cannot be made to vomit with any Doſe of an
monial Medicine; ſome are ſo weak as not to be able to
the Fatigue and Straining of a Vomit at all; ſome are ſ
ject to a Spitting of Blood, that, by giving them a ſtrong
tic, a fatal Hæmorrhage might enſue. We ought likew
know, whether the Patient has any conſiderable *Hern*
which Caſe violent Vomiting might produce very dang
Conſequences; whether the Veſſels be ſo full, as that a
ture of any of them may be apprehended; and laſtly, wh
the Patient, if a Woman, be with Child. In all theſe C
Vomits ſeldom ought to be ventured upon, and never wi
taking the greateſt Precautions before-hand.

The ſecond Thing to be conſidered, is the Diſeaſe itſelf
eſpecially, whether the Seat of it be in the Blood, or in th
mæ Viæ; the laſt of which may be diſcovered by a bitter Ta
the Mouth, Nauſea, bilious Eructations, acid Vomiting,

Some imagine, that Emetics can be of no real Service
the morbid Matter has reached the Maſs of Blood, or whe
Diſeaſe proceeds from an *Ataxia*, or Depravation of the S
as in many ſpaſmodic, hyſterical, and hypochondriacal A
ons: But this is a Miſtake; for we find, antimonial Vomi
given with very great Succeſs in ſuch Caſes; not ſo mu
they evacuate what was before contained in the Stomach,
deriving the morbid Matter from the principal Parts, the L
for Inſtance, or *Pleura*, when threaten’d, or actually aff
into the Abdomen, from whence it is eaſily and readily c
out of the Body. And, for this Reaſon, *Hippocrates*,
wiſely, adviſes to have recourſe to Vomits in the Beginni
ſuch Diſeaſes. In Convulſions an Emetic, by applying
mulus to the Fibres, of a contrary Nature to that from w
the Diſorder proceeds, very often gets the better of that m
Cauſe, and thus cures the Diſeaſe: For the ſame Reaſon
pocrates gave Emetics in Diarrhœas and Dyſenteries, tha
Tendency of theſe Evacuations might be directed upwards,
ſo deſtroyed. In Comatoſe Affections, Emetics powe
ſhake the Viſcera, increaſe the Oſcillations of the nervou
bres over the whole Body, and accelerate the Motio
the Fluids, or reſtore it, when loſt, in any particular
ſo as to make them paſs through the ſmalleſt Cana
their proper Emunctories. Thus we often ſee one Doſe o
antimonial Emetic prove likewiſe cathartic, ſudorific,
in a very plentiful Degree. In giving theſe Emetics great
ought to be taken, that none of the abdominal Viſcera b
flamed; becauſe ſuch Inflammations might very probabl
increaſed by the Strain of Vomiting. We muſt not lik
be miſled by all kinds of Reaching, or Attempts to vomit
theſe are many times owing to convulſive Contractions o
Stomach, which by giving an Emetic may be increaſed, or
haps that whole Bowel may be inflamed.

Thirdly, ſuch Preparations of Antimony are to be choſ
may be given with Safety, of which the Doſe may not be
great for the Strength of the Patient, and yet may anſwer
Intention of the Phyſician. Antimonials given in Powder
ten diſappoint Phyſicians, either by vomiting too much, or
at all. The Effects of Antimonial Wines are very uncer
becauſe of the different Qualities of Wines: But the moſt
cellent Preparation of this kind is Emetic Tartar, which o
always to be given, diſſolved in a proper Liquor, and not in
ſmall a Doſe; becauſe if it is not ſtrong enough to have
deſired Effect, it will be apt to fatigue and torment the Pa
with fruitleſs Nauſeas and Reachings. Too great a Doſe
likewiſe be dangerous, by exciting too violent Contraction
the Stomach, and Strainings of other Viſcera, ſo as to c
ſpitting or vomiting of Blood, long-continued Reachings w
out bringing up any thing, Convulſions, and Inflammation
the Viſcera.

If from any Doſe of Antimonial Preparations, either too
lent or too long-continued Vomitings ſhould happen, the
Method is to drink a Glaſs of Water or Ptiſan, acidulated
a few Drops of *Ol. Sulphuris per Campanam*, or Spirit of
triol; which will preſently check the emetic Quality of
Antimony, and ſtop the Vomiting much more ſafely t
Opium.

W

While the Emetic works, the Patient ought to drink very tifully, either luke-warm Water, Whey, or Veal or ken-water, with a View both to dilute the Contents of the nach, to be thrown up, and to make the Vomiting more , and leſs ſtraining. On the other hand, Oils, and all fat ſtances, check the Force of the Emetic too ſoon, and pre- the Dilution of the Contents of the Stomach, and are efore to be guarded againſt.

eſides the medicinal Uſes of Antimony, it is employed by al Artificers, to give the Silver Sound to Tin, in caſting , making metalline *Specula*, and Types for Printing, &c. likewiſe uſed by Goldſmiths in refining Gold; for when ed with that Metal, it deſtroys all other Metals that can be d with it, Silver itſelf not excepted, and turns them to ſ. *Geoffroy*.

PROCESSES *upon* ANTIMONY.

PROCESS I.

The Solution of ANTIMONY *in Aqua Regia.*

ake of the pureſt Antimony, collected from the Tops of the Cones, half a Pound; reduce it to Powder, and put it into a glaſs Veſſel that is low, and pretty large, and cut off in ſuch a manner as to have a wide Mouth. Set the Veſſel, with the Antimony, under a Chimney that will carry the Fumes up without diſſipating them; and then pour upon it half a Pound of Aqua Regia. By this means there will be excited an incredible Efferveſcence, with a prodigious Heat, Noiſe, and very red and denſe Fumes, all which will ſoon be over. There will then remain at the Bottom a moiſt, thick, pappy Matter, of an Aſh-colour, inclining to Yellow. Dry this with a very gentle Fire, keeping it now-and-then ſtirring with a Stick.

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s called an immerſive or humid Calcination of Antimony, which this Foſſil, which before was neither emetic nor gative, acquires the moſt virulent Qualities. The yellow tter interſperſed through this Calx, is a true Sulphur of timony, which the Acid not being able to diſſolve, is diſ- ged from the other metalline Part of the Antimony, ch is corroded by the Aqua Regia. Hence, therefore, in Operation, there is both a Calcination and Separation. s Proceſs is neceſſary to thoſe that follow.

PROCESS II.

True Sulphur of ANTIMONY.

n the Calx of the preceding Proceſs pour ſome clean Water, ſhake them together, and pour off the turbid Li- uor into another Veſſel; add more Water, ſhake and de- nt as before; and proceed in this manner, till the yellow ghter Part, being thus diſperſed thro' the turbid Waters, ſeparated from the more heavy metalline Portion. Mix e decanted Waters together, pour off the whitiſh Wa- r at Top from the ſulphurous Matter that falls to the ottom, which dry with a very gentle Fire, and it will be true Sulphur in every Character. If you put larger umps of Antimony into Aqua Regia, and ſo perform the olution, then the Maſſes of Sulphur will be larger; for e Aqua Regia, penetrating to the larger Portions of the Metal, that lie concealed in the Sulphur, will diſſolve and xtract them, and ſo render the Maſſes of Sulphur more ſible.

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it appears, how intimately Sulphur may lie con- d under the Appearance of a ſhining Metal, and how riſingly the Aqua Regia can find out the metalline Part ngſt the Sulphur. But how wonderfully does the Sulphur retain its proper Nature, without any Alteration? This at Sulphur of Antimony which *Van Helmont* orders to be cted, and which, he ſays, ſcarcely differs from the common hur, except that it is a little more upon the Greeniſh; and, d, there is ſcarcely any Difference: Nor, perhaps, does Cinnabar that is made with it, in regard of its Virtues, ve ſo much Trouble: Certainly, the ſubliming it ſeven s, as he directs, is not ſo eaſily done as directed. In this ation, however, we have an ocular Demonſtration, Antimony conſiſts of a ſulphurous and a metalline

PROCESS III.

Glaſs of ANTIMONY.

ake of the pureſt Antimony, reduced to Powder, two unds; put it into a large earthen Diſh that is not glaz'd, d, in the open Air, place it over a Fire, in ſuch a man- r, that the Powder ſhall fume, but not melt. The hole Art depends on thus moderating the Fire: Keep the Powder continually ſtirring with an earthen Rod: A white, thick, fœtid Fume will ariſe, which is prejudicial, and therefore muſt be cautiouſly avoided by the Operator's ſtanding ſo, that the Wind ſhall blow it from him. Carefully continue this Calcination, in an equable manner, till the Matter fumes no longer. Then increaſe your Fire a little, and, if it begins to fume, keep it up till it ceaſes; and then make your Fire pretty ſtrong, till the Diſh begins to be red-hot, and the included Matter emits no more Fumes; and you will, by this means, have a Calx of a greyiſh Colour. If you proceed to calcine this with a ſtill greater Degree of Fire, till the Powder grows red-hot, you will then have a yellow Calx, which is more purified from the volatile Part. If, in the Beginning of the Operation, your Fire ſhould happen to be ſo ſtrong as to melt the Antimony, and make it run into Lumps, you muſt immediately ſlacken your Fire, and reduce theſe again to Powder. This is the Calcination of crude Antimony, by means of Fire alone, and it is of great Uſe.

2. Put this Calx into a Crucible, round which place Fire at a Diſtance, gradually bringing it nearer and nearer, that the Crucible may gently and equably grow warm, hot, very hot, and at laſt red-hot, it being all the time cloſe covered with a Tile, that no Coals or Aſhes may fall into it. Increaſe your Fire till the Calx is put in Fuſion, in which State let it ſtand for half a Quarter of an Hour, and then pour it out upon a very hot, dry Marble, and you will have a brittle, ſub-pellucid, hard Cake, of a dark-yellow Colour, which is called Glaſs of Antimony, and is ſo much clearer as it ſtands longer in the Fire.

REMARKS.

Antimony conſiſts of common Sulphur, and a metalline Glebe. All the Sulphur becomes volatile, by the Fire made uſe of for this Calcination; but the metalline Part bears a melting Fire, as appears when it is melted into Cones; but then it always yields a white ſuffocating Fume. Hence we know, that when powdered Antimony is uſtulated with ſuch a Fire as is not ſufficient to melt it, then the external Sulphur is gradually expelled; by which means the metalline Part is purified, and at laſt is converted into a torrified Calx, which, tho' the Antimony was innocent before, is a moſt virulent Emetic: How this ſhould happen, is not hitherto well explained. This Calx, being put in Fuſion, is Antimony converted into Glaſs. The Adepts ſay, that there is a great Agreement betwixt Lead and Antimony, which is confirm'd by the melting this Calx into Glaſs. This is almoſt a fatal Emetic: If it is infuſed in a ſoft Wine, not too acid, it yields an Emetic with very little Loſs of its Subſtance. The Virtue, however, may be pretty ſoon drawn out, by repeating the Infuſion: This makes the Emetic Wine every-where ſufficiently known. This Glaſs of Antimony conſumes almoſt all metalline Bodies in the Teſt, but to Gold it gives a beautiful Colour. *Boerhaave*.

This, *Geoffroy* ſays, is of a Hyacinth-colour; but it may be made white, yellow, red, or black, by the Addition of Borax, Sulphur, Sal Gem, or Orpiment. Glaſs of Antimony is a very ſtrong Emetic, but may be weaken'd by powdering it on a Marble, and then burning Spirit of Wine upon it, for three or four times: Thus deflagrated, it may be given in the Quantity of ten or twenty Grains, which will either vomit or purge gently, and ſometimes only cauſe a Sweat; on which Account it ſometimes cures intermitting Fevers, if given a little before the Paroxyſm. If this Glaſs, reduced to an impalpable Powder, be digeſted, for two or three Days, with Spirit of Wine, in which half an Ounce of Maſtich has been diſſolved, ſhaking the Veſſel often; and the Spirit be afterwards evaporated by a gentle Heat; the remaining Glaſs of Antimony and Maſtich, incorporated in this manner, will have no emetic Quality. This Powder may be taken in the Quantity of ſix Grains. *Geoffroy*.

PROCESS IV.

A Regulus of ANTIMONY, *with Salts.*

1. A Regulus is procured from Antimony by every Method in which the metalline Part is ſeparated from the ſulphurous; and the more accurate this Separation is, the purer always is the Regulus. In order to this, then, the foſſil Antimony, in its native Glebe, is ſometimes put into conical earthen Pots, and melted with a moderate Fire, that only makes it a little red, and thus is formed into Cones; the lower Parts of which, or thoſe towards the Vertex, are heavy, purer, and more metalline; whilſt the broader Parts, towards the Baſe, are leſs ſolid, darker, and more ſulphurous. In this manner is Antimony depurated to a Regulus, by Fuſion alone.

2. Take of common crude Nitre, two Parts; of good Tartar, three Parts; and of pure Antimony, four Parts: Dry theſe well, and ſeparately reduce them to a fine Powder;

and whilſt they are exceedingly dry, mix them intimately, by rubbing them together. Make the Mixture moderately hot, and by all means very dry. Take a large Crucible, heat it gradually in the Fire till it is perfectly red-hot, and then throw into it two Drams of this dry hot Powder, which will take Fire violently, and with a great Noiſe, and throw out Sparks on every Side. When every thing is quiet, throw in the ſame Quantity more, and you will again have the very ſame Phenomena. Proceed in this manner till you have conſumed all your Powder. And here the following Cautions are abſolutely neceſſary: Let the Crucible be a large one, that the Matter, when it is violently agitated, may not run over: Throw in but a little at a time, leſt the Mixture, when it takes Fire, ſhould fly in large Sparks out of the Veſſel: Let the preceding Portion be always throughly on Fire, be at Reſt, and perfectly red-hot, before you throw in another; for fear the Matter, being hotter underneath, and colder at Top, ſhould form a Cruſt, under which the Fire, being confin'd, would cauſe an Exploſion much louder, and more violent, than that of a Cannon: For you have here a true *Pulvis tonitruans*, from the Nitre, Tartar, and Sulphur of the Antimony. And laſtly, let the Crucible be throughly red-hot, for fear of the ſame terrible Accident. If a young Beginner, not aware of theſe things, goes about to make a Regulus, according to the common Directions, he runs a Riſque of his Life: If he obſerves theſe Cautions, he may perform the Operation ſafely. After the Detonation is completed, in the manner deſcribed, cover the Crucible with a Tile, and increaſe your Fire till the Matter flows like Water: Have by you, at the ſame time, a metal-melting Cone, perfectly dry, a little warm, and rubb'd over on its Inſide with Tallow, into which pour the melted Matter with one Stream, and immediately ſtrike the Cone. Upon pouring in the Matter, a ſudden Flame will burſt out from the lighted Tallow. Let the Whole ſtand quiet and cool, and then invert the Mould, and with a Hammer ſtrike it at the Baſe, and the Antimonial Cone will drop out; the lower or vertical Part of which will be the metalline Part of the Antimony, whilſt that towards the Baſe will conſiſt of the Salts and Sulphur. The upper Surface of the metalline Maſs, where it is covered with the Scoriæ, will be marked with the Figure of a Star. The Scoriæ will liquefy, and ſwell in the Air.

REMARKS.

As this Proceſs diſcovers to us the true Principles of the Metallurgic Art, it is worth while to conſider it a little attentively: Firſt, the foſſil Antimonial Glebe, being melted with a proper Fire, becomes liquid and heavy: Hence the lighter Bodies that are in it, as Stones and the like, and which do not adhere to the metalline Part, according to the Laws of Hydroſtatics, are caſt upwards; and ſo the heavier metalline Part is rendered purer. And thus, in the Metallurgic Art, the metalline Matter is often, by Fuſion, ſeparated from the reſt.

But, by another Metallurgic Operation, the metalline Part of the Antimony is now freed from that Sulphur, from which it could not be ſeparated by ſimple Fuſion, but which ſtill remained cloſely combined with it; and this is done by the Help of the Powder of Tartar, and Nitre, which is therefore a fluxing Powder. When the Antimony, which conſiſts of a ſulphureous and metalline Part, is mixed with the Nitre and Tartar, and committed to the Fire, then the Nitre, Tartar, and Sulphur of the Antimony take Fire with a prodigious Impetus; and by this means there is produced a fix'd Alcali from the Nitre and Tartar: But this fix'd Alcali, being agitated with this intenſe Fire, greedily attracts the Sulphur, and intimately unites it with itſelf; and then the metalline or mercurial Part, as it is called, which is unaffected by an Alcali, being freed from its Sulphur, and put in Fuſion, ſubſides from the lighter Parts, and collects itſelf at the Bottom into a Maſs, which goes by the Name of *Regulus*. And as the long ſharp Spicula of the Antimony diſpoſe themſelves horizontally, from the Centre to the Surface, hence they form a Star, which the Alchemiſtical Magi call a *Stella Signata*, and have in great Veneration. This Regulus, tho' it appears pure, will, upon being fuſed again with an Alcali, produce freſh Scoriæ: Nor, perhaps, can it be ever entirely freed from its Sulphur; and hence, probably, it always remains brittle; for Sulphur will render Metals ſo. The Scoriæ are the Sulphur of the Antimony, diſſolved in a fixed Alcali; and hence their Virtues are eaſily underſtood. The Regulus is emetic, as is the Glaſs, and, by Infuſion, yields an Emetic Wine in the ſame manner. This, then, is another Method of purifying Metals, by the Help of Salts, from every thing ſulphurous, oily, and arſenical, which render the metalline Glebes brittle and volatile; and which being entirely ſeparated, the Metals become pure and fixed. *Boerhaave.*

The Proportions of the other Ingredients to the Antimony,
to each other, are ſomewhat different, in the Receipts
different Authors.

Lemery ſays, this may be given from two to eight Grains in
nally; and *Wilſon*, tranſcribing from him, is of the ſa
Opinion. However, a Perſon that ventures to give it in
nally, ſhould be very well acquainted with the Effects of
Remedy, as well as with Diſeaſes and Conſtitutions.

Of this Regulus of Antimony Cups are made, which com
nicate an emetic Quality to Wine which has ſtood in them
a Night's-time. It is likewiſe made into little Balls or P
which are both emetic and cathartic, though ſwallow
thouſand times, from whence they have the Name of
Perpetual Pills.

Reguli of Iron, Copper, Tin, Lead, Silver, and Gold,
made by melting theſe Metals with the *Regulus* of Antimo
The *Scoriæ* found above the *Regulus* in the Cone, are
yellow or ſaffron Colour, and fully impregnated with
Sulphur of Antimony. *Geoffroy.*

PROCESS V.

Martial Regulus of ANTIMONY.

Take of new Filings of Iron, half a Pound; make
red-hot in a Crucible, and then gradually add of Anti
ny, very finely powdered, and made hot and dry, fi
Ounces. Keep theſe in a ſtrong Fire till they are thro
ly melted; and, whilſt they are in this State, thro
gradually, of the pureſt, drieſt, fine Powder of N
made very hot likewiſe, four Ounces. Urge this Mi
with the ſtrongeſt Fire, till it flows like Water, and
it in that Condition for a Quarter of an Hour; and
whilſt it is perfectly fluid, pour it into a melting C
exactly as in the preceding Proceſs. By this means I
had a ſtarry Regulus, as bright as Silver, to the Qu
of ſeven Ounces and a half. The Scoriæ are of a ver
ferent Nature from the former, dry, hard, irony, ſul
ous, ſaline, and acrid, and ſcarcely diſſolve in the Ai

REMARKS.

The Sulphur of the diſſolved Antimony here greedily
with the ignited Iron; and hence produces ſulphurou
riæ of Iron. Upon adding the Nitre, this is ſtrongly
grated with ſome Portion of the ſame Sulphur; and
the Whole is made to flow by the Intenſneſs of the
When the Matter, then, is in this very liquid State, th
talline Part of the Antimony, which is heavieſt, ſinks,
proper Weight, to the Bottom; whilſt the Sulphur
Antimony, the corroded Iron, and Nitre, are caſt
Top. *Paracelſus* aſſerted, that Iron would more inti
ſeparate the ſulphurous Part of Antimony from the m
rial, than could be effected by a vegetable Alcali; and
that this Regulus was much the fitteſt to furniſh us wi
Mercury of Antimony, for the profounder Chymical O
tions. And certainly, we ſee, by this Experiment, th
is capable of extracting the Sulphur from metalline G
and giving them Fixity and Malleability. *Alexander*
tenius, a Scholar of *Paracelſus*, wrote two whole
tiſes of Antimony, from which is borrowed the fol
Proceſs.

PROCESS VI.

Another Regulus, called the Alchemiſtical Regulus *of*
MONY.

1. Take of Iron Nails, half a Pound; put them
ſtrong, large, ſound Crucible, cover it with a Tile,
it in a Wind-furnace, and cautiouſly raiſe a Fire
Nails are perfectly ignited. Then, by a little at a
add of the beſt powdered Antimony, made very d
hot, ſixteen Ounces, and cover the Crucible a litt
the Tile. As ſoon as ever the Antimony is thrown
emits a white Fume; and, not a great while after,
into Fuſion, and at the ſame time cauſes the Iron
alſo. When they are reduced to a very liquid State,
may be examined by a long Tobacco-pipe, throw in
dually, of the hotteſt, drieſt Powder of Nitre,
Ounces. Upon every Injection, there is excited a
gious Ebullition, Noiſe, and Conflict, and ſome
Crackling; and if a Perſon ſhould unwarily throw
Nitre damp, the Whole would fly about with im
Danger to the Operator. When they have ſtood
Condition ſome time, the Matter caſts out lucid
Let it flow, like Water, for the Space of four or fi
nutes, and then pour it out into a melting Cone,
ſtrike gently; and when the Maſs is grown cold,
out. In this manner I have had eleven Ounces fix
of Regulus, and eleven Ounces of Scoriæ; ſo that
what ſtuck to the Crucible whilſt it was pouring out,
were loſt four Ounces two Drams.

Put this Regulus into another Crucible, ſet it in the Fire, melt it, and, when it is in Fuſion, add to it three Ounces of Antimony, reduced to Powder, and made very hot and ry; and when this is melted, throw in, by degrees, three Ounces of Powder of Nitre, very hot and dry alſo; and hen fuſe them with an intenſe Fire, and keep the Matter n a perfect liquid State for the Space of five Minutes; after which pour it into a melting Cone as before. By this means I have procured ten Ounces and ſix Drams of Regu- us, which were purer than the former.

Take this ſecond Regulus, put it into a freſh Crucible, melt it again, and throw into it three Ounces more of Nitre, with the ſame Caution as before. Melt the Mix- ure with a very intenſe Fire, for otherwiſe it will not ow, and then pour it into a Cone. By this third Fuſion have had nine Ounces two Drams of an exceeding white ilver-colour'd Regulus, that was ſurpriſingly ſtarry, and wo Ounces ſeven Drams of Scoriæ; ſo that there was loſt ne Ounce five Drams.

Once more melt this third Regulus in another Crucible, nd then add three Ounces of Nitre as before, which will hen require a prodigious ſtrong Fire to melt it, tho' the Regulus flows at the Bottom of the Crucible like Water. Keep them in perfect Fuſion for the Space of an Hour, nd then pour them into a Cone. Thus then I have ob- ained ſeven Ounces three Drams of an exceeding pure and eautiful ſtarry Regulus, that looked juſt like Silver, toge- her with two Ounces ſeven Drams of Scoriæ, of a golden Colour, and a perfect fiery Taſte; which is a pretty extra- rdinary Phenomenon.

For this Operation, the Crucibles muſt be very ſound, rong, and large, and muſt be heated very gradually: The Fire muſt be equably kept up to its greateſt Strength, or otherwiſe the Nitre will not melt; and the Cones muſt e moderately warm, very clean, and perfectly dry, and, within, rubbed over with Tallow. If you attend to theſe Cautions, you will meet with Succeſs.

REMARKS.

are many uſeful things to be learned from this Operation: , which is extremely difficult of Fuſion, melts in Anti- y, as all other Metals do in Lead; and then the Iron, g corroded by the melted Antimony, becomes combined its Sulphur; whilſt both the mercurial Part of the Iron the Antimony are expelled, and, uniting into one Maſs, to the Bottom; and the Sulphur of them both riſes toge- to the Top. The Nitre that is thrown in burns furi- y with theſe ſulphureous Bodies, agitates the melted Ele- ts to their very inmoſt Parts, and hence unites thoſe that ſimilar, and ſeparates the heterogeneous: By the Force he Antimony the Iron is deſtroy'd, and its metallic Sul- , which is the Gold of the Alchemiſts, unites with the nal metallic Sulphur of the Antimony, and thus both ain combined with the mercurial Part of the Antimony; hence you have a Regulus, which is beautified with a , and by its fine ſilver Colour teaches us the exceeding ty of its Mercury. The Scoriæ contain Iron, Sulphur ntimony, and Nitre, united together, and changed into onderful Body, whoſe ſecret medicinal Virtues, when it roperly managed, and rightly applied, thoſe who are ac- nted with theſe things greatly extol. Theſe Scoriæ puff urpriſingly in the Air: But let this ſuffice concerning the Fuſion. In the ſecond, the external Sulphur is ſtill far- extracted, and the metalline Sulphurs of the Iron and imony are more fixed, with their Mercuries, into a purer ulus. In the third Fuſion, the ſurpriſing Power of the hureous metallic Fire, that lies concealed in the Regu- begins to diſcover itſelf, which, by fixing the Nitre, ders it exceeding difficult of Fuſion, tho' it was before ted by a more gentle Fire than any other native Salt; and reſſes upon it a remarkable igneous Quality, ſo that, upon g applied to the Tongue, it truly burns it, tho' its pro- Taſte is naturally exceedingly cold; it makes it, more- , alcaleſcent, without the Addition of any vegetable ſtance, and cauſes it to run ſpontaneouſly in the Air, tho' ould remain dry in it before. The fourth Fuſion diſco- the ſame things more evidently: Here the pure Sulphur, y by its odorous Exhalation, as it were, and ſimple Con- , changes the Nitre more powerfully, and thus demon- es the ſecret Power of metallic Sulphurs. This Regulus almoſt turned the Heads of ſome of the profoundeſt Chy- s. Conſult *Paracelſus*, *Suchtenius*, *Philaletha*, *Panta-* , *Becher*, and *Stahl*. For my own Part, when I reflect n the Time and Pains I have employed in examining into Nature of this Regulus, I cannot forbear being ſurpriſed y own Patience, and can ſcarcely help being aſhamed to k, that ſo great a Part of my Life ſhould have been ſpent his Inquiry.

Colour of Gold is exalted, or reſtored, when impaired, means of this Regulus; as the exceeding white Nitre, by being thrown into this Regulus, in Fuſion, immediately contracts a golden Hue. The Regulus, depurated even in this manner, will vomit. The Scoriæ give a beautiful Tincture to *Alcohol*.

PROCESS VII.

Golden Sulphur of ANTIMONY.

Boil the Scoriæ of Proceſs 5. till they are all diſſolved; into the inodorous Liquor drop Vinegar, and there will inſtantly ariſe a moſt noiſome, ſtercoraceous Smell, and the Liquor, which before was thin, will become very thick. Drop in more Vinegar, ſtir the Mixture about, and proceed in this manner, till nothing more will precipitate. Let the Veſſel ſtand quiet, and a Precipitate will gradually ſubſide to the Bottom, which will be reduced to a much leſs Compaſs than one would expect. Pour off the Liquor that ſwims at Top; waſh the Precipitate with Water till it is abſolutely inſipid, dry it gently, and keep it under the Title of SULPHUR AURATUM ANTIMONII.

REMARKS.

The Sulphur of Antimony mix'd with an Alcali, makes the Scoriæ of Proceſs the fifth. Theſe, boil'd in Water, make a ſulphureous Lixivium; and from this, by the Acid, the Sulphur is precipitated. This has a mild emetic Quality. If this is rubbed upon Silver, it makes it of the Colour of Gold, and hence it is called *Auratum*. *Boerhaave*.

Boerhaave, we ſee, directs the Golden Sulphur of Antimony to be made with the Scoriæ of the Martial Regulus above deſcribed; but it is uſually made with the Scoriæ of the common Regulus.

Dr. *Plummer* has, in the *Edinburgh* Medical Eſſays, given a different Method of preparing the Sulphur of Antimony, from *Angelus Sala*, which is ſomewhat like that of the firſt and ſecond Proceſs above, tho' not exactly the ſame.

Reduce Antimony to a groſs Powder, or rather break it in ſmall Pieces like Grains of Barley; ſeparate the fine Duſt by a Searce, and lay it aſide; then put the ſmall Pieces into a flat-bottom'd Glaſs, pouring in Aqua Regia, till it riſes a Finger's Breadth above the Antimony. Let the Solution go on without Heat; and when there appears a ſulphureous or pitchy Matter ſwimming on the Liquor, and the Antimony is covered with a yellowiſh Cruſt, gently pour the Aqua Regia into another Veſſel, keeping back the ſulphureous Matter, and waſh the remaining Antimony ſeveral times with freſh Water, till it acquires no Acidity; then pour upon the Antimony Oil of Tartar *per deliquium*, to the Height of two Fingers; place the Veſſel in warm Sand, and increaſe the Fire till the Liquor boils; pour out this Tincture, and add new Oil of Tartar, proceeding as before. To theſe Tinctures or Solutions, while warm, add diſtilled Vinegar, till the Effervеſcence ceaſes. Place the Veſſel again on warm Sand, and a Powder will fall to the Bottom, which ſeparate by a Filtre, and dry upon brown Paper. This Sulphur, or rather *Lac Sulphuris Antimonii*, *Tachenius* imagines, is the ſame that *Helmont* hints at in ſome obſcure Expreſſions, where he ſays, the true Sulphur of Antimony very much reſembles common Sulphur, only its Colour has more of a greeniſh Caſt; with this Sulphur he prepares a Cinnabar, which, when ſix times ſublimed, and infuſed in Wine, produces moſt ſurpriſing Effects; and this Cinnabar ſeems to be the ſame with the *Mercurius Diaphoreticus*, which he mentions in the ſame Treatiſe. *Tachenius* alſo affirms, that he found by Experience this Sulphur to be an admirable Remedy in the Tympany: Of the ſame he prepares a Liniment, with two Simples not named, which, rubbed upon the Spine, Wriſts, and Soles of the Feet, infallibly cures Tertian Agues. *Angelus Sala* likewiſe reckons this Sulphur a powerful Aperient, Diſcutient, and Sudorific. *Edinburgh Med. Eſſ. Vol.* I.

The *Sulphur of Antimony* is prepared different ways; and, on account of its excellent Qualities, has been called by different Names. It is termed *Sulphur*, becauſe it is inflammable like common Sulphur, and emits a fœtid Smell; but it differs from it in this, that it always retains ſome reguline Parts, and is therefore ſpecifically heavier. It is called *Golden Sulphur*, becauſe Chymiſts have imagined, that it came near the Nature of the Sulphur of Gold; and becauſe, when mixed with Silver over the Fire, it gives it a gold Colour. Chymiſts likewiſe name it *Sulphur Embryonatum*, procured from the Saturnine *Magneſia*, believing it to contain ſome Portion of the Sulphur of Gold got from Antimony, which they term *Magneſia Saturnina*. *Glauber* calls it *Panacea*, and the *univerſally purging Sulphur*; and it was given, for a long time, by *Cardilucius*, a famous *German* Chymiſt, by the Name of the *Leſſer Centaury*. It is likewiſe the ſame Powder which has lately been ſo much in Vogue, by the Name of *Kermes Mineral*, or *Powder of the Carthuſians*,

Carthuſians, becauſe it was firſt diſguiſed under that Title by the Monks of that Order; and it is the ſame with *Ruſſel*'s Powder, which has been ſo famous in *England*. All the Ways of preparing this Golden Sulphur may be reduced to two. The firſt and moſt common is, by firſt diſſolving the Sulphur of Antimony by ſome alcaline Salt, and then precipitating it by diſtilled Vinegar, or ſome other Acid. The ſecond is, by precipitating the ſame Sulphur of Antimony, at firſt by an Alcali, without the Help of an Acid.

PROCESS VIII.

Crocus of ANTIMONY.

Take of Antimony and Nitre, equal Parts, and reduce them to a very fine Powder. Set an iron Ladle on the Fire, and make it almoſt red-hot, and throw into it a little of this Powder, which will take Fire like Gun-powder. When all is grown quiet, throw in a little more, which will go off like the former, and ſo proceed till the whole Mixture is deflagrated. You will then have a Matter of a brown yellowiſh Colour, the Bottom of which will ſomewhat reſemble Glaſs, upon which there will be ſome lighter Scoriæ. Reduce the Whole to a fine Powder, and then waſh it with hot Water, till the Calx, of the Colour juſt mentioned, remains inſipid. The Waters this is waſhed with, being filtred, are pellucid; but, upon dropping a little Vinegar into them, become of an orange Colour, and let fall a fine Powder, very much like that of the preceding Proceſs, but more ſubtil.

REMARKS.

The Sulphur, Nitre, and black Antimony, make a ſort of Gunpowder, which therefore goes off in the ſame manner. The metalline Part is by this means calcined into Glaſs and Scoriæ, both which are violently emetic; and being infuſed in Wine, will give that the ſame Quality. The Change of the Colour is here remarkable. If this Operation is performed in a large Crucible, with an intenſe Fire, and a large Quantity of Ingredients, and the Matter is then made to flow, you will have an extemporaneous Glaſs at the Bottom; which, being ſeparated from the Scoriæ, has the ſame medicinal Effects with the laborious Preparation of Proceſs 3.

Geoffroy's Method of making the *Crocus Metallorum* is exactly the ſame.

This is called alſo *Terra Sancta Rulandi*. When given in Subſtance, from two to five Grains, it is a ſtrong Emetic, and from it is prepared the Emetic Wine, by infuſing it to the Quantity of three Ounces in three Pints of White or *Spaniſh* Wine, for two or three Days, ſhaking the Veſſels often. The clear Wine ſwimming at the Top is given for a Vomit, from one to four Ounces. *Geoffroy*.

I ſhall give an Account of another Sulphur of Antimony, under the Title of *Kermes Mineral*, or *Powder of the Carthuſians*, in the latter Part of theſe Proceſſes upon Antimony.

PROCESS IX.

A milder Emetic of ANTIMONY.

Mix one Part of Powder of Antimony with two of Nitre, and throw them by a little at a time into a red-hot Crucible, and you will have the ſame Detonation as in Proceſs 8. but the Matter will be white, which, being throughly waſhed, gives you a white inſipid Calx of Antimony. The Water with which it is waſhed, when it is filtred, is ſalt.

REMARKS.

The Proportion of the Nitre here being increaſed, produces another Colour, though the Deflagration happens in the ſame manner. This Calx is much milder than the preceding, often exciting Nauſea's only, and ſlight Vomitings, with a Diſcharge of a good deal of Saliva, and a thick Urine from the ſtimulated Viſcera. The Lixivium of this, upon dropping in of Vinegar, precipitates a white Calx, nearly of the ſame Virtues.

PROCESS X.

A Diaphoretic nitrated ANTIMONY.

Take of Antimony, one Part; of Nitre, three Parts; reduce them to Powder, throw a little of the Mixture into a red-hot Crucible, and it will deflagrate as before. Proceed in this manner till you have uſed all your Powder, taking a great deal of Care not to throw in any of it till the preceding Portion is perfectly deflagrated. Keep the Matter in the Fire for the Space of a quarter of an Hour, the Crucible all the time being perfectly red-hot; and then l
cool, and you will find in it a hard, white Maſs. T
this out, powder it, and keep it under the Title of
monium Diaphoreticum Nitratum.

REMARKS.

If you take half a Dram of this Medicine well prepared
produces ſcarce any ſenſible Alteration, except that on
count of the fixing Nitre which adheres to it, it modera
opens, and hence in acute Diſtempers does ſome Serv
The Chymiſts call it a Diaphoretic, and think that the
nical Poiſon of the Antimony is fix'd by means of the gr
Quantity of Nitre. But in the Antimony there was at
nothing emetic, tho' you took it without any Preparat
or the Addition of any Nitre; and yet an equal Quanti
Nitre gave it an emetic Quality. As we may conclude f
therefore from Experiments, let us not give too much
Hypotheſes. Let the Followers of *Baſil Valentine* here l
that there is no Need of ſo much Caution to free this
phoretic Antimony nicely from its fixing Nitre; for it
ther produces Anxieties, Nauſeas, or Vomiting, but ſt
lates kindly and ſafely. There is more to be feared
the Calx after waſhing.

PROCESS XI.

The common DIAPHORETIC ANTIMONY, *called* Sw
ANTIMONY.

Take the calcined Antimony of Proceſs 10. reduce it
fine Powder, pour hot Water upon it, and ſtir
about with a Stick, by which means the fixing Nitre,
adheres to it, will be diſſolved. Let the white Calx
ſide, pour off the ſaline Liquor, put on more Water,
thus render the Calx perfectly ſweet, ſo that there ſh
no Nitre ſenſibly adhering to it; and then dry it,
will be white, inſipid, and heavy, and is the thing
want.

REMARKS.

This is called Diaphoretic, for the Reaſon given in the pr
ing Proceſs. But it is an inert, noxious Calx, withou
thing active in it, as far as one can judge by its Effects,
wants every thing valuable that it had before. It acts
in a ſenſible manner, when it is mix'd with half as mu
a Purgative; for then it truly quickens its Operation,
pears by undoubted Experiments in the *Pulvis Cornac*
But otherwiſe I diſſuade the Uſe of it. How ſurpri
are the Colours chang'd in the Antimony, by ſimply
ing the Proportion of the Nitre in the Calcination? And
a ſurpriſing Alteration do we find in the Strength?

Boerhaave, we ſee, has a much better Opinion of Diaph
Antimony before the Nitre is waſh'd out of it, than
wards; and in this I believe he is right. But his repr
ing the common *Diaphoretic Antimony* as noxious, ſee
ſavour much of Whim, or Love of Contradiction;
never met with an Inſtance myſelf of any ill Conſequ
from the taking it, nor ever heard of any one that did.

Geoffroy's Character of Diaphoretic Antimony is, that it
excellent Diaphoretic, when given inwardly in a ſuf
Doſe, reſolving Obſtructions, attenuating thick and
Fluids, and forcing them, either ſenſibly or inſenſibly,
the Pores of the Skin. It is preſcribed with Succeſs
malignant Diſeaſes, in a Pleuriſy, Eryſipelas, and D
of the Skin; and it makes an Ingredient in the *Pulvis*
nachini, and *Pulvis Febrifugus* of *Morton*. *Vigani* ſa
has no more Virtues than Tobacco-pipe Clay.

PROCESS XII.

Nitrum Stibiatum. Antimoniated Nitre.

Take the Waters with which the preceding Calx was
ed, filtre them, put the Lixivium into a clean U
and exhale to a Dryneſs, keeping it conſtantly ſtirri
the End. By this means you will have a white ſaline
ter, of a ſingular, and not diſagreeable Taſte, not lik
of Nitre, but ſofter, which keep under the Title of
trum Stibiatum.

REMARKS.

Hence we learn, that Nitre, by Detonation with Anti
is converted into a new Salt. This Salt is gently ape
and in a phlogiſtic Diſpoſition of the Blood, agreeably
ſolves the inflammatory Denſity without Violence, and
pily diſpoſes to Perſpiration, gentle Sweats, and a Diſc
by Urine; and hence cools, and proves of Service i
Small-pox, Meaſles, Pleuriſy, and Peripneumony.
unſeaſonably therefore is this Water thrown away, as
of a hurtful Nature!

P R

PROCESS XIII.

Fix'd Sulphur of ANTIMONY.

the filtred nitrous Liquor of Proceſs 11. put into a Uri- l, whilſt hot, and very pellucid, drop ſome very ſtrong ſtilled Vinegar, and it inſtantly grows milky, and preci- tates an exceeding white, and very fine Powder. Shake em together, and proceed to drop in more; ſhake them ain, and repeat this till the Liquor will not be affected the Vinegar any longer. Let the Veſſel ſtand quiet till the Powder is ſubſided to the Bottom; pour off the Li- or into a clean Veſſel, waſh the Powder with Water till is perfectly inſipid, and then dry it, and you will have very white, inſipid, fine Powder, which is called *Sul- ur fixum Antimonii.*

REMARKS.

Deflagration of the Antimony with the Nitre, the Sul- of the former unites with the latter, as in Proceſs 8. the Sulphur, thus reſolv'd and combin'd with the Nitre, olv'd with it in Water; but as ſoon as ever an Acid s to it, it precipitates from the Nitre, as we ſee here the Inſtillation of Vinegar, and at the ſame time the unites with the Nitre without any Sign of an Effer- nce. The Powder then that falls to the Bottom, being d, is true Sulphur of Antimony. *Tachenius* extols this er taken in Vinegar, as the moſt powerful anti-peſti- Medicine. But for my part, I confeſs, I think it to be look'd upon as an abſolutely inert Calx, noxious count of its Weight and Indiſſolubility, or at leaſt doing nner of Good. The Vinegar, however, taken along t, I acknowledge to be particularly ſerviceable in the mentioned. In this manner are the Chymiſts too apt up the Preparations of their Art, particularly thoſe Antimony, and then eſpecially when they do not pro- ny ſenſible Effects. But that acetoſe, nitrous Liquor, wims above the precipitated Powder, has the moſt effi- s Virtues in acute febrile Diſorders, both on account Vinegar, and the ſoft Nitre, which is now freed from active Sulphur: Thus, in the Chymical Art, is the art frequently thrown away. From all theſe Inſtances rceive, how ſurpriſingly Sulphur is diſſolved, lies con- and is reſuſcitated in various Forms, and various rs.

PROCESS XIV.

ſtillation of ANTIMONY *into an icy Butter, and Cinnabar.*

of corroſive Sublimate of Mercury, two Pounds; rub a warm dry glaſs Mortar with a glaſs Peſtil, till it is ced to a very fine Powder. Then take of the beſt timony, one Pound, which alſo powder ſeparately very . Mix theſe as nicely as poſſible in a glaſs Mortar, they will grow warm, and emit a Fume, of which are with the utmoſt Caution. Have by you at the e time a clean, dry, glaſs Retort, that will hold three our times as much as your Powder, which ſhould have ge Neck, and be cut off ſo low, that the Mouth may ery wide. Dry the Powder very well, and then put to the Retort made hot and dry likewiſe, taking care nothing black adheres to the Inſide of the Neck. e the Retort thus charg'd in a Sand Furnace, ſo con- d for this Purpoſe, that the Belly of the Retort may oſt touch the Bottom of the Pot, and yet its Neck may a declining Poſition. This being done, apply a large eiver, ſo cut that the Mouth of it may exactly admit Neck of the Retort, and cover the Retort with Sand. the whole Apparatus ſtand under a Chimney that will y up the Fumes without diſperſing them; make a little , and when the Retort is grown moderately hot, with ſte made of Clay and Lime lute the Joint; then raiſe Fire very gradually, and in the firſt place the Re- r will begin to be clouded, and there will be a ſmall ntity of a Liquor collected in it. Carefully keep up Fire in this Degree, till nothing more of this Liquid come over: When this ceaſes, increaſe your Fire, very cautiouſly, till you perceive a pinguious Matter into the Neck of the Retort, and diſtil into the Re- r, coagulating whilſt it paſſes from one to the other; up this Fire to the ſame Height, and there will be a e icy Matter concreted in the Neck of the Retort. both Sides of it therefore lay ſome live Coals, firſt at iſtance, and afterwards nearer and nearer, till the k of the Retort is grown as hot as the Belly of it; and the Matter will melt, and drop into the Receiver. eed with this Degree, and then very gently increaſe no more Butter riſes into the Neck, and all that has , is diſtill'd into the Receiver; then remove the Re- r, taking all poſſible Care, that none of the Vapour comes to your Lungs; and preſently ſtopping it, ſet it by. Lute on another properly fitted for this Purpoſe, and increaſe your Fire, and you will have a Matter come off, of a yellow, red, blackiſh, and various other Colours; upon which raiſe your Fire to the higheſt Degree, and at laſt place Fire upon the Sand at the Top of the Retort, that the Sand may be almoſt red-hot, and ſo leave them for the Space of two Hours. Let the Whole ſpontaneouſly cool, and then remove the Receiver, in which you will have ſome Quantity of crude Mercury, and a Butter rendered impure by the ſulphureous Fumes of the Sulphur of the Antimony. In the Neck of the Retort too you will find a Matter of various Colours made up of the Mercury, Sulphur, and Butter; and upon breaking the Retort, there will be ſome antimonial Fœces at the Bottom; but at the Beginning of the Neck, you will find a denſe, hard, opake, and very heavy Maſs, the Surface of which, that is contiguous with the Glaſs, will have a ſhining Appearance, whilſt the other is rough, and which, being reduced to Powder, is true Cinnabar of Antimony, and is ſufficiently coſtly. In this Proceſs there is need of a great deal of Patience and Caution; for if the Fumes ſhould inſinuate themſelves through the cracked Glaſs, or Lute, or any other way, and be received into the Lungs, by their cauſtic Quality, they would prove fatal.

REMARKS.

If we conſider the Nature of Antimony, and of Mercury Sublimate, the Chymical Ratio of this Proceſs is eaſily underſtood. Whilſt the Fire acts on the Sublimate, the Aqua Regia that is in it, unites itſelf with the mercurial, metallic, reguline Part of the Antimony; and thus leaving the Mercury, with which it was combined before, that returns to its original Form, and runs at the Bottom of the Retort: Hence the Regulus is ſublimed with the Spirit of Salt, and becomes a volatile Vitriol of Antimony, call'd a Butter, conſiſting of an exceeding pure Regulus, and Spirit of Sea-ſalt, combined together. When theſe are ſeparated and ſublimed, then the Sulphur of the Antimony diſcharged from the reguline Part, and the crude Mercury freed from its Acid, remain at the Bottom of the Retort, and by the Action of the Fire become united together, and ſublime into Cinnabar. This Butter of Antimony is the moſt ſpeedy Cauſtic we are acquainted with, producing an Eſchar the ſooneſt of any thing, which ſeparates in a very ſhort time; for the moſt part, the ſame Day it is made. It eaſily diſſolves with the Moiſture of the Air, and then it loſes its Pellucidity, grows white, and precipitates a very white Powder. It diſſolves with Heat, but in the Cold returns again to its icy Form. The Variety of Colours, in this Proceſs, ariſes from the Sulphur of Antimony. If inſtead of crude Antimony you take the very pure Regulus of Proceſs 6. and proceed exactly in the ſame manner, you obtain only a Butter, and a Mercury, both exceedingly pure, becauſe then there is no Sulphur; and the Acid being intirely received into the Regulus, the Mercury returns in its greateſt Purity. Here then we ſee what a ſingular Effect the Spirit of Salt, which adhered to the Sublimate, has, whilſt it ſublimes the fix'd Regulus of Antimony in a Sand Heat: But it has the very ſame upon all metalline Bodies, Gold itſelf not excepted. How wonderful a Body then is Sea-ſalt? The Chymiſt certainly can never too much employ his Art upon it, as he will always diſcover ſomething that will make him Amends for his Trouble.

Geoffroy ſays, the *Cinnabar*, which ſticks in the Neck of the Retort, is powdered, mixed with its own *Caput Mortuum*, then ſublimed by a gentle Fire. It is of a dark-red Colour, and is recommended in all Diſeaſes of the Head, eſpecially in Epilepſies. It is likewiſe uſed in Venereal Caſes, and operates by Sweat. The Doſe is from ſix to fifteen Grains.

Cinnabar of Antimony may alſo be extracted from antimonial Mixtures, and from ſeveral other Preparations of Mercury, beſides the corroſive Sublimate; and among thoſe there is not one from which we may extract ſo much, or with ſo great Eaſe, as from an equal Mixture of crude Antimony, and Æthiops Mineral, prepared by Calcination; becauſe this Preparation of Mercury is, as it were, a Cinnabar half made, which readily unites itſelf to the Sulphur of Antimony, and which riſes with it to the Neck of the Retort: For this Operation 'tis neceſſary, that the Neck of the Retort be conſiderably long.

Cinnabar of Antimony is generally much more eſteemed as a Medicine, than the common Cinnabar. Yet after examining the Effects of both, upon many Occaſions, I have found them alike, only that of the Antimony, when exhibited in a large Doſe, ſometimes excites a *Nauſea*. Care muſt be taken, that a Drop of the Butter of Antimony has not fallen upon this Cinnabar, during the Operation; for in that Caſe, it may become ſomewhat emetic.

Cinnabars often produce good Effects in ſuch Diſorders of the Brain, as are cauſed by a groſs and corrupted Phlegm, which intercepts the Motions of the Spirits; becauſe theſe Medicines, mounting to the Brain in Conſequence of their volatile Nature, attenuate and colliquate the pituitous Humour, which afterwards finds proper ways for diſſipating itſelf. But theſe Remedies muſt be exhibited in ſmall Doſes; for the exceſſive Colliquation of the Humours occaſioned by them, either when adminiſtered in large Doſes, or too often, frequently brings on more terrible Diſorders than thoſe they were deſign'd to remove.

Cinnabars are alſo uſed in Aſthmas; and in theſe Caſes they act not only by their Sulphur, which is well calculated for promoting Reſpiration, but alſo by the Mercury contained in them, which contributing to rarefy and diſſolve the Obſtructions of the Lungs and Diaphragm, reſtores to the Fibres of theſe Parts a Power of dilating and extending themſelves. *Lemery Cours de Chimie*.

PROCESS XV.

The Diſtillation of Butter of ANTIMONY *into a Liquid Oil.*

Take the Butter of Antimony of the preceding Proceſs broken to Pieces with ſome glaſs Inſtrument, the Neck of a Phial, for Inſtance, and put it into a clean glaſs Retort, taking care that it does not diſſolve in the Air, nor offend you with its Vapour. With a gentle Fire, gradually increaſed, draw it off into a dry clean Receiver, raiſing it till all the Butter is come over, which at laſt will require a Heat conſiderably intenſe, and you will have it nearly in the Form of a liquid Oil of Antimony. If you diſtil this Oil a third time, it will ſtill become more limpid; and if it is rightly ſecured in a cloſe Veſſel, will continue in this Condition. May not this, which is a pretty ſurpriſing Experiment, illuſtrate ſome obſcure Places in *Paracelſus*?

REMARKS.

This beautiful Experiment gives us a great Inſight into the Method of rendering Metals volatile, and converting them into the true Form of a liquid Oil, and diſcovers to us the wonderful Power of Sea Salt in giving Volatility to Metals, and its ſurpriſing Quality, whilſt it remains united with Antimony; for ſo long it is extremely poiſonous, ſending forth a truly arſenical Vapour; and yet, when it is ſeparated from the Antimony again, it becomes quite innocent. Is there not ſome room therefore to ſuſpect, that there lies hid here ſomething of an alcaheſtical Virtue? Certainly it renders all Metals diſtillable in a Retort, without any Alteration in their Weight, and is recovered from them again almoſt in its full Power. This Oil is extremely cauſtic, and ſupplies ſkilful Surgeons with the moſt ſpeedy Eſcharotic. This Proceſs has been ranked amongſt the profoundeſt Arcana. If you have a mind therefore to try it, whatever you do, be ſure take care of the Fumes: I knew a very worthy and famous Man, to whom they proved fatal. Again therefore let me caution you to beware of them.

PROCESS XVI.

Mercurius Vitæ of ANTIMONY, *and its* REGULUS, *otherwiſe called* PULVIS ALGAROTH, *from* Victorius Algaroth, *its Inventor.*

Put ſome Water in a clean clear Glaſs, into which let fall one Drop of the Oil of Antimony of the preceding Proceſs, melted and depurated. You will obſerve the very Inſtant it comes to the Water, from pellucid, it becomes white, and falls to the Bottom. Proceed to drop in the Oil, till a Quantity of it equal to One-fourth of the Water, is inſtilled into it, and it is all converted into an exceeding heavy white Powder, which is collected at the Bottom. Stir them well together with a glaſs Rod, ſo as to mix them as throughly as is poſſible; and when they have ſtood quiet for ſome time, there is a very limpid acid Liquor ſwimming at the Top, which gently pour off. Upon the Powder then put more Water, and when by this means you have waſhed it till it is perfectly inſipid, dry it with a gentle Fire, and you have a white, inſipid, heavy Powder.

REMARKS.

Thus we ſee, that the Acid of Sea Salt adheres to the Antimony ſo long only as it continues exceedingly ſtrong, receding from it as ſoon as ever it comes to be lowered with the leaſt Quantity of Water, and then is attracted into the Water. This Powder, given to two or three Grains, is a violent Emetic; and from the fatal Effects it has ſometimes had, has been called *Mercurius Mortis*. If it is laid upon Glaſs, and expoſed for a good while to a gentle Fire, being kept conſtantly ſtirring all the time, it loſes its Strength, and becomes leſs active, and then is thought by many Perſons to be the *Arcanum* of *Riverius*. This Powder contains nothing of Mercury in it, whatever *Billichius* ſays to the contrary in his *Paradoxæ Chymiatricæ*, but the pureſt Regulus of Antimony. I took eleven Ounces of this *Mercurius Vitæ*, prepared with my own Hands, and, putting it in a ſtrong
Crucible, placed it in a Wind Furnace; and by this
the Powder was melted as ſoon as ever the Crucible ca
be throughly red-hot. When it was perfectly in Fuſi
poured it out into a melting Cone, and had ten Ounc
a ſhining Regulus, but a little upon the greyiſh, conſ
of Spicula ſurpriſingly diſpoſed amongſt each other.

PROCESS XVII.

Philoſophic Spirit of VITRIOL.

Take of the limpid acid Liquor of the preceding Pr
filtre it, and inſpiſſate it to one half, and you will
the *Spiritus Vitrioli Philoſophicus*.

REMARKS.

This very limpid, and gratefully acid Liquor, has the T
Spirit of Sea Salt, and has the very ſame Effect in
Chymical and Medicinal Operation. Nor is there any
in the leaſt emetic in it, but it is an exceeding pure Sp
Sea Salt, which through all the Operations it has unde
with the Sublimate of Mercury, the Antimony, its B
Oil, and the Water, has ſtill retained its proper Natur
is ſo much as tainted by any Admixture, but has an a
ble ſalutary Acidity. It is improperly therefore called
triolic Liquor; for it contains nothing at all of Vitriol
with the alcaline Salt of Tartar, it regenerates Sea Salt
I am a great Admirer of Sea Salt, on account of it
priſing Effects in Chymical Operations, I had a mind
amine into the Nature of this Production of it. T
Purpoſe I took a large Quantity of this Liquor, and d
it in a tall, clean, glaſs Cucurbit, and the Liquor ca
exceedingly pure, nor left any thing at all at the B
Hence therefore I learned, that the Water, by ſimple
ſion, in an Inſtant extracted the Spirit of Salt, in
manner, from the Butter of Antimony, that nothing
of the Antimony remained united with it, though it
roſe out of the Retort combined with the Regulus, in
of a Butter. I then diſtilled all the Liquor again in
Cucurbit, and afterwards once more with a gentle F
one hundred Degrees, and there then came off a pur
ter, which had not the leaſt Taſte of an Acid: This I
of Heat I kept up, till nothing more would riſe. T
maining Liquor I urged with a Fire a very little ſtron
that there roſe a Liquor that was ſomewhat acidiſh;
fully ſeparated what was thus elevated, and kept it un
Title of *An acidiſh Phlegm of Philoſophic Spirit of V*
This is of conſiderable Service, where acidiſh Medicin
wanted. The Liquor that was left, I diſtilled with
curbit, and I found it a very acid, limpid, pinguiou
of Sea Salt, that fum'd a little. Thus then I learn
wonderful Nature of this Salt, its eaſy Combinatio
eaſy Separation.

PROCESS XVIII.

Van Helmont's *Flowers of* ANTIMONY.

1. Take of Antimony, diſſolved in Aqua Regia, acc
to Proceſs the firſt, one Pound; put it into a low,
glaſs Veſſel, and expoſe it for a good while to a
Fire, keeping it continually ſtirring with a glaſs R
the Matter is become very dry; then in a glaſs M
and with a glaſs Peſtil, reduce it to a very fine P
to which add as much of the drieſt Sal Ammoniac,
is of the Calx, and then rub them together, the lo
better, that they may be mixed as intimately as is p
Put this Mixture into a low glaſs Cucurbit with
Mouth; fit on a very large clean Alembic, and l
Joint with a Lute made of Lin-ſeed Flower. P
Cucurbit in a Sand Furnace, in ſuch a manner as
a little leaning forwards, that the Water in the S
tion may eaſily paſs out of the Alembic into the R
Then cover the Cucurbit with Sand up to the Rim
Alembic, raiſe a gentle Fire, and there will come
limpid, acid Water, which, by increaſing your Fi
tle, will be all expell'd. Gently raiſe your Fi
ſomething white will begin to riſe, upon which ke
to ſuch a Degree, that you can juſt bear your Ha
the Head; and then Subſtances of all kinds of
will aſcend into the Alembic. Continue the Fire
Degree, for the Space of eight Hours, and you
entertained with the Beauty of the Appearance.
Whole cool, very gently take out the Cucurbit
both this and the Alembic from the external D
then carefully remove the Head, taking care of
Vapour, and you will find almoſt all the Antimo
limed with the Sal Ammoniac into a variegated
Take this out preſently, and put it into a dry, ho
Veſſel, under the Title of *Helmont's Salt Flowers*
timony. Theſe, if they are taken in the ſmalleſt
tity, are a very powerful Emetic. At the Botto

ill find ſomething that may be ſublimed with freſh Sal
Ammoniac.

Put theſe Flowers into Water, and ſtir them well about,
nd the Water will grow milky. Let it ſtand quiet, and
ttle, and at Top there will ſwim a ſaline, ammoniacal
Liquor, which pour off. Waſh the Flowers in this man-
er till they are quite inſipid, and then dry them with a
entle Heat, and you will have a very fine, red, inſipid
Powder, which is greatly emetic. Theſe are called *Van
Helmont's ſweet emetic Flowers of Antimony.* If the Lixi-
ia theſe are waſh'd with, are inſpiſſated, you have a Sal
Ammoniac fit for the ſame Uſe again.

REMARKS.

we have an Inſtance of the Manner in which *Paracelſus*
ght a Chymical Death and Reſuſcitation, as he expreſs'd
ſelf, opened Metals, and by this means made them exert
nſelves efficaciouſly in the human Body. Here we ſee
ed Body become volatile; and here we obſerve the Pro-
tion of all Sorts of Colours. Thus the black Powder of
imony, or Head of the Crow, being reduced to a white
x, becomes the Neck of a Swan; and afterwards acquiring
eat Variety of beautiful Colours, is changed to the Tail
Peacock: But it is emetic, under all theſe Alterations.

PROCESS XIX.

Helmont's *fixed Diaphoretic Flowers of* ANTIMONY.

e of the ſweet Flowers of the preceding Proceſs, one
art; of the pureſt and drieſt Nitre, three Parts; and
b them well for a good while in a glaſs Mortar. At the ſame
me, have a clean Crucible ſtanding in the Fire red-hot,
to which throw a little of this Powder, firſt heated, and
will deflagrate, but very weakly. When every thing is
iet, throw in a little more, and ſo proceed till you have
ade uſe of all your Powder. When the Matter in the
rucible is grown cold, it will be of a white Colour, in-
ining to yellow. Take this out carefully, pound it,
aſh it with Water, and dry it, and you will have a fine
hite Powder. Put this into a China Diſh, pour *Alcohol*
on it, ſet it on fire, and whilſt it is burning, keep the
wder continually ſtirring about with a Tobacco-pipe.
hen the *Alcohol* is burnt out, there will remain *Van
lmont's* Diaphoretic, thirty-ſix Grains of which are ſaid,
promoting Sweat, to cure all intermittent, and con-
ued Fevers.

REMARKS.

e have an Inſtance of fixing a volatile Body, for Chy-
Uſes. This Diaphoretic its Author greatly extols.
e made it myſelf, however, and tried it frequently; but
ld never find any ſuch extraordinary Virtues in it, as
entions in his *Aurora Medicinæ*, written in *Dutch*;
ence I am inclined to believe, that, in other Caſes like-
he has indulged himſelf a little too much in extolling
wn Preparations.

PROCESS XX.

gans Diaceltateſſon of Van Helmont *with fixed Flowers of* ANTIMONY.

of the fixed Diaphoretic Antimony of the preceding
ceſs, eighteen Grains; of Reſin of Scammony, ſixteen
ains; of Cream of Tartar, ſeven Grains; mix them,
reduce them to a fine Powder: Or, take of the fixed
aphoretic Antimony, nine Grains; of Reſin of Scam-
ny, nine Grains; of Cream of Tartar, three Grains;
make them into a Powder. This is the Deſcription of
Purge given us by *Helmont*, which *Paracelſus* called
Diaceltateſſon: The firſt is the greateſt, the laſt the
t Doſe for an Adult. It muſt be taken without any
id, and may be ſtopp'd by an Acid, if it operates too
lently. It muſt be given in Intermittents in ſuch a
nner, that it may finiſh its Operation as nearly as poſ-
e by the Time the Fit is expected. The Author ſays,
always cures Quartans before the fourth Day, and
ves efficacious in all intermittent, and continued Fevers.
or. Medicin. publiſhed in *Dutch*, *p.* 187, 188, 289.

REMARKS.

have another Chymical Arcanum, under the Name of
ging Diaceltateſſon, as you may find in the *Dutch* Edi-
ſt cited. Concerning this, *Van Helmont* ſays, that it
lly cures the Gout and Fevers, that it heals Ulcers of
arynx, Bladder, and Œſophagus, and that it purges
ody only ſo long as it is not ſound, and no longer. See
atin Edition, *p.* 775, 776. where he ſays the Doſe is
Grains; ſo that the Account in the *Dutch* Edition does
gree with this. But I am always ready to ſuſpect, that
eat Man, by a Subtilty of Reaſoning, extended the
es of theſe Arcana farther than could be fairly warranted by Experiment. Theſe things I have prepared myſelf, and, upon making uſe of them, have ſeen very good Effects from them, but not ſuch ſuperlative ones as he inſinuates. *Boerhaave.*

From Geoffroy. PROCESS XXI.

The Universal Antimonial Panacea *is prepared from the Butter of* ANTIMONY *in this manner:*

Take of Butter of Antimony, half a Pound; Cryſtals of Tartar, well powdered, a Pound; pour on them a Pint of common Water in a large Matraſs; mix, and boil them in a Sand-heat for eight Hours; and while the Liquor is hot, drop into it a Pound of Oil of Tartar *per Deliquium*. After the Effervence is over, ſtrain the Whole through Cap-paper, and evaporate it to Dryneſs, in a glaſs Veſſel, over a ſlow Fire. A Salt will remain at the Bottom, which is to be ſet in a cool Cellar, till it runs into a limpid Liquor, which muſt be carefully ſeparated from the Fœces. It purges gently upward and downward, being given from eight to twenty Drops, in a proper Vehicle. It differs from Emetic Tartar only in running *per Deliquium*.

PROCESS XXII.

EMETIC TARTAR.

Take Liver of Antimony, Cryſtals, and Cream of Tartar, of each equal Parts; boil them in a ſufficient Quantity of common Water, for ſix or eight Hours; then ſtrain the Liquor, and evaporate it to Dryneſs. The dry Maſs is Emetic Tartar, which is given as a Vomit from two to ſix Grains.

This is by far the beſt Emetic, that can be prepared from Antimony, and may be given in any Form; and as the Doſes of it are eaſily adjuſted, they may be ſafely increaſed or diminiſhed in any requiſite Degree, that the Phyſician ſhall judge the Strength of the Patient, or Nature of the Diſeaſe, to require; whereas the ſame Quantity of the Emetic Wine may be more or leſs emetic, according to its Acidity, or other Circumſtances. In making the Liver of Antimony, ſome add to the Antimony and Nitre, decrepitated *Sal Ammoniac*, and thus make what is called the *Opalin*, or *Ruby-coloured Magneſia of Antimony*, from its red Colour, which is a much weaker Emetic than the Liver of Antimony, and does not cauſe Vomiting in Horſes, and other Quadrupeds, but only makes them ſweat, or increaſes Perſpiration. It is given to ſuch Brutes from one to three Ounces, once every Day, for ſeveral Weeks together, to fatten them, and cure their cutaneous Diſeaſes, or other Indiſpoſitions. *Crocus Metallorum* is likewiſe uſed to take away Spots in the Eyes, and to cure Ulcers, Itchings, and *Pſora* of the *Cornea Adnata*, or Eye-lids.

PROCESS XXIII.

BEZOAR MINERAL.

Antimony has neither any emetic, or cathartic Quality, (all its Effects being to increaſe inſenſible Perſpiration, or provoke Sweat) if its Sulphur be fixed by mineral Acids; as is ſeen in the Preparation of Bezoar Mineral, which is in this manner:

Put into a Retort any Quantity of Butter of Antimony, and drop upon it Spirit of Nitre, till the Effervescence ceaſes. Having then digeſted them for twelve Hours, draw off the Spirit in a Sand-heat. On the remaining Maſs pour the ſame Quantity of freſh Spirit, and diſtil as before. Then calcine the remaining Maſs in a Crucible, till it ceaſes to emit Fumes; waſh the Powder in warm Water, and then dry it.

This Preparation is commended by *Van Helmont* in the Plague, and other malignant and contagious Diſeaſes, as a moſt excellent Diaphoretic, given from half a Scruple to half a Dram.

It may be made a ſhorter way, by pouring four Ounces of *Aqua Regia* on an Ounce of *Regulus of Antimony*, and digeſting them for ſome Days in a gentle Heat, ſhaking the Veſſel every now-and-then, till all the Regulus is turned to a very white Powder, which is to be waſhed and edulcorated by a large Quantity of common Water.

Various Tinctures are drawn from Antimony, and Authors are of various Opinions about them. We ſhall give one ſimple, and one more compounded Tincture, as Specimens of the reſt.

PROCESS XXIV.

Take of Salt of Tartar, eight Ounces; melt it in an ignited Crucible; and then immediately throw into it, by Spoonfuls, ſix Ounces of crude Antimony. Cover the Crucible, and let the Whole be calcined in a ſtrong Fire for half an Hour; afterwards throw the Maſs into a Braſs Mortar, and, as ſoon as it hardens, reduce it to Powder. Throw this Powder into a large Matraſs, and pour upon it as much rectified Spirit of Wine, as will cover it to the Height of four Fingers Breadth. Then ſtopping the Veſſel very cloſe, digeſt for ſeveral Days, till the Spirit is tinged with a deep-red Colour. Afterwards filtre the Tincture, and keep it for Uſe.

This Tincture excites Sweat, ſeldom excites a Nauſea; ſometimes purges gently, and proves diuretic. It is recommended in Hyſterical Affections and Melancholy; to break the thick Parts of the Blood, in Apoplexies and Palſies; and to open Obſtructions in the Viſcera, in malignant Fevers. The Doſe is from four to twenty, forty, or even ſixty Drops, in a proper Vehicle.

PROCESS XXV.

The more compound Tincture, much celebrated by the Name of *Lilium*, or *Tinctura Lilii Paracelſi*, is made from Metallic Reguli, in this manner:

> Take of thin Copper-plates, an Ounce; ignite them in a red-hot Crucible; and then throw in upon them half an Ounce of powdered Martial Regulus of Antimony; and, the Whole being preſently melted, add four Ounces of Tin, ſtirring the Maſs now-and-then with an iron Rod; and when it is in perfect Fuſion, throw it into a well-greaſed Cone, and it will ſoon harden into a reguline metallic Maſs. This Maſs, being reduced to Powder, is to be mixed with a Pound and half of Nitre, and half an Ounce of powdered Charcoal. Throw this Mixture by Spoonfuls into a red-hot Crucible; and after each Projection, cover the Crucible, till the Fulmination is over. Calcine the Whole in a very ſtrong Fire, for two or three Hours, ſtirring it at times with an iron Spatula. Then pour it into a braſs or iron Mortar, and, before it has time to cool, powder it well, and immediately throw it into a proper Matraſs, and pour upon it as much Spirit of Wine, as will ſtand four Fingers Breadth above it. Digeſt in a Sand-heat for fifteen Days, and the Tincture will be what is called *Tinctura Lilii*, or rather, *Tinctura Metallorum*, which is both ſudorific and diuretic; given from ten to an hundred Drops, in a convenient Vehicle.

It is much commended in malignant Fevers, Apoplexy, Palſy, Scab, Rheumatiſm, Scurvy, Dropſy, and a Suppreſſion of the Menſes.

PROCESS XXVI.

From the *Martial Regulus* of Antimony, the Silver Flowers, known by the Name of *Antimonial Snow*, are prepared in this manner:

> Take of the *Martial Regulus*, a Pound; put it into a large earthen Pot, placed in the midſt of burning Charcoal: Let a Cover be perforated in the Middle, and ſo placed, as that there may be the Breadth of two Fingers between it and the reguline Powder; and place another Cover over the Mouth of the Pot. Give a very ſtrong Degree of Fire for an Hour, till the Regulus is perfectly melted. Then, the Veſſels being ſuffered to cool, the Silver Flowers are found in Form of ſmall *Spicula*, in the void Space between the firſt Cover and the Regulus.

Theſe Flowers cauſe a Diaphoreſis and Sweat, and are therefore preſcribed in malignant Fevers, and other Diſeaſes where a Diaphoreſis is required. They often cure intermitting Fevers, given from ten to forty Grains, a little before the Fit.

PROCESS XXVII.

On the 19th of *December* 1700. Mr. *Charas* laid the following Method of drawing an acid Liquor from Antimony before the Academy:

> He reduces the Mineral Antimony to a Powder, mixes it with three times the Quantity of common Sand, and diſtils it, by a large Fire, from a Retort, into a capacious Receiver half full of River-water, which he afterwards rectifies by a ſecond Diſtillation. It often happens, that Antimony in this Proceſs yields an acid Liquor, and often none at all. Mr. *Charas* maintains, that the Succeſs of the Proceſs depends upon the Application of the preciſe Degrees of Fire proper for this Operation; and that, when theſe very Degrees are applied, the Experiment muſt neceſſarily hold.

This Proceſs is deſcribed in a Treatiſe of Antimony, written by *John Agricola*, and printed at *Leipſic* 1639. I have often tried this Experiment, but I can't ſay, that I have found Mr. *Charas*'s Aſſertion true in its whole Extent. Certain it is, that in this Proceſs an Acid is produced; but this Acid is by no means yielded by the Antimony, but by an Earth of a whitiſh Colour, and a clayey Nature, which is almoſt always found in Mineral Antimony, and which, by a ſtrong Diſtillation, yields an acid Spirit, as other Clay, under the like Circumſtances, generally does; but if we take pure Mineral Antimony, without any Mixture of this whitiſh Earth, or even the beſt c
mon Antimony without any *Scoriæ* or Droſs, we cannot p
bly extract an Acid from it, whatever Degrees of Fire are
plied to it. This Acid therefore cannot be ſaid to be a Vi
of Antimony.

For my own part, I am perſuaded, that the Acid of A
mony does not differ from the Spirit of common Sulphur;
as Antimony abounds with a burning Sulphur, which re
bles the common Sulphur, I believe that the Acid yielde
it is nothing more than the Spirit of that burning Sulphur
common Sulphur, contained in the Antimony; and that
reguline Part, which alone is the true Antimony, contrib
nothing to the Production of this Acid.

I do not advance this at random, and without a ſuffi
Reaſon; for, having extracted the Acid of Antimony wi
Addition in different Manners, and with uncommon Pai
have employed it in ſeveral Proceſſes; but always found, t
bore a perfect Reſemblance to the Spirit of common Sul
that is, it produced no Effect but what was produced pre
in the ſame manner, by the Spirit of Sulphur.

One of the Methods I uſed to extract this Acid, is a
lows: I reduced the Antimony to a ſmall Powder; I p
into an unvarniſhed flat earthen Pan, about a Foot in D
ter; I covered this Pan with an earthen Pot without a Bo
I placed three Aludels upon this earthen Pot, and covere
Mouth of the uppermoſt with a large glaſs Bell, the Ed
which were ſupported about three or four Lines above a
ſervoir of warm Water, which by its Steams moiſten'd
internal Side of the Bell; and the Water, which ran
from its Sides, fell back again into the Reſervoir.

I had made a Hole about a Finger's Breadth in Dia
about the Middle of the earthen Pot, through which I had
the Stalk of an iron Spoon, in order to ſtir the Antimony
the Bell, juſt as when one calcines Antimony, in order to
form it into Glaſs. By this means I had Flowers of Anti
in the Aludels, a ſmall Quantity of Acid in the Reſerv
Water under the glaſs Bell, and calcined Antimony in th
under the earthen Pot.

In this Proceſs, a ſmall Quantity of Acid is indeed d
but one may be ſure of its being unmix'd. It alſo very
happens, even when this Method is follow'd, that no A
all is yielded. But this depends, firſt, upon the Accuracy
Chymiſt; ſecondly, and principally, upon the Temperat
the Air, and the State of the Weather, at the Time th
ceſs is carrying on. The colder and moiſter the Air i
greater Quantity of Acid is yielded; but when it is hot an
none at all can be obtained. Upon the Whole, the C
muſt follow all the Circumſtances and Directions neceſſary
obſerved in extracting the Spirit of Sulphur *per Campanam*
take it for granted, that this Proceſs is ſtill more difficult
that which yields the Spirit of common Sulphur withou
dition. *Mem. de l'Acad. Royale* 1700. *by Mr. Homberg.*

PROCESS XXVIII.

KERMES MINERAL, *or* PULVIS CARTHUSIANO
Poudre des Chartreux.

> Take of Antimony, four Pounds; Solution of fixed
> one Pound; Rain-water, three Pounds; and boil th
> two Hours. Then the boiling Decoction is paſſed t
> Cap-paper, and ſet in a quiet Place for twen
> Hours, till a yellowiſh, or Saffron-coloured Powde
> to the Bottom of the Veſſel, the Liquor remaining
> This Liquor being poured off by Inclination, the P
> is firſt waſhed by frequent Affuſions of warm
> till it is deprived of all its Salts; and then abou
> Ounces of Spirit of Wine are burnt upon it, an
> afterwards dried, and kept for Uſe.

This Powder is looked upon as a kind of *Panacea*,
verſal Remedy. It ſometimes excites Vomiting, e
when it meets with any Acid in the Stomach, and i
times cathartic, diaphoretic, and ſudorific, according
determined by the Diſpoſition of the Patient to act up
one Humour more than on another. It is given from
four Grains, or ſometimes, when it is deſigned only to
ate and divide any Viſcidities in the Fluids, in the Qua
half a Grain, repeated every three, four, or ſix Hou
acute Fevers, where there is a great Crudity and Spiſſ
the Humours, it is given in ſmall Doſes with Succe
changes the crude and ſerous Evacuations by Stool, into
bilious Conſiſtence, by attenuating the viſcid Bile, and
poſing it to paſs off by Stool. It is often given with
in the Beginning of the Small-pox, and Meaſles, wh
are apprehended to be of a bad Kind, at ſmall Doſes
with Bezoardic Powders, or Abſorbents, ſuch as Cr
red Coral, Pearl, Egg-ſhells, Crabs-claws, and the
thus it excites a Spitting and Diaphoreſis, removes A
corrects the Lympha, and coagulated Serum, and raiſ
an Effervescence in the Blood as tends to purify it.
confirms theſe Virtues by the Examples of ſeven Chi
the Small-pox. *Frederic Hoffman* commends the Uſe

ler in ſtubborn autumnal Agues, becauſe it powerfully Obſtructions, particularly of the Liver, by which theſe s are produced, eſpecially when taken in the Quantity of in, mixed with detergent anti-febrile Salts; ſuch as the f Wormwood, the febrifugous Salt of *Sylvius*, vitriolated r, and the like. *Schroder* ordered it in the Quantity of Grain, or a Grain, three or four times a Day, in the itting Fevers of Children; and commends it very much recting the Acrimony of the *Serum*, and eſpecially that of , which give Pains in the Eyes, and produce very bad almias. The ſame Author mentions a Woman labour- nder ſcorbutic Symptoms and Defluxions of ſo acrid a as to corrode her Lungs, and bring on a Spitting of Blood, by uſing this Sulphur of Antimony in very ſmall Quanti- rrected the Acrimony, and ſtopped the Motion, of this ; and thereby prevented the Growth of a Diſeaſe, which therwiſe have been of very fatal Conſequence. *Hoffman* t is a moſt effectual Remedy in ſuch Chronical Diſeaſes from long Obſtructions of the Viſcera. In a Dropſy, ſtance, it is very properly mixed with Filings or Crocus l and Nitre; in Epilepſies, with all the Cinnabars; in urvy, with the *Arcanum Duplicatum*; in Dyſenteries, e *Confectio de Hyacintho*; in a Dyſury, or Complaints Stone, with white Nettle, or Pellitory-water; and even riſies and Peripneumonias, he frequently gives it, in the ty of three or four Grains, in a Glaſs of ſtrong *Spaniſh* in Carduus-water, in an Infuſion of red Poppies, or Juice of Dendelion, or Borage. *Junker* obſerves, that wder has in many Patients ſuſpended, in one Moment, ects of a ſuffocating Catarrh, ſometimes by producing a Vomiting, ſometimes by Sweating, and ſometimes with- ſenſible Evacuation; and he adviſes it to be mixed in aſes with a certain digeſtive Salt. It may be given very geouſly to cachectic Girls, in the Quantity of a Grain, in ten Grains of *Crocus Martis Aperiens*, and of the *Duplicatum*, the Doſe being repeated twice a Day. wder may be given either alone, or mixed with a lit- r, and diluted with Wine, or Water, or any other proper It is likewiſe ſometimes given with Oil of ſweet Al- or in Conſerve of Violets, Borage, *&c.* in form of a Bolus. however to be carefully obſerved, that this Powder is be given till the Quantity of Blood has been leſſened, he Fluids ſufficiently diluted and attenuated; for, as by of it the Blood is very ſuddenly rarefy'd, and put into of Effervеſcence; if the Veſſels are before full, they ſtill more diſtended, by the increaſed Heat and Motion lood and other Fluids, and hurtful Congeſtions may d in the Viſcera. It ought therefore never to be given, Dangers from a Plethora are taken off, and till the Hu- ave been rendered fluid by great Quantities of Diluents eated.

Lixivium in which Antimony has been boiled, paſſed Cap-paper, is recommended by ſome in Scabs, and iſeaſes of the Skin.

umes which ariſe from ignited Antimony, may be col- white, yellow, and red Flowers, if proper Veſſels uſe of, and, by adding powdered Glaſs, Sal Ammo- Nitre, that they may riſe in greater Quantities; and wers being edulcorated by frequent Lotions, are eme- artic, and ſometimes ſudorific, being given from two Grains. *Geoffroy.*

Hiſtory of KERMES MINERAL.

Year 1714. a new Medicine appeared in *Paris*, and then acquired, but ſtill preſerves, an uncommon Cha- its Virtues and Efficacies. It is called the *Carthu- ler*, becauſe at that Time one *Dominic*, a Frier of the n Order, was ſeized with a violent Defluxion in his which increaſing more and more in ſpite of a due and dminiſtration of all the known Medicines againſt that ſeemed to threaten the Patient with certain and un- Death. Upon which one *Simon*, a Frier of the ſame egged, that ſince the Patient's Life was deſpaired of, be permitted to give him a newly invented Medicine, had in his Poſſeſſion, and which at that time ſucceeded hat Frier *Dominic* was ſoon cured of his Diſorder by , to the great Surprize of all that knew his Caſe. edy was before in the Hands of Mr. *De la Ligerie*, the *Carthuſian* frankly acknowledged he had it. But f ſome remarkable Cure to command the Attention nd, and a Concurrence of ſuch other lucky Circum- are requiſite in an Affair of that Nature, the Powder in his Hands, become ſo famous, as it afterwards e Poſſeſſion of the *Carthuſian*. The Reputation of cine growing pretty univerſal, the Secret of its Com- as ſoon diſcovered by ſome ſkilful Phyſicians, and, e reſt, by Mr. *Lemery*, who confided ſo much in its and was ſo ſure of his being in the Right, with regard ethod of its Preparation, that he uſed it in a Caſe of ortance, an Account of which we ſhall give in his ds.

Towards the latter End of *December*, in the Year 1718. the Marquis of *Bayers* was ſeized with a violent continued Fever, accompany'd with terrible Paroxyſms, a ſevere and frequent Cough, a Spitting of Blood, a ſmarting Pain of his Side, and a conſiderable Difficulty of Breathing. Nothing that Art can do in a Caſe of this Nature, was forgot; and though all the Means, commonly judged proper, were uſed, both with the greateſt Care and Expedition imaginable, the Patient nevertheleſs, in the very Beginning of the next Year, and upon the ſeventh Day of his Diſorder, was reduced to a truly deplorable State: His Belly ſwell'd, and became prodigiouſly tenſe; his Spitting was entirely ſuppreſs'd, which produced an uncommon Oppreſſion, and a Rattling of his Throat; his Pulſe became ſmall, unequal and intermitting. His Reaſon left him; he neither ſpoke to any one, nor made a Reply to any one who ſpoke to him: In a word, he was in juſt the ſame Condition that People on the very Verge of Death, and in their laſt Moments, uſe to be. I ſhall not here exaggerate the Matter, or inſiſt upon the Importance of ſome Circumſtances, ſuch as that the Patient was a Perſon of Diſtinction, and a Branch of the Houſe of *Rocheſoucault*, or that he was continually ſurrounded, during his Indiſpoſition, by a Crowd of Perſons of Diſtinction, and others who were intereſted in his Life and Health, and who can atteſt the Truth of the Facts I advance. Mr. *Pradignac*, the Apothecary, and Mr. *Momblau*, the Surgeon, who attended the Patient on this Occaſion, can alſo vouch the Truth of what I ſay. In fine, tho' the Extremity to which the Marquis of *Bayers* was reduced, ſeemed to cut off all Hopes of a Cure, I nevertheleſs, in ſpite of unfavourable and diſcouraging Appearances, thought it incumbent upon me, both in point of Duty and Prudence, to repeat my Attempts to the very laſt Period of the Patient's Life. I therefore had recourſe, upon this Occaſion, to the *Carthuſian* Powder, the good Effects of which I had formerly experienced, eſpecially in Diſorders of the Breaſt; and as, of all the conſiderable Diſtempers I have known cured by this Powder, none, even that of Frier *Dominic* not excepted, had gone ſuch a Length, or demanded ſo ſpeedy Aſſiſtance and Relief, as this, I gave the Patient, at different times indeed, but very ſoon after each other, nine or ten Grains of this Powder; and perceiving, that it neither operated by Vomit, Stool, nor Sweat, and that his Pulſe, in the mean time, became a little better, and his Oppreſſion leſs, I repeated every fourth Hour, for twenty-four Hours, a Doſe of three Grains of the ſame Powder, which, at the End of that time, produced no other Effect, than to render the Pulſe a little better, and the Oppreſſion a little leſs; and all this without any Evacuation either by Stool, Vomit, or Sweat. The Patient, in the mean time, remain'd without his Reaſon, and without Spitting, and his Belly continued preternaturally tenſe. But as we afterwards continued to give him ſome Doſes of the Powder, his Breaſt began to grow eaſy, by diſcharging a conſiderable Quantity of Spit, which was hard, baked as it were, and mixed with black coagulated Blood, and which the Patient expectorated for three or four Days. And as ſoon as this remarkable Criſis came on, the Patient's Reaſon returned, his Oppreſſion, the Tenſion of his Belly, and, in a word, all the other Symptoms, diſappear'd; and in a ſhort time, the Marquis of *Bayers* was completely cur'd. But what is particularly remarkable in this Cure, is not only the Recovery of the Patient from ſo deſperate a State, but alſo the Manner in which the Medicine operated, and the Quantity neceſſary to be ſucceſſively given, in order to produce the Cure; and, indeed, the Patient took thirty-ſix Grains of this Powder in the Space of forty-eight Hours; and theſe thirty-ſix Grains, inſtead of working by Vomit, by Stool, or by Sweat, as the Medicine generally does, when exhibited in a much ſmaller Doſe, in Caſes where it is attended with Succeſs, inſenſibly cleared the Parts ſerving the Purpoſes of Reſpiration, and the Expectoration becoming, by that means, much more eaſy, the Patient found himſelf, all on a ſudden, able to expectorate that prodigious Quantity, which remaining there for ſome Days, had become dry by the feveriſh Heat of the Patient, juſt as if it had been expoſed to the Influences of the Air and Sun.

This ſurpriſing Cure, perform'd upon a Perſon of ſuch Diſtinction as the Marquis of *Bayers*, gain'd the *Carthuſian* Powder ſuch an high Reputation, that in ſhort, the King purchaſed the Secret of its Compoſition from Mr. *De la Ligerie* in 1720. ſince which Time the Public has been well enough acquainted with it. It is a Sulphur extracted from Antimony, by means of the Alcali of Nitre fixed by Charcoal. It is leſs emetic than the ordinary *Golden Sulphur of Antimony*, employ'd for Purpoſes of that Nature. It purges gently, and ſometimes operates only by Tranſpiration, though its Effects are even then ſufficiently ſenſible. It is principally adapted to Diſorders and Indiſpoſitions of the Breaſt. Mr. *De la Ligerie* did not pretend to be the Inventor of this Medicine; he openly acknowledged, that he had it of Mr. *Chaſtenai*, to whom it had been communicated by an Apothecary, who was Scholar to the famous *Glauber*. Thus *Glauber* ſhould, in Juſtice, be eſteemed the original Inventor; and, indeed, this Medicine is actually deſcribed in his Writings, but in ſo enigmatical a Manner, as cannot fail to diſguſt People of Senſe and Taſte.

It is alſo contained in the late Mr. *Lemery*'s Treatiſe of Antimony, not that this Chymiſt caught the Hint, or decypher'd the Secret in the myſterious *Glauber*; but, as he deſign'd in that Work to diſcover the Qualities of Antimony, by turning it into all the various Shapes imaginable, and combining it with all Subſtances from which any Effect might be expected, it was impoſſible but he muſt light upon a Combination ſo ſimple and ſo natural. 'Tis nevertheleſs certain, that Mr. *Lemery*'s Proceſs is different from that of *Glauber*. The Intention is to extract the Sulphur of Antimony. *Glauber* extracts it by the Alcali of Nitre fixed by Charcoal; then, in order to free the Sulphur of Antimony of that Alcali, with which it is impregnated, he employs Spirit of Wine, and digeſts it for ſome Days upon the nitrous Liquor; after which he evaporates the Spirit of Wine, which leaves the Sulphur of Antimony, at the Bottom of the Veſſel, either in a liquid Form, if the Spirit of Wine is not totally evaporated, or in a dry one, if it is. In the latter Caſe it is a red Powder, and is what is called the *Carthuſian Powder*. But the deceaſed Mr. *Lemery* did not uſe the Spirit of Wine in his Proceſs, ſince, by only leaving his Materials at Reſt, and, as it were, to themſelves, he had the ſame Powder, which precipitates of its own accord. Mr. *de la Ligerie*'s Method is intirely the ſame; and Mr. *Lemery* the younger has found by Experiments, that the Spirit of Wine is of no Uſe, unleſs for the ſake of having the Medicine either in a dry or liquid Form; for without the Spirit of Wine it can only be obtain'd in a dry Form.

Beſides, in order to extract the Sulphur of Antimony, *Glauber* knew of nothing except the Alcali of Nitre fix'd by Charcoal: But the late Mr. *Lemery* found, that every Alcali was proper for that Purpoſe. Hence *Lemery* the younger concludes, that as Oil of Tartar is the ſtrongeſt of all fixed Alcalies, it muſt of conſequence be of all others the moſt proper in this Preparation; and a great Number of Experiments made with this very View, concur to prove his Aſſertion. The peculiar Property of this Medicine conſiſts in its not being too emetic. If its emetic Quality was as ſtrong as that of the other Preparations of Antimony, it would be thrown up by the Stomach as ſoon as they are, and would not have ſufficient Time to diffuſe and inſinuate itſelf into all the ſmall Veſſels, where it produces its moſt conſiderable Effect, or, at leaſt, that Effect which is peculiar to itſelf. Now, in order to render it leſs emetic than the other Preparations of Antimony, there muſt neceſſarily remain in it a certain Quantity of Alcali to bind up, and, as it were, entangle the Sulphur. And there remains more or leſs of this Alcali in the Sulphur, or its Action is ſtronger or fainter, in proportion as the fix'd Alcali, which originally acted upon the Antimony, is ſtronger or weaker.

In fine, the late Mr. *Lemery* has not, like *Glauber*, made this red Powder an univerſal Medicine, but very accurately determin'd its particular Uſes, and the preciſe Caſes in which 'tis proper, which he learnt from Experience, and in the Courſe of his Practice, long before the *Carthuſian* Powder was heard of in the World. So that if Mr. *Lemery* has not the Glory of being the original Inventor, he has at leaſt an Equivalent accruing from the Additions and Improvements he has made to this famous Medicine. *Hiſt. de l'Acad. R.* 1720.

Memoir on EMETIC TARTAR, *and* KERMES MINERAL. *By Mr.* GEOFFROY.

The Uſe of emetic Tartar, when the Intention is to vomit, and of *Kermes* Mineral, when the Deſign is to prepare and diſpoſe the Humors to a ſalutary Evacuation, can poſſibly be liable to no juſt Exceptions, if thoſe Medicines are preſcribed on proper Occaſions, prepar'd with all the neceſſary Precautions, and the beſt Method of Preparation uniformly and univerſally follow'd: But this is not the Caſe; for it often happens, that three Grains of ſome emetic Tartar produce very conſiderable Effects, whereas ſix or ſeven Grains of another emetic Tartar, differently prepared, ſhall produce no Effects at all, and that in Conſtitutions nearly alike.

The Caſe is the ſame with the *Kermes* Mineral: Three or four Grains of ſome Kinds of it excite very faint *Nauſeæ*; whereas one Grain of another Sort actually vomits, and this too in Caſes where we cannot aſcribe this Difference of Effects to the greater or ſmaller Quantity of Acid lodg'd in the Stomach, or introduced into it.

This ſurpriſing Variety calls aloud for our Attention, and deſerves to have its Cauſes inquired into, ſince 'tis a Point wherein the Good of Society, and the Welfare of Mankind, are nearly concern'd.

That I might therefore diſcover the Cauſes of this Variety, I collected twelve different Parcels of different emetic Tartars, and a like Number of different Preparations of *Kermes* Mineral. The Manner in which I analyſed them, and the Differences of the Subſtances they yielded, make up a conſiderable Part of this Memoir; becauſe theſe Differences will be certain and infallible *Criteria*, or Marks by which we may know the Effects to be expected from ſuch and ſuch an emetic T tar, or ſuch and ſuch a *Kermes* Mineral, taking it for gran in the mean time, that the Conſtitutions of the Patients nearly equal. I ſhall, at the End of the Memoir, propo very ſimple Remedy, which may in many Caſes be ſubſtitu in the room of the *Kermes*, and that very often with leſs bious Succeſs.

Antimony, of which 'tis well known that emetic Tartar *Kermes* Mineral are two Preparations, is a Mineral compos' a ſmall Quantity of eaſily vitrifiable metallic Earth, a conſi able Portion of a vitriolic Acid, and a Bitumen, or Oil of Earth.

This Acid, in Conjunction with the Bitumen, forms th flammable Sulphur, which ſometimes abounds ſo much in m ral Antimony, that ſome of it is frequently found to burn common Sulphur. It is this Sulphur, united with the me Earth of Antimony, which, when this Mineral has only dergone its Meltings for Purification, diſcovers, and render ſervable, that ſurpriſing Multiplicity of Needles of which compoſed; but 'tis to the vitriolic Acid, united with the men, and forming the common Sulphur, that theſe N are owing, and not to the oily Matter alone: For, melts Glaſs of Antimony with a ſimple Phlogiſtic, ſu Charcoal, reduced into a Powder, the Glaſs is revived i Regulus, which is not like Antimony, adorn'd with Ne but full of little ſhining Plates or Laminæ. If, on the trary, we employ common Sulphur to revive the Gl Antimony, we ſhall find in the Crucible an Antimony a with Needles, like the common Antimony; becauſe a this Mineral had loſt, during its Calcination, is by this reſtored to it; that is, its vitriolic Acid, and the Fat Earth, which, in Conjunction, form that common S which is neceſſary to conſtitute it Antimony.

That a vitrifiable Earth is contain'd in Antimony, m prov'd from its being ſo eaſily vitrify'd, when by Calc one evaporates the Overplus of the vitriolic Acid, and Phlogiſtic which hinder'd the Continuity or Contact constituent Parts of this metallic Earth.

1. Thus it follows, from what I have ſaid, that this disjoin'd and divided by a great deal of inflammable Sulp Antimony.

2. That ſome Part of the inflammable Matter being off, ſo that no more of it may remain than what is ſuffi continue a metallic Form to the Antimony, in that Regulus is produced.

3. That if that inflammable Matter is almoſt intir ry'd off by a moderate Calcination, the metallic Earth timony aſſumes the Form of Glaſs, when put in a Heat.

4. and laſtly, That if this Calcination is carry'd on gr till the higheſt Degree of Fire is employ'd, we ſhall hav animated or inert Calx or Earth, which will be entire tute of the emetic Virtues of Antimony itſelf, of its R and of its Glaſs.

Some Authors, and among the reſt *Kunckel*, ſupp in Antimony there is a mercurial Principle concurri the Sulphur and the vitrifiable Earth, to the Formation Mineral. This Author even deſcribes, but in an eni Manner, ſeveral Ways of diſcovering this Mercury dare not admit this mercurial Principle, till, by ſome unexceptionable Proceſs I have convinced myſelf, that liquid Mercury in Antimony.

Upon the Authority of *Kunckel*, who was an excel miſt, I have already begun ſome of theſe Proceſſes, 'tis ſaid this Mercury is obtain'd; and if my Experim ceed, they will furniſh me with Materials ſufficient fo Memoir.

At preſent, I only know of three ſecondary Princip diſcover themſelves in Antimony; a vitriolic Acid like of Sulphur; a ſulphureous, bituminous, or oily Subſt matter which, provided, in Conjunction with the vitri it is capable of forming a common Sulphur; and, laſtly fiable metallic Earth.

Common Sulphur, the vitriolic Acid, and moſt of Liquors with which it is capable of producing Sulphur, emetic Quality; and the inert Calx of Antimony pr Nauſea; but yet, of all theſe Subſtances combin'd a Mineral is form'd, from which a Regulus, a Glaſs, Preparations, may be obtain'd, which are of a viol Quality.

If pounded Glaſs of Antimony be digeſted in W Vinegar, till the Vinegar is ſo fully ſaturated as to more Tincture from it; if this Powder is again me to vitrify; if after this it is pounded afreſh, and freſh White-wine Vinegar; and if this Operation ſeveral times, to a fourth or fifth Vitrification, the in this Caſe be black, ſcarce tranſparent, and e tute of an emetic Quality, tho' the two or three conſiderable one.

ll theſe Vinegars are emetic in different Degrees; the firſt
little more ſalt than the laſt, which ſeem to have an aſtrin-
Taſte. They all aſſume a reddiſh Colour, by digeſting
the pulverized Glaſs of Antimony; but if digeſted upon
purely ſulphurous Matter, they would aſſume the ſame
ur, but would not, on that Account, acquire an emetic
lity. The oily Part of the Vinegar muſt then have ex-
d the Tincture from that Part of the ſulphureous Matter,
hlogiſtic, which was concentrated in the Glaſs of Anti-
y; and the Acid of the ſame Vinegar muſt have corroded
ſſolved a Portion of the Reguline Part of the Glaſs, or, in
Words, of that Part which is moſt eaſily reduced into a
lus. Now 'tis already known, and I ſhall farther prove,
t is the Reguline Part of Antimony, in which its emetic
ity conſiſts; or, in other Words, its emetic Virtues re-
n ſome Combination of Sulphur, compoſed of a very ſmall
tity of vitriolic Acid, and a Portion of inflammable Mat-
ited to a vitrifiable Earth. If this Earth has few Inter-
filled with Sulphur, it will be very emetic. This is the
with Glaſs of Antimony, which is one of the moſt emetic
the Preparations of this Mineral. If theſe Interſtices are
large, or very numerous, as is the Caſe with Regulus of
nony, which contains more of Sulphur than its Glaſs, the
ration will be a little leſs emetic. In fine, if theſe Inter-
are ſo large as to contain more groſs Sulphur than there
this vitrifiable Earth, it will retain no emetic Quality at
nleſs convey'd to it by ſome accidental Circumſtance; as
timony, which does not vomit without the Aid and Aſ-
e of ſome Acid.

e principal Reaſon why crude Antimony is not emetic, is,
e the vitriolic Acid contain'd in it, is united to an unctuous
iſtic, with which it forms a groſs and bituminous Sulphur,
ſo ties up the Particles of the metallic Earth, that they
t act upon the Stomach, without ſome foreign and adven-
Aid. But when the greateſt Part of this Acid, and this
inous Phlogiſtic, are carried off by Fire, or any other
s, then there only remains in the Regulus a Sulphur ca-
of Expanſion, and conſequently in a Condition to carry
with it ſome Particles of the metallic vitrifiable Earth,
by their Rigidity are capable of irritating the Nervous
, and exciting violent Contractions; for I ſuppoſe, that
ritation is the firſt Cauſe of Vomiting.

will, perhaps, be objected to me, that all I have ſaid upon
etic Quality of Antimony, was in a great meaſure known
: That may poſſibly be true; but, conſidering the rela-
heſe Things bear to what I am afterwards to advance, I
not forbear ſhewing, that the phlogiſtic or inflammable
ple of Antimony is not emetic, but ſo far as, after its Diſ-
ment from its vitriolic Acid, it is united to its vitrifiable
; that is, ſo far as it approaches the Form of the Glaſs,
leaſt, that of the Regulus; and that, in Conſequence of
he more the emetic Tartar and the Kermes contain of
lus that is eaſy to be reviv'd, the more emetic they muſt
rſe be. I now come to give an Account of the Experi-
which prove this Truth.

ade uſe of an Ounce of each of the different emetic Tar-
ollected: I beat them ſeparately with an equal Quan-
r a little more, of black Flux-powder, compos'd of two
of red Tartar, and one of Nitre, calcin'd together: I
ſe Mixtures into different Crucibles, ſhap'd like inverted
; I held them in a melting Heat, till the Salts, being melted,
nk down and appear'd like a ſettled Oil at the Bottom of
ucible: I allow'd the Fire to go out, and the Crucibles
; then I broke them, and found the Regulus, which had
vived, collected at the Bottoms of the Crucibles.

d from an Ounce of the weakeſt emetic Tartars, from
Grains to one Dram eighteen Grains of Regulus; from
f a middling emetic Quality, a Dram and an half; and
ch as were moſt violent in their Effects, two Drams ten

Scoriæ of theſe Eſſays, which were at firſt yellow, be-
fterwards green; then they aſſumed a blackiſh Colour;
ll, they were diſſolved per Deliquium.

Action then of the ſtrongeſt emetic Tartars depends upon
antity of the Regulus of Antimony, which the Cream of
has diſſolved; and the more Antimonial Preparations,
have been boil'd in the Solution of Cream of Tartar, ap-
to the Form of the Regulus or Glaſs, the more violent
tic Tartar is; becauſe then the vegetable Acid of the
acts more immediately, and diſſolves more of the emetic
the Antimony.

n the contrary, this Solution of Tartar is boil'd with
ntimony, the Reguline Parts of which are ſheathed up,
ended by the groſs Sulphur, this Acid will ſcarcely act

wder'd two Ounces of the Cream of Tartar with one
of Antimony, which had already been levigated: I boil'd
ixture, in a large Quantity of Water, for eighteen
The Liquor having aſſum'd a yellowiſh Colour, and a
Taſte, reſembling that of Vitriol, I filtrated it, whilſt as yet hot, thro' a double Paper. The Maſs, remaining in the Bottom of the Matraſs, ſent forth a ſulphureous Smell. This impregnated Liquor being evaporated, I had Cryſtals of Tartar, two Grains of which, when given for a Doſe, only excited a ſlight Nauſea.

I took an Ounce of theſe Cryſtals of Tartar, thus ſlightly impregnated with the emetic Part of Antimony; I melted it, like other emetic Tartar, with the black Flux-powder, and found in the Crucible, when cold and broken, a great many yellow Scoriæ, intermingled here and there with ſome Grains of Regulus, which were ſo minute, and in ſo ſmall a Quantity, that they could not, by their own Weight, collect themſelves at the Bottom of the Crucible.

Tho' it is evident from this Experiment, that the Acid of Tartar acts upon Antimony, and that it corrodes a little of its Reguline Part, yet this Corroſion is ſo weak, that it is not poſſible by the Reduction to collect the Particles of the Regulus carry'd off by this vegetable Acid: It is alſo certain, that however fine the Powder of the Antimony is, every one of its ſmall Parts remains always wrapt up in its groſs Sulphur, and that this Sulphur defends it, and proves, as it were, a Covering againſt the Action of the Acid of the Tartar.

It is then proved, that before a vegetable Acid can become ſufficiently emetic by its remaining upon Antimony, that Mineral muſt be freed as much as is poſſible from its groſs Sulphur; that it is reduced into a very pure Regulus; and that the nearer it approaches to the Form of the Glaſs, without the Addition of any foreign Matter to facilitate its Vitrification, the more the Acid of Tartar, in Conjunction with the Sulphur, will carry off theſe rigid Parts of the metallic Earth, which I formerly ſaid was the Cauſe of Vomiting. Thus all emetic Tartar, which has been prepared with the Glaſs of Antimony, and the Liver of Antimony waſh'd, which is a Species of Vitrification, will be much more emetic than any other emetic Tartar, that has not been ſo prepared.

I have already ſhewn, by the Quantity of Regulus contained in the different emetic Tartars, which I reduced, that it is a Matter of Importance to know to what Degree this Remedy is emetic, and that very conſiderable Accidents may be produced by thoſe random Preſcriptions, in which four, five, or ſix Grains of emetic Tartar are order'd for a Vomit. If then it ſhould be thought proper to follow my Method, in order to know in what Degree any Emetic ought to vomit, without the Operation being follow'd with any troubleſome Accidents, I ſhall here draw up a Table of what was yielded by my ſeveral Reductions. I made Choice of emetic Tartar upon two different Extremes, that is, the weakeſt and the ſtrongeſt; to theſe I always added that which to me appeared to contain the moſt ſuitable Proportion of the Regulus.

An emetic Tartar, from an Ounce of which thirty-two Grains of Regulus may be produced, contains four Grains of the Regulus in each Dram, and each Grain the eighteenth Part of a Grain, and conſequently may be look'd upon as too weak.

That which yields two Drams of Regulus in an Ounce, contains eighteen Grains of it in each Dram; that is, each Grain the fourth Part of a Grain. This works very violently, unleſs given in a very ſmall Doſe.

Laſtly, that which yields a Dram and an half of Regulus in an Ounce, contains thirteen Grains and an half in each Dram, that is, three Sixteenths of a Grain in each Grain. This is a due Proportion, and I know two Grains, or two Grains and a half of it, will vomit ſufficiently, ſince by that Doſe ſix or ſeven Sixteenths of a Grain of the Regulus are convey'd into the Stomach.

Tho' I here determine the Quantity of Regulus contain'd in each Grain of emetic Tartar, with relation to the total Product of a ſimple Reduction by the black Flux-powder, I do not from that mean to conclude, that each Grain of unreduc'd emetic Tartar contains preciſely the Doſe above ſpecified. I know that it contains a little more: But as this Surplus remains in the Scoriæ of the Reduction, it would be neceſſary to diſſolve them in Water, to precipitate the Powder of them, commonly called *Sulphur of Antimony*; and then to reduce this Powder by the black Flux-powder; in this Caſe we ſhould alſo have from it a little Regulus. But I omit this Reduction, that my Proceſs, ſerving as a Proof, may be the more ſhort and eaſy.

Examination of KERMES MINERAL.

This Preparation, publiſhed by Order of the King in 1720. is made by boiling Antimony in Rain-water, quickened by the Liquor of Nitre fixed by Charcoal; which is the Alkaheſt of *Glauber*. After the Filtration of the Liquor, as yet warm, a Powder is precipitated, which, when well edulcorated, is the very Remedy of which we are treating.

The *Kermes Mineral* was, for ſome time, look'd upon as a Sulphur of Antimony; and, taking it for ſuch, I examin'd it firſt by Deflagration, in order to know whether it burn'd in a different Manner from Powder of Antimony, or from Golden Sulphur of Antimony.

I made three Pieces of thick China red-hot in the ſame Fire; upon one I let ten Grains of levigated Antimony drop; upon another I let fall ten Grains of the Golden Sulphur of Antimony of the fourth Precipitation, becauſe that is the fineſt; and upon the third, as much well-choſen and high-colour'd *Kermes*. The *Kermes* affords a more bluiſh Flame than the other two; it conſumes ſooner than the Golden Sulphur of Antimony, which in burning boils like Antimony itſelf; theſe two laſt ſending up Vapours, or a Smoke much thicker. The Smell of the *Kermes* was, in this Experiment, much leſs ſulphureous and pungent than thoſe of the other two. By continuing the Fire theſe three Subſtances were evaporated, and when they ceas'd to ſmoke, the Antimony left upon the China a reddiſh-brown Spot, of a Coffee-colour.

The Golden Sulphur of Antimony left a reddiſh Subſtance intermix'd with ſome white Points.

As for the *Kermes*, it only left a thin, white, ſpungy Earth, interſperſed with ſome little yellow Spots.

I have already ſaid, that I made Choice of high-colour'd *Kermes*, becauſe 'tis neceſſary to obſerve, that if this red Powder has not been ſufficiently edulcorated by frequent Ablutions in Water, and that if too much alcaline Salt remains in it, it loſes its Colour, when expoſed to the Air, and becomes colour'd with a Flower, or white Stratum. I myſelf have a Maſs of *Kermes* of this Sort, the Whole of which is become white, and which, as it whiten'd, loſt almoſt all its ſulphureous Odour; which Circumſtance is a ſtrong Preſumption, that there is a great deal of Volatility in the ſulphureous Part of this Powder; for Sulphur of this Preparation is no longer of the ſame Nature with the groſs Sulphur of Antimony, becauſe in it the vitriolic Acid has had its Nature alter'd by the Alcali of the fixed Nitre. In order to be ſatisfy'd as to this, I took of well edulcorated *Kermes*, one Part; with this Powder I extinguiſhed in a Glaſs Mortar two Parts of very pure Mercury, which I had revived, without Diſtillation, from corroſive Sublimate, by Filings of Iron. From this Mixture there was a black Powder or Æthiops formed, juſt as when one extinguiſhes Mercury with common Sulphur. Yet there was this Difference between theſe two Preparations: The Æthiops made by common Sulphur is a Preparation which always yields an artificial Cinnabar by Sublimation. If the *Kermes* had been a Sulphur of the ſame Nature, that is, if it had contained a vitriolic Acid at Liberty to act, I ſhould have obtain'd from my Æthiops of *Kermes* a Cinnabar of Antimony. Notwithſtanding this, after having ſubjected it to the Fire in a Retort till it was almoſt melted, the Mercury paſſed into the Recipient without any Diminution of Weight. Only in that Part of the Neck of the Retort where it comes immediately from the Furnace, there was a ſmall red Circle, which, by the way, was only a kind of Tincture, almoſt without any Conſiſtence. At the Bottom of the Retort I found the *Kermes* melted into ſeveral ſmall Maſſes detached from one another, and of a darker Colour than Liver of Antimony; ſome of theſe Maſſes were full of Bubbles of Air, and all of them were brittle. None of theſe Maſſes had either the Needles of Antimony, or the Laminæ of its Regulus. I believe that what facilitates this Fuſion of the *Kermes*, tho' ſo imperfect as that it cannot be look'd upon as a Reduction, is the Portion of alcaline Salt neceſſarily contained in this Powder, but which is not ſufficient to produce a complete Revivification of the Regulus. All theſe Maſſes were rough, with ſmall, tranſparent, rigid, and brittle Needles. The Arch of the Retort was cover'd with a very fine, white Powder, interſpers'd with ſmall Groupes of the like Needles rang'd almoſt like a Star, with many Rays darting out from it. Theſe Groupes of Needles were moſt apparent near the Neck of the Retort, where they had ſtopp'd upon a Bed of yellow Duſt. The Difference of Colours in this ſublim'd Duſt and Groupes of Needles, was not eaſy to be diſcover'd, unleſs when I made the Experiment with a ſmall Quantity of Matter; for when I employ'd a large one, the Fire, in melting the *Kermes*, rais'd a more turbid and browniſh Subſtance to the Top of the Retort.

If then a Cinnabar produced by *Kermes* and Mercury is deſired, we muſt either add a vitriolic Acid to them, or diſengage that which has been laid hold on by the Alcali of the fixed Nitre, that, in Conjunction with the inflammable Part of the *Kermes*, it may act like a common Sulphur reproduc'd.

First EXAMPLE.

I took an Ounce of *Kermes*, and, during Trituration, pour'd upon it ſixteen Drops of the Oil of white Vitriol, which was not ſulphureous. After Trituration for an Hour, the Powder did not to me appear acid; afterwards I extinguiſhed in it, by little and little, four Grains of purified Mercury: I continued the Trituration for fifteen or ſixteen Hours; for the Mixture was a long time before it aſſumed the blackiſh Colour of Æthiops. Then, upon putting this Æthiops into a Retort, a yellow Sulphur, in a
ſmall Quantity, roſe into the Neck of the Retort,
then a very black and bituminous Subſtance; the M
ry, in the mean time, paſs'd in a liquid Form into the
ceiver. When I obſerved, that nothing aſcended
longer, I augmented the Fire, melted the Bottom o
Retort, and next Day found, upon the Top of the
tort, and on the Surface of the Maſs which remain'd a
Bottom, a pretty conſiderable Quantity of a very bea
Cinnabar of Antimony; but it required a Melting-he
order to ſublime it.

Second EXAMPLE.

In order to diſengage the vitriolic Acid from the *Ke*
entangled and wrapp'd up in the alcaline Salt of the
Nitre, I took three Parts, or nine Drams, of *Ker*
and four Parts, or twelve Drams, of corroſive Subli
for theſe are the Proportions fix'd by the late Mr. *Le*
who analyſed Antimony ſo accurately: I put this Mi
into a Retort, and forced it by a reverberatory Heat.
Diſtillation yielded me Butter of Antimony in a
Form; which is a Proof of a Regulus being contai
Kermes; then a revived Mercury, and, laſt of all, a
Cinnabar of Antimony. I alſo found, at the Botto
the Retort, a Subſtance like melted Antimony, wi
Scoriæ. The Top of the Retort was covered with
Flowers of Antimony.

By this Experiment it appears, that the Acid of the Se
which was contained in the corroſive Sublimate, has quitt
Mercury, in order to attack the Reguline Part of the *K*
diſſolve it, and convert it into Butter of Antimony: It al
pears, that this Regulus, converted into Butter, has left
berty the Portion of vitriolic Acid, which, in the *Kermes*,
the Proceſs, was united with the Alcali of the fix'd Nitre,
the ſulphureous Part, and with the metallic Earth of the
mony; for theſe are the four Ingredients in this Powde
alſo appears, that at this time the Portion of vitriolic
being partly diſengaged from the Subſtances with which
entangled, has reſumed that Proportion of the Phlogiſtic,
was neceſſary for its being again converted into commo
phur, and riſing in Cinnabar, by uniting with the Merc
took the Maſs in the Bottom of the Retort, and having r
it by the black Flux-powder, I had twelve Grains of R
from the nine Drams of *Kermes*, which I uſed in this E
ment; that is, one Grain and a Third of Regulus were
by each Dram of the Kermes. As I repeated the whole
of this Proceſs twelve different Times, upon twelve di
Sorts of *Kermes*, the Products of the Reduction varied;
have found two Sorts of *Kermes*, which, by the reductive
powder, have yielded two Grains and an Eighth for each
of Powder, upon which the Experiment was tried: Th
Kermes, the Regulus of which is ſo eaſy to be revived, is
others the moſt emetic. To theſe Products of revived R
we muſt add that Portion of the Regulus which has paſ
the Butter of Antimony, and that which remained in the
of the Reduction.

In order to prove, ſtill more effectually, that there is no
mon Sulphur in the *Kermes*; or, at leaſt, if it contains
the Form of common Sulphur, that it is in too ſmall a
tity to riſe in Cinnabar with the Mercury, I put into a
half an Ounce of *Kermes*, well waſh'd, without any Ad
I augmented the Fire by degrees, and, with a moderate
there was formed, at the Neck of the Retort, a yellow C
real Sulphur; but it was in as ſmall a Quantity as the red
without Conſiſtence, in my firſt Experiment upon *Ker*
turated with Mercury.

I have then ſhewn, that the *Kermes* and Mercury,
together, cannot yield Cinnabar without the Aid of a
Acid, or the Help of corroſive Sublimate: Let us now
what it will produce with the vitriolic Acid concentr
Mercury.

For this Purpoſe, I put into a Retort a Dram of T
Mineral, rubb'd with an equal Quantity of *Kermes*: T
tort being placed in a reverberatory Heat, a little inſipid
was firſt yielded; afterwards there was fix'd, about the
of the Retort, a Vapour, which was at firſt white, then
afterwards a pale Red, and, laſt of all, a deep Red, like
bar. This red Colour was a little on the browniſh Caſt,
Part of the Neck which was moſt expoſed to the Fire
interior Sides of the Retort were cover'd with a yellow
Stratum, upon which were ſublimed Groupes or Cl
Needles, reſembling thoſe I have already mention'd.
taking away the Receiver, there came forth a ſulphur
very penetrating Smell: I took from the Receiver
Grains of revived Mercury; and the Retort being cut,
at its Bottom a Maſs, divided into ſeveral Parts, which
their Colour, had a Metallic Appearance; but were ſp
rough, with many white and ſhining Needles.

Thus, in this Experiment, the vitriolic Acid of the T
Mineral abandons its Mercury, in order to ſeize or

hlogiſtic, the Alcali, and the Metallic Part of the *Kermes*; t of this Acid, being united to the Phlogiſtic, was again rted into burning Sulphur: This made up the yellow Cir- bout the Neck, and at the Top of the Retort; for, upon ſome of it off, I ſaw it burn like Sulphur. A Part of generated Sulphur was joined to ſome Portion of Mercury, blimed into Cinnabar; at leaſt the red Circle to me ap- a true Cinnabar. At laſt the reſt of this Acid was con- ted with the Reguline Part, and was the productive Cauſe thoſe Needles with which the Maſſes; in the Bottom of etort, appear'd rough.

s ſame vitriolic Acid of the Turbith Mineral finds, in d precipitate Mercury, Materials for ſubliming another nce, which is neither a Cinnabar, nor a corroſive Subli- Tho' the two following Experiments ſeem to have little n to our preſent Subject, they nevertheleſs deſerve our ion.

t into a Retort a Mixture of one Dram of Turbith Mi- and one Dram of red Precipitate: Theſe two Subſtances, yielded an Acid, which was of a nitrous Taſte and afterwards there appear'd a Steam of a very ſtrong ſul- us Odour; which muſt have proceeded either from the tic of the Mercury, or from that of the Spirit of Nitre, ter which.

Dram and twenty-four Grains of Mercury paſs'd into ceiver, and the Remainder was ſublimed to the Neck of tort, in the Form of a white Mercurial Salt; which is orroſive Sublimate, but a Turbith ſublimed, ſince it does olve in Water, but becomes yellow in it, juſt as Tur- neral does.

ith Mineral, put alone into a Retort, only yielded thirty- ains of liquid Mercury each Dram: Beſides, it was ne- to augment the Fire ſo far as to melt the Retort, at the of which there remain'd a white Spot, which had pene- he Subſtance of the Glaſs; and in the Neck of the Re- found, ſublimed, a little yellow Sulphur, regenerated, , with the Phlogiſtic of the Mercury, and a white Subſtance, which neither diſſolved nor changed its in Water; which was alſo the Caſe with the white Spot ottom of the Retort. This white indiſſoluble Subſtance rding to *Kunckel*, the Salt which was lodged in the Oil l, and which the Mercury had Strength enough to raiſe. y poſſibly be what the ſame Author, in ſeveral other calls *the Salt of Metals*; for, according to him, that ntained in the Oil of Vitriol. It is well known, that Precipitate, forced by a great Fire, revives of itſelf Addition: Each Dram of it yields from ſixty-five to Grains of Mercury: There remains in the Bottom of rt a reddiſh-grey Earth; and about its Neck there ree Circles, one red, another yellow, and the third

m of the ſame Precipitate, being diſtill'd with an equal of well-waſhed *Kermes*, yields an acid ſulphureous There appears on the Top, and about the Neck of the a very ſmall Tincture of Red, and ſixty-five Grains of are revived.

m of the ſame red Precipitate being diſtill'd with an ntity of levigated crude Antimony, the Mercury was ly revived than in the two preceding Experiments; e Flowers which roſe from the Antimony being in ntity, the interior Sides of the Retort were, by that nder'd leſs ſmooth, and the mercurial Vapours muſt uence have ſlipp'd over them with the more Difficulty: eſs, when all the Mercury was collected, it amounted x Grains, full Weight. Thus it appears, from theſe eriments, that in one Dram of red Precipitate there x or ſeven Grains of the Acid of Nitre.

return to *Kermes*; I have ſhewn, that this Powder, would be inclined to take for a Sulphur, is the very art of Antimony, ſince both a Butter and a Regulus ny may be procured from it; but the inflammable Antimony has changed its Nature. The Alcali of itre has, in Conjunction with it, formed a Liver of hich is divided and ſuſpended in the Liquor, during ion, by which the *Kermes* is to be extracted. It is known, that Liver of Sulphur has a Power of diſ- Metals, Gold not excepted, when fuſed with it. It rmes is not prepared by a Liver of Sulphur in Fuſion; , when ſimply diſſolved in Water, there is nothing from attacking the Metallic Part of Antimony: And ue, that if Rain-water be too much charged with , there is precipitated from it a *Kermes*, from which, Flux-powder, one procures a great deal more of an if the *Kermes* had been prepared by a leſs acrid *ermes*, then, is nothing more than a Liver of Sul- egnated with the Metallic Part of Antimony; but c Part is, in it, divided into extremely ſmall Parti- he finer theſe are, the leſs emetic will the *Kermes* be. the *Kermes* is prepared according to the Proceſs the King's Order, which is, of all others, the beſt, if a Species which ſhall only act, as it were, by colliquating the Humours, without exciting a Nauſea, be deſired, we muſt take a Dram of *Kermes*, put it into a pretty large Matraſs, pour four Pounds and an half of Water upon it, in which two Drams and an half of fix'd Nitre muſt be diſſolved, which has been before diſſolved, filtrated, evaporated, and reduced into a dry Form, in order to depurate it from a pretty conſiderable Sediment, which it leaves upon the Filtre; laſtly, it muſt be boil'd: A greyiſh Earth, and the groſſeſt Portion of the Regulus will precipitate, and by pouring off the Liquor, and allowing it to cool, we ſhall have a *Kermes* very fine, very red, and much ſurer in its Operation, when it is not given with a View to vomit; for this corrected or rectified *Kermes* can never prove emetic, unleſs by Accident, when ſome other Circumſtance concurs to make it ſo. It is true, by this Rectification near one half of it is loſt.

As to unrectified *Kermes*, as we often find ſome of it, which is not prepared with all the neceſſary Precautions, that the Reguline Part may be ſufficiently divided and attenuated in it, I believe one may, with Safety, ſubſtitute in its room Antimony itſelf, prepared in the following manner:

> Take *Hungarian* Antimony, in ſmall Pieces; make Choice of that which has beautiful ſhining Needles; reduce it to a Powder, and paſs it thro' the Searce; then levigate it with Water till it ceaſes to crackle under the Teeth: Afterwards put it in a Bowl-full of Water; ſtir the Water with a wooden Spatula; and after having allowed the groſſeſt of the Powder to ſubſide for twelve or fifteen Seconds, pour off the Water, by Inclination of the Veſſel, upon one or more Filtres. Take the ſubtile Powder which remains upon theſe Filtres, and dry it in a Stove: When it is ſufficiently dry, levigate it afreſh, adding a Dram of very dry Sugar-candy, powder'd, to each Ounce of the Powder of Antimony; and continue to pound it till ſuch time as when you ſpread a little of the Powder with a Knife, you may not, in a clear Light, perceive any ſhining Particles.

'Tis long ſince the Powder of Antimony was extoll'd as an excellent Remedy againſt Diſorders of the Lungs, as a fine Reſolvent in an Aſthma, and in many other Diſorders.

In 1674. *Kunckel*, being racked with very ſmart Pains in his Right Arm, conſulted *Sennertus*, a Phyſician in *Wittemberg*, and Son to the famous *Sennertus*, who ordered him to uſe Antimony, which he did for the Space of a Month, and by its means had his Pains removed.

In 1679. the ſame *Kunckel* had recourſe to levigated Antimony, for ſevere Gout-pains both in his Hands and Feet. He formed it into Troches, and got cured by its means. Theſe Antimonial Troches are ſtill known in ſome Towns of *Germany*, by the Name of *Kunckel*'s Troches (*particularly at* Francfort *and* Nuremberg).

If my Teſtimony can add any Sanction to this Matter, I can boldly venture to aſſure the World, that this Mineral, in fine Powder, is a ſovereign Remedy for Rickety Children, or ſuch as have Knots on their Joints, and for all thoſe who have obſtructed Glands. It produces very good Effects in Children tormented with Worms; and I have known Women labouring under a *Fluor Albus*, who, after uſing the common Remedies in vain, have been cured by this Powder: But, at firſt, it ſhould only be given in very ſmall Doſes, not exceeding a Grain. And tho' Antimony is not of itſelf emetic, it is, nevertheleſs, proper to add to the Powder of it three or four Parts of ſome Alcali, ſuch as Crabs-eyes, or any other of the like Nature. The Doſe ſhould be augmented by degrees; and thus one may, at laſt, venture upon eight or ten Grains a Day. If the Doſes were increaſed too faſt, they would produce Gripes in the Inteſtines, purge the Patient, or bring on a Nauſea: The Patient muſt alſo be cautioned againſt the Uſe of Wine, except it be very mellow. He muſt alſo abſtain from Vinegar, and every other Acid, and even from Soups, in which acid Herbs, ſuch as Sorrel, &c. have been boiled.

From what has been ſaid, it follows:

1. That the emetic Quality of Antimony is lodged in its metallic vitrifiable Earth, which is already well enough known to Chymiſts; that emetic Tartar does not vomit, but becauſe it is impregnated with a great many groſs Particles of this Earth; and that by reducing it, by the black Flux-powder, we may know in what Degree it is emetic.

2. That the *Kermes* is a Liver of Sulphur, which has diſſolv'd a Portion of this Metallic Earth, but more ſubtilely than the Acid of Tartar does: That one may rectify Antimony ſo as to render it ſimply reſolvent and diaphoretic: And laſtly, that a fine Powder of Antimony may be ſubſtituted in the room of the *Kermes Mineral*. *Mem. de l'Academie Royale*, 1734.

Farther Obſervations on KERMES MINERAL, *by Mr.* Geoffroy.

In 1734. I preſented a Memoir in two Parts; the firſt on Emetic Tartar; the other on *Kermes* Mineral. This ſecond
Part

Part not containing a ſufficient Examination of that Preparation of Antimony, I thought it neceſſary to add thereto the Supplement which follows ; in which I firſt examine the *Kermes* prepared by Ebullition, then the *Kermes* prepared by Fuſion, but both with the Aſſiſtance of Alcaline Salts ; after which, I hope to ſhew, that Antimony, treated with Acids, yields a Preparation not much different, as to its Effects, from the Preparations obtained by Alcalis.

Antimony, tho' already analyſed by an able Hand, may ſtill ſupply us with a Set of Facts, which, if ſufficiently adverted to, will only confirm what the late Mr. *Lemery* has publiſhed concerning it, and render our Chymical Examination of this Mineral the more complete.

KERMES *prepared by Ebullition.*

The following Experiment required an indefatigable Patience, ſince the Proceſs was ſeventy-eight times repeated upon the ſame Antimony, and with the ſame Lixivium of Alcaline Salts. There are not, indeed, any dazzling Circumſtances in ſuch a tedious Operation ; but the Mind is ſufficiently recompenſed for its Labour, by being ſatisfied with regard to the Truth of a Fact which was formerly dubious ; and by being put in a Capacity of proving, that, by a ſtill greater Degree of Patience and Perſeverance than I uſed, it is poſſible to reduce the Whole of Antimony into *Kermes*, except ſome Sediments, which ſhall be examined ſeparately.

I ſhall ſhew, at the ſame time, that *Kermes* is no more than a Magiſtery, or a Precipitate of the Reguline Part of Antimony, divided into extremely fine Particles, which are cover'd, as it were, with a Stratum of Liver of Sulphur, and conſequently with a ſort of Varniſh, compoſed of an alcaline nitrous Salt, and a groſs or inflammable Sulphur of the Mineral : That the alcaline Salt may be diſengaged from the *Kermes*, and ſubjected to the Senſes, by being made a Baſis for regenerating the Nitre, and the Sea-ſalt, in order to form a vitriolated Tartar : That we may alſo ſeparate from the *Kermes* a white Earth, difficult to be perfectly known, and which belongs either to the alcaline Salt, or to the Antimony, or to the Water employ'd in the Ebullitions, or perhaps to all the three.

In order to procure this Magiſtery, I have exactly followed the Proceſs publiſhed by the King's Order ; that is, I took a Pound of *Hungarian* Antimony, broken in ſmall Pieces, according to the Direction of its Needles ; four Ounces of the Liquor of Nitre, fixed by Charcoal, and well filtrated ; and a Pint of Rain-water. After two Hours Ebullition I filtrated the Liquor, whilſt as yet hot, which precipitated the *Kermes* as it cool'd. At a ſecond Ebullition I added three Ounces of freſh Liquor of fixed Nitre, and one Part of Rain-water. At a third Ebullition I pour'd, upon the decanted Lixivium, two Ounces more of the ſame alcaline Liquor, and a Pint of Rain-water. This is the Proceſs publiſhed by the King's Order, ſtrictly followed. I extracted from it a *Kermes*, which, when well edulcorated, and ſufficiently dried, weighed only one Dram ſixty Grains, tho' the Antimony had loſt two Drams.

I repeated the ſame Proceſs with four Pounds of freſh Antimony, one Pound of the Liquor of fix'd Nitre, and four Pints of Rain-water. At the ſecond and third Ebullitions, I added, firſt, twelve Ounces of alcaline Liquor, and four Pints of Water ; afterwards eight Ounces of the ſame ſaline Liquor, and four Pints of Water more. Theſe three Preparations yielded an Ounce and two Drams of *Kermes* ; and the four Pounds of Antimony loſt ſeven Drams and an half.

If the Products of theſe two Proceſſes, when compared, had born a Proportion to the Subſtances employ'd in them, I ſhould have only had, by the ſecond Operation, ſeven Drams and twenty Grains of *Kermes*, and the four Pounds of Antimony ſhould have loſt an Ounce. But 'tis probable, that this Difference in the Diminution of the Weight of the Antimony proceeds from the Difference of the Surfaces of that Mineral ; which, in the ſecond Operation, did not amount to four times the Sum of the Surfaces in the Pound of Antimony employ'd in the firſt Operation : As for the Augmentation of Weight in the *Kermes*, in the ſecond Operation, may not one account for it by ſaying, that a large Quantity of alcaline Salt ſooner forms a proportionably greater Quantity of Liver ? That the more Liver there is, the more Reguline Particles will be diſengaged ; and that the more of theſe Particles are diſengaged, the more there is of this ſaline and ſulphureous Varniſh, which I mentioned ; and that there muſt conſequently be more Weight, ſince more Circumſtances concur to augment it ? Beſides, 'tis well known, that the Products of a great many Operations, when perform'd upon ſmall Parcels, are never equal, in Proportion, to the ſame Operations when performed upon large ones.

That I might ſtill more effectually diſcover what paſſes in the Proceſs of *Kermes*, and what Subſtances are ſeparated from the Mineral, I took the Antimony of the two preceding Operations, weighing five Pounds all but nine Drams and an half of Loſs. I alſo took the Liquor of the fixed Nitre, which had ſerved in the ſix preceding Ebullitions, and of which I had two Pounds thirteen Ounces ; and, without adding any thing at each Operation, except well filtrated Rain-water, I thirty Ebullitions, and as many Precipitations, one after ano From the Veſſel there aroſe a ſulphureous Steam, which bl en'd Silver when held above it : One might alſo not only d ver this ſulphureous Smell, but likewiſe that of a ſtrong L vium, mixed with a ſmall Quantity of an urinous volatile ſtance.

This Steam, being condenſed and collected in a Glaſs turned the Syrup of Violets green, ſlightly render'd the Sol of corroſive Sublimate milky, and precipitated into a citron Colour the Solution of Mercury in the Spirit of Nit

At each Ebullition the Liquor of the Nitre, as I have al obſerved, diſengaging ſome of the Particles of the groſs Su of Antimony, there was a Liver of Sulphur form'd by This Liver diſſolves or divides the Reguline Part of the Mi and this Diviſion is facilitated and promoted by the Attriti the Parts of the Antimony, which the Ebullition keeps in tinual Agitation.

This Attrition, cauſed by the Ebullition, appears to be ſary in this Proceſs of the *Kermes*, becauſe the alcaline the Lixivium cannot act upon the Reguline Part till the Sulphur of the Mineral is diſengaged from it, in order itſelf to this Alcali, and form the Liver, which proves a vent to this Reguline Part : Now, without this Attrition Alcali could only form the Liver, with the Sulphur of th Surfaces of the Pieces of Antimony. In this Caſe there be a ſmall Quantity of Liver, and conſequently a ſmall tion of the Reguline Part. For this Reaſon, the firſt Eb never yields ſo much Precipitate as the ſecond, nor the ſo much as the third. This Progreſſion has, neverthele Bounds, beyond which it does not go.

The alcaline Liquor, being ſufficiently impregnated w Sulphur, and the Regulus of Antimony, ceaſes to act, an be filtrated ; firſt, that, upon the Filtre, it may diſengag from the groſs and unattenuated Parts of the Antimony, have been detach'd from that Mineral by the reiterated A during the Ebullition ; and ſecondly, that, as it cools, it poſit the Parts of the ſame Mineral, which have bee ciently divided by the Liver, and which are become fine to paſs through the Filtre with the Liquor as yet warm.

As long as the Liquor is hot, it is kept in a Motio enough to hinder the fine Particles of the *Kermes* from r into too large Molecules. In this Caſe the Particles p the Pores of the Paper with the ſame Eaſe the Liquo But, in proportion as the Liquor grows cool, the Ra the Motion ceaſing by degrees, theſe ſame Particles are c agglutinated to each other, and compoſe Molecules of Size, that they can no longer be ſuſpended in the Liq fall to the Bottom in a Magiſtery. It is impoſſible but vium muſt, at each Ebullition, loſe a ſmall Portion of line Salt ; ſince this Portion muſt have been employ'd to the Liver, which has corroded the Reguline Part of mony, precipitated with this ſame Portion of the Liver the Form of a red Magiſtery : For I ſhall afterwar much more clearly than I have hitherto done, that K Magiſtery of the Regulus of Antimony, united to Sulphur of that Mineral, and to a ſmall Portion of the Salt, which may be diſengaged from it ; or, in other is an Antimony which is not, ſtrictly ſpeaking, deſtro of which the Arrangement of the Parts is changed gaging the groſs Sulphur from the Interſtices it poſſeſſe occaſions a Rupture of the Sides of theſe Interſtices changing both their Situation and Form, mix with Compound of the Liver, and make it appear a Magiſte or leſs coloured, in proportion to the Quantity of Sulphur which is united with it.

But if it is not poſſible, that the alcaline Liquor loſe a ſmall Portion of its Salt at every Ebullition, eaſily conceive, that it muſt only loſe very little at ea ſince, without the Addition of freſh Salt, it is able, Filtration, to act again upon the Antimony for a co Number of Times ; and ſince thirty repeated Ebul five Pounds of Antimony yielded ſeven Ounces of always as beautiful and fine as the *Kermes* yielded by th Ebullitions, performed upon one Pound, and afterwa four Pounds, of this Mineral.

Obſerving that, at the thirty-ſixth Boiling, this Li almoſt as well as at the ſix firſt, I made it ſerve for tw Boilings, without any other Precaution than putting ſmall Needles of Antimony, which increaſed, in Qu proportion as the Boilings were multiplied. Theſe tw tional Ebullitions ſtill yielded me five Ounces three an half of *Kermes* ; whereas I had only ſeven Ounce firſt thirty Ebullitions.

I made ten Ebullitions more, which ſtill yielded Ounces one Dram and an half of *Kermes*. Thus laſt Ebullitions yielded me two Ounces and five *Kermes* more than the firſt thirty. This Augmenta Product proceeds, as I have above obſerved, from this tions of the Pieces of Antimony being multiplied, new ces are thereby diſcovered, which furniſh a new Sulphur to caline Liquor; and this Sulphur, being added, renders the more active and penetrating; or, in other Words, makes, yere, a new Liver at each Ebullition.

ere remains, as I have ſaid, upon the Filtres a pretty con- ble Quantity of fine Needles, mixed with a ſort of earthy ent: I boiled this Sediment, which weighed near eight s, twelve times, with the ſame alcaline Liquor, and it me two Ounces three Drams and an half of *Kermes*.

theſe ſeventy-eight Ebullitions I had, from my five s of Antimony, one Pound four Ounces four Drams and y-four Grains of *Kermes*. It is not eaſy to tell, preciſely, uch the Antimony loſt of its Weight; for, perhaps, it d, in the Interſtices of its Needles, a certain Quantity of Salt, ſince it ſtill weighed three Pounds ſix Ounces, joined to the Weight of all the *Kermes* drawn from the y-eight Ebullitions, yields an Augmentation of two s four Drams and twenty-four Grains, including the t of the muddy Subſtance, depoſited on the Filtres: tis evident, that this Augmentation muſt be owing either Union of a Portion of the alcaline Salt with the reſt of ces of Antimony, or to the Union of this ſame Salt e precipitated Magiſtery. There is no Doubt to be made alcaline Salt is united to this Magiſtery: This I aſſerted former Memoir, but ſhall prove it in this: But I can- like manner, prove the Union of this Salt with the ony; ſo that this Point muſt remain conjectural. I ſhall amine the Lixivium, which remained, of the ſeventy- bullitions: I diſtill'd it, and the firſt Steams furniſhed a ſulphureous Liquor, which gave Marks of an urinous Vo- of which I ſhall afterwards ſpeak. About the Middle of illation, a ſmall Quantity of white Earth was preci-

the Separation of this firſt Earth, I continued the Di- of the Liquor, till a Pellicle appeared on its Surface, ich long Cryſtals were formed in it, the fineſt of which little on the Coals, and conſequently muſt have been

s theſe Cryſtals were ſtill mixed with a muddy, fat, and Matter, I made a freſh Solution of them in Rain-water, e was precipitated a ſecond white Earth like the firſt, ich weighed four Drams ſixty Grains. The Liquor was ſeparated from this Earth being evaporated, new were formed in it, but like thoſe of a foliated Earth, n flat Leaves almoſt ſquare, ſome of which were never- iangular. They only preſerve this Figure ſo long as kept dry; for as ſoon as they are expoſed to the Hu- f the Air, they quickly run *per Deliquium*, and in that ho' indeed ſlowly, cryſtallize themſelves again; and in iment which is depoſited, reſume the Forms of priſma- als, no Part of which is any longer fuſible upon Coals; ich they crackle, and break like vitriolated Tartar; Crackling does not in the leaſt reſemble the Decrepi- Sea-ſalt.

ver hot the Coals may be render'd by blowing them, yſtals do not melt upon them, but are converted into y white Subſtance, which has the ſame Appearance Earth which had ſubſided before their firſt and ſecond zation.

Cryſtals, as I have ſaid, were form'd in a fat and Sediment proceeding from the Solution *per Deliquium*, r-water of the Cryſtals, in the Form of foliated Earth. w examine this Solution by Diſtillation. I made uſe unces of it, which at firſt yielded an aqueous Liquor, nell'd like animal Subſtances when under Diſtillation. as afterwards yielded a volatile urinous Spirit, which ciently pungent, of a beautiful Yellow, and which wo Drams. And laſtly, there remained in the Retort ces two Drams and an half of a Caput Mortuum, ing ſubjected to a greater Fire, yielded ſix Grains of a lt, in a concrete or dry Form. After having broken t, I found a white and red Maſs, from which exhal'd niacal Smell, like that which comes from Veſſels in blimations of Sal Ammoniac have been made.

Maſs, when broken, reſembled the *Scoriæ* of Regulus, full of Bubbles or Cavities, which were interſperſed l Grains of a fine and ſparkling Regulus, which had 'd during the Fuſion. Theſe Scoriæ, or ſaline Maſſes, ecame moiſt by being expos'd to the Air, aſſum'd a olour, and ſmell'd like Liver of Antimony. They e been entirely diſſolv'd *per Deliquium*, if I had left expos'd to the moiſt Air; but that I might produce t the ſooner, I pour'd boiling Water upon them, um'd a browniſh-green Colour. Upon filtrating it , there remain'd upon the Filtre a green Matter, ſiſted of Sulphur; and there paſs'd thro' the Pores of a Liquor, which, as it became cool, allow'd a pretty le Quantity of *Kermes* to ſubſide.

This ſaline Liquor, ſwimming above the new *Kermes* when evaporated, yielded me Cryſtals of different Nature from thoſe of the foregoing priſmatic Salt. Theſe Cryſtals melt pretty ſoon, and appear to be a cryſtalliz'd Alcali, or an alcaline ſulphureous Salt, which, while it remains in that State, may be call'd a Salt of the Liver of Antimony; for it has at one and the ſame time a lixivial Taſte, and a Taſte of the Liver; but if that ſulphureous Salt is diſſolv'd with cold Water, there remains a true vitriolated Tartar at the Bottom of the Solution.

This ſulphureous Salt or Liver bubbles upon burning Coals, and becomes yellow, which is a Proof, that there is Sulphur contained in it. It blackens and corrodes the Plate of Silver upon which it is melted by the Fire, and turns the Syrup of Violets green. It makes an orange-coloured Precipitation in the Solution of corroſive Sublimate, and on the Surface of the Liquor leaves a ſulphureous Pellicle floating, which, when taken off, burns like the common Sulphur. In a Word, it has all the Characters neceſſary to give it the Denomination of a ſulphureous Salt, or Salt of the Liver of Antimony. It is different from the Salt which may be extracted from the Liquor of fixed Nitre, which has not paſs'd thro' the Ebullitions with the Antimony; for from that Liquor evaporated, I had only ſome few long and priſmatic Cryſtals, like thoſe I have above deſcribed, and which, like them, became white upon the Fire, without either melting or decrepitating; and which alſo, like them, burſt with a crackling Noiſe.

I now return to the white Subſtance depoſited during the Cryſtallization of the ſulphureous Salt, or Salt of Liver of the Lixivium of ſeventy-eight Ebullitions of *Kermes*. To look at it, one would take it for diaphoretic Antimony; but it is no ſuch thing, becauſe Aqua Regia diſſolves it, but has no Effect upon common diaphoretic Antimony. It ferments with the Acids of Nitre and Vitriol. A Regulus is reviv'd from it upon burning Coals; and before it riſes, one ſees ſmall Flaſhes break from it of the ſame Colour with the Flame of Sulphur, and which diſappear inſtantly. As this Powder is not diaphoretic Antimony, ſo neither is it the *Materia Perlata*, ſince Acids do not act upon this laſt Preparation, any more than on diaphoretic Antimony. All the white Subſtances which I ſeparated from melted Antimony, with different alcaline Salts, were of the ſame Nature with that I have now mention'd. And as I know no Preparation of Antimony to which I can compare it, why may we not call it a *white Kermes*, or *a white antimonial Magneſia*, ſince, when taken internally, in a ſmall Doſe, it proves diaphoretic, and does not excite a Nauſea?

I now reſume the Examination of *Kermes*, which I propoſed to make, and which is a neceſſary Supplement to my former Memoir.

This Powder is always found of different Colours, in proportion as the alcaline Liquor employ'd has been more or leſs concentrated. If it is richly impregnated with Salts, the *Kermes* will be of a very deep Red; or, which amounts to the ſame, if the Ebullition has only laſted for a ſhort time, the *Kermes* will be pale; becauſe there will not be enough of Phlegm evaporated from the Liquor, in order to concentrate the Salts. In order to prove this, we need only pour a freſh, pure, boiling Water upon the Filtre, on which the boiling Liquor which contains the *Kermes* was pour'd, and the *Kermes* will by that means be much paler than it would have been without this Addition of Water.

When we let a Dram of *Kermes* drop into three Drams of *Aqua Regia* made of the Spirit of Nitre, and the Spirit of Salt, the Diſſolution is made with a great Ebullition, and an intenſe Heat, and from the Spirit of Nitre ariſe very red Vapours. When the Ebullition is at an End, the Smell of the Mixture is chang'd, and becomes ſulphureous. After the Fermentation is totally over, there remains a yellow Sediment, above which there is a Liquor upon whoſe Surface a ſulphureous Pellicle appears, which, when taken off with a Piece of Paper, burns like common Sulphur. I waſh'd and dry'd this Sediment, and next Day found a Globule of liquid Mercury, weighing ſomewhat more than the Fourth of a Grain. Now, on Suppoſition, that this Globule of Mercury was found there, without any Circumſtance that could lay a Foundation for our ſuſpecting, that it exiſted formerly in the Antimony, it would be no more than the two hundredth and eighty-eighth Part of the Dram of *Kermes*, upon which this Experiment was made, which is far from being the Quantity of Mercury which ſeveral Authors maintain may be extracted from Antimony, by raiſing it in Flowers with Sal Ammoniac, and by reducing theſe Flowers by fixed Salts. I can affirm, by the way, that the Glaſs Veſſels I uſed on this Occaſion, had never been employ'd in any Proceſs where the leaſt Mercury had been an Ingredient: But I muſt at the ſame time confeſs, that having repeated the ſame Proceſs with other *Kermes* of the ſame Preparation, and the like Aqua Regia, I could never ſee any more Mercury.

The white Powder, in the Middle of which this Mercury was found, weigh'd forty-two Grains. I put it into a Retort, in order to raiſe the Quantity of Sulphur it might contain.

This Sulphur roſe with the firſt Fire, and adher'd to that Part of the Neck of the Retort, where it comes out of the Furnace. Afterwards there appeared a black Circle, then a third white Circle of the Flowers of Antimony, or rather of the Regulus, interſperſed with ſmall Needles. The Liquor in the Receiver was charg'd with ſulphureous Flakes. In fine, the red Maſs, at the Bottom of the Retort, was a Species of *Crocus Metallorum*, or rather a *Magneſia Opalina*, which is made, as is well enough known, with Nitre and Sea-ſalt. Now in this Experiment, I employ'd an *Aqua Regia*, compoſed of the Acid of Nitre, and of the Acid of Sea-ſalt. Theſe two Acids reaſſum'd a Baſis in the alcaline Salt of the *Kermes*, became regenerated, and operated during the Fuſion; which Effect theſe two Salts, mix'd with Antimony, produce in the ordinary Proceſs of the *Magneſia Opalina*. The Regeneration of theſe two Salts with the Alcali of the *Kermes* will be more fully prov'd afterwards. From this long Detail it follows, that the Aqua Regia does not diſſolve the whole reguline Part of the *Kermes*; that, in all Appearance, it only attacks thoſe Particles of it, ſome of whoſe Surfaces preſent themſelves naked to the Action of this Acid; that ſuch of them as are cover'd with a continued Layer of the ſulphureous Matter of the Liver, reſiſt the Action of the *Aqua Regia*; that one cannot by means of this Acid exactly ſeparate the ſulphureous Parts of the *Kermes*, becauſe the white Powder which precipitates from it, contains, together with the groſs Sulphur, a conſiderable Portion of the Regulus, which may well be ſuppoſed to make up the half, or thereabouts, of this Powder. But notwithſtanding this Inconvenience, Aqua Regia is the moſt proper Acid for making the Separation of the groſs Sulphur which is ſtill naturally in the *Kermes*; for if I employ the Spirit of pure Salt, it corrodes the reguline Part, and ſubtilizes and attenuates the Sulphur ſo ſtrongly, that for the moſt part it evaporates; ſo that when I pour Rain-water upon this Diſſolvent, all the Regulus of the *Kermes*, and that which remains of the Liver, and of the alcaline Salt, are confuſedly precipitated into a white Powder, which would be a true Powder of *Algaroth*, (or *Mercurius Vitæ*) if we had not Reaſon to ſuſpect, that it precipitated itſelf with a Portion of the alcaline Salt of the *Kermes*. In fine, there is no floating Sulphur ſeparated from this Precipitate, as happens when I make uſe of Aqua Regia.

If inſtead of the Spirit of Salt I employ the Spirit of pure and concentrated Nitre, there happens, ſo ſoon as it is poured upon the *Kermes*, ſo great an Efferveſcence, that there is no Doubt to be made, but the Mixture would take Fire, if the oily Principle of the groſs Sulphur of this Powder was more diſengaged from the vitriolic Acid which retains and clogs it. The red Vapours of the Spirit of Nitre even become impregnated with a Part of this Sulphur, which volatilizes itſelf during the Efferveſcence, ſince being collected by a Glaſs Head, or any other means, they turn to a Spirit of Nitre of a greeniſh Tincture. But notwithſtanding this great Efferveſcence, there is no Diſſolution of the reguline Part of the *Kermes* made; ſince, if the Mixture is allow'd to ſettle after the Efferveſcence is over, and if after this you pour off the Acid which ſwims above the Powder now become white, you precipitate nothing of that Regulus by pouring Oil of Tartar upon it.

This *Kermes* becomes white by the Action of the nitrous Acid, and, forc'd by the Fire in a Retort, yields a great deal of burning Sulphur, and red Flowers of Antimony, and leaves a whitiſh Maſs of the Calx of Antimony; yet this Maſs being ſtill united to a conſiderable Portion of the groſs Sulphur of Antimony, which it quits with Difficulty, remains a little yellowiſh, and interſperſed with red Points on its Surface. If it is ſtrongly forced by the Fire, it vitrifies in ſome meaſure; and the Acid of the moſt fixed Sulphur, or even the entire Sulphur, which the Fire has not been able totally to expel, forms antimonial Needles, with the reſt of the reguline Part, which is not become vitrified.

By ſubſtituting in the room of Aqua Regia the Spirit of Salt, and the Spirit of Nitre, a well concentrated Oil of Vitriol, there only enſues a Smell of Sulphur, which the Fermentation augments; but no groſs inflammable Sulphur is ſeparated, as it happens, when Aqua Regia is employ'd. We muſt then uſe a Menſtruum capable of diſſolving the reguline Part of the *Kermes*, if we incline to prove the Exiſtence of a groſs Sulphur united with the *Kermes*; and this Menſtruum or Diſſolvent is *Aqua Regia*. I now go on to other Operations.

I ſhew'd, in my former Memoir, that from an Æthiops compoſed of *Kermes* and Mercury, I had a Cinnabar of Antimony, eſpecially when I employ'd a certain *Kermes* among the Number of thoſe I had bought. I can now affirm, with a kind of Certainty, that this *Kermes* was chang'd by an Addition of common Sulphur, ſince with the Mercury and *Kermes* of my ſeventy-eight Ebullitions, I could not ſublime a true Cinnabar, but a red, ſulphureous, or bituminous Subſtance, which, by a violent Fire, melts and runs along the Sides of the Retort like *Spaniſh* Wax melted, which it reſembles in its Colour and Luſtre. This ſame Experiment laid a Foundation for my examining the following Phenomenon:

I mixed two Drams of my *Kermes* with two Drams of
pure Mercury. We have pretty good Reaſon to ſuſpect,
during the Trituration, which laſted for a conſiderable w
there might have been ſome ſmall Globule of the Mercury
Nevertheleſs, by forcing this Æthiops with a ſtrong Fire,
Drams and five Grains of Mercury were reviv'd. We
only aſcribe this Augmentation of Weight to the *Kermes*;
this I had obſerved in my Experiments made in 1734. t
made no mention of it in my Memoir. I do not from
pretend to conclude, that the *Kermes* ſupply'd the
cury I employ'd with this additional Mercury, but that there
an Amalgama formed of five Grains of the Regulus of K
with the two Drams of Mercury. This is prov'd by the
cury's remaining fat, leſs ſhining, and leaving a Tail,
Mercury incorporated with any metallic Subſtance does.
this might be a way, tho' indeed a pretty tedious one, of
ing the *Amalgama* of Regulus of Antimony and Mer
which is known to be a pretty difficult Affair, and for
the late Mr. *Homberg* employ'd a Regulus of Antimony,
Preparation of which Copper was an Ingredient.

The Maſs of *Kermes*, reduced to a Crocus Metall
which remained in the Retort, being ſeparated from
ſublim'd Parts of the inflammable Sulphur, and from ſo
the antimonial Flowers, weigh'd only one Dram and thirt
Grains. I boiled this in Rain-water, in order to diſſo
Salt; and this Lixivium precipitated into a yellow turbit
lour the Solution of Mercury in the Spirit of Nitre. No
yellow Colour ſhews, that I was not miſtaken, when,
former Memoir, I advanced, that by the Aſſiſtance of a
Fire, and by the Interpoſition of Mercury, which ye
ſerves in this Caſe to divide the different Subſtances com
the *Kermes*, one might diſengage from the groſs Sulphur
to this Matter a Portion of the vitriolic Acid eſſentially
to this groſs Sulphur, transfer this Portion of Acid to a
the alcaline Salt of the ſame Powder, and form b
new Union a vitriolated Tartar, ſince in the preſent
riment I precipitate the Mercury into a yellow turbith C
as happens when a Solution of common vitriolated Ta
uſed for that Purpoſe.

This ſame Maſs, when its Salts were thus diſſolv'd,
only eighty-four Grains and an half; ſo that there were
two Drams of *Kermes* twenty-ſeven Grains of a Salt
cannot aſcertain to be entirely a vitriolated Tartar,
there might have ſtill remain'd in it a Portion of the
Salt, which might not have been acted upon by the Acid
Sulphur. But this Precipitation of the Mercury into a
turbith Colour is ſufficient to prove what I have ſaid up
Point, which is, that the Acid may be diſengaged fr
inflammable Principle, ſince in the preſent Caſe it qui
ſome meaſure, in order to unite itſelf with the alcaline
the *Kermes*. And indeed it is ſhewn not only by this,
by the preceding Experiments, that *Kermes* is a Mixture
Regulus of Antimony, of the groſs Sulphur of that M
and of a perceptible enough Portion of alcaline Salt.
theſe Experiments alſo ſhewn, that this groſs Sulphur
decompounded by Fuſion in a ſtrong Fire, as common
is decompounded in the Operation for the Spirit of S
From this Phenomenon a Reaſon may be eaſily draw
we cannot extract Cinnabar from this Mixture of Ke
Mercury, which is, becauſe in this Operation the g
phur of the Antimony being decompounded, at leaſt in
meaſure, by the Force of the Fire, the Acid, which
Bitumen of the Earth, or, if you will, an oily Principl
poſed common Sulphur in the entire Mineral, has qui
fat Subſtance, in order to unite itſelf with the alcal
which greedily receives an Acid, and form a vitriolated
whilſt the reſt of the undecompounded Sulphur remain'
with the Surplus of the Alcali under the Form of Liver
ſo long as the Sulphur remains united with a fixed Salt,
not leave it in order to join Mercury, and riſe with it
nabar.

There is yet another Experiment which proves this;
I have already given an Account of it in my former
yet for the ſake of Perſpicuity I ſhall here repeat it.
one Dram nine Grains or eighty-one Grains of Kerm
Dram and an half of corroſive Sublimate; the Mixtur
well rubb'd together, was put into a Retort. The
Antimony came off firſt, the Mercury came next, w
follow'd by a little Cinnabar ſublim'd to the Arch of
tort, and by a Sulphur which was ſublim'd in yellow
and which burned upon Charcoal. The Mercury
weigh'd ſeventy Grains, ſo that there were thirty-eig
of Acid concentrated in my hundred and eight Grains
five Sublimate, that is, twenty-five Grains and one
each Dram, excluſive of the Acid which was united
Alcali of the *Kermes*, as I ſhall afterwards ſhew.

We have therefore no Reaſon to be ſurpris'd, if S
is the moſt corroſive Preparation of Mercury, ſince the
cipitate, for Inſtance, contains only ſeven Grains of
each Dram. The Maſs, almoſt of a blackiſh-brown

ich remain'd at the Bottom of the Retort, weigh'd thirty- Grains and an half, tho' by its Strata it reſembled fus'd timony; it nevertheleſs contain'd fifteen Grains of Salt, e after being edulcorated with diſtill'd Water, it only gh'd ſeventeen Grains and an half. The Water of this Lo- gave a deep-green Colour to Syrup of Violets, juſt as a tion of Sea-ſalt does, tho' it produc'd its Effect more ſlowly. akes a white and plentiful Precipitation with the Solution Mercury in the Spirit of Nitre. It produces no Change in Solution of corroſive Sublimate. It precipitates Silver in- Luna Cornea, and at laſt, cryſtallizing, it yields a cubical which decrepitates on *Charcoal*. Thus it is a common Salt, nerated by the Union of a Portion of the Acid of the Salt, h has quitted the Mercury of the corroſive Sublimate, with lcaline Baſis, and this Baſis could be nothing elſe than the ine Salt of the KERMES. This Experiment then is an tional Proof, that this Salt is contained in the KERMES. now my Buſineſs to determine how much the KERMES ains of each of the three Ingredients which enter its Com- ion. The preceding Experiments could give me no Satiſ- on in this Point, but the following ſeems to decide the Mat- retty exactly. I levigated twenty-four Grains of the File- of Needles, which I afterwards mix'd in a Crucible, with am of KERMES MINERAL. The Fuſion was made as in ommon Proceſs of Regulus, and there were *Scoriæ* form'd ; but during the Fuſion there roſe to the Edges of the ible, which was cover'd, a white Powder interſperſed with lles, which was nothing but Regulus. I ſeparated the *Re-* from the *Scoriæ*, and found that I had of it ten Grains n half. When theſe Scoriæ were put into Spirit of Nitre, ron diſſolved, and the ſulphureous Part of the *Kermes* con- d ſeparate from the Solution of the Iron. I poured off iquor, and precipitated the Iron by Galls; and the inflam- e Sulphur being ſeparated, I then had ten Grains and an f pure Regulus in a Lump, and near four Grains of Re- e Flowers, which in all amount to fourteen Grains and lf.

wo Grains at moſt made up the Reguline Portion, which t have remained in the *Scoriæ*, ſince to me they appeared ntain nothing but Iron, alcaline Salt, and Sulphur. Thus, ding to this Experiment, there muſt have been ſixteen or teen Grains of Regulus, in a Dram of *Kermes*; thirteen urteen Grains of *alcaline Salt*, and forty or forty-one s of *common Sulphur*.

here finiſh the Examination of *Kermes* made by Ebul- , and come to conſider a quicker Method of preparing Fuſion, obſerving at the ſame time both the Choice and rtions of the alcaline Salt, without which the *Kermes* d neither have the Fineneſs, the Lightneſs, nor the Co- which are eſſential to it. *Mem. de l'Acad. R.* 1735.

nuation of Mr. GEOFFROY'*s Obſervations on* KERMES MINERAL.

at no Circumſtance might be defective in our Chymical ination of the KERMES MINERAL, it was neceſſary to e the Practice of ſome Chymiſts, who have ſubſtituted the n of Antimony with an alcaline Salt, inſtead of the Ebul- of that Mineral with the ſame Salt; and this will, at the ime, determine the Proportion of Salt neceſſary to be uſed, taining the *Kermes* as fine, beautiful, and well-colour'd, means of Ebullition.

order to arrive at a greater Certainty, with reſpect to this rtion, I always uſed *Hungarian* Antimony, very finely ized, which facilitated its thorough Mixture with the al- Salt; and performed all my Fuſions in Glaſs Retorts, othing might be loſt of thoſe Subſtances which might te from the Compound during the Operation. At laſt, had try'd Experiments with Antimony, I ſubſtituted thereof its Regulus, and put it in Fuſion in like manner n alcaline Salt.

Ounce of Antimony levigated, and half an Ounce of fixed by Charcoal, having been well mixed, and put etort, yielded a Phlegm with white and thick Vapours. urface of the Matter, after ſome time, took a red Co- which was a ſure Sign, that the groſs Sulphur of Antimony to unite with the alcaline Salt, and to form a Liver. wards it diſtilled ſome Drops of a yellow Liquor, and here appeared, in the Neck of the Retort, a concrete, Salt, which was as penetrating as common volatile Sal oniac.

ou have a Mind to ſeparate this Salt, you muſt take the off the Fire as ſoon as it is formed, or elſe the Conti- of the Heat, with the ſucceeding nitrous Vapours, will t diſappear; and then the Liquor in the Receiver, being er acid or alcaline, ſmells of nothing but an Empyreuma. you have taken away the volatile Salt, in order to make ments of it, and to be aſſured, that it has all its due Pro- , if you replace the Retort over the Fire, and aug- t by Degrees, the Matter heaves and puffs up, and becomes of a lively Red, over all its Surface, and at laſt ſome white and farinaceous Flowers ariſe to the Top of the Retort.

This Proportion of two Thirds of Antimony to one of fixed Nitre, leaves no Regulus in the Bottom of the Retort. This I am aſſured of, by repeating the Operation five or ſix times.

If you make uſe of equal Parts of Antimony and fixed Nitre, for Inſtance, an Ounce of each, the Maſs ſooner becomes red upon the Surface, runs more equally in Fuſion without ſwelling, and depoſits at the Bottom a Regulus, which, in this Quantity, uſually weighs eighteen or nineteen Grains, beſides the ſmall Particles which are not reunited to the main Lump, but remain diſperſed in the ſaline and ſulphureous Scoriæ that are found above the little Maſs of Regulus.

In performing the ſame Operation with two Parts or one Ounce of Antimony, and three Parts or an Ounce and half of the ſame nitrous Alcali, we ſhall find, for one Ounce of Antimony, forty Grains of Regulus, beſides the ſcatter'd Particles. It is remarkable, that more white Vapours are elevated with this, than with the two preceding Proportions; and alſo, that more volatile concrete Salt is thence extracted.

That I might render my Account of Proceſſes on the *Kermes* complete, I try'd the Fuſion of Antimony with other alcaline Salts, ſubſtituted in the room of Nitre fixed by Charcoal. I knew very well, that they all formed a Liver with the groſs Sulphur of the Mineral; but it was neceſſary to know if there were any Difference, and whether the Products were uniform.

Firſt then I made uſe of Nitre fixed by Tartar: This alcaline Salt had been diſſolved, filtrated, and afterwards reduced to a white, dry, ſaline Maſs. Half an Ounce of this I mixed with an Ounce of Antimony, reduced, as I ſaid, to a very fine Powder. After the Phlegm there aroſe red Vapours, which had the Smell and Taſte of Spirit of Nitre, but laſted not long. Theſe were ſucceeded by white Vapours, and theſe again by a volatile Salt in a dry Form. When I lifted up the Dome of the Furnace, I perceived, that tho' the Salt which I uſed had, in common Eſſays, ſhew'd all the Signs of a true fixed Alcali, there were yet ſome Particles of Nitre, which had not been alcaliſed by the Detonation of that Salt with the Tartar; for they ran into Fuſion anew with the Sulphur of the Antimony, and kindled one after another. This Fulmination was much more ſenſible in another Experiment, where I uſed four times the Quantity of the Mixture. I obſerved, moreover, that in the Places where the Nitre fulminated, it left white Spots, which, taken off with Care, conſiſted of a diaphoretic Antimony. But I took no Care to proſecute my Obſervations this way any farther.

The Maſs which at laſt remained in the Retort afforded me no more collected Regulus, than in the firſt Operation which I made, in the ſame Proportion, with Nitre fixed by Charcoal. When I augmented the Proportion of the Nitre fixed by Tartar, I recover'd a Regulus, as in the preceding Experiments.

Thus theſe two Alcalies, proceeding both from fixed Nitre, either by means of Charcoal, or Tartar, afford us no perceptible Difference in their manner of acting upon Antimony. This, indeed, ought to be the Caſe, but it was good to be aſſured of it from Experiments.

Let us now proceed to the Trial of Salt of Tartar, which we know is the pureſt of all Salts. When it is well made, we find in it nothing of a foreign or of a volatile Salt, which we almoſt conſtantly meet with in Nitre, in whatever Manner it is alcaliſed. This Salt of Tartar, when I uſed four Drams of it with an Ounce of Antimony, ſeparated nothing at all of a Regulus; but every time I repeated the Operation with ſix Drams or an Ounce of that Salt, I obtained forty or fifty Grains of fine Regulus from every Ounce of Antimony.

In this Operation, no volatile Salt is ſublimed, becauſe I uſe a pure fixed Alcali, whereas when I make uſe of Nitre, fixed either by Charcoal or Tartar, I meet with Particles not alcaliſed, which ſtill retain all their Acid. Theſe Particles of Nitre, completing their Decompoſition, abandon their alcaline Salt to the Acid of Sulphur, which together make a kind of vitriolated Tartar; and the Portion of nitrous Acid, when diſengaged from the other Parts of the Nitre, unites with another Portion of the inflammable Principle of Sulphur, and forms with it the volatile Salt which I found, and juſt now ſpoke of. Perhaps we might account for this in a more ſimple way, by ſuppoſing ſomething Ammoniacal in the Nitre; and in this Caſe, the Explication I juſt now gave of it would be uſeleſs.

The Salt extracted by Lixiviation from the calcin'd Lees of Wine, after it is dry'd and calcin'd, ought to be a pure Alcali of the ſame Nature as Salt of Tartar, becauſe it has an Original almoſt like it; and hence alſo this Salt, being melted with the Antimony, produced no Alteration. There appeared, as in the Experiment with the Salt of Tartar, a white Vapour, ſome farinaceous Flowers, and a ſalt Liquor ſomewhat urinous, and ſuch as I had obtained from a Proceſs with Salt of Tartar. Both of them produce a white Precipitate in a common Solution of Mercury in Spirit of Nitre, which Precipitate afterwards becomes greyiſh. As long as I uſed but one half Ounce of this Salt of Wine-lees, with an Ounce of Antimony, I found no Separation of a Regulus; but when I put ſix Drams, it produced forty Grains of Regulus, as the ſix Drams of Salt of Tartar had done before.

It remain'd to know what Effect the Salt of Pot-aſh would produce. Half an Ounce of this Salt, which had been purify'd by a Solution in cold Water, in order to ſeparate it from the vitriolated Tartar which it contained, afterwards dry'd, and then mixed with an Ounce of Antimony, ſhew'd no Sign of volatile Salt. But the ſlight farinaceous Duſt, which was ſublimed, as in the preceding Experiments, was of an Orange-colour, which ſhew'd ſome ſmall Difference between this Salt and the other alcaline Salts which I had made uſe of before. The Liquor, convey'd into the ſmall Receiver, had a weak, volatile Smell, and precipitated a Solution of Mercury to a white Coagulum, which afterwards aſſum'd the yellow Colour of Turbith. Hence we may conclude, that it contains a little of the Acid of Sulphur, which was diſengaged during the Fuſion of the Mixture; and that beſides theſe Acids, there is alſo in the Liquor a ſmall Quantity of an urinous, volatile Spirit, ſince it makes a white Precipitation in a Solution of corroſive Sublimate: Beſides, after Precipitation, it forms upon the Liquor a Pellicle with all the Colours of the Rainbow, which is a ſure Mark of a ſulphureous Acid. In this Operation, where we took two Parts of Antimony for one Part of Salt of Pot-aſh, we obtained no Regulus.

Being ſenſible therefore, that this Proportion of alcaline Salt, of whatever Kind it may be, afforded no Regulus, which, when that Proportion was augmented, gather'd into a Maſs ſufficiently ſenſible, I was willing to try what would happen from the Diminution of that Proportion, and, in purſuance of this Reſolution, took but two Drams of Salt of Tartar for one Ounce of Antimony.

There was no ſulphureous Matter ſublimed, but there were always ſome white Vapours; and that ſmall Quantity of Liquor which paſſed into the Receiver, was in a ſlight Degree urinous; the Maſs melted in the Retort was half vitrify'd, and the Needles of the Antimony were totally deſtroy'd. One might compare it to thoſe Livers of Antimony which are prepared for Horſes, in the Preparation of which we have been ſaving of Nitre, in not allowing the common Proportion, which is of equal Parts of that Salt and Antimony.

To make it appear, that the Compariſon is exact enough, I melted an Ounce of Nitre with four Ounces of Antimony in a Crucible. The Nitre, in fulminating, carry'd off from the Mineral a Part of its Sulphur, and even of its Regulus; for, during the Detonation, there was an Elevation of Flowers, and theſe Flowers were very red. The Detonation being at laſt ceaſed, I kept the Mixture for ſome time in Fuſion, and there remained a *Crocus Metallorum*, reſembling that which was the Reſult of my Operation by the Retort: But this laſt had loſt nothing of its Sulphur, nor of its Share of Regulus, becauſe I uſed an alcaline Salt, which does not fulminate, whereas, in the Experiment which I made in the Crucible, I made uſe of Nitre which fulminated.

When I augmented the Proportion of alcaline Salts to three Drams, for one Ounce of Antimony, I found in the Retort a reddiſh Maſs nearly of the Colour of Liver of common Antimony, with its interior Subſtance divided into little Surfaces, ſtriated, in form of Needles, like the Lapis Hæmatites. Thus it appears, that the Proportions of two and three Parts of Nitre, to eight Parts of Antimony, are too weak to open the Antimony to a ſufficient Degree; for the Maſs which remains after Fuſion, contracts no Humidity from the Air. There muſt be, at leaſt, four Parts of alcaline Salt to eight of Antimony, that the melted Maſs may be capable of Solution; and it plainly appears, that it ought to be ſoluble, and ſoluble in all its Parts, that it may afterwards be capable of precipitating the *Kermes* by Ebullition in common Water, without any Separation of its Portion of Regulus.

This Proportion being ſettled as the Standard, throughout all the Experiments which I made, moſt of which I have ſuppreſſed, that I might not make this Paper of an unneceſſary Length, I go on to examine the *Kermes* precipitated from Maſſes capable of Solution.

I boil'd them two Hours, or thereabouts, in two Pints of Rain-water, and when the Liquor was reduced to Half, or a Quarter, I filtrated it. It muſt be obſerved, that, in the Time of Boiling, the Liquor had a very ſulphureous Smell, and ſhew'd Signs of ſomething volatile and urinous, as in the ſimple Operation on the *Kermes*, performed in the ordinary way by Ebullition.

The Liquor, having been filtrated boiling-hot, thro' a double Paper, into a China Baſon, into which, by way of Precaution, I had before poured two Pints of boiling Water, for Reaſons which I ſhall declare hereafter, as it cool'd, there was commonly precipitated a red Powder. I decanted and filtrated the cold Liquor, and poured it again upon the Reſiduum, and boiled them together; I filtrated again, and repeated the Boiling and Filtration three times.

As to the Maſſes, which contract not the leaſt Humidi from the Air, as thoſe where I put but three Drams of alc line Salt to an Ounce of Antimony, after long boiling, th was precipitated nothing but a groſs Magiſtery of the Colour Oker, which is always the Colour of *Kermes*, when it ill prepared, whether it be by Fuſion, or in the ordinary W by ſimple Ebullition. This proves, that the Proportion three Drams of alcaline Salt to an Ounce of Antimony is good Proportion.

The Maſs which reſults from hence, is to be look'd upon a *Crocus Metallorum*, ſince we alſo find ſome Particles wh reſemble it upon the Filtre. 'Tis true, if we repeat the Bo ings, and add a little alcaline Salts to each Boiling, we ſh come at laſt to reduce the whole Maſs to a colour'd *Kerm* but the Work would be as long as what I ſpoke of in my p ceding Memoir, and the Chymiſts, who prepared the *Ker* by Fuſion, had no other View than to ſhorten this Labour.

However, tho' this Proportion be not ſufficient to red Antimony to a *Kermes*, it opens it enough to render it of ſo Service in Ptiſans made of the ſudorific Woods, in which i cuſtomary to boil crude Antimony ty'd up in a Knot, with conſidering that it can communicate nothing to the Decoct if it be not firſt open'd by ſome acid or alcaline Salt. For Reaſon a famous Empiric, whoſe Ptiſans were in great Re during his Life, prepared his Antimony by Fuſion with Sal Wormwood, and then boiled it with the Woods.

If the Liquor be too much evaporated before Filtration, t is precipitated, during Refrigeration, a groſs Matter like a mous Mucilage; becauſe the *Kermes* is not diſperſed in a ſ cient Quantity of Liquor to admit of its precipitating by grees; beſides the Concentration of the alcaline, ſaline, phureous, and reguline Liquor in this Caſe, the great Q tity of Sulphur, collected into too ſmall a Space, is much diſpoſed to reunite, and the Molecules of this Sulphur, appro ing one another, form, in ſpite of Lotions, a kind of reſi and ſhining Covering upon the Maſs of theſe Magiſteries, w is very perceptible after drying.

But the Proportion of alcaline Salt being ſuch as is ag and ſuch as my Experiments have taught me, there is no gr Quantity of Liver formed than what is neceſſary to divide Reguline Part, to reduce it into Particles fine enough to thro' the Pores of the Filtre, and to keep thoſe Particles and free from that glutinous Pellicle, which would reunite in groſs Molecules, and render the Precipitation grumous. ſides, if there be too much alcaline Salt, the Exceſs of Salt reduces the Regulus; and this Regulus, ſo reduc purely loſt, as to the *Kermes*, the Preparation of which we in View.

In order to remedy this Inconvenience, of the too ſ Coalition of the Particles of the *Kermes*, I put, as I have al ſaid, boiling Water into the Bowl placed under the Filtre, if the Evaporation of the Liquor has been carry'd too far Salt, which by that means alone would be too much co trated, may extend itſelf afreſh in this warm Water, an come more capable of keeping the Parts of the Antim which it has attenuated, at a Diſtance from each other. Method I propoſe, retards the Condenſation occaſioned b Cold of the external Air, which, without this, would b ſudden. And, indeed, Experience has convinced me, th this means, the *Kermes* was precipitated much finer, an much more lively Colour, than when I put no boiling W into the Bowl. Beſides, the *Kermes* muſt be dry'd in the S becauſe a too briſk Heat makes the Particles of the S coaleſce, and form the above-mentioned Varniſh.

I ſhall not give the Preference to any one of the Sa particular which I employ'd in theſe Proceſſes of the *Ker* Fuſion, becauſe, with each of them, I procured a Ma equally beautiful, when I us'd them in the ſame Quanti

I have alſo obſerv'd, that whatever alcaline Salt I emp whether in the Prepartion of the *Kermes* by Ebullition, Fuſion, there was always a conſiderable Quantity of Earth, ſeparated from the Mixture when diſſolved in Water. I have ſpoken of this Earth in the former Part Memoir.

From all I have ſaid, it ſhould ſeem, that the preciſe tity of alcaline Salt, which muſt be mix'd with two P Antimony, in order to reduce it to a fine *Kermes* by F cannot be diſcovered but by making Experiments. I it was in this Manner that I arrived to a Certainty abo but I might have alſo diſcover'd it, by reflecting on the A which this Proceſs bears to the common Mannet of pr the *Liver of Sulphur*, which, if well made, ought to Gold by Solution, or render it, if I may ſo ſpeak, ſolu that it may paſs thro' the Filtre, when the Mixture ha diſſolved in Water: Now this Proportion of a Liver phur, well prepared, conſiſts in equal Parts of alcaline S Sulphur mix'd together; and the entire Maſs, reſulting fr Mixture, diſſolves totally in Water, without any Part Sulphur ſeparating from it. The Truth of this is well known; but however exact the Analogy, or, rather,

between theſe two Proceſſes may be, it was ſtill neceſſary
ow the preciſe Quantity, or at leaſt very near ſo, of the
mable Sulphur that Antimony can contain. This can no
wiſe be done, than by finding by different Experiments,
Quantity of common Sulphur muſt be uſed in order to
e a purified Regulus to an Antimony richly furniſhed with
es. This Attempt I myſelf made; however, I wave
ail of my ſeveral Eſſays for that Purpoſe. By making all
periments in Retorts, that I might loſe none of the Mix-
I was aſſur'd, that by mixing two Drams of Sulphur
one Ounce of Regulus, we ſhall find a Piece of Antimony
rated, with beautiful Needles, and which does not differ
he beſt choſen *Hungarian* Antimony, without any Part
Sulphur being ſublim'd, or raiſed to the Neck of the
, which happens when a larger Quantity of it is uſed.
is ſtill another Method of aſcertaining the Proportion of
r contained in Antimony, which I ſhall reſerve for
r Memoir, where I ſhall lay down the Method of try-
timony, and the diſtinguiſhing Characteriſtics of its Pu-

ſatisfied with having regenerated the Regulus into a true
ony, by a juſt and exact Proportion of Sulphur, reſem-
Piece of well-choſen *Hungarian* Antimony, to which I
o compare it; I made uſe of this regenerated Antimony,
r to make *Kermes* by Fuſion: I took an Ounce of it re-
to Powder, to which I added half an Ounce of Nitre
y Charcoal; and I had the ſame Sublimations, and the
aſſes, I uſed to have, when I made uſe of *Hungarian*
ony. All the Difference I could poſſibly obſerve was,
e Subſtance was more difficultly fuſed, and the Maſs was
ore browniſh Colour; but when I diſſolved it in boiling
, a Magiſtery precipitated from it almoſt as beautiful as
Hungarian Antimony was uſed.

r the entire Precipitation of the *Kermes*, the Liquor or
m yielded me a white Earth perfectly like that before-
ned.

I had given the Regulus the Proportion of Sulphur,
y to regenerate it into Antimony, is proved from this,
there had not been a ſufficient Quantity of it, I ſhould
und a Regulus in melting this Antimony with half the
ty of alcaline Salt; becauſe an alcaline Salt does not de-
e Regulus when it acts alone. If, on the other hand, there
n too much Sulphur, its Exceſs would have been ſublim'd
ers during the Regeneration. Now in order to ſhew,
alcaline Salt alone does not attack the purify'd Regulus,
not ſeparate from it a Magiſtery like the *Kermes*, let it
obſerved, that if we melt Powder of Regulus mixed
ed Nitre, the unfixed Part only of that Salt acts by ful-
g gently, and reduces the Parts of the Regulus, which
t, into a Powder of a yellowiſh Colour, which is a
of *Diaphoretic*; the Remainder of the Regulus is fus'd,
s above the Salt in little Drops, which being collected
olution of the Salt in the boiling Water, amounted al-
the Weight of the Regulus employ'd; what is want-
t, is that Part of the Regulus which has been reduced
phoretic by the momentaneous Detonations; and from
tion of the Salt, not one Particle of *Kermes* is preci-
The whole Proceſs is finiſhed without any ſenſible
the Regulus, if, inſtead of the fixed Nitre, we employ
alcaline Salt, ſuch as that of Tartar: But the moment-
Detonations prove, that in the common Proceſs of the
, the Regulus itſelf, however well purified it may have
reiterated Fuſions, ſtill contains a conſiderable Portion
ureous Matter, more ſubtile indeed than the groſs and
able Sulphur ſeparated from it; but which is ſtill ſuffi-
make the Nitre, which is not alcalized, fulminate; and,
robability, this ſulphureous Principle is the Vehicle of
Parts of the vitrifiable Earth, and aſſiſts them to ſti-
and twitch the nervous Syſtem, and thereby produce
gs.

g then ſhewn, that the alcalized Part of the fixed Ni-
not attack the Regulus during the Fuſion, we have
n to be ſurpriſed, that the *Deliquium* of the ſame does
upon this Regulus in the Ebullition, and that from
of Regulus we can ſcarce ſeparate and diſengage one
Kermes.

all I have ſaid, I conclude, that in order to procure
y Fuſion, we muſt employ a very pure fixed alcaline
t the Proportion of that Salt is, one Part to two Parts
ony reduced to a fine Powder, that they may be the
mately mixed; that the Maſs drawn from the fuſed
after it is reduced to a Powder, when hot, ought to
into boiling Water, and remain in it for an Hour or
ore it is filtrated; that there ought to be boiling Wa-
Bowl which receives this ſaline and antimonial Liquor,
eaſons above-mentioned; that every Ounce of Anti-
us treated, yields, after three Ebullitions of the Maſs
in Water, from five Drams ſixty Grains to ſix Drams
ains of *Kermes*, almoſt as beautiful as that which is
y Ebullition, according to the Proceſs publiſhed by the
I.

King's Order; that it is not nevertheleſs ſo ſmooth to the Touch, and that it wants that downy Softneſs, which is always the diſtinguiſhing Characteriſtic of that which is prepared ſimply by Ebullition: As to the Effects both of the one and the other, conſidered as a diaphoretic Medicine, I believe them perfectly alike.

I have ſaid, in the Beginning of the firſt Part of this ſecond Memoir, that from Antimony treated by Acids, we might have a Remedy, which, if exhibited in a ſmall Doſe, ſhould produce the ſame Effects with the *Kermes*: As the Preparation of it is very eaſy, it might be ſubſtituted in its room, eſpecially in the Hoſpitals. In this Caſe, Acids act upon this Mineral in the following manner:

I took for my Experiments *Hungarian* Antimony, ſplit into Laminæ, according to the Direction of its Needles, that I might the better obſerve the ſeveral Phenomena that ſhould occur.

Neither the white and concentrated Oil of Vitriol, nor that which has been weakened and diluted with common Water, act, when cold, either upon theſe Laminæ of Antimony, or upon the Pieces of Regulus; this Acid only darkened the Luſtre of the ſhining little Surfaces of the Regulus. But if we put into a Retort half a Dram of the like pure Regulus, and pour upon it four Parts or two Drams of white and concentrated Oil of Vitriol, with the firſt Degree of Heat, the Oil of Vitriol will become brown, a ſuffocating ſulphureous Smell will ariſe from it, which will augment in proportion as the Regulus is penetrated and corroded by the Acid; for there is no true and real Diſſolution happens to it.

By augmenting the Fire, an apparently mucilaginous Matter is ſeparated from it; and when the Oil has begun to boil, the Regulus is reduced into a white ſaline Maſs, juſt as it happens to Mercury in the Proceſs for Turbith Mineral; a true Sulphur is ſublimed, or raiſed to the Neck of the Retort; and laſtly, all the Oil of Vitriol paſſes into the Receiver, and leaves in the Retort the Regulus reduced to a white, tumified, and ſaline Maſs: The Fire being extinguiſhed, I ſeparated the Retort from its Receiver, and as ſoon as the external Air enter'd, there burſt out a ſulphureous Vapour as white and thick as the Steam of that Liquor, which is prepared with corroſive Sublimate and Tin.

The white and ſaline Maſs remaining in the Retort weigh'd ſeventy Grains; ſo that it had augmented thirty-four Grains, which muſt have come from the vitriolic Acid which was concentrated in the Regulus; and the Oil of Vitriol, conveyed to the Receiver, had loſt almoſt as much, and had, beſides, become conſiderably leſs acid. This ſaline Maſs to me appeared to be too much of a cauſtic Nature for internal Uſe.

I did not perform this Experiment with Antimony, becauſe it is deſcribed in the Obſervations of *Frederic Hoffman*, and becauſe I could ſay no more concerning it than he has there done.

The pureſt Spirit of Salt does not act ſenſibly either upon Antimony, or its Regulus; but it diſengages, tho' ſlowly, from Antimony reduced to ſmall Pieces, ſome light ſulphureous Flakes.

The Caſe is not the ſame with the Acid of Nitre; it attacks by little and little theſe *Laminæ* of Antimony, and there ariſe from it a great many Bubbles of Air; the Spirit of Nitre, during this Fermentation, gradually aſſumes a greeniſh Colour with a faint Caſt of Blue; and if more of this acid Spirit than is neceſſary is not put into the Veſſel, it is almoſt wholly abſorb'd by theſe *Laminæ*, which it penetrates, and ſeparates from each other, according to the Direction of their Needles. If there is too much of this Acid, that is, if it ſwims above the Antimony, it deſtroys theſe *Laminæ*, and reduces them to a white Powder.

But if the Abſorption of this Acid is ſlowly made, we diſcover among theſe diſtended Laminæ, little ſaline and tranſparent Cryſtals, which grow gradually in the ſame manner with the *Pyrites*, in which we often perceive little Cryſtals of Vitriol, which have not as yet aſſumed very determined Shapes and Figures. Theſe little Cryſtals of the antimonial Laminæ are intermixed with the yellow Parts, which, being carefully diſengaged, burn like common Sulphur.

I uſed all my Endeavours to ſeparate a certain Quantity of theſe little Cryſtals, but my Attempts were in vain; for they diſappear ſoon after they are formed, and are apparently cover'd with a white Powder or Magiſtery, which is ſucceſſively form'd in proportion as the Acid of the Nitre diſengages and ſeparates the ſpiculated Particles of the Antimony. But though I cannot ſhew theſe little Cryſtals formed by the Union of the Spirit of Nitre with the Antimony, the Formation of that nitrous antimonial Salt is not for that Reaſon the leſs real. Beſides, I find the like Appearances, when I ſubſtitute the Regulus inſtead of the Antimony itſelf. A good deal of Attention is nevertheleſs requiſite to ſeparate theſe Cryſtals; as ſoon as the Air acts upon them, they loſe their Tranſparency; and if the Regulus is allow'd to reduce itſelf into a Magiſtery to a certain Degree, they are no longer diſtinguiſhable.

Thus, in order to obſerve theſe Cryſtals, it is neceſſary to break the Regulus into Pieces, to put theſe Pieces into a ſmall glaſs Veſſel, and pour Spirit of Nitre upon them, to the half of their Height only, that they may not be all covered by it. This Acid penetrates them, makes them exfoliate into white Scales; and it is upon the Surfaces of theſe Scales that theſe white unpoliſhed Cryſtals are formed. Theſe Cryſtals grow and increaſe, in the Form of Collyflowers, in the Space of two or three Days. It is then neceſſary to withdraw them, that they may not be confounded in the white Magiſtery, which is ſtill forming itſelf, and which would prevent their being diſtinguiſhed.

The Spirit of Salt, which alone does not appear to attack the Antimony, yet reduces it to a white Magiſtery, when Spirit of Nitre is added to it. But the Mixture of theſe two Acids with this Mineral produces no Appearance of Cryſtals. The Laminæ of the Antimony ſoon become yellow, and very fœtid; nitrous Vapours riſe from them, and yet the acid Liquor does not ſeem to retain a great many Parts of the Mineral; or, which amounts to the ſame, it very quickly precipitates what it had retain'd; after which, Oil of Tartar, poured upon it, no longer produces any Precipitation.

Thus 'tis not enough to ſay with ſome Chymiſts, that Aqua Regia is the Diſſolvent of the reguline Part of the Antimony; we muſt add, that the Aqua Regia ought to be poured upon the Antimony and its Regulus in large Quantities. Beſides, the Aqua Regia, which produces this Diſſolution, ought to be compoſed of four Parts of the Spirit of Nitre, and one Part of the Spirit of Salt. The Spirit of Nitre, converted into Aqua Regia by Sal Ammoniac, does not diſſolve without Precipitation, as this Aqua Regia does.

In two Ounces of an Aqua Regia, compoſed as I have now ſaid, I diſſolved a Dram of Regulus broken in ſmall Pieces; and that the Diſſolution might be made without a Precipitation, I was oblig'd to wait till one ſmall Piece was totally diſſolved, before I put in another. The Experiment takes up a great deal of Time; but 'tis reaſonable to have recourſe to all Means, in order to ſatisfy ourſelves of a Fact which may be conteſted. 'Tis neceſſary I ſhould alſo obſerve, that this Liquor, in proportion as it is impregnated with the Regulus, aſſumes a beautiful gold Colour, which it inſenſibly loſes by the Evaporation of the white Vapours which are continually riſing.

The ſame Aqua Regia, uſed with the ſame Precautions, alſo diſſolves in Antimony the reguline Part, which is in the Pieces of this Mineral, when thrown into it one after another. The Diſſolvent having carried off this reguline Part, the remaining Pieces of Antimony, becoming by that means lighter, ſwim above. If we take them off, and examine them, we ſhall ſee, that they are Part of the Sulphur which the Antimony contained.

Hitherto I have found nothing but this Aqua Regia, compoſed, as I have ſaid, of four Parts of the Spirit of Nitre, and one Part of the Spirit of Salt, employ'd to the Weight of ſixteen Drams upon one Dram of Regulus, and upon a ſomewhat leſs Weight of Antimony, which occaſions a total or complete Diſſolution of the Regulus; whereas the Spirit of Nitre, made with Sal Ammoniac, quits, and ſoon allows the ſmall Quantity of Regulus it had diſſolved, to precipitate, as the late Mr. *Lemery* has obſerved.

Mr. *Lemery* made many Experiments with this Magiſtery; and I am ſurpriſed the Uſe of it is not continued in Hoſpitals, and Country Places, where this Remedy, which coſts little, and which is eaſily prepared, may be ſubſtituted in the room of a great many other antimonial Medicines, more difficult to be prepared. I have often obſerved, that the Precipitate of Antimony produced by the Spirit of Nitre, when well edulcorated by ſeveral Affuſions of boiling Water, purges and vomits like the *Kermes*, when given in a Doſe of three or four Grains. I have alſo obſerved that prepared by common Aqua Regia, when well waſhed, to operate by Stool, if given in the ſame Doſe; and that a Grain of it, given for a Doſe, operates as a Diaphoretic. Many poor Peoples Children, attack'd with Diſorders, Obſtructions and Fevers, have been firſt relieved, and afterwards throughly cured, by taking a Grain of this Medicine for a Doſe. Beſides, it may be ſwallowed with leſs Reluctance than any other Preparation which ſhould be either unpalatable, or more bulky. *Memoires de l'Acad. Royale*, 1735.

Continuation of Mr. GEOFFROY'S *Remarks on* ANTIMONY.

In the Memoir which I read laſt Year upon the *Kermes*, I obliged myſelf to examine what might be the Quantity of common or inflammable Sulphur, which the different Antimonies, which we meet with in *Paris*, contain; and, at the ſame time, to determine he Quantity of pure Regulus, which might be expected from that Mineral by Operations attended with leſs Loſs, than in the ordinary Methods.

Such an Inquiry is the Subject of this Memoir, and that you may know before-hand what I deſign to illuſtrate, my Buſineſs ſhall be,

1. To reduce Antimony to a Calx, as much deſulphurated as poſſible, in order to know, by the Diminution of the We
how much Sulphur is evaporated, I mean inflammable Sulp

2. To make it appear, that every Calx of Antimony,
is well exhauſted of inflammable Sulphur, is ſcarce any
than a Regulus; and that what is not ſuch is an Earth,
may be regarded as foreign to that Mineral, and a Rema
of Sordes, from which it was not throughly purg'd in the
nace.

3. To propoſe a Method whereby we may obtain a
greater Quantity of Regulus from Antimony, of whatever
it be, than by the way of Proceſs ſo celebrated by M.
and by thoſe that have copy'd it from him. And,

4. laſtly, To teach a way of purifying the Regulus, wi
an Addition of Salts, and with inconſiderable Loſs.

All this ſuppoſes long Details, but then theſe Details
accompany'd with Obſervations which will render the
more ſupportable. And tho' the Means which I uſe ma
be proper for thoſe who perform theſe ſorts of Operatio
the Great, and have nothing in View but to work quick
to get Money by it, yet they who prefer Exactneſs befor
Views, will, perhaps, thank me for my Labour.

We commonly meet with three Sorts of Antimony
Place (*Paris*): One comes from the old Mine of *Auv*
this, as it was formerly worked, was ſo ſalt, and ſo litt
purated, that it was uſed in nothing but groſs Preparation
it was almoſt impoſſible to make the diaphoretic Antimon
This grew out of Uſe, and the *Antimony of the new*
facture became in Repute, which, for Purity, may vie w
choiceſt *Hungarian* Antimony. If the Undertakers
work that Mine, continue to furniſh us with as good A
ny, as that upon which I have performed my Operation
if the Mine be rich, we may be almoſt ſure, that there
no Occaſion to get it from *Hungary*, which would be a
derable Advantage to the Kingdom. Thoſe Authors wh
written beſt upon Antimony, generally ſay, that this M
ought to yield about half its Weight in a Regulus; bu
poſſible to obtain a far greater Quantity. This I ſhall p
the Courſe of this Memoir, by deſcribing the different M
which have been moſt ſucceſsful in collecting the Reguli
of Antimony into one ſingle Maſs.

While I was in the Courſe of my Eſſays on the Re
of the various Preparations of Antimony, I diſcover'd by
a new Phoſphorus, being a Preparation of Antimony,
fulminates with a Noiſe and Exploſion, as ſoon as it co
to Contact with the Air; this I try'd by repeating the
tion ſeveral times one after another, and always with th
Succeſs. I believe the Invention is new, and I ſhall giv
ſuch at the End of this Memoir.

According to the Order of operating, of which I h
ready given an Account, I begin with the calcining of
mony. I have nothing to add with reſpect to the o
Method of Calcination, except that the finer this Mi
pulverized, the better does the common Sulphur evapora
it. The Reaſon of this is obvious: I always made u
thus prepared: As I was to compare the Weight and
of the Calxes of different Antimonies, it was neceſſary
to fix an equal Time to each Calcination of an equal Q
of every one of thoſe Antimonies.

I found by Experience, that ten Hours was the moſt
nient Time for the perfect Calcination of twelve Ou
this Mineral pulverized. The Proportion of Fire was
eaſy to be fixed; however, I came as near to it as poſſ
uſing in every Calcination, the ſame Veſſel, the ſame F
and the ſame Quantity of Charcoal, and employing t
Operator, who always kept ſtirring the Powder of th
mony, to prevent it from running into Lumps.

It may be proper to obſerve in this Place, that the
of Antimony are not ſo dangerous as is generally imagi
as they would really be, did Antimony contain an
Sulphur, as moſt of the *German* Chymiſts pretend;
Perſon whom I employ'd in this Work, perform'd abo
Calcinations, almoſt continually one after another,
feeling the leaſt Inconvenience, tho' the Chimney, unde
the Furnace was placed, was none of the beſt for dra
Smoke.

The different repeated Calcinations of *Hungarian* Ant
of which I always took the Weight of twelve Ounce
the Quantity which ſuited the Capacity of my Veſſel, c
ly reduced that Mineral to nine Ounces two Drams, an
times to nine Ounces three Drams.

The ſame Number of Calcinations of the old Anti
Auvergne made greater Variations. I had Calxes which
ed ten Ounces wanting twelve Grains, ſome ten Oun
Dram, others ten Ounces three Drams. I alſo bought
Antimony, which I calcined, from different Shops. T
riations do not proceed from the Time of the Calcinatio
was always the ſame, nor from the Degrees of Fire, as
ſee by the Precautions which I always took to keep
equal. I can impute them therefore to nothing but the
or leſs Impurity of thoſe different Antimonies purchaſe

t Druggiſts; for tho' they all came from the ſame Mine, lain they were ſmelted at different Places. By *Impurity* here, n, that Portion of Sordes which is more conſiderable in than in thoſe Antimonies which we call pure, and remains in the Fire without diminiſhing its Weight; becauſe, be- pure Earth, it contains no Matter for Evaporation.

e Calcinations of the Antimony of the new Mine, or Manufacture, reduced the Calx to nine Ounces two s and an half, nine Ounces three Drams, and nine Ounces Drams; ſo that I may with Reaſon affirm, that it was al- as pure as *Hungarian* Antimony. Beſides, the Calx, when 'd of its Sulphur, is of a light-grey-aſh Colour, like the of *Hungarian* Antimony, whereas that of the old Anti- of *Auvergne* is of a much more browniſh Colour: The of the Antimonies we are now examining, is known what I have now ſaid, concerning the greater or leſs Loſs ſtained during Calcination; the more it loſes, the more it ns, *cæteris paribus*, of common Sulphur, which, as is ently known, is an eſſential Ingredient in the Compoſi- this Mineral; and the leſs it loſes, the more it contains erogeneous Parts, which do not yield to the Action of the Calcination; that is, its Fuſion has been ill performed, Mine from which it has been taken, has been very poor. is no Occaſion for my inlarging further on this Obſerva- The thing required was to arrive at a Certainty, that Calxes of Antimony were as throughly diveſted of Sulphur could poſſibly be; for this Purpoſe I calcined them Nitre; their Detonation was more languid than that of gulus treated in the ſame manner, for the ſame Space of by the ſame Fire, and with the ſame Salt. The Maſs into the Water yielded me a diaphoretic Mineral full e as the Diaphoretic prepared with Regulus, and almoſt ſame Quantity, which Circumſtance contributes in ſome e to prove, that the Calx of a good and well prepared ny is all Regulus; and that, in order to make it ſo, is wanting but to collect its divided Parts.

e ſame Calxes with corroſive Sublimate, in the Propor- rdinarily employed to make Butter of Antimony, are ifficulty attack'd by the Acid of the Sublimate.

Tranſlation of this Acid from one Matter, ſo as to lodge the other, is ſo difficultly performed, that only a very Quantity of Butter of Antimony is diſtill'd: The Re- of the Sublimate is ſublim'd afreſh. There ariſes Cinnabar nor Sulphur, becauſe theſe Calxes are entirely of the latter of theſe. But why, may one ſay, does Sea-ſalt act upon this Calx? Why is not the Tranſla- ave ſpoken of, made? I anſwer, that this happens, be- calcining the Antimony there is a Commencement of tion, and becauſe the greateſt Quantity of the Particles Calx being covered with a Stratum of Glaſs, the Acid them without finding any Pores at which it may enter; has reduced any ſmall Portion of it to Butter, 'tis be- s ſmall Portion has not been vitrified. This may alſo happen, becauſe a Portion of the Acid of the Sulphur trated in the Calx, in which Caſe the Acid of the Sea- not attack it.

e common Method of preparing Regulus, too well o ſtand in need of a Deſcription here, the late Mr. xtracts ſix Ounces one Dram of it from each Pound ony. Mr. *Stahl*, in his Tracts, ſays, that a fourth t is only extracted when we uſe equal Parts of Tartar, and Antimony; but that the Product of the Regu- ore conſiderable, if to ſix Ounces of Antimony we Ounces of Nitre, and ſix Ounces of Tartar. Then s his Diſcovery, which conſiſts in ſeparating or re- e Antimonial Powder from the Scoriæ, by caſting o the Crucible with half their Weight of Nitre, in make a gentle Detonation, and by throwing Powder oal upon them immediately after. We ſhall, continues s ſecond Operation, have another Regulus, which ſhall equal in Weight to the Regulus firſt extracted from it. es not preciſely determine the Weight of that firſt Re- ſides, this Proceſs is difficult; there are two De- and conſequently ſome Loſs. The Sulphur is ſo united with the crude Antimony, that in theſe De- of the Nitre with the Tartar, eſpecially in the nſiderable Portion of the Antimony is carried off Smoke, and Part of it entire, whilſt the other Par- 'd of the Sulphur which they contained, by Deto- llect themſelves into a Regulus.

went otherwiſe to work, and quitting my Suppoſi the Calx of Antimony is a Regulus divided into ex e Particles, my Buſineſs was only to find a Diſſol- ductive, which might at one and the ſame time re- Particles of the Calxes, too much ſtripp'd of the that inflammable Principle in which they were de- d reduce itſelf into a Flux, liquid enough for allow- articles to paſs through it eaſily, and precipitate be- heir proper Weight; and that, being thus precipi- Reunion ſhould be made by Fuſion. I have tried the reductive Salts, the Oils, the Fats; but nothing has ſucceeded ſo well with me as black Soap. This Reduction is alſo made by Charcoal; for nothing ought to be omitted, and Charcoal is even a Reductive employed in the Preparations of Regulus in great Quantities. As for the Oils and Fats, they reduce alſo; but they ferment too much, and inflame; and as they are reduced to a Coal, no fluid *Scoriæ* are form'd; what floats above the Antimony in the fluid Part is rugged and coarſe, and the fuſed Mineral being naked, the Evaporation of it is carried on with a conſiderable Loſs.

Nitre too quickly carries off the Sulphur of the Antimony in Detonation: Beſides, 'tis known, that it reduces it to a Diaphoretic; and we cannot afterwards reduce this Diaphoretic into a Regulus, without a great deal of Loſs to the whole Maſs of the Antimony, with which the Operation has been begun.

Salts already alcalized, when fuſed with the crude Antimony, reduce it into that Form which we call *Kermes by Fuſion*, or *Golden Sulphur of Antimony*; if they are fuſed in equal Quantities with the Calx of the Mineral, they reduce it to a Species of Glaſs.

Red Tartar, or white Soap, may be employ'd; but I have found, that neither the one nor the other collected ſo much of the Regulus as black Soap. I wave an Account of the Eſſays of this Kind I have made, in order to avoid a ſuperfluous Prolixity: I ſhall then confine myſelf to this Reductive. 'Tis well enough known, that it is compoſed of a ſtrong and whitiſh Lixivium of Pot-aſh and Quick-lime, united by Ebullition to Lin-ſeed Oil, Rape Oil, Hemp-ſeed Oil, and ſometimes even to Fats. I am not indeed the firſt who uſed this Method; for I have ſeen in the *Engliſh* Edition of Sir *Kenelm Digby*'s Chymical Experiments, that this Philoſopher recommended Soap and Tartar, for the Reduction of a Regulus of Antimony, which he calls *Spirituous*; and which, according to him, is the precipitated Butter of Antimony, and the Mercury probably reunited; for he ſays no more of it. Whatever the Caſe is, if it was a Reduction of the *Mercurius Vitæ*, which he was talking of, the Soap was ſufficient without the Tartar.

But ſince black Soap is ſo good a Reductive of the Reguline Part of Antimony, it may be aſked, why this Mineral is converted into a Calx in order to reduce it afterwards, and why the Powder of Antimony is not mixed all at once with the Soap, ſince by this means the Operation would be leſs tedious. As I was appriſed before-hand of this Objection, I prepared myſelf to anſwer it by an Experiment, which proves, that crude Antimony does not yield, even with this Reductive, all the Regulus that may be ſeparated from it by my Method. I took two Ounces of *Hungarian* Antimony, like to that which I had reduced to a Calx; when reduced to a fine Powder, I mixed it with two Ounces and an half of black Soap, and had a Maſs of Regulus well reduced, and very clean, but it only weighed two Drams ſix Grains; ſo that two Ounces forty-eight Grains would be yielded by each Pound of Antimony. By the Proceſs of Mr. *Stahl*, ſeven Ounces and an half, or at moſt, eight Ounces, can only be extracted; and by mine, I have very near ten Ounces, as may be ſeen afterwards. Thus the Soap, which well enough reduces the Calx of the Antimony, cannot in the leaſt ſeparate the Regulus of that Mineral when crude.

The Scoriæ which float above this ſmall Part of the collected Regulus, are, when cold, a ſort of black compacted Glaſs, which reſembles Jet, melts at the Flame of a wax Candle, like Bitumen, and diffuſes a ſulphureous Smell. Theſe Scoriæ, which do not become moiſt by being expoſed to the Air, would have been of the Colour of Liver of Antimony, if the alcaline Salts, which are contain'd in the Soap, had only been employ'd. But in uſing the Soap, we ſee its oily Part muſt burn, unite itſelf to the Acid of the Sulphur of the Antimony, and with it form a Bitumen: The alcaline Salt is covered and wrapt up in it which ſo defends it, that the Action of the Air cannot diſſolve it. What I have now ſaid, is ſufficient to prove, that there is more Advantage in reducing the Calx of Antimony into a Regulus, than in attempting the Reunion of the Reguline Parts in crude Antimony.

The Proceſs of *Kunckel* is not more advantageous than that of Mr. *Stahl*. He takes a Pound of the Calx of Antimony, which he reduces into a Paſte with Suet, or any other Fat, and Charcoal. He puts the Whole into a Crucible ſlightly covered, till nothing riſes in Smoke; after which he gradually puts into it a Pound of Nitre; by this means we have ſeven Ounces three or four Grains of a very beautiful Regulus; but I draw a great deal more from it by the Soap. *Kunckel* joins to the Fats, which already form of themſelves a ſlight Coal and Soot, another groſſer Charcoal, which obliges him to add Nitre to it, in order to deſtroy theſe two different Charcoals by Fulmination. This Nitre melts, alcalizes, and becomes fluid. The Grains of the Regulus, already reduced by the oily Principle, eaſily precipitate through that Salt when in Fuſion, which they could not have done through the Scoriæ, which would have remained in an almoſt ſolid Maſs, without the Addition of the Nitre; for every one knows, that the whole Art of Reduction conſiſts in reuniting into weighty Molecules the too much divided Particles of the Metals, and in keeping theſe weighty Molecules in a liquid Medium, thro' which they are capable of paſſing.

But the Nitre, becoming alcaline, has not, in fulminating, carried off all the fat Part of the Mixture; it becomes therefore *Liver*, with what remains of the Sulphur; and under this new Form, it converts into *Kermes* the ſmalleſt Parts of the Regulus, which it corrodes. If this ſame Salt prevails over the Sulphurs, it reduces another Portion of the Regulus into a *Diaphoretic*. Thus two Subſtractions muſt be made from the Quantity of Regulus, which ſhould have been collected at the Bottom of the Crucible, without taking into the Account what riſes in Smoke during the Operation, which is ſufficiently long, and during the Detonation.

We have formerly ſeen how much Calx, without Sulphur, twelve Ounces of the different Antimonies I calcined, yielded: 'Tis therefore unneceſſary to repeat in this Place, what was ſaid on that Occaſion. I reduce this Calx with the Soap in the following manner:

I take two Ounces of every one of theſe Calxes, of which I form a ſomewhat liquid Paſte, with an Ounce and an half or two Ounces of black Soap. I put this Mixture by little and little into a Crucible, which I make moderately red-hot in the Middle of burning Coals, in order to burn the Soap ſlowly, to give the Oils a greater Propenſity to imbibe every Part of the Calx of the Antimony, and to avoid the Loſs of the Reguline Particles, which, being then very much divided, would riſe ſo much the ſooner into Smoke, if the Fire ſhould happen to be too hot at firſt.

When the whole Mixture is put, by little and little, into the Crucible, and when I perceive, that the Fat of the Soap is burnt, I cover the Crucible: Then I apply a very hot Fire, in order to put the whole Mixture in Fuſion. It is, at firſt, heard to ferment or boil conſiderably; but at laſt that Noiſe ceaſes: Then I allow the Crucible to become cool in the Middle of the Coals; and find, upon taking off its Cover, congeal'd Scoriæ, with Circles of different Colours. The Middle of theſe Scoriæ is ſometimes rough, having Cavities, in which we may diſcover white and ſaline Vegetations.

Then I break the Crucible, and find a Lump of Regulus well collected; which is not indeed, as yet, pure, but which muſt be purified, as I ſhall afterwards direct; and which, internally, appears to be an Aſſemblage or Collection of ſmall ſhineing Grains, as yet not ſufficiently reunited, nor placed in a ſufficiently compact Arrangement, for forming *Laminæ*, or little Surfaces.

Two Ounces of the Calx of the Antimony of *Auvergne*, of the new Company, yielded me, in three repeated Fuſions, always the ſame Weight: An Ounce five Drams and ſome Grains of the imperfect Regulus, I have juſt now mention'd.

Two Ounces of the Calx of the old Antimony of *Auvergne*, which I had lying by me uſeleſs ſince 1712. when melted alſo with two Ounces of black Soap, yielded only an Ounce and four Drams of Regulus.

Other Antimonies of the ſame Mine, bought at different Shops, yielded me an Ounce and five Drams, all but twelve Grains; but it was leſs pure than the former.

Laſtly, the Calx of the *Hungarian* Antimony yielded an Ounce four Drams and forty-eight Grains of a purer Regulus than that I juſt now mentioned, having, on its Surface, Furrows in the Form of Fern; and, internally, ſome little Surfaces already well formed.

When I put theſe Lumps of Regulus, as well cleaned of the adherent Scoriæ as they poſſibly could be, into a *China* Bowl full of pure Water, I obſerved a very ſtrong Ebullition, which, in one of the Lumps, laſted for twenty-four Hours: Being ſurpriſed at this, I diſcovered, with a magnifying Glaſs, that there were in the Regulus little Holes, imperceptible to the naked Eye. I endeavoured to find out what might be the Cauſe of this ſtrong Ebullition, and at laſt found, that it was a Portion of the Quick-lime, precipitated by its Weight with the Reguline Parts, which occaſioned this Ebullition; becauſe it had been calcined afreſh with the Regulus, in a State of Fuſion, at the Bottom of the Crucible. If it ſhould be aſked, whence this Earth, of the Nature of a Calx, proceeds; I anſwer, 'Tis from the Soap; for the acrid Lixivium, with which it is made, is compoſed, as I have ſaid, of alcaline Salts and Quick-lime.

The above Reductions, being made in larger Quantities, yielded Products, in proportion, differing very little; ſo that I can ſay, that one Pound of *Hungarian* Antimony, reduced, by Calcination, to twelve Ounces three Drams and twenty-four Grains of Calx, furniſhed me with nine Ounces ſix Drams and fifty-four Grains of Regulus, which Quantity is not much ſhort of ten Ounces; that the Fire carried off from that Mineral, when crude, during Calcination, three Ounces four Drams and forty-eight Grains of inflammable Sulphur; that the twelve Ounces three Drams and twenty-four Grains of Calx ought to be looked upon as a Regulus, mixed with a Portion of Earth; and that, without this ſuperfluous Earth, all the Calx would be converted into a Regulus, with a little oily or inflamm

Principle. This Suppoſition, however, cannot amount

Certainty, except we could be ſure of the Quantity of the

gulus evaporated during the Fuſion, which to me appears im

ſible; but it is of no great Importance, whether what is w

ing of the Weight of the reduced Regulus, compared wit

Weight of the Calx of the Antimony, was an Earth red

to Scoriæ by the Salts of the Soap, or was evaporated: It

however, follow, from my Experiments, that by the Me

of calcining Antimony into a Calx, and reducing this Cal

a Regulus by Soap, I extract more Regulus than by the Me

of *Stahl* and *Kunckel*.

I now come to conſider how this Regulus may be pu

without Loſs: For this Purpoſe I uſe a Method, whi

believe, is entirely new; at leaſt, I know of no Author

has made mention of it. I take the Regulus, well clean

the Scoriæ: I reduce it to a Powder, and mix it with h

Weight of the Calx of Antimony, as well purified fro

Sulphur as that of which I made that Regulus. I fuſe

together, in a cover'd Crucible, till the Scoriæ, which oug

float above the Regulus, are in a ſmooth and even Flux.

Reſult of this is, that a Lump of Regulus, weighing,

impure, one Ounce five Drams and ſome Grains, and

was procured from two Ounces of the Calx of Antimony

new Manufacture, was reduced to one Ounce three Dra

ſixty-two Grains of pure Regulus; that is, with $\frac{1}{78}$ of Loſ

Calx reduced to Scoriæ, and which covered the Regulus, b

an opaque Glaſs, a Sort of *Enamel* of a greyiſh Colour,

in the fine Furrows of the Surface of the Regulus.

Another Lump of Regulus, yielded by the Antimony

old Manufacture of *Auvergne*, weighing, when impur

Ounce four Drams, purified in the ſame manner, was r

to one Ounce two Drams and forty-eight Grains; that i

$\frac{1}{3}$ of Loſs. The Scoriæ were reduced to a black Enamel

The Lump of impure Regulus, yielded by the Calx

common Antimony of *Auvergne*, bought at different

weighing, when impure, one Ounce five Drams, was r

to one Ounce four Drams eighteen Grains; that is, with

Loſs. The Scoriæ were leſs black than in the former

Laſtly, the impure Regulus of *Hungarian* Antimony,

weighed one Ounce four Drams and forty-eight Grai

reduced into a pure and ſtarry Regulus, weighing one

four Drams and fifteen Grains, in which Caſe there we

three Grains, or $\frac{1}{76}$ of Loſs. The Scoriæ were a rough

of a grey-aſh Colour, a little inclined to the Yellow, a

ty like the Scoriæ of the purified Regulus of the Anti

the new Manufacture of *Auvergne*.

Theſe Scoriæ, which I call Enamel, were blacken'd

impure Matter, which they carry off from the Regulu

the Fuſion: When they are opaque, and of a greyiſh

it is a Sign, that they have not found enough of ſul

Matter to convert them into tranſparent Glaſs; for 'tis

that a Calx of Antimony, that has been deprived of all

phur, vitrifies very difficultly without ſome Addition: T

this Purpoſe, a Fire of the moſt violent Heat is requiſi

that 'tis neceſſary to add a little crude Antimony, or

Sulphur, if we are inclin'd to have a Glaſs of Antimon

tranſparent, and of a fine Colour. I have lately fo

Obſervation to hold good upon the Calx of *Hungari*

mony, which I could never transform into Glaſs wit

Addition of a little Portion of Antimony. For this

when I purify my firſt Regulus, I make uſe of a Calx

mony, very well freed from Sulphur; becauſe I only

need of a Subſtance, which, without vitrifying entirely

become impregnated with the impure Subſtances w

vented the Reunion of the Reguline Parts of the fi

reduced by the Aſſiſtance of the oily Matter of the So

'Tis true, I may alſo purify that firſt granulated Re

melting it alone, and without the Addition of the C

its Surface, in that Caſe, is never clean; it is always f

Scoriæ, which adhere very ſtrongly to it, and no Stars a

in it. Beſides, it muſt be a long time kept in a ve

Flux, that the droſſy Matter, which hindered the Re

the truly Reguline Parts, may have ſufficient time to

Surface, in Conſequence of their Lightneſs: Now th

it is kept in Fuſion, the more it loſes; ſo that this i

moſt expeditious Way of purifying it.

But the Addition of the Calx makes a Difficulty

ſhall, undoubtedly, be told, that what blacken'd the

can be nothing but the fuliginous Matter of the Oil

in the Soap; or that Oil reduced to a Coal, which be

the internal Part of the Lump of my firſt Regulus,

der'd the Reunion of the Reguline Parts, as I ſai

that as I myſelf admit the Preſence of an actual Mat

really contains an inflammable Principle, it neceſſarily

that a Portion of the Calx, which I only take to be

of Scoriæ, ought to be reduced to a Regulus by that

ble Principle; and augment, ſo much the more, the

the Regulus, which I put a ſecond time in Fuſion

Calx; and that thus, tho' I there find a Diminutio ins, yet nothing is thereby proved, becauſe the Diminution ld have been greater, if I had not added to it a Calx, a Por- of which might be reduced into a Regulus. I have not any Part of the Force of this Objection, which has been, may ſtill be made.

ſhall anſwer it, by giving an Account of two or three Ex- nents. In the room of Calx of Antimony I ſubſtituted tious Cryſtal, reduced to Powder; and, in another Eſſay, ine Salt. In the firſt Eſſay made with the Cryſtal, the re Regulus, which weighed two Ounces two Drams and y-ſix Grains, was reduced to two Ounces two Drams and rains, that is, with thirty Grains of Loſs. In the ſecond , made by Salt of Tartar, the ſame Weight of impure ulus was reduced to two Ounces one Dram and ſixty-ſix ns; that is, with forty-two Grains of Loſs. If I perform ame Operation by mixing the Calx of Antimony with the lus, in the ſame Proportion, in order to purify it, I have -nine Grains of Loſs; that is, the ſame Weight of Regu- conſiſting of two Ounces two Drams and thirty-ſix Grains, duced, pure, to two Ounces one Dram and fifty-nine ns. Thus, if with the alcaline Salts, which always corrode of the Reguline Particles, I had only forty-nine Grains of if, with the Calx of Antimony, I loſt fifty-nine, this is of, that the Calx only acts in this Purification like a Flux- er, which reduces the Impurities of the firſt Regulus into e; and that it does not ſupply it with any Addition of line Parts.

nevertheleſs, any one ſhould obſtinately deny it to be ctive of Scoriæ only, this Denial could not poſſibly deſtroy the lneſs of the Operation; and the End I aim at, is to draw Antimony the greateſt Quantity of Regulus poſſible. I ſhewn, that, in order to obtain this End, it muſt be ed to a Calx. It is a Matter of no Moment after what r I reguliſed this Calx: If a Part of that which I put upon gulus, to purify it, is converted into a Regulus, the Affair r completed; the Remainder is reduced to Scoriæ, which melt into a Regulus with the black Soap.

atever Precautions the Chymiſt takes, there is always a rable Loſs of the Reguline Portion of the Antimony: Mineral, whoſe volatile Nature is demonſtrated by ſo Experiments, ought to be fuſed with Care and Attention, eſign to loſe little of it. If, in my Eſſays, I had made duction of my Calx into a Regulus, and the Purification Regulus, with one and the ſame Fire, I ſhould have ch more of it. I therefore perform the Operations by ferent Fires; and as ſoon as I perceive, by the Fluidity Scoriæ, that the Reduction is about to be made, I take cible from the Middle of the Coals, that the Fumes of ulus may ceaſe.

es, I have obſerved, that by holding it for ſome time in , after the Calx is reduced to Scoriæ, this Enamel cor- e Sides of the Crucible, ſo as to pierce them.

l put an End to this Part of the Memoir by repeating ſaid above; which is, that the beſt Means I have hither- n, of extracting the greateſt poſſible Quantity of Regu- Antimony, is to calcine it till its Calx, when put upon ls, affords no longer any ſulphureous Smell; to reduce into a Regulus, by uniting it with a Reductive, which once, furniſh a fat Matter, and yield liquid Scoriæ, ſuch Soap; and to purify that Regulus with the ſame Calx of y. By this Method I extract two Ounces of Regulus Pound of Antimony, more than *Kunckel* and the late *l* have extracted by their Proceſſes: And I ſhew, at time, that there is not, in this Mineral, ſuch a large of inflammable Sulphur as is generally thought, and as believed there was, when I publickly read my former upon the *Kermes*; ſince, in calcining it with Atten- more than three Ounces and five Drams, at moſt, are evaporated. If the Mineral, of which I am ſpeaking, fixed when ſubjected to the Fire than it really is, I ve come nearer to the Exactneſs of Proportions; but ateſt Chymiſts have not been able to check its Volati- pe Impoſſibilities will not be required at my Hands.

proceed to ſome other Obſervations, which to me dependent of the Operation, and which I have reſerv'd nd of this Memoir, that I might not interrupt the Or- poſed to myſelf.

ſhewn, that by reducing the Calx of Antimony by p, I obtain'd a Regulus, which I called *impure*, was not compact. If a Quantity of this Regulus, of a Size, is look'd into, it is found full of Cavities; and eſt, by the Aſſiſtance of a magnifying Glaſs, we per- inæ of Regulus, full form'd, which the Air, ſhut up d in theſe Cavities, has hinder'd from embracing each me of theſe *Laminæ* are triangular, but the greateſt of them are *hexagones*. Laſtly, ſome of them are y long, which, joining themſelves in right Angles by r Sides, form a kind of ſmall Canals; ſome Needles erved in them, but very few. As to the external f theſe Quantities of Regulus, we obſerve nothing remarkable in them, except ſome Furrows diverging, as it were, from a common Centre, and forming a Species of Rays. The unpurify'd Part of theſe Maſſes of Regulus, which appears the moſt compact, are poſſibly no more than the ſame *Laminæ* faſten'd to each other, and which diſcover themſelves by their ſharp Edges, and by the Summits of their Angles. Whether theſe Laminæ are the original and conſtituent Particles which ought to compoſe the Regulus, or whether they are only the Reſult of an accidental Arrangement of Particles, previouſly ſmaller, are Points which I will not take upon me to determine.

In Reguliſing the Calx of Antimony by black Soap, I have twice or thrice had ſaline Vegetations, in the Form of ſmall Trees, raiſed conſiderably above the Surface of the *Scoriæ*: Theſe were undoubtedly occaſioned by the ſudden Refrigeration of the Matter in Fuſion. I ſhew'd one of theſe Vegetations to the Academy, that they might be ſure, that it correſponded exactly to the Repreſentation given of it. But I cannot lay down certain Rules for producing ſuch Vegetations at Pleaſure; for whatever Pains I could take, I could not afterwards ſucceed in procuring others.

All theſe Reductions of the Calx of Antimony into Regulus are not made without the Riſing of a ſenſible Quantity of ſilver Flowers, which are ordinarily called the Flowers of Regulus: Theſe are long, ſlender, and rigid Filaments, as pungent as very fine Needles. If they are viewed thro' a Microſcope with a ſingle *Lens*, but furniſhed with its *Corrector*, they appear opaque; but when the Corrector is removed, and they are expoſed to the cleareſt Light poſſible, they appear to be diaphanous Filaments of Glaſs: Yet this Obſervation does not abſolutely prove, that they are really Glaſs; ſince moſt Objects, viewed thro' a fine *Lens*, appear tranſparent, provided they are conſiderably ſmall. *Newton* has obſerved, that by placing a very ſmall opaque Body before the Hole thro' which the Light enters into a darken'd Chamber, that ſame Body appears to be tranſparent. The Microſcope, in this Caſe, produces almoſt the ſame Effect with the darken'd Chamber; ſo that what I take to be Glaſs, may only to me appear ſo thro' an Error of Viſion.

I alſo ſucceeded in reducing the Glaſs of Antimony by Soap, by treating it in the ſame manner with the Calx; but as this might be expected, I wave giving any farther Account of it. I imagin'd I might have, in like manner, ſucceeded with the *Diaphoretic*, excepting ſome ſmall Difference which would have regarded the Weight: But the *Diaphoretic Antimony*, prepared in the common Way, being mixed with black Soap, and then forced by the Fire, like the Calx of that Mineral, was converted into a Maſs, which I allowed to cool, hoping to find a Regulus at the Bottom of the Crucible when I ſhould break it. Having examined it when almoſt cold, in a Place expoſed to the open Air, I perceived, that the Maſs became hot in proportion as it abſorbed the Humidity of the Air. I applied ſome Pieces of it to the Flame of a wax Candle, upon which they kindled and crackled: Upon throwing back ſome of theſe kindled Pieces into the Crucible, they kindled the reſt of the Maſs, which alſo burnt and crackled.

I repeated this Operation, and made uſe of a very beautiful *Diaphoretic Mineral*, which I had prepared, ſome Days before, of two Parts of Regulus and three Parts of Nitre. I mixed an Ounce of it with two Ounces of black Soap: This Mixture, when put by little and little into the hot Crucible, kindled and was very much puffed up: When the Flame was over, the Maſs ſubſided, and aſſumed a reddiſh Colour, like that of a live Coal, whilſt luminous Vapours, of a bluiſh Green, aroſe from it. All theſe Circumſtances happen'd, without Variation, upon every Projection of the Matter. When all the Mixture was projected, and ceaſed to ſend up Flames, and luminous Vapours, there was a Sort of reverſed Muſhroom form'd, which was hollow, porous, and black. I cruſh'd the Edges of it, and added a freſh Ounce of black Soap, that I might the better cover the Matter I intended to reduce. When this laſt Soap was burned, and I perceived a ſmall bluiſh Flame on the Surface of the Maſs, I covered the Crucible with its Lid, and a great deal of Charcoal; after which I produced a ſtrong Heat, by about an hundred Puffs of the Bellows: But notwithſtanding the Violence of the Fire, which was both ſtronger, and longer continued, than in all the Operations I have hitherto mentioned, there were no fluid Scoriæ form'd, and the Maſs remain'd ſpongious. I allowed the Fire to go out, and carried the Crucible to a Corner of my Laboratory, where it remained for five Hours without being touched. Towards Night I was inclined to examine this Matter: Accordingly the Perſon who held the Crucible, which was quite cold, not guarding againſt an Effect, which indeed could not be foreſeen, uncovered the Top of the Maſs with a Piece of Iron; but as ſoon as the Air had Acceſs to it, it took Fire, and there was a ſudden Exploſion made, with a Noiſe, which threw a very conſiderable Quantity of Fire upon his Cloaths, and burnt ſeveral Holes in them: There was a ſtrong Smell of Sulphur diffuſed, reſembling that of thoſe Phoſphori in Powder, of which the late Mr. *Lemery* the Younger has given ſeveral Deſcriptions in his Memoir of 1714. See ALUMEN.

I did not obtain the Reduction of the Diaphoretic I wanted, but Chance afforded me a very ſingular Phoſphorus, which I did not ſeek after. I repeated the ſame Experiment ſince, with the ſame Succeſs, whether I uſed the common *Diaphoretic*, or my own *Diaphoretic of Regulus*: 'Tis true, the latter ſucceeded better than the former, provided neither too ſtrong nor too weak a Fire was applied, after the Addition of the laſt Ounce of Soap.

When, in order to make my *Diaphoretic*, I detonate the Regulus with pure Nitre, I waſh it generally, in order to ſeparate from it the Nitre alcalized during the Deflagration. Its Lixivium, which is of a very cauſtic Nature, aſſumes a bluiſh Colour; which probably proceeds from a Portion of the inflammable Principle, which that Salt has carried off from the Regulus: And as a Proof of this, that Lixivium blackens Tin and Silver, which it would not do, if it was not ſulphureous. If inſtead of throwing this Matter into Water, after the Detonation, I throw it into Spirit of Wine, it aſſumes, almoſt immediately, a beautiful red Colour, which, by Digeſtion, is ſtill heighten'd more and more. This Liquor, which *Stahl* has called *Tinctura Alcalica acris*, is a Tincture of Antimony, not of an emetic Quality, but only ſimply alcaline and diaphoretic, which, by means of the Nitre, has carried off from the Antimony a Portion of its Metallic Sulphur; if, by the way, a Metallic Sulphur has an Exiſtence in Nature; from whence it follows, that a well prepared *Lilium* is not ſimply a Tincture of alcaline Salts, as ſome People imagine. It is true, that Spirit of Wine, digeſted upon a ſimple fixed Salt, well alcaliz'd, aſſumes at laſt a reddiſh Colour; but that ſame alcaline Salt, when it is pure and unmixed, will never give a bluiſh Colour to Water, as Nitre alcalized with Regulus does.

This Digreſſion is not ſo unſeaſonable as at firſt Sight it may poſſibly appear to be; for it ſerves to prove, that there is a conſiderable Quantity of an inflammable Principle in the Regulus. Beſides 'tis well enough known, that by converting the Regulus into a *Diaphoretic*, its Weight is conſiderably increaſed. Eight Ounces of Regulus, for Inſtance, yielded me eleven Ounces and two Drams of *Diaphoretic*, even when well edulcorated, and ſufficiently dried. This Augmentation can proceed from nothing elſe than the Concentration of the Acid of the Nitre in the Parts of the Regulus: Now, upon this Suppoſition, I can diſcover the Cauſe of the Deflagration of my Phoſphorus.

I account for it in this manner: There is a great Quantity of the Parts of the Calx, which was formerly Quick-lime, in that groſs and unfiltrated Lixivium, of which the black Soap is made: When I calcine the Mixture, of which my Phoſphorus is made, I burn ſome Part of the inflammable Matter of the Soap, and the remaining Part is reduced to a Coal. During the Action of the Fire, the Acid of the Nitre, by little and little, quits the Reguline Parts which retained it, in order to unite itſelf to the alcaline Salt of the Soap, with which it is formed into a regenerated Nitre: But all the alcaline Salt is not employ'd in this Regeneration; becauſe there is not, in all Probability, enough of the nitrous Acid. By the ſame Fire the earthy Particles of the Calx, ſcattered up and down in the Soap, are calcined afreſh, and once more become a *Calx Viva*. As all theſe Particles of different Natures are contiguous to each other in the Crucible, they will, by their Actions, contribute to produce the Effect we ſpeak of, as ſoon as an external Cauſe ſhall concur to its actual Production. Taking this for granted, I raiſe the Cruſt which covers the Maſs of Phoſphorus, upon which the Moiſture of the Air, or thoſe aqueous Particles with which it is impregnated, and which are greedily abſorbed by the alcaline Salts contained in the Mixture, are introduced. Upon this the Calx becomes moiſt, grows warm, kindles, and lays hold of the Parts of the Charcoal, and regenerated Nitre, which are contiguous to it; and hence follows the Detonation of the whole Maſs. That Nitre is actually contained in this Mixture, whether by Regeneration, which I believe to be the Caſe, or by ſome other Means, is proved from this Circumſtance, that upon trying the ſame Experiment three times, with *Powder of Algaroth*, it did not ſucceed; becauſe, in that Powder, the Antimonial Parts are not united to the nitrous Acid, but to the Acid of the Sea-ſalt.

If this is not looked upon as a ſufficient Proof, I ſhall here ſubjoin an additional one. When, with an Intention to reduce the *Diaphoretic* into a *Regulus*, I continued to augment the Fire, there happened a Detonation of that Nitre, which was fuſed with the Coal of the Oil of the Soap, like that which would have been produced by a Mixture of Nitre and common Charcoal: The *Diaphoretic*, in the mean time, was diſſipated in white Vapours; and there only remained in the Crucible a black hard Cruſt, which adher'd to its Sides, without any Marks of Detonation. For this Reaſon, the Succeſs of my fulminating Phoſphorus depends upon the Degree of Calcination which I give to the Mixture; for this Reaſon we muſt alſo take care, not to carry the Fire to ſuch a Height as to fuſe the Nitre.

As to the Probability of the Concurrence of a *Matter*,
which is become a *Calx Viva*, and which kindles and burns,
ſhall relate the following Fact: About five Years ago, upon th
breaking of the Ice on the River *Seine*, a Boat full of Lime w
ſtaved by the Ice; upon which the Water, getting Acceſs to th
Lime, kindled it. The Lime burnt the Boat, and the Fi
was convey'd from that to the Boats that were next it, ſo th
a conſiderable Fire enſued; and my Situation at that time ga
me an Opportunity of being ſatisfied, as to the Truth of
Origin.

We have ſeveral Chymical Mixtures, which take Fire
ſoon as they are expoſed to the Air; ſuch as ſulphureous, veg
table, and animal Subſtances, calcined with Alum.

The Mixture of Regulus of Antimony, and corroſive Sub
mate, ſometimes takes Fire.

Mr. *Stahl*'s Antimonial Crocus of Mars took Fire in
King's Garden, where Mr. *Boulduc* expoſed it to the Sun,
order to dry it with the greater Expedition.

Aurum Fulminans fulminates by the Heat produced by a ſo
what rapid Trituration.

The Rod of Iron, uſed in ſtirring the ſeveral Mixtures in
Reductions of my Calces of Antimony, being ſcraped wi
Knife, yielded Sparkles of Fire.

Mr. *Reaumur* obſerved, that from an almoſt equal Mix
of Antimony and Iron, a Metallic Maſs is produced, whi
when filed down pretty ſtrongly, yielded a great many Spar
of Fire capable of kindling any combuſtible Subſtance.

Thus it ſeems, in order to prepare Phoſphorus, nothing
is required than to concentrate a Matter, capable of taking F
in certain *Cellulæ*, where it may remain calm and dormant,
by ſome Cauſe or other, the Sides of theſe *Cellulæ* are bro
and Acceſs given to a more ſubtile Matter, capable of com
nicating an extremely rapid Motion to it. Whether this T
ry ſufficiently accounts for the Inflammability of Phoſphori
whether more ingenious Hypotheſes are invented for that
poſe; yet ſtill it muſt be owned, that Speculations of this
ture are more curious than uſeful. *Memoires de l'Aca*
Royale, *A.* 1736.

Of the REGULUS ANTIMONII MEDICINALIS, *fr* Hoffman.

The Regulus of Antimony has not been exempted fro
Fate of other chymical Medicines; for upon its appearing
Years ago, it was at firſt looked upon as an *Arcanum*, or
of the laſt Importance, eſpecially in the *Netherlands*. W
Inventor might have been, is a Point as yet not fully
upon; for ſome aſcribe the Diſcovery to *Cranius*, and oth
Mœtſius, who has inſerted the Preparation of this *Regulus*
Chymia Rationalis: It is alſo to be met with in the *Med.*
of *Vigani*. As Mankind are not agreed, with regard
Inventor of this Medicine, ſo they alſo run into oppoſite
ments, with regard to its Qualities and Effects; for th
firſt were, and ſtill are, a great many who rank it amo
principal and moſt important Secrets of Phyſic; whereas
aſſert, that it is of no Uſe at all, or, which is worſe, aſ
noxious and poiſonous Quality to it.

For theſe Reaſons, I thought it would be no unuſeful
briefly to inquire into the Nature of this Medicine, t
may be the better able to judge, which of theſe two C
Men, who run into ſo oppoſite Extremes, are in the
and which in the Wrong; and as no profeſs'd Attempt
Kind has been made before, I hope I ſhall the more
meet with a favourable Indulgence, if I handle the Subje
leſs Accuracy than its Importance deſerves. Now, tha
execute my Deſign with the greater Perſpicuity, I ſh
briefly touch upon the Principles of which this Regulus
up; ſecondly, I ſhall give its Preparation; and, la
various Uſes.

The conſtituent Principles, then, of this *Regulus*, ar
Antimony itſelf, which is indeed the principal, ſince it
tutes the very Matter of the *Regulus*. Secondly, comm
whoſe Acid is very fine, and of a highly volatile
Thirdly, and laſtly, an alcaline Salt, which produces
gular and remarkable Effects upon ſulphureous Sub
eſpecially of a Mineral Nature; as alſo upon the ſul
or oily Parts of animal and vegetable Subſtances.

Of the Preparation of the MEDICINAL REGUL

Having thus enumerated the ſeveral Principles of w
Regulus is compoſed, it now remains, that we take a
the Method of preparing it. But tho' ſeveral Auth
among the reſt *Mœtſius*, in his *Chymia Rationalis*,
Curioſ. Leyd. Koenig in his *Regnum Minerale*, *Barb*
his *Pyroſophia*, have laid down Directions with rega
Particular; yet I think myſelf obliged, in like manne
an Account of it.

Take then five Parts of pure Antimony, four Parts
mon Salt, and one Part of Salt of Tartar. Some
alter the Proportions of the Ingredients, and ta
Parts of Antimony, ſeven of common Salt, an

of Tartar ; but the former Proportions are moſt gene- adher'd to. Theſe Ingredients, when beat and mix'd ther, are to be ſucceſſively put into a red-hot Cruci- Let the Action of the Fire be raiſed to ſuch a Height, the Matter may be ſufficiently and throughly fuſed ; is, let the Fire applied be a *moderate fuſory one*. Then the Matter is ſufficiently fuſed, which generally hap- in a Quarter of an Hour, if right Meaſures are taken, t be pour'd into a Veſſel of a conical Form, beſmear'd Tallow, or ſmoaked with a Candle : This Veſſel is e ſhaken in the manner obſerved in other Fuſions of *ulus*, that by this means the *Regulus* may be ſufficient- parated from the Scoriæ, and carried to the Bottom of Veſſel : Some reckon this Circumſtance of ſhaking ſo h the more neceſſary, becauſe as this *Regulus* is lighter any others prepared from Antimony, it muſt of Con- ence be ſeparated from the Scoriæ, and fall to the Bot- with more Difficulty. Thus, if ſuch a Concuſſion, or king, ſhould be neglected, and the Mixture pour'd n boiling, as it were, from the red-hot Crucible into ld conical Veſſel, it frequently happens, that during Continuation of the Ebullition, a Portion of the *Sco-* is intermixed with the *Regulus* ; and, *vice verſa*, a tion of the *Regulus* remains in the *Scoriæ* ; ſo that, by Overſight, we do not obtain it ſo pure and unconta- ated, or at leaſt ſo beautiful and ſhining, as it would rwiſe be. The *Regulus*, when ſeparated from the *iæ*, reſembles poliſhed Steel or Iron ; but if either in ortar, or upon a Marble, with or without the Addition Water, it is reduced to a Powder ſo fine, that the ſhine- Particles entirely diſappear, it aſſumes a reddiſh, or er a purple Colour.

ce there is no great Difficulty in the Whole of the I ſhall not, at preſent, ſpend more Time in enume- deſcribing any more of its Steps : But 'tis to be ob- with regard to the Addition of the alcaline Salt, that o maintain, that there is a vaſt Difference betwixt Al- here ſo inviolably to Salt of Tartar, either for the ſake erior Purity, or on account of its nobler Effects, or ualities, that they will not allow any other Salt to be d in its room. I have ſome Reaſon to think, that rvation of *Vigani* may have laid a Foundation for the f People, with regard to this Matter ; ſince, in *Med.* 20. he brings an Experiment for eſtabliſhing the e of Alcalis ; and affirms, that he himſelf, by prepar- *ony* with common Salt and Salt of Tartar, obtained a *egulus* ; whereas by a like Fuſion of *Antimony* with *arduus Benedictus*, inſtead of Salt of Tartar, a ſimple was only yielded. But I muſt own, that tho' I have very View made ſeveral Experiments, and that with eal of Caution, yet I could never obſerve ſo conſider- ifference between the *Reguluſes* produced, but ob- e ſame, with Salt of Carduus Benedictus, and other as that procur'd in the common way by means of Salt r. I therefore ſuſpect, that this ſimple *Regulus* of was produced by a fortuitous Intermixture of Char- d ſome other ſulphureous Concretion. As I have fore been able either *à priori*, or *à poſteriori*, to diſ- Difference of alcaline Salts, ſo I think we have no to be over-ſcrupulous in our Choice, provided we only e of an Alcali that is pure, duly prepared, and not ed by any adventitious or heterogeneous Subſtance. ſtill more ſuperfluous to heſitate about our Choice of Salt, or make nice Diſquiſitions, whether Sea-ſalt, mæ, or Fountain-ſalt, are moſt proper for this Pur- ce the End ſeems to be equally well obtain'd by all of

then is the moſt common and uſual Method of prepare- *Medicinal Regulus* ; but it is not always adher'd to by ho either add or omit Ingredients, or alter the Propor- he Weights, juſt as Caprice, or ſome particular View, em. Thus ſome omit the alcaline Salt, and ſubſtitute ace crude Tartar, but in a larger Quantity. They take eight Parts of *Antimony*, ſeven Parts of *common* d ſix Parts of *Tartar*. This Mixture is put into a red- ible for Fuſion, which indeed is more difficultly brought han in preparing the common *Medicinal Regulus*. By hod a *Regulus* reſembling the *medicinal* one is yielded, e it to be of the ſame Species, tho' it is not ſo beauti- g of a darker Colour, and of a more porous Contex- t when reduced to a Powder, it aſſumes a purple Co- t as the *Medicinal Regulus* does. Its Scoriæ are light, and reſemble the Flakes which fly from hot Iron when d. Others, who in the Production of *Regulus* per- ibe too much to common Salt, order the Salt of Tar- e entirely omitted, and the common Salt to be aug- y the Addition of a Quantity equal to the omitted Salt . This is ordered by *Barkhyiſen in Pyroſophia, Libro* 3. 3. *Capite* 2. where he maintains, that the ſame *Medicinal Regulus* may be obtained from *Antimony* ſlightly fuſ'd with an equal Portion of common Salt ; but upon Trial, the Effect promiſ'd is ſo far from being produced, that there is not ſo much as a perceptible Change induc'd upon the *Antimony*, by means of the common Salt. Laſtly, among the ſeveral Methods of preparing *Reguluſes* of this Kind, we may reckon that, in which, for correcting the Crocus Metallorum of *Rulandus*, Chymiſts add common Salt, and thence promiſe a like *Medicinal Regulus* as to its Effects. For this Purpoſe, they therefore order three Parts of Antimony, two Parts of Nitre, and one Part of common Salt : See *Le Mort in Actis Curioſis Leidenſ.* Others reject this Proportion, and prefer equal Quantities of each Ingredient. Now theſe Ingredients, when beat and mixed together, are to be put into a red-hot Crucible, and reduc'd to a due Degree of Fuſion, which is ſoon obtain'd. After this, the Matter is to be pour'd into a conical Veſſel, or as *Le Mort* intimates, in the above-cited Paſſage, it may be left in the Crucible, from which, when cold, it is to be taken. The Regulus yielded by this Proceſs, is not unlike the Crocus of *Rulandus* ; it is, like the *Medicinal Regulus*, of a porous Conſiſtence, not very ſmooth, but clean and beautiful. When reduced to Powder, it acquires a dark-reddiſh Colour like that of red Bole. Its Scoriæ are light, of a yellowiſh-amber Colour, and not unlike thoſe obtain'd by the Depuration of *Regulus* of *Antimony* with Nitre.

Of the Uſe of this REGULUS.

The Medicinal Regulus may be apply'd, firſt, to a chymico-phyſical, ſecondly, to a pharmaceutic, and, thirdly, to a medico-therapeutic Uſe, upon each of which I ſhall briefly touch.

Its Uſe then in Chymiſtry may be plainly perceived, from an Ætiological Reſearch into its Nature, and the Manner of its Production ; ſo that I ſhall ſay no more upon this Point, but proceed to take a View of its Uſe in Pharmacy.

And tho' Chymiſts have not hitherto been ſolicitous about extracting other Medicines from this *Regulus*, yet I ſhall briefly enumerate ſuch Preparations of it as are in Uſe. Our learned Preſident then, in his Notes to *Poterius*, *Cap.* 12. has propoſed a Preparation of antimonial Sulphur from the *Medicinal Regulus* boiled in Lime-water, and which is to be precipitated with Spirit of Vitriol. This Sulphur, he ſays, is of the ſame Efficacy and Virtues with the *Panacea* of *Glauber* ; he alſo prefers it to the *Regulus* itſelf, becauſe, as he ſays, in it the arſenical Virulence, being corrected by the Spirit of Vitriol, is weaker than in the *Regulus*. In the ſame Work he alſo gives Directions for the Preparation of an *antimonial* Tincture, to be extracted from the *Medicinal Regulus*, fuſ'd with an Alcali, by means of Spirit of Wine, either tartariz'd, or drawn off from *antimonial* Scoriæ. He alſo teaches us how to prepare an anodyne Tincture from the *Regulus*, which is done by diſſolving Opium in a Decoction of the *Medicinal Regulus* with Lime-water, and by extracting the Eſſence from the inſpiſſated Solution by means of *Malmſey-wine*, or Spirit of Wine. Concerning the Virtues of this *Tincture* he ſpeaks thus : "This Medi-
" cine is exquiſitely calculated for eaſing Pains, and procuring
" Sleep ; for by the Lixivium of the Quick-lime impregnated
" with the *antimonial* Sulphur, the narcotic and ſtupifying Qua-
" lities of the Opium are corrected, and thus the Symptoms
" uſually brought on by the Uſe of Opium are prevented,
" whilſt, in the mean time, the attenuating and anodyne
" Qualities of the *antimonial* Sulphur, which check the impe-
" tuous Motions of the Spirits, prove a happy Balance for
" each other." Here we may alſo take Notice of what is ſaid by *Baſil Valentine*, in his *Currus Triumphalis* ANTIMONII, concerning an *antimonial* Tincture and Balſam, which are prepared from a Mixture of Tartar and *Antimony*, in Form of a Liver, not unlike the *Medicinal Regulus*. Beſides, an *antimonial* Calx, and a Ceruſs of *Antimony*, may be eaſily prepared from the *Medicinal Regulus* ; a Glaſs may alſo be prepared from it, if after waſhing out the alcaline Portion, it is gently calcin'd, and the Sulphur by that means carried off, upon which the calcarious Remains are eaſily fus'd into a Glaſs. Let this ſuffice for the Uſe of the *Medicinal Regulus* in Pharmacy. The Subject might indeed be much farther protracted ; but as that is not neceſſary, I ſhall only repeat, that in many Shop Preparations the *Medicinal Regulus* may be us'd, as a proper Succedaneum to *Antimony* itſelf.

I now come to the third and laſt thing propoſed, which was, to inquire into the Uſe of this *Medicinal Regulus* in the Practice of Phyſic ; and here I cannot help condemning thoſe who with exaggerated Encomiums extol this *Regulus* as an univerſal and divine Panacea ; as for my own Share, I can with greater Chearfulneſs go into the Sentiments of thoſe who obſerve a due Medium in this Point. Its Efficacy is highly extoll'd in chronical Diſorders, and ſuch as ariſe from long-continued Obſtructions of the Viſcera : Hence our learned Preſident, in his Notes upon *Poterius*, commends it in Dropſies, Epilepſies, Scurvies, and Fevers ; for as theſe Diſorders are of a ſtubborn and obſtinate Nature, they require Medicines which do not, like vegetable Subſtances, too quickly produce their Effects, but remain for a conſiderable time in the Body; and by often impelling the tenacious Matter, at laſt entirely break and ſubdue it. Hence we may eaſily conceive why this *Regulus* muſt be a Medicine of ſingular Efficacy in ſurmounting the Obſtinacy of chronical Diſorders. There are alſo not a few who highly extol its Efficacy againſt Fevers. *Maetſius*, in his *Chym. Ration. & Actis Curioſ. Lugd.* ſays, that it is a *Specific Diaphoretic in Fevers of all Sorts.* The ſame Author commends it *in all Diſorders where*, to uſe his own Words, *Sweats are wanted*, *becauſe it does not*, *like vegetable Subſtances*, *inflame the Blood.* I myſelf am inform'd by People who were acquainted with this Author when alive, that he made daily Uſe of this *Regulus*; and his own *Praxis Chymiatrica* is a concurring and additional Proof, that he did ſo; for in that Work he maintains, *That it is of uncommon Efficacy in all Diſeaſes where the Motion of the Lymph, and inſenſible Tranſpiration, are to be promoted.* Thus he commends it in the Gout, the Apoplexy, *&c.* but more particularly in Fevers. This he has alſo done in *Actis Curioſ. Lugd.* where he orders it to be uſed with a diaphoretic Regimen. *Barkhyiſen* joins Iſſue with *Maetſius*, and highly extols its ſudorific Virtues in Fevers, and cutaneous Diſorders. *Koenig* declares himſelf of the ſame Sentiments in his *Regnum Minerale*, *Cap.* 9. where he alſo propoſes a Form of a Medicine conſiſting of the *Medicinal Regulus* reduced to a Bolus, with *Peruvian* Bark, and *Theriaca*, to be taken a few Hours before the Paroxyſm of the Fever. But notwithſtanding the high Encomiums beſtow'd upon this Medicine by its Inventor, I ſhould not adviſe any one to uſe it in violent Quartan Fevers; becauſe Dropſies, and other Diſorders, are very often brought on by the Uſe of Medicines that are ſo aſtringent, and capable of producing ſuch ſtrong Commotions. This Medicine is alſo commended by ſome in Caſes where the State of the Lymph is bad, in Dropſies, Anaſarcas, *&c.* as I have already obſerved. But particularly with regard to its Uſe in an Anaſarca, I have been ſatisfied by the learned and judicious Mr. *Hennike*, who mixed it with Mercurius Dulcis, and uſed it under that Form with uncommon Succeſs. Our learned Preſident, in his Notes upon *Poterius*, orders it to be preſcribed in ſmall Doſes, with the Bezoardic Powders, in the firſt Stages of malignant Fevers, Small-pox, and Dyſenteries, *Becauſe*, ſays he, *by its Means a gentle Salivation and Diaphoreſis are brought on, and the Mucus of the Primæ Viæ being attenuated, the Heavineſs and Uneaſineſs of the Præcordia are remov'd.* I alſo remember, that when malignant Fevers rag'd pretty much in my own Country, that excellent Chymiſt *Rollwagius* often us'd this *Regulus* with the greateſt Succeſs; of it, together with ſome other earthy Abſorbents, he compoſed an alexipharmic Powder, which is in conſtant Uſe at this very Time. This Powder is accurately deſcrib'd by the learned *Apinus*, in his *Tractatus de Febribus epid.* where, from his own Experience, he aſcertains the Efficacy of it, but particularly of the *Regulus*, in malignant and epidemical Fevers. I alſo know, that the *Regulus* was uſed by the above-mentioned Dr. *Hennike* in theſe Diſorders; but in Proceſs of Time he deſiſted from uſing it ſo frequently as he had formerly done, on account of ſome Inconveniencies that aroſe from its being negligently prepared; and choſe the *Bezoardicum Joviale*, or the *Antihecticum Poterii*, as a Succedaneum to it. *Maetſius* commends the Lixivium of its Scoriæ apply'd externally as a proper Medicine for the Itch; and I remember, that, by my Father's Advice, not only I myſelf, but a great many others, labouring under this Diſorder, us'd this Medicine with incredible Succeſs. I alſo remember to have ſeen the *Regulus* itſelf mixt with earthy Subſtances uſed in the Itch, and have known it in that Form, and in Conjunction with a ſudorific Regimen, to remove œdematous Swellings, eſpecially of the Feet. Hence we may plainly perceive the Efficacy of this *Regulus*, in augmenting the Motions of the Humours, which, in this Caſe, were hinder'd from riſing to their greateſt Height, by the Addition of the earthy Aſtringents. Having thus ſaid ſomething concerning the Uſe of the *Medicinal Regulus* in the Practice of Phyſic, I ſhall now ſubjoin a few Hints relating to the Manner in which it operates.

Now, as the *Medicinal Regulus* produces two Effects, which are promoting a Diaphoreſis, and removing the Lentor of the Humours, ſo it ſeems to operate in two different manners, one of which conſiſts in promoting the ſeveral Motions, and the other in correcting the Qualities of the Humours; but this latter does not exert itſelf ſo ſtrongly as the former. It acts in the former of theſe manners both in Conſequence of its *ſulphureous* and its *reguline* Parts. As for *Sulphur* in general, 'tis ſufficiently known, that it not only contains the very Matter of Fire, which is itſelf eaſily ſuſceptible of the quickeſt Motions, and ſufficiently capable of augmenting the Motion of the Humours; but alſo, that from its being a Mixture of a phlogiſtic with a vitriolic Acid, it poſſeſſes a *tonic Force*, as daily Experience teaches us, upon obſerving its Efficacy in repelling the Itch. By this *tonic Force* the relaxed Veſſels recover their natural Tone; and by this means the Blood being not only put into a more violent Motion, but alſo forc'd thro' narrower Ducts, muſt of courſe be more attenuated, and acquire a greater
Degree of Subtilty. As to its *Reguline* Part, we are to ob
firſt, that it receives a ſtimulating Force from an Addition o
arſenical Parts, and thus becomes capable of exciting ſtrong
briſk Motions in the Spirits. Secondly, That by reaſon o
mercurial Nature it is capable of penetrating and diſſo
not only the thick and viſcid Humours lodg'd in the P
Viæ, but alſo thoſe which are intermixed with the Ma
Blood itſelf, and retard its progreſſive and inteſtine Mo
Hence we ſee in what manner it may correct the Defe
the Lymph, clear the Viſcera, when obſtructed with Cru
of this Kind, promote the ſeveral Secretions, and render
Juices fit for Motion. In theſe laſt mentioned Effects,
changing the Qualities of the Fluids, its ſecond Manner of
rating conſiſts.

It now only remains, that I ſay ſomething concernin
Method of adminiſtring this *Medicinal Regulus.* It may
be commodiouſly enough exhibited in the Form of a Po
ſince the Doſe neceſſary for any Purpoſe is neither larg
nauſeous. If it ſhould happen to be a little too heavy, it
be mixed with the lighter Abſorbents, as they are call'd,
pared of Mother of Pearl, Crab's-eyes, *&c.* Such other
ſtances may alſo be mixed with it, as the Diverſity of Diſ
ſhall be judged to require. Thus our learned Preſident or
to be exhibited with gentle Chalybeats in Dropſies; in E
ſies, with cinnabarine Preparations; and in intermitting F
with digeſtive Salts, Abſorbents, *&c.* I have above taken
tice of its uncommon Efficacy in an Anaſarca, when mixed
Mercurius Dulcis; for by its Means, half a Scruple of M
rius Dulcis has ſometimes prov'd of more Efficacy, tha
Scruples would have done without. Some add it to Vom
a Stimulus, and by way of a Digeſtive. In Form of a P
it may be mixed with other Diaphoretics, Anodynes, &c.
Diaſcordium, the Theriaca Cœleſtis, the Bezoardic Tin
the Tincture of Opium corrected with Salt of Tartar, and
the diaphoretic Waters of Germander, Chervil, and Ch
Maetſius in his *Chymia Rationalis*, and *Apinus*, in his T
de Febribus Epidem. have given Formules of this Kind. I
alſo be exhibited in the Form of Pills, with reſinous a
ſolvent Gums, and with the aperient bitter Extracts of W
wood, Carduus Benedictus, Germander, Fumitory, S
graſs, Saffron, Gum Ammoniac, Sagapenum, Hedera, M
Aloes, *&c.* When the *Regulus* is prudently and ſ
mixed with ſuch Subſtances, it becomes a far from de
Medicine in menſtrual Diſorders, and Infarctions of the V
Its Doſe is from ſix Grains to one Scruple, and upwa
the State of the Patient ſhall require. But before this R
is uſed, it muſt be ſo throughly triturated, and, upon a
ble, reduced to a Powder ſo fine, that none of the
Sparkles may in the leaſt appear: For this Reduction o
ſo fine a Powder is abſolutely requiſite, both to its e
lution, and its ſpeedy Operation; and if this Caution
not be obſerved, it remains too long in the Inteſtine
may poſſibly give Riſe to very terrible Symptoms; and
even paſſes off with the Excrements, which is often th
with cinnabarine Preparations. *Hoffman. Medicin. R*
Syſtem. Vol. 4.

Dr. *John Pringle* has, in the *Edinburgh Medical*
oblig'd the World with an Account of an *antimonial* R
for a Dyſentery, made public by Dr. *Young.* This
firſt Appearance ſeems to be one of the moſt unlikely Re
that could be contriv'd to anſwer the End propoſed. B
have it from very good Hands, that Experience, the onl
which can determine the Value of a Medicine, is muc
vour of this, I apprehend an Account of it ought no
omitted in a Treatiſe of *Antimony*, tho' I have not myſ
a Witneſs of its ſalutary Effects.

Vitrum Antimonii Ceratum.

Take Glaſs of Antimony in Powder, one Ounce
wax, one Dram: Melt the Wax in an Iron Ladle
add the Powder; ſet them on a ſlow Fire without
for the Space of half an Hour, continually ſtirrin
with a Spatula; then take it from the Fire, pour
a Piece of clean white Paper, powder it, and kee
Uſe.

When I prepared this Quantity, it loſt a Dra
Weight. The Glaſs melts in the Wax with a v
Fire.

I was at firſt ſo ſcrupulous in preparing the Medic
I wiſhed the Degree of Heat had been aſſigned, as we
Space of Time neceſſary in the Preparation; but I ha
found, that I both vary the Time and Degree of Hea
out perceiving any Difference in the Operation of th
cine.

After it has been about twenty Minutes on the Fir
gins to change the Colour; and in ten more, co
near the Colour of Snuff: By that Colour I know i
ciently prepared, without attending to the Degree of
Space of Time.

The ordinary Doſe for an Adult, is ten or twelve Grains ;
t for the greater Safety, I commonly begin with ſix ; to a
ong Man I have given a Scruple, which ſometimes works ſo
lldly, that I have thought it too weak.

To weakly Conſtitutions give five or ſix, increaſing the Doſe
erwards, according to the Operation.

To a Boy of ten Years of Age, give three or four Grains.

To a Child of three or four Years, two or three.

This Medicine has been practiſed with Succeſs for the Dyſ-
ery, and the Preparation of it was kept a Secret for many
ars.

When firſt it was communicated to me, I thought it ſo
ſh and dangerous a Medicine, that I had no Courage to try
for ſome Years ; and even then I began the Doſe with one
in, and increaſed it gradually to twenty, which is the
eſt I have yet given. As ſoon as I was convinced, by a
mber of Experiments, that it was both mild and efficacious
uring the Dyſentery, I publiſhed the Receipt in our *Edin-*
h News-papers, being under no Promiſe of Secrecy with
rd to this, and being reſolved never to make a Secret of any
dicine whatever.

do not expect, that any Phyſician will incline to give a full
e at firſt, without better Authority than I can give to
ngers ; but the Cautious may give a ſmall Doſe as they
e, and make firſt Trials almoſt in any Diſeaſe where Pur-
es will do no Harm, and increaſe it gradually as they find
erate.

gave it in Dyſenteries with or without Fever, whether
mic or not.

ave tried it often where Blooding and Vomits have been
iſed, and where they have not, with very good Succeſs.

ever chuſe to give Opiates in the Beginning, eſpecially
e there is a great Sickneſs ; becauſe, altho' Opium gives
Relief to ſome, yet at other times I have thought both
ickneſs and Purging thereby increaſed the following Day.

ever began with a larger Doſe than ten Grains, becauſe
quently operates as violent at firſt, as twenty Grains at
even upon the ſame Patient.

its Operations, it ſometimes makes the Patient ſick, and
; it purges almoſt every Perſon, but I have known it
without any ſenſible Evacuation or Sickneſs ; nay, in
Dyſenteries, they purge ſeldomer with it than with-

t purge ſufficiently, or fatigue the Patient any way, I in-
a Day or two betwixt each Doſe, the ſame way as I do
ther Purgatives.

I have cured ſome with one Doſe, I have been obliged to
hers five or ſix, eſpecially when the firſt Doſes have been
ld, and I have often thought a weak Doſe did no good
onic Caſes.

r the ſecond or third Doſe, the Stools are ſeldom bloody,
ripes and Sickneſs are much abated, and the mucous
are leſs viſcid.

it with an empty Stomach ; for then, I think, it ope-
oſt mildly.

id drinking any thing after it for three Hours, unleſs
ient is very ſick, or diſpoſed to vomit, in which Caſe
rm Water as in other Vomits.

are of giving it for a Diarrhœa in the End of a Con-
n. I have cured ſome other Diarrhœas of long ſtand-
h large Doſes of it ; but it has failed oftener here than
nteries.

id the Uſe of all fermented Liquors, and recommend a
et with Rice or Bread, Chicken-broth, or Water-gruel.
nothing cold, unleſs it be a Tea-ſpoon-full of Gelly
ſhorn, as often as the Patients pleaſe ; and ſometimes
them with the Gelly of Currans to refreſh their

y be given ſafely to Women with Child, and to Chil-
the Breaſt you may give half a Grain. *G. Y. Edin-*
Med. Eſſays, Vol. 5.

ony has in all times, ſince its Medicinal Virtues were
ver'd, afforded the Empirics their moſt boaſted Se-
may be known by the Irregularity of their Operations ;
onial Remedies have this ſingular Property, that they
times operate with great Violence ; and ſometimes even
me Doſe, and ſame Perſon, without any apparent Al-
of Circumſtances, ſhall have no viſible Operation.
if there was no other, is a ſufficient Evidence, that
Mr. *Ward* firſt ſet out with, was Antimonial, of
ere is now no room to doubt : As to the ſpecific Pre-
he makes uſe of, it is not very material, ſince there
different Sorts of them made, by depriving this Mine-
rt of its Sulphur, and laying the Reguline Part naked,
ll have much the ſame Effects, in the ſame ſmall

conclude this Article of *Antimony* with an Account of
, which has lately been advertiſed, and for which a
been obtained ; I mean, Mr. *Hayward*'s Powder
eumatiſm and Gout, which promiſes no leſs than the Cure of the laſt-mention'd Diſtemper, after it has puzzled all the Phyſicians in the World for ſo many Centuries. It ſeems therefore to be of ſome Importance to examine how far this Remedy is likely to anſwer the Character given of it by the Perſons concern'd in point of Intereſt to promote the Sale, becauſe theſe may be prejudic'd in its Favour. I muſt, however, firſt inform thoſe who are unacquainted with it, that every one who takes out a Patent for any Invention, is oblig'd by Act of Parliament to ſpecify the Particulars of it, and inroll them in the Court of Chancery, within four Kalendar Months, that the World may have the Advantage of the Diſcovery, and the Monopoly for fourteen Years is the Reward for making it. After this Specification is inrolled, I apprehend every body, who thinks it worth while to pay the Fees, has a Right to have recourſe to the Inrollment.

Mr. *Hayward*'s Remedy then, is a Preparation of *Antimony* and Nitre, made by rubbing them together, till no ſhining Particles of the Antimony are apparent. Of this each Doſe for an Adult is twenty-ſeven Grains.

I have before obſerved, that *Kunckel* found ſome Relief in Pains with which he was afflicted, by taking, purſuant to the Advice of the younger *Sennertus*, crude Antimony ; and that *Kunckel*'s Troches are, at this Day, famous for erratic Pains, at *Francfort* and *Nuremberg*, which are prepar'd of crude *Antimony* ; and I cannot doubt but that crude *Antimony*, join'd with Nitre, may ſometimes do Service in ſlight Rheumatic Caſes, if duly perſiſted in. But I am far from believing, that it is poſſible to cure any Degree of the Gout by ſuch a Remedy.

With reſpect to Patents for Medicines in general, it is to be obſerved, that it is not very eaſy to come at a Knowledge of the real Efficacy of ſuch Remedies ; for, in the firſt Place, it is not always certain, that the Caſes which are publiſhed by the Proprietors, are literally true in every Circumſtance ; or, tho' they are, we ſhould only hear of thoſe Caſes which were attended with Succeſs, whereas a thouſand Caſes, where the Remedy had no good Effect, would be ſuppreſſed.

There are, however, People enough in the World of more Faith than Underſtanding, to make it worth the while of deſigning Men, to vend for Secrets the moſt common Preparations of the Shops, to their own Benefit at leaſt, becauſe the Prices of theſe Secrets are uſually very exorbitant.

Idon't know, that the Price of the Remedy I have ſpoken of above is more extravagant than thoſe of other Noſtrums ; if not, we may judge of the reſt by this.

The Price of crude Antimony is Four-pence a Pound, and never above Six-pence, when bought in Quantities. Nitre is, I believe, at this time, worth a Shilling a Pound, tho' ſeldom ſo much. Suppoſing then a Pound of each to be ſold at five Shillings, for every twenty-ſeven Grains, the whole two Pounds will ſell for 142 *l.* and ſome little more, enough to pay for the Ingredients.

Stahl calls that Tincture of Antimony, which is made by throwing *Diaphoretic Antimony*, immediately after Detonation, into Spirits of Wine, and digeſting it, *Tinctura Antimonii Alcalica acris.*

I omitted mentioning above, that the *Liver of Antimony* and *Crocus Metallorum* are the ſame, except that the former is unwaſh'd, the latter waſh'd.

ANTIMONIUS LAPIS. The Antimonial Stone. *Myrepſus*, *Serapion*, and ſome others, reckon Antimony among the Kinds of Stones ; and *Myrepſus* particularly, in *Sect.* 1. *Cap.* 470. as *Fuchſius* obſerves in his Notes thereon.

ANTIMOROS, ἀντίμορος, from ἀντὶ, againſt, and μόρος, Death, or a Diſeaſe. The true Name, according to *Fuchſius*, of an Antidote in *Myrepſus*, *Sect.* 1. *Cap.* 25. inſtead of *Diatamaron*, as it is there read ; which plainly ſhews, that *Myrepſus* tranſlated this Compoſition from ſome barbarous Author, who miſerably cotrupted the Word ; for ſome of the more correct *Latin* Copies read *Antimoros*. *Fuſchi Note on the Place above named.*

ANTINEPHRITICA, ἀντινεφριτικὰ, from ἀντὶ, and νεφρῖτις, a Pain in the Kidneys. Remedies againſt Diſorders of the Kidneys. *Blancard.*

ANTIOCHI HIERA, the Hiera of *Antiochus*. A compound Medicine, prepared as follows :

> Take of Germander, Agaric, the Pulp of Colocynthis, Stœchas, each ten Drams twenty-five Grains ; Opopanax, Sagapenum, Parſley, Birthwort, white Pepper, each five Drams twelve Grains ; Cinnamon, Spikenard, Troglodytical Myrrh, Indian Leaf, each four Drams ten Grains ; Honey a ſufficient Quantity. It is good againſt Melancholy, Madneſs, Epilepſy, and for all thoſe whoſe Blood abounds with Impurities. *Aetius Tetr.* 1. *Serm.* 3. *C.* 114.

ANTIOCHI THERIACA. The Theriaca which King *Antiochus* the Great uſed againſt all ſorts of Poiſon, the Preſcription of which was cut in Stone, at the Entrance of the Temple of *Æſculapius.*

> Take of Thyme, Opopanax, Millet, each two Drams five Grains ; Trefoil, one Dram two Grains and a half ;

the Seeds of Dill, Fennel, Aniſe, Biſhops-weed, and Smallage, each ſixteen Drams fifteen Grains; Meal of the bitter Vetch, twelve Drams thirty Grains. Pound them, and ſift them, and afterwards, with the beſt Wine, make them up in Troches of half a Dram, one of which in a quarter of a Pint of Wine, is a Doſe. *Pliny*, *Lib.* 20. *Cap.* 24.

ANTIPARALYTICA, ἀντιπαραλυτικὰ, from ἀντὶ, and παράλυσις, the Palſy. Medicines againſt the Palſy.

ANTIPATHES, ἀντιπαθὴς. What they call *Antipathes*, is to be accounted *Coral*, tho' of a different Kind from the common Sort. It is of a black Colour, has the Form of a Tree, and is more branched than the other. It agrees in Virtues with the common Coral. *Dioſcorides*, *Lib.* 5. *Cap.* 140.

ANTIPATHIA, ἀντιπάθεια, from ἀντι, againſt, and πάθος, an Affection. Antipathy. It is ſaid to be a kind of occult Quality, oppoſite to Sympathy, when there is a natural, but unaccountable Hatred or Averſion between two Things, which endeavour to remove or deſtroy one another. Thus *Galen*, *Lib.* 11. *de Simp. Med. Fac.* §. ſays, that ſome have written, that old Leather, burnt, cured Galls by a ſort of Antipathy.

Charlton thinks, that the whole Affair of Sympathy and Antipathy might be accounted for from the various Motions and Configuration, the mutual Coheſion and Combination, or the reciprocal Embracing or Repulſion, of the perpetually exhaling Corpuſcles or Effluvia which meet together. *Caſtellus.*

ANTIPATRI THERIACA, *Antipater*'s Treacle. It is thus prepared:

Take of Gentian, four Drams ten Grains; Trifolium, (ſtinking Trefoil) four Drams ten Grains; Seed of the ſame, two Drams five Grains; Poley, four Drams ten Grains; Sowbread, two Drams five Grains; Hog's-fennel, Galbanum, each two Drams five Grains; Parſley, four Drams ten Grains; Wood-rue, three Drams ſeven Grains; Pellitory of *Spain*, one Dram two Grains and a half; Staves-acre, two Grains and a half; Mace, three Drams ſeven Grains; the Root of the white Vine, two Drams five Grains; as much white Pepper; Gum Ammoniac, one Dram thirty-four Grains; Mullein, Ground-pine, Mezereon, ſmall Horehound, the leſſer Fleabane, Ethiopian Cummin, Opium, Caſtor, Fennel-ſeed, Agaric, Caſſia Rufa, the Flower of Juncus Odoratus, Rhubarb, each two Drams five Grains; *Cretan* wild Carrot, one Dram thirty-four Grains; as much Opopanax, Sagapen, two Drams thirty-ſix Grains; Southern-wood, one Dram thirty-four Grains; Styrax, Dittany, each one Dram thirty-four Grains; Cinnamon, Spikenard, each three Drams ſeven Grains; Myrrh, four Drams ten Grains; Frankincenſe, one Dram two Grains and a half; Saffron eight Drams twenty Grains; Aniſe, one Dram two Grains and a half; Cyrenaica Lacryma, (I ſuppoſe he means Aſſa Fœtida) one Dram two Grains and a half; Hind's-runnet, three Drams ſeven Grains; *Attic* Honey, a ſufficient Quantity. The Doſe is the Quantity of a Haſle-nut. It prevents or cures the Bite of an Aſp. *Scribonius Largus*, *Cap.* 42.

ANTIPERISTASIS, ἀντιπερίστασις, from ἀντὶ, and περιΐστημι, to ſurround. A Streightening, Cohibition, or Compreſſion all around, as for Inſtance, by the circumambient Air or Water; and thus there is an Antiperiſtaſis, or Compreſſion of Heat or Cold by the circumfus'd contrary Quality. Thus *Theophraſtus*, *Lib. de Igne*, imputes the Cauſe why Men are more robuſt, and have better Digeſtions in the Winter, to a more potent Collection of Heat by an *Antiperiſtaſis*, Συνίσταλται γὰρ ἐν τῷ χειμῶνι ϗ συγκατακέκλεισται τὸ θερμὸν ὑπὸ τοῦ πέριξ ἀέρος, ϗ τὰ σώματα πέττει τὰς τροφὰς μᾶλλον, ϗ ὅλως ἰσχυρότερα τοῖς χειμῶσιν ἐστὶν, ὅτε συνήθροισται ϗ ἀντιπεριέστηκε τῷ θερμῷ. "In the Winter Heat is contracted and incloſed "by the circumambient Air, and Bodies better digeſt their "Food, and are on all Acounts ſtronger and more robuſt in "cold Seaſons, from a Coacervation and Antiperiſtaſis of the "Heat." *Theophraſtus.*

ANTIPHARMACUM, ἀντιφάρμακον, from ἀντὶ, againſt, and φάρμακον, Poiſon, Medicine. An Antidote or Preſervative againſt Poiſon. Thus *Dioſcorides*, *Lib.* 2. *Cap.* 185. ſpeaking of Naſturtium, or Water-creſſes, ſays, ἑρπετῶν ἐστιν ἀντιφάρμακον, "It is a Remedy againſt the Poiſon of Rep"tiles." In this Senſe it is the ſame as ALEXIPHARMACUM.

ANTIPHTHISICA, ἀντιφθισικὰ, from ἀντὶ, againſt, and φθίσις, a Phthiſis, or Conſumption. *Blancard.*

Tinctura Antiphthiſica, a Tincture againſt a Conſumption.

Take of Saccharum Saturni, and Vitriol of Iron, each an Ounce; *French* Brandy, a Pint; and, without Heat, draw a Tincture. *Edinburgh Diſpenſatory.*

Quincy, in his *Engliſh* Diſpenſatory, gives it thus:

Take Salt of Steel, and Saccharum Saturni, each four Ounces
put them into a Matraſs with two Pints of good *Fren*
Brandy. Twenty Hours Digeſtion will make a beautif
Tincture.

This is by ſome accounted a Specific in Hectic Fevers: An
it is not an unlikely Medicine in ſuch Caſes, becauſe it w
aſtringe and draw up the Fibres, whereby their Tone will
render'd more rigid, and the Pores and ſecretory Paſſag
ſtreighten'd, ſo that the Juices and Nouriſhment itſelf will not
ſoon run off by thoſe Ways. It will alſo procure a firmer Te
ture to the Blood itſelf, which, in thoſe Diſeaſes, is almo
fuſed and broken. This is alſo good in many Hyſterical A
fections.

ANTIPHTHORA, ἀντιφθορὰ, from ἀντὶ, againſt, and φθο
Corruption. A Species of Wolf-bane, ſo called becauſe it r
ſiſts Corruption. *Blancard.*

ANTIPHYSICA, ἀντιφυσικὰ, from ἀντὶ, and φυσάω, or
σάω, to blow. Remedies againſt the Wind. See CARMIN
TIVES.

ANTIPHYSON, a Name for the Loadſtone in *Marc*
Empiricus, *Cap.* 1.

ANTIPLEURITICUM, ἀντιπλευριτικὸν, from ἀντὶ, agai
and πλευρῖτις the Pleuriſy. A Remedy againſt the Pleur
Blancard.

ANTIPODAGRICA, ἀντιποδαγρικά. The ſame as *A*
arthritica, which ſee before.

ANTIPRAXIA, ἀντιπραξία, from ἀντὶ, and πράσσω, to wo
A Word which ſignifies a Contrariety of Functions and Te
peraments in different Parts, and was uſed by the Antient
expreſs the Variety of concurring and often contrary Sympt
in Hypochondriacal Affections, as when a cold Stomach is jo
with a hot Liver. *Caſtellus.*

ANTIPYRETON, ἀντιπυρετὸν, from ἀντὶ, againſt,
πυρετὸς, a Fever. A Febrifuge, or Remedy againſt a Fe
Caſtellus.

ANTIPYREUTICON, or, ANTIPYRETICON.
ſame as the preceding. *Blancard.*

ANTIQUARTANARIUM, ANTIQUARTIUM.
Medicine againſt a Quartan. *Blancard.*

ANTIQUI MORBI, old or inveterate Diſeaſes, whic
lengthen'd out beyond the fortieth Day, perhaps to very
Years; Chronical Diſeaſes.

ANTIRRHINUM, Offic. *Antirrhinum minus*, Ger.
Emac. 549. *Antirrhinum ſylveſtre medium*, Park. T
1334. Mer. Pin. 9. *Antirrhinum primum Matthiolo*,
Bot. 1. 20. Phyt. Brit. 9. *Antirrhinum arvenſe*, Rivin
M. 82. Dill. Cat. Giſſ. 127. *Antirrhinum arvenſe*
C. B. Pin. 212. Tourn. Inſt. 168. Elem. Bot. 137.
Ind. A. 233. Rupp. Flor. Jen. 196. *Antirrhinum ar*
minus, Hiſt. Oxon. 2. 505. *Antirrhinum anguſtifoliu*
veſtre, J. B. 3. 464. Raii Hiſt. 1. 760. Synop. 3.
Antirrhinum anguſtifolium quibuſdam, *minus aliis*, Chab.
SNAP-DRAGON, or CALVES-SNOUT.

Antirrhinum is alſo called *Anarrhinum*, and by ſome *L*
Sylveſtris. The Stalk and Leaves of this Plant reſembl
of Pimpernel; the Flowers are purple, and like the
gilly-flower, but ſmaller, for which Reaſon it has the
of *Lychnis Sylveſtris*. It bears a Fruit like a Calf's-
and of a carnation Colour.

The Plant, worn as an Amulet, is ſaid to have a ſecret
againſt Poiſons, and to confer Gracefulneſs on the Perſo
is anointed with the ſame, together with the Oil of
or of *Cyprus*. *Dioſcorides*, *Lib.* 4. *Cap.* 133.

Antirrhinum, apply'd as a Peſſary, with Honey,
of Roſes, helps the Strangulation of the Uterus, and a D
of the Menſes. *Plin.* *Lib.* 26. *Cap.* 15.

Antirrhinum has the Virtues of the *Bubonium*, (St
but in a weaker Degree. *Paulus Æginet.*

Of this Herb there are ſeveral Species, ſuch as the *A*
num Officin. the *Primum Matth.* the *Minus Tab.* the *M*
Lob. the *Sylveſtre Dod.* the *Sylveſtre Medium*, Park.
venſe majus, C. B. and ſome others. It is the *Bucra*
Galen, the *Cynocephalion* of *Apuleius*, and the *Os Leonis*
lumella.

It is found in great Abundance in the Fields, and ſo
in Gardens; but this latter Species is larger than the
and muſt be renewed by freſh Seed. Its various Spe
of various Colours, yellow, for Inſtance, red, purp
carnation, but all of them have prickly Mouths:
Reaſon *Columella*, *Lib.* 10. calls it *Sæva Leonis Ora.*

The Whole of this Fruit is ſometimes found in *A*
ries Shops. But it is never uſed except by ſome
ſuperſtitious Women, who fondly imagine it to be a
vative againſt Spectres, Sorceries, and Witchcraft.
Reaſon they put it into their Childrens Cradles,
their Beds with it, put it into their Shoes, and keep i
Houſes, in order to baniſh Spectres, and prevent W
Theophraſt. H. Plant. Lib. 9. *Cap.* 21. ſays, that i
butes, in ſome meaſure, to a Perſon's acquiring Fame
putation. It is alſo ſaid to cure the Falling-ſickneſs, w

the Neck. See *Plin. Lib.* 25. *Cap.* 10. *Joh. Agricol.*
g. parv. Salmaſ. ad Solin. J. Johnſton Thaumatogr.
. Cap. 1. *G. H. Velſch. Not. ad Reuſner. J. W.*
. Amœn. Mater. Med. Franc. Paulin. Tr. de Bufone.
Rattray Tr. de Sympath. & Antipath. in Theatr. Sympa-
Joh. Hick. Cardiluc. Part. 1. where he makes men-
ſome Medicines prepared of it againſt Witchcraft. Its
re alſo an Ingredient in the fœtid Plaiſter of *Mynſicht*,
of which is wonderfully recommended againſt *Spells.*
olus ſays, that at a Gentleman's Houſe he ſaw it tied
he Neck of a Dog, who was chain'd and bark'd conti-
but eſpecially when he ſaw a Stranger ; but that, for
ays paſt, this Dog had not bark'd at all, whereas upon
this Herb from about his Neck, he immediately began
. The Water in which this Herb has been boil'd, is
cure the Jaundice, if drank.
is a Plant of which *John Bauhin* deſcribes three differ-
ts. The firſt ſends forth ſeveral Stalks, about the
of a Foot and a half, and ſometimes more than two
full of a white Pith, the Leaves reſembling thoſe of
ium, or) the Stock-gilly-flower, of a ſomewhat acrid
The Flowers ſurround the Extremities of the Stalk,
carnation or white Colour, and of an oblong Figure,
Form of a Pipe, which repreſents at the End a Cat's
's Snout ; from whence the Plant takes its Name. The
is ſucceeded by a Fruit reſembling a Dog's Head, or
hat of a Hog, containing ſmall black Seeds : The Root
and white.
ſecond is called *Anarrhinum ſeu Lychnis Sylveſtris*, of
ides, called in *French Mourin Violet* (or Pimpernel of
Colour) ; it ſends forth a Stalk and Leaves reſembling
Pimpernel : The Leaves are ſhaped like thoſe of Leu-
or the Stock-gilly-flower, but leſſer, of a purple Co-

hird is called by *Pliny*, *Anarrhinum, ſeu Lychnis agria*,
ng Flax ; the Flower like that of Hyacinth ; the Fruit
igure of a Calf's Snout. The Root is very ſmall.
-ſnout grows in Fields, and ſandy Places, which are
d, and in Vineyards.
Plant is but ſeldom uſed in Medicine : Some pretend,
Root of that firſt deſcribed is proper for Defluctions of
ous Humours in the Eyes ; and that, being carry'd
th one, it reſiſts the Effects of a bad Air. *Lemery des*

IRRHOPE, ANTIRRHOPIE, ἀντιῤῥοπὴ, ἀντιῤῥοπίη,
, againſt, and ῥέπω, to incline. A Propenſion to the
Part. In this Senſe the Words are uſed by *Hippocra-*
περὶ ἄρθρων.
ISCOLICA, from ἀντὶ, againſt, and σκώληξ, a Worm.
as ANTHELMINTICA. *Blancard.*
ISCORBUTICA, Remedies againſt the Scurvy.

ISCORODON, ἀντισκόροδον, from ἀντὶ, and σκόροδον,
A very large Species of Garlick, otherwiſe called,
lpicum. It is alſo called *Aphroſcorodon*, ἀφροσκόροδον,
, Spume, or Froth ; becauſe, when beaten with Oil
gar, it generates abundance of Spume. *Gorræus.*
SECOSIS, ἀντισήκωσις, from ἀντισηκόω, to make equal,
Æquilibrium, which Verb is from ἀντὶ, and σηκὸς, a
Compenſation. The Verb ἀντισηκῶσαι is uſed by
es, Lib. de Rat. Vict. in Morb. acut. to ſignify the
ng, to ſuch as uſe to eat twice in a Day, the Loſs of
Τὸν μὲν οὖν παρὰ τὸ ἔθος κενεαγγήσαντα ξυμφέρει ταύ-
ην ἀντισηκῶσαι. " He who thus labours under an un-
Exinanition of the Veſſels, ought to *have Compenſa-*
his Loſs on this Day. "
Lib. de Art. Ὅτι ἀσφαλεστέρως ἂν τὸ σῶμα, τὸ μὲν τῇ,
ἀντισηκωθεὶν μετεωρισθέν. " Becauſe the Body being
ecurely ſuſpended, equally ponderates this way and
y." Hence ἀντισήκωσις is alſo the ſame as ἀντιστάθμησις,
rium.
SPASIS, ἀντίσπασις, from ἀντὶ, and σπάω, to draw.
on. This is a Retraction, or Averſion of a flowing
o a contrary Part. It is properly apply'd to a Humour
Fluxion, in order to divert its Courſe a contrary
a Humour which is already ſettled on the Part, is
be carry'd off by *Revulſion*, but by *Derivation* ; be-
nnot be evacuated but by the Parts ſituated near the
ted. Revulſion is made to a contrary Part, and far
n the Seat of the Diſeaſe. There are four Species of
according to the Difference of Poſition ; for it may
om a ſuperior Part to an inferior, from the Right to
rom the Fore-part to the Back-part, from an inter-
external Part, and the contrary to all theſe reſpect-
len Meth. Lib. 5. *Cap.* 3. and *Lib.* 4. *Cap.* 6.
that Revulſion in Medicine was the Invention of
, where he ſeems to have in View the Beginning of
περὶ χυμῶν, whence the Rules for Revulſion are
Aph. 21. *Sect.* 2. *Lib.* 6. *Epid.* he directs ἀντισπᾷν
ῥέπῃ, ἢν δ᾽ ὅπη δεῖ, ταύτῃ δεῖ στομοῦν, ὅκως ἕκαστα
ῥέπει. " Where Things tend the wrong Way, we ought to " make a Revulſion ; but if they ſeem to tend a right Courſe, " a Way is to be open'd for each to follow its natural Pro- " penſity. " *Gorræus. Foeſius.*

ANTISPASMODICUM, from ἀντὶ, againſt, and σπασμὸς, a Convulſion. A Remedy againſt Convulſions. *Blancard.*

ANTISPASTICON, ἀντισπαστικὸν. A general Epithet for any Medicine that works by way of Revulſion. *Galen. Lib.* 13. *M. M. Cap.* 11.

ANTISPODA, ἀντίσποδα, from ἀντὶ, againſt, inſtead of, and σπόδιον, or σποδὸς, Spodium (Putty). Medicines endu'd with the ſame Virtue as Spodium, and for want thereof may be ſubſtituted in its room.

Since *Antiſpoda* are very ſerviceable when Spodium cannot be had, as it often happens, it will be neceſſary to ſhew what things are equivalent to it, and after what manner they ought to be uſed.

Take then the Leaves of Myrtle, with the Flowers and Berries, before they are ripe, and put them into a crude (unbak'd) earthen Pot, and, ſtopping it up with a Cover full of Holes, ſet it in the Potter's Furnace. When it is throughly baked, transfer the Contents into another crude Pot ; and when this alſo is ſufficiently harden'd, take them out, waſh them, and uſe them.

After the ſame manner may be prepared

The tender Shoots, with the Flowers of the Wild Olive-tree, if they can be procured ; if not, thoſe of the Garden-kind may ſupply their Place. If neither of theſe are to be had, Quinces cut in Pieces, and their Cores taken out, Galls, linen Rags, unripe or white Mulberries, firſt dry'd in the Sun ; Maſtich, Turpentine, Oenanthe, (Dropwort) the tender Leaves of the Bramble, the Leaves of the Box-tree, or the Baſtard Cyprus with its Flowers, any or either of theſe, thus prepared, will ſerve the Turn. Some take the tender Boughs of the Fig-tree, and firſt drying them in the Sun, prepare them in the ſame manner. Some take Bulls-glue, others rough, greaſy Wool, which they ſmear with Pitch or Honey, and prepare as aforeſaid. All theſe before-mentioned may be uſed as *Antiſpoda*. *Dioſcor. Lib.* 5. *Cap.* 186.

Pliny, Lib. 34. *Cap.* 13. introducing his Account of *Antiſpoda*, has this beautiful Paſſage : *Nec in alia Parte magis eſt Vitæ Ingenia mirari, quippe ne inquirenda eſſent Metalla, viliſſimis Rebus Utilitates eaſdem excogitavit.* " The human Sagacity in providing for the Accommodation of Life is in no " reſpect more admirable, than in preparing Medicines of the " cheapeſt Materials, to ſupply the Want of Minerals. " He then goes on to enumerate the Antiſpoda, which, with the Method of Preparation, are all the ſame as in *Dioſcorides*.

ANTISTATHMESIS. See ANTISECOSIS.

ANTISTERIGMA, ἀντιστήριγμα, from ἀντὶ, againſt, and στήριγμα, any thing that ſuſtains or bears up another. A Fulcrum, Prop, or Crutch. *Hippocrates, Lib. de Artic.*

ANTISTERNON, ἀντίστερνον, from ἀντὶ, againſt, and στέρνον, the Sternum, or Breaſt-bone. The Back, ſo called, becauſe it is oppoſite to the *Sternum*.

ANTITASIS, ἀντίτασις, from ἀντὶ, and τείνω, to extend. A Contra-extenſion. When diſlocated Bones are firſt drawn back, in order to their meeting in one ſtrait Line, this Retraction to oppoſite Parts is, by *Galen, Meth. Med. Lib.* 6. *Cap.* 3. called *Antitaſis*. *Caſtellus.*

ANTITHENAR, ἀντίθεναρ, from ἀντὶ, againſt, and θέναρ, the Palm of the Hand. The Muſcle called ADDUCTOR AD INDICEM, which ſee.

ANTITHORA. The ſame as ANTHORA.

ANTITRAGUS, ἀντίτραγος, from ἀντὶ, and τράγος. *Ruffus* deſcribes it to be the thicker Part of the Anthelix, oppoſite to the Tragus. See ANTHELIX and TRAGUS.

ANTITYPUS, ἀντίτυπος. See RENISUS.

ANTIVENEREA, Medicines againſt the *Lues Venerea*. *Blancard.*

ANTONII SANCTI IGNIS, the St. Antony's Fire.

ANTONIUS MUSA, a famous *Roman*, Phyſician to *Auguſtus Cæſar*. See MUSA.

ANTOPHYLLON, ANTOPHYLLUS, ἀντόφυλλον, the Name of the Male Caryophyllus, ſo called by *Aviſenna*, becauſe of its Thickneſs. *Fuchſius's Note in Myrep. Antid. Cap.* 22. According to *Ray*, *Antophyllus* is the Name which the Druggiſts have for the mature and full-grown *Caryophyllus*.

ANTRISCUS, *Antriſcus* Plinii, *quibuſdam Semine longo Cicutariæ, vel Chærophylli*, J. B. *Chærophyllum Sylveſtre*, C. B. *Cerefolium Sylveſtre*. Tab. *Apium Sylveſtre*, Ger. Ico. *Daucus Sepianius*, Ger. Col.

Is a Plant about two Feet high, branchy, and hairy ; the Stalk is of a greeniſh Brown, reddiſh, and rough, moiſt in the

Inſide ; the Figure of the Leaves reſembles thoſe of Chervil, or that of *Hemlock*, beautiful, almoſt inſipid ; the Flowers are form'd in Umbels at the Top of the Branches, each compos'd of five white Leaves ; the Seeds are ſlender, longiſh, black, of an aromatic Taſte, reſembling thoſe of Chervil, but ſmaller ; the Root is ſimple, woody, white, and aromatic, of the Taſte of a Parſnip : it grows under Hedges. It contains eſſential Salt, Oil, and a great deal of Phlegm.

It is aperitive, but little uſed in Phyſic. *Lemery des Drogues.*

ANTRUM BUCCINOSUM, the Cochlea, or Labyrinth of the Ear. *Caſtellus.*

ANTYLION, ἀντύλιον, the Name of a very aſtringent Malagma deſcribed by *P. Æginet. Lib.* 7. *Cap.* 18.

ANTYLLUS, or ANTILLUS, a very famous antient Phyſician, cited by *Oribaſius*, *Lib.* 2. *Euporiſt.* by *Aetius*, *Tetrab.* 1. *Serm.* 3. and in many other Places ; by *P. Æginet.* who calls him the SURGEON, *Lib.* 3. *Cap.* 40. and *Lib.* 6. *Cap.* 33. and *Lib.* 7. *Cap.* 10. and 33. by *Stobæus*, *Serm.* 99. *Aviſenna*, *Lib.* 5. and *Rhaſis*, *Lib.* 2. *Continentis*, *Cap.* 2. and in many other Places, being I ſuppoſe the ſame Perſon as his *Antilis*, or *Antiles* ; for this Diverſity in proper Names, in him and other *Arabian* Authors, proceeds from the Fault of the Tranſlator, as well as the Tranſcribers. *Fabricius.*

ANUCAR. Borax. *Rulandus.*

ANUS. The Orifice of the *Inteſtinum Rectum*, by which the excrementitious Fœces are diſcharg'd out of the Body, by Stool.

Affections about the Anus are difficult to be cured for many Reaſons. The Part is endued with a very tender Senſe, and therefore is eaſily irritated by acrimonious and auſtere Medicines. Beſides, the Superfluities of the Aliment in their Paſſage are not only acrid in themſelves, but much more ſo on account of the bilious, and ſometimes ſerous Humours, which paſs along with them. Moreover, the Phyſician can fix no certain Times for attending his Patients, who ſometimes go forth to eaſe Nature this way at an inconvenient Seaſon. The Humidity and Heat of the Places alſo, which require drying as well as cooling Remedies, are no ſmall Obſtacle to the Cure of Ulcers in thoſe Parts. For Aſtringents are acrid, which the Place, by reaſon of its exquiſite Senſe, is not able to bear. Wherefore ſuch Medicines agree with them as are aſtringent without Aſperity ; of which Quality are principally Metals, which are neither acrimonious, nor extremely rough ; theſe, waſhed, anſwer the Intention, and do the Work effectually without Mordacity. *Aetius*, *Tetrab.* 4. *Serm.* 2. *Cap.* 1. from *Galen.*

Of the RHAGADES *of the* ANUS.

The *Anus* is ſubject to many, and thoſe very troubleſome Diſeaſes, which are cured by Methods not much different from one another. First of all, the Skin often chaps in many Places, which Diſorder is by the *Greeks* called ῥαγάδεια. If it be recent, the Patient ought to keep himſelf at Reſt, and ſit in warm Water. Pigeons Eggs alſo are to be boiled, and when they are hardened, are to be cleanſed, and while one lies in hot Water, the Place is to be fomented with another, that the Patient may for ſome time uſe them both in their Turns. Then the Tetrapharmacum, or Rhypodes Plaiſters, [*See the Compoſition of Tetrapharmacum under* ABSCESS, *and of* RHYPODES, *under that Word*] are to be diluted with Oil of Roſes, or freſh greaſy Wool is to be moiſtened with liquid Cerate made of Oil of Roſes, or Lead waſhed is to be added to the ſame liquid Cerate, or Myrrh mixed with Reſin of Turpentine, or old Oil with Litharge, and the Place is to be anointed with any one of them. If the Diſorder lies all outwardly, and the inner Parts are ſound, Lint impregnated with the ſame Medicine is to be laid upon the Place, and whatever elſe is apply'd muſt be covered with a Cerate. In this Caſe we muſt abſtain from tart and acrimonious Meats, and ſuch as bind the Belly. No dry Food is proper, but in very ſmall Quantities ; but liquid, ſmooth, fat, and glutinous Aliments are beſt. Nothing hinders but that the Patient may drink the mild Sorts of Wines. *Celſus*, *Lib.* 6. *Cap.* 18.

Of a CONDYLOMA.

A Condyloma is a Tubercle uſually generated from an Inflammation. When it is form'd, the ſame Directions as to Meat, Drink, and Reſt, are to be obſerved as were before preſcribed for the Rhagades. It will be proper to foment the Tubercle with the ſame Eggs ; but before this, the Patient muſt ſit in a Decoction of ſome Repellent, as Vervain ; after this, you would do well to apply ſome Lentils with a little Honey, Melilot boiled in Wine, or Leaves of the Bramble-buſh bruiſed with Cerate made of the Oil of Roſes ; or a Quince ; or the inner Part of the Rind of Pomgranates bruiſed with the ſame Cerate ; or Vitriol firſt boiled and bruiſed, and then mixed with greaſy Wool, or Oil of Roſes ; or the following Compoſition :

> Take of Frankincenſe, one Dram two Grains and an half ; Plumous Alum, two Drams five Grains ; Ceruſs, three Drams ſeven Grains and an half ; Litharge, five Drams
> twelve Grains and an half ; bruiſe them, and while
> are ſo doing, inſtil thereto Wine and Oil of Roſe
> Turns. The Bandage for the Place muſt be of Lin
> a ſquare Piece of Woollen, which at two of its Angl
> Loops, and oppoſite to them as many Fillets. The
> being placed underneath, the Loops come againſt
> Belly ; and the Fillets, being brought about behind
> paſſed through the Loops ; and where they are ſtreight
> croſs one another ; and proceed the Right toward
> Left, and the Left towards the Right, and, being br
> about the Belly are at laſt ty'd together in a Knot.

If the Condyloma be grown inveterate and hardened
will not yield to the Remedies before-mentioned, it m
conſumed by the following Cauſtic :

> Take of Verdigris, two Drams five Grains ; Myrrh,
> Drams ten Grains ; Gum Arabic, eight Drams t
> Grains ; Frankincenſe, twelve Drams thirty Grains ;
> mony, Opium, Acacia, each ſixteen Drams forty G

Some uſe this Compoſition to renew Ulcers in the
gades. If the Condyloma reſiſts this Medicine, a ſt
Cauſtic may be apply'd. When the Tumor is conſume
muſt exchange it for gentle Remedies. *Celſus*, *Lib.* 6. *Ca*

Of RHAGADES *and* CONDYLOMATA.

A Tubercle in the *Anus*, which they call a *Condyloma*,
ſiſts in a preternatural Intumeſcence of ſome Wrinkles
folded Bodies of the Anus ; for the Anus being ſinuo
full of Folds, muſt be ſet with Wrinkles. When this W
is elevated into a conſiderable Tumor, it becomes a Con
which is ſometimes without an Inflammation, and ſom
attended with an Inflammation, Pain, and Hardneſs.

The *Rhagades*, or Fiſſures, ſometimes affect the Sp
ſometimes the *Anus*, and owe their Original ſometimes
Acrimony of the Humours, ſometimes to a *Condyloma*,
being inflamed and diſtended, cauſes a Rupture, or Fiſſ
the Parts about it.

They are cured in the Beginning by Medicines ;
neglected till they grow hard and callous, will require
ſiſtance of a Surgeon. In this Caſe, for the *Condylo*
Patient muſt be placed in a fit Poſture ; and the *Condylom*
taken up and diſtended with the Forceps, muſt be c
away ; but for the *Rhagades*, they muſt have their callo
ſcraped with the Knife, that there may be a new Ulc
which ſhall be more eaſily cured. After the Operatio
geſtives, Mundificatives, and Cicatrizers, are to be app

Medicines proper in the Beginning are, for a Co
which contract and conſume it, the following:

> Put Miſy roaſted into liquid Turpentine, and ma
> into a Plaiſter, and apply the ſame, after fomen
> Place with warm Water. This is an admirable Re

Another ; the Author, *Lucius*, for Inflammations, R
or *Condylomata* of the *Anus* ; it is good alſo for inflam
gades of the *Pudenda* :

> Take of Ceruſs, ſix Ounces forty Grains ; Lithar
> ver waſhed, two Ounces fifty Grains ; Recre
> Lead waſhed, Plumous Alum, Frankincenſe,
> Ounces forty Grains ; bruiſe them in old whit
> and mix them with Cerate of Myrtle and Roſe
> good for foul Ulcers of the *Anus*, but eſpecially
> Corona Glandis, and the Præputium, which can
> terged with Lint, and are exaſperated by Medicin
> ed to the Nomæ. In ſhort, aſtringent Embroc
> to be uſed in Condylomas, and their Remedies
> participate of an aſtringent Quality.

Another of *Andromachus*, which he uſes, as he
inflamed *Rhagades* and *Condylomas* :

> Take of the Lapis Hæmatites, or Blood-ſtone, G
> moniac, Frankincenſe, Round Alum, each twe
> thirty Grains (in another Copy, ſixteen Dr
> Grains) ; Galls, Saffron, each one Dram two G
> an half ; Turpentine, four Drams ten Grains
> *nian* Wax, twelve Drams thirty Grains ; Oil
> ten Drams twenty Grains ; uſe it for the *Anus*
> of Roſes ; for the Uterus with Oil of Salca [Se
> *Aetius*, *Tetrab.* 4. *Serm.* 2. *Cap.* 3.

Of CONDYLOMAS, EXTUBERANCES, *and* RHA

A Condyloma in the Anus differs only in the Pl
Condyloma in the Pudendum Muliebre, being a r
creſcence conſequent upon an Inflammation or Fiſſu
it is called a *Tubercle* ; but when it is grown callous,

Both the one and the other are to be taken with the
eps, and cut off; and the Cure is to be managed with Ci-
zers. As for the *Rhagades* which are cauſed by hard Fœces,
re ſlow of healing on account of their Calloſity, we heal
; or by ſcratching them with the Nails, or the Knife, diſ-
them the more readily to cicatrize. *Paulus Æginet.*
6. *Cap.* 80.

Of a THYMUS *of the* ANUS.

e Appellation of *Thymus* is taken originally from the Tops
e Herb of the ſame Name, [Thyme] which grows upon
A *Thymus* in the Body is a rough, reddiſh, oblong,
culous Eminence, which, when it is taken off, diſcharges
Blood than in proportion to its Bigneſs. It very com-
affects the Parts about the *Anus* and *Pudenda*, and alſo
iddle of the Thighs, and ſometimes it appears in the Face.
Sort of Excreſcence, when ſmall, is called a *Thymus*;
of an exceſſive Bigneſs, a *Ficus*; and ſometimes it is
ſometimes malignant. The mild *Thymus* is a ſmall un-
Caruncle, which has its Superficies exaſperated by obſcure,
ce perceptible Eminences, of a whitiſh Colour, or ſome-
red, and void of Pain. But the malignant *Thymus* is
, rougher, and larger, and of a fœculent and livid Co-
painful, and cauſing a pungent Senſation, and is very
exaſperated by Handling, or the Application of Medi-
A mild *Thymus* is eaſily cured, but a malignant one is
le; tho' this latter is ſometimes cured not by local Ex-
, but by taking off the Part in which they grow.

a *Thymus*,

e dry'd Sage, and pound it with dry'd Figs, and let the
atient eat thereof, and the *Thymus* will diſappear. For
e ſame Diſeaſe in Cattle, expoſe Barley to the Dew,
d ſtrew the ſame Herb among it, and let them feed
ereon, and you will ſee Wonders.

THYMUS *in the* ANUS, PUDENDUM, *or any other Part of the Body.*

e of Plumous Alum, Vitriol burnt, Glew, each one
unce twenty Grains; of Squama Æris, two Ounces
ty Grains; bruiſe them, and put them in Glew that
s been before diſſolved in Water, and anoint the Place.
tius, *Tetrab.* 4. *Serm.* 2. *Cap.* 4.

Of a FUNGUS *of the* ANUS *or* UTERUS.

lcer, like a Fungus, frequently affects the ſame Parts,
if it happens in the Winter, muſt be fomented with
in the Summer, with cold Water. After this, the Place
ſprinkled with Squama Æris, and upon this muſt be
a Cerate made of Oil of Myrtle, mixed with a little
, Soot, and Lime. If it cannot be removed by theſe
like Medicines, or by others of greater Vehemence and
it muſt be cauterized with a hot Iron. *Celſus*, *Lib.* 6.

Of the HERPES *and* NOMÆ *of the* ANUS.

imes the Anus is infeſted with a *Herpes* and *Nomæ*:
na affect the Sphincter of the *Anus*, the Diſeaſe muſt be
treated in a Method adapted to the Cure of a *Noma*;
phincter, being one of the interior Parts of the *Anus*,
nervous, cannot bear cutting or burning, an Abſciſſion
art of that Muſcle being followed with Convulſions,
Waſting and Decay of the Caruncle. This we know
rience; for oftentimes when, for want of due Surgery,
cter has been conſumed by the *Nomæ*, the Waſting of
uncle has been the Conſequence. We muſt therefore
urſe to ſuch Remedies as are proper for a *Noma*; ſuch
Embrocations with the Decoction of Myrtles, Rind
granate, the Bramble, and the like. And firſt let us
the preternatural Corpuſcles with the Troches called
[See FAUSTINE] or ſome ſuch thing; then uſe burnt
nd afterwards apply the Plaiſter *Iſis*, [See ISIS] diſſolved
of Oil of Roſes, and ſpread on Linen.
a Phagedenic Ulcer in the *Anus* ſpreads by eating,
g muſt be attempted, and a Stop put to it by dividing
pted Parts from thoſe which are ſound, with the Knife;
ch, apply an actual Cautery to the Place; for the
eing a fleſhy Part, can eaſily bear the Operation.
e, after the Operation, is to be managed like that of
cers; but where Burning has been uſed, it will be
uſe the ſame Remedies as we have before preſcribed in
Circumſtances under a *Prolapſus Ani.* *Aetius*, *Tetrab.*
2. *Cap.* 10.

Condylomas, *Criſtas*, *Ficus*, *and Fungus*, *of the* ANUS.

mes the *Anus* is infeſted with Tubercles at the Extre-
he Inteſtinum Rectum, which ariſe both on the In-
Outſide. Though theſe Tubercles are divided into va-
ies according to their Magnitude and Figure, and are ſometimes called *Condylomata*, ſometimes *Criſtæ*, ſometimes *Ficus*, or *Fungi*, yet they all ſeem to agree in owing their Original partly to a Redundance, and partly to a Corruption of the Blood, that ſtagnates about theſe Parts, and eſpecially the Glandules, whence they inſenſibly increaſe in Magnitude like a Polypus in the Noſe, or thoſe Tubercles which ariſe in the Uterus. They often moleſt thoſe who are ſubject to the Hæmorrhoids; nor are they only troubleſome, but ſometimes accompany'd with acute Pains; ſo that the Patient cannot ſit down without much Difficulty, and is forced to implore the Help of a Surgeon. Such *Tubercles* in the Pudenda are judg'd by *Celſus* to be of the worſt Kind; and I have often diſcovered in them ſome Seeds of the Lues Venerea. Hence it is no Wonder, that the Antients, who knew no Remedies for the Venereal Diſtemper, judged theſe to be the worſt Sort of Tubercles.

The Cure of theſe muſt be managed like that of other *Tubercles*, and carnous Excreſcences, which is by Extirpation, by means of a Ligature, or Abſciſſion with the Knife or Sciſſars, except their Root be too large; by this Operation I have cured ſeveral Sorts of them. If their Root be ſo large as to admit of no Ligature, the *Tubercle* is to be diſtended with the Hook or Forceps, and moſt exactly cut off with the Knife or Sciſſars. The Wound being made, the Blood muſt be ſuffered to run for ſome time, according to the Strength of the Patient, in order to prevent an Inflammation; then, after the Uſe of Styptics, Lint and Bolſters are applied, and the Wound is bound up. The Cure is carried on with Vulnerary Balſams, and ſome drying Ointment, and at laſt with dry Lint, to promote Conglutination. If in the ſubſequent Dreſſings any foreign Matter is obſerved to remain after the firſt Operation, Care is to be taken, that it be exactly cut off with the Sciſſars, or eaten quite away with blue Vitriol, Lapis Infernalis, or ſuch-like Cauſtics. In many Caſes the entire Tubercles themſelves may conveniently enough be extirpated by the Uſe of Corroſives, as *Celſus* formerly adviſed, if Care be taken, that they do not hurt the Inteſtine or Sphincter. The Antients, when they could not remove them by Medicines, adviſed the Application of actual Cauteries. *Heiſter. Inſtit. Chirurg.*

Of an imperforated ANUS.

Sometimes in new-born Children the *Anus* is naturally imperforated, being cloſed up with a Membrane. In this Caſe the Membrane is to be broken with the Finger, if it be poſſible, or elſe cut off with the Knife, and the Place muſt be healed with Wine.

Often alſo in grown Perſons, by means of an Ulcer ill cured, there happens a Coalition of the *Anus*. In this Circumſtance alſo the Part muſt be opened with an Inſtrument, and for the more convenient Management of the Cure, and to avoid a new Coalition, a leaden Pipe, or Cannula, anointed with ſome Epulotic, is to be put in the *Anus*, and worn till the Cure be perfected. *P. Æginet. Lib.* 6. *Cap.* 81.

The Method of making an Aperture in the ANUS *when imperforate.*

It ſometimes happens, that a Child is born with the *Anus* quite cloſed up, contrary to the Diſpoſition of Nature. Theſe are called by Phyſicians *Atreti*, [from α Neg. and τεράω, to perforate] *imperforate.* The Child is immediately perceived to labour under this Defect, if it has not been obſerved before, by voiding no Excrements the firſt Days after its Birth. It might indeed be ſooner known, if the Midwives, immediately after waſhing and cleanſing the new-born Infants, did, according to their Duty, inſpect this Part, and obſerve whether it is rightly conform'd. If this be neglected, the Phyſician often comes too late, as *Roonhuyſen*, *Obſerv.* 5. *Part.* 1. well remarks.

The Quality and Degree of this Defect vary according to the different Thickneſs of the Tegument that cloſes up the *Anus.* Generally ſome Sign or other, as a Prominence or Pit, ſhews the Place where Nature deſigned a Perforation; but ſometimes no ſuch Mark can be perceived; ſometimes only a thin Membrane comes over the Part; ſometimes ſolid Fleſh, either thicker or thinner, obſtructs the Paſſage of the Excrements. Whatever may be the Cauſe of the Diſorder, 'tis certain, that if the *Anus* be not ſpeedily perforated, and a Way laid open, it cannot be avoided, but that the Excrements, call'd *Meconium*, being retained beyond their due Time, the Child will be ſeized with dreadful Gripes of the Belly, Vomiting, Jaundice, Convulſions, Epilepſy, and at laſt, vomiting up the Excrements, and ſo periſh in a miſerable manner. If only a Membrane, or thin Piece of Fleſh, ſtops up the natural Paſſage, the Place where the Aperture is to be made, will be marked by a ſort of Cicatrix, or ſhewn by the Protruſion of that Membrane, or Fleſh, by the Excrement of the Child. In this Caſe the Cure is eaſily performed: On the contrary, it is with great Difficulty, and not without Danger, that the *Anus* is perforated, when a pretty thick Piece of Fleſh ſhuts up the Rectum in ſuch a manner, that neither Pit nor Prominence can be perceived. In the laſt Place, as I have more than once myſelf obſerved, either the whole Inteſtinum Rectum, quite up to the Colon, or higheſt

Part of the Os Sacrum, is cloſed up, or is wholly wanting, and the Inteſtines end about the loweſt Part of the Loins, or Top of the Os Sacrum. In ſuch a Caſe, we are to lay aſide all Thoughts of a Cure. *Roonhuyſen* relates an Inſtance, where the Rectum terminated in the Bladder.

If the Nature of the Defect be ſuch as to admit the Hopes of a Cure, all we have to do is to make a convenient Aperture in the *Anus*, or Extremity of the Rectum. That this Operation may be ſuceſsful, obſerve the following Directions: Firſt of all, the Child is to be laid, or held in a Lap by an Aſſiſtant, in ſuch a manner, that the Surgeon may have a clear View of the *Anus*, and have it in his Power to treat it as he pleaſes. Then with a Lancet, or a two-edged Inciſion-knife, a little bigger than a Lancet, he is to make an Inciſion through the Membrane, or thin Fleſh, into the Rectum, almoſt in the ſame manner as in opening Abſceſſes. That the Operation is effectually performed, will be ſhewn by the Efflux of the Meconium, or black Fœces, which muſt be ſuffered to run till they ſtop of themſelves. This done, he is next to thruſt his Finger, rubbed with Oil, through the new-made Aperture into the Rectum, and nicely feel whether the Paſſage be wide enough for the Excrements. If he finds it is too narrow, it will be neceſſary to lengthen the Inciſion either upwards or downwards, or both ways, as he ſhall ſee moſt convenient; or to inlarge the Aperture by making a new Inciſion croſſwiſe, by which means the *Anus* will be the better diſpoſed to aſſume its annular Figure. After this, the Surgeon is ſtill to wait till the Child diſcharges whatever Fœces may be yet left behind; which being evacuated as much as ſhall be thought neceſſary, he is to thruſt a pretty large Tent anointed with Oil, or ſome vulnerary Ointment, and ty'd with a ſtrong Thread, or ſmall Cord, into the freſh Wound, that there may not be a new Coalition of the *Anus*, the Thread hanging out, that if the Tent ſhould happen to ſlip inwards, it may ſerve to draw it back, as often as the Child ſhall evacuate by Stool: Afterwards it will be convenient to uſe a new Tent, which after ſome Days ſhould be rubbed over with ſome drying Ointment, ſuch as that of Ceruſs, till the Lips of the Wound are dried up, and there is no Danger of a new Coalition of the *Anus*. *Hildanus*, about the End of the Cure, inſtead of a Tent put up a leaden Pipe, anointed with Ointment of Ceruſs. But that the Tent, or Pipe, may not eaſily fall out, a fit Bolſter is to be applied to the Wound, and firmly faſten'd upon it by the Bandage. Laſtly, if, perhaps the next Day, or the Day after, it be perceived, that the Aperture, which was made the firſt Day, is yet too ſmall, nothing ought to hinder the Surgeon from dilating it, as much as may be convenient.

What we have often recommended in other Operations, which is, that all things pertaining to the Dreſſing of a Wound, ſhould be provided before it is inflicted, is not ſo neceſſary in the preſent Caſe, and ſometimes is pernicious; becauſe Delays in this Circumſtance are often dangerous, eſpecially when the Child has lived ſome Days in this Condition. For as the miſerable State of the Infant often requires the moſt expeditious Opening of the cloſed *Anus*, let us forthwith make the Inciſion, and the Things, neceſſary for Dreſſing, may be conveniently enough provided while the Fœces flow out of the Aperture.

If a thick Membrane, or Piece of Fleſh, intercept the natural Paſſage of the Excrements, it will be more difficult to ſave the Life of the Child. But it ſeems better, tho' perhaps in vain, to attempt the Operation, while any Hope remains, than to abandon the miſerable Infant to certain Death, without the leaſt Help. Under this Circumſtance our Method of Cure muſt proceed in the following manner: Firſt, let the Surgeon try, with the Help of his Finger, to diſcover ſome Mark of the *Inteſtinum Rectum*, as a Cavity or Paſſage; then the Place, under which they are perceived, is to be marked with Ink, and an Inciſion made therein of the Length of a Finger's Breadth. If no Fœces iſſue from the Wound, the ſubjacent Paſſage of the *Rectum* is to be anew inveſtigated by preſſing with the Finger; and, as ſoon as it is diſcovered, the *Anus* is to be perforated, either with one Stroke, or by Degrees, to the very open Paſſage of the Inteſtine: But this muſt be done with Diſcretion, and the Inſtrument muſt not be carried with its Edge towards the Pubes and Veſica, but towards the *Os Sacrum*; for, otherwiſe, there is Danger of hurting the Bladder in Boys, or the *Vagina*, or both, in Girls. The *Anus* being perforated, the Patient is to be treated as before directed.

If there be no Sign at all of an Opening in the *Inteſtinum Rectum*, then either that Part is ſolid, or, as I myſelf have ſeen, is wholly wanting; and this conſequently renders the Cure extremely difficult, if not deſperate. However, even in ſo deplorable a Caſe, it is not fit to leave the Infant deſtitute of all Aſſiſtance, leſt we ſhould ſeem to chuſe rather to wait for a moſt certain Death, than to attempt a doubtful Cure; wherefore, fixing on a Place, which ſeems the ſafeſt and moſt convenient for the Purpoſe, we enter it with a triangular perforating Inſtrument, (*Tab.* 45. *Fig.* 2.) or a narrow Inciſion-knife, which we plunge ſo far in the *Anus*, till ſome Perforation of an Inteſtine diſcovers itſelf by the coming out of the Fœces. *Saviardus* has an Example to this Purpoſe, where he was obliged
thruſt in a Knife to the Depth of three Fingers Breadth,
which he ſaved the Child's Life, *Obſervat.* 3. The Apertur
thus made, is to be inlarged with the Knife, upward or dow
ward, as much as ſhall be thought fit; and the Fœces, as w
before directed, being evacuated, Care is to be taken, that
there ſhould happen a more than ordinary Profuſion of Blo
from the cutting of ſo many Veſſels, a proper Remedy m
be applied. For this Purpoſe it ſeems neceſſary to thruſt i
the Wound a Tent that is big enough, and fitted with a ſm
Cord, and rubb'd over with a proper Medicine to ſtop
Blood; after this we are to follow the Directions before giv
At the End of twelve, or four-and-twenty Hours, it will
proper to take out the Tent, if it has not fallen out of it
and, immediately after evacuating the Fœces, to ſupply its Pl
with another; which at firſt, for ſome Days, muſt be ru
over with a digeſtive Ointment, and afterwards with one wh
is drying, till the Conglutination be perfected: But if the In
ſtine cannot be opened, even by ſo deep an Inciſion, the C
can by no means be preſerved; but, after long and violent
coraceous Vomitings, will die in Convulſions.

ROONHUYSEN, in the Appendix to his Obſervations, *Par*
Obſ. 1. relates an Inſtance of a Female Child, four Months
who had a Perforation in the *Anus*, but ſo ſmall and ſtrei
that the Mother was always obliged, with a great deal of P
to extract the Fœces with her Hands. The *Anus* at laſt f
ing, becauſe, perhaps, of the frequent Compreſſion, the Pa
of the Fœces cloſed up in ſuch a manner, that there was
the leaſt Vent: Of conſequence the Belly ſwelled, and vi
Pains, together with a Fever and Reſtleſſneſs, aroſe, which th
tened the Life of the Child. He made no Delay there
but firſt cut the *Anus* with a Lancet, and then inlarged
Inciſion both Ways with the Sciſſars; upon which iſſued
vaſt Quantity of Excrements; the Belly ſoon after fell, an
reſt of the Symptoms remitted, and the Wound was heal
the Method before preſcribed. So *Scultetus*, in his *Arman*
rium Chirurgicum, *Obſ.* 71. gives us an Example of an
that was not ſufficiently perforated. In ſome Girls, who
naturally a cloſed *Anus*, the Fœces make their Way fro
Rectum to the *Vagina*. This Misfortune very ſeldom fi
Remedy; but the miſerable Patients, if they ſurvive, are a
ed with the ſame during Life. *Heiſter*, *Inſtitut. Chir*

Mr. *Juſſieu*, according to the Hiſtory of the Royal Ac
of Sciences, for 1719. mentions a Girl of ſeven Year
whoſe *Anus* was imperforate, and who diſcharged the E
ments by the Vulva.

How to cure a Falling down of the ANUS, *or the Orifice* *Uterus.*

If the *Anus* itſelf, or the Orifice of the Uterus, which
times happens, falls down, we are to conſider, wheth
prolapſed Part be clean, or encompaſs'd with a mucous Hu
if clean, the Patient is to ſit in Water, either ſalt, or w
had Vervain, or Rind of Pomgranates boiled in it; i
humid, it muſt be waſhed with auſtere Wine, or anoint
burnt Lees of Wine. When you have done either of
the Part is to be replaced, and Plantain bruiſed, or the Le
Willows boiled in Vinegar, are to be laid upon the Place
theſe, Linen and Wool; and over all muſt come a B
the Legs being alſo bound together. *Celſus*, *Lib.* 6. *Ca*

For the Falling down of the ANUS.

We uſe, firſt, to foment the prolapſed *Anus* with B
Sea-water, and oftentimes there needs no other Remedy.
times we ſprinkle the Part with pounded Salt, the Patien
conveniently placed for that Purpoſe, and wait a ſufficien
till the diſtilling Humidity comes forth. Then, afte
Embrocations, and aſtringent Lituſes, as Acacia or Hy
in Wine, we put back the prolapſed Part into its Place
next Day we prepare an Inſeſſion, or aſtringent Infuſio
as a Decoction of Myrtle, or Olive-leaves, or Bark o
granate, in harſh black Wine. But, for Children, we mu
Aſtringents, and uſe milder Remedies: If the Caſe be
we apply aſtringent Cataplaſms, of Dates, Quinces,
like, to the Loins, and alſo to the *Anus*. The Diet
of good Juice, as Milk-meats, Rice-milk, and the li
the Patient muſt drink Milk. Remedies for this Diſo
as follow:

Boil a Gall, and, reducing it to Powder, ſprinkle t
the *Anus*: If you want a ſtrong Remedy, boil it i
if a more gentle one, boil it in Water. Or,

Take of Bark of Pine-tree, eight Drams twenty
Pills of Cypreſs, Plumbage, each two Drams five
firſt waſh them with four aſtringent Wine, then
them, and ſprinkle therewith the Part affected.

ke of the Recrement of Lead, eight Drams twenty Grains; Frankincenſe, two Drams five Grains; waſh and pulverize them.

ke of Balauſtines, one Dram two Grains and a half; Bark of Pomgranate, two Drams five Grains; Seeds of Henbane, Ceruſs, each eight Drams twenty Grains; Myrrh, two Drams five Grains; waſh and reduce them to Powder.

other Remedy, which is my own, for a prolapſed *Anus.*

ke of the Fruit of Heath, Galls, Acacia, Ceruſs, Juice of Hypociſtis, Bark of Pine-tree, Myrrh, Frankincenſe, ach a like Quantity; pulverize them, and ſprinkle the Powder, after you have waſhed the *Anus* with auſtere Wine.

e burnt Lentils, burnt Bread, Meal of the bitter Vetch, ach a like Quantity; apply them with Vinegar and Soap.

, waſh the *Anus* with Wine; then ſprinkle thereon the owder of dry Pitch, or of calcined earthen Pots.

h the Part with the Decoction of Cypreſs; then ſprinkle with the Powder of *Album Græcum*; and make a Suffuigation of dry Pitch, Bitumen, and Cypreſs. Or,

int the Part with Coriander-ſeed and Laſer in Wine; and ery Day apply a Cramp-fiſh, and it will contract.

e of Bitumen and Galls, an equal Quantity; dry and pulerize them, and ſprinkle the Part with the Powder. This a very celebrated Remedy. *Aetius, Tetr.* 4. *Serm.* 2. *ap.* 7.

ring the PROLAPSUS ANI *by Burning, from* Leonides.

n the Diſorder is grown inveterate, and next to incurad no Relief is to be had from Phyſic or Diet, recourſe had to Burning: For tho' the reſt of the Inteſtines are d among the principal Parts, the outward Extremity of *ſtinum Rectum* is not of that Number; but may be cut nt without Danger, as Experience ſhews. It will be ent therefore to apply an actual Cautery, in form of a , (or Fibula) to the external Part of the *Anus*, at mo-Intervals of Time; which, by raiſing a ſolid Eſchar e *Anus*, cauſes in it a Conſtriction capable of repreſſing , and retaining it in its due Place. After the Burnly Lint, moiſten'd with Milk and Honey, to the Place, it up: When the Cruſt is fallen off, apply Lentils and and when you have deſtroyed the Ulcer, uſe a Plaiſter , or any other Cicatrizer proper in Affections of the *Aetius, Tetr.* 4. *Serm.* 2. *Cap.* 8.

me Perſons, as well Infants as Adults, the *Inteſtinum* (ſtrait Gut) often falls through the *Anus* in a ſurpriſing ſo as to hang out ſome Inches, a Hand's-breath, or *Muraltus* has a remarkable Example of a Woman, who, cult Labour, had the *Inteſtinum Rectum* fallen out an ngth: And *Saviardus* gives an Inſtance of another, but an Infant, in whom the ſame Part hung out no a Foot. This is not only a troubleſome, but uſually a nful Diſorder, eſpecially to thoſe whoſe Buſineſs requires nd Travelling; and ſometimes a dangerous Inflamma- a Tumor, with a Gangrene or Cancer, ſeizes the Part of the Inteſtine; an Example of which kind you *Meckrenius*, at the End of his Chirurgical Obſerva-

riginal Cauſe of this Diſorder is, without Doubt, the Laxneſs or Debility of the *Rectum Inteſtinum*, which ards promoted by the Acceſſion of other concomitant ſuch as ſome great Vociferation, or, in Infants, veheying; alſo a Teneſmus, exceſſive Pains of the *Anus* Hæmorrhoids, a Dyſentery, Stone in the Bladder, or tions of the ſame, difficult Child-birth, Coſtiveneſs, ke. The Diſeaſe, in the Beginning, is, for the moſt to be cured; but the more inveterate it grows, the cult is the Cure, eſpecially if the Patient be infirm, ill Habit of Body; and if it proceeds from an invebility of the Inteſtine itſelf, there is but little room to perfect Reſtoration: But when a Gangrene or Canized the prolapſed Part, the Surgeon can do no more to it lenient Remedies, and Fomentations; or, if it one with Safety, that is, when only a ſmall Part protuntirely cut it off.

rgeon who attends the Patient is to make no Delay, the prolapſed Part of the *Anus* into its natural Situaout much troubling himſelf about inquiring into the Cauſes of the Diſorder, or the Method of Dreſſing; for the longer the Inteſtine hangs out, the more are the Tumor and Inflammation exaſperated, and the more difficult is the Cure.

In order to the replacing of the Inteſtine into its proper Place, the following Method is to be obſerved: Firſt of all, the Patient is to lie flat upon his Face, either upon a Bed or a Table; then the prolapſed Inteſtine is to be very carefully fomented, eſpecially where it is dry, with warm Wine, or common Spirit of Wine, or Milk, or with warm Water, by means of a Sponge, or folded Linen, ſqueez'd out of ſome ſuch Liquor warmed: Soon after let the Surgeon, with his two Fingers wrapp'd in fine Linen, gently put back the Inteſtine into its Place, in the ſame manner as he would the Inteſtines in a Perforation of the Abdomen. This is done without much Difficulty, if the Tumor and Inflammation are inconſiderable: But if the prolapſed Part of the Inteſtine be very much tumefied, we are to uſe, beſides Phlebotomy, digeſtive Fomentations, till the Tumor be entirely repreſſed, and the Part in a Condition to be reſtored. However, the Operation is ſometimes ſo difficult, that one Surgeon alone is not able to reduce it without calling in another of the ſame Profeſſion to his Aſſiſtance. Where the Inteſtine, through Debility, has been long and often ſubject to a Fall-down, which to ſome happens as often as they go to Stool, the Patients may themſelves replace the Part with their Fingers, without the Help of a Surgeon, or at leaſt the Surgeon may eaſily do it for them. In this Caſe, the Method of Cure turns wholly upon corroborating the Inteſtine by proper Remedies, that it may be enabled to preſerve its right Situation, without Danger of a new Prolapſus.

To anſwer this End, and to keep the Inteſtine in its Place by convenient Strengtheners, ſo as that it may fall down no more, greater Art and Induſtry are required than for the Replacing of it. The Means to be uſed for this Purpoſe are ſuch as follow:

Firſt of all, two pretty thick Bolſters are to be provided; one of which, of an oblong Form, is to be applied lengthwiſe between the Buttocks; the other, which muſt be ſquare, is laid over the former and the *Anus*, and carefully ſecured by a linen or cotton Fillet. It would be proper alſo, that the Bolſters ſhould not be laid on dry, but moiſten'd with ſome warm corroborative Decoction: A very powerful one, in this Caſe, is prepared of the Roots of Biſtort and Tormentil, with the Bark of Pomgranate and Oak, Galls, and Oaken Leaves, and other things of that Nature, boiled in Wine, eſpecially red Wine. The prolapſed Inteſtine is alſo, on Occaſion, to be fomented with the Decoction; that is, whenever it falls down again, which, to ſome Perſons who have been long afflicted with this Diſorder, happens, as I ſaid, almoſt as often as they go to Stool, or whenever they walk, or any way exert their Strength. If the Diſorder be ſomewhat above the ordinary Degree, an excellent Powder, for corroborating the Inteſtine, may be prepared of Maſtich, Colophony, *Japan* Earth, and Dragon's-blood, which, after Fomentation, muſt be plentifully ſprinkled on the Part that hangs out, before it be replaced, and ſecured with a Bandage. *Saviardus*, after replacing the Gut, thruſt up a Tent, ſprinkled over with Aſtringents, through the *Anus.* Strengthening Clyſters are alſo of good Uſe, ſuch as thoſe prepared of a Decoction of corroborating, aromatic, and aſtringent Herbs in red Wine, particularly what is commonly call'd *Pontac.* Theſe Directions being carefully obſerved, the Patients, except the Diſeaſe be grown inveterate and deſperate, are very often reſtored.

If the Diſeaſe will not give way to the Remedies mentioned, the Patient muſt not only be treated with Suffumigations of Maſtich, Frankincenſe, Amber, black Pepper, and other powerful Drugs of that Kind, placed under a perforated Chair; but all hard, groſs, dry Food, and ſuch as binds the Belly, muſt be ſtrictly forbidden, leſt in Over-ſtraining, by reaſon of Coſtiveneſs, the Inteſtine ſhould be again protruded. The Fomentations above-mentioned, with the Bandage, muſt be renewed after every Stool. The Patient muſt abſtain, as much as poſſible, from Vomiting and Sneezing, and all violent Motion of the Body, and muſt reſolve to live in a State of Reſt till the Diſeaſe be ſubdued. *Dionis*, with ſome other Authors, tells us, that the Patient may effectually guard againſt a new Prolapſus, by taking care, whenever he eaſes Nature, to ſit on a Stool that has a Cleft of about two Fingers Breadth, or is perforated with a Hole of the Compaſs of a large Piece of Money; by which Means he will reſtrain the Falling-out of the Inteſtine. Some, after replacing it, intrude a leaden Pipe into the *Anus*, and endeavour, that way, to prevent a new Prolapſus: But if the Diſorder be grown inveterate, and occaſioned by a remarkable Debility of the Parts, all theſe Kinds of Remedies, and Artifices of the Surgeon, are of no Uſe; but the Patients are to be treated with Bolſters and Bandage, that the Inteſtine may be conſtantly retained in its natural Place, unleſs we have a mind to expoſe them to greater Danger. *Heiſter, Inſtitut. Chirurg.*

Of a Fiſtula of the ANUS, *from* Leonidas.

An Ulcer ill cured, eſpecially about the *Anus*, is often ſucceeded by a Fiſtula. When this happens, let the Patient be placed on a Couch, or ſome other plain Place; and let the Surgeon ſeat himſelf before him, ſomewhat on the Right: Then let him take a Probe, and, introducing its Head into the Fiſtula, thruſt it forwards through the Cavity. After this, let him intrude the middle Finger of his Left Hand into the *Anus*, and, with it, taking hold of the Head of the Probe, bend it; and bringing both Extremities of the Fiſtula upon a Level, diſtend them with his Left Hand, and ſo cut off all the callous Corpuſcles round about them, at one Stroke, if it may be done: If there remains any Calloſity after the Section, it muſt be ſcraped with the Knife. A Callus is known by its whitiſh Colour and Renitency. If there appear any Rhagades near the Place, they muſt be diſtended with the Forceps, and cut off, that the Sore, being made plain and ſmooth, may the more eaſily be healed. After the Operation the Wound muſt be filled with *Manna Thuris*, on which Lint muſt be laid, and a proper Bandage muſt be made upon it, and the Cure managed like that of common Ulcers.

If the Patients, out of Tenderneſs or Timidity, intreat us to cure them by Medicines, we are, firſt of all, to uſe ſuch as are proper to dry and cloſe up a Fiſtula. If theſe are ineffectual, we muſt have recourſe to thoſe which have the Virtue of corroding and conſuming the callous Particles, and are called *Fiſtular Collyriums*. Medicines adapted to dry up a Fiſtula are, a Plaiſter prepared of Litharge of Silver, Vinegar, and Oil, *Galen*'s *Emplaſtrum ſine Cera*, the Plaiſter called *Harmonia*, *Emplaſtrum ex Salicibus*, *ex Lolio*, and ſuch-like. The following is a good Remedy for *Rhagades*, *Condylomas*, and in the Beginning of a *Fiſtula:*

> Take of the Root of Peony, burnt, four Ounces; Bitumen *Judaicum*, two Ounces forty Grains; crude Sulphur, one Ounce twenty Grains; Wax, two Ounces forty Grains; Oil of Myrtle, a ſufficient Quantity. Or,

> Burn Quinces to Aſhes, and ſtrew them upon the Orifice of the Fiſtula; then apply Lint, and upon that a Plaiſter of Wine or Oil, or ſome ſuch thing, and bind it up: Dreſs it once in two Days.

Troches for a Fiſtula of the *Anus* are thus prepared:

> Take Chalcitis burnt, eight Drams twenty Grains; Copper burnt, Cadmia, Earth of *Crete*, each four Drams ten Grains; Pompholyx, Box-thorn, each three Drams ſeven Grains; Aloes, Saffron, each two Drams five Grains; Gum *Arabic*, two Ounces forty Grains: Bruiſe them in the Juice of Groundſel, or that Species of Serapias which has a Root reſembling three Teſticles; and make them into Troches, which may be uſed dry, or with Vinegar, or Cerate. *Aetius*, *Tetr*. 4. *Serm*. 2. *Cap*. 11.

Fiſtulas in the *Anus*, which are of the occult Kind, and have no apparent Orifice, are known by a Pain, and a purulent Humidity iſſuing from the *Anus:* They are alſo very often the Conſequences of an Abſceſs. The conſpicuous Sort are diſcovered by introducing a Probe, or a Hog's Briſtle, which, penetrating the Cavity, meets with the Fore-finger, ſuppoſed to be introduced into the *Anus*, the Fiſtula being perforated towards the internal Parts; but in Fiſtulas not internally perforated, the Inſtrument and Finger are hindered from mutual Contact, by the imperforated Medium. Fiſtulas are known to run obliquely, and winding like a Labyrinth, when the Inſtrument meets with Reſiſtance, and can penetrate but a little Way; and yet a more than proportionable Quantity of Sanies is diſcharged. Fiſtulas ſeated near the Inteſtine are known by the coming off ſometimes of Worms and Fœces through the Orifice. They have all, or moſt of them, their Orifice ſurrounded with a Callus. A Fiſtula which has perforated the Neck of the Bladder, or is ſeated by the Joint of the Thigh, or has proceeded to the *Rectum*, is incurable. Thoſe which have no Orifice, are occult, end upon a Bone, or ſpread into Branches, are difficult of Cure; but all the reſt are eaſily cured.

The Operation for a Fiſtula is performed in the following manner: The Patient is laid upon his Back, with his Legs raiſed aloft, and his Thighs bent towards his Belly, in the ſame Poſture as when he is to take a Clyſter; and if the Fiſtula terminate in the Superficies, with the Knife or Probe introduced through the Orifice, we cut the incumbent Skin with a plain Inciſion. If the Fiſtula terminate deep within the *Anus*, with one Hand we introduce a Probe through the Orifice; and, if the Fiſtula be perforated, we lay hold of the Head of the Probe with the Fore-finger of the other Hand, and, bending it, bring it forth thro' the *Anus*, and cut thro' the Subſtance, betwixt the two Sides of the Probe, with a plain Section. If the Fiſtul not yet perforated, but has deeply penetrated into the *Anus*, the Head of the Probe is hinder'd from meeting with the F ger, only by the Interpoſition of ſome ſquamous and m branaceous Body, we violently perforate it with the Head of Probe, which we bring out through the *Anus*, and cut the in mediate Subſtance as before: Or, we firſt perforate the Bot of the Sinus, in the *Anus*, with a Falx (δρεπάνε) made on poſe for cutting of Fiſtulas, and, tranſmitting it through the *Anus*, cut through all the intermediate Parts with the E of the Falx; then taking hold of the circumjacent Subſtan which are all callous, with a Forceps, we cut them off, ta care to avoid hurting the Sphincter: For ſome, in maki deep Inciſion, after an unſkilful manner, have wounded Part; whence the Patient has been moleſted with involun Excretions of the Fœces. If any, through Fear, refuſe Operation, we muſt have recourſe to *Hippocrates*'s Line, make uſe of a Ligature of Thread. For *Hippocrates* orde to take a double-headed Needle, perforated, and threaded a five-fold Thread of raw Flax, and paſs it through the F la; then tying the Ends of the Thread in a Knot, to ſtreig it, every Day, till the Thread has cut through all the inte diate Subſtances between the two Orifices, and falls off. I Parts are ſlow in ſeparating, the Thread may be ſprinkled dry Sand, and ſo drawn through the Place. Some put a T through a Hook, made hollow like a Pipe, and paſs it as related: But theſe are Methods which I can by no mean prove; for while they avoid the Operation, and refuſe cut, beſides other Inconveniencies, they greatly prolon Cure.

As for occult Fiſtulas, *Leonides* ſays, "When the F which has perforated the Sphincter, lies deep, whet began from the *Anus*, or, after making a great Progre ſeated itſelf in that Muſcle, the Part being firſt ſea as before, the *Anus* is to be dilated with an Inſtrument a *Speculum*, in the ſame manner as the *Sinus Mulie* dilated; and when you can diſcern the Orifice of the F the Head of the Probe is to be introduced, and carried Bottom of the Fiſtula; and the whole Fiſtula, thus ver'd, muſt be laid open with the Knife or Inſtrume pointed for cutting of Fiſtulas." But we, for our when we happen'd to meet with an Inſtance of this Kind, not perform this Piece of Surgery; becauſe we could Sight of the Place where the Fiſtula reſided, which was Right, between the *Anus* and the Sphincter. But after dilated the *Anus* with our Fingers, a Fiſſure appeared, was ſeated near a Wrinkle of the *Anus*, and ſeemed to be a hole for the Fiſtula; for it diſcharged Pus. Through t ſure we introduced the Head of the Probe, as the ready the Fiſtula; then intruding the Fore-finger of the Righ within the Sphincter, and finding but a thin Subſtance b the Finger and the Inſtrument, we puſhed the Probe, wi Force, towards the Finger, and ſo perforated the Bottom Fiſtula; and, with the Finger, brought out the Head Probe through the *Anus:* This done, with an Inciſion-k divided the whole Subſtance between the two Orifices Fiſtula, that is, between the Fiſſure where we enter it, Perforation we had made; and ſo freed our Probe. *P.* *Lib*. 6. *Cap*. 78.

Ulcers which infeſt the *Anus*, and the Parts about the while recent, and diſcharging a laudable Pus, are ca ſceſſes of the *Anus*; but when grown inveterate or callo continually running with a thin fœtid Sanies, which is ſo more, ſometimes leſs copious, they have been by Phy from the moſt early Times, called *Fiſtulas* of the A diſtinguiſhed into various Species, according to the Con the Diſtemper: For ſome of them are ſmall and rece leaſt not ſo inveterate; ſome penetrate deep, but are of Extent; others, on the contrary, are grown inveterate, ſevere, deep, and extenſive, as to render the *Rectum* c ous, and quite bare of Skin and Fat. Some very bad I of this kind I remember to have obſerved. Sometimes *la*, while recent, is without any remarkable Callus; b of them are obſerved to have a Hardneſs, or Callus, of a or thicker Subſtance, eſpecially about the Orifice. So a *Fiſtula* takes but one ſtrait Courſe; ſometimes it m Progreſs by a Multiplicity of Ways, that turn and wi For the more convenient and diſtinct Conſideration o we ſhall, in Imitation of the moſt noted Surgeons, make fold Diviſion of theſe Fiſtulas.

The firſt Sort are thoſe which, from one or two co Orifices near the *Anus*, diſcharge, as we ſaid, a thin Matter, and almoſt conſtantly appear hard, the *Rectum*, and *Spbincter* of the *Anus*, not being yet p but remaining intire. How deep, and towards what P penetrate, is beſt diſcovered by introducing a Probe Sinus, and the Fore-finger of the other Hand, firſt ru Oil, into the *Anus:* For, if there be no Perforation, t ment and Finger will be prevented from coming toget and unperforated Inteſtine; whoſe Thinneſs or Thick- ay, at the ſame time, be diſcovered. But when we are in'd to probe theſe *Fiſtulas*, the Finger is firſt to be intro- into the *Anus*; for otherwiſe the Inteſtine is in Danger of eaſily perforated by the Probe, and in an improper Place. imes theſe Sinuſes wind and turn in ſo intricate a Manner, is impoſſible with the Probe, how ſkilfully ſoever directed, hly to inveſtigate the Condition of the inner and ſmaller ities; tho' we may perceive, by the daily copious Diſ- s of Sanies or Pus, when the Cavities are many or great: fore it ſeems neceſſary, for the better Examination into *ſtula*; to ſyringe it with warm Milk, taking Notice how enters, by which you eſtimate the Capacity of the Cavi- nd obſerve whether any of the Milk returns by way of the If none comes back by this Paſſage, we judge the In- to be unperforated, as, on the other hand, the con- ppears, when the Milk is return'd by the *Anus*, or the iced Finger feels the naked Probe. We are taught, r, by Experience, that tho' the Inteſtine be not pene- quite through, its external Coats may be very thin and d, and looſen'd or disjoined from one another by inter- Sinuſes, in which Caſe we can never warrant a Cure cutting the Inteſtine.

her Species of Fiſtulas is known by an Efflux of Sanies vo or more Orifices, one or more of which open into the n, and the reſt are outwardly conſpicuous near the *Anus*. *Fiſtula* is in ſome meaſure repreſented *Tab*. 56. *Fig*. 1. The ſame is more manifeſt, if the Head of the Probe ced with one Hand into the *Fiſtula* meets with the bare of the other Hand intruded into the *Anus*; or if a Cly- ilk, or any other Liquor, injected into the *Anus*, is by the external Orifice of the *Fiſtula*; or, as it ſome- ppens, when the Excrements, Wind, or Worms, are he ſame way.

third and laſt Species comprehends thoſe *Fiſtulas* whoſe opens into the Rectum, the external Parts contiguous to remaining ſound; repreſented *Tab*. 56. *Fig*. 1. F G. re uſually called ſecret, blind, or imperfect; the for- anifeſt and perfect *Fiſtulas*. The blind, or ſecret, are y an Efflux of corrupt Matter every Day from the *Anus*, y if no Ulcer affects the external Parts, or if the Patient s of a Hardneſs or painful Tumor near the *Anus*. es the internal Orifice of the Fiſtula is found to be very ituated in the Inteſtine, but, for the moſt part, it is ous near the Sphincter of the *Anus*, or in it; as they repreſented *Tab*. 56. *Fig*. 1.

ver it be, the affected Place ought to be very carefully out, which may be done by cautiouſly intruding the rubbed over with Oil or Butter, into the *Anus*, and, the Skill requiſite, exploring the internal Orifice of the or if this be not ſufficient, a *Speculum Ani* may be h as is repreſented *Tab*. 55. *Fig*. 15. or any other fit urpoſe. But ſometimes this internal and troubleſome tion is unneceſſary, as when the Seat or Sinus of the evident enough from the external Tumor and Hardneſs.

s which have a double Orifice, one of which opens in- teſtine, and the other outwardly, are called *perfect* or the reſt, which have only one Vent, *imperfect*; the ll them *incomplettes*. The laſt Species is ſubdivided in- feriors; for, with reſpect to the Situation of the Ori- erfect or incomplete *Fiſtulas* of the *Anus* are ſome of *ernal*, ſome *internal*. Moreover ſome *Fiſtulas* are *ple*, others *complicated* or *compound*.

rſt Denomination comprehends thoſe which only pene- ſofter Parts, which are the Skin, Fat, and the Inte- f: Some of theſe *Fiſtulas* make their Progreſs towards e of the Podex; ſome forwards, towards the Perinæum, Bladder, or Scrotum; others backwards, towards the n, or Os Coccygis.

Name of *complicated* we underſtand thoſe *Fiſtulas* by Os Coccygis, the Os Sacrum, the Os Iſchii, or the or the Urethra in Men, or the Vagina in Women, *nus* obſerved, are ſo miſerably corroded, that the Paſ- e Fœces and Urine are become promiſcuous. Some- ſmall Sinuſes of theſe *Fiſtulas* reach even into the d theſe are the moſt dangerous of all. Some *Fiſtulas* and give but little Trouble, and are ſupported to a Age, without any remarkable Inconvenience, of now ſome Examples. Others, on the contrary, are ttended with moſt intenſe Pains, as I have very lately with a Decay of Strength and Extenuation of Body, ever, and many other Inconveniencies. Again, I an who was well while his *Fiſtula* was open; but was conſolidated, was ſoon after ſeiz'd with the e *Fiſtula* being again opened, he recover'd his Health; t happen'd ſeveral times. Some *Fiſtulas* have an Ori- row, that it can hardly be ſeen, or ſearch'd with a d only now-and-then manifeſts itſelf by a Tubercle, after a very curious Search, you meet with a ſmall ich is the Outlet to the *Fiſtula*. Others gape with a large Orifice. Some *Fiſtulas* make their Progreſs only by one ſimple and plain way; others ſpread themſelves into many Branches, which are as ſo many Rivulets derived from one Fountain. Some again proceed farther, and penetrate deeper, than others. Laſtly, ſome move direct along by the Rectum; others take their Courſe under the Skin obliquely, or athwart, forming a Multiplicity of very crooked Sinuſes, which are extremely difficult to be inveſtigated, and conſequently not eaſy to be cured.

The modern Way of ſearching a *Fiſtula* of the *Anus* is much after the following manner: The Patient is laid on a Table, or a Bed, upon his Belly, with his Legs ſpread. Then one of the Aſſiſtants ſtrongly diſtends the Buttocks from one another, that the Operator may the more conveniently intrude his Finger rubb'd with Oil or Butter into the *Anus*. For in all Searches, that are ever made, of *Fiſtulas* of the *Anus*, which are near the Inteſtine, it is, as we ſaid before, a neceſſary Caution, that the Probe be not far introduc'd into the *Fiſtula*, before the Finger is intruded into the *Anus*; for otherwiſe it is to be feared, that the ſound Inteſtine will be pierced by the Probe in an improper Place, and ſo render the Diſorder greater, and the Cure more difficult. When the Probe is thus cautiouſly introduced, the Buttocks are to be let go, that they may reſume their natural Poſture, and not by their Sides and Angles, when diſtorted, hinder the Progreſs of the Probe. If the Buttocks are in their natural and right Poſture, and the Probe, being gently introduced, and ſoftly directed every way, can make no farther Progreſs, there uſually the *Fiſtula* terminates.

The Original or Cauſe of this Diſeaſe is commonly an Exulceration of the Hæmorrhoidal Veins, or an Abſceſs howſoever generated near the Inteſtinum Rectum, eſpecially in the copious Fat which ſurrounds it. This kind of Abſceſſes generally ariſes either from a Contuſion of the Podex, a Stroke, a Fall, a Wound, or an Inflammation of the Rectum, a Dyſentery, difficult Childbirth, the Venereal Diſeaſe, hard Riding, and a thouſand other Cauſes, which may injure theſe Parts. The Diſtemper is very common among the Cavalry in an Army, from their frequent and hard Riding, eſpecially in hot Weather, as is well known to thoſe Phyſicians who attend Camps; and I myſelf have formerly ſeen a Multitude of Horſemen labouring under *Fiſtulas* of the *Anus*. And it is not at all ſtrange, that Abſceſſes of this Part, if neglected, either out of Modeſty, or for any other Reaſon, or open'd too late, or not carefully cleanſed, ſhould degenerate into *Fiſtulas*. For it can ſcarce be otherwiſe, but that the corrupt Matter which remains within, muſt by Degrees ſo ſeverely corrode and exulcerate the Fat and adjacent Inteſtine, and other neighbouring Parts, and affect the *Anus*, and its Region, with Sinuſes and Calloſities, in ſo ſurpriſing a manner, that all the Remedies which can be apply'd are of no Uſe without cutting. An illuſtrious Proof of this we have in the Perſon of *Lewis* the Fourteenth, the late King of *France*, who, after he had for a long time try'd all the Remedies that could be adviſed by the moſt able and experienced Phyſicians and Surgeons in *France*, was forc'd at laſt to have recourſe to the Knife for the Cure of his Fiſtula. This being the true State of the Caſe, a prudent Surgeon, as ſoon as he ſhall perceive, either by outward Inſpection, or introducing his Finger into the *Anus*, that his Patients, labouring under an Inflammation or Abſceſs of that Part, have alſo a Collection of Pus inwardly, will think himſelf oblig'd to uſe his Knife.

The more ſevere a Fiſtula is, the deeper it is ſituated, the greater Quantity of the Fat, of the Rectum, and eſpecially of the Sphincter, is corrupted and corroded, the larger the Sinus, and the harder the Callus that ſurrounds it, the longer the Diſeaſe has affected the Parts, and the weaker, the older, and the worſe the Habit of the Patient, the more difficult is the Cure, inſomuch as ſometimes to render it impoſſible and deſperate. But, what is principally to be regarded, the deeper the Aperture or Orifice of the Fiſtula is ſeated in the Inteſtine, the greater is the Danger of cutting aſunder the larger Blood-veſſels, whence fatal Hæmorrhages have been obſerved, which can neither be reſtrain'd by Ligature, nor by Compreſſion or Styptics, for want of a harder Body to make Reſiſtance, and conſequently the leſs Hope there is of a Cure. And really if the Finger intruded into the *Anus* cannot reach the Orifice of the *Fiſtula*, becauſe it is ſo deeply ſituated, the Section cannot be undertaken with Safety, for fear of injuring the larger Veins, and conſequently all the Art of the Surgeon is of no Importance in this Caſe. It is not ſtrange, therefore, that *Garengeot* ſhould adviſe a Surgeon in ſuch a Caſe to deſiſt from the Operation, rather than by inflicting a terrible Wound in cutting the large Veins, which are in this Part of the Inteſtine, to caſt the Patient into the utmoſt Danger of his Life by an Hæmorrhage. For my Part, I am ſo far from contradicting him, that I am rather of Opinion, that it is the Part of a prudent Surgeon to promiſe nothing, but to be always dubious, whatever Appearances there may be of Succeſs in the Beginning. For oftentimes it happens, that after Section there appear not only many Sinuſes to the Fiſtula, but theſe ſo deeply ſeated, and ſo much Injury is done to the adjacent Bones, to the

Bladder, Urethra, Vagina, and the Womb itſelf, as will render the Cure extremely difficult, if not impoſſible. Abſceſſes of the *Anus*, that often recur, are to be treated as true *Fiſtulas*; for they cannot be cured without cutting the Inteſtine, and the Sphincter of the *Anus*. In Women big with Child the Cure of a *Fiſtula* of the *Anus* is not to be undertaken, but we muſt wait till they are deliver'd, and well recover'd: For *Mauriceau* obſerves, that Abortion and Death have been the Conſequences of ſuch an Operation. If in theſe *Fiſtulas* there be any Corroſion in the Bladder, the Urethra, the Womb, or the adjacent Bones, the Diſeaſe is uſually deſperate, and admits of no Remedy. The blind or ſecret *Fiſtulas* are alſo commonly more difficult of Cure than thoſe which diſcover themſelves. On the other hand, if the Fiſtula be recent, and only external, or if it be perfect, as in *Tab*. 56. *Fig*. 1. C C; but the Corroſion has only affected a ſmall Part of the Inteſtinum Rectum, or Sphincter, with a little of the Fat; if the Diſeaſe has not ſpread itſelf to the adjacent Parts juſt named; if it has not penetrated deep; if the Sinuſes are not many, and their Sides are but ſlightly hard and callous; if there be a good Habit of Body, and the Patient young, or not paſt the Vigour of his Age, the Cure is, for the moſt part, happily accompliſh'd, but yet ſo, that more Relief is to be expected from the Knife, than from Phyſic. The ſame Judgment is to be formed of ſecret and internal *Fiſtulas*, which have their Orifices not far diſtant from the Extremity of the Spincter of the Anus; as in *Tab*. 56. *Fig*. 1. F G.

Small external *Fiſtulas* in ſome Bodies are endur'd for a long time, without any remarkable Inconvenience; and when Nature is accuſtomed to them, they ſerve inſtead of an Iſſue to evacuate noxious Humours, and preſerve the Patients from Diſtempers to which otherwiſe they would have been obnoxious. I know ſome who have liv'd under *Fiſtulas* to a vigorous old Age; therefore it is better oftentimes to let them alone, than undertake their Cure, as it is in the Caſe of old Ulcers. When the Rectum is ſo much corroded by an Exulceration from an external Fiſtula, or an Abſceſs, that, upon Examination by the Finger in the *Anus*, and the Probe in the *Fiſtula*, it is found to be very thin, there is no curing the Diſtemper, without cutting open the Inteſtine in that Place, together with the Sphincter, tho' the Inteſtine be not perforated by the Ulcer. But when the Inteſtine by the ſame Method of Trial is found to be ſubſtantial and thick, the Ulcer may often be cured without wounding or perforating the Part. So a recent *Fiſtula* combin'd with the Lues Venerea, or owing its Riſe to it, is often cured by Mercurial Remedies without cutting.

Hitherto we have treated of the Nature and Properties of *Fiſtulas*. Now as to their Cure, we think it not improper, in the firſt place, to ſpeak of perfect or complete Fiſtulas, and of the reſt in their Order. For when we have propoſed ſuch Ways and Means as are proper for the Cure of complete *Fiſtulas*, it cannot be doubted but the Method to be taken with other *Fiſtulas* will be the more readily underſtood. In order to the Cure of a complete *Fiſtula*, the following Directions are to be obſerved. When the Circumſtances of the Patient, as well as of the Diſtemper, are ſuch as we before declar'd were neceſſary to give us Hopes of a Cure, the firſt Buſineſs of the Phyſician is to prepare his Patient for the Operation. Therefore it will be convenient, ſome Days before, to give a Purge; and, if the Strength will permit, to take away ſome Blood. But if the Patient be weak, theſe things are to be omitted, and Corroboratives are rather to be uſed, a ſtrict Regimen of Diet, and ſuch as is moſt convenient for the Condition of the Perſon affected, being, as far as is poſſible, all the while obſerved, and proper Medicines being taken to correct the Blood, and render it mild. And that the Surgeon may not be incommoded in the Section by the Excrements, nor the firſt Bandage be too ſoon taken off, it ſeems neceſſary ſome Hours before the Operation to evacuate the Belly by a Clyſter; and immediately before the Section, let the Patient make Water, that the diſtended Bladder may not be in Danger of being injur'd. As to the Poſture of the Patient, it muſt be ſuch as before preſcrib'd, that is, he muſt lie on his Belly. The Antients, as appears from *Paulus Ægineta*, placed the Patient on his Back, with his Thighs ſpread; but the moſt modern *French* Surgeons, as *Garengeot* informs us, think him in the beſt Poſture for this Operation, when he lies on his Side, after the manner of thoſe who take Clyſters in Bed, near the Edge of the Bed, with his Breech expoſed, and his Knees drawn up. But tho' the Section may be ſometimes well enough performed in this Situation, yet I have known Caſes where, on account of the peculiar Conſtitution of the *Fiſtula*, the Operation ſucceeded beſt in the former Poſture.

The Patient being placed, as ſhall be thought moſt convenient, the next thing is to perform the Section with ſome fit Inſtrument, of which there are many invented for this Purpoſe. In antient Times they uſed a peculiar ſort of Knife, almoſt like a Hook, in the Cure of theſe Diſeaſes. This they called by a *Greek* Term *Syringotomus*, from Syrinx, a *Fiſtula*. Some of the moſt common Kinds of theſe are repreſented *Tab*. 56.
Fig. 4, 5, 6, 7. where the Letters A B repreſent the ſharp
cutting Part; B C, the obtuſe and ſmooth Part, or Style,
ought to be flexible; and D D, the obtuſe and convex
Tho' theſe Inſtruments are rejected by ſome as uſeleſs, I
learn'd by Experience, that what is neceſſary to be don
theſe Caſes, may very often, eſpecially when the *Fiſtula*
of no great Depth, be moſt commodiouſly perform'd by th
They are to be taken, greater or leſs, according to the D
of the *Fiſtula*, and are uſed in the following manner: I
duce the Head C of your Syringotomus into the ext
Fiſtula, and with the Fore-finger of the other Hand,
anointed with Oil, and then intruded into the Rectum,
it thro' the internal Orifice of the Sinus, and along the
ſtine, till it appears out at the *Anus*. Then taking hold of
Ends, whatſoever is between the two Orifices of the *F*
muſt be cut, in which Section the Sphincter of the *An*
Perſons otherwiſe ſound, is always cut with Safety.
have imagin'd, with *Albucaſis*, and others of the Antients,
a Section of the Sphincter of the *Anus* muſt be followed w
involuntary Efflux of the Fœces, and therefore directed it
avoided: But Experience has ſhewn, that it may be cut,
only once, but ſeveral times, if it be neceſſary, in Patient
are ſound in other reſpects, without doing any Miſchief.
if this Diſorder be conſequent upon this Method of Cure,
to be rather aſcribed to ſome extraordinary Corruption
Deſtruction of the Sphincter by an Ulcer or Eroſion.
where the internal *Fiſtula* lies ſo deep, that the Head
Syringotomus, which paſſes through it, will, with Diffi
be made to appear at the *Anus*, the Finger in the *Anus*
more buſily, but warily employ'd in bending and direct
till it comes out at the *Anus*, when the Surgeon is to
Section as before. But as the upper Part of the Orifice
Fiſtula in the Inteſtine is generally callous, and is not
this Way of Cure; and yet if it be not cut, this Part
Callus does not coaleſce with the reſt, but eaſily gives Oc
to a new Diſorder; the adjacent Part of the Inteſtine i
perforated with the Head of the Syringotomus, two or thre
above the Orifice of the *Fiſtula*, and ſo be cut together w
or, if this be not done, then ſoon after the Inciſion, or, if the
be an Obſtacle, ſome Day after it, the callous Part m
an Inciſion made in it with the Sciſſars, or be quite cut

But it is here to be obſerv'd, that ſome Phyſicians
Opinion, that the falcated Inſtrument with a blunt Po
repreſented *Tab*. 26. *Fig*. 3. or any other like Inſtrum
far more commodious than the Syringotomus above-me
for cutting a *Fiſtula* in the Anus, becauſe the Handle is
ſiderable Advantage to the Surgeon in the Operation. I
deed ſo far of their Opinion, from my own Experien
that of others, that I dare pronounce it to be moſt ha
uſeful in *Fiſtulas* which have no great Depth; for, to
more, I have myſelf, on ſeveral Occaſions, uſed thi
with good Succeſs. The *French* Surgeons, that the
accompliſh in the beſt manner poſſible the Cure of their
Fiſtula, made uſe of ſome ſuch Knife, but furniſh'd
Head or Knob at the Point, which, however, is not ne
which, from the Perſon in whoſe Caſe it was us'd, ac
Name of the *Royal Biſtory*. However, I ſhould not
apply my own above-mentioned, or that Royal Inciſ
of theirs, to all *Fiſtulas* indiſcriminately; for they are
moſt convenient for thoſe which are ſomewhat deep
The celebrated *Baſſius* therefore, Profeſſor of Surgery
did very well in giving us, in his Diſſertation of a *Fiſt*
Anus, a Deſcription of an Inciſion-knife, with a
flexible Silver Head, of which ſome make *Le Maire*,
ſurgeon of *Straſburg*, to be the Inventor (ſee *Tab*. 56.

Here the Break or Head C being introduc'd into the
in the ſame manner as before directed, and made to
its Sinus and the *Anus*, the intermediate Parts, betw
ternal and external Orifices of the *Fiſtula*, may
with far more Convenience be cut, than by the In
before-mention'd. For the ſame Purpoſe may we
Syringotomus, (*Tab*. 56. *Fig*. 3.) which *Garengeot* has
but delineated only in part, and which is uſed in
manner as the other Syringotomi, but, by means of
E E added to it, may with more Firmneſs be held,
Section may the more eaſily be made. But I found t
venience of its enormous long Beak C D, and too
have another made, with a Beak no longer than wh
to F, by which I perform'd the Operation with
venience.

Some, inſtead of a Syringotomus and Inciſion-kni
duce a flexible Silver Probe, Wire, or Style, into the
Orifice of the *Fiſtula*, which, after paſſing through
nal Orifice in the Inteſtine, they ſo bend and direct
Fore-finger in the *Anus*, that Part of it comes out fr
(ſee *Tab*. 56. *Fig*. 1. D D). Then taking hold of
Ends H H, of the Silver Wire, they gently draw
comprehended betwixt C C B E, and with an Inci
principally a falcated one, or a convenient Pair of
divide it. This way of Operation, tho' it be very

deſcribed by *Paulus Ægineta*, ſeems to *Garengeot* ex-
ly convenient, and ſo much the more to be preferr'd to
s, as it prevents a Return of the Diſeaſe. For my part, I
a great Eſteem for this very antient Method ; but what
ment ſhould induce this Author to think it a more effec-
way to prevent the Return of the Diſtemper than any other,
not as yet clearly comprehend.

hers uſe a flexible Probe with a Groove (ſee *Tab.* 22. M,
b. 56. *Fig.* 2.). This is introduc'd into the external Ori-
f the *Fiſtula*, and with all poſſible Exactneſs directed to
nteſtinum Rectum, and reflected back through the *Anus* ;
which, with a Knife, or a convenient Pair of Sciſſars,
cut the Fleſh upon the Groove. Some modern Surgeons
this way of Operation to all the reſt, in the Cure of
Fiſtulas, which are very deeply ſeated in the Inteſtine ;
hy it ſhould be preferable to the former, I am at a Loſs
nceive. But in whatever Method it be perform'd, it cer-
requires a great deal of Skill and Caution, leſt by cutting
ger Branches of the Veſſels of the Rectum, as it ſome-
happens in very deep *Fiſtulas*, we excite a dangerous or
Hæmorrhage. To proceed, the Wound being thus in-
, the Blood muſt be firſt carefully wiped away ; which
the Part muſt be very curiouſly ſearch'd, and inſpected
er there be any Sinus, or Callus, or corrupted Fibres
ning. For if you find any Sinus, the Probe or Finger
be nicely introduc'd, and the incumbent Fleſh divided
the Sciſſars or Knife, that the corrupted Parts may the
accurately be view'd and abſterged. We are not al-
allow'd to accompliſh the Operation at the firſt Eſſay,
e of the Moroſeneſs, Debility, or Puſillanimity of the
t. For puſillanimous or moroſe Patients can by no Rea-
e perſuaded to admit of a farther Search and Section the
ime, as I know by Experience ; and the Infirm, or ſuch
loſt much Blood, are ſometimes unable to bear them,
we muſt neceſſarily proceed to the Dreſſing. Whatever
l Remains there may be of a Callus, or vitiated Fibres,
with the like Inſtrument, if it may ſafely be done, be
cut off, partly ſcarify'd, or receive frequent Inciſions
he Knife or Sciſſars. The Conſequence of this will be a
and plentiful Suppuration, and all unnatural Hardneſſes,
hatever is putrid and corrupt, will with far greater Con-
cy be extirpated by catheretic and mundificative Appli-
. In the mean while, to ſpeak my own Sentiments
the Wound is much more happily, as well as ſpeedily,
y'd and conglutinated, if the corrupted and hardened
firſt entirely cut away by the Knife or Sciſſars.

en I reſided at *Bremen*, where I had Patients under Cure
e Stone, *Rungius*, a Surgeon of that Place, communi-
o me another Method of curing theſe *Fiſtulas*, with
culiar Inſtruments, which he had invented for that Pur-
and which I never found deſcribed elſewhere. He
uſe of three Inſtruments, the firſt of which is a peculiar
Probe with a Groove, *(Tab. 56. Fig. 9.)* repreſented
e View, by the Letters (A B.) and made either of Iron
r, with a Handle, (C D) which at (E) is bent out-
n ſuch a manner, that the Probe and Handle there
obtuſe Angle. The Groove of the Probe is ſhewn in
View *(Fig. 10.)*. Another Inſtrument is a Canal, about
r's Breadth in Diameter, made alſo either of Iron or
(Fig. 11. A B) with a like Handle, and forming with
tuſe Angle at (B), but bent a contrary way to the other,
e ſhewn. The Groove of this is repreſented in a
iew at *(Fig. 12.)*. The third Inſtrument is a ſtrait
long, narrow, and ſharp *(Fig. 13.)*. When we have
to uſe theſe Inſtruments, ſuppoſe there be a *Fiſtula* in
Side of the *Anus*, as in *(Fig.* 1. C C), the Inſtrument,
(Fig. 11. A B) firſt dipped in warm Water, and then
with Oil, is gently introduced into the Inteſtinum
, and its Handle (D) held firm and ſteady by an Aſſiſt-
he Surgeon takes the grooved Probe *(Fig. 9.)* dipped
nted like the other, and introduces it through the ex-
rifice of the *Fiſtula*, and carries it the whole Length
ame to its external Orifice (C C) in an oblique Di-
ſo that the Point (A) falls upon the Hollow, or Bot-
he Pipe, *(Fig. 11.)* and there firmly fixes itſelf, as may
n partly by the Touch, partly by Hearing, and partly
ducing the Finger into the *Anus*. Theſe things being
anaged, the Surgeon takes the Handle of the Probe in
Hand, and with the Knife *(Fig. 13.)* cuts upon the
of the Probe through the *Fiſtula* (C C) as far as the
g. 11.), by which means he lays open the *Fiſtula* from
ior Part of the Inteſtine, to the exterior, or *Anus*. The
eing cut after this manner, as to its Mundification,
, and whatever elſe is to be done in order to cure it ;
general Method is to be purſued, as is ſpecify'd below.
ethod ſeems to be ſuited to *Fiſtulas* of conſiderable
ecauſe the Top of a Syringotomus, or a flexible Probe,
ithout great Difficulty, and Laceration of the In-
nd ſometimes, in the deeper Sort of *Fiſtulas*, not at all, be inflected ſo as to return by the *Anus*. But the greateſt Care is to be taken, that the Knife does not go out of the Canal, becauſe the Rectum and the adjacent Parts might receive conſiderable Injury thereby ; to avoid which, the Canal *(Fig. 11.)* is made ſo large. If the *Fiſtula* were in the Right Side of the *Anus*, the Inſtruments muſt have been applied in a contrary way, as Reaſon itſelf directs. There have been, I confeſs, others in former Times, who in cutting theſe *Fiſtulas* have introduced a ſtrait Tube into the *Anus*, and afterwards, by means of a ſtrait or hooked Knife, have opened the Sinus ; and I remember, that *Ravius* in his Chirurgical Demonſtrations recommends this Method of Cure. But thoſe Inſtruments of *Rungius*, by their inflected Shape, render it eaſier for the Surgeon to direct his Knife, and conſequently to avoid cutting any thing beſides the Sinus of the *Fiſtula* ; wherefore I am of Opinion, that they deſerve to be preferred to any thing of that Kind known before.

If the *Fiſtula*, or Abſceſs, be only external, and recent, and ſeated betwixt the Fat and Skin, the Inteſtine and Sphincter of the *Anus* being no ways affected, the Cure is to be managed as follows: Firſt of all, the *Fiſtula*, if it be not large enough, but, as it often happens, very narrow, is to be gradually inlarged by a prepared Sponge, a Piece of Gentian-root, or any other thing that is ſubject to ſwell. After this, it is to be cleanſed by corroding Medicines, and then conglutinated by the general Method of treating *Fiſtulas*. Sometimes it is better to uſe the Knife immediately, and, as *Paulus Ægineta* adviſed, to divide the incumbent Skin by a ſimple Section, or to do the ſame when the *Fiſtula* cannot be ſufficiently dilated by ſwelling Tents, and to inlarge the Inciſion, till the Place be laid open as it ought, and the Callus at the ſame time removed. After this, the *Fiſtula*, at the firſt Dreſſing, is to be ſtuffed with Lint, that it may be dilated ; and if more Sinuſes of the *Fiſtula* offer themſelves to View at the firſt Dreſſing, that they may be cut. If any thing of a Callus, or of hardened or corrupted Parts, be found in the ſucceeding Dreſſings, it is to be all cut away with the Knife, or the Sciſſars, or to be gradually eaten off with Corroſives, particularly red precipitate Mercury. *Monnierius* aſſerts *Ointment of the Apoſtles* to be the moſt effectual and convenient Remedy in this Caſe. The vitiated Parts being thus extirpated, a digeſtive Ointment, mixed with Oil of Eggs, is to be apply'd to the Place, and a very accurate Bandage to be made upon it. In ſhort, if no more ſecret Sinuſes are to be diſcovered, if the Sanies thickens to a Pus, if new, firm, and ſound Fleſh increaſes, if the thin Matter decreaſes, and begins to alter its Colour and Smell for a better, there ſeems nothing wanting to make a perfect Cure, beſides dreſſing the Part every Day with a vulnerary Balſam, Lime-water, Spirit of Wine, or dry Lint. Sometimes, as I ſaid before, and as I have ſeen it, inſtead of an Aperture to an external *Fiſtula*, a ſmall Tubercle ſhews itſelf, which, if narrowly examined, will be found to have a very ſmall Perforation, which ſerves for an Outlet to the Sinus, and is more or leſs difficult to be diſcovered. In this Caſe, before all things I cut off the Tubercle with the Sciſſars, by which means the Duct or Sinus of the *Fiſtula* is ſoon diſcovered, in order to its inlargeing, cutting, and curing, as before ſpecify'd.

If the external *Fiſtula* has penetrated ſo deep as to affect the Sphincter of the *Anus*, or the Rectum, or, at leaſt, has ſo much corroded the adjacent Parts, as to leave the Rectum very thin, we can ſcarce hope to make a perfect Cure, without perforating and cutting the Inteſtine and Sphincter, as we before adviſed. This Operation is performed in the beſt manner, by placing the Patient in the moſt convenient Poſture ; and then, after the Finger is inſerted into the *Anus*, introducing a Syringotomus, eſpecially one furniſhed with a Head, *(See Tab. 56. Fig. 5.)* or a Needle, *(Fig. 2.)* or a Stylus, or a Probe, not too blunt, through the external Orifice of the Fiſtula to the Bottom of it, towards the Inteſtinum Rectum, and perforating it where the Fore-finger meets with the Head of the Probe ; but the Inſtrument muſt be ſo warily directed, as not to hurt any other Part of the Inteſtine, much leſs the Bladder. The Inteſtine being perforated, the thing to be done is, to direct and bend the introduced Inſtrument in ſo ſkilful a manner, that it may come out through the *Anus*, and ſo this imperfect *Fiſtula* may be cut according to the Rules before preſcribed for the cutting of perfect *Fiſtulas*, whereby it becomes itſelf a perfect *Fiſtula*. When the *Fiſtula* lies near the *Anus*, but the Sinus under the Skin has not its Courſe ſo much towards the Rectum, as towards the Peninæum, or one Side of the *Anus*, the moſt convenient way ſeems to be, to cut it quite open with the Knife, or Sciſſars, and to mundify and heal the Wound, as before directed. In the laſt Place it is to be remarked, that, in cutting theſe *Fiſtulas*, eſpecially if they lie deeper than ordinary, and the Operation cannot commodiouſly be performed by the Inſtruments mentioned, the Canal *(Tab. 56. Fig. 11.)* or one like it, may be introduced into the *Anus* after the manner above deſcribed, and the whole Sinus laid open by means of the Knife *(Fig. 13.)*.

Internal, ſecret, or blind Fiſtulas, uſually make a third Species of this Diſeaſe. In theſe, ſince they appear not outwardly, but lie covered and concealed, the Method of Cure muſt certainly be difficult, without the Help of a Knife, in making a Wound or Perforation, that may lay open the hidden Sinuſes. The moſt proper Place for the Inciſion is what is diſtinguiſhed by ſome Tumor, Hardneſs, Pain, or Redneſs, eſpecially if the Finger by Compreſſion feels a ſubjacent Sinus, with a Collection of corrupt Matter, as in Abſceſſes. Theſe things being well examined, and the Patient placed in a right Poſture, as above, and firmly held by the Aſſiſtants, either an Inciſion is to be made in the Tumor perceived by the Fingers at the Side of the *Anus*, till we come to the Sinus; or, if we would act more cautiouſly, the affected Part with the Tumor within contained is, by Help of the Finger introduced into the *Anus*, to be forcibly thruſt outwards; and then with a large Lancet, or a Knife fit for the Purpoſe, to be perforated as ſhall be thought neceſſary. For by this means a blind and imperfect *Fiſtula* is changed into a perfect or complete one, and ſo the Cure is rendered more commodious. The Wound thus made is afterwards to be inlarged with the Knife, either upon the Finger, or a grooved Probe; and, when large enough, is to be ſtuffed with Lint, on which muſt be laid Bolſters, and the Whole muſt be ſecured with a proper Bandage for the firſt time. When the Bandage is taken off, the Wound, if there be Occaſion, is ſtill more inlarged; and after a ſkilful Inveſtigation of every Sinus, and the corrupted Parts within, the Inteſtine is alſo cut aſunder, and the ſame Method of Cure purſued, as is above preſcribed for complete *Fiſtulas*.

If there are none of the before-mentioned Signs, or, at leaſt, ſuch as are thought inſufficient, but the introduced Finger, with or without the Aſſiſtance of a Speculum Ani, (*Tab.* 55. *Fig.* 15.) perceives a *Fiſtula* in the Inteſtinum Rectum, the Cure may be thus conducted: Firſt of all, let a pretty big Silver Wire, or flexible Silver Style, (*Tab.* 56. *Fig.* 14.) bent one or two Inches, be intruded into the *Anus*, by a Finger of the Left Hand, in ſuch a manner, that the bent Part (A) may by Degrees be introduced into the inwardly ſeated *Fiſtula* (*Fig.* 1. G) found, if need be, by Help of the Speculum Ani. This done, let the Right Hand, take hold of the Wire, or Style, by the other Extremity (B), and pull it, till the Head (A) manifeſts itſelf to the Sight or Touch, by a Tubercle excited near the *Anus* at the Letter (F). Then the Siver Wire is held with the Hand near the Extremity (B), and the Part of the Skin near the *Anus*, which was ſomewhat raiſed by drawing the Head (A) of the Wire, is dexterouſly cut with a Knife, till that Head appears in the Wound. Moreover, laying hold of the Part (A) now appearing out of the *Fiſtula*, this Wire is to be more bent, as at (D D, *Fig.* 1.), that by it the interjacent Parts may be drawn outwards, and cut aſunder. But perhaps it would not be amiſs, in theſe Sorts of blind *Fiſtulas*, which do not lie deep, but near the *Anus*, inſtead of this Silver Style, or Wire, before deſcribed, to make uſe of ſome kind or other of Syringotomus, (*Tab.* 56. *Fig.* 3, 4, 5, 6, 7.) that is well bent for the Diſcovery and cutting of them.

But in whatever manner the Inciſion is made, and cleanſed of all Hardneſſes and Impurities, the following things are to be done in order to a perfect Cure: Firſt, the whole Wound is to be filled up, as exactly as poſſible, with Lint, and twiſted Rags, that the Sinus of the *Fiſtula* may be the more commodiouſly inlarged and deterged. If the Hæmorrhage be exceſſive, let the Lint which is at firſt apply'd, contain ſome Powder, or Liquor, proper to ſtop the Flux. So when the *Fiſtula* lies deeper than ordinary, let the twiſted Rags, which are preſſed down to the Bottom of the Sinus, be always tied with ſome ſtrong Thread, or ſmall Cord, leſt, in renewing the Bandage, any of the Lint ſhould be left within. Let triple Bolſters be laid upon Plenty of Lint, the firſt or undermoſt narrow, but long and thick; the ſecond a little broader; and the third, or uppermoſt, almoſt ſquare, as in the falling down of the *Anus*. Every thing lying in juſt Order and Smoothneſs, a T Bandage, made of Linen or Cotton, is to come over all and bind them together with due Firmneſs and Neatneſs. Then let the Patient be put to Bed; and if there be a Redundance of Blood, or there was but little loſt during the Operation, let him be blooded in the Arm, for fear of an Inflammation. Be not too forward in taking off the firſt Dreſſings till the ſecond or third Day, unleſs ſome Neceſſity of going to Stool requires it; but when there is only a Deſire, as is very often the Caſe, it is better to abſtain a while than immediately to unlooſe the Bandage. But whenever the Patient feels himſelf under a real Neceſſity, it is convenient to take off the Bandage, as well for the more commodious exonerating the Belly, as to preſerve the Bandage clean from the Fœces; and if any of theſe in going to Stool ſhould happen to get into the *Fiſtula*, they muſt be very carefully wiped away, either with a Sponge moiſtened with warm Wine, or with dry Linen Rags. That the Lips of the Wound may not too ſoon come together, but may always be kept duly open, let the Wound be often well ſtuffed with freſh Lint. If any thing of a Callus, or any hard or corrupted Particles, ſhould be found left in the ſucceeding Dreſſings, t
Ulcer is firſt to be well ſearched to the Bottom, and then
Lint is to be ſpread with a digeſtive Ointment, mixed wi
little red Precipitate, or Ægyptiacum; and this is to be d
every Day, till you find the vitiated Parts are quite extirp
from the red and ſound Fleſh. But obſerve, that for the
fourteen Days after the Operation, the utmoſt Caution is
be uſed, that no Sinus of the *Fiſtula* be left unſearched;
muſt we, without good Reaſons, forbear to uſe our Inſt
ments in the Abſciſſion, or laying open of thoſe infected Pa
which the Moroſeneſs or Weakneſs of the Patient preve
us from doing in the firſt Operation. That a Sinus or tw
the *Fiſtula* have not been throughly ſearched and opened,
be known partly by the Sight, partly by introducing the Pr
but principally by the Plenty of the Matter iſſuing from th
and the Colour, Smell, and Conſiſtence of the ſame rem
ing unaltered. For as ſoon as the Wound looks pretty c
and the *Fiſtula* begins to heal, the Matter grows leſs and
in Quantity, and becomes whitiſh, moderately thick, and
fœtid. In this Caſe, it will be proper to promote the Gro
of Fleſh by Incarnatives and Balſamics, and at laſt, to pe
the Agglutination with dry Lint. The Diet under all
Caſes muſt be temperate, ſparing, and of Fluids; nor muſ
Patient, eſpecially in the Beginning, be indulged the U
ſolid Food, but only Broths, leſt the frequent Deſire of
to Stool ſhould as often occaſion the unlooſening of the B
age, which would be very troubleſome to the Surgeon, a
very great Hinderance to Conglutination.

Fiſtulas complicated with a Caries, or with an Ulcer o
Bladder or Urethra, are very difficult, and generally imp
to be cured, as we ſaid before. However, when the Os I
or Os Coccygis, are affected with a Caries, not only the U
to be dilated, that we may have free Acceſs to the Part, bu
per Topics are to be uſed to take off the Caries. I have
the Eſſence of Round Birthwort moſt effectual for this Pu
Nor muſt we neglect the Uſe of internal Mercurial Rem
and Decoctions of the Woods, to purge and free the
from the Scurvy and Lues Venerea, which are often joined
this Diſeaſe, till the foul Orifice be cleanſed, and the B
again covered with ſound Fleſh, and the Ulcer at laſt co
nated by the ſame Remedies as ſimple Ulcers are treated

Fiſtulas complicated with an Ulcer of the Bladder or U
are ſtill worſe than the others, and ſeldom admit of a
yet if the external Ulcer be diligently cleanſed, and pli
Balſamics, in Conjunction with the Uſe of the internal
cines above-mentioned, the Defects in theſe Parts, if no
deſperate, if the Patient be healthy and robuſt in other r
are now-and-then reſtored.

I am not ignorant, that there is a Multiplicity of M
for curing a *Fiſtula* of the *Anus*, propoſed by the Antie
Hippocrates, *Celſus*, *Paulus Ægineta*, *Albucaſis*, &c.
by Ligature, hot Irons, and Corroſives, which I have
poſe omitted, becauſe they are ſo far from being pref
what I have mentioned, that upon Compariſon they
found not ſo convenient and proper. One thing ho
muſt not paſs over in Silence, which is, that when the Sp
of the *Anus* is corroded, deſtroyed, or debilitated by
jacent *Fiſtula*, the Patient, for the moſt part, labours
Difficulty of retaining of the Fœces. But in Perſo
ſtrong Conſtitution, and where the Sphincter is not co
bly corroded, it may be cut aſunder twice or thrice,
oftener, if there be Occaſion, without much Inconv
or Danger of the before-mentioned Infirmity. Someti
Age of the Patient, Imbecillity, the Severity of the Di
eſpecially when the *Fiſtula* is very deeply ſeated, pre
Operation from being undertaken. We muſt then e
to mitigate the Diſeaſe and the Pain by cleanſing In
and Applications of lenient and balſamic Medicines.
the more to be pitied the Condition is of thoſe who a
to undergo the Operation for a ſevere *Fiſtula*, the mo
lous is the Folly of ſome *Frenchmen*, who, though
nothing of a *Fiſtula* in the *Anus*, yet, that they might
Reputation of going through the ſame Diſeaſe, and Way
with their King *Lewis* the XIVth, glorying in Mi
and making an Oſtentation of Miſery, were earneſt
Surgeons to have the Operation of cutting for the *Fi*
formed upon them, as we are informed by *Dionis*, a
ful *French* Surgeon, who, at the ſame time, very gra
ſures this moſt abſurd Paſſion in his Countrymen.

Since the right Management of a bad *Fiſtula* of th
one of the moſt difficult Works belonging to a Surge
certainly be worth our while to propoſe ſome Caut
are of ſingular Uſe for the rectifying and better perfo
Operation.

Firſt then a ſevere *Fiſtula* ought to be cut in ſuch a
that the external Wound may be always wider than t
of the Sinus of the *Fiſtula*; for by ſo doing, this
other *Fiſtulas* are more throughly cleanſed, and ea
healed. For this Purpoſe it may even ſometimes be
to make two Inciſions acroſs the affected Part, and

nife, or Sciſſars, to cut out whatever you find hard or ted, eſpecially at the Bottom of the *Fiſtula*; for except done, the *Fiſtula* cannot be well cured, and eaſily re- This may ſometimes be more conveniently and ſafely med, by taking up the vitiated Parts with a Hook, or s, and ſo cutting them off.

To avoid injuring the Inteſtine in dilating the *Fiſtula* with nife, it ought to be directed with its Edge, not towards teſtine, but outwardly towards the Os Iſchii.

f the external Orifice of the *Fiſtula* be not ſituated near *us*, but in the Middle of the Buttocks, ſo that the Sinus t to the Skin, and proceeds by Degrees towards the n, a grooved Probe is to be introduced into the Bottom Fiſtula, upon which the incumbent Skin is to be dexter- ut with the Knife, or Sciſſars. Then the Wound is to be uffed and dilated with Lint, and the next Day the Nature *Fiſtula* is to be throughly examined; the reſt of the Pro- gs are to be regulated according to the Directions given

f the Inteſtine be exulcerated and perforated, as it com- is in complete *Fiſtulas*, the Style or Head of the Probe, ngotomus, is to be thruſt into the Inteſtine rather two bove, than through the internal Orifice of the *Fiſtula*, e hard and callous Parts within it may the more commo- be cut out. But when the Inſtrument paſſes through rnal Orifice of the *Fiſtula*, it will be neceſſary, after through the Inteſtine and Sphincter, to cut off with the the hardened Part of the Inteſtine, that is next above *ula*, to the Breadth of two Lines, or of a Straw.

f at the ſame time you ſhould happen to perfo- Veſſel, which diſcharges Plenty of Blood, your beſt to paſs under it a crooked Needle and Thread, and ſo to s Extremity. But if this cannot be effected, let a Bol- ueezed out of ſome ſtyptic Liquor, be applied to the Vein, and cloſely compreſſed with the Finger for half , till a Cruſt be induced; then filling up the Wound nt hard twiſted, lay upon them ſome pretty thick Bol- d ſecure the Whole with a firm Bandage; let the Pa- o obſerve to keep himſelf at Reſt, and let an Attendant ed ſtrongly to compreſs the Bandage with his Hand for ne, becauſe ſometimes it has been obſerved, that when ding Vein has not been ſufficiently compreſſed, the Blood flowed out through the Bandage and the *Anus*, but s Courſe into the Inteſtines, and killed the Patient.

When the Bandage is made, if the Patient ſome Hours ls a Pain in making Urine, he muſt be exhorted to bear Patience, ſince it uſually goes off in a ſhort time.

the *Fiſtula* of the *Anus* be complicated with the Lues , there is no eaſy nor ſafe Management of the *Fiſtula*, firſt curing the other Diſtemper; but when this is ex- the *Fiſtula* often heals without Section.

noldus invented and recommended a particular Bandage *ula* of the *Anus*, which *Garengeot* has carefully de- and given the Preference to it before all others, by Degrees. *See a Deſcription of it under the Word*

ſtly, when the Wound begins to heal by Degrees, *t* adviſes us to intrude into the *Anus* a Tent of Lint nger's Bigneſs, and covered with Pompholyx, for the ying of the Wound as it heals. But this is often un- ; for I commonly find dry Lint, when the Ulcer is anſed, and filled with Fleſh, ſufficient for this Pur- *Heiſter*, *P.* 2. *Sect.* 5. *Cap.* 169.

ſt be remark'd, that the Cure of a Fiſtula in the Anus ways to be attempted; for in Bodies of a very bad Ha- ntire Interception of the habitual Diſcharge made by la would be attended with very ill Conſequences, and e the Patient into a Conſumption, or ſome other Diſ- more fatal than the original Diſorder, of which I have ances. This is the general Doctrine; but I can form f any Humours ſo inveterately riveted in the Conſti- ut that a proper Regimen, and Medicines judiciouſly together with other ſuccedaneous Evacuations, may ſo e, as to render the healing up a Fiſtula in the *Anus* ne, curable, without any Prejudice.

Of an ABSCESS *of the* ANUS.

the Original of a *Fiſtula* of the *Anus* ſeems, for part, to be an Abſceſs near the *Anus*, when we come the Nature and Way of treating this Abſceſs, we ſhall mprehend the Properties of this Sort of Fiſtulas, with od how to preſerve ourſelves from them, and to cure Therefore we cannot but think it worth while to be- e Remarks upon an Abſceſs of the *Anus*.

eginning of this Abſceſs is twofold; for it either attacks t on a ſudden, or comes on him ſlowly and inſenſibly. er is like a Boil in the Beginning, but ſoon after in- ry faſt, and in a very ſhort time excites a Variety of mptoms, and eſpecially Pains.

At firſt a ſort of ſharp Tubercle, ſcarce ſo big as a Bean, or Haſle-nut, with a remarkable Hardneſs, appears. About this Hardneſs, which uſes to lie deep near the *Anus*, a Redneſs is commonly perceived. Sometimes the outward Skin has the Marks of an Eryſipelas, or Ignis Sacer, while it is red without a Tubercle, but with ſo ſevere an Inflammation, that, unleſs it be ſpeedily digeſted, in little more than four-and-twenty Hours, it turns to an Abſceſs, and is often attended with ſuch exceſſive Pains, as to induce a Fever with Thirſt, want of Sleep, Nauſea, extreme Weakneſs, and other bad Symptoms.

The other Kind of Abſceſs, which is of ſlow Progreſs, is by ſome denominated a *Fiſtula* from the very Beginning, and is known, as other Abſceſſes, by the Pain and Tumor, but tends more ſlowly to Suppuration.

But in whatever manner the Abſceſs is generated, certain it is, that the corrupt Matter, after Suppuration, prepares itſelf by Degrees a Way to be diſcharged, and at laſt either perforates the Skin near the *Anus*, or the Inteſtine. Before this can be effected, the adjacent Fat is more or leſs corroded, and converted into Sanies, by the pent up acrimonious Matter, whence are formed a Variety of Sinuſes, ſometimes ſingle, ſmall, and direct, at other times large, crooked, and deep; and at laſt, penetrating through the external Skin, or Inteſtine, ſooner or later, according to the different Nature or Quality of the Matter collected within; ſo that it is no Wonder, that *Fiſtulas* generated of Abſceſſes are ſome of them more ſevere than others.

For the Cure of an Abſceſs of this Kind, in the Beginning, Digeſtives, in the Form of a Fomentation, or Cataplaſm, may be apply'd; but becauſe the Diſeaſe is ſeldom cured by ſuch means, and more Dependence is to be had on manual Operation than Medicines, recourſe is to be had, in Seaſon, to the Knife, and the following Method is to be obſerved: Firſt, the Patient is to be placed in the ſame Poſition as we directed for the Operation under a *Fiſtula* of the *Anus*; then let the Surgeon, by preſſing with his Finger near the *Anus*, or introducing it into it, very carefully ſearch the vitiated Part, and throughly explore the Bottom of the Sinus of the corrupt Matter, though no outward Sign of a Suppuration as yet appears; but if only a Hardneſs or Tumor be perceived, the Matter is to be brought to ſome Degree of Ripeneſs, before the Inſtrument is uſed.

As in every Abſceſs Suppuration is to be promoted and accelerated by the Application of ſome emollient Cataplaſm, ſuch as that prepared of Crums of Bread with Milk and Saffron, or by a Plaiſter of Diachylum with the Gums; ſo a very neceſſary Caution is to be obſerved, which is, that the Cataplaſm, or Plaiſter, be not left too long upon the affected Part, which may cauſe the Suppuration to proceed farther than it ought into the inward Parts, by which means the circumjacent Bodies being waſted and conſumed, the Diſeaſe may be rendered deſperate, or at leaſt more exaſperated and dangerous. Therefore we ought not to wait till the contained Matter ſhews ſome external Sign of Maturation; but the Cataplaſm is to be removed after every two or three Hours, and, the Skin being wiped, we are to examine with a Finger of each Hand, one introduced into the *Anus*, and the other preſs'd on the external Parts, whether by Compreſſion between the Fingers any corrupt or mature Matter can be diſcover'd. No Credit therefore is to be given to thoſe who determine, that it is only proper to open an Abſceſs, when the malignant Matter is plainly perceived to be perfectly maturated; for in ſuch a State it would deſtroy the adjacent Parts.

As ſoon as there is any Sign of a Collection of corrupted Matter within the Tubercle, by means of the Finger introduced into the *Anus*, is to be puſhed outwards towards the Skin, on the Side of the *Anus*. Then with the Inciſion-knife, or Lancet, let an Inciſion be made through the Middle of the Tubercle quite to the Receptacle of the Matter, and, raiſing a little the Inſtrument, let the Sanies, which is commonly mix'd with Blood, run into a Veſſel placed underneath, and let the external Parts be gently preſſed on all Sides, in order to force out the remaining Matter.

The Matter being evacuated in a Quantity ſufficient to demonſtrate, that the Abſceſs is perforated, let the Knife, or Lancet, be drawn out in ſuch a manner as to cut the tumid Parts above the Abſceſs in a ſtrait Line, and ſo make the Wound a little larger. This done, thruſt in a Finger to the Bottom, in order to diſtend the Wound, and explore its Cavity, or Sinus; then above or near the Finger, cautiouſly introduce the Knife, or Sciſſars, and, carrying it near the *Anus* lengthwiſe, dilate the Wound to a ſufficient Largeneſs; and, laſtly, that there may be the freer Acceſs to the Root of the Evil, the Part affected, if neceſſary, muſt have tranſverſe Inciſions made in it, and whatever ſhall be found within preternaturally corrupted and hard, muſt be cut out, in the ſame manner as directed for *Fiſtulas*.

In order to a right Treatment of this Wound, it will be neceſſary, according to *Garengeot*, to obſerve the following Cautions: Firſt of all, let the Wound be filled up, as exactly as poſſible, with three or four large Tents of Lint, each with a

Thread or String ty'd to it, which muſt be diſtinguiſhed from each other, either by their Places on the external Surface of the Wound, or by their Colour, leſt, when we come to unlooſe and change the Dreſſings, we ſhould happen to pull out the lower Tents before the ſuperior, and ſo excite a pernicious Hæmorrhage. Over theſe Tents muſt be laid plenty of Doſſils of Lint, and by drawing a little, as *Garengeot* adviſes, the Thread of the loweſt Tent the Doſſils, are united in cloſe Conjunction; then placing ſeveral narrow Bolſters in ſuch Order, that the upper Bolſter may be always wider than the next under it, over all muſt be brought a proper Bandage, ſuch as is deſcribed for a Fiſtula under the Article FASCIA. But, to ſpeak my Mind freely, I do not ſee the Neceſſity of ſuch a Multitude of Tents with their Strings in a ſimple Abſceſs, nor of ſo troubleſome and operoſe a Dreſſing. For my part, I take care to have this ſort of Abſceſſes, as well as others, well filled up with plenty of twiſted Lint; and then applying Bolſters, make the Bandage in the moſt ſimple manner with the common Fillet. In the following Dreſſings I do not pull out the Lint by Force, but apply to the Ulcer a digeſtive Ointment, and a Plaiſter of Diachylum, and wait till a Suppuration coming on, they fall off of themſelves; and by this Method there is no great Danger of an Hæmorrhage. After this, I deterge the Abſceſs, as I do other Abſceſſes, and at laſt heal it with Balſamics.

If any conſiderable Vein happens to be cut in the Operation, it ſeems neceſſary either to tie the Vein, or, if this cannot be done, to apply a ſmall Bolſter ſqueezed out of ſome ſtyptic Liquor, and to compreſs the ſame with the Fingers for a while till the Blood is ſtopped. The Wound afterwards is to be more filled with twiſted Lint, more and thicker Bolſters are to be laid on, and an Aſſiſtant is to be appointed to attend the Patient, that with his Hand he may compreſs that Part of the Bandage which is juſt over the bleeding Veſſel. As for Conglutination of the Wound, though *Garengeot* has ſaid nothing about it, I perform it exactly by the ſame Methods as in other Abſceſſes, and *Fiſtulas* of the *Anus*. Oftentimes theſe Abſceſſes are maintain'd by a Venereal Cauſe, and Funguſes and Calluſes ariſe in them, ſo that they cannot be healed.

To conclude, it ſeems ſtrange, that *Garengeot*, who, like us, divided *Fiſtulas* of the *Anus* into *perfect* and *imperfect*, and gave the Characteriſtics of each, ſhould yet, in treating of the Cure, paſs over in Silence the blind and imperfect *Fiſtulas*, though theſe require a ſingular, and, I may ſay, a more artificial Management than the others, as, I think, appears in the preceding Chapter. Neither has *Garengeot* ſaid a Word about the Method of treating complicated *Fiſtulas* of the *Anus*, though they are not ſo ſcarce and rare to be found, as to deſerve to be paſſed over in Silence. *Heiſter, P.* 2. *Sect.* 5. *Cap.* 169.

Mr. Sharp*'s Obſervations on the* FISTULA *in* ANO *are as follows:*

If the Surgeon has the firſt Management of the Abſceſs, and there appears an external Inflammation upon one Side of the Buttock only, after having waited for the proper Maturity, let him with a Knife make an Inciſion the whole Length of it, and, in all Probability, even though the Bladder be affected, the Largeneſs of the Wound, and the proper Application of Doſſils lightly preſſed in, will prevent the Putrefaction of the Inteſtine, and make the Cavity fill up like Impoſthumations of other Parts.

If the Sinus is continued to the other Buttock almoſt ſurrounding the Inteſtine, the whole Courſe of it muſt be dilated in like manner, ſince, in ſuch ſpongy Cavities, a Generation of Fleſh cannot be procured but by large Openings; whence alſo if the Skin is very thin, lying looſe and flabby over the Sinus, it is abſolutely neceſſary to cut it quite away, or the Patient will be apt to ſink under the Diſcharge, which, in the Circumſtance here deſcribed, is ſometimes exceſſive. By this Method, which cannot be too much recommended, it is amazing how happy the Event is likely to be; whereas from neglecting it, and truſting only to a narrow Opening, if the Diſcharge does not deſtroy the Patient, at leaſt the Matter, by being confined, corrupts the Gut, and, inſinuating itſelf about it, forms many other Chanels, which, running in various Directions, often baffle an Operator, and have been the Cauſe of a Fiſtula being ſo generally eſteemed very difficult of Cure.

Here I have conſidered the Impoſthumation as poſſeſſing a great Part of the Buttock; but it more frequently happens, that the Matter points with a ſmall Extent of Inflammation on the Skin, and the Direction of the Sinus is even with the Gut: In this Caſe, having made a Puncture, you may with a Probe learn if it has penetrated into the Inteſtine by paſſing your Finger up it, and feeling the Probe introduced through the Wound into its Cavity, though, for the moſt part, it may be known by a Diſcharge of Matter from the *Anus*. When this is the State of the Fiſtula, there is no Heſitation to be made, but immediately putting one Blade of the Sciſſars up the Gut, and the other up the Wound, ſnip the whole Length of it.

This Proceſs is as adviſeable, when the Inteſtine is not perforated, if the Sinus is narrow, and runs upon, or very near it; for if the Abſceſs be tented, which is the only wa
dreſſing it, while the external Orifice is ſmall, as I have
ſuppoſed, it will almoſt certainly grow callous; ſo that
ſureſt Means of Cure will be opening the Gut, that proper
plications may be laid to the Bottom of the Wound. H
ever it ſhould be well attended to, that ſome Sinuſes p
near the Inteſtine neither run into, nor upon it; in w
Caſe they muſt be opened, according to the Courſe of
Penetration. There are abundance of Inſtances where
Inteſtine is ſo much ulcerated as to give free Iſſue to the
ter of the Abſceſs by the *Anus*; but, I believe, there are
where there is not by the Thinneſs and Diſcoloration o
Skin, or an Induration to be perceived through the Skin,
Mark of its Direction, which, if diſcovered, may be op
into with a Lancet, and then it becomes the ſame Caſe
the Matter had fairly pointed.

If the Sinuſes into and about the Gut are not complic
with an Induration, and you can follow their Courſe, the
opening with Sciſſars, or a Knife guided on a Director,
ſometimes ſuffice; but it is generally ſafer to cut the Pie
Fleſh ſurrounded with theſe Inciſions quite away, and, wh
is callous, abſolutely neceſſary, or the Calloſities mu
waſted afterwards by eſcharotic Medicines, which is a te
and cruel Method of Cure.

When the Fiſtula is of long ſtanding, and we have Cho
Time for opening it, a Doſe of Rhubarb the Day before
Operation will be very convenient, as it not only will
the Bowels, but alſo prove an Aſtringent for a while, and pr
the Miſchief of removing the Dreſſings in order to go to S
It ſometimes happens, that the Orifices are ſo ſmall,
to admit the Entrance of the Sciſſars, in which Caſe Sp
tents muſt be employ'd for their Dilatation.

In performing theſe Operations on the *Anus*, I do not
any Inſtrument ſo handy as the Knife and Sciſſars; almo
the others, that have been invented to facilitate the Work
not only difficult to manage, but more painful to the Pa
Nor do I caution againſt cutting the whole Length
Sphincter, Experience having ſhewn it may be done with
Danger of an Incontinence of Excrement; and, in Fa
Muſcle is ſo ſhort, that it muſt generally be done in Dila
of the Inteſtine.

The worſt Species of Fiſtula is, that communicating
the Bladder, where the Proſtate Gland is primarily con
This generally takes its Riſe from a former Gonorrhœa, a
pears externally firſt in the Perinæum, and afterwards inc
more towards the *Auus*, burſts out in various Orifices t
the Skin, which ſoon becomes callous and rotten; a
Urine, paſſing partly thro' theſe Orifices, will often ex
much Pain, and of the ſame Kind, as a Stone in the Bla

Having met with none of theſe Inſtances, that I cou
trace from a Clap, I have been induced, in the Trial of
to practiſe Salivating, which aſſiſts very much in heali
Wound after the Operation. The Manner of openi
Fiſtula is by cutting out the callous Skin and Emi
down as deep as the *Accelerator Urinæ*, and ſomewhat
between that Muſcle and the *Erector Penis*, if the Indurati
there. The Operation is ſevere, but very well rewards th
It is not to be expected however, if there are many
into the Bladder, that they will all certainly be healed; b
will be reduced to one or two, almoſt all the Urine co
the Urethra, and the Pain be quite removed, of which
I have had two or three remarkable Inſtances under my
See HÆMORRHOIDES.

CASE I. *from* Le Dran.

Of a blind internal Fiſtula in ANO.

Though all *Fiſtulas in Ano* begin by ſmaller or lar
ceſſes, formed in the Fat covering the Rectum, yet the
in various reſpects.

Authors mention blind internal *Fiſtulas in Ano*; b
have not deſcribed the proper Operation in that Caſe, an
are not ſufficiently inſtructive in an Affair of ſo great
portance. This Obſervation may ſerve as a Rule, at l
Caſes nearly parallel to this.

On the 13th of *February* 1726. a Man was received i
Hoſpital, who had evacuated Matter by the *Anus* for th
of eighteen Months, more or leſs, according to the D
of Time between his Stools. He could not inform me
began, having never felt any remarkable Pain (It is not
ing, that a ſmall Abſceſs ſhould be formed in the F
the Rectum, without creating much Pain, the Pus be
pable of extending itſelf without meeting any Reſiſtanc
examining the Diſtemper, I found an Hardneſs on th
Side, within an Inch of the *Anus*, which ſeemed
three Fingers Breadth deep; the Buttock appeared fou
there was no Alteration in the *Cuticula*, or *Panniculus A*

When I had prepared the Patient by two copious Bl
as he was robuſt, and purged him once, I performed th
ration.

ing placed him with his Belly againſt the Side of the Bed, upon the Ground, his Legs and Thighs aſunder, and eld faſt by two Aſſiſtant Surgeons, I thruſt an Impoſt- Lancet into the Hardneſs which I had felt with my and thus made a complete Fiſtula of a blind one: Then wing the Lancet, I introduced a Probe in its Place ny Left Hand, and paſſed it as far as the Calloſity; in dſt whereof was a Cavity, round which I could move be: Then I introduced the Index of my Right Hand *Anus*, and diſcovered the Sinus that paſſed from the y into the Rectum.

I might leave no Source of a Fiſtula behind, I pierced ſtine with my Probe a little above the *Fiſtula*, and, it out by the *Anus*, finiſhed the Operation in the uſual cutting off, or deſtroying the Calloſities.

Patient left the Hoſpital in the Beginning of *April*, per- ured.

REMARK.

oſt preferable Method is, to pierce the Inteſtine above allous Perforation; for want whereof you run a Hazard ving a Part of the Calloſity, which may retard the , or even render the Operation ineffectual.

CASE II. *from* Le Dran.

Month of *April* 1725. the King having done me the to nominate me Surgeon Major of the Hoſpital of *La* I ſaw a Man there, upon whom the Operation for a *in Ano* had been performed three Weeks before. The ſeemed to be in good Condition, and leſſened every ſomuch that the Cicatrix ſeemed almoſt formed. Ne- ſs, examining it with Attention, I obſerved a little Pus to proceed from a ſmall Sinus in the Wound Cicatrix. Startled at this, I paſſed my Probe Hole, and found a Sinus along the Inteſtinum , four Fingers Breadth deep, which terminated in a urrounded with Calloſities, and the Inteſtine was denu- whole Length of the Sinus. I began the Operation erforming it in the uſual manner, by dividing the In- the whole Extent, where it was bare. I deſtroyed oſity as much as I poſſibly could; and to become the Bottom of the Wound, I made an Inciſion into ock, taking off the Angles. This furniſhed little Blood Inſtant; but an Hæmorrhage ſucceeded ſix Hours after. immediately, and, removing the Dreſſings, placed a mpreſs dipped in ſtyptic Water upon the Veſſel that the Blood, which I held with my Finger near half an at the Styptic might produce its Effect. The Hæ- being ſtopped, I ſupported the Compreſs with a Doſſil, and that by many others, and ſecured the ith Compreſſes, and a proper Bandage. I did not re- Dreſſing for two Days, and then the Patient was cording to Art, and recovered in ſix Weeks. I was , that he bled five times in the ſame manner after the ation.

REMARKS.

two eſſential Precautions in the Cure of Fiſtulas. the Operation is performed, all the Calloſities muſt ctually deſtroyed, eſpecially thoſe at the Bottom, be- will be too late to conſume them ſome Days after, ccount of the external Lips approaching.

ought to make a ſhort Remark in this Place, in fa- young Students in Surgery. You muſt take care Dreſſing not to rub or irritate the Edge of the di- Inteſtine, in placing the firſt Doſſil. For which , at each Dreſſing, eſpecially during the firſt ten or Days, you muſt introduce your Finger to the In- fixing the Edge with it; then paſſing the Doſſil, ur Forceps, between your Finger and the ſound But- ll it reaches the Inteſtine itſelf, withdraw your Finger, the Doſſil in its Place, ſo that half may be in ound, and half in the Rectum. The Neglect of Precaution is enough to prevent the Cure, even when eration has been well performed.

rd to the Hæmorrhage, which either accompanies or the Operation, many Methods are propoſed to ſtop ave practiſed all, and find none more certain, or ful, than what I uſed to the Patient, who is the Sub- his Obſervation.

CASE III.

Of a VENEREAL FISTULA *in* ANO.

ppuration of Venereal Tumors is different from thoſe ding from the ſame Cauſe; and the Symptoms at- m are, generally, not ſo active; becauſe the Ve- us is more diſpoſed to fix, than to ferment thoſe rewith it is confounded.

On the 27th of *April* 1725. a Servant came to me to the Hoſpital, who had a conſiderable Abſceſs on the Left Side of the *Anus*, which was not accompanied with Symptoms in proportion to its Magnitude. We know that large Abſceſſes, at the Beginning, are very troubleſome to Patients by their exceſſive Pain, Tenſion, and Fever; Symptoms which ſubſiſt, and even increaſe more and more, till the Pus is formed.

When the Patient was ſent to the Hoſpital, the Pus was already formed, and the Skin like Dough, wherein the Impreſſion of my Finger remained, and it was with Difficulty that the Fluctuation was to be felt.

I opened it, and found the Rectum denudated more than three Fingers Breadth above the Verge of the *Anus*, I cut through all that Portion of the Inteſtine which was denudated, and cut away all the Skin that was altered and ſeparated from the adipous Subſtance.

The Wound proceeded very happily, and the Lips approached, and in all Appearance a certain Cure was to be expected, when, in fifteen or twenty Days, an hard Fungus appeared at the Bottom of the Wound, which riſing in the Form of a Crown, ſeemed to be carcinomatous. I took it off with my Biſtory, but in a few Days it puſhed out again; and then I began to interrogate the Patient, and, by the Deſcription he gave me of the Venereal Infections he had before, I knew it to be the Lues. Sudorific Ptiſans and Æthiops Mineral were adminiſtered in vain; the Fungus viſibly returned as I conſumed it; therefore I adviſed him to a Salivation.

He went from the Hoſpital to a proper Place, where he was ſalivated; and when he came from thence, only a ſmall Portion of the Wound remained to be cicatrized.

CASE IV.

Of a FISTULOUS *and* VENEREAL ABSCESS.

In the Month of *September* 1725. a Patient was ſent to *La Charité*, who had a gangrenous Abſceſs *in Ano*, which began in the ſame manner as that mentioned in the preceding Obſervation. I interrogated him as to his manner of Life; but he was diſcreet, and confeſs'd nothing that could give me the leaſt Reaſon to think his Caſe Venereal; therefore, after he was prepared, according to Cuſtom, I performed the Operation.

In twelve Days the Lips of the Wound grew callous, and a Fungus roſe at the Bottom. To diſcover the Truth of what he had concealed from me, I thought I could deceive him in my Turn; and told him, that thoſe Symptoms were certain Signs of the Lues Venerea, and that he could not be cured without taking proper Remedies to ſubdue the Cauſe of his Diſeaſe, and the Uſe of proper Dreſſings at the ſame time. He imagined that he ſhould ſtay at the Hoſpital to paſs through this Courſe, and confeſs'd, that he had two Chancres and a Gonorrhœa two Months before. Then I told him, that he could not ſtay in the Hoſpital; and by my Advice he went to the *Petits Maiſons*, where he was ſalivated, and perfectly cured.

REMARKS.

Abſceſſes formed near the *Anus*, and that break of themſelves, degenerate into Fiſtulas in time, and occaſion Calloſities: The ſame thing would have happened to thoſe two, of whom I have been ſpeaking, had I not performed the Operations that ſeemed neceſſary.

If then old Fiſtulas, not Venereal, are callous, as well as thoſe that are, the Surgeon ought firſt to examine his Patient, that he may take his Meaſures accordingly.

If it be a ſimple Fiſtula, the Operation may be performed; but when you know it to be Venereal, I think it moſt prudent to begin by treating the Patient for the Lues. Some of the laſt Kind, that were recent, have been known to be cured with all the other Venereal Symptoms, and have had no farther Occaſion for an Operation.

If by a methodical Courſe the Fiſtula does not heal, the Operation muſt be afterwards performed.

CASE V.

Of a complete FISTULA *in* ANO, *cauſed by an extraneous Body in the Rectum, communicated by* Mr. D'Eſtendau, *Surgeon, at the* Hague.

In the Month of *December* 1728. I was called to a Gentleman of fifty Years, to heal him of an external *Fiſtula in Ano*, with which he had been afflicted for eight or nine Months. He was emaciated, and become almoſt hectic, partly from the Pain he endured, and partly from a ſlow Fever that never ceaſed; ſo that his Life was not long expected.

When I had probed and carefully examined it, I judged there was no Time to loſe before the Operation was performed, eſpecially, becauſe this *Fiſtula*, whoſe external Orifice was two Inches from the *Anus* on the Right Side, could not make farther Progreſs, without rendering the Operation impracticable, ſince the Fiſtula already pierced the Sphincter as far as I could reach, with my Finger. I prepared my Patient immediately, and then performed the Operation, in Preſence of a Doctor of Phyſic, and Profeſſor of Anatomy at the *Hague*.

When I thought the Operation was finiſhed, I thruſt my Finger into the Wound, to examine whether I had ſufficiently open'd the Sinuſes, and ſcarified the Sides of the Fiſtula, and was much ſurpriſed to feel an extraneous Body at the Bottom of the Wound, which was hard, pointed, and wedged in it. This obliged me to make an Inciſion, in order to diſengage it, without which it could not be extracted; and I then drew a Scale of Bone, pointed at each End like a Lancet, two Fingers-breadth long, and a little broader and thicker than the Blade of a Penknife. It ſeemed by its Hardneſs and Appearance to be the Scale of a Beef-bone. I inquired of the Patient, whether he remembered to have ſwallowed that Bone, who anſwered in the Negative; but he remembered very well, that ſome time before the Manifeſtation of the *Fiſtula*, he felt a Pain on a ſudden like a Stab with a Dagger near the Rectum, and thought he ſhould have fainted away by the Exceſs of it. It was at this Time, without Doubt, that the Bone pierced the Inteſtine, pricked the neighbouring Parts, cauſed an Inflammation, and at laſt an Abſceſs, which degenerated into a *Fiſtula*.

I dreſſed the Patient, and afterwards preſcribed him proper Medicines, by which Means he recovered the 30th of *January* 1729, which was the fiftieth Day after the Operation. *Le Dran.*

It is proper to take Notice, with reſpect to the *Anus*, that many Subſtances of an extraordinary Nature are diſcharg'd by this Emiſſary. Thus calculous Concretions form'd in the biliary Ducts and Cyſtis, ſometimes paſs this Way; and we have an Inſtance in the Philoſophical Tranſactions of a great Number of Stones, one of which weigh'd upwards of two Ounces, which, after a great deal of Pain, came away by the *Anus*. But the Paſſage of the Fœtus by the *Anus* is, of all others, ſo extraordinary a Caſe, that I muſt not omit the following Account communicated by Mr. *Giffard* to the Royal Society.

I was ſent for, about the Middle of *Auguſt* laſt, to a Woman, who then judged herſelf to be between three and four Months gone with Child: She had all the Symptoms preceding a Miſcarriage, and, upon touching, I found the *Os Tincæ* ſomewhat dilated and ſpread, from whence I concluded a Miſcarriage would enſue, and therefore order'd what I thought proper to promote it; but I was ſometime after informed by her Huſband, that altho' ſhe before believed, that ſhe had miſcarry'd, yet, that ſhe now thought herſelf quick, as feeling ſomewhat to move within her Belly, agreeable to what ſhe had perceived after former Quickenings. Thus it paſſed on for about ſix or ſeven Weeks; in which Time ſhe grew much bigger, and the Motion more perceptible; ſo that there remained no Doubt of her being with Child. About the third of *October*, ſhe was ſeized with violent Pains in her Belly and Back; which daily increaſing, her Siſter, by her Deſire, came to me on the ſixth, when I went to her, and found her labouring under very great Pains, and other Complaints like thoſe preceeding a Miſcarriage or Delivery: But, to be better ſatisfy'd, and to ſtrengthen my Opinion, I paſſed up two Fingers into the *Vagina*, to examine, by the Touch, whether the *Os Tincæ* began to open and ſpread. I there felt a large and unuſual Fulneſs and Tenſion, which I judged to be the Body of the *Uterus* ſunk low into the *Vagina*, and much diſtending it, and extending backwards, and preſſing againſt the *Rectum*; ſo that the Excrements could not readily paſs, neither could ſhe, from its Preſſure upon the Neck of the Bladder, freely make Water. I could not find the *Os Tincæ*, altho' I very carefully examin'd all about with the Ends of my Fingers; wherefore I then judged, that the *Fundus Uteri* muſt have receded from its natural Poſition, and be bent backwards towards the *Rectum*: In which Opinion I was more ſtrengthen'd, from the Fulneſs I before obſerved, ſtretching backwards; and therefore concluded, that the *Os Tincæ* muſt be very forward: Wherefore I endeavour'd to paſs my Fingers between the *Os Pubis*, and the Fulneſs which preſſed againſt the upper Edge of the ſaid Bone. This, with ſome Difficulty, I effected, and, at length, about two or three Inches above the ſaid Bone, I felt the *Os Tincæ* with the Ends of my Fingers. The Cauſe of this Situation will more clearly appear in the Purſuit of this Account: I order'd her anodyne and quieting Medicines to relieve her Pains, which ſhe was obliged to take every twelve Hours, with proper Cordials to ſupport Nature, and ſometimes Clyſters. Thus Matters continued to the 20th of the ſaid Month, only that for ſome Days before, a Water, tinged with Blood, came away, as ſhe imagined, thro' the *Anus*, and which ſhe believ'd proceeding from the Piles, with which ſhe was ſometimes troubled.

On the 20th, her Huſband came to me, about Six of the Clock in the Evening, telling me that the Midwife had brought away a *Fœtus*, but could not complete her Buſineſs; whereupon I immediately went to the Midwife, who, upon my coming, told me, that a *Fœtus* was protruded thro' the *Anus*; and to confirm it, deſired me to examine; which I did immediately, and found the *Funis Umbilicalis* hanging out about two or three Inches beyond the *Anus*, and paſſing up thro' the ſame. I therefore paſſed my two Fore-fingers by the St into the *Anus*, when I found, about three Inches up, an Op ing, as I then judged, into the *Uterus*, wide enough to ad the Ends of three or four Fingers, and the *Funis Umbilic* paſſing into it; from hence I was aſſured, that the *Fœtus* c out that way. I endeavour'd, with my Fingers paſſed into Opening, to bring away the *Placenta*; but as it was very ten, it tore away between my Fingers, ſo that I was forc bring it in ſmall Pieces, and was at laſt obliged to leave a l Part of it. The *Septum*, or Partition between the *Anus* *Vagina*, was entirely whole, and no Perforation through From theſe Appearances I then concluded, that a Mortific muſt have begun in the *Uterus*, and ſo from its Contiguit communicated to the *Rectum*; ſo that Nature, endeavo to expel what was contained, and forcing it againſt this already mortified, and conſequently ready to give way an parate upon any Preſſure made againſt it, produced this O ing, and the Protuſion of the *Fœtus* thro' it into the *Re* and ſo on thro' the *Anus*.

There was a large Diſcharge of grumous Blood, and Subſtances, thro' the *Anus*, which continued coming away the 26th of the aforeſaid Month, when the Woman died Three of the Clock in the Afternoon.

I ſhould have obſerved, that there was a Fulneſs and neſs very perceptible, to be felt outwardly on the Fore-p the Belly, ſome Diſtance below the Navel, from the Tim the *Fœtus* came away, to her Death, which, upon openin Body, I was well aſſured, was the *Uterus* forced upwar forwards by a *Sacculus*, which being large and diſtended, up the *Pelvis*, and by its Bulk preſſed the *Uterus* for The *Fœtus* was perfect in all its Parts, but much waſte ſhrunk, from its being ſome time dead, and conſequent trified.

Upon Diſſection, the Vagina, Uterus, Ligamenta Ro Left Ovary, Fallopian Tube, and Ligamentum Latum o Side, together with the Hypogaſtric and Spermatic Veſſe the ſame Side, were found in a natural State. The Fa Tube on the Right Side we traced from the Fundus almoſt to the Morſus Diaboli, where it was confuſedly with, and opened into the Sacculus hereafter to be de The Ovary on this Side, with the Ligamentum Latum, lated into a large Sacculus, of an irregular Form, ex itſelf behind the Uterus (to the poſterior Parts of which her'd); and paſſing on towards the Left, was connected Part of the Colon that terminates in the Rectum. In th culus we found great Part of the Placenta, and the Re lacerated Membranes, beſides the Aperture of the Fa Tube mentioned before, and another about four Inches ameter into the Middle of the Rectum; that Part of th ter on the Right Side, which lies between the Ovary a Kidneys, was dilated, and ſo was that Part of the between the Aperture into it, and the End of the Colon which were cauſed from the Contents of theſe Cana obſtructed in their Paſſage. *Phil. Tranſ. Abr.* Vol. 8.

ANUS, in Botany, ſignifies the poſterior Opening of a petalous Flower. This Name was originally us'd by Mr.

ANXIETAS, Anxiety, Reſtleſsneſs. See Alysmo

ANYADEI, an eternal Spring, the new World, ture Paradiſe. *Ruland.*

ANYDRIA, ἀνυδρείη, from α, Neg. and ὕδωρ, W *Hippocrates* it ſignifies a dry Seaſon: Thus, Ἐν καύμασι *Lib.* 2. *Sect.* 1. *Epid.* 4. " In burning hot and dry W Such a Seaſon is ſaid to be *Anydron*; as *Lib.* 2. *E* 3. Τὸ ἔαρ ϗ τὸ θέρος πάνυ ἄνυδρον· " The Spring and " were extremely dry;" and *Aphoriſm.* 14. *Lib.* 3. ἄνυδρον· " Attended with Northerly Winds, and dry S

ANYDRON, a Species of *Sclanum*. *Blancard.*

ANYPERBLETOS, ἀνυπέρβλητος, from α, N ὑπερβάλλω, to conquer, inſuperable: Thus, Ἀνυπέρβλ φύσις τῶν βοείων κρεῶν, ϗ ȣ̓ τῆς τυχȣ́σης κοιλίης " For the Beef is of an inſuperable Nature, and not " geſted by an ordinary Stomach." *Hippoc. de R in Morb. Acut.*

ANYPEUTHYNA, ἀνυπεύθυνα, from α, Neg ὑπεύθυνος, obnoxious. Things for which we are no able. The *Anypeuthyna*, in Medicine, are Events th be charged on the Phyſician, nor render him ac for them. *Hippocrates*, παραγγελ. ſpeaking of ig upſtart Phyſicians, ſays, Καταχλίδωσι καλαμευμεν τέχνης ἀνυπεύθυνα, ἐφ᾽ οἷς ἂν ἰητρὸς ἀγαθὸς ἀκμάζων καλεόμενος· " They live voluptuouſly, never troub " ſelves about the *Anypeuthyna* of the Art, in whi " Phyſician, who deſerves the Name of an Artiſt, " greateſt Skill." In this Place *Anypeuthyna* ſeem thoſe things which are out of the Limits of Reaſon, not be accounted for.

ANYSTOS, ἄνυστος, from ἀνύω, to perfect. pert. *Hippocrates*, περὶ εὐσχημ. requires, as a Qu Phyſicians, that they be ἄνυστοι πρὸς λόγους, " of pr " quence."

CHLESIA, ἀοχλησία, from α, Neg. and ὀχλέω, to
. A Calmneſs, or Quietneſs.
CNIA, ἀοκνίη, from α, Neg. and ὄκνος, ſlow, lazy.
nce, or Alacrity. To undergo Labour with Alacrity,
t without Satiety, are reckon'd by *Hippocrates*, *Lib. de*
Lib. 6. *Sect.* 4. *T.* 20. two great Preſervatives of

NCON, ἄογκον, from α, Neg. and ὄγκος, a Tumor.
umid. *Hippocrates*, περὶ φύσ. ἀνθρώπȣ, adviſes, for the
f Epidemic Diſeaſes, Τὸ ϳ σῶμα ὁρῆν ὅκως ἔςαι ἀογκό-
ἀσθενέςατον· "To take care, that the Body be very low
Fleſh, and much debilitated." Some underſtand by
ατον σῶμα, a Body of the moſt ſolid Conſtitution, and
poſed to the Injuries of the Air, not of a fluxile humid
nce, but denſe and compact, and ſo leſs liable to external
ffions. Not bloated.
RGESIA, ἀοργησία, from α, Neg. and ὀργὴ, Anger.
bſence of Anger. Mildneſs of Temper.
RNOS, ἄορνος, from α, Neg. and ὄρνις, a Bird. Spo-
Places void of Birds, on account of malignant Exhala-
as formerly the Lake *Avernus* in *Campania*. *Caſtellus*.
RTA, ἀορτὴ, the great Artery proceeding from the left
icle of the Heart, from which all the other Arteries either
ely or immediately proceed, and by which the whole
of Blood is convey'd to all Parts of the Body. See
RIA.
Aorta is ſubject to many Diſorders, ſome of which have
aken Notice of under the Article ANEURYSMA; and
llowing Caſes will give ſome Light into the Nature of
which it is neceſſary to know, in order to diſtinguiſh
and make a proper Prognoſtic, for they are always in-
.
Littre having open'd the Body of a Woman who died
ly in the Street, and who had, till the very Moment of
eath, been vigorous, found, beſides other things, the
which form the Trunk of the *Aorta* oſſify'd in ſeveral
its interior Part full of Ulcers and fungous Excreſcences,
without any Inflammation: The Sigmoid Valves were
e become hard and callous.
State of the *Aorta*, beſides other concurring Cauſes,
ve contributed very conſiderably to the ſudden Death of
tient; for the Arteries are all along in their Courſe fur-
with fleſhy Fibres, which, by their Action and Spring,
ue to the Blood that Momentum or Impulſe, which it
received from the Heart; for 'tis plain, that the con-
Force of the Heart, conſidering its Weakneſs, could
ithout this continued Impulſe, throw the Blood ſo far,
t too in Canals ſo winding and ſo ſmall; but 'tis in a
lar Manner impoſſible, that, without this Impulſe of the
s, the Contraction of the Heart ſhould propel the Blood
ch a Degree of Force, as to make it enter the imper-
Orifices of the diſtant Veins. Thus the Arteries, and
r Ramifications, are, as it were, ſo many CONTINUED
TS, ſeconding and promoting the Action of the chief
incipal one. Now 'tis plain, that in this Woman the
ation and Conſumption of a Part of the Subſtance of
unk of the Aorta, muſt have abſolutely taken away its
and conſequently deprived the Heart of that Aſſiſtance,
t which it could not carry on the Circulation of the

Merry ſays, that having open'd a Man who died ſud-
he found his *Aorta* ſo dilated, that it had begun to ſe-
itſelf from the Baſe of the Heart, in which Caſe, the
ation of the Blood muſt have neceſſarily had an imme-
Stop put to it. *Hiſt. de l'Acad.* 1710.
Morand the younger, upon opening the Body of a
ant in *Paris*, who died ſuddenly, after having been
e time ſubject to Palpitations of the Heart, was not ſur-
to find polypous Concretions formed in the Aorta, and
Branches of the pulmonary Arteries and Veins; but was
'd with ſome other uncommon Circumſtances; for, on
t Side of the Heart, one of the two *Valvulæ Mitrales* of
monary Sack was transform'd into a kind of Cyſtis, the
of which lay towards the Sack itſelf, and the Mouth
s the Ventricle of the Heart. This Cyſtis was the Valve
dilated to ſuch a Degree as to be able to contain one's
b, thicken'd, and having ſmall Bones in ſeveral Parts of
he three Sigmoid Valves of the Aorta, in like manner,
onſiderably thicken'd, had each of them, in ſeveral Places,
Bones, very ſolid, irregularly ranged, and riſing like ſo
Rocks. Now 'tis eaſy to conceive, that, of the Blood,
flow'd from the pulmonary Sack to enter the Left Ven-
ſome Part muſt remain in this Cyſtis, preternaturally
; and that the other Part could not, without a great deal
iculty, make its Way thro' the *Aorta*, the Valves of
being thicken'd and oſſified, did not become flat, as
ght to have done, in order to perform their Functions
Hiſt. de l' Acad. A. 1729.
RTRA, ἀόρτρα. The Lobes of the Lungs, ſuſpended on
de. This Senſe of the Word, if not the Word itſelf,
depends upon a Criticiſm of *Foeſius*, on a Paſſage in *Hippocrates*, *Lib.* 2. *de Morbis*, where he reads: Ἄορτρα τȣ̃ πνεύμονος σπασθέντα· Ἐπὴν ἀόρτρα σπασθῇ τȣ̃ πνεύμονος· "If the Aortra are "ſeized with Convulſions." Here all the Copies, ſays *Foeſius*, by the groſſeſt of Blunders, read ἄρθρα, inſtead of ἀόρτρα; for there can be no Doubt, he ſays, but this is the Place explained by *Galen* in his *Exegeſis*, as follows: Ἄορτρον τὸ ἀπηρτημένον τȣ̃ πνεύμονος ἑκατέρωθεν· "Aortron is a Part of the "Lungs ſuſpended on each Side."

AOVARA, *C. Biron.* Is a Fruit as large as a Hen's Egg, which grows with many others in a Cluſter, incloſed in a great Pod, faſten'd to a Species of very high and prickly Palm-tree, which grows in the *Eaſt-Indies* and in *Africa*.

When the Pod is ripe, it burſts, and lets appear the Cluſter of Fruit, which, being ripe, are fleſhy, and of a golden yellow Colour: The *Indians* eat them; the Fleſh incloſes a Stone very hard and bony, as large as a Peach-ſtone, having at its Superficies three Holes at the Side, and two leſſer near each other. The Bark of the Stone is two Lines thick; it contains a fine white Kernel, which, being chew'd, at firſt hath an agreeable Taſte; but, at the End, it becomes of a ſharp Taſte, which approaches that of ſome Sorts of Cheeſe. They extract from the Kernel a ſort of Palm-oil.

The Kernel of *Aovara* is aſtringent, and good to ſtop a Looſeneſs, being eaten. *Lemery de Drogues.*

APAGMA, ἄπαγμα, of ἀπὸ, from, and ἄγω, to draw, Abduction. See ABDUCTIO.

APALLAGE, ἀπαλλαγὴ, from ἀπαλλάσσω, to change. Any Alteration in general; but, in *Hippocrates*, it ſometimes ſtrictly ſignifies ſuch a Change as is cauſed by a Deliverance from a Diſeaſe: As, for Inſtance, *Aph.* 45. *Lib.* 2. Τῶν ἐπιληπτικῶν τοῖσι νέοισι ἀπαλλαγὴν, &c. ποιέȣσι: "Young Perſons are freed "from an Epilepſy, &c."

APANCHOMENOI, ἀπαγχόμενοι, ſtrangled. The Word is uſed by *Hippocrates*, *Aph.* 43. *Lib.* 2. and is derived from ἄγχω, to ſtrangle.

APANTESIS, ἀπάντησις, from ἀπαντάω, to meet. A Meeting. The Word occurs in *Hippocrates*, περὶ εὐσχημ. and is one of the Qualifications he requires in a Phyſician. It is taken in different Senſes: *Foeſius* joins it with the preceding Word ἡσυχίη, and would have them to mean Affability, and Eaſineſs of Addreſs; others, by ἀπάντησις, underſtand Reprehenſion, and a Severity in cenſuring and reproving the Faults of others; and ſome think *Hippocrates* intends by it that Qualification which puts a Phyſician upon his Guard againſt Errors, and upon teaching every Perſon about the Patient the Duties of their Place, and what ought to be done, or omitted, from time to time.

APANTHISMUS, ἀπανθισμὸς, a very fine, and ſcarce perceptible Line, properly in Painting; to which *Galen*, *de Ven.* & *Arter. Cap.* 8. reſembles the ſmall Ramifications of the Veins, no bigger than Hairs, or the Threads of a Spider's Web, which are called *Capillary Veins*.

APANTHROPIAI, ἀπανθρωπίαι, from ἀπὸ, from, and ἄνθρωπος, a Man. An Averſion to Company, and Love of Solitude. We find the Word in *Hippocr. Coacæ Præ.*

APANTICRY, ἀπαντικρύ. Openly, manifeſtly. *Hippocrates de Artic.*

APARACHYTUM VINUM, ἀπαράχυτος οἶνος, Wine not mixed with Sea-water. *Galen de Comp. Med. Sec. Gen.* & *Meth. Med.* Hence *Athalaſſus*, ἀθάλασσος, (from α Negative, and θάλασσα, the Sea) is the ſame as *Aparachytus*.

APARAQUA, *Hernand.* ſeems to be a Species of Briony growing in *Braſil*. *Raii Hiſt. Plant.*

APARASCEUASIA, ἀπαρασκευασίη, from α Negative, and παρασκευάζω, to prepare. Unpreparedneſs; as when the Things neceſſary for Bathing are unprovided. *Hippocr. de Ratione Vict. in Morb. acut.*

APAREGORETOS, ἀπαρηγόρητος, from α Negative, and παρηγορέω, to comfort, mitigate. What affords no Comfort or Relief. *Hippocr.* περὶ εὐσχημ.

APARINE, Offic. Ger. 963. Emac. 1126. Raii Hiſt. 1. 484. Synop. 3. 225. J. B. 3. 713. Dill. Cat. Giff. 67. Hiſt. Oxon. 3. 331. Phyt. Brit. 9. Merc. Bot. 1. 20. Mer. Pin. 9. *Aparine vulgaris*, C. B. Pin. 333. Park. Theat. 567. Boerh. Ind. A. 150. Tourn. Inſt. 114. Elem. Bot. 93. Rupp. Flor. Jen. 4. Buxb. 23. CLEAVERS, or GOOSE-GRASS. *Dale.*

Aparine, otherwiſe called *Ampelocarpus*, *Omphalocarpus*, *Philanthropus*, and *Ixus*, has many ſlender, ſquare, rough Branches. The Leaves lie round the Stalks in Circles, at Intervals like thoſe of Madder. The Flowers are white, the Seed hard, white, round, and ſunk in the Middle, in form of a Navel: The Herb ſticks to Cloaths; and the Shepherds uſe it inſtead of a Skimmer, to take off Hairs from Milk.

The expreſſed Juice of the Seed, Leaves, and Stalks, drank in Wine, cures the Bites of the Phalangium [a venomous Sort of Spider] and Viper; and, inſtill'd into the Ears, eaſes the Pains thereof. The Herb, beaten up with Hog's Fat, [ὀξύγγιον, render'd, by *Herm. Barbarus*, Lees of Vinegar] and the Parts anointed therewith, diſcuſſes ſtrumous Swellings. *Dioſcorides*, *Lib*. 3. *Cap*. 104.

Pliny adds, that the Leaves, applied, ſtop the Bleeding of Wounds. *Nat. Hiſt. Lib*. 27. *Cap*. 5.

Aparine is moderately drying and deterſive, and is of fine Parts. *Oribaſ.*

This is an annual Plant, ariſing yearly from Seed, having many weak ſquare Branches, not able to ſupport themſelves, having at every Joint eight or ten long narrow Leaves, ſet round about the Stalks like a Star: From among theſe grow out ſmaller Branches, with the like Leaves growing on them; and on the Tops of theſe come forth ſeveral Flowers, ſmall and white, of one Leaf, divided into four Parts, each of which is ſucceeded by two globular rough Seeds, growing cloſe together: The Root is ſmall and fibrous. The whole Plant is rough, and almoſt prickly, ſticking to the Cloaths of any that come in its Way.

This Herb goes by a great many different Names, but is moſt commonly known by *Aparine*, *Aſparine*, or *Gratterona*. It grows almoſt every-where in the Fields, eſpecially about the Roots of Buſhes, and Hedges. It has many rough little Twigs, which bear Leaves, and a whitiſh Flower, upon which the Seeds grow in Pairs. It is an Enemy to moſt other Herbs that grow near it, and either lays faſt hold of them with its rough Leaves and Twigs, or extirpates them entirely. Upon the *Alps* the Shepherds uſe it, in order to cleanſe the Milk of any Filth that may have fallen into it. It is of a ſubtile Nature, opens, expels, purifies, and dries. When boiled in Water, and often drank, it removes Obſtructions of the Liver and Kidneys, cures the Dyſentery, and is wonderfully beneficial in a ſimple Gonorrhœa. Its Juice, depurated and mixed with white Wine, may, with Succeſs, be drank in the Beginnings of Dropſies. *Sr. Th. Mayerne*, *L*. 3. *Prax. Med. Cap*. 10. If its Juice is taken in Wine, it cures the Bites of venomous Animals: Its Juice alſo cures Pains of the Ears, when it is made warm, and dropp'd into them. If the Herb itſelf is boiled with Salt, it cures Excreſcences, when applied to them by way of Plaiſter. If reduced to Powder, it cures Ulcers and Wounds; and, according to *Pliny*, ſtops Hæmorrhages. *Tragus* aſſures us, that its diſtilled Water cures the Jaundice and Dyſentery: It is alſo very efficacious in Diſorders of the Kidneys. It eaſes racking Pains of the Breaſt and Hypochondria. *Paul. Quadr. Botan. Claſſ*. 3. *Fr. Joel*, *L*. 11. *Pract. Sect*. 4. commends it againſt a Cardialgia in Children.

APARTES, ἀπαρτὴς, from the *Ionic* ἀπαρτέω, for ἀπαρτάω, to be ſuſpended. Suſpended, penſile. *Hippocr*. περὶ ἄρθ.

APARTHROSIS, ἀπάρθρωσις. See ABARTICULATIO.

APARTI, APARTIOS, ἀπαρτὶ, ἀπαρτίως, Adverbs uſed by *Hippocrates*, *de Rat. Vict. in Morb. acut*. and elſewhere; and expounded by *Galen*, *Erotian*, *Suidas*, and *Heſychius*, by ἀπηρτισμένως καὶ ἀκριβῶς; that is, *wholly*, *exactly*, *exquiſitely*, *abſolutely*.

APARTISIS, ἀπάρτισις, from ἀπαρτίζω, to perfect. A compacted Body, or Frame. Thus ἀπάρτισις τῶν νεύρων, in *Hippoc*. περὶ ἄρθρ. ſignifies the Frame or Syſtem of the Nerves.

APATEONES, ἀπατεῶνες, from ἀπάτη, Deceit, a Cheat. Impoſtors. *Hippocr*. περὶ ἄρθ.

APATHES, ἀπαθὴς, from α Negative, and πάθος, an Affection, or Paſſion; ſuch as are, or ſeem to be, void of human Paſſions. Inſtances you have in *Pliny*, *Lib*. 7. *Cap*. 19. 'Tis reported of *Craſſus*, ſays he, the Grandfather of him who was killed in *Parthia*, that he never laughed, and was therefore called *Agelaſtus*; and many were never known to weep. *Socrates*, ſo famous for Wiſdom, always appear'd with the ſame Countenance, being neither more or leſs chearful or ſad at one time than another. This Diſpoſition of Mind is ſometimes carried to a hard and inflexible Roughneſs and Sternneſs of Nature, which extinguiſhes the Affections of Humanity. Perſons of this obdurate Temper, were, by the *Greeks*, call'd *Apathes*, many of whom they had among them; and, what is ſtrange, moſt of them Profeſſors and Teachers of Wiſdom; ſuch as *Diogenes* the Cynic, *Pyrrho*, *Heraclitus*, and *Timon*, which laſt was arrived at ſuch a Pitch as to hate all Mankind.

APATHIA, ἀπάθεια. An Apathy, or ſuch an inſenſible Temper as is deſcribed in the preceding Article.

APECHEMA, ἀπήχημα, from ἀπὸ, and ἦχος, a Sound. Properly a Reſounding, or Repercuſſion of a Sound; but, in a medicinal Senſe, it ſignifies a Contrafiſſure. See CONTRAFISSURA.

APEIBA. *Arbor pomifera Braſilienſis fructu hiſpido Pomi Magnitudine*, *ſeminibus plurimis minimis*. APEIBA *Braſilienſibus*, Marcgr.

This Fruit is of no Uſe to the Inhabitants; but the Wood ſerves to make Fiſhing-boats, and Rafts to paſs Rivers. *Ray Hiſt. Plant.*

APEIROI, ἄπειροι, from α Negative, and πεῖρα, an Experiment. Unexperienced, unaccuſtomed. *Hippocr. de Ratione Vict. in Morbis acut.*

APEITHEUMENA, ἀπειθεύμενα, from α Negative, and πείθομαι, to be perſuaded, to hearken to. Things in which the Patient will not obey the Directions of the Phyſician.

Prorrh. 1.

APELLA, λειπόδερμος. By this Name *Galen*, calls whoſe Prepuce, either thro' a Diſeaſe, Section, or traction, is inſufficient to cover the Glans.

APELLIDES. A famous Engineer, who, with *medes*, lays Claim to the Invention of a Machine for of Ships; the Model of which the antient Surgeons in contriving a Machine for reſtoring Fractures and which, becauſe it was worked by three Cords, they *Triſpaſtrum Apellidis ſeu Archimedis.*

APEMPOLESIS, ἀπεμπόλησις, from ἀπεμπολάω, to chandiſe. A Trafficking or Selling. This is the proper fication of the Word, according to *Heſychius*. In this ἀναγκαίως καθαρσίων ἀπεμπόλησις, in *Hippocrates*, περὶ muſt import, that, among other Qualifications he there in a Phyſician, he muſt be furniſhed with a Stock of Medicines, which he may ſell to his Patients. Others ſtand ἀπεμπόλησις, in a contrary Senſe, to be an ſelling or making Profit of his Medicines; or take it Averſion to Trafficking in general, as unbecoming a and betraying a Deſire after Lucre. This latter will appear the more probable, if we read the Paſſage, ſtands in *Edit. Fol. Gen*. 1657. *cum Foeſii Oecon*. which Εἴδησις τῶν πρὸς βίον χρηστῶν καὶ ἀναγκαίων καθαρσίων λησις· ἀδεισιδαιμονίη· "A Knowledge of ſuch purging "cines as are uſeful and neceſſary in Life; an Averſion "by Trafficking; a Mind free from Superſtition."

APEN. See AMBALAM.

APENES, ἀπηνὲς. Harſh, unpleaſant. *Hipp. de in Morb. acut.*

APENSALUS. A Veſſel with a narrow Neck to *Rulandus.*

APEPSIA, ἀπεψία, from α Negative, and πέπτω, to Indigeſtion.

APEPTON, ἄπεπτον. Crude, indigeſted. See

APER. See PORCUS.

APERIENTIA. Aperitives, or aperient

APERISTATON, ἀπερίστατον, from α Negative, and σις. Affliction, Danger. An Epithet in *Galen*, for that is neither troubleſome nor dangerous.

APERITTOS, ἀπέριττος, from α Negative, and redundant. An Epithet of ſuch Aliments as generate Excrement, as the Fleſh of wild Animals, and ſuch dry Places. The oppoſite Quality is called περιττωματικός.

APERTUS, taken for *exulceratus*, as *Apertæ* *Scribonius Largus*, *Numb*. 81. is the ſame with *Pliny's* *exulceratæ*, *Lib*. 30. *Cap*. 5. *Rhodius in Notis Largum.*

APES, Offic. Schrod. 5. 334. Aldrov. de Inſect. de Inſect. 1. Mouff. Inſect. 1. *Apis*, Charlt. Exer. Mer. Pin. 196. *Apis domeſtica ſeu vulgaris* Inſect. 240. BEES.

Hive Bees, as they are called, are too well known Deſcription. I ſhall leave the Œconomy of theſe and uſeful Inſects to Naturaliſts, whoſe Province it der it: But muſt remark, that Bees have furniſh'd rials for Fables than for Medicines. Their Salts are, very volatile, and highly exalted; for this Reaſon, powder'd, and taken internally, they are diuretic retic. If this Powder is mix'd in Unguents, with Head is anointed, it is ſaid to cure the Alopecia, and bute to the Growth of Hair upon bald Places.

All the Productions of Bees are uſed in Medicine, an admirable Remedy in many Diſorders, and very great Number of Officinal Compoſitions. See MEL.

Wax, a very common Ingredient in Plaiſters, and ſam of *Lucatellus*, a very ſilly Compoſition. See

Propolis, *Bee-bread*. See AMBRA, and

APEUTHYSMENOS, ἀπευθυσμένος, from The Name of the *Inteſtinum Rectum*, or Strait *ræus.*

APHACA, Offic. Ger. Emac. 1250. Park. Raii Hiſt. 1. 899. Synop. 3. 320. Tourn. Inſt. Bot. 318. Boerh. Ind. A. 2. 45. Rupp. Flor. Jen. Bot. 1. 24. Phyt. Brit. 9. Mer. Pin. 9. *Lathyrus nuus foliis Convolvuli minoris*, Hiſt. Oxon. 2. 52. *foliis Convolvuli minoris*, C. B. Pin. 345. *Vicia quæ guillaræ*, *latâ ſiliqua*, *flore luteo*, C. B. 2. 316. YELLOW VETCHLING. *Dale.*

Aphace is a ſmall Shrub that grows in plough'd taller than the Lentil, and bears a thin Leaf, and than the Lentil, which contain three or four Seeds, Lentils.

The Seeds have an aſtringent Quality, by virtue they ſtop Fluxes of the Belly and Stomach, if they or ſhell'd and boil'd like Lentils. *Dioſcorides*, 178.

not find any other Medicinal Virtues attributed to it by
derns.
ÆRESIS, ἀφαίρεσις, from ἀφαιρέω, to take away ; a
g or taking away. In a general Senſe it ſignifies a re-
whatever requires it in a Medicinal way, and is oppoſed
ſtheſis, πρόσθεσις, Addition. Aphæreſis, in a ſtricter
is that Part of Surgery which takes off what is ſuper-

ρεσις, in *Hippocrates*, περὶ εὐχυμ, ſignifies Rapaciouſ-
nd ἀφαιρέσιες τῶν αἱμάτων, *Coacæ Prænot.* are ſponta-
Hæmorrhages, according to *Foeſius.*
ANISMOS, ἀφανισμὸς, from ἀφανίζω, to make to diſ-
An Evaneſcence.
ίζομαι, is a Verb often uſed by *Hippocrates*, and, as
d by *Galen*, *Comment.* 2. *in Progn.* ſignifies to vaniſh,
pear on a ſudden.
ASSOMENOS, ἀφασσόμενος, from ἀφάσσω, to handle.
ubbed with the Fingers, handled. *Galen. apud Hippoc.*

frequently by *Hippocrates* apply'd to the *Touch* of the
in Women, in order to diſcover Diſorders of thoſe
See TACTUS.
EBRIOC, Sulphur. *Rulandus.*
ELIA, ἀφέλεια, from ἀφελὴς, ſimple, plain. A Simpli-
teaching and practiſing Phyſic, proper to the Sect of the
iſts. *Galen. M. M. l.* 4. *c.* 4. *Caſtellus.*
ELICESTEROS, ἀφηλικέστερος, of ἀπὸ, from, and
Youth ; one paſt the Flower of Age. *Hippocr. Lib.* 7.

EPSEMA, ἀφέψημα, from ἕψω, to boil ; a Decoction.
ides.
ESIS, ἄφεσις, from ἀφίημι, to remit, in *Hippocrates*,
ſignifies the Remiſſion or Solution of a Diſeaſe ; but
Lib. 3. as *Galen* explains the Word, is to be taken
ſolution of all the Parts of the Body.
ILANTHROPIA, ἀφιλανθρωπία, from α Neg. and
πία, the Love of Mankind ; the firſt Degree of Melan-
when a Perſon hates Society, and delights in Solitude.

LEGMANTON, ἀφλέγμαντον, from α Negative, and
Phlegm ; void of Phlegm. Ἀφλέγμαντον πύον, is Pus
m Phlegm ; the Abſence of which, *Hippocrates*,
2. reckons among the Marks of laudable Pus.
ODOS, ἄφοδος, the Recrements of the Aliment which
by Stool, or the Excretion of the ſame. *Gal. Com.* 5.
id. &c. *Heſychius. Foeſius.*
ONIA, ἀφωνία, from α Neg. and φωνὴ, a Voice ; a
tion of Voice.
crates does not uſe to call thoſe *Aphonoi* who are de-
Voice only ; but, by way of Eminence, ſhews, that
is remarkable Defect, we are to include that of all ſpon-
Actions. Sometimes the Patients retain their Senſation ;
ys himſelf, Τοὺς ἀφώνους αἰσθανομένους συμβαίνει γίνεσθαι,
δὲ ἄμφω πέπονθεν, ὅπερ ἀποπληξίαν ὀνομάζουσι, ἀναύδους·
gh depriv'd of Voice, they happen'd to retain their
tion ; but oftentimes they ſuffer a Deprivation of both,
is called an *Apoplexy.*" *Galen. Com. ad Aph.* 51.
6.
uſual with *Hippocrates* from this one moſt evident
, *Aphonia*, to name and ſignify thoſe who are totally
of voluntary Motion and Senſation, and lie like Per-
n apoplectic Fit. *Idem, in Com. ad Aph.* 58. *Lib.* 7.
is Place the Manner of *Hippocrates* is very obſervable,
y *Aphonoi*, means thoſe who labour under a *Carus.*
Carus properly is a ſudden Deprivation of Senſation and
affecting the whole Body ; and it is an uſual thing with
ates to call this Diſorder by the Name of this ſingle
, *Aphonia. Idem, Com. ad Aph.* 5. *Lib.* 5.
crates, Lib. de Rat. Vict. in Morb. acut. ſays, Τὸ δὲ
αίφνης γενέσθαι φλεβῶν ἀπολήψιες ποιέουσι· "A Stop
the Circulation of the Blood and Spirits cauſes a ſud-
Loſs of Voice." Here *Galen* obſerves, that by this one
Symptom *Aphonia* are denoted the Epilepſy, Apoplexy,
diacal Syncope. He adds, that an *Aphonia*, in ſick
is ſometimes cauſed by a Diſorder affecting the Organs
or Reſpiration with a Reſolution, or by ſome other
tion of the Faculty. But *Hippocrates*, in order to
Difference between this and the preceding *Aphonia*,
way of Diſtinction, ἢν ὑγιαίνοντι συμβαίνῃ, "if they
n to a Perſon in Health." Thus far *Galen*. An *Apho-*
his Nature proceeds from a Diſorder of the Brain, a
ation of the natural Heat, and total Ceſſation of the
tive Powers, when the Organs of Voice are in ſuch a
Reſolution, that the Patient can neither cry, groan,
r any Sound. I chuſe therefore to render ἄφωνος, de-
Voice, *(voce defectus ac privatus)* rather than dumb,
ſince *Hippocrates*, περὶ σαρκῶν, and *Ariſtotle*, *Lib.* 4.
im. attribute φωνὴ (Voice) to the Dumb. *Foeſius.*
e Word *Speech* we commonly underſtand ſuch an Emiſ-
rticulate Sounds, as is capable of conveying the Ideas of a Man's Mind to his Neighbour ; whereas the Voice is not, properly ſpeaking, an articulate Sound, but a certain diverſified Illiſion and Repercuſſion of the Air thrown with a kind of Force through the *Aſpera Arteria*, the *Larynx*, and its Fiſſure called the *Glottis*, to the Cavity of the Mouth and Jaws. Thus tho' *Speech* and *Voice* are different things, yet the former cannot ſubſiſt without the latter ; for when the Organs neceſſary for emitting Sounds, eſpecially the Aſpera Arteria, and its Head the Larynx, with their reſpective Cartilages, Muſcles, and Nerves, or the Roof of the Mouth, are vitiated, the Power of forming Sounds, and conſequently the Faculty of Speech, is deſtroy'd. Now *Galen* long ago prov'd by reiterated Experiments, that when one of the recurrent Nerves which are form'd by the *Par Vagum*, and the *Nervus Acceſſorius*, and reach to the Larynx, and, according to *Winſlow*, to the Tongue itſelf, is cut, the Animal becomes only capable as it were of an half and unfiniſh'd Pronunciation ; and, when both are cut, it loſes at once the Power of uttering Sounds, and the Faculty of Speech ; or, in other Words, becomes entirely dumb.

This Incapacity of emitting Sounds, and conſequent Loſs of Speech, a Caſe which frequently happens in Hyſteric Suffocations, is by Phyſicians call'd *Aphonia*. But I take the Word *Aphonia* in a more reſtrain'd Senſe, and confine it to that Incapacity of ſpeaking or emitting articulate Sounds, which depends upon ſome Fault of the Tongue ; in which Caſe Sounds may be utter'd, but the faulty Tongue cannot articulate them right, and ſeems, as it were, to be ſilenc'd by its own fruitleſs Struggles. There is an Affinity betwixt this Diſtemper and that Heſitation in ſpeaking, which we commonly call Stammering ; in which Caſe indeed articulate Sounds are form'd, but not diſtinctly enough expreſs'd, becauſe the Tongue is too ſlow, as it were, and incapable to cloathe the Ideas with Language, with the ſame Celerity with which they are excited in the Mind.

Now ſince in an Aphony the Tongue is principally in Fault, and ſince we conſider it as the Seat of the Diſorder, it will not be improper to take ſuch a View of its Structure as we think neceſſary, to anſwer our preſent Purpoſe. The Tongue then is a Muſcle of all others perhaps the moſt moveable, by reaſon of its longitudinal, tranſverſe, perpendicular, acuminated, angular, and other variouſly diſpoſed Fibres ; and by means of the Mylo-ſtylo-hyo and Genioglofſi Muſcles, as well as thoſe aſcrib'd to the Os Hyoides, it can move itſelf moſt nimbly and expeditiouſly in all poſſible Directions. Theſe Muſcles now mentioned derive their *Vis Motrix*, or moving Power, from the third Branch, called the lower Maxillary Branch, of the fifth Pair of Nerves, which is almoſt totally employ'd in producing Motion ; juſt as the ninth Pair ſeems to be deſtin'd for the Purpoſes of Taſte.

If by the Volubility of the Tongue, and its Capacity of moving in all Directions, Sounds form'd by the Aſſiſtance of the Larynx are modified into certain Letters, Speech is produc'd ; but the more difficult the Motion of the Tongue is, the more difficult Speech muſt conſequently be ; and when its Mobility ceaſes, the Faculty of Speech is deſtroy'd with it, tho' Sounds at the ſame time may be clearly enough utter'd.

Since the Motion of any given Part is either diminiſh'd or deſtroy'd by the Diminution or Interception of the nervous Fluid, which ſhould flow into its Nerves ; and ſince the Nerves deſtin'd for the Motion of the Tongue ariſe principally from the fifth Pair ; it plainly appears, that the Seat of an Aphony is to be ſought for in the ſaid Pair, and that the Influx of the nervous Fluid into that Nerve, being more or leſs diminiſh'd, is to be aſſign'd as its immediate Cauſe. In this Opinion we ſhall be confirm'd, if we carefully diſſect human Subjects, who, during their Lives, were *aphonous*. Thus *Bonetus* [*in Sepulchr. Anat. L.* 1. *Sect.* 22. *Obſ.* 7.] affirms, that in a Man, whoſe Melancholy degenerated into Madneſs, and who remain'd *aphonous* to his very Death, he found the Brain very dry, and the Origin of the Nerves in the ſame State, but much ſmaller than ordinary, the Tongue in the mean time remaining unaffected ; and [*Obſ.* 20.] he quotes a Caſe from *Riverius*, of a ſtammering Perſon, in whoſe Brain about the Lingual Nerves a *Cyſtis* was found with a Hole in it, from which a Serum always drivell'd.

Whatever therefore tends to hinder the Influx of the nervous Fluid into the Nerves deſtin'd to the Motion of the Tongue, that very thing contributes proportionably to the bringing on an Aphony. Hence a Palſy of the Tongue, which is either antecedent or ſubſequent to Hemiplectic or Apoplectic Diſorders, deſerves our moſt attentive Conſideration. This Diſorder ſometimes happens in old Men, and in languid or much weakened Conſtitutions. If it appears alone, 'tis generally the unwelcome Omen of an approaching *Hemiplexy* or *Apoplexy* ; but if it ſucceed theſe Diſorders, and is complicated with a Weakneſs of Memory, and a ſluggiſh Heavineſs of the mental Powers, it threatens the Return of the former Diſtemper. In this Caſe the Tongue is generally tumid, flaccid, half numb'd, leſs ſuſceptible of Motion than in its natural State, its Taſte impair'd ; and in an Hemiplegia it is vitiated and faulty only in one Side.

That *Aphony* is like to terminate more happily, which proceeds from a Stagnation, or Seceſſion of ſerous Humours compreſſing the Nerves of the fifth Pair, which run to the Tongue; but it is no leſs afflicting to the Patient, and proves ſufficiently obſtinate againſt the Means of Cure. Aphonies of this Kind happen after the ſtriking-in of ſerous Puſtles and Eſfloreſcences, eſpecially in moiſt and rainy Seaſons. Thus we may read of Aphonies after reſtrained Sweats; after Catarrhs unſkilfully treated, in *Foreſtus*, *Lib.* 14. *Obſ.* 32. after the Small-pox, *&c.* Theſe Kinds of Derivations of Serum to the Lingual Nerves may alſo be occaſioned by external Violence, Blows, or Falls. Thus *Poterius*, *Cent.* 2. *Cap.* 2. gives an Account of an *Aphony* occaſion'd by a Fall from an Eminence.

There alſo ariſes an *Aphony* from too great a Congeſtion of Blood in the Fauces and Tongue; but this Species of the Diſorder generally uſes to quit the Patient immediately, upon leſſening the Quantity of Humours. An Inſtance of this Degree of the Diſorder's being cur'd by a ſubſequent Hæmorrhage from the Noſe, may be ſeen in the *Acta Academ. Natur. Curioſ.* This Diſorder likewiſe enſues after letting Blood in the *Venæ Raninæ*, if the Operation is perform'd in plethoric Habits, without previous Veneſection in the Foot. From cutting theſe Veins, without this neceſſary Caution, Experience tells us, that very terrible Inflammations of the Fauces proceed; but more eſpecially from this Cauſe I have known *Aphonies* brought on Women whoſe Menſtrual Diſcharges were defective, or who labour'd under the Hyſteric Paſſion, the Spaſms of the Lower Belly concurring to foment the Diſeaſe, and force the vital Humours to the ſuperior Parts. Hence we frequently obſerve, that Girls at the Age of Puberty, or when they begin to obſerve the firſt Eruptions of their Menſes, are often ſubject to this Diſorder. In this Caſe, the Diſtemper uſes to be accompanied with a Swelling and Redneſs of the Face and Eyes, a turgid State of the Veſſels, a vehement Pulſation of the Arteries, and a difficult Deglutition.

An *Aphony* proceeding from Worms lodg'd in the Cavities of the Stomach and Inteſtines deſerves our Conſideration, becauſe it occurs pretty frequently. This Species of the Diſeaſe ſeizes the Patient ſuddenly, but ceaſes to rage when the Worms, its remote and ſecondary Cauſe, are diſlodg'd. It is known by antecedent or concomitant Gripes of the Belly, or by the other diagnoſtic Symptoms of Worms. Its direct and immediate Cauſe is the ſpaſmodic Contraction of the nervous Parts of the Lower Belly, by which the vital Juices are with a ſtrong Impetus driven to the Tongue and Fauces, where they ſtagnate, and compreſs the Nerves. I myſelf have not only ſeen many Caſes of this Nature, but alſo cur'd them with Succeſs: Nor do we want Caſes of this Kind occurring in the Practice of other Phyſicians; ſee *Act. Academ. Natur. Curioſ. Dec.* 3. *Ann.* 3. *Obſ.* 147. *Vol.* 2. *Obſ.* 62. And *Ibid. Obſ.* 160. there is a Caſe of a *periodical Aphony*, which ſeiz'd the Patient as often as the Worms excited Gripes, and ceaſed as ſoon as theſe Gripes went off.

There are alſo other Cauſes, which, when they occaſionally take Place, contribute very much to an *Aphony*, ſuch as the wanton Abuſe of ſpirituous Liquors, and frequent Surfeits. Thus *Hippocrates*, *Sect.* 5. *Aph.* 5. mentions an *Aphony* proceeding from Drunkenneſs: To the Cauſes of this Diſeaſe belong alſo exceſſive Fear and Refrigeration, eſpecially of the inferior Parts; and all theſe exert their Influences the more powerfully, if they happen at a Time when any of the natural Diſcharges of Blood is carrying on. Nor ought I on this Occaſion to forget a rainy Seaſon, and reſiding in damp and marſhy Places, Circumſtances which contribute not a little to this Diſorder, eſpecially in phlegmatic Conſtitutions, and ſuch as are ſubject to Catarrhs. The Prognoſtics of *Aphonies* vary, according to the reſpective Cauſes from which they proceed. That Species which owes its Origin to Worms, Hyſteric Diſorders, or a difficult Eruption of the Menſes, is eaſily cur'd; whereas that Kind of it which proceeds from a Palſy of the Tongue, either entirely fruſtrates the Uſe of all Means, or being cur'd, eaſily returns, and proves the direful Harbinger of a more terrible Diſorder of the Brain.

The CURE.

The firſt Intention of Cure, in an *Aphony*, is to remove the Cauſes compreſſing the Lingual Nerves, and thereby hindering the Influx of the nervous Fluid into them. The ſecond is to ſtrengthen and corroborate the weakened Parts: But as theſe Cauſes differ very widely from one another, ſo he that will take the Trouble of thinking, muſt plainly perceive, that they call for proportionably different Methods of Treatment; and 'tis no hard Matter for any one to ſee, that an *Aphony*, produced by a Cauſe that lies latent and remote in the Cavity of the Cranium, muſt with incredible Difficulty admit of a Cure.

That Species of Aphony therefore which proceeds from a true Palſy of the Tongue, calls for a Diſcuſſion and Evacuation of the Serum, which compreſſes the Nerves and Brain: The Cure is therefore to be attempted by Veneſection, pretty ſharp Clyſters, Diuretics, Sternutatories, *&c.* but eſpecially nervous and balſamic Medicines are to take place, and be apply'd even externally to the Tongue itſelf. For this Purpoſe the follo
are recommended:

Strong Waters of Lily of the Valley, Cowſlips, Roſe
Mother of Thyme, of Ants, Eſſence of Amber, an
Peruvian Balſam, Oil of Cinnamon, and of Clove-
flowers, and a few Drops of my *Balſamum Vitæ*, ta
Sugar, and kept under the Tongue. Internally al
ſame *Balſamum Vitæ*, mix'd with three Parts of the
Spirit of Sal Ammoniac, and two Parts of the acrid
cture of Antimony, may be taken with great Succeſs,
or thrice a Day; and the Doſe may be thirty Drops.
ther will it be improper to apply a gentle Veſicatory
Nape of the Neck.

If Suppreſſions of Sweat, or a Stop put to the uſual Ex
in caſe of a Catarrh, have contributed to the Diſorder,
can be uſed with greater Advantage and Efficacy, than D
retics and Diuretics, duly and ſkilfully preſcribed; for
diately upon the Diaphoreſis being reſtor'd, the Fac
Speech returns. Infuſions to be drank by way of Tea,
Regimen, ſuccinated Spirit of Hartſhorn, acrid Tinc
Antimony, and Eſſence of Amber, eſpecially if they be
with Balſam of *Peru*, or my *Balſamum Vitæ*, are al
ſovereign and efficacious Remedies in this Caſe.

An *Aphony* ſometimes ſeizes the Patient under a m
Salivation, that is, when the ſerous and ſalival Humo
to the Tongue and Fauces in too great a Quantity.
Caſe the Intention of Cure conſiſts in making a Derivat
Evacuation of thoſe Humours from the Head. Th
moſt effectually anſwered by diaphoretic Decoctions
warm; by Laxatives, and eſpecially by cephalic Pills of
ſharp and ſtimulating Quality, a proper Regimen in th
time being enter'd into, and carefully perſiſted in.

In an *Aphony* which remains after the Shocks of an He
or Apoplexy, and has all the Appearances of being ſu
obſtinate, I have obſerved remarkable Effects pro
applying to the Nape of the Neck Plaiſters prepared of T
tine, or Pitch, and the Gums Caranna and Maſtich;
Remedies, how rich and generous ſoever, generally c
of Expectation, and diſappoint our Hopes in this Caſe.

If an *Aphony* proceeds from too great a Congeſtion
in the Head, the whole Cure conſiſts almoſt in letting
proper Places, and in due Quantities. The Quant
from the Patient muſt be large, and drawn juſt as
ſtances require, either from the Arm, the Feet, or f
the Veins under the Tongue. Cupping and Scarific
alſo proper. The Feet muſt alſo be waſhed, in order
cure a Derivation of the Humours to the inferior Pa
trous antiſpaſmodic Medicines are alſo to be uſed i
becauſe in Caſes of this Nature the Spaſms of the lower
generally complicated with ſome other Diſorders: For
ſon temperating Powders, mixt with Nitre and Cin
my anodyne Liquor, mixt with Eſſence of Caſtor,
ſerviceable in this Caſe.

Tho' Bleeding is a Circumſtance of great Impor
Efficacy in the preſent Caſe, yet it is not to be uſed i
nately and at random; for in old Men, languid Con
and Patients of phlegmatic Habits, or thoſe whoſe S
exhauſted, it does more Harm than Good; and if ce
a larger Quantity than is ſufficient to anſwer the End,
from guarding againſt it, that it even excites and br
Phlebotomy then ſhould rather take place where th
quick and large, and the Face red and turgid with Blo
even in this Caſe it is not to be uſed, till the Stric
lower Parts be relax'd, and mitigated by previous
Frictions, and bathing of the Feet. Plethoric Pe
Bleeding ſhould carefully abſtain both from the inte
ternal Uſe of the hotter, more ſpirituous, and ner
cines; becauſe they ſtimulate the Humours more, a
their Congeſtion to the Fauces.

If ſpaſmodic Conſtrictions of the Fauces and T
produced an *Aphony*, as happens in Hyſteric and Hy
Paroxyſms, which are attended with Difficulty of D
external Paregorics are of more Service than internal
For this Purpoſe a little Caſtor, or Nutmeg, or T
Sage, may be held under the Tongue; or a few D
Balſamum Vitæ, mixt with ſome anodyne Liquo
pour'd upon the Tongue. Beſides bathing the Fee
tive Clyſters, emollient Fomentations and Baths,
ſerviceable in this Caſe.

Laſtly, That *Aphony* which is produced by Wor
the Cavities of the Inteſtines and Stomach, is ea
Anthelminthic Medicines, and ſuch as relax and
Strictures of the Inteſtines; for when theſe are at
Power of ſpeaking returns, but is again frequently
Worms, the remote Cauſe of the Diſorder, are di
this Reaſon, when the Spaſms are gone, the Phyſic
deavour, by proper Remedies, to diſlodge theſe
Animals, as effectually as he poſſibly can.

Case I.

d of a flabby Habit of Body, a florid Countenance, full
d and Humours, and eighteen Years old, happened,
Menſes had broken out, in a Journey ſhe was taking,
herſelf to the Cold: Being carried home again, ſhe
ed with a heavy Pain of her Head, and the Veſſels of
became turgid and red. She paſs'd the Night in a
aſy manner; and in the Morning felt herſelf entirely
of a Power of ſpeaking. This Diſorder laſted for
s; during which Time ſhe had neither an Appetite for
or an Inclination for Drink. Her Sleep was diſturb'd,
ad the Uſe of her Reaſon and Senſes; and a Warmth
s'd over the Extremities of her Body. Her Phyſician,
her coſtive, immediately preſcribed a Clyſter, and
about three Ounces of Blood to be taken from her
but her *Aphony*, notwithſtanding theſe Means, became
nger and ſtronger. Upon which I was call'd; and
her Pulſe ſtill quick and large, I ordered a Vein to be
ened, and ſeven Ounces of Blood to be taken from her;
her Pulſe was as yet ſufficiently ſtrong, I preſcribed
y Drops of a Mixture of Eſſence of Caſtor with Spi-
l Ammoniac, and ſome mineral anodyne Liquor, to be
very fourth Hour in Water of Lilies of the Valley.
er a Sweat broke out over all her Body, the Swelling
Face abated, her Sleep became ſound and undiſturbed;
perſiſting in the Uſe of this Medicine for twenty-four
her Faculty of Speech was wholly reſtored to her.

Case II.

Caſe is an Illuſtration of the former: A lean Girl, of
rs of Age, happening to have her Body, but more eſpe-
r Feet, expoſed to the Cold, in the Night-time, was
the Morning with a Difficulty of Speech, and a Swel-
her Tongue. Cephalic and nervous Medicines were
h preſcrib'd, both internally and externally, but they
no Relief. Upon this, I, being call'd, and finding her
l cold, ordered them to be rubb'd and bath'd twice a
common Water, with a Mixture of Bran in it: But
pedient fruſtrating my Hopes, I ordered Cupping and
tion in both her Arms; ſome Hours after which ſhe
t Relief; and by waſhing her Head with Wine, in
Thyme, Savory, Mother of Thyme, and Marjoram,
infuſed, ſhe was cured of her *Aphony*, and reſtored to
Health.

REFLECTION *on both* Cases.

theſe Caſes the *Aphonies* were produced by the Conge-
of Blood in the Head, and this Congeſtion was excited
e Refrigeration of the inferior Parts of the Body: But
anger was greater in the former than in the latter Caſe,
ſe in it the Menſtrual Diſcharge was ſtopt at the ſame
In the Beginnings of Diſorders of this Nature, ſpe-
cephalic, volatile and nervous Medicines do more
than Good, ſince they heat the Blood, and put it in-
rong Commotion; ſuch Remedies are rather to be pre-
d as derive the Congeſtion from the Head, and mitigate
x the Strictures of the inferior Parts, the principal of
are bathing of the Feet, and Veneſection. If the
are cold, I never order bathing them till they are ren-
a little warm by proper Frictions. I have often with
Succeſs preſcribed Bleeding at the Ankles for Women
monthly Evacuations have appeared, but are after-
obſtructed; but in the younger Sort, who have as yet
o Eruption of their Menſes, Cupping and Scarification
Arms is more proper, as alſo in Boys and Infants.
worth while to give this Caution, that *a ſufficient Quan-*
Blood be taken away, ſince, if it is too ſmall, it does
Harm than Good: For this Reaſon I judg'd it proper
eat it in the former of the above-cited Caſes. If, after
e Vehemence of the Pulſe continues, antiſpaſmodic
entle nervous Medicines are properly and ſucceſsfully

Case III.

time ago a Gentleman of ſingular Merit, and one who
well of our Profeſſion, aſk'd my Advice with regard to
r of a very particular Nature, an Account of which muſt
ly be agreeable to the Curious. A Boy of eleven Years
born of honeſt Parents, and who had till then enjoy'd
errupted State of Health, not having ever in his Life-
n ſenſible of the leaſt Defect or Faultineſs in his Speech,
ll of a ſudden ſo far depriv'd of it, that he could not
e any one Sound articulately, except the Word *Mama*,
t the ſame time he utter'd with a kind of Difficulty,
a ſunk and faultering Voice. Painful ſpaſmodic Ten-
'd him alſo in ſeveral Parts, which, drawing the whole
d Back into *Conſent*, induc'd on thoſe Parts an un-
Torpor, and Inability to move and bend themſelves as
in their natural State.
I.

The Phyſician, concluding that ſo terrible a Diſorder muſt neceſſarily have Worms for its Cauſe, preſcrib'd, what in other Diſorders of that Nature would have proved effectual, that is, various laxative, corroborative, antiſpaſmodic, and abſorbent Medicines; and gain'd his End ſo far, that having by theſe Means procured a Diſcharge of fifteen Worms by Stool, the Patient's Appetite, together with ſome Degree of his Strength, returned; his Sleep became ſounder, and his Belly was eaſy; but his terrible Impediment of Speech remain'd with him for five Weeks, without ever ſo much as taking a favourable Turn. I therefore, judging it proper to procure a more effectual Diſcharge of the Worms, preſcribed the following Pills, whoſe Efficacy againſt Worms I have often found very great, and of which I preſcribed him ſeven twice a Week; eſpecially about the Changes of the Moon, interpoſing a Powder, conſiſting of

> Fifteen Grains of the Sal Catharticum Amarum; purified Nitre, and Coral, each ſix Grains.

The Pills themſelves were made thus:

> Take Aſa-fœtida, the beſt Myrrh, Extract of Tanſy, Rhubarb, Aloes roſated, and Mercurius Dulcis, each one Dram; Extract of Saffron, ſix Grains: Mix, and make up, according to Art, with Eſſence of Caſtor. Twenty Pills are to be made out of each Scruple.

Laſtly, That we might alſo afford ſome Aſſiſtance by external Applications, by reſtoring the Parts too much weakened by the Spaſms, we now-and-then ordered an Epithem, made of

> Four Ounces of the Aqua Anhaltina; half an Ounce of my Balſam of Life; and two Drams of Peruvian Balſam.

By the daily Uſe of theſe Medicines for ſome time, his Speech return'd gradually more and more to him.

REFLECTION.

Many and terrible are the Diſorders brought on the nervous Syſtem by Worms, the Cauſe of which, I am inclined to think, conſiſts, not ſo much in the Corroſion of the nervous Coats of the Inteſtines, as in the acrid and cauſtic Exhalations riſing from the Bodies and Excrements of the Worms, in which they, as well as all other Inſects, abound. Numberleſs almoſt are the Medicines thought proper for diſlodging theſe Animals ſo hurtful to the Conſtitution; but excepting Mercurius Dulcis, mixt with ſome Purgative, ſuch as Reſin of Jalap, or Diagrydium ſulphurated, I have found this Intention more ſafely or effectually anſwered by no Medicine, than by Aſa-fœtida, Tanſy, Garlick, Wormſeed, Camphire, and Hops, which operate upon theſe Animals rather by their Exhalations being offenſive to them, than in any other way.

Case IV.

About a Year ago, a Boy of eight Years of Age was ſeized with the Small-pox, which appearing very thin, and ſtopping immediately after their Eruption, the Patient by that means became ſubject to ſeveral Diſorders, and was in a particular Manner troubled with frequent Defluctions of Serum, which uſed to bring on a Cough, Hoarſeneſs, and Coryza. Theſe Symptoms were indeed often allay'd by proper Remedies; but when they came at laſt to be accompany'd with a great Swelling and Hardneſs of the Belly, his Phyſician ordered him two Vomits, the ſecond very ſoon after the firſt, the Effects of which were very unlucky; for theſe forc'd Vomitings were ſoon after ſucceeded by ſpontaneous ones, which being accompanied with a Diarrhœa, miſerably rack'd the Patient for eight or ten Days. Theſe Symptoms being mitigated, a ſudden Dimneſs of Sight, and ſuch an Immobility of Tongue, and Difficulty of Speech, ſeiz'd the Patient, that he could not, with all his Efforts, utter one ſingle Word. Beſides theſe Symptoms, a large Swelling appeared on his Head, and a vehement Trembling and Wearineſs ſeiz'd his Joints; which Symptoms increaſed at laſt to ſuch a Degree, that his Strength becoming always weaker and weaker, he at laſt expired in a calm and gentle Manner.

REFLECTION.

There is hardly any Diſeaſe which leaves with Children ſo fatal, ſo various, and ſo laſting Symptoms as a variolous Fever, if either the Eruption or Suppuration of the Pox does not go duly on, or if the Maſs of Humours is not reduced to a good State and Temper, when the Diſtemper is over, by a proper Regimen, and Medicines which purify the Blood. Hence it frequently occurs in the Practice of Phyſic, that after the Small-pox or Meaſles we find Diſeaſes of the Breaſt ariſing from the Injuries ſuſtain'd by the Lungs, Swellings and Indurations of the Abdomen, together with Fluxes ariſing from the Viſcera being affected; and Atrophies of the other Parts produced by ſcirrhous Tumors of the Meſeraic Glands: But nothing is either more abſurd, or unſafe, than, without any indicating Symptom, to exhibit an Emetic, by which, in our Patient, the Flux was not only increaſed, but alſo the impure Serum, being, by means of the terrible Spaſms, propell'd with an Impetus to the Brain, produced, firſt a Palſy of the Optic, and then of the Sublingual Nerves, the Conſequence of which was Death. I could not forbear laying down this Caſe, that People might become ſenſible what terrible Conſequences enſue the unſkilful Adminiſtration of Medicines.

CASE V.

A Man of eighty Years of Age, of a dry Habit of Body, and accuſtomed to let Blood at leaſt thrice a Year, that is, in the Months *February*, *June*, and *October*, enjoy'd an excellent State both of Body and Mind. But one Seaſon, which was hotter than ordinary, he, by the Advice of a certain Phyſician, neglected his accuſtom'd Evacuations; upon which, being ſuddenly ſeiz'd with an apoplectic Fit, the Pulſation of his Arteries being ſtrong, his Eyes becoming red, and his whole Body exceſſively hot, he loſt all his Senſes, and an Ability of Speech. Whilſt the Patient was in this Situation, I, being call'd, firſt order'd a Vein to be open'd in his Arm, and emollient Clyſters to be exhibited; and, without neglecting other Medicines, apply'd my *Balſamum Vitæ* to his Mouth and Noſe. By theſe means, accompany'd with the Bleſſing of God, we gain'd our End ſo far, that the Violence of the Diſeaſe and its Symptoms abating, the Patient gradually recover'd, only the Heſitation of his Tongue remained pretty long with him, which we nevertheleſs happily cured, by frequently waſhing his Mouth with Wine, into which ſome Drops of my *Balſamum Vitæ* had been inſtill'd.

REFLECTION.

How efficacious and excellent a thing letting Blood is, both for preventing and carrying off moſt Diſeaſes, to which old Men are ſubject, may be learnt from this Obſervation: And, indeed, a very good Reaſon may be aſſign'd why it ſhould be ſo; for in old People, eſpecially ſuch as have a good Stomach, and an entire Appetite, the ſuperfluous Blood is not ſo quickly conſum'd as in young People, by reaſon of their Indolence, and want of due Exerciſe; and if Nature does not free herſelf of this Burden, 'tis neceſſary it ſhould be drawn away by Art; which is moſt conveniently done by Veneſection. His Phyſician then, without any good Reaſon, forbid his being let Blood during the Dog-days, which at that particular Seaſon was ſo much the more neceſſary, becauſe the too great Quantity of Blood, by having the Degree of its *Expanſion* and *Orgaſm* augmented, might eaſily ſtop here-and-there in the more noble Parts, and bring on very terrible Diſorders. Nor is it to be doubted but in the Caſe now under Conſideration, this gentle apoplectic Fit, with the Difficulty of Speech, were produced by ſuch a Stagnation of the Blood in the Veins of the Head. For this Reaſon, the firſt Step I took towards the Cure, was to order Veneſection in the Arm, which produc'd immediate Relief to the Patient; then I order'd emollient Clyſters to be exhibited, and, for aſſwaging the violent Motion of the Blood, recommended ſome Doſes of the Powder of Nitre, to be taken at proper Intervals, deſiring the Patient, at the ſame time, to drink an Infuſion by way of Tea made of the Herbs of Bawm, Betony, and Carduus Benedictus, Flowers of Sage and Roſemary; together with a few Drops of the Oil of Mace, dropp'd upon a little Sugar. From this Caſe we have a convincing Proof, that an *Aphony* is not more frequently the Concomitant of any Diſeaſe, than of an Apoplexy; ſince the former often remains ſome time, or is eaſily generated after the latter, if the Serum ſecern'd from the Blood ſtagnating in the Head ſhould enter the Pores of the Brain, and, by relaxing the Roots of the Nerves, deaden or weaken the Senſation and Motion of the Parts to which the Nerves diſtribute themſelves. *Frederic Hoffman, Med. Rational. Syſt.*

CASE VI.

A Girl of twenty or twenty-two Years of Age, and of a good Conſtitution, after a Stop put to an intermitting Fever by the uſual Remedies, was ſeized with an Extinction of Voice, which without Interruption remained with her for a Year and an half. The Remedies uſed in Caſes of that Nature, afforded her no Relief, only when ſhe uſed a Semicupium, [See SEMICUPIUM] ſhe ſometimes recover'd her Speech whilſt ſhe was in the Water; but her Voice was, even at that Time, very hoarſe. 'Tis alſo very remarkable, that ſhe could ſpeak during the hot Fit, whenever her Fever return'd. Mr. *Lemery*, to whom the Caſe was related, preſcribed ſuch Remedies as upon phyſical Reaſoning he judged moſt proper to remove it. Theſe,
indeed, freed the Patient from ſome Inconveniencies, w
remain'd after her Fever, but had not the leaſt Influence
her Extinction of Voice. Upon which, Mr. *Lemery* preſc
a Medicine almoſt by Chance, which produced very aſtoni
Effects. The Medicine itſelf was no more than ſome vu
rary Herbs infuſed by way of Tea. After ſhe had taken it
firſt time, her Voice returned for half an Hour, and then
extinguiſhed afreſh. But by continuing the Uſe of this In
of Vulneraries either hot or cold, ſhe gradually recover'd
Voice ſo far, that ſhe only loſt it towards Night, eſpeci
ſhe happen'd to take the freſh Air. But at laſt, even in
Caſe, the Symptom was remov'd by taking two Spoonf
her vulnerary Infuſion, which produced ſo inſtantaneou
Effect, that ſhe had ſcarce ſooner taken it, than ſhe wa
to ſpeak. It was by ſome thought, that in this Caſe, the
cacy of Vulneraries was no greater than that of warm W
but their Miſtake was ſufficiently prov'd by the beſt of A
ments: I mean, Fact and Experience; for the Patient
quently drank warm Water, without receiving the leaſt
vantage from it. Decoctions of Herbs abounding with A
and even Coffee, Chocolate, Sallads, crude Fruits, Fiſh,
Maigre, and too great an Interval between her Meals, dep
her of her Voice; whereas Fleſhes, Milk and Wine, prod
no ſuch Effect. She always carries about with her a Bo
her vulnerary Infuſion, and for that Reaſon uſes, in a j
manner, to ſay, *That ſhe has her Voice in her Pocket.* Hi
l'Acad. 1700.

CASE VII.

A Girl of twenty-four Years of Age has, ever ſince ſhe
Sixteen, been afflicted with a Loſs of Speech, during her mo
Evacuations, which generally laſt for two or three Da
which occaſion ſhe makes frequent uſe of a Ptiſan of the
men Caninum, (ſee AGROSTIS) and wild Poppy. This L
moiſtens her Breaſt, which indeed calls aloud for a Re
that Kind, but does not reſtore her Voice, which only
of its own accord to return when her Menſes are over.
the very Time ſhe was under theſe Diſcharges, ſhe hap
to have her Arm broken, and to meet with a ſevere Af
Theſe two Accidents put a Stop to her uſual Evacuation
brought on violent Suffocations and Vapours. Theſe
ptoms were removed by repeated Veneſections in the Ar
Legs, by Emetics, and ſome other Medicines; but at the
time ſhe was ſeiz'd with a continued Depreſſion of Voi
that to ſuch a Degree, that ſhe could ſcarce be heard wh
ple apply'd their Ears as near as poſſible to her Lips; an
ſpoke but a very little, even in that faint and languid m
ſhe was ſo fatigued, that ſhe was oblig'd to give it over.
felt a conſiderable Weight about the Region of her St
and could not perform the leaſt Motion without almoſt
tire Loſs of Reſpiration. Her monthly Evacuations w
this time pretty regular, but all her other Diſorders w
doubled: Add to this, that ſhe look'd tolerably well, h
petite was keen, and all her other Functions duly carry'd

In this Condition ſhe remain'd for three Months, in
all the Medicines that could poſſibly be thought of for h
lief. At laſt, Mr. *Lemery*, calling to mind a Diſorder
like Nature cur'd by his late Father, by means of Vul
taken in an Infuſion, order'd the ſame for the Pati
which when ſhe had taken one Draught, her Voice n
returned, but was as ſtrong and vigorous as it had been
the Approach of her Diſtemper. Her Oppreſſion, t
with the Difficulty attending her ſeveral Actions and M
was entirely removed. But a ſtill more ſurpriſing C
ſtance accompany'd this ſudden Cure; for all of a ſud
felt the Weight about the Region of her Stomach fall d
her Navel, where it remain'd. But as ſhe ſoon after
the Place of her Reſidence, Mr. *Lemery* ſaw her no
and conſequently could trace the Hiſtory of her Diſo
farther. *Hiſt. de l'Acad.* 1719.

APHORETOS, ἀφόρητος, from α Neg. and φέρω,
Intolerable. *Hippoc.* περὶ κρισίων. In the ſame Sen
ἄφορος ἡ νοῦσος, *Lib.* 1. περὶ γυναικ. be taken as ἀφόρη
as oppos'd to εὔφορος.

APHORISMUS, ἀφορισμὸς, from ἀφορίζω, to ſepa
ſtinguiſh. An Aphoriſm. It is defined by *Galen*, Co
Aph. 1. to be a Sentence comprehending all the Proper
thing in very few Words.

APHORME, ἀφορμὴ, of ἀπὸ, from, and ὁρμὴ, a
An Occaſion, or external manifeſt Cauſe, of any Even
len, *Com.* 3. in *Lib.* 6. *Epid.* ſays, "That *Hippocr*
"almoſt all the Antients, uſed to call *Aphorme* the M
"any thing that was the original Motive to any co
"Action, whether it were Money, or any other
"Poſſeſſion, or Faculty, or Place, or Faith, or Pr
"Reaſon, or, in ſhort, whatever it might be." *Hi*
calls *Aphorme* whatever gave Occaſion or Riſe to a Di
ſort of Metaphor; for *Aphorme*, in almoſt all other
has relation to human Actions, and their Motives.

AINON, ἀφραίνων, from α, Neg. and φρονέω, to
One who has loſt the Uſe of Reaſon. *Erotian. apud*

ODES, ἀφρώδης, from ἀφρὸς, Froth. Spumous, or
The Word is apply'd by *Hippocrates* to the Blood,
Excrements.

ODISIA, APHRODISIASMUS, ἀφροδίσια, ἀφροδι-
from Ἀφροδίτη, *Venus.* Venereal Commerce. *Hip-*
. 30. *Sect.* 6. *Caſtellus.*

ODISIA, in *Johnſ.* and *Rulandus*, is the Venereal
Age of Puberty.

ODISIASTICON CLIDION. A Troche ſo call'd
and recommended for ſpitting of Blood, the Colic,
, and Fluxes of the Stomach. It is thus prepared:

of the Flowers of the Pomgranate-tree, *Egyptian*
n, Balauſtines, Juice of Hypociſtis, Acacia, each
Drams fifteen Grains; Boxthorn, Rhubarb, Opium,
four Drams ten Grains; Myrrh, two Drams five
s. Infuſe them in Myrtle Wine, or in the Deco-
of Roſes, or of Myrtle-berries. *P. Æginet. Lib.* 7.
12.

ODISIUS MORBUS. The ſame as *Lues Venerea.*

ODITARIUM, ἀφροδιτάριον. The Name of a
recommended by *P. Ægineta* for hollow Ulcers,
compoſed of equal Parts of Frankincenſe, Squama
oidarium, (ſee RHOIDARIUM) Amylum, and Ceruſs.
. *Lib.* 4. *Cap.* 40. and *Lib.* 7. *Cap.* 13.

OGALA, ἀφρόγαλα, from ἀφρὸς, Froth, and γάλα,

Galen, nor any other Writer on the *Materia Medi-*
ld us what it is; but it ſeems to ſignify the Froth of
that concreted Part of the Milk on the Top, which
Froth, or that rich and fat Subſtance, which may alſo
Epipagus, ἐπίπαγος, (Cream) and which *Nicander*,
. adviſes to be drank againſt the Poiſon of the *Ixias.*
, that by *Aphrogala* is to be underſtood Milk ſtirred
s all to Froth. *Pliny* ſays, "That many of the bar-
Nations, not knowing, or elſe deſpiſing, that uſeful
Cheeſe, had a Method of condenſing their Milk into
fully acid Subſtance, and into a fat Butter, which
Spume or Froth of Milk." *Lib.* 11. *Cap.* 41. By
rds we are to underſtand the *Oxygala* and *Aphro-*
ch latter was an excellent Remedy againſt a hot Diſ-
e of the Stomach, and a wholſome Aliment, in
ute among the *Romans*, who uſed to cool it with
Galen tell us, *Meth. Med. Lib.* 7. *Cap.* 4. It ſeems
what we call Syllabub.

ON. The Name of a wild kind of Poppy, *Pliny*,
Cap. 19. Alſo the Name of a Cephalic Plaiſter, de-
Aetius, Tetrab. 4. *Serm.* 3. *Cap.* 13.

ONITRUM, APHROLITRUM, ἀφρόνιτρον, ἀφρό-
m ἀφρὸς, Spume, and νίτρον, or, in the *Attic* Dia-
, Nitre, Spume of Nitre. See NITRUM.

OS, ἀφρός, Spume or Froth.

OSELENOS, ἀφροσέληνος, from σελήνη, the Moon.
Stone, otherwiſe called *Selenites*, from its repreſent-
oon as it were in a Glaſs. *Gorræus.*

OSYNE, from ἄφρων, ſilly. Folly, Dotage. *Ca-*

HÆ, ἄφθαι. Superficial ſmall Ulcers in the Mouth.
ates, Aph. 24. *Lib.* 7. informs us, That new-born
and thoſe which are young, are much ſubject to
This *Celſus* tranſlating calls *Serpentia Oris Ulcera*,
Ulcers of the Mouth. *Lib.* 2. *Cap.* 1.

ppears by many Paſſages in *Hippocrates*, that *Aphthæ*
onfined to the Stomach; for this Author mentions
the *Pudenda* of Women with Child, and of the
teria.

Lib. 6. *Cap.* 11. ſays, that thoſe Ulcers of the
moſt dangerous, which the *Greeks* call *Aphthæ*, but
n eſpecially, to whom they frequently prove fatal;
lts, they are not attended with ſo much Danger.
ers begin at the Gums, and ſpread to the Palate,
e whole Mouth, and deſcend even to the Uvula and
which Caſe, it is not eaſy for the Child to recover.
orſe, if the Infant is yet at the Breaſt, becauſe it is
preſcribe proper Remedies for it. What is princi-
done is, to make the Nurſe exerciſe herſelf by fre-
king, and uſe ſuch Motions as move the ſuperior
ſides theſe, ſhe muſt be put into a Bath, and be di-
ilſt in it, to pour warm Water on her Breaſts: Mean
uſt live on mild Aliments, and ſuch as are not very
orrupt: Her Drink muſt be Water, if the Child is
f not, it may be diluted Wine; and, if coſtive, ſhe
urged. If her Mouth abounds with Phlegm, ſhe
it. The Ulcers muſt be anointed with Honey, to
ſort of Rhus which is called *Syriac*, (ſee RHUS)
Nuts, (ſee NUX) muſt be added; or with a Compoſition of dry'd Roſe-leaves, Pine-kernels, and Mint, made up with Honey; or with the Medicine made of Mulberries, the Juice of which muſt be boil'd to the Conſiſtence of Honey, and with it Saffron, Myrrh, Wine, and Honey, muſt be mix'd. Mean time, nothing muſt be given, which is capable of furniſhing Matter for Humours. If the Child has ſufficient Strength, Gargariſms muſt be us'd of the ſame Nature as the Remedies above-mentioned. But if milder Remedies are ineffectual, ſuch Applications are to be made uſe of, as by their cauſtic Qualities induce a Cruſt upon the Ulcers; of this ſort are Sciſſile Alum, Chalcitis, or Vitriol. Hunger and Abſtinence, in the greateſt Degree that can be ſupported, are alſo uſeful. The Aliment ſhould be of a mild Nature. Sometimes, in order to deterge the Ulcers, Cheeſe is properly enough apply'd in Honey.

Aretæus confines the Word *Aphthæ* to malignant Ulcers of the Tonſils, which are treated of under the Article TONSILLÆ, which ſee.

Oribaſius, as *Celſus* has done, diſtinguiſhes *Aphthæ* from other inflammatory Ulcers of the Mouth, in the manner following:

When there is an Inflammation of the Mouth, when the Patient is of a plethoric Habit, or his Body full of corrupt Humours, then we have recourſe to Veneſection and Purgatives, preſcribe Clyſters, and injoin Temperance, both with regard to Eating and Drinking. If none of theſe Things avail, we have immediate recourſe to Topics, and firſt of all endeavour to ſubdue the Diſtemper by aſtringent and cooling Medicines; ſuch as the *Diamoron*, with the Addition of *Omphacium*, or Roſe-buds; or dry'd Roſe-leaves, Balauſtines, Pomgranate-peels, unripe Galls, Alum, Frankincenſe, purging Thiſtle, and a Decoction of Myrtle, and Sciſſile Alum. Then the *Confectio Mororum*, in which Saffron and Myrrh have been put, is ſufficient to concoct and ripen the Matter of the Inflammation; and when it is ſo, Digeſtives muſt be uſed. For which Purpoſe we uſe Aphronitrum, Nitre, and Sulphur Vivum, which is of all other Medicines the moſt powerful. We alſo ſometimes mix with it Sapa, and ſometimes Mulſum, in which Origanum, Hyſſop, Penyroyal, Thyme, Savory, or Catmint, have been boil'd: For Medicines of a moderate Quality were invented, in order to be mix'd with others which have a direct Influence on the Diſorder, as Neceſſity ſhall require. But in the Height of Inflammations of the Mouth, Medicines are rarely to be uſed; but the Mouth is only to be waſh'd and gargariz'd with ſuch Things as allay the Vehemence of the Inflammation, ſuch as a Decoction of Figs, a Decoction of Bran, or Oil of the Maſtich-tree made warm in a double Veſſel. But the Medicine itſelf, which, becauſe of its Influence on the Mouth, is call'd *Stomatic*, may in the Height of the Inflammation be uſed for waſhing the Mouth, if it is only mix'd up with ſufficiently diluted Mulſum, and warm new Wine boil'd to two Thirds, and with warm Water, if none of theſe can be had. All theſe I have mention'd, that the Patient might have Choice of Medicines accommodated to his Caſe. But, in general, all Ulcers of the Mouth, which are flaccid, require highly drying Medicines, ſuch as Recrements of Copper, both with and without Honey or Mulſum. The Troches of *Muſa*, the Juice of Rhus and Omphacium, are alſo of Service in this Caſe. But milder Ulcers of the Mouth may be cur'd with the Medicines appropriated to *Aphthæ*, ſuch as the *Diamoron*, or a Preparation of Bramble-berries. But when Ulcers of the Mouth are very moiſt, and lie pretty near the Bone, there is Danger of their mortifying. In this Caſe, therefore, the ſtrongeſt and moſt powerful Medicines are neceſſary; for which Purpoſe, we reduce one of the fore-mention'd Troches to a Powder, and apply it dry to the Part affected; for upon account of the Humours, and Warmth of the Parts contain'd in the Mouth, a Putrefaction is ſoon brought on. For this Reaſon we are for the moſt part oblig'd to uſe the moſt forcible Medicines in Ulcers of this kind, ſuch as may induce a Cruſt as effectually as the actual Cautery. But thoſe Ulcerations which ariſe on the internal Surface of the Mouth, are call'd *Aphthæ*, and are principally incident to Children. Moderate Aſtringents are generally us'd for the Cure: Sometimes alſo they grow inveterate, and in Proceſs of Time become of difficult Cure, when they bring on a Putrefaction, or that Species of Ulcer by the *Grreks* call'd νομαὶ, from their ſpreading and conſuming Nature. To ſuch Children therefore, as can eat, 'tis proper in this Caſe to give Lentils with a little Bread, Marrow of Veal, or of a Stag, and a ſmall Portion of Quinces, or other Aſtringents, ſuch as Pears, Fruit of the Service-tree, or Medlars; and if the *Aphthæ* are inflam'd, Lettice muſt be put into their Victuals. But if the Child cannot yet eat, theſe Things muſt be given to its Nurſe. It will alſo be proper to anoint the Children themſelves. If the *Aphthæ* are reddiſh in the Beginning, let ſuch Medicines as are moderately cooling and aſtringent, be apply'd to them; then we are to uſe ſuch Things as digeſt without Pain. If they are yellowiſh, Medicines of the ſame, but a more cooling Nature; if they are whitiſh, and full of Phlegm, abſterging Medicines are neceſſary; if black, ſtrong Digeſtives. But in Adults, and thoſe, the Parts of whoſe Body are of a harder Contexture, *Miſy*, with a little aſtringent Wine, is ſufficient. If the Ulcer is ſordid, the *Miſy* is to be mix'd with Mulſum. But in thoſe *Aphthæ* which require ſtronger Medicines than the *Miſy*, theſe may properly enough be levigated with Wine and Mulſum; for theſe are efficacious Ingredients: But of the middling Kind, eſpecially in the Beginnings of theſe Diſorders, are Omphacium with Mulſum, and Rhus with the ſame. In very young Children, the Flower of Roſes, or even dry'd Roſes themſelves, are ſufficient *Oribaſius de Loc. Affect. Curat. L.* 4. *Cap.* 68.

Children are ſubject to a Species of Ulcer, which they call Ἄφθαι, which is ſometimes whitiſh, ſometimes reddiſh, and ſometimes black. This Ulcer reſembles a Cruſt, and is of a very fatal and deadly Nature. In this Caſe, Iris, with Honey, is of Service; as alſo its dry Powder, blown upon the Part affected. Roſe-leaves, likewiſe powder'd Roſe-flowers, Saffron, a little Myrrh, Galls, Frankincenſe, *Indian* Bark, (φλοιὸς τȣ͂ λιβάνȣ) taken either with or without Honey. After theſe the Patient is to uſe Hydromel, and the Juice of ſweet Pomgranate. *Paul. Ægineta*, *Lib.* 1. *Cap.* 10.

The Cauſes of the *Aphthæ* are, by *Actuarius*, ſaid to be either when the Milk of the Nurſe is too ſcanty, or when the Child itſelf cannot ſufficiently concoct and digeſt it. The Method of Cure propoſed by him, is much the ſame with that laid down by *Oribaſius*, from whom he only differs in a few trifling Circumſtances, not of Weight enough to lay a Foundation for pronouncing the Cure of the one different from that of the other. *Actuar. Lib.* 6. *Col.* 318.

Thoſe Puſtules, accompanied with ſome Degree of Inflammation, which appear in the Mouth, the Fauces, and Œſophagus of Children, are, by Phyſicians, call'd *Aphthæ*; and are indeed nothing elſe than ſmall Ulcers, not exceeding the Bulk of a Millet or Hemp-ſeed: Theſe, notwithſtanding their Smallneſs, ſometimes become ſo fiery and painful, as not only to excite uneaſy Senſations, and loud Shrieks, in the tender Patient, but alſo render Suction of the Milk, and even Deglutition itſelf, difficult and uneaſy.

Theſe Puſtules of the Mouth differ in Degrees; for ſome of them are without Pain, of a red or yellow Colour, and only diſperſed here-and-there on the Surface of the Gums, the Tongue, and Cheeks, and are therefore to be judged of a mild and benign Nature; whereas others are of a livid or blackiſh Colour, very painful, and ſo extended to the Uvula, Fauces, and Œſophagus, that the whole Surface of the Mouth often appears to be one continued Exulceration; and indeed theſe are, for the moſt part, of ſuch a malignant Nature, as to conſume and eat the ſubjacent Fleſh to the very Bones.

The Matter exciting the *Aphthæ* is of a highly acrimonious, penetrating, and cauſtic Quality. This Matter being originally lodged in the Blood, and, by means of the Glands themſelves, ſecreted in the glandular Covering of the Fauces, corrodes, inflames, and exulcerates the tender Fleſh of the Mouth and Palate: Hence ariſe *Aphthæ*, and all the various Train of Symptoms, with which they may poſſibly happen to be complicated.

But among the more remote and leſs immediate Cauſes which concur to the Generation of ſo virulent a Matter, we may, above all others, reckon, firſt, the Milk either of Mothers or Nurſes, corrupted by an improper Regimen, by a Complication of Diſeaſes, or the violent Sallies of turbulent and uneaſy Paſſions; and ſecondly, this ſame Milk, coagulated in the Stomachs of the ſucking Children themſelves, and render'd impure and corroſive by an Admixture of the Bile; for when ſuch a Milk paſſes into the Blood, it cannot, in the very Nature of the Thing, fail to communicate a certain acrimonious Taint to its whole Maſs, and lay a pretty ſure Foundation not only for *Aphthæ*, but alſo for ſeveral other Diſorders.

As this is the Caſe, we have no Reaſon to be ſurpriſed, that *Aphthæ* of various Kinds ſhould generally either accompany or ſucceed thoſe Diſeaſes, which draw their Origin from an Impurity of the Blood, as is generally the Caſe in acute and malignant Fevers, Coughs, choleric Diarrhœas, Aſthmas, difficult and painful Teething, and others of a like Nature; for, in Fevers, the Blood is, by reaſon of its exceſſive Heat, for the moſt part, deprived of its mild and gelatinous Part, and very eaſily acquires a ſaline and ſulphureous Quality; but in the other Diſtempers mentioned, a certain ſharp and vellicating Matter is in the Fault; and not only excites Coughs, Diarrhœas, and Aſthmas, but is alſo ſubject to produce *Aphthæ*.

Other external Cauſes alſo frequently concur to the Production of *Aphthæ*; and eſpecially a Neglect of keeping the Tongue and Fauces clean; the pernicious and prepoſterous Method of curing Fevers, and other Diſeaſes, by hot Medicines; and expoſing the Bodies of Children, when over-heated, to a cold Air; which, by checking Tranſpiration, has an almoſt unavoidable Tendency to accumulate and hoard up ſaline and ſulphureous Sordes in the Maſs of Humours. Nor ought we, on this Occaſion, to exclude other Cauſes which have an immediate and direct Influence on the lax Compages of the Fauces; ſuch as Crums of Bread, or Sugar, wrapt up in a Piece of L Cloth, in form of a Tent; as alſo a Piece of Bread dipp' Ale, and given to Children to be ſuck'd. This Practice only followed by the lower Claſs of our own Countryw but *Lentilius* alſo, *Ephemerid. German. Dec.* 3. *Anno* 3. *A dice*, *Obſ.* 94. has taken Notice of its prevailing in a part Manner in *Swabia*, and cenſur'd it with all the Bittern juſtly deſerves; for, partly by the ſtrong Attrition of theſe ſtances, and partly by the Change induced on the natural of the Saliva, the tender Cuticula of the Mouth is too viol acted upon, and Puſtulæ are excited: But this Species of *thæ*, unleſs an internal Acrimony of Humours concurs, only ſoon and eaſily cured, but has alſo given Occaſion to ſicians to attribute *Aphthæ* either to an internal or an ex Cauſe.

Thoſe *Aphthæ* which lie at conſiderable Diſtances from other, on the Surface of the Mouth, are free from Pain of a red or yellow Colour, yield more eaſily to the Fo Medicines, than ſuch as poſſeſs the whole Fauces, are blackiſh Colour, exulcerate deeply, and diffuſe a fœtid a agreeable Smell. Neither is there ſo much Danger in *Aphthæ* which proceed from an external Cauſe, as in which ariſe from one that is internal, and draw their from a depraved and corrupted State of the Juices; f thoſe which ſymptomatically accompany acute Fevers ſome other violent Diſtempers. Among the worſt Kind of *thæ*, we may juſtly reckon thoſe attended with great Inf tion, a Difficulty of Breathing and Deglutition; whi malignant Diſorders, are generally bad Prognoſtics, an upon diſſecting the Patient when dead, often found over the whole Œſophagus, to the Stomach itſelf.

The CURE.

The Cure of *Aphthæ* varies according to the different N of their productive Cauſes; for if a depraved or corrupted either of the Mother or Nurſe, is ſuſpected as the Cauſe Cauſe ought to be removed by correcting the Milk; moſt effectually done by her abſtaining from ſaline, acri rituous, and acid Subſtances; by her ſtrictly guarding the Sallies of Paſſion, and uſing ſuch Medicines as p Blood, and reduce it to a due Craſis: Of this Kind Decoctions of temperate, diaphoretic, abſorbent, and purgative Roots and Herbs.

If, on the other hand, the *Fomes* of the Diſtemper i nally lodged in the Child itſelf, it is to be frequently pu proper Intervals, with due Doſes of Syrup of Manna, cory with Rhubarb; and ply'd with ſuch Medicines as a Coagulation of the Milk, and correct its acrid *Dyſcraſ* Things, as, I have already ſaid, had a Tendency to pro *Aphthæ*, are at the ſame time to be carefully avoi guarded againſt. Then, for correcting the Acrimony Humours, Decoctions of Oats, mixed with Sugar-ca Oil of ſweet Almonds, muſt be uſed. Decoctions of T or common Carrot, muſt alſo be preſcrib'd for the ordinary Drink.

It is likewiſe proper to allay the corroding Acrimony *Aphthæ* by external Applications; for this Purpoſe we Linctuſes, prepared of Diamoron, Juice of Pomgra Honey; as alſo Juice of Turneps, incorporated with of Eggs and Sugar; or Cream, mixed with Syrup Poppies, the Yolk of an Egg, and a little Nitre, appl with the Fingers wrapp'd in a Piece of Linen Cloth, Sponge. The Yolk of an Egg alſo, incorporated w water and Sugar-candy, as alſo a Mucilage of Qu mixed with Honey and a little Saffron, afford a very able Relief, if rubb'd on the Puſtules. But I would ſuch Gargariſms as are uſually preſcrib'd for waſhing the to be uſed for little Children, ſince they are entirely for doing what is requiſite on an Occaſion of that Na

Thoſe *Aphthæ* which accompany acute or other are never to be cured till that particular Diſtemper, w comitant Symptom they are, is either allay'd, or thro dued and eradicated. Now, in acute Caſes, the Wo Efforts of Nature ought by no means to be diſturb'd tives; ſince the End is better anſwer'd by gentle D and temperating Emulſions, prepared of the Four cold a ſmall Quantity of Poppy-ſeeds. *Hoffman. Medic. Syſtemat. Vol.* 3.

Riverius recommends Narcotics in the Cure of and moſt dangerous *Aphthæ*; becauſe they not only but prevent a Fluxion of Humours to the Parts
“ Thus, ſays he, I myſelf ſnatched a Boy, of four
“ Age, from the very Jaws of Death, by giving
“ Grain of *Laudanum*, when his Tongue and M
“ full of deep Ulcers, accompanied with ſuch a De
“ flammation, that he could neither ſwallow Broths,
“ the Application of Topics; when the Afflux of
“ mours to his Mouth was ſo great, that they con
“ vell'd from it in large Quantities; and when he

and Nights in an uninterrupted Courſe of Agony and ks." *River. Praxis Med.*

tain Woman was afflicted with very painful and obſti- *btha*, which would neither yield to Veneſections, Purges, cooling Juleps, nor anointing with the Spirit ur: She paſs'd the Nights without Sleep, and could not out the greateſt Difficulty, becauſe her Mouth was full Ulcers. However, upon taking three Grains of Lau- for three Nights ſucceſſively, the acrid Defluxion on ith was ſtopp'd, and the *Aphthæ* cured in a few Days. *Obſervat. Cent.* 3.

Author gives an Inſtance of *Aphthæ* being produced in nach by a raſh and unwary Uſe of Lemon-juice.

From BOERHAAVE.

hæ are frequent in acute Diſeaſes, attended with Inflam- of ſome of the Viſcera. Theſe are ſmall, round, al Ulcers, on the Inſide of the Mouth; which, upon rate Examination, appear to be Exulcerations of the ities of the excretory Ducts of thoſe Glands which ſepa- ſalivary Humour, and convey it to the Mouth: Now is Fluid is, by any Cauſe, render'd too thick and viſcid, up the Extremities of theſe Canals, which, upon this, te.

y Part, therefore, into which ſuch excretory Ducts diſ- themſelves in a natural State, are ſubject to *Aphthæ*; as s, Gums, internal Parts of the Cheeks, Tongue, Fauces, Tonſils, Uvula, Throat, Stomach, and ſmall es.

ſaid, that the large Inteſtines, tho' rarely, are infeſted eſe ſmall Exulcerations; and that they are propagated e whole Inteſtinal Tube.

Northern People, who inhabit marſhy Places, are moſt to *Aphthæ* in a hot and rainy Seaſon; and Infants and ple are, in general, moſt affected with them. But in ies which are warm or mountainous, or where the Air is ly ſerene and dry, they are ſcarcely known. See TIA ULCERA.

hæ, in the Mouth, are uſually preceded by a continual ever; or an Intermittent, degenerated into a continual which began with a Diarrhœa, or Dyſentery; a conſi- and perpetual Nauſea, Vomiting, Loſs of Appetite, and nxieties about the Præcordia, frequently returning; by eakneſs, or any conſiderable Evacuation of the Humours; or and Heavineſs; by unequal, but perpetual, and not olent Drowſineſs; and by perpetual Complaints of a Sen- f Heavineſs and Pain about the Stomach: And it is able, that thoſe preceded by great Evacuations of the rs are very dangerous.

times, in the Beginning, a ſolitary Puſtule will appear in t Parts of the Mouth; as upon the Tongue, in the of the Lips, in the Fauces, or elſewhere, without any ty as to the Part on which they firſt are viſible; and e generally of a mild Nature. But ſometimes they appear he lower Part of the Fauces, and a white, thick Cruſt, like new Bacon, which adheres firmly to the Parts, and ſlowly, ſeems, as it were, to proceed from the Œſopha- heſe are uſually a very bad Sort, and generally fatal. worſt Sort, and of which the Patient very ſeldom reco- e thoſe which cover the whole Mouth, as far as the Ex- s of the Lips, with a hard, firm, thick, and tenacious Cruſt. The two laſt Species ſhould ſeem to have their in the Stomach, and thence to aſcend into the Mouth.

Malignancy of *Aphthæ* may be eſtimated by their Colour. hoſe which are white and pellucid, and almoſt of the of Pearls, are the leaſt malignant; thoſe which are but opaque by reaſon of their Thickneſs, are more ſo; ſo bad as thoſe which are brown, yellow, or livid: ck are, of all others, the worſt.

n theſe *Aphthæ*, or *Aphthoſe* Cruſts, have adher'd ſome the Parts affected, they begin to ſeparate, and be looſen'd e ſubjacent Part, and to fall off, ſo that all the affected e, by Degrees, and ſucceſſively, freed from them: But aration is effected in ſome Kinds ſooner, in others later. nce alſo we may judge of the Degrees of Malignity; for ner the Separation happens, the leſs is the Danger.

etimes theſe, when fallen off, are immediately ſucceeded *Aphthæ*; but ſometimes this Succeſſion happens more and ſometimes not at all: Sometimes alſo the ſucceed- *thæ* are as thick, or more ſo, than the firſt; and hence Danger may be eſtimated; for the ſooner they are , and the *thicker*, the greater is the Malignity.

n conſidering what has been premiſed, we may readily n Idea of the Seat, Nature, Cauſe, and Symptoms of , and of their different Sorts; and hence alſo their may be underſtood.

, if ſuch an *Aphthoſe* Cruſt, as is above deſcrib'd, covers ole Superficies of the Parts mention'd, all Senſation, hould be communicated to the Nerves, is intercepted, Patient loſes his Taſte. Beſides this, the Egreſs of the Fluids, by theſe obſtructed Emiſſaries, is utterly prevented; the Conſequences of which are, a Drineſs of the Parts, a Dilatation of the ſubjacent Veſſels, a Putrefaction of the Fluids, ſtagnating under the *Aphthoſe* Cruſt, and an Inflammation of the Parts themſelves in which they ſtagnate.

Hence alſo the Orifices of the abſorbent Veſſels are obſtructed in ſuch a manner, that no freſh Chyle, Fluids, or Medicines, can enter them; and this produces all thoſe Diſorders which may proceed from a Deficiency of Nouriſhment, and, in the End, Death.

When theſe Cruſts fall off, there is an increaſed Flux of Humours from the Mouths of the diſtended Veſſels now opened; hence a large Diſcharge of Saliva, or a Diarrhœa, which are good Symptoms, if the *Aphthoſe* Cruſts are not renew'd; but bad, if they are.

Upon the Falling-off of the Cruſts, a great Pain ſucceeds of the Parts underneath, which are now inflamed and expoſed: Theſe often diſcharge Blood, whence bloody Saliva, and a bloody Dyſentery.

If what has been ſaid is applied to the Stomach, the excretory Ducts of the Liver, Pancreas, and of the other Glands which open into the Inteſtines, we may form an Idea of an infinite Number of Diſorders ariſing from this Diſtemper; inſomuch that a farther Detail of the Prognoſtics will be ſuperfluous.

If theſe ulcerous Cruſts are very ſlow of Separation, thick, broad, and compact, the ſubjacent Fleſh, being, as it were, ſuffocated, inflames, ſuppurates, or even mortifies; the Conſequences of which are malignant Ulcers, which ſometimes affect the *Os Palati*, and its *Perioſteum*: Hence we may judge of their Effects in the Stomach and Inteſtines.

The CURE.

1. The Impulſe of the vital Fluids, upon the Parts affected, is to be gently excited, and ſo conducted, that, by a proper Supply of Fluids, the ulcerous Cruſts may be looſen'd, ſeparated, and fall off: This is effected by drinking great Quantities of warm, diluting, reſolving, and abſterging Liquids. And becauſe, in ſome bad Caſes, the Orifices of the Lacteals are ſo obturated as not eaſily to admit the Liquids thus taken, Fomentations, Vapours, and Baths, are of ſingular Uſe. The very beſt Aliment is Bread boil'd in Water, and then mixed with Wine and Honey.

Take of ſweet Almonds blanch'd, two Ounces; of Piſtachio-nut Kernels, one Ounce; of the Four greater and leſſer cold Seeds bruiſed, each three Drams; of excorticated Oats, three Ounces: Boil theſe in a ſufficient Quantity of Water that two Pints of the Liquor may at laſt remain, in a cloſe Veſſel for an Hour; and then add, of Liquorice-root, an Ounce, and let them boil together a little: Then let the boiled Ingredients be throughly bruiſed in the Decoction; and of this let the Patient drink frequently; and with this let him waſh his Mouth. Or,

Take of the Roots of Carrots, Skirrets, China, Sarſaparilla, and Turneps, each four Ounces; of whole Barley, an Ounce: Let theſe Ingredients be well bruiſed, and boiled in Water; and, to thirty Ounces of the expreſs'd Liquor, add, of Syrup of Marſh-mallows, an Ounce. Let this be uſed as the preceding.

Take of the Roots of Turneps unpar'd, a ſufficient Quantity; let them be grated or raſped, and let the Juice be preſs'd out; and, whilſt it is boiling, let it be deſpumated; then, to ſixteen Ounces of this Juice, add the Yolks of two Eggs; and of Syrup of Violets, two Ounces. Let the Patient take half an Ounce every half Hour.

The moſt proper Aliments, beſides thoſe mention'd before, are Decoctions of the farinaceous Vegetables.

2. The Cruſt muſt be diſpoſed to ſeparate ſoon and eaſily; which is effected by Fomentations, Gargariſms, and Clyſters: Theſe muſt conſiſt of warm, relaxing, emollient, and deterging Liquors, which moiſten the Parts by adhering to them a ſufficient time, and which reſiſt Putrefaction. Thus,

Take of the Leaves of Mallows, Brank-urſine, Marſh-mallows, Pellitory of the Wall, Mullein, Mercury, Lady's-mantle, each two Ounces; of the Roots of Marſh-mallows, an Ounce; of the Roots of Turneps, ten Ounces: To three Pints of the Decoction, made with Water, and expreſs'd, add the Yolks of four Eggs; and Honey of Roſes, two Ounces. With this let the Mouth be perpetually waſhed, or gargled.

Make a Cataplaſm of the *Reſiduum*, to be applied externally to the Region of the Fauces.

Let Clyſters alſo of this Decoction be adminiſter'd.

3. As ſoon as the Cruſt is fallen off, it will be proper to uſe anodyne and demulcent Remedies, and ſuch as contribute to ſtrengthen the relax'd Parts. Thus,

> Take of Syrup of white Poppies, two Ounces; of Cream, two Ounces; the Yolks of two Eggs; of Roſe-water, two Ounces: Let a little of this be held continually in the Mouth. Or,

> Take of the Jelly of Hartſhorn, or of Fleſh, made very thick, and cut into Slices, a ſufficient Quantity: Let one of theſe Slices be perpetually diſſolving on the Tongue, and ſo gradually ſwallow'd.

Theſe two Medicines act agreeably upon the excoriated Parts; and the following contributes to ſtrengthen them.

> Take of the Decoction of the freſh Leaves of Agrimony, ſeven Ounces; of Honey of Roſes, an Ounce. Let this be applied perpetually to the affected Parts.

4. As ſoon as the Fever is abated, a Sediment appears in the Urine, and the Pulſe begins to be free, corroborating Medicines are to be directed. Thus,

> Take of the Root of the ſharp-pointed Dock, an Ounce; of the *Peruvian* Bark, and that of Tamariſk, each ſix Drams; of the Leaves of Agrimony, one Handful: Boil theſe Ingredients in a ſufficient Quantity of Water, and to a Pint and an half of the Decoction add, of the Syrup of Kermes, an Ounce. Of this let the Patient take half an Ounce every Hour. This corroborates the relax'd Veſſels of the Inteſtines.

Sydenham adviſes in thoſe *Aphthæ* which happen at the End of Fevers, together with Hiccoughs, to give an Electuary of an Ounce of the Bark, made up with the Syrup of red Poppies, or in the Form of Pills. Of this he directs the Patient to take one twelfth Part every four Hours, drinking after it a Draught of Whey; and he ſays, it is the moſt effectual Remedy he has met with, provided the Virtues of the Remedy are not impair'd by continually confining the Patient to his Bed.

5. At the End of the Diſtemper, ſome corroborating Purge ſhould be adminiſter'd. Thus,

> Take of Rhubarb a Dram and a half; yellow Myrobalans, with the Nuclei, an Ounce and a half: Boil in a ſufficient Quantity of Water for three Ounces of the ſtrain'd Decoction; to which add, of Syrup of Succory with Rhubarb twelve Drams. Make a purging Potion.

From the preceding Hiſtory and Cure of *Aphthæ*, many obſcure practical Problems may be explained.

Thus, if a Reaſon ſhould be required, Why, in a Fever, attended with a Diarrhœa or Dyſentery, *Aphthæ* frequently appear at the End of the Diſtemper?

It may be anſwer'd, Becauſe the moſt fluid Parts of the Secretions are carried off, and only the moſt viſcid remain in the excretory Veſſels of the Glands.

Why does this happen principally to Children and old People?

Becauſe in Children the *Vires Vitæ* are languid; in old People the Juices are ſubject to Viſcidities.

Why are thoſe particularly ſubject to theſe *Aphthæ*, who, in the Beginning of the Fever, have been treated with Medicines, Aliment, or a Regimen, which are heating or aſtringent?

Becauſe Aſtringents brace up the Orifices of the excretory Ducts; and a *hot Treatment* draws off the thinner Parts of the Fluids.

Why does a Purge, adminiſter'd in the Beginning of ſuch Diſtempers, prevent *Aphthæ?*

Becauſe by this means thoſe Viſcidities which ſtick in the Ducts, and cauſe *Aphthæ* afterwards, are carried off.

Why does a troubleſome and fatal Hiccough frequently accompany the worſt Species of *Aphthæ?*

Becauſe, in this Caſe, the Stomach is cover'd with an *Aphthoſe* Cruſt, which falling off, the Extremities of the Nerves are left bare, and are conſequently eaſily irritated to Convulſions, and liable to Inflammation and Gangrene.

Why are *Aphthæ* in the Mouth joined, by *Hippocrates*, with *looſe Bellies*, and *Proſtration of Appetite?*

Becauſe when the internal Coat of the Stomach is cover'd with *Aphthæ*, there muſt be a Loſs of Appetite, or a Chyloſe Diarrhœa, becauſe the Chyle cannot enter the Lacteals; the Stomach is ſeldom affected with theſe *Aphthæ*, but the Inteſtines are ſo likewiſe.

Why does an *Aphthoſe* Covering of the Stomach produce a Lientery?

Becauſe no proper diluting Humour can be ſecreted in the Stomach, and therefore no Digeſtion can be performed, and the Aliment muſt go out of the Stomach as it enter'd.

Why are black *Aphthæ* eſteem'd fatal?

Becauſe they tend to a Gangrene.

Why do *Aphthæ* in the Mouths of pregnant Women a Miſcarriage?

Firſt, becauſe they are Evidences of a conſiderable Vi and perhaps Acrimony, of the Juices; and ſecondly, they prevent a due Supply of Chyle from entering the L both which are Hindrances to the Nouriſhment of the F

Why are *Aphthæ* frequent in Putrefactions of the Liver, or other principal Viſcera?

Becauſe the putrid Matter convey'd from the Abſceſs Viſcera to the Blood, and thence to the Glands, impre the ſeveral Secretions an acrimonious Taint; hence the mities of the excretory Ducts are corroded.

In a Conſumption nothing is a more certain Preſage o than theſe *Aphthæ*.

Why does a Tumor, Heat, Suffocation, and a Q ſometimes ſucceed a Refrigeration of *Aphthæ?*

Becauſe by contracting the *Aphthæ* and ſubjacent Pa *Aphthæ* are prevented from falling off, and the Veſſels neath are obſtructed; hence the Parts ſwell, and are in And hence we may account for Deliria, Anxieties, W Reſt, and cold Sweats, which frequently enſue, and fatal.

Nothing is more dangerous than to let cold Air, Drinks of any Kind, be applied to theſe *Aphthæ*: So died ſuddenly, who have held cold Water in their Mouth they have had *Aphthæ* there.

Upon the Whole, it may be laid down as a Rule, th *thæ* which are pellucid, white, thin, diſſeminated, ſoft, eaſily ſeparate without Renovation, and which are ſu are of a good Sort.

On the contrary, thoſe which are very white and yellow, brown, or black, which are in great Quantities, cohering, hard, tenacious, corroding, and which per repullulate, are extremely bad.

Dr. *Harris*, in his Chirurgical Diſſertations, diſappro much the Uſe of Spirit of Vitriol, Oil of Sulphur, o Alum, in *Aphthæ*; for he ſays, theſe corroſive Ap will incline them to turn cancerous. Inſtead of theſe, viſes a Decoction of Elm-bark with the Leaves of Sa a Gargariſm. In this he agrees with *Boerhaave*.

Dionis, however, recommends Honey of Roſes a with Oil of Vitriol, as a proper Mixture to touch *Aphthæ* with in Children. And *Sydenham*, in the C young Gentleman with *Aphthæ*, conſequent to the Iliac tells us, he uſed ſucceſsfully the following Gargariſm:

> Take of Verjuice, half a Pint; Syrup of Raſpbe Ounce; mix, and make a Gargariſm.

And indeed the general Directions we meet with in with reſpect to *Aphthæ*, are, to apply Remedies ſome roſive; but I have taken the leſs Notice of theſe, bec Reaſon and Experience are on the Side of the cont thod recommended by *Boerhaave* and *Harris*.

There are ſome Empirical Remedies for *Aphthæ*; ſeems ſo very extraordinary as that which conſiſts in the Crown of the Head with the beſt Oil of Bays, ſaid to cure effectually the *Aphthæ* of Children. Th from a Phyſician of Veracity, who aſſured me he had ly been a Witneſs of its ſalutary Effects.

APHTHARTOS, ἄφθαρτος, from α Negative, to corrupt. Incorruptible. *Caſtellus*.

APHYA, APUA, ἀφύα, a ſmall Fiſh. Hence χρῶμα, in *Hippocrat.* περὶ γυναικ. *Lib.* 2. ſignifie whitiſh Colour, like that of the Fiſh *Apua*, proceedin great Hæmorrhage. *Galen in Exeg.* See APUA.

APHYLLANTHES, ἀφυλλανθής, from α Negat a Leaf, and ἄνθος, a Flower. It ſeems to ſignify an Flower.

APHYLLANTES ANGUILLARÆ, a ſort o *Raii Hiſt. Plant.* See BELLIS.

APHYLLANTES MONSPEL. See CARYOPH

APHYSOS, ἄφυσος, ἄφυσσος, from α Negative, or φυσσάω, to blow. Void of Flatulency, ſo ἄφυ *Galen*, *Lib.* 1. *Cap.* 6. τῶν κατὰ τόπ. is a Diet that no Inflations.

APHYTACORES, a ſort of Trees, reported *Lib.* 31. *Cap.* 2. to produce Amber.

APIASTRUM. See MELISSA.

APICES, [of *Apex*, a Top, or Point] thoſe litt that grow on the *Stamina* in the Middle of the Flower are commonly of a dark-purpliſh Colour, and have be vered, by the Help of Microſcopes, to be, as it wer of Seed-veſſels, containing in them ſmall globular or ticles, of various Colours, and exquiſitely formed. by ſome ſuppoſed to be a kind of Male Sperm, whic down into the Flower, fecundates and ripens the Seed. *Dictionary*.

PIITES, Perry, a ſort of Wine made of the Juice of
Raii Hiſt. Plant. See APITES.
PINEL. This Root grows in ſome of the *American*
s, and is by the native Savages called *Yabacani*; but by
inel-root, from the Name of a Captain of Horſe, who
there for ſome time, and firſt made the *Europeans* ac-
ted with it.
s ſo efficacious againſt Serpents, that in order to deſtroy
, nothing more is neceſſary than to thruſt a Piece of it
their Mouths upon the Point of a Rod. If a Perſon
s it, and beſmears his Hands and Feet with it, Serpents
nly ſhun and fly from him, but, what is more ſurpriſing,
y catch them without any Danger, and do with them
ver he has a mind. 'Tis alſo obſerved, that theſe noxious
oiſonous Animals will never enter a Chamber in which a
of this Root is kept. Theſe Facts are atteſted by Mr.
lauterive. This Root, ſo uſeful for the Preſervation of
ind, would alſo be beneficial for their Propagation, if
ood in need of forced Aids; which People in this Caſe
t much inclined to uſe, ſince the End is ſufficiently an-
by Inſtinct. *Hiſtoir. de l'Acad. R. A.* 1724.
IOS, Offic. J. B. 3. 666. Raii Hiſt. 1. 870. *Apios*
Ger. 407. Emac. 504. *Apios ſive Iſchias*, Chab. 533.
ſive Tithymalus tuberoſus, Park. Theat. 195. *Tithymalus*
ſus pyriformi radice, C. B. Pin. 292. Tourn. Inſt. 87.
Oxon. 3. 342. ROUND KNOBBED-ROOTED
GE.
ios, otherwiſe called *Iſchias*, Mountain or Wood *Cha-*
anos, and by ſome *Linozoſtis*, ſhoots forth two or three
ſlender, red Stalks, which riſe but little above the
d. The Leaves are like thoſe of Rue, only more ob-
d narrower. It bears a ſmall Seed, and its Root, which
les that of Aſphodel, is ſhaped much like a Pear, but
r, and full of Juice. The Bark is black on the Outſide,
ite within.
upper Part of the Root, taken, expels Phlegm and Bile
miting, the lower Part by Stool; but the Whole, taken
r, purges both upwards and downwards. If you deſire
act the Juice, cut the Roots in Pieces, and put them into
l of Water; ſtir them about, and take off the Liquor
ims a-top with a Feather, and dry it. Fifteen Grains
drank, will both vomit and purge. *Dioſcorides*, *Lib.* 4.
77.
 ſays, the Root is like an Onion, but larger; and the
it is white, but the Bark black. They dig it in the
bruiſe it, and put it into an earthen Veſſel, and throw-
ay what ſwims a-top, the reſt of the Juice purges up-
nd downwards, taken to the Quantity of fifteen Grains
dromel. The Meaſure of One-eighth of a Pint is a
r hydropical Patients. The Powder of the dry'd Root
given in a Potion. *Lib.* 26. *Cap.* 8.
a Species of Spurge, or a Plant which ſends forth many
nd low Stalks, ſlender, round, and reddiſh, lying often
e Ground; the Leaves are ſmall, ſhort, reſembling
wild Rue, but leſs. The Flowers grow at the Ex-
of the Stalks; they are ſmall, form'd in the Shape of a
ut into many Diviſions, and of a pale-yellow Colour.
this Flower falls off, it is ſucceeded by a triangular
which divides itſelf into three Apartments, each of which
one oblong Seed; the Root is tuberous, and of the
of a Pear, more ſlender at the Bottom than at the
lack on the Outſide, and white within, full of a great
Milk. It is remarkable, that when the Root is large
ll grown, the Plant is ſmall; but when the Root is
he Plant is larger. It grows in hot Countries, and in
nous Places. It contains a great deal of Eſſential Salt
, mix'd with a large Quantity of Phlegm and Earth.
Root of this Plant works by Vomit, and by Stool, with
. They pretend, that the ſuperior Part works upwards,
inferior downwards; but both the Parts of the Root
ſame Virtues. *Lemery de Drogues.*
s, a Pear-tree. *Oribaſius*, *Aetius*. See PYRUS.
. See APES.
ES, APITES VINUM, ἀπίτης, ἀπίτης οἶνος, from
he Pear-tree, Perry, Wine of Pears. It is thus pre-

the Pears, which muſt not be very ripe, and cut them
Pieces, as you would Turneps, taking out the Seeds;
n put the Weight of eleven or twelve Pounds of them
ten Gallons and a Quarter of Muſt, and let it mace-
for thirty Days; after which ſtrain it off, and ſet it
for Uſe.

us otherwiſe prepared:

d pound the Pears, and having preſſed out the Juice,
n every twelve Pints thereof, mix one Pint of Honey,
ſet it aſide.

After the ſame Manner are prepared Wines of Carobs, Medlars, and Services. All theſe Kinds are aſtringent, have a grateful Sourneſs, and are good for the Stomach, and reſtrain inward Fluxes. *Dioſcorides*, *Lib.* 5. *Cap.* 32.

APIUM. Smallage.

The Garden Smallage is an Herb effectual for the ſame Purpoſes as Coriander, and, made into a Cataplaſm with Bread, or fine Flour, is alſo good for Inflammations of the Eyes. It comforts a hot Stomach, and repreſſes the Breaſts when turgid with grumous Milk; it provokes Urine, whether it be eaten boiled or raw. The Decoction of the Herb and the Roots reſiſts Poiſon, and excites Vomiting, but binds the Belly. The Seed is a more powerful Diuretic and Alexipharmic, relieves thoſe who have ſwallowed Litharge, and is a good Carminative. It is an uſeful Ingredient in anodyne and theriacal Remedies, and in ſuch as are preſcribed againſt Coughs. *Dioſcorides*, *Lib.* 3. *Cap.* 74.

The Heleoſelinum, or Marſh Smallage, that grows in watry Places, is larger than the Garden Kind, and uſeful for the ſame Purpoſes. *Idem*, *Cap.* 75.

The Oreoſelinum (Mountain Parſley) ſhoots up from a ſlender Root a ſingle Stalk a Span high, which ſpreads into little Branches and Heads like Hemlock, but much ſlenderer, and bearing an oblong, ſlender, acrid, and fragrant Seed, like that of Cumin; it grows on rocky and hilly Places.

The Seed and Root, drank in Wine, provoke Urine and the Menſes. It is mixed in Antidotes with other Ingredients of diuretic and heating Qualities. But we muſt take care not to miſtake the *Oreoſelinum* for the *Petroſelinum*, or what grows on Rocks; for the *Petroſelinum* is another thing. *Idem*, *Cap.* 76.

The *Apium* which they call *Petroſelinum*, grows in *Macedonia*, on craggy Places, having a Seed like Biſhops-weed, but more ſcented, acrid, and aromatic, being a Diuretic, and Emmenagogue. It is good for the Gripes and Wind in the Stomach and Colon, and for Pains in the Side, Kidneys and Bladder, being taken in a Potion. It is mixed with other Diuretics in Antidotes. *Dioſcorides*, *Lib.* 3. *Cap.* 77.

Hippoſelinum is by ſome called *Grielum*, by others *Agrioſelinum*, by others *Smyrnium*, though the proper *Smyrnium* be another thing. It is larger and whiter than the Garden *Apium*, with a tall, hollow, tender Stalk, diſtinguiſhed, as it were, by Lines. The Leaves are larger, inclining to a Scarlet; the Tops of the Branches are like thoſe of Roſemary, and laden with Flowers, which form themſelves into an Umbella. The Seed is black, oblong, ſolid, acrimonious, and aromatic. The Root is ſweet-ſcented, white, and of a grateful Taſte, not thick in Body. It grows in ſhady Places, and by the Sides of Marſhes, and is eaten like Smallage and other Greens. The Root is eaten either raw or boiled, and the Leaves and Stalks dreſſed either alone or with Fiſh; they are alſo pickled raw.

The Seed, drank in *Mulſum*, provokes the Menſes; and, uſed either in a Potion or Litus, warms thoſe who ſhiver with Cold, and helps the Strangury. The Root works the ſame Effects. *Dioſcorides*, *Lib.* 3. *Cap.* 78.

Apium is an Herb mightily in Requeſt; its Branches, in great Quantities, ſwim in our Soops, and have a peculiar Gratefulneſs in Pickles. Beſides, if it be made into a *Litus* with Honey, and the Eyes anointed therewith, ſo that they may be now-and-then fomented with the warm Decoction of the ſame, it gives wonderful Relief in Defluxions, and alſo in Rheums on other Parts, if it be bruiſed and apply'd alone, or with Bread, or Polenta. Fiſhes, when ſick in Ponds, are recovered with green *Apium*. But among the Knowing, there is nothing dug out of the Earth, that has been the Subject of a greater Variety of Opinions. It has a Diſtinction of Sexes. *Chryſippus* tells us, that the Female has criſper Leaves and hard, with a thick Stalk, and a hot acrimonious Taſte. *Dionyſius* ſays it is blacker, has a ſhort Root, and breeds Worms. Both theſe Authors agree in making it forbidden, and altogether unlawful to be eaten, as being appropriated to funeral Feaſts, and alſo hurtful to the Sight. The Stalk of the Female, they ſay, breeds Worms, for which Reaſon thoſe who eat of it, of either Sex, become barren; and that Children, ſuckled by Women who eat it, become affected with the Falling Sickneſs. The Male Kind, they grant, is more innocent, and therefore it is not condemn'd with the other forbidden Plants.

The Leaves, apply'd, mollify the Hardneſs of the Breaſts; and, boiled in Water, make it more grateful to the Taſte. The Juice, eſpecially of the Root, drank in Wine, mitigates Pains of the Loins; the ſame, inſtilled, helps Thickneſs of Hearing. The Seed provokes Urine and the Menſes, and brings away the Secundines. The Decoction of the Seed takes away the Marks of Blows, if the Parts be fomented therewith. Made into a *Litus* with the White of an Egg, or the Decoction of it in Water being drank, it cures Diſorders of the Kidneys. Bruiſed in cold Water, it heals Ulcers of the Mouth. The Seed, drank in Wine, or the Root in old Wine, breaks the Stone in the Bladder; it is alſo given in White Wine to thoſe who are affected with the Jaundice.

Oluſatrum, otherwiſe called *Hippoſelinum*, is good againſt the Poiſon of Scorpions; the Seed, drank, cures the Gripes; and the Decoction thereof in *Mulſum*, being drank, relieves under a Difficulty of Urine. The Root, boiled in Wine, expels the Stone, and mitigates the Pains of the Sides and Loins; being drank, and the Parts anointed with the ſame, it cures the Bite of a mad Dog. The Juice, drank, warms thoſe who ſhiver with Cold.

Some make a fourth Kind, called *Oreoſelinum*, which is an upright Plant, a Span high, and has a Seed like Cumin, which is effectual in provoking Urine and the Menſes. The *Heleoſelinum* has a particular Virtue againſt Spiders; and Women take the *Oreoſelinum* in Wine, as an Emmenagogue. *Pliny*, *Lib.* 20. *Cap.* 11.

Another Kind grows on Rocks, and is by ſome called *Petroſelinum*. It has a peculiar Efficacy in an Abſceſs, if to two Spoonfuls of the Juice you add One-eighth of a Pint of Juice of Horehound, and three times that Quantity of warm Water. Some add *Buſelinum*, which differs from the Garden Kind in the Shortneſs of its Stalk, and the reddiſh Colour of its Root; but has the ſame Virtues, and is a powerful Remedy againſt the Bites of Serpents, either drank, or uſed as a Litus. *Idem*, *Cap.* 12.

Apium is of all Garden Herbs the ſloweſt in ſhooting out of the Ground, not appearing before the fortieth Day when quickeſt, but generally not before the fiftieth Day. *Idem*, *Lib.* 19. *Cap.* 7. It is ſown after the Vernal Equinox, the Seed being firſt a little bruiſed in a Mortar, which, they fancy, makes it the more criſped, as well as when, after ſowing, it is preſſed down with a Roller, or the Feet. It has a peculiar Property of changing its Colour. In *Achaia* it has the Honour to crown the Conquerors in the ſacred *Nemean* Games. *Idem*, *Lib.* 19. *Cap.* 8.

This is the Account given of the different Sorts of *Apium* by the Antients. But *Miller* enumerates thirteen Species.

Dale mentions ſix Sorts of *Apium* uſed in Medicine. The firſt is the

Apium et Eleoselinum, Offic. *Apium vulgare ſive paluſtre*, Mer. Pin. 9. Park. Theat. 296. *Apium vulgare ingratius*, J. B. 3. 100. *Apium paluſtre Heleoſelinum*, Chab. 396. *Apium paluſtre ſive Officinarum*, Raii Hiſt. 1. 447. Synop. 3. 214. *Apium Officinarum ſive Paludapium*, Merc. Bot. 1. 20. Phyt. Brit. 9. *Apium paluſtre, & Apium Officinarum*, C. B. Pin. 154. Tourn. Inſt. 305. Elem. Bot. 254. Boerh. Ind. A. 58. Hiſt. Oxon. 3. 293. Rupp. Flor. Jen. 229. *Apium paluſtre Paludapium dictum*, Mor. Umb. 21. *Eleoſelinum, ſeu Paludapium*, Ger. 862. Emac. 1014. SMALLAGE.

The Roots of Smallage are about a Finger thick, wrinkled, and ſinking deep in the Earth, of a white Colour, from which ſpring many winged Leaves, ſomewhat reſembling Parſley, but are larger, of a yellower Colour, each ſingle Leaf being ſomewhat three-ſquare; the Stalks grow to be two or three Foot high, ſmooth-chanelled, and ſomewhat angular, and very much branched; at the Diviſion of the Branches, come forth Umbels of ſmall yellowiſh Flowers, followed by Seed leſs than Parſley-ſeed, paler and hotter. The whole Plant is of a ſtrong ungrateful Savour. It grows in marſhy watry Places, flowering and ripening Seed in the Summer.

The Roots, Leaves, and Seed, are uſed.

The Roots are diuretic, and very good for the Stoppage of Urine, the Stone and Gravel, and open Obſtructions of the Liver and Spleen, and help the Dropſy and Jaundice, and remove Female Obſtructions. The Leaves are of the ſame Nature, and are one of the Herbs which are eaten in the Spring, to ſweeten and purify the Blood, and cure the Scurvy; the Seed is hot and carminative, and is one of the Four leſſer hot Seeds, as the Root is one of the Five opening Roots. *Miller Bot. Off.*

Cordus juſtly obſerved, that the *Apium ſativum*, which is our *Celeri*, did not differ from the Smallage, any otherwiſe than by Culture. This Plant is bitter, acrid, and aromatic. It contains a great deal of oily volatile Salt, from which the Sal Ammoniac is not quite diſengaged, but diſſolved in a great deal of Phlegm, and united with a great deal of Earth. By the Chymical Analyſis, it yields, beſide ſeveral acid Liquors, a great deal of Sulphur and Earth, a pretty deal of an urinous Spirit, and a little concreted volatile Salt. Thus it is no Wonder, that this Plant ſhould be Aperitive, Diuretic, Febrifugous, and Vulnerary. Six Ounces of the Juice of its Leaves, mixed with two Ounces of the *Peruvian Bark*, is a certain Cure for a Quartan Ague, and whereſoever there are Obſtructions in the lower Belly. In the Scurvy, the Juice of Smallage is no leſs efficacious than that of Scurvy-graſs, to ſtrengthen the Gums, and cleanſe the Ulcers of the Mouth. Cancerous, and other Ulcers may be bathed alſo with it. The Root is made uſe of in Aperitive Ptiſans, Decoctions, Apozems, and Syrups. To draw the Milk, boil equal Parts of the Leaves of Smallage and Mint in Whey; ſtrain it, and ſprinkle it with Smallage-ſeeds powdered. *Martyn's Tournefort.*

Bartholomæus Zorn, in his *Botanologia*, ſays, that it g naturally in moiſt, marſhy, and ſhady Places. It is alſo p in Gardens, where it is known under the Name of *Sal* Both the Seeds and Roots are uſed, eſpecially in Obſtruc of the Liver and Spleen; they warm, dry, purify, and nuate; they occaſion a Diſcharge of the Urine and Gravel, voke the Menſtrual Evacuations of Women, and carry off vers, Jaundice, and Dropſies; but they are very improper ſuch as are ſubject to the Falling Sickneſs, by reaſon of particular Quality, as *Simeon Sethi* informs us. If Women Child uſe them, they bring forth Monſters; and the Chi which ſuck of them, contract the Falling Sickneſs, if we believe *Pliny*. Its Root, hung about the Arm, by way of A let, removes Tooth-achs. *Melch. Schitz. Diſp. de D bus*, 4. 186. The Herb itſelf, and its Root attenuate diſſolve the Milk coagulated in the Breaſts of Women, diſſipate its ſuperfluous Quantity. For this Purpoſe ſome to it Mint, Coriander, and Cumin. The expreſſed Jui this Herb, mixed with Honey of Roſes, is ſaid to be an e lent Deterger of Wounds and Ulcers. See *Franc. Vale Obſ.* 1. *Lib.* 15. Some Surgeons order it to be mixed Medicines deſigned for dreſſing Cancers, and other mal Ulcers.

The only Shop Compoſition which takes its Name *Apium*, is the

Mundificativum ex Apio.

The cleanſing Ointment with Smallage.

Take of the Juice of Smallage, one Pint; of Honey, Ounces; of Wheat-flower, three Ounces. Boil till they grow thick together, of the Conſiſtence Ointment, *S. A.*

This hath paſs'd through all the College Diſpenſatories ly the ſame; but I have never known it preſcribed or *Quincy*'s *London Diſpenſatory*.

The ſecond Species of *Apium*, mention'd by *Dale*, is

Petroselinum vulgare, Offic. Park. Theat. *Petroſelinum*, Ejuſd. Parad. 491. *Apium hortenſe*, Ger. Emac. 1013. Raii Hiſt. 1448. *Apium hortenſe, ſive P linum vulgò*, C. B. Pin. 153. Tourn. Inſt. 305. Elem. 254. Boerh. Ind. A. 58. Rupp. Flor. Jen. 229. Hiſt. 3. 292. *Apium hortenſe multis, quod vulgò Petroſelinum gratum*, J. B. 3. 97. *Apium, Selinum, Petroſelinum*, 396. *Apium ſativum vel hortenſe, vulgatius latifolium* Mor. Umb. 22. PARSLEY.

The Root of this is one of the Five opening Roots.

Of this ſort of *Apium* there are a great many Species. are all eſteem'd opening, attenuating, diuretic, and uſe Obſtructions of the Liver and Spleen; help the Jaundice voke Urine; and are of Service againſt the Stone, Gra Strangury. *Miller. Bot. Off.*

A diſtill'd Water of *Parſley*, which partakes of the of the Plant, is directed by the College to be kept Shops.

The third *Apium*, taken Notice of by *Dale*, is the

Apium Pyrenaicum Thapsiæ facie, Tour 305. Boerh. Ind. A. 58. *Seſeli Pyrenaicum Thap* Pluk. Almag. 344. Raii Hiſt. 2. 1808. *Seſeli P Thapſiæ facie*, D. Fagon. Schol. Bot. 161. Parad. B *Selinum Pyrenaicum, lobis foliorum acutioribus*, Vaill. M TAIN PARSLEY, or THE SECOND BASTARD BITH.

It grows on the *Pyrenean* Mountains, and the Root which ſerves the *Spaniards* inſtead of the Root of T *Chomelinus* affirms; but it is of a noxious Quality.

The fourth is the

Bunium, Offic. *Bunium Dalechampii*, J. B. 3. 385. *Daucus Petroſelini vel Coriandri folio*, C. B. *Daucus Petroſelini vel Coriandri folio, ſeu Bunium D* Park. Theat. 900. Raii Hiſt. 1. 449. *Saxifraga m Petroſelini vel Coriandri folio*, Hiſt. Oxon. 3. 274 PARSLEY.

It grows in ſtony and rugged Places, and flowers in mer. The Herb is uſed, and is diuretic, heating, away the After-birth: It is good for the Spleen, Kid Bladder. *Dale.*

The fifth is the

Petroselinum Macedonicum, Offic. *Macedonicum verum*, Ger. 864. Emac. 1016. *Macedonicum quibuſdam*, Park. Theat. 924. *nicum*, C. B. Pin. 154. Tourn. Inſt. 305. Elem. Raii Hiſt. 1. 463. Hiſt. Oxon. 3. 293. Boerh. In *Apium ſive Petroſelinum Macedonicum multis*, J. B. Chab. 397. *Apium ſemine villoſo ſeu incano, Macedon* Umb. 21. *Daucus Macedonicus Apii folio*, Herm. MACEDONIAN PARSLEY.

cultivated in the Gardens of the Curious, and flowers in The Seeds are ſmall, hairy, ſtriated, of a very dark of an acrid and aromatic Taſte, and of a fragrant

principally uſed as a Diuretic and Emmenagogue, and nes as a Remedy againſt Diſeaſes cauſed by Witchcraft. Some conceited Preparers of Medicines have been ſo ed, as to reject this Simple in the Compoſition of the , &c. as *Volckamerus* obſerves, and in its ſtead to ſubſti- *Smyrnium perfoliatum Creticum*, or *Olus atrum* [Alex- which will by no means anſwer the Purpoſe. *Flor.* 5. *Dale.*

xth is the

NUM MONTANUM, Offic. *Selinum ſive Apium peregri-* rk. Theat. 928. *Apium peregrinum, foliis ſubrotundis,* rod. 31. Pin. 154. Hiſt. Oxon. 3. 293. *Apium ſemine* ncano, *peregrinum primum Cluſii*, Mor. Umb. 21. *Viſ-* nor *quorundam, Selinum peregrinum Cluſii, ſemine hirſu-* . 3. 94. *Daucus tertius Dioſcoridis*, Raii Hiſt. 1. aucus *peregrinus, foliis ſubrotundis pinnatis*, Herm. Flor. STONE PARSLEY.

ometimes found in the Gardens of Botaniſts. The Seed and is ſuppoſed to have the ſame Virtues as the former.

olomæus *Zorn* mentions a Sort of *Apium*, under the of

ſylveſtre, Alſnicium dictum, Officin. *Apium ſylveſtre,* *Thyſſelinum quorundam, planta lacteo ſucco turgens, locis proveniens*, J. B. *Thyſſelinum Plinii*, Lob. *Olſeni-* Cord. Thal. *Olſnitium*, Tab. *Apium ſylveſtre lacteo* rgens, C. B. *Meum Sileſiacum paluſtre*, Schwenckf. *paluſtris*, Geſn. H. *Cuminum alnorum*, Al. amongſt other Synonoma, calls it OELNIZIUM, Offic.

Plant is very little known in our Shops; but is much in mongſt the *Germans*.

Herb grows in moiſt and ſhady Places, and eſpecially Roots of Alder-trees. In Pharmacy its Root is princi- Uſe, which, if gather'd in the Spring, ſmells pretty and is of a ſharpiſh bitter Taſte. It opens the Pores, attenuates, and expels malignant Humours by Sweat. off Pains in the Stomach and Belly, clears the Breaſt ctions, eaſes Coughs, occaſions a Diſcharge of Gravel, s the Plague, contagious Fevers, and other virulent . It is alſo ſucceſsfully uſed againſt the Bites of poi- nimals. See *Leon Thurneiſſer Hiſtor. Planta. Cap.* 14. *wenckfelt. Deſcript. Thermar. Hirſchbergenſ. Ed. Gor-* *Mich. Crugner. Chym. Garten. Baw. C.* 27. *Matth.* *r. German. de Peſte, P.* 2. *C.* 13. *Ed. Witt.* 1566. *ivin. Diſſert. de Lipſienſi Peſt. Ed.* 1680. *Thomas* *ract. German. de Peſt. p.* 72. *Edit. Altenb.* 1681. t has by ſome been taken for the true *Meum* of the *Bartholomæi Zorn Botanologia.*

STIA, ἀπληςία, from α Negative, and πλήθω, to fill. neſs. A Vice oppoſed to αὐτάρκεια, Contentment in t State. *Galen. de Dign. & Cur. an. Morb. C.* 9.

UROS, ἄπλευρος, from α Negative, and πλευρὸν, a anting Ribs. *Galen. Lib.* 4. *de Hippocr. & Plat.* 4.

TOS, ἄπλυτος, from α Negative, and πλύνω, to nwaſhed, an Epithet of Wool, which is otherwiſe *Latin*, *Lana ſuccida*, and by *Hippocrates* ἔριον ἄπλυ-

USTI, ἀπνευςὶ, from α Negative, and πνεύω, to Without fetching Breath: Κέλευε ἀπνευςὶ τοῦτο πιεῖν· him to drink it off at one Draught, or without fetch- ath." *Hippocrates de Intern. Affect.*

EA, ἄπνοια, a Defect of Reſpiration. 'Απνους ἀναπνοὴ, iration without Breath," is ſpoken by *Heraclides* in *b.* 1. *de Diffic. Spir.* of a Reſpiration in thoſe who rated, which is ſo ſmall, rare, and ſlow, that it ſeems manner extinct, and is ſuch an ἄπνοια as happens in ation of the Uterus, the Apoplexy, and Lethargy, onſequence of a Reſolution of the Organs of Reſpira-

s Laertius informs us, that *Empedocles*, the moſt cele- ll the Diſciples of *Pythagoras*, acquired an uncom- of Reputation for curing a Woman who was taken when, according to that Philoſopher, ſhe only labour'd angulation of the Matrix. He gave the Name ἄπνους, lies *without Reſpiration*, to this Diſorder; and main- t a Patient might live thirty Days under it. *es of Pontus*, a Philoſopher who ſtudied ſome time *otle*, and then under *Speuſippus* the Diſciple of *Plato*, ng other Things, a Treatiſe περὶ τοῦ ἄπνου, or *concern-* *Diſtemper in which the Patient is deprived of Reſpi-* which he alſo aſſerted, that the Diſorder might con- irty Days, during which time the Patient remained ſpiration, and appear'd dead, without any Danger of corrupting.

APOBÆNON, ἀποβαῖνον, from ἀποβαίνω, to happen. An Event.

APOBAMMA, ἀπόβαμμα, from ἀποβάπτω, to tincture ſlightly. The ſame as *Embamma*, a ſlight Tincture, and commonly applied to Liquor in which Gold Coins, or red-hot Irons, have been quench'd. *Caſtellus.*

APOBRASMA, ἀπόβρασμα, from ἀποβράσσομαι, to ejacuculate, or eject in Æſtuation, *Hipp. de Natura Pueri.* The Bran of Wheat; or, according to others, the Froth of the Sea. *Foeſius. Caſtellus.*

APOBREGMA, ἀπόβρεγμα, from ἀποβρέχω, to dilute. A Dilution.

APOCAPNISMUS, ἀποκαπνισμὸς, from ἀποκαπνίζω, to ſuffumigate. A Suffumigation. See SUFFIMENTUM.

APOCARTEREON, ἀποκαρτερέων, in *Hippocrates de Rat. Vict. in Morb. acut.* is one that ſtarves himſelf to Death: 'Αποκαρτερεῖν ἑαυτὸν λιμῷ ἢ ἀγχόνῃ τοῦ βίου ἐξάγειν· "'Αποκαρτερεῖν is to force one's ſelf out of Life by Famine or Strangling." *Suidas. Foeſius.*

APOCATASTASIS, ἀποκατάςασις, from ἀποκαθίςημι, to reſtore. A Reſtitution, Amendment, Subſiding, Ceſſation. In theſe various Significations the Verb is uſed by *Hippocrates* in many Places of his Works; and in *Aretæus*, *Lib.* 1. *Cap.* 10. τῶν ὀξ. παθῶν, the Word ἀποκατάςασις imports an intire Reſtitution to the former ſound State.

APOCATHARSIS, ἀποκάθαρσις, from ἀποκαθαίρω, to cleanſe or purge. An Expurgation. 'Αποκαθαίρεσθαι, or ἀποκαθαίρειν, are uſed by *Hippocrates* to expreſs the Evacuation of Pus from the Breaſt by Spitting. 'Αποκαθάρσεις χολῆς, in *Thucydides*, *Lib.* 2. are thoſe bilious Vomitings and Purgations, which affected the Patients in the memorable Plague of *Athens*.

APOCENOSIS, ἀποκένωσις. The ſame as ABEVACUATIO, which ſee.

APOCERUGMA, ἀποκήρυγμα, from ἀποκηρύσσω, to declare publickly. A Declaration. 'Αποκηρύγματα, in *Hippocrates*, are ſuch Declarations or Indications as are thought proper to be made to the Patient.

APOCHOREON, ἀποχωρέον, from ἀποχωρέω, to ſecede. Excrement in general, or whatever is diſcharged from the Body by Stool or Urine.

APOCHREMPSIS, ἀπόχρεμψις. A Hauking up of Spit; as *Apochremma*, ἀπόχρεμμα, is the Matter or Spit thus evacuated. *Hippocr. Coac. & de Locis in Homine.*

APOCHYLISMA, ἀποχύλισμα. The Juice of Vegetables extracted and inſpiſſated, anſwering to the officinal Word *Rob*. *Caſtellus.*

APOCHYMA, ἀπόχυμα, is that Kind of *Zopiſſa* which is made of the Reſin and Wax that are ſcraped from Ships. So *Aetius* underſtands it; but ſome will have it to be the Reſin of the Pitch-tree. *Oribaſius* prepares it in the following manner:

> Take of dry Pitch, one Pound; Tar and Wax, each four Ounces; Reſin of the Pine-tree, ſix Ounces. After they are all melted and ſtrained, they are thrown into a Pail full of Sea-water, or common Water, and worked with the Hands after the Manner of Troches. It is of a very mollifying Quality. See ZOPISSA.

APOCLASMA, ἀπόκλασμα. The ſame as APAGMA, or ABDUCTIO, which ſee. It is alſo called ἀποκεκαυλισμένον, that is, when a Bone is broken καυληδὸν, as the *Greeks* ſay, or after the Manner of a Stalk (καυλὸς), near the Joint.

APOCLEISIS, ἀπόκλεισις, from ἀποκλείω, to exclude. An Excluſion; but, in many Places of *Hippocrates*, the Verb whence it derives its Signification, is uſed to expreſs a Loathing and Averſion to Food.

APOCOPE, ἀποκοπὴ, from ἀποκόπτω, to cut off. Abſciſſion. See ABSCISSIO.

APOCRISIS, ἀπόκρισις, in *Hippocrates*, is the ſame as *Eccriſis*, ἔκκρισις. Whatever excrementitious or redundant Matter is diſcharged out of the Body. In *Lib.* περὶ ἐνυπνίων, ἀπόκρισις ſignifies a ſecreted Matter, that is the Cauſe and Support of a Diſeaſe. In the ſame Treatiſe it often ſignifies a Secretion of the Food, and Diſtribution of the Aliment. 'Απόκρισις νοσερὴ, in the ſame Author, is a peſtiferous Vapour, Exhalation, or unwholſome Quality impreſs'd on the Air.

APOCRUSTICON, ἀποκρουςικὸν, from ἀποκρούω, to repel. An Epithet for a Remedy of a repelling and aſtringent Quality. *Gal. Lib.* 11. *Meth. Med.* 15.

APOCYESIS, ἀποκύησις, from ἀποκυέω, to bring forth Young. A Birth. *Gal. Lib.* 1. *de Cauſ. Morb. Cap.* 7.

APOCYNON, called alſo *Cynanchon*, *Pardalianches*, *Cynomeron*, and *Cynocrambe*, is a Shrub with long flexible Branches, that are difficult to be broken: The Leaves reſemble thoſe of Ivy, but are ſofter, and ſharper pointed, ſtrongly ſcented, ſomewhat viſcous, and full of a Honey-like Juice. The Fruit runs out, like a Bean-cod, a Finger in Length, of a capſular Form, containing ſmall, hard, black Seeds.

The Leaves, mix'd with Meal, and made up into Loaves, kill Dogs, Wolves, Foxes, or Panthers, that eat of them, and immediately affect their Hips with a Palſy. *Dioſcorides*, *Lib.* 4. *Cap.* 81.

The Seed, drank in Water, cures the Pleuriſy, and all manner of Pains in the Side. *Pliny*, *Lib.* 24. *Cap.* 11.

Dale takes Notice of two Sorts of the APOCYNUM. The firſt is the

APOCYNON SYRIACUM, Offic. Mont. 37. *Apocynum Ægyptiacum, lacteſcens ſiliquâ Aſclepiadis*, C. B. Pin. 303. *Apocynum erectum incanum latifolium Ægyptiacum, floribus croceis*, Par. Bat. 27. Tourn. Inſt. 91. *Apocynum erectum majus latifolium Ægyptiacum, flore luteo ſpicato*, Breyn. Prod. 2. 14. Pluk. Almag. 34. Hiſt. Oxon. 3. 609. *Apocynum Ægyptiacum floribus, ſpicatis*, Elem. Bot. 78. *Apocynum Syriacum Cluſii*, Raii Hiſt. 2. 1088. *Beidelſar oſſar*, Alpin. Ægypt. 85. *Beidelſar Alpini ſive Apocynum Syriacum*, J. B. 2. 136. *Apocynum Syriacum & Ægyptiacum, Beidelſar Alexandrinum Alpini*, Chab. 119. *Oſſar*, Hon. Belli Epiſt. *ad Cluſium*, 306. DOGS-BANE.

I find no Virtues attributed to this Plant, except thoſe taken Notice of from *Dioſcorides* and *Pliny*, which are tranſcribed by *Galen*, and all ſucceeding Authors.

The ſecond is the

PSEUDO-IPOCACUANNA FUSCA, Offic. *Apocynum erectum, folio oblongo flore umbellato, petalis reflexis, coccineo*, Cat. Jam. 89. Hiſt. 1. 206. Tab. 129. Raii Hiſt. 3. 537. *Apocynum Curaſſavicum, fibroſa radice, floribus Aurantii, Chamænerii foliis anguſtioribus*, Herm. Parad. Bat. Prod. 213. Parad. Bat. 36. Pluk. Phytog. 76. 6. Almag. 36. *Apocynum erectum, Salicis latiori folio, umbellatum, floribus Aurantiis*, Ejuſd. Phytog. 138. Almag. 36. *Apocynum Novæ Angliæ ſubhirſutum, radice tuberoſa, floribus Aurantiis*, Herm. Cat. Hort. Lugd. Bat. 646. *Apocynum Canadenſe anguſtifolium, flore Aurantio*, Mor. Hort. Bleſ. 232. *Apocynum erectum minus latifolium Americanum, flore umbellato Aurantio, petalis reflexis, radice tuberoſâ*, Breyn. Prod. 2. 15. BASTARD IPOCACUANNA.

It is imported from *America* by the Name of IPOCACUANNA. The Root is of a duſky Colour, and has a poiſonous Quality. *Dale*.

Boerhaave enumerates twenty-two Species of the APOCYNUM; but I know of nothing remarkable with reſpect to their Virtues.

Mr. *Sarrazin*, however, in the Hiſtory of the Royal Academy of Sciences for 1730. ſays, that the APOCYNUM MAJUS SYRIACUM RECTUM furniſhes the Inhabitants of *Canada* with a Juice, of which they make Sugar: He ſays, they alſo gather the Dew, which is found in the Bottom of the Flowers.

Dr. *Harris*, in his Diſſertations, informs us, that the *Apocynum*, a Root very like the Ipecacuanha, is imported to us from *Jamaica*, *Porto-Bello*, and *Virginia*: This works exceſſively both by Vomit and Stool, even ſo as to exhauſt all the Strength.

This cannot be diſtinguiſh'd from the true Ipecacuanha in Powder, but may in the Root; for the Filament, or Fibre, that runs thro' the Meditullium of the *Ipecacuanha*, is of a whitiſh or aſh Colour, but that of the *Apocynum* is yellow.

I believe this Obſervation is perfectly juſt. I remember, ſome Years ago, I directed half a Dram of Ipecacuanha for a Farmer in the Country, at the Requeſt of a near Relation of my own, to whom he was Tenant. It happen'd, by ſome Accident or other, that the Perſon for whom it was preſcribed did not take it; but ſome few Weeks after, the Gentleman who deſir'd me to direct it, took it himſelf; the Conſequence of which was, that he vomited exceſſively, and thin watery Stools came from him inſenſibly for ſeveral Days. This made me think he had taken *Apocynum*, inſtead of *Ipecacuanha*.

APOCYRTUMENA, ἀποκυρτέμενα, from ἀποκυρτόομαι, to be turned archwiſe. Decreaſing in manner of a Cone. Ἀποκυρτέμενα ἐις ὀξὺ διαπυήματα· "Suppurations gathering to a ſharp "Head." *Hippocr. in Progn.*

APODACRYTICA, ἀποδακρυτικὰ, from ἀπὸ, ſignifying negatively, and δάκρυ, a Tear. Medicines firſt exciting, and after evacuating, the ſuperfluous Moiſture of the Eyes, ſuppreſſing Tears, and drying the Eyes; or, in one Word, *Delacrymatives*; for in this Senſe is *Delacrymare* taken by *Pliny* and *Columella*. We meet with a Liſt of Remedies of this Sort in *Aetius*, *Tetrab.* 1. *Serm.* 3. *Cap.* 138. among which are Celandine, Germander, Centaury, Onions, Pimpernel, Hellebore, &c.

APODEIXIS, ἀπόδειξις, from ἀποδείκνυμι, to demonſtrate. Demonſtration.

APODES, ἄποδες, from α Neg. and πȣς, a Foot. A kind of Birds which have very ſhort Feet: They are alſo call'd κύψελλοι, *Cypſelli*. *Ariſtot. Lib.* 9. *Animal. Cap.* 30. Theſe Birds are like Swallows, and are very much upon the Wing on account of their Feet. They build in Rocks, and fly all over the Seas; nor is there any Ship that ſails never ſo far from Land, but finds itſelf within the Reach of theſe Apodes, which fly about it. Other Kinds ſit or ſtand; theſe never reſt themſelves but in their Neſt, where they hang or lie. They differ as much in their Œconomy, eſpecially as to Food. *Pliny*, *Cap.* 39. *Lib.* 10.

Apodes, boiled in Wine, are a Remedy for the G
Idem, *Lib.* 30. *Cap.* 7.

APODYTERIUM, ἀποδυτήειον, from ἀποδύομαι, to
cloathe. A private Room before the Entrance into the B
where they who went to bathe put off their Cloaths: It
called *Coniſterium*, and *Spoliarium*. *Caſtellus.*

APŒUM, ἄποιον, from α Negative, and ποῖος, of
Quality. Void of all ſenſible Qualities, *inſipid*, without A
gency, Acrimony, or any remarkable Property; ſuch as
humid Subſtances, Water ought to be; and, among dry
Amylum. *Galen* judges inſipid Aliments to be more no
ing than the acrimonious and bitter. *Galen. de Al. Fac.* L
Cap. 64.

APOGALACTISMUS, ἀπογαλακτισμὸς, of ἀπὸ,
and γαλακτίζω, to ſuckle, from γάλα, Milk. A W
See ABLACTATIO.

APOGLAUCOSIS, ἀπογλαύκωσις. See GLAUCO

APOGONA, ἀπόγονα. Vital, likely to live. Ἣν
ἔσω τȣ τεταγμένȣ χρόνȣ, ἐκάςησι τὰ τικτόμενα ἀπόγονα
"Thoſe Women who meet with no Diſaſter within the
"are delivered of ſtrong or lively Children." *Hippoc.*
Epid. In this Place, and alſo in *Lib.* 6. *Epid. Sect.* 8.
ἀπόγονα ſignifies the ſame as γόνιμα, or γονὰ, in *Lib.*
κῶν

APOLEPSIS, ἀπόληψις, from ἀπολαμβάνομαι, to b
preſs'd, retain'd, &c. An Interception, Suppreſſion,
tention. Thus ἀπολήψιες ȣ̓́ρων, in *Hippocr. Prorrh.* is
preſſion or Retenſion of Urine; and in *Coac. Prænot.*
κοιλίης, a Coſtiveneſs. Again, in the ſame Author, we
meet with ἀπολήψεις φλεβῶν, as in *Lib. de Rat. Vict.* in
acut. that is, a Stagnation from a too great Oppletion
Veins. There are alſo ἀπολήψιες πνευμάτων ἀνὰ τὰς
which *Galen* explains as follows: Πνευμάτων ἀπολήψεις
φλέβας εἰκός ἐςιν ἐπὶ τῆς ἀσφυξίας λέγεσθαι· φλέβας γὰρ
παλαιοὶ τὰς ἀρτηρίας· ἀπολήψεις ȣ̓͂ν πνευμάτων τὰς οἷον κα
τε κ̀ ἡσυχίας δυνατὸν λέγειν· "It is probable, that by
"ἀπολήψιες (Interceptions) of the Spirits in the Ve
"means a Ceſſation of the Pulſe; for the Antients c
"Arteries by the Name of Veins: Theſe *Apolepſes*
"Spirits, then, may be called their ſinking into Reſt
"activity." Such an *Apolepſis* of the Spirits attends
lepſis, Apoplexy, and Epilepſy, when the Brain being
rated, and the Blood in a Stagnation, the Courſe of th
is intercepted by the congealed Blood. Again, in th
Book, melancholy Perſons are ſaid to be affected with
πνευμάτων διὰ φλεβῶν, which is thus explain'd by
Πνευμάτων δὲ ἀπόληψιν εἰ μὲν τῶν κατ' ἀρτηρίας λέγει
ἡ ἀσφυξία γένοιτ' ἂν τὸ πάθος; εἰ δὲ τῶν κατὰ τὸν
πάλιν ἐνταῦθα τὴν καλȣμένην ἄπνοιαν αἰνίττεται "If by
"lepſis of the Spirits he means thoſe in the Arteries,
"be the Conſequence but a Ceſſation of the Pulſe? B
"ſpeaks it of the Spirits in the Lungs, he ſeems to give
"Hint, tho' but obſcurely, at what we call an *Apnœ*
There is alſo an ἀπόληψις φλεβῶν in a quite differen
and means no more than the Tying or Compreſſing of
or Artery, in order to prevent or ſtop an Hæmorrhag
Method is recommended by *Hippocr. Lib.* 6. *Epid.*
Aph. 3. And ἀπόληψις νȣσήματος, in the ſame Autho
fies the Preventing the Courſe of a Diſtemper, by putti
to the Humours which cauſed it. *Epid. Lib.* 2.

APOLEXIS, ἀπόληξις, from ἀπολήγω, to ceaſe or
decaying Time of Age, in *Hippocr.* παραγγελ. and
oppoſed to ἀκμὴ ἡλικίης, "the Flower of Age."

APOLINOSIS, ἀπολίνωσις, from λίνον, Flax. So
neta calls the Method of curing a Fiſtula by raw F
OMOLINON.

APOLLINARIS, Herba. The ſame as HYOSC
which ſee.

APOLYSIS, ἀπόλυσις, from ἀπολύω, to releaſe.
tion, or Releaſe, which is diverſify'd according to the
as, for Inſtance, it ſignifies, in *Hippocrates*, the Ex
the Fœtus, *Lib.* 5. *Epid.* of the Secundines, *Lib.* 2.
the Solution of a Diſeaſe, *Coac. Preænot.* and alſo
looſing of a Bandage. *De Fract.*

APOLYSIA, ἀπολυσία. *Erotian*, on *Hippocrat*
is either a Reſolution of the Limbs, or the Relax
Bandage.

APOMAGMA, ἀπόμαγμα, from ἀπομάττω, to
Any thing proper to be uſed as an Inſtrument for
excrementitious Matter or Sordes, as a Linen Handk
the Eyes, and a Sponge for Wounds.

APOMATHEMA, ἀπομάθημα, from ἀπὸ, Neg
μανθάνω, to learn. In *Hippocrates*, *Lib. de Fract.*
an Oblivion of what has been learned.

APOMELI, ἀπόμελι. A ſweet Drink made
combs, diluted and boiled in Water. The Manner of
it is thus deſcribed by *Aetius*, *Tetrab.* 2. *Serm.* 1. C

Take white Honeycombs, full of pellucid Ho
preſs out with your Hands, and mix with the

ter: If your Honey be thick, take four Parts of Water for one of Honey; if liquid, let the Water be to the ney as three to one. If the Combs be pretty dry, cut m in ſmall Pieces, and work them with your Hands in Water firſt meaſur'd; after which preſs and ſtrain off Liquor, and by meaſuring it you will know what antity of Honey to add. Then put the Liquor into a Earthen Pot, in which Water has been boiled before, order to take off its earthy Quality, and boil it over a r Fire, ſtill ſkimming off the Spume or Wax as it ariſes. en no more aſcends to the Top, and about a ſeventh eighth Part of the Whole is boiled away, remove it n the Fire, and let it cool. After it is perfectly cold, next Day ſkim off what ſwims on the Top, and pour reſt into new Earthen Veſſels, in order to be ſet aſide your Wine-cellar.

, *Com.* 3. *in Hippocr.* *περὶ ἀγμῶν*, obſerves, that *Apo-* called by *Hippocrates*, and many others, ὀξύγλυκυ or *(Oxyglycy* or *Oxyglyces)*; and that ſome made it of and Vinegar, others of Honeycombs and Vinegar boiled : For he makes two Diſtinctions; one ſort, he ſays, is nother more upon the Acid; and this latter is made f Honey and Vinegar, or Honeycombs and Vinegar. ys *Galen*, make it of Honeycombs, putting Vinegar to ey, and boil them till their Qualities are united, and the f the Vinegar is broken.

neli is endu'd with an inciſive and abſterſive Virtue: Bile downward, provokes Urine, and prepares putrid for a Solution. It is however an Enemy to hot and dry tions; and is hurtful in hot Diſtempers, and Inflam- of the Præcordia; and rather increaſes than allays It is given after Meals; for it does Harm upon a full h. *Aetius*, *Cap. prædicto.*

MYLENAS, *ἀπομυλῆνας*. *Galen. in Exeg. Voc. Hip-* plains this Term, by *προβαλὼν τὰ χεῖλη συνημμένως*, ing out the Lips compreſs'd together."

MYLLENE, *ἀπομυλλήνη*. *Erotian*, on *Hipporates*, το γίνεται ὅταν διαστροφὴ καὶ οἷον σπάσμα περὶ τὸν γένυν ρέσεως ὀχῇ, μάλιστα δὲ ἐκ πληγῆς· "An *Apomyllene* ens when there is a Diſtortion, and, as it were, a Con- n, with a Relaxation of the Cheek, or Parts adjacent, ipally occaſioned by a Blow."

NENOEMENOS, *ἀπονενοημένως*, from *ἀπονοέω*, to be nt or averſe. An Adverb importing an utter Averſion to , *Hippocr. Epid. Lib.* 3. *Egr.* 2. Πρὸς τὰ γεύματα μένως εἶχεν· "The Patient nauſeated all manner of d."

NEUROSIS, *ἀπονεύρωσις*, from *ἀπὸ* and *νεῦρον*, a The Extremity of a Muſcle, called by *Hippocrates* a Tendon, or Chord.

PALLESIS, APOPALSIS, *ἀποπάλλησις*, *ἀπόπαλσις*, οπάλλω, to throw off, in an haſty manner. An Expul- r Extruſion, as when the Fœtus is expell'd by Abortion. περὶ γυναικ.

PATOI, *ἀπόπατοι*, is a Word often uſed by *Hippo-* and is explain'd in *Erotian* by *ἀφοδεύσεις*, which ſignifies the Places of Eaſement, as the Fœces. So *Suidas* ex- πόπατος by *ἄφοδος*. See Aphodos.

PHLEGMATISMUS, *ἀποφλεγματισμὸς*, of *ἀπὸ*, from, έγμα, Phlegm. A Medicine contriv'd for drawing from the Mouth, and thence evacuating it by Spitting; ich Purpoſe it is held in the Mouth. Such Medicines, by ot pungent Quality, ſtimulate the Fibres, and make them ſs the Glands, whereby their Contents are faſter thrown o the Mouth, and ſo a Drain is promoted of ſuch watery us Humours, from all Parts of the Head, as have any nt therewith. In Comas, Lethargies, Epilepſies, Palſies, n ſhort, in all Diſorders from a moiſt Temperament of the theſe Remedies are to be uſed with good Succeſs.

to the Form and Conſiſtence of *Apophlegmatiſms*, they ious. *Morellus* diſtinguiſhes them into *liquid* and *dry*; to *Gobius* adds a third, that is, *ſoft*, or in the Form of an ary. And to theſe a fourth may be added, which conſiſts mes or Vapours.

uid Apophlegmatiſms are made of Decoctions, Infuſions, ſ'd Juices, and officinal Liquors; and theſe either mixed er, or alone.

oſe which are ſolid uſually conſiſt of Gums, as Maſtich; Roots, as Pellitory of *Spain*, or Horſe-radiſh; Leaves, ſe of Tobacco; Salts, as Nitre, Sal Gemmæ, or Alum; ruits, as Pepper. Theſe are ſometimes uſed alone, and ut any Preparation; and ſometimes mix'd and made into orm of Powders, Balls, and Troches, which laſt are ordered held under the Tongue, and to be ſuffer'd to diſſolve gra- . The Powders are directed ſometimes to be taken naked e Mouth, and ſometimes to be ty'd up in a Rag, and ſo chew'd.

ctuaries are form'd of ſuch Ingredients powder'd, and up with ſome Fluid, proper to give them a Conſiſtence.

Vapours are convey'd to the Mouth by means of a Funnel; or otherwiſe, from Decoctions of ſtimulating Ingredients. And Fumes are received from dry Ingredients burnt, either in the ſame Manner, or by means of a Pipe, as in ſmoaking Tobacco either mix'd or unmix'd.

Upon this Occaſion I muſt not omit giving the Form of a medicated Tobacco, of which that ſo much advertis'd under the Name of the Cephalic and Oppthalmic Tobacco, is an humble Imitation:

> Take of the Flowers of Roſemary, Betony, Eyebright, each two Handfuls; of Aloes-wood, Saſſafras, yellow Amber, Clove-bark, Storax Calamita, each an Ounce; of the external Peel or Huſk of Piſtachio-nuts, an Ounce and an half; of the Cortex Elaterii, half an Ounce: Let all theſe Ingredients be powder'd, and mix'd together. Mix four Ounces of theſe Ingredients with a Pound of Tobacco, to be ſmoak'd in the common manner.

If all theſe Drugs are faithfully put in, the Smoke is of an exceeding fine Smell. As I was acquainted with the good Effects of this, long before I knew any thing of Medicine, I have had many Opportunities of making myſelf acquainted with its real Efficacy, and know it to be capable of affording ſingular Relief in Dimneſs of Sight, and habitual Diſorders of the Head proceeding from a Redundance of tenacious Lymph, provided it is duly perſiſted in. And it muſt be confeſs'd, that this Mixture has perform'd ſomething little leſs than a Miracle, in making Tobacco agreeable, and of ſome real Uſe.

As to *Apophlegmatiſms*, the Choice of the Ingredients and Forms muſt be directed by the ſeveral Circumſtances relative to the Diſeaſe, the Patient, and the Intentions of the Phyſician.

Thus in Paralytic and Lethargic Caſes, when a Patient cannot chew a Solid, nor manage a Liquid properly in his Mouth, a ſoft Form, as that of an Electuary, is beſt adapted to the Caſe; becauſe it diſſolves gradually, and produces the intended Effect, without that Care of the Perſon who uſes it, which is requiſite in other Forms. In theſe Diſorders alſo the Fumes of Narcotic Ingredients are highly prejudicial.

But with reſpect to *Apophlegmatiſms*, as well as every thing elſe relative to Medicine, Circumſtances are ſo various and complicated, that much muſt be left to the Diſcretion and Judgment of a Phyſician, whoſe Reaſon and Experience will furniſh him with a Sagacity ſufficient to enable him to make a proper Choice of Ingredients and Forms ſuited to particular Caſes which occur. It were to be wiſh'd, that univerſal Rules could be laid down in Medicine, and Maxims which admit of no Exception, becauſe this would render Abilities and Learning leſs neceſſary, which, according to the ordinary Courſe of human Nature, cannot poſſibly fall to the Share of every one whoſe Duty it is to attend the Sick.

Tho' *Apophlegmatiſms* in the ordinary Acceptation are confin'd to things taken at the Mouth, yet whatever by a Stimulus affects the Glands of the Mouth, Fauces, and thoſe of the Membrana Pituitaria deſcrib'd by *Schneider*, ſo as to increaſe the Diſcharge of pituitous Humours, may properly enough be call'd *Apophlegmatiſms*; thus Snuffs of all Sorts are a Species of *Apophlegmatiſms*.

A very effectual *Apophlegmatiſm*, under the Name of *Pilæ Maſticatoriæ*, or ſpitting Balls, is thus prepared:

> Take Maſtich, three Ounces; Pellitory of *Spain*, Staveſacre, each two Drams; Angelica-root, half a Dram; Cubebs, Nutmegs, each one Dram; Euphorbium, half a Scruple; Wax enough to make them into little Balls or Pellets: If the Euphorbium be thought too hot, it may be left out. *Quincy's Diſpenſatory.*

APOPHRADES, *ἀποφράδες*, from the Singular *ἀποφράς*, unfortunate, unlucky; an Epithet apply'd to thoſe Days in which an acute Diſtemper comes to a fatal Criſis, or to no Criſis at all. *Caſtellus.*

APOPHTHORA, *ἀποφθορὰ*, from *ἀποφθείρω*, which is from the Original *φθείρω*, to corrupt. An Abortion. The Word is uſed by *Hippocrates*, and alſo *ἀπόφθαρμα*, (Apophtharma) a Medicine to procure Abortion, *Lib.* 5. *and* 7. *Epid.* See Abortus.

APOPHYAS, *ἀποφυὰς*, of *ἀπὸ*, from, and *φύω*, to grow. An Appendix; any thing that grows to, or proceeds from another, as Boughs and Branches. Thus *ἀποφυάδες* *Lib. περὶ* *ὀστέων φύσ.* are the Ramifications of the Veins.

APOPHYSIS, *ἀπόφυσις*. See the Etymology under the preceding Word. The Proceſs or Protuberance of a Bone; or that kind of Eminence of a Bone which is continuous, and makes one Piece with it, and is called by the *Greek* Term *Apophyſis*, which ſignifies an Excreſcence, becauſe it grows or ſhoots out immediately from the Bone itſelf; ſuch are the ſharp Eminences of the Lower Jaw, &c. *Winſlow.*

APOPIESMA, ἀποπίεσμα, from ἀποπιέζω, to compreſs. An Expreſſion of Humours by Compreſs in the binding up of Wounds or Fractures. *Hippocr.* περὶ ἀγμῶν.

APOPLECTA. A Name for the internal Jugular Vein, which aſcends by the Side of the *Aſpera Arteria*. *Caſtellus.*

APOPLECTICA, Medicines againſt the Apoplexy. *Blancard.* They are ſo called inſtead of *Antapoplectica*. *Caſtellus.*

APOPLECTICÆ VENÆ. The ſame as JUGULARES VENÆ, which ſee.

APOPLEXIA, Ἀποπληξία, from ἀποπλήσσω, to ſtrike, or knock down. An Apoplexy. This by the *Latin* Writers is called *Attonitus Morbus*. *Celſus* and *Cœlius Aurelianus* inform us, that the moſt antient Medicinal Writers gave this Name to that Species of Palſy which ſucceeds what we call a true *Apoplexy*.

Any Diſorder which inſtantaneouſly deprives a Man of Life, who a few Minutes before was, or at leaſt ſeem'd to be, in perfect Health, may, according to the Derivation of the Word, be properly enough called an *Apoplexy*; but it would be more methodical to confine the Word *Apoplexy* to ſuch ſudden Diſorders cauſed by Affections of the Brain.

OBSERVATION I.

A certain Envoy from *Florence* to the *French* King was ſuddenly ſeiz'd with an Apoplexy, which put a ſpeedy Period to his Life, though, juſt before, he appeared to be in an entire and confirmed State of Health.

Upon opening his Body, I found his Heart turgid; and when I cut it open, it diſcharged three or four Pounds of Blood. The Orifice of the great Artery was at the ſame time dilated to ſuch a preternatural Size, that it would have admitted a Perſon's Arm. *Andreas Laurentius in Controverſiis Anatom.*

From this Caſe *Moebius* concludes, that Apoplexies draw their Origins rather from the Obſtructions of the Arteries, than thoſe of the Nerves.

From this Caſe alſo *Bartholine* concludes, that the Cauſes of *Apoplexies* are not always to be look'd for in the Brain, ſince they ſometimes proceed from the Blood being intercepted in the obſtructed Veſſels of the Heart. *Boneti Sepulch. Anatom.*

OBSERVATION II.

A certain Student had the Misfortune to be wounded with the Point of a Sword near his Noſe, and immediately below the Orbit of the Left Eye. Soon after, he was depriv'd both of his Speech and Reaſon, and ſeiz'd with an Apoplexy and *Stertor*, which quickly put an End to his Life. Upon opening the Cranium, I found the Wound not only paſſing thro' the Orbit of the Eye, and the *Os Cribroſum* near the *Criſta Galla*, but alſo affecting the Right Ventricle of the Brain; from which I extracted a Portion of black, grumous, and fibrous Blood, as long and thick as my middle Finger. The Baſe of the Brain, and the Region of the Cerebellum, were fill'd with extravaſated Blood; and the whole Subſtance of the Brain itſelf appear'd of a ruddy Colour, as if it had been inflam'd. *Jac. Wepferus Exercit. de Apoplexia.*

OBSERVATION III.

A certain Gentlewoman of Diſtinction, having for a conſiderable Number of Years been ſubject to ſpaſmodic Diſorders, began at laſt to flatter herſelf with the Hopes of a perfect Recovery. She complained in the mean time of a violent Pain and Heavineſs in her Head; ſoon after which ſhe was ſeiz'd with a violent convulſive Fit, which terminated in an *Apoplexy*, which ſoon put an End to her Life. Upon raiſing her Scull, the Veſſels running thro' the Meninges and Brain appear'd diſtended and ſtretch'd with Blood; whereas in diſſecting the other Parts of her Body, ſcarce any Blood at all appear'd. Upon removing the thicker Membrane, thro' the other ſlender and pellucid one we obſerved a limpid Water filling the ſeveral Meanders of the Brain, and, as it were, overflowing the Whole of its Subſtance. *Bonet.*

OBSERVATION IV.

A Man of ſeventy Years of Age, happening to fall from a conſiderable Height, received a large Wound in his Scull. Next Day he recovered a little; but on the fourth Day died of an unexpected *Apoplexy*, after ſpitting up ſome purulent Matter. When we were examining the internal Parts of his Head, we firſt found the Ventricles of his Brain fill'd with a great deal of a certain Humour: Next we found a large Fragment of the *Os Cuneiforme* ſeparated from the reſt, and bearing upon the adjacent Parts, in the moſt remote Receſſes of which there was a great deal of coagulated Blood lodg'd. But the *Apoplexy* proceeded partly from *the Obſtruction of the Proceſſes of the Medulla Spinalis*, which are the *true* Origins of the *N*erves, and partly from the Anguſtation of the *Rete Mirabile*, which is formed by the intermixed Concourſe of the Jugular Veins, and the carotid and cervical Arteries. Theſe noble Parts being obſtructed, the Patient muſt of courſe have been deprived of Senſation, Motion, and Life, according to the Maxim of *Celſus*, *S.* 2. *Servari non poteſt cui Baſis Cerebri percuſſa eſt*: No Art can ſave him, Baſe of whoſe Brain is wounded.

OBSERVATION V.

A certain Butler, happening to take Flowers of Antim from a Mountebank, fell into an *Apoplexy*, during which had ſuch a violent Ptyaliſm, that ſix full Meaſures of fro Phlegm were diſcharged from his Mouth and Ears.

Upon opening his Body, when dead, we found his Lu the whole Region of his Breaſt, his Stomach, and his He full of the ſame kind of frothy Phlegm. *Bonet.*

OBSERVATION VI.

In diſſecting the Body of one who lately died of an *Apop* in the Left Ventricle of the Heart, I obſerved a Portion of aſcending into the *Arteria Venoſa*, where, after blocking up Orifice, it branch'd itſelf out in two Horns like the *Pythagor* Letter Y. *Bonet.*

OBSERVATION VII.

A certain Prieſt, towards the End of the *Conſecration*, came wonderfully fooliſh, and ſoon after died Apoplec Upon diſſecting his Head, ſome round whitiſh Bladders, full a phlegmatic Humour, were found upon the Corpus Calloſu which were taken for the immediate Cauſe of ſo fatal a D order. *Bonet.*

OBSERVATION VIII.

A Woman of *Leyden* had an external Tumor on the Ri Side of her Forehead, which being taken off by the Hand ſkilful Surgeon, three Days paſs'd without any Suſpicion o more terrible Diſorder appearing; however, on the fourth D ſhe was ſuddenly ſeiz'd with an *Apoplexy*, which prov'd mor as the learned *Walæus* had prognoſticated, from Inſtances like Nature; becauſe in ſuch Tumors of the Head the Peric nium is hurt; and when the internal Membranes adhering the Brain are dilated, the Brain itſelf falls down, and compre the Ventricles. *Bonetus* from *T. Bartholine.*

OBSERVATION IX.

A certain old Clergyman of an untainted moral Charac of a *corpulent Make*, and a ſhort wry Neck, having been lo valetudinary, and leading a ſedentary Life, contracted a viol ſcorbutic Cacochymia; being alſo afflicted with a Difficulty Breathing, an heavy Pain in his Head, and an unuſual Torp he could ſcarce undergo any Labour or Fatigue, beſides goi between his Chamber and the Chapel every Day: Accordin one Morning, when he had gone into the Chapel a little bef Prayers began, and fallen upon his Knees, he was ſudden ſtruck with an *Apoplexy*, and becoming ſpeechleſs and ſenſele fell proſtrate on the Ground. But being forthwith taken and his Cloaths taken off, he was put into a warm Bed. Up which, I myſelf, and other Phyſicians, being called, we fou him not only deprived of Senſation, Pulſe, and Reſpiratio but his whole Body was even cold and ſtiff; nor could we the moſt diligent Application of any Medicines whatever ſtore him, either to Life or Warmth. Hence we ſuſpecte that by the very firſt Shock of the Diſtemper, the Pulſation the Heart was ſtopp'd, and the Motion of the Blood ſuppreſs'd

Next Day we opened the dead Body, which by that ti was become conſiderably ſtiff, not in the leaſt doubting but Diſtemper which had proved ſo ſuddenly mortal, would le ſome remarkable Traces in the Brain. But neither in it, in any other Part within the Cranium, were the leaſt Traces this violent Diſtemper to be obſerved; for the Veſſels runni through the Meninges were only filled with a due Quantity Blood, without any Inflammation or Extravaſation. The Brai the Cerebellum, and Medulla Oblongata, together with their Proceſſes and Protuberances, appeared every-where fou and well-coloured, both externally and internally. There no Effuſion either of Blood or Serum in their Pores or Duc Neither was there any Coacervation of Matter found in large Ventricles: Beſides, the *Plexus Choroides*, both within Brain, and behind the Cerebellum, did not in the leaſt app faulty; ſo that the morbific Matter, as fine and ſubtile as Animal Spirits themſelves, which it had affected, was entire unobſervable; and we could only argue for its being actual there from the Effects it produced. But leſt the morbific M ter ſhould be lodged ſomewhere elſe, after having taken an curate View of the ſeveral Parts of the Brain, we deſcend to the Thorax, where we found the Lungs diſcoloured, and tended with a frothy Ichor. A Circumſtance which ſufficie ly accounted for the Difficulty of Breathing! But the Heart found, untouch'd, and entirely free from all manner of O ſtructions, or polypous Concretions. Neither in its Neighbo hood, nor in any of the adjacent Viſcera, was there any A ceſs or Apoſtemation found, by whoſe Contact, or fœtid E halations, the Heart, if ſuch a thing be poſſible, could be preſſed, and Reſpiration ſtopped. *Willis.*

Observation X.

I had an Opportunity of ſeeing a Girl who was killed by Lightning, but no Marks of Violence appeared on her Body, except two Scars all along her Back, which looked as if they d been made with a red-hot Smith's Forceps. Internally ere was no apparent Diſorder, except that the Extremity of e of the Lobes of her Lungs ſeemed to be ſomewhat burned. *Braſſaval, Com. ad Lib.* 1. *Hippocrat. de Vict. in Acut.*

When in the Year 1581. the Bell-ringers of *Beſançon* were inging the Bells, in order to prevent the Effects of a Tempeſt, e of them, being ſtruck with Lightning, died on the Spot. Upon inſpecting his Body, no Wound was diſcovered, and the Skin was entire, only his Neck was a little blacken'd, and the Neck-band of his Shirt torn. Upon opening his Body, the incipal Viſcera, the Heart, Liver and Spleen, were found ffected, and the ſmaller Inteſtines blaſted. *Bonetus* from *Gil- rtus.*

Beneventius affirms, that an Apoplexy may be occaſioned by Lightning [*De Abd. Cap.* 2.]; and that he himſelf knew a Fa- er and Son, who, being ſtruck with Lightning at one and the e time, became Apoplectic, and were afterwards throughly ed; for ſuch is the Influence of Lightning, that it can ex- Commotions in the Humours of the Brain, and render ople Apoplectic. Accordingly *Hildanus, Cent.* 3. *Obſ.* 26. entions the Caſe of a Servant, whoſe Head ſwelled prodigi- lly, and became black a little after he had been kill'd by the ightning; hence 'tis plain, that in this Caſe, the Brain was ry much injured. But Lightning rarely excites a true Apo- xy; ſince, for the moſt part, it either kills entirely, or pro- ces ſuch an Effect upon People, that, loſing their Colour, their Pulſe, and Reſpiration being quite deſtroy'd, they ſemble dead Perſons.

Observation XI.

In a very ſevere Winter, when every thing was covered with ow, a certain Gentleman of great Learning was ſeized with iolent Pain in the Left Side of his Head; and, afterwards mplaining heavily of Pains in his Abdomen, he at laſt died plectic.

Upon diſſecting his lower Belly, the largeſt Gland of his ſentery was found ſcirrhous and exulcerated. Upon open- g his Cranium the Right Carotid Artery aſcending within Cranium was quite oſſified, or even petrified, if I may ſo, and its Cavity ſcarce permeable. The Right Vertebral tery was alſo a Third larger than that on the oppoſite Side. ed.

Observation XII.

A certain dull Fellow had the Misfortune to be ſeiz'd with Apoplexy, which proved mortal to him. Upon ſearching the Cauſes of his Diſorder, we found his Brain flaccid. The ninges were overflowed with a mucous and viſcid Humour; even the third Sinus itſelf, with its adherent Veſſels, were with the ſame Liquor. The Ventricles of the Brain were filled with it. In the Left Ventricle of the Heart, there a Polypus formed by a viſcid Matter, and the Spinal Mar- was moiſtened by a Lymphatic Fluid. *Bonet.*

Observation XIII.

Man of fifty-ſix Years of Age happened to be ſeized an Apoplexy: the whole Right Side of his Body was with- x Hours after convulſed and contracted; but more eſpecial- he Hand and Foot on that Side. The whole Left Side of Body, in the mean time, became paralytic; he could not k, but a great deal of viſcid Spittle flowed from his Mouth. the ſecond Day, he felt a kind of Concuſſion about his ſt, and died as if he had been ſuffocated.

Upon opening the Cranium, we found the Subſtance of the n found and entire: But the Right Ventricle was full of Extravaſated Blood, which was black, purulent, and ſtreak- with different Colours. The Bottom of this Ventricle was corroded, and, as it were, excavated. Nothing uncom- was found in the Left Ventricle, the Lungs were black flaccid, and a Polypus was found in the Right Ventricle of Heart.

The Wife of the Deceaſed informed us, that, for many Years he had been ſubject to a Vertigo; that many Days before Death, he had complained of a heavy Pain of his Head; that, the very Day before the Apoplexy ſeized him, a Diſ- ge of Blood was made from his Noſtrils. *Bonetus* from *ui.*

Thus we ſee many Cauſes, and thoſe very different from other, may induce an Apoplexy. And, indeed, whatever ble of putting a ſudden and entire Stop to the Circula- of the Blood, may have this Effect. Thus a Palſy of the n, of the Lungs, or of the Muſcular Coats of the princi- Arteries, may be readily conceived to put an effectual Stop e Circulation, and conſequently to cauſe an Apoplexy. ſame Effect may be produced by an Over-fulneſs of the Veſſels; for where there is no void Space to move in, no Motion can be carried on. Polypoſe Concretions in the Heart, or its Auricles, in the large Arteries, or Veins, eſpecially the Jugulars, in the Sinuſes of the Brain, particularly in or near the *Torcular Herophili*, or in the large Veſſels of the Meninges; ſudden Ruptures of any of the large Veſſels near the Heart, or of ſmaller in the Meninges, in the Subſtance of the Brain, or its Ventricles, whether Sanguiferous, or Lymphatic; a general Viſcidity of the Juices, or Languor of the vital Powers; a Congeſtion of Humours of any ſort, in, or very near, the Brain; Wounds, Blows, any Compreſſure of the Brain, or whatever is capable of preventing the Influx of the Nervous Fluid into the Canals which convey it from the *Medulla Oblongata*, and *Spinalis*, to the different Parts of the Body, may produce this Diſtemper.

But the two moſt general Cauſes of an Apoplexy are, firſt, a Plethora, or Over-fulneſs of Blood, to which the younger Sort of People, who live freely, are principally ſubject.

Secondly, a Deficiency in the vital Powers, and a conſequent Redundance of viſcid and ſerous Humours, which affects particularly People advanced in Years.

Sometimes Hyſteric Diſorders attack the Head, and cauſe an Apoplexy, which alſo terminates in an Hemiplegia, exactly reſembling that kind of Apoplexy which proves fatal to ſome aged and corpulent Perſons, and ariſes from an Obſtruction and Compreſſion of the Nerves, occaſioned by a copious Phlegm contained in the cortical Part of the Brain. But the Apoplexy in Hyſteric Women ſeems to proceed from a very different Cauſe; for it ſeizes them frequently after a difficult Delivery, attended with a great Loſs of Blood, or proceeds from ſome violent Commotion of Mind. *Sydenham.*

The Gout is alſo frequently productive of an *Apoplexy.* See ARTHRITIS.

DIAGNOSTICS *and* PROGNOSTICS.

Cœlius Aurelianus has given the Sentiments of the Antients on an *Apoplexy*, in the manner following:

This Diſeaſe is ſo called, becauſe, upon its Approach, the Patient drops down on a ſudden, as if he was ſtruck dead by a Blow. It may be defined, *A quick and ſudden Oppreſſion, often attended with a Fever, depriving the Patient of Senſation, and ſeizing always inſtantaneouſly, but never ſlowly and gradually.* Its antecedent Cauſes may be eſteemed the ſame with thoſe of other Diſeaſes; but the more conſiderable of them are, the being expoſed to continual ſcorching Heats, or to violent Colds, frequent Indigeſtions, occaſioned by the immoderate Uſe of Baths, and Exceſs of Venery, eſpecially in old Men. This Diſtemper may alſo proceed from the Meninges being wounded, or in Boys from their Concuſſion. In ſome Caſes therefore no Symptoms are obſerved previous to the Patient's dropping down; whereas in others ſome prognoſtic Symptoms precede the immediate Shock of the Diſtemper, ſuch as Heavineſs or Pain of the Head, Vertigo, Ringing of the Ears, Difficulty in performing accuſtomed Motions; Sadneſs of Countenance, convulſive Twitchings of the Parts, and eſpecially of the Lips; a tremulous and ſcarce articulate Voice, Interruption of Speech, without any apparent Reaſon; Forgetfulneſs of what the Patient had but very lately ſpoken; Fulneſs of Countenance, and a Difficulty in diſcharging the Excrements. But theſe are alſo generally antecedent Symptoms in ſuch as are threatened with an Epilepſy or Madneſs. The firſt Approach of the Diſtemper is attended with Loſs of Speech, and Depravation of the Senſes, by reaſon of the ſudden Shock, perfect Inability of Motion in all the Members of the Body, and Diſtortion of the Countenance, and, in ſome, Retraction and Immobility of the Eye-lids, and a Gaping of the Mouth; a full and labouring Pulſe, a cold Torpor of the Joints, ſhort Reſpiration, a livid or leaden-coloured Countenance, and an involuntary Diſcharge of Tears. As the Diſtemper grows worſe, and ſeems to threaten the Patient with immediate Death, the Countenance is ſo diſtorted, that it appears longer than ordinary, the Præcordia become prominent, a cold Torpor ſeizes the whole Body, the Lungs during Reſpiration, make a Noiſe cold Sweats break out on the ſuperior Parts of the Body, the Eye-brows alſo and Eye-lids are drawn upwards, and fixed immoveably in that Poſition. But if the Diſtemper abates, and takes a favourable Turn, the Torpor quits the Body, the Coldneſs forſakes it, and the natural Heat returns. Some Parts alſo will be twitched with deſultory Spaſms, even in thoſe who before were entirely free from them. The Humour ſecern'd from the Fauces is ſwallowed, though with much Difficulty, nor is it hindered from being ſo by the Cauſe which formerly prevented its paſſing that way. The Patient alſo, if prick'd, or call'd upon, moves his Eye-lids, and ſhuts his Lips, as a Sign, that he feels the Puncture, or hears the Perſon who calls him; and it holds univerſally, that ſome die the firſt Day the Diſtemper ſeizes them; others ſurvive its Approach for two or three Days; and others eſcape with their Lives; ſome of whom recover immediately, whilſt others are affected with a Palſy in one or more Parts of their Body. Some are alſo racked with uneaſy Commotions of Mind, to ſuch a pitch, that they ſeem to have loſt their Reaſon, to be ſad and drowſy, and, if any one awake them out of their Sleep, they ſpeak ſomething incoherent and foreign to the Purpoſe. Now this Diſorder is the Reſult of *Stricture*, or *Tenſion*, and is of the quick, vehement, and acute Kind. Old Men are moſt ſubject to it, and it generally makes its Approaches in the Winter-ſeaſon, and towards the End of the Autumn. It is by ſome alſo ſtyl'd *Paraplexy*. The Head ſuffers principally in this Diſtemper, as we may eaſily conclude from its antecedent Symptoms, and the Violence done to the Body. The Cure is difficult even in Men of ſtrong and robuſt Conſtitutions; and thoſe who are weakly and tender yield more eaſily to its Violence, and that for this additional Reaſon, that they are not able to bear the ſtronger and more powerful Means of Relief. Hence we plainly find, that the Cure of this Diſeaſe is more difficult in Women than in Men, and in old Men and Boys, than in People who are in the Flower of their Age, in conſumptive Perſons, than in thoſe who are bleſt with a firm and ſtrong Habit of Body. It is alſo more difficultly cured in thoſe who have gone through a Courſe of Sickneſs, than in thoſe who have never laboured under any Diſtemper. The Winter-ſeaſon alſo contributes to the Difficulty of the Cure, not only becauſe the Cold condenſes and braces up Bodies, but becauſe it is incompatible with ſome Means of Cure and Recovery, ſuch as Riding, or taking free Air in an open Coach. A Lethargy, Epilepſy, Hyſteric Suffocations, according to ſome, the Palſy, that Species of Diſorder which the *Greeks* call'd *Caros* and *Syncope*, all bear a Reſemblance to, and border upon, an Apoplexy. There is nevertheleſs a Difference betwixt an Apoplexy and a Lethargy, ſince every Lethargy happens either after, or is accompany'd with a Fever, produces a low Pulſe, and does not always deprive the Patient of his Senſes: Whereas an Apoplexy ſeizes without a Fever, renders the Pulſe ſmall and quick, and cauſes the Patient to drop down ſuddenly as if he was ſtruck dead; add to this, that an *Apoplexy* ſometimes proceeds from a Wound of the Membrane of the Brain, whereas a *Lethargy* never does (*This is a Miſtake*). An Apoplexy is likewiſe different from an Epilepſy; ſince Epileptic Patients are affected with Convulſions of the whole Body, and foam at the Mouth, none of which Symptoms are ever obſerv'd in *Apoplectic* Caſes. After the Fit alſo, Epileptic Patients ariſe, for the moſt part, with their Conſtitutions ſound, whereas *Apoplectic* Patients come not off without a Palſy of the Parts. An *Apoplexy* is always accounted a Diſeaſe of the quick and acute Kind, whereas an Epilepſy is moſt frequently found to partake of a ſlow and chronical Nature. The Diſeaſe of which we are treating, differs alſo from Hyſteric Suffocations; for theſe latter are not preceded by Pains of the Head, and in the Paroxyſm the Matrix is found convulſed, and heaving upwards; but this never happens in *Apoplectic* Caſes. Beſides, *Apoplectic* Women do not remember any thing that happen'd after the Fit is over, whereas thoſe who labour under Hyſteric Suffocations can both remember and tell what Degree of Pain they ſuffered during the Paroxyſm. Hyſteric Suffocations are alſo found to be ſlow and chronical, but an *Apoplexy* never. An *Apoplexy* is alſo different from a Palſy, though theſe two Diſeaſes were confounded by many of the Antients, among whom were *Hippocrates*, *Diocles*, *Praxagoras*, *Aſclepiades*, *Demetrius*, and ſome others beſides; for they called thoſe People *Apoplectic*, whoſe whole Bodies were paralytic, and thoſe Paraplectic, who were paralytic in ſome particular Parts of their Bodies. But *Themiſon* properly calls a Palſy of the Head, with the Operations of the Mind weakened, an *Apoplexy*; but the ſame Diſorder in other Parts of the Body, with the Faculties of the Mind impaired, he calls only *Palſy*. But there is no Occaſion for wrangling about Circumſtances, on which the Method of Cure does not depend. We muſt only conſider, that an *Apoplexy* is eſteem'd a Diſeaſe of the quick and acute Kind, and a Palſy a Diſorder of a ſlow and chronical Nature. The *Carus* alſo, and *Catalepſis*, are rank'd among the Diſeaſes of which the Patients recover, and they never elevate the Præcordia, nor create ſuch a Difficulty of Recovery as the *Apoplexy* does. *Cœlius Aurelianus*, *Acut. Lib.* 3. *Cap.* 5.

Altho' the *Morbus Attonitus*, by the *Greeks* called ἀποπλεξία, ſometimes ſeizes the Patient without any previous remarkable Symptoms, 'tis nevertheleſs, for the moſt part, uſhered in by a ſudden and acute Pain of the Head, a Vertigo, a Dimneſs of Sight, a Grinding of the Teeth during Sleep, and a Coldneſs of the whole Body, but eſpecially of the extreme Parts. Then the Patient, like one thunder-ſtruck, drops down, ſometimes with Shrieks; immediately after, the Eyes are ſhut, and a Stertor enſues; the Difficulty of Breathing is ſo great, as to occaſion a Danger of Suffocation, and the Breaſt ceaſes to heave, juſt as if it was bound faſt with Cords: Senſe and Motion are entirely loſt, and the only remaining Hope of Life conſiſts in Reſpiration being preſerved. And, indeed, the Nature and Danger of the Diſorder bear a direct Proportion to the Difficulty or Eaſineſs with which Reſpiration is perform'd; for which Reaſon, we conclude the Diſorder fatal, when the Reſpiration is either intermittent, or carried on with great Difficulty. But the

Caſe is leſs dangerous when the Patient's Reſpiration is prett
eaſy, and when the Liquors he drinks are not again diſcharg'
by the Noſe, but freely deſcend to the Stomach. The Cu
of this Diſtemper, when violent, is altogether impoſſible; a
even when ſlight, very difficult; and indeed, this latter Degr
of the Diſorder frequently terminates in a Paralyſis of o
or other of the Sides, and that generally within the fi
four Days; after which, if the Diſeaſe continues, it prov
fatal. Yet the Diſtemper often affects ſome in ſo gentle
manner, as only to diſtort their Mouths, and deprive them
Motion, without any Foaming at the Mouth, *Stertor*,
Palſy, in which Caſe they may be recovered by the Uſe
proper Remedies. This Diſeaſe is generally moſt incident
Men between forty and ſixty Years of Age, eſpecially if t
have the Misfortune to be of a too cold Conſtitution, to be f
quently afflicted with heavy Pains of the Head, Drowſine
and Dimneſs of Sight, or if they have ſhort and narrow Nec
live entirely idle, or are addicted to Drinking and Glutto
But a young Man, or even one who is moderately advanced
Years, or in Reality any one whatever, is not, during
Summer-ſeaſon, ſubject to this Diſorder, unleſs very conſid
able Cauſes concur; in which Caſe, Death is generally
Reſult. The Winter, on the other hand, paves a more di
Road to this Diſorder, eſpecially when cold Winds blow,
black Clouds hover in the Air. Hæmorrhoidal Diſcharges
of good Preſage in this Diſorder; but Coldneſs and Inſenſi
lity are hurtful. Sweats alſo ariſing from Difficulty of Re
ration are mortal. People in this Diſorder often appear de
when they are really alive, but more eſpecially Women,
Men of cold Conſtitutions. However, the Truth of the Ma
may fully be diſcovered, by applying a light Feather to
Mouth and Noſe, or by placing a ſmall Veſſel full of W
on the Breaſt, to which if any Motion is communicated,
Patient is ſtill alive; but if they remain entirely unmoved,
is dead. *Hippocrates*'s Obſervation ſeems to be juſt, Th
ſudden Pain of the Head, accompany'd with Loſs of Voice
Stertor, deſtroys the Patient within ſeven Days; but tha
may be preſerved, if a Fever happens before the End of
Time. *Lommii Opuſc. Aureum.*

The moſt fatal and terrible of all Apoplexies is that w
proceeds from an Effuſion of Blood in the Brain, from its
ſels being burſt without any external Violence, and which
denly ſtops and extinguiſhes the vital and animal Functions

That ſuch an Hæmorrhage of the Brain really exiſts,
that the Rupture of the Veſſels is its immediate Cauſe, is
ciently plain from the Diſſection of Subjects that have di
this Diſorder. Upon ſuch Occaſions, we plainly find an
fuſion of Blood, ſometimes between the Cranium and
Dura Mater, ſometimes between the Dura and the Pia M
but more frequently between the Pia Mater and the Brain,
moſt frequently of all, in the Windings of the Brain itſelf,
the Meditullium of its Ventricles. This Effuſion happens
ſometimes in its Baſis, ſometimes in a ſmall, and ſometim
a pretty large Quantity. From diſſecting Subjects of this
'tis alſo plain, that the Blood-veſſels, running thro' the M
branes and cortical Subſtance of the Brain, are ſometimes
turgid, and, as it were, aneuryſmatic, with liquid, and ſ
times coagulated Blood: They are alſo found on ſome O
ſions to be actually burſt. The Hiſtories of the Diſſectio
Subjects who have died of Apoplexies, written by the le
Wepfer, may be conſulted for Satisfaction in this Point.

The Part then originally affected is the Brain, which is
much diſpoſed to, and ſuſceptible of, this Stagnation of the B
and the Hæmorrhage conſequent upon it. For a very
Quantity, and at the leaſt, according to *Malpighi*, a
Part of all that Blood which is thrown from the Left Ve
of the Heart thro' the whole Body, is carry'd to it by
of four pretty large Arteries; beſides, theſe arterial V
which convey the Blood to the Brain, are very winding
Whole of their Courſe, but eſpecially in the *Pia Mater*.
the moſt conſiderable Circumſtance of all is, that after
very Arteries have enter'd the Cranium, they lay aſide th
terior tendinous Coat, the principal Inſtrument of their
tractive Motion, become much ſmaller than thoſe in any
Parts of the Body, and almoſt reſemble Veins; not to
tion, that theſe Veſſels become at laſt ſo very ſmall,
Tranſition of the Blood from them, into their correſpo
Veins, cannot poſſibly be obſerv'd. All theſe Circum
concur to make us perceive, why the Blood in theſe Par
circulate ſlowly, ſtop eaſily, not enter the Veins quic
readily, but, being accumulated by continual Recruits of
Blood, diſtend and inlarge the Capacities of the ſeve
nals, and lay a Foundation for many ſubſequent Evils.

From ſuch a Diſpoſition and State of Things as th
Tranſition is eaſy to a Rupture of the Veſſels, and an
of their Contents, where thoſe Cauſes concur, which
a Congeſtion of the Blood to the Head in too great
tity, or with an undue Impetus, produce its Stagnatio
and ſtrongly prevent its free Return thro' the Veins
theſe means it happens, that the Veſſels not only become

ith Blood, but, being too much diſtended with the continual Arrival of more, burſt, and pour forth the Blood contain'd in em. This principally happens in the ſmall Veſſels of the a Mater, and thoſe of the cortical Subſtance of the Brain, as ell as thoſe which form the Plexus Choroides, as is evident m the Diſſection of Carcaſes.

By an Effuſion of Blood in the Brain, the Secretion and Diſ- ribution thro' the Nerves of that moſt ſubtile Fluid, which onveys Motion, Strength, and Senſation to the ſeveral Parts, not only hinder'd, but the Motion of the whole Blood cir- ulating thro' the Brain is diſturb'd and intercepted, by which eans the animal and vital Functions languiſh apace, and are t laſt quite extinguiſh'd. That Matters ſtand thus, is ſuffi- iently atteſted by the direful Symptoms accompanying this Hæmorrhage, and by which, as by ſo many diagnoſtic Signs, may be diſtinguiſh'd from every other Diſorder; for thoſe ho are ſeiz'd with it fall ſuddenly to the Ground, become oid of all Thought and Reflection, and are depriv'd of all enſation and Motion; all their Members become languid and accid, their Tongues ſwell, their Eye-lids are retracted and moveable, and their Mouths remain wide open; their De- lutition is deſtroy'd, and their Excrements and Urine are often voluntarily diſcharg'd: And all theſe Symptoms plainly ſhew, at the Functions of the Brain are impair'd and injur'd, and at the Strength and Vigour of the Muſcles is conſequently ecome weak and languid.

The other Phænomena obſerv'd in Caſes of this Nature are be aſcrib'd to the difficult and intercepted Paſſage of the ood thro' the interior Veſſels of the Head. Thus the Cheeks e cover'd with a red and florid Colour; the Face ſwells; Veſſels, eſpecially thoſe running thro' the Temples, become turgid, that ſometimes breaking, they pour out Blood into e Mouth, Noſtrils, and Ears, eſpecially after the Death of e Patient. And that when Putrefaction comes on, the Head diſtended to an incredible Size, which is juſtly to be aſcrib'd the Blood's not being allow'd a free Courſe thro' the inter- l Carotids, and on that account making an Effort on the ex- nal ones; that the Eyes are diſtended, become prominent, f like Glaſs, and pour out Tears in great Abundance, are ænomena that may be accounted for from the Lymph being cern'd in great Plenty from the ſtagnating Blood. That the lpitation of the Heart is ſtrong; that the Pulſation of the rteries is at firſt great, and afterwards languid and ſlow; that e Breathing is difficult, and accompany'd with a Stertor; ſe are to be imputed to the Load of Blood oppreſſing the ungs, and their having by that means their equal reciprocal otions deſtroy'd, and becoming uncapable of receiving and pelling the Air as they ſhould do. In fine, that Vomitings d Convulſions, accompany'd with Grinding of the Teeth, ppen, is to be accounted for from nothing elſe than the Blood g'd in the Veſſels of the Dura Mater, and exciting Spaſms it.

Now as every Hæmorrhage preſuppoſes ſuch a Congeſtion of ood as is ſufficient to produce a Rupture in the Parts where happens; ſo 'tis certain, that this muſt be the Caſe with morrhages of the Brain. This is plainly prov'd, by the Na- e of all the antecedent Symptoms; the principal of which , a dull and heavy Pain of the Head, eſpecially of its hinder rt, accompany'd with a Vertigo, like that which attends a t of Drunkenneſs, an unequal formicating Pulſe, the Sight metimes obſcur'd, and ſometimes flaſhing or ſparkling; wa- ing and ſwell'd Eyes; Noiſe and Ringing of the Ears; a tain Heavineſs of Memory and Genius; profound Sleep, nded with the Incubus, and troubleſome Dreams; a Tur- neſs of the Jugular Veins, and a preternatural Redneſs of Face.

But farther, as in order to bring a Congeſtion of Blood upon y Part, beſides the Abundance of the Blood itſelf, a ſtrong pulſion of it by the Spaſms of ſome other Part, and a cer- n Weakneſs and Debility in the Part, admitting the Con- ſtion, are neceſſary; ſo we have no Reaſon to doubt, but ſe Cauſes concur to bring on that Congeſtion which happens the Veſſels of the Brain: For Reaſon informs us, and Expe- ce confirms to us, that all the antecedent and procatar- c Cauſes of this Diſeaſe may be reduc'd to theſe now men- ed.

To begin then with the too great Quantity of Blood; it is ly owing to it, that Hæmorrhages of the Brain happen frequently to People arrived at Maturity, and, according *Hippocrates*, *Aph.* 57. *Sect.* 6. from the fortieth to the ſixtieth r of one's Age, when the Growth or Increaſe of the Body g at an End, the Juices are not only treaſur'd up in the els in a greater Quantity than they ſhould be, but alſo me thicker. Hence it alſo happens, that ſuch as are of t we commonly call ſanguine Conſtitutions, as alſo fat Peo- and thoſe who lead a delicate, idle, and ſedentary Life, or lge themſelves too much in Sleep, are very ſubject to theſe l Hæmorrhages. That this Misfortune alſo happens to thoſe, o either thro' a Diminution of their ſpontaneous Hæmor- ges, or an Omiſſion of their long-accuſtom'd, artificial Evacuations of Blood, have acquir'd and treaſur'd up, as it were, too great a Quantity of it, is abundantly plain from the Obſervations of Phyſicians. That this Diſorder ariſes from accuſtom'd Evacuation of Blood being neglected, may be ſeen in *Acta Medica Vratiſl.* 1702. That it may proceed from an Hæmorrhage of the Noſe being ſuppreſs'd, is plain from *Hildanus*, *Cent.* 3. *Obſervat.* 2. That a Retention of the Hæmorrhoids has brought it on, may be found in the Writings of *Hippocrates*, *Amatus*, and *Zacutus Luſitanus*. For this Effect alſo, *Lanciſi de Mortib. Subit.* ought, above all others, to be conſulted. The Writings of *Fontanus*, and the *Acta Nat. Curioſ.* are full of Inſtances of this Diſtemper's ariſing from the *Menſes* and *Lochia* being ſuppreſs'd. And *Hildanus*, *Cent.* 3. *Obſervat.* 12. gives us an Inſtance of its being produced by the Menſes being diſcharged at the Mouth and Noſe, inſtead of the natural Way.

But a Redundance of Blood will contribute more readily and more effectually to the bringing on this Diſorder, if another Cauſe, that is, Spaſms in ſome of the external Parts remote from the Head, ſhould happen to act in Conjunction with it; for this latter Cauſe operates in ſo terrible a manner, as not only to ſtop the Progreſs of the Blood, by bracing up the Fibres, and conſtricting the Veſſels of the Part affected, but alſo propels the Blood in ſuch a manner, that it ruſhes to ſome other Parts with an Impetus, fills their Veſſels, diſtends, and at laſt burſts them. But the Hardneſs and Largeneſs of the Pulſe, which plainly beſpeak a Stricture of the Nervous Coats of the Arteries, evidently ſhew, that Spaſms accompany almoſt every Hæmorrhage, as well as this of which we are treating. The preceding Coldneſs of the Extremities, as alſo that ſort of tingling Senſation which ſome feel in their Limbs, is likewiſe a collateral Proof of this Truth. For this Reaſon alſo we have juſt Reaſon to think, as, indeed, Experience teſtifies, that Hæmorrhages of this Kind are often incident to thoſe who have been long ſubject to Spaſms, eſpecially of the Abdomen, that is, thoſe who have been afflicted with Colic Pains, eſpecially the ſpaſmodic Kind, Hypochondriac Diſorders, Pains from the Stone in the Bladder or Gall-bladder, or a long continu'd Series of Coſtiveneſs.

From what has been ſaid, we may alſo farther conclude, that every thing which has a Tendency to excite Spaſms, is to be rank'd among the Cauſes which produce this Diſtemper. The Effects of the Paſſions of the Mind are very remarkable, with regard to this Particular, eſpecially of Anger and Dread, which act immediately upon the nervous Parts, and, by bringing anomalous ſpaſmodic Motions upon them, render the Circulation of the Blood irregular, and frequently produce this Diſorder, as amongſt the Writings of many others may be ſeen in thoſe of *Hildanus*, *Schenckius*, and *Foreſtus*. The ſame Effect may be produced by the Heat of Venereal Rage, which deſtroying the due Æquilibrium of the ſeveral Motions, the Blood has in ſome been put into ſuch an unnatural Commotion, that they have died Apoplectic, and, as it were, thunder-ſtruck, in the very Time of their fatal Embraces. For farther Satisfaction in this Particular, the Reader may conſult *Henric. ab Heers*, *Obſervat.* 18. and *Bartholin.* (See VENUS).

A violent Commotion of the Body, as well as of the Mind, contributes alſo very much to produce a Congeſtion of Blood in the Head; and among other Inſtances of this Kind, I myſelf knew a violent Cough excited by a ſmall Piece of Bread getting into the Aſpera Arteria, which brought on an Hæmorrhage of the Brain, and prov'd the Patient's Death.

When that acrid, corrupt, and almoſt poiſonous Matter, for wiſe and ſalutary Purpoſes, ſecreted from the common Maſs of vital Juices, in order to be propell'd to the Surface of the Body, either retreats inwardly of its own Accord, or is repell'd by external Injuries, it is of great Force, and has a direct Tendency to bring on this Diſorder; becauſe, by entering the internal nervous Membranes, it excites terrible ſpaſmodic Strictures, by which the Blood is driven with an Impetus to the Head, and treaſur'd up there. Thus *Wepfer* informs us, that this Diſorder has proceeded from the cloſing up of running Ulcers and Fontanels; and in the *Ephemerides Naturæ Curioſorum* we have Inſtances of its proceeding from the Suppreſſion of a Coryza, Sweatings of the Feet, Catarrhous Diſcharges, and from the ſtriking in of the Itch. It alſo proceeds from repelling the gouty Humour.

Aſtringents unſeaſonably and imprudently apply'd, eſpecially in large Hæmorrhages, produce almoſt the ſame fatal Effects on the internal nervous Parts: Of this we have obſerved a remarkable Inſtance, deſcrib'd at length by the famous *Schultzius*, in a Diſſertation deliver'd at *Altorf*, concerning a Man who died of an *Apoplexy*, brought on by a raſh Suppreſſion of the Hæmorrhoids.

Among the Cauſes of this Diſorder, we may juſtly reckon the Air itſelf; the unwholſome and preternatural State and Conſtitution of which is, by *Lommius*, *Baglivi*, and *Lanciſi*, affirm'd to have made this Diſeaſe epidemical. But what moſt of all contributes to the Production of this Diſorder is Cold, which, by contracting the cutaneous Fibres, and bracing up the

the Veſſels which lie near the Surface of the Body, forces the Humours to the internal Parts, and to the Head itſelf. Hence *Hippocrates*, *Sect*. 3. *Aph*. 23. reckon'd an Apoplexy among the Number of thoſe Diſeaſes which rage in the Winter-ſeaſon. And *Piſo* obſerv'd, that about the Winter Solſtice, when the North Wind, which compreſſes Bodies very ſtrongly, and conſequently raiſes the Mercury in the Barometer, began to blow of a ſudden, *Apoplexies* us'd to ſeize People who were inclin'd to them. A ſudden Change of Air contributes alſo very much to excite this Diſtemper. We certainly very often obſerve , that when a cold Northerly Wind ſuddenly ſucceeds a long, cold, and moiſt Intemperature of the Air, when the Winds have blown long from the Weſt ; or alſo when a cold and conſtricting State of the Atmoſphere ſuddenly ſucceeds a warm and moiſt State of the Air, People very readily fall into this Diſorder, provided their Conſtitution diſpoſe them to it. Upon this alſo is built that Obſervation of *Amatus Luſitanus*, *Cent*. 1. *Curat*. 36. in which he gives us an Account of an Apoplexy ariſing from the Body's being expos'd to the cold Air, immediately after coming out of a hot Bath.

Among the principal Cauſes of this Diſorder we may juſtly reckon the Weakneſs of the Veſſels and Membranes of the Brain, or a Diminution of their contractile Power ; for without this Imbecillity, neither the Abundance, nor the too quick Arrival, of the Blood can produce this Diſorder ; but where it is found, the Membranes protrude the Blood with too little Force, the Veſſels yield to it, the Circulation becomes ſlow, a Stagnation enſues, then an Infarction, and then a Rupture. This Weakneſs is ſometimes natural, and deriv'd down to Children from their Parents. Hence it is, 'that this Diſtemper proves fatal to whole Families, Examples of which may be found in *Hoeferus*, *Foreſtus*, and *Sennertus*. This Imbecillity is alſo adventitious, as is the Caſe with old Men, in whom the Strength of every Part decays, and conſequently of the Head ; for which reaſon they are, *cæteris paribus*, more ſubject to this Diſtemper than young People.

Among the Cauſes depriving the Veſſels and Membranes of the Brain of their due Tone, the principal are, Gluttony, Intemperance, and drinking to Exceſs of hop'd Ales, Wine, eſpecially if impregnated with the Fume of Sulphur, and Brandy ; for ſuch is the Nature of theſe Liquors, that they agitate and expand the Blood, and at the ſame time, by that very means, diſtend the Veſſels thro' which it flows : When this happens to be the Caſe with the Brain, the Diſtention continues, the contractile Force of its Veſſels and Membranes is impair'd, and a Way pav'd for a Stagnation. From theſe Circumſtances *Henricus ab Heer* juſtly accounts for this Diſeaſe being ſo incident to the Inhabitants of the Northern Climates ; and *Lanciſi* obſerv'd, that, generally, no habitually ſober Perſons were ſubject to it. The ſame is the Caſe with ſuch Subſtances as induce a Stupor on the Head, ſuch as Opiates, Wormwood, Hops, Tobacco, Saffron, Live-coals, the Steams of Muſt and Ale, by which, whilſt the Juices are rarefy'd, and the Canals preternaturally diſtended, the Circulation becomes ſlow, and is retarded.

A cachectic Habit of Body, accompany'd with a heavy Pain of the Head, in which the Medullary and Nervous Fibres of the Brain are render'd flaccid, too lubricous, and depriv'd of their contractile and oſcillatory Forces, contributes very much to the bringing on this Diſorder. That this State and Diſpoſition of the Brain contribute very effectually, not only to an *Hemiplegia*, but alſo to a ſtrong and ſanguine *Apoplexy*, we know from many Inſtances. We have alſo found, Aſthmatic People ſubject to this Diſorder, eſpecially, when their Diſtemper was fed and nouriſh'd by polypoſe Coagulations lodg'd in the Ventricles of the Heart, or pulmonary Veſſels. It has alſo been often obſerv'd, that not only grumous, but polypoſe Maſſes lodg'd in the Sinuſes of the Brain, eſpecially the longitudinal Sinus, and in the internal Jugulars, have produced a fatal Effuſion of Blood in the Brain.

That *Apoplexy* which proceeds from an Effuſion of Blood in the Brain, is accurately to be diſtinguiſh'd from that milder Species produc'd by an Extravaſation of the Serum, which is follow'd by an Hemiplegia, and a Palſy of the whole Side ; in which Caſe Life is indeed preſerv'd, but at the ſame time render'd very miſerable. This Diſorder happens when the Blood is carry'd to the Head with too great Force, and in too great a Quantity, but does not burſt the Veſſels ; only, in conſequence of its long Stagnation, the Serum paſſes thro' the Pores of the Veſſels, and falling down to the Baſis of the Brain, or the Sides of the Medulla Spinalis, and preſſing upon it, not only hinders the Secretion of the ſubtile active Fluid, but alſo intercepts its Influx into the Nerves, and by that means deprives one or other of the Sides of all Senſation and Motion. We muſt not forget to take notice of the remarkable Difference betwixt ſleepy Indiſpoſitions, and that now deſcrib'd ; for the former ſeize the Patient by Degrees, and not all on a ſudden ; neither do they deſtroy Senſation and Motion, except under the immediate Paroxyſm, and by reaſon of the Profoundneſs of the Sleep.

That Obſervation laid down by *Hippocrates* in his Aphoriſms, *Sect*. 2. *Aph*. 32. correſponds very well to Truth, a what we find from Experience : *That more violent Apoplexi* ſuch as thoſe proceeding from an Effuſion of Blood in t Brain, *are abſolutely incurable ; but that the milder Species*, pr ceeding from a Stagnation of the Blood, and an Extravaſati of the Serum, *admit of a Cure, though with Difficulty* : F unleſs the Patient is relieved, and the Symptoms remit with twenty-four Hours after Blood has been taken away, and oth proper Means uſed, all Hopes of Recovery are loſt, and, a cording to *Cælius Aurelianus*, the third Day at the longeſt p an End to the Patient's Life. This fatal Event is the more be dreaded and look'd for, if the Diſeaſe ſeizes old Men plethoric Habits, whoſe Strength is impair'd, and whoſe Bra are weaken'd ; if it happens after a Fit of Drunkenneſs, violent Attention of the Mind, an Exceſs of Anger or T ror, or alſo if it ſucceeds and follows immediately anoth Diſeaſe. But we are to conclude, that Death will very ſo be the Fate of the Patient, if the Stertor and Difficulty Breathing increaſe more and more, if the Heart beats violentl and the Pulſation of the Arteries is great, hard, and unequa if, when the Patient recovers a little, his Mind is neverthel unhing'd, as it were, and diſorder'd ; if convulſive Motions one of the Sides, and of the Breaſt itſelf, appear ; if a cold Sw break out in Drops, eſpecially on the ſuperior Parts of t Body ; if the Breath itſelf is cold ; and, laſtly, if the Uri and Excrements come away ſpontaneouſly.

Celſus adviſes to bleed *Apoplectic* Patients (*Attonitos*), to e hibit white Hellebore, or to purge them. Then Frictions a to be applied ; mild Aliments, which are not in the leaſt f and ſome which are acrid, are to be uſed. The Patient m utterly abſtain from Wine. *Lib*. 3. *Cap*. 26.

Aretæus diſtinguiſhes a true *Apoplexy* from Diſtempers whi are nearly related to it, in this manner :

An *Apoplexy*, *Paraplegy*, *Pareſis* [πάρεσις], and *Palſy*, b long all to one Kind, as including a Defect of Motion, or Se ſation, or both, and ſometimes a Loſs of Reaſon, or ſome o or other of the Senſes. But an *Apoplexy* affects the whole Bo and is a *Palſy* [παράλυσις] of the Senſes, Reaſon, and lo motive Faculty ; wherefore a ſtrong Apoplexy is incapable o Solution, and a weak one will hardly admit of it. A *Pa* *plegy* is a *Pareſis* of Motion and Senſation, but limited t Part, as the Hand or Leg ; and the *Palſy*, univerſally ſpe ing, is a *Pareſis* only of Motion and Action. If there be o a Defect of Senſation, which rarely happens, it is rather ca *Anaiſtheſis* than *Pareſis*. *Hippocrates* by ſaying, that a Leg *apoplectic*, means, that it is like a dead Member, unſervicea and incurable ; for a ſtrong Apoplexy is to the whole Syſte what a Paraplegy is to the Leg. There is a proper *Pareſis* the Bladder under an involuntary Retention or Diſcharge the Urine. A Diſtortion of the Eye-lids, Cheeks, Maxill Muſcles, and Chin, by a Convulſion, is called a *Spaſmus C* *nicus* [κυνικὸς σπασμός]. A Reſolution of the Knees with ſhort Stupefaction of the Senſes, a Fainting, and Falling do we call a *Lipothymy* [λειποθυμίη]. *Aretæus* περὶ αἰτιῶν ϗ σ χρονίων παθῶν, *Lib*. 1. *Cap*. 7.

The CURE.

The above-quoted Author is more diſtinct, with reſpect the Cure of an Apoplexy, than any of the Antients ; for whi Reaſon, I ſhall give his entire Chapter.

A ſtrong Apoplexy is mortal on all Accounts, eſpecially old Perſons, who are moſt ſubject to this Diſorder ; for ther no Hope, that they ſhould ſurvive, becauſe they are at once preſs'd with the Weight of the Diſtemper, and the Infirmi of old Age. If the Patient be young, and the Apoplexy we the Cure indeed is not eaſy, but however ought to attempted.

The moſt obvious Remedy, as it is beſt ſuited to the Gr neſs of the Diſorder, is Phlebotomy, if it be exerciſed in a Meaſure. But the Quantity of Blood which ought to be ta away is hard to be determined, ſince, if you take but a li more than the Caſe requires, you deſtroy the Patient ; for little Exceſs is ſufficient to keep them alive, being the Fue Life, and Matter of Nutriment to the Body. If, on the o hand, you bleed leſs than is requiſite, you make uſe of a v good Remedy to little Purpoſe ; for the Cauſe ſtill rem However, it is better to offend in this Extreme ; for if Patient ſeems to want it, and ſome favourable Symptoms pear, the Vein may again be open'd ; and the moſt proper for this Purpoſe is the Vein on the Inſide of the Cubit, which the Left Arm is diſpoſed to bleed freely.

In a ſmall Apoplexy it is to be conſidered, whether the ſolution affects the Parts on the Right or the Left Side ; the Blood, in ſhort, muſt be drawn from the ſound Parts, beſt diſpoſed to bleed, and fitteſt to make a Derivation from Parts affected. If an Apoplexy ſeizes a Perſon without a m feſt Cauſe, we are to proceed by theſe Directions in letti Blood ; but if it happens from a Blow, a Fall, or a Preſſ we are not to conſider, but with all poſſible Speed to ope Vein, which has been to ſome a Remedy ſufficient of it and the only Means of Life and Recovery.

If Phlebotomy be thought improper, becauſe of the great dneſs, Torpor, and Inſenſibility, with which the Patient is eſſed, a Clyſter is to be adminiſter'd, which, by evacuating loaded Inteſtines, (for this Diſorder is the uſual Effect of a ula) may cauſe a Revulſion of the Humours from the Head. Clyſter ſhould be acrimonious, and a Purger of Phlegm Choler; and have not only Nitre, but half a Dram of Eu- orbium for an Ingredient in the uſual Quantity of a Clyſter, the Pulp of Colocynth, or a Decoction of the Tops of taury in Oil or Water. The following is a very good Pre- tion:

Honey in the uſual Quantity, Rue boiled in Oil, and Reſin of Turpentine, with Salt inſtead of Nitre, and a Decoction of Hyſſop.

the Patient be a little rouſed by this Method, have a Fever e upon him, or recover his Senſes; if his Pulſe beats well, ood Signs appear in his Face, there is room for Hope, and may proceed with more Confidence. When the Strength is ewhat recover'd, you are to adminiſter the Purge call'd *ra* to the Patient faſting, in its full Doſe, if the Strength permit; if not, half of it, in Hydromel. After this, let be gently carry'd in a Chair in a reclining Poſture, often ng to avoid Wearineſs. If his Belly be looſe, let it ſo ain; if otherwiſe, let him drink about a quarter of a Pint Water or Hydromel. If a Nauſea comes upon him after ing, by no means try to remove it; for the ſtretching of Body tends to awaken and blow up the Sparks of Life, and Vomiting of Phlegm carries off the Cauſe of the Diſeaſe. *Hiera* is a Medicine that purges the Brain, Nerves, and s; and thus I have ſaid enough of Evacuations in the Be- ing.

s to the reſt, the Patient muſt be wrapt in Wool, and be ed all over with Oleum Sicyonium, or old Oleum Gleu- m, either of them alone, or both mixed together. And it be the beſt way to melt a little Wax, to thicken the Oils, to increaſe their Strength with an Addition of Nitre and er, firſt pounded and ſifted. Caſtor is a noble Remedy ſt Paralytic Diſorders, if it be mixed with the before- tioned Oils, and anointed upon the Parts; but it is h more effectual, if drank in Hydromel, in the Quan- of half a Dram; and we are to judge from the Age Diſpoſition of the Patient, whether it be proper for him ke it in a Courſe of ſeveral Days together. Oint- s are better than Embrocations, as being more tolerable as s effectual; for they do not run about, and ſtain the loaths, and it would be inconvenient for the Patient in this to have the Cloaths ſtick to his Body; whereas Ointments elted and abſorbed by the Heat, and are ſerviceable alſo account of their continual Adheſion, when Embrocations off. The Ingredients of Ointment may be ſuch as I have d already; and beſides theſe,

aſtor, Reſin of Turpentine, Euphorbium, the greater Centaury [λεμνῆϛις], Pellitory of *Spain*, of each an equal Quantity; of Pepper, and Galbanum, each half as much, with triple the Quantity of *Egyptian* Nitre; to which add as much Wax as will make it into the due Conſiſtence of an Ointment.

ataplaſms are to be apply'd to the hard and diſtended Parts; may conſiſt of

inſeed, Fenugreek, Barley-meal, Honey, Oil, in which Rue or Dill have been boiled, the Root of Marſhmallows cut in Pieces, and boiled in Hydromel, till it becomes of a wax-like Thickneſs; and let theſe Cataplaſms be of an agreeable and ſoft Conſiſtence.

the Patients then have little or nothing of a Fever, theſe are emedies that are to be try'd, without regarding their Heat. there be an acute Fever, which appears more formidable the other Diſtemper, and threatens the Life of the Patient, Diet and Medicine, and all other Parts of the Manage- , are to be ſuited thereto. The Aliment therefore muſt be thin and ſlender, and eaſy of Concoction, and the proper ns for eating are now to be more regarded; no Suſtenance be taken before the Paroxyſms during the whole Courſe of Cure, and all our Intentions are to be directed to the Re- l of the Fever.

the Diſeaſe be protracted, and the Head in fault, a ing Glaſs muſt be apply'd to the back Part of the Head, e Place muſt be well ſcarify'd; for this gives more Relief Phlebotomy, without any Diminution of the Strength: irſt of all let another Cupping Glaſs be apply'd between the der-blades, without Scarification, in order to make a Re- n from that Cupping Glaſs on the Head.

metimes a Palſy affects the Œſophagus, which is the Part can be the only Means of Relief to the Patient, as being ommon Paſſage for Food and Medicine: And the Sick is ger, not only of Famine and Atrophy, but of a Cough, culty of Breathing, and Suffocation; for whatever liquid Aliment you put into his Mouth ſlides into the Aſpera Arteria, neither the Tonſils doing their Office by deſcending to depreſs the Food, nor the Epiglottis, which is in the Nature of a Lid or Cover to the Aſpera Arteria, ſubſiding into its proper Place. It will be neceſſary therefore, by means of a long Spoon introduced into the Œſophagus beyond the Aſpera Arteria, to convey ſome Hydromel, or Cremor of Ptiſan, into the Stomach, and ſo ſupply the Defect of Deglutination. If the Patient lie at the Point of Death, and his Neck, together with his Breath, ſeem to be condenſed and cloſed up, we are to treat the Neck, and the Parts under the Chin, with heating Ointments and Fomentations. They who apply a Cupping Glaſs under the Chin, in order to open a Paſſage to the Stomach, act unſkilfully, and to no Purpoſe; for there is no Need of a Dilatation, but of a Compreſſion of the Parts, in order to Deglutition. But a Cupping Glaſs dilates the Œſophagus, and by a Retraction, and holding the Parts at a Diſtance from one another, is an Enemy to ſpontaneous Deglutition: But this Part ought rather to be left at Liberty, that it may the better protrude the Aliment forwards into the Stomach. Beſides what has been obſerved, a Cupping Glaſs fills the Trachea ſo as to endanger Suffocation; and if you ſhould apply one to different Parts of the Throat, it would be of no Service; for the Multitude of Muſcles, Nerves, Tendons, and Veins, are interpos'd betwixt the Œſophagus and the Glaſſes.

Sometimes the Bladder, and its neighbouring Part the Rectum, become Paralytic, ſo as to be incapable of diſcharging their Contents; whence they remain always full, and the Bladder in particular ſwells to an enormous Size. Sometimes a Palſy affects theſe Parts in ſuch a manner, that they can retain nothing, but all runs from them as if they were dead. In this Caſe it is not ſafe to ſearch the Bladder with a Catheter, for fear of cauſing a Sphacelus in that Part, or of throwing the Patient into Convulſions. The beſt way is to waſh the Inteſtines with moderate Clyſters of Cremor of Ptiſan; but the only Remedy to be depended upon in all Palſies, whether general, or of ſome particular Part, is an Inſeſſion in Oil. *Aretæus* περὶ θεραπ. ὀξ. παθ. *Lib.* 1. *Cap.* 4.

From COELIUS AURELIANUS.

The Cure of the Apoplexy has been inſiſted on by none of the principal Phyſicians among the Antients; for they generally thought, that it was to be aſcrib'd to a Palſy. *Hypocrates* alone [*Aphor.* 42. *Sect.* 2.] ſays, That it is impoſſible to cure a violent Apoplexy, and not eaſy to cure a gentle one. The Abettors alſo of other Sects in this Caſe fomented the Head with Vinegar and Oil, and the other Parts of the Body with Wine and Oil, covering up the Patient with undreſs'd Wool. They likewiſe carefully embrocated the Head with a Mixture of Ivy, Mother of Thyme, and Hog's Fennel; the acrimonious and aſtringent Qualities of which ought in this Caſe to be avoided. A Method of Cure therefore adapted to the Nature of the Diſtemper is to be uſed. The Patient is to be lodg'd in a Place moderately light and warm. The Joints are to be gently rubb'd; and the Middle of the Head and Neck are to be cover'd with clean Wool. Warm Fomentations of ſweet Oil are alſo to be uſed, and the Face is to be covered with a Sponge wrung out of warm Water. Warm Water is to be drank; and Mulſum is to be gradually ſwallow'd. Phlebotomy is alſo to be uſed; nor is it neceſſary to wait [*ad diatriton*] till the third Day before that Operation be performed; ſince it may properly enough be done when the Paroxyſm is leaſt violent, or about Break of Day, when the Coldneſs and Torpor of the Body ſeem to be ſucceeded by a gentle Warmth: For thoſe who have hurried on to Phlebotomy before this favourable Concurrence of Circumſtances appeared, have unawares performed the Operation in the Height of the Paroxyſm, or, performing it at the time the Patients were expiring, could poſſibly be of no Service to them; ſince at that Time the weakened Body is incapable of ſending forth any Blood, tho' the Vein appears to be open'd. Abſtinence is alſo to be uſed for the firſt three Days; then hot Ointments are to be apply'd, and Vaporations by means of Sponges wrung out of warm Liquors; ſorbile Aliment is proper, or Bread infuſed in warm Water, or Mulſum. If the Patient is not coſtive, a common Clyſter is to be injected; and Cupping Glaſſes, with Scarification, are to be apply'd at the Time already directed, that is, in thoſe Intervals when the Diſeaſe rages leaſt, to the Back of the Head, and whole Spine. Vaporations, with Sponges, and laxative Cataplaſms, are to be uſed. Then the whole Head is to be ſhav'd, and Cupping Glaſſes are to be apply'd to ſeveral Parts of it; and till the Diſtemper abates, the Patient is only to be nouriſh'd every other Day; but if his Strength is much ſpent, he may be fed daily. When the Diſeaſe declines, Cerecloths are to be uſed, and the Body is to be immerſed and bathed in Oil, or in warm Water and Oil. Then Variety of Food becomes proper, ſometimes Potherbs, ſometimes Fiſh, and ſometimes Fowl. The Bath muſt alſo now be uſed; a few Apples may be eaten, and Wine may be allow'd. But too immoderate and exceſſive an Uſe of the above-mentioned things is to be avoided, by reaſon of the Danger

ger of the Diſtemper, and the Difficulty of its Cure. *Cœlius Aurelianus*, *Acut. Morb. L.* 3. *C.* 5.

From PHILUMENUS.

Thoſe who are ſeized with an Apoplexy muſt be plentifully anointed with thin Oil. The Head is alſo to be anointed with Oil of Roſes, in which Cows-parſnip has been boiled; and Mulſum is to be inſtill'd into the Mouth. Perfumes are likewiſe to be uſed, ſuch as Caſtor, Opopanax, or Galbanum. The Patient's Mouth is alſo forcibly to be opened, and the Finger, or a Feather, dipt in Oil, introduced into it, in order to remove any ſuperfluous Matter that may happen to be lodg'd in it. The Anus alſo is to be anointed with ſuch Subſtances as have a Tendency to draw forth, and diſpel Flatulences. If the Violence of the Diſtemper is not abated by theſe means, we muſt then have recourſe to acrid Clyſters, with which Brine and Honey have been mixed. After theſe ſeveral Steps have been taken, a Vein muſt be open'd. Upon which we muſt again betake ourſelves to ſtimulating Medicines. *Oribaſ. Lib. Octav.*

Galen's Method of Cure is much the ſame with that of *Philumenus* mention'd by *Oribaſius*, only it is a little fuller, and more circumſtantial; for he orders Attempts to be made to procure a Diſcharge of the injected Clyſters by Friction of the Belly, and Region of the Loins. He alſo orders the Vein to be opened in the Right Arm; and the Patient's Pulſe, the Colour of his Face, and his Reſpiration, to be carefully adverted to during the Evacuation of Blood; and if no bad Conſequence enſues, he orders Phlebotomy to be repeated; and the Patient is to be excited by fœtid Smells, and by frequently calling to him. If any Part is remarkably weakened by the Violence of the Diſtemper, he orders a Bolſter of Wool, impregnated with *Sicyonian*, or any other rich old Oil, to be apply'd to it.

In Caſes where Blood cannot be procured, the Patient's Throat is to be tickled, in order to bring on a Vomiting; his Anus is to be anointed with ſuch Subſtances as draw out Flatuſes, and ſevere Cuppings are to be apply'd to the Region of his Loins for ſome time, and then to the Pubes and Lower Belly. When none of theſe Means ſucceed, he orders *Hiera* to be pour'd into the Mouth, or injected by way of Clyſter. If the Diſtemper is complicated with a Fever, which he ſays ſometimes comes on the firſt or ſecond Day, and is an hopeful Symptom, the Fever is not to be neglected; but if any noxious Matter remains in the Inteſtines, it is to be evacuated, if lodg'd near the Anus, with Clyſters; if otherwiſe, with Purgatives, and eſpecially with the Hiera of *Archigenes*. After the Patient is thus purg'd, Cuppings, with Scarification, are to be uſed on the Patient's Præcordia and Head; and, if any Pain is felt lower, Scarification is there alſo to be uſed, eſpecially in Women about the Region of the Uterus. The Evacuations by Stool and Urine muſt be kept free and eaſy, and the Patient muſt be fed daily, but ſparingly, with ſuch Foods as are light, warm, and cleanſing. The Food in this Caſe may for the moſt Part be edulcorated with Honey. *Aetius, Tetrabib.* 2. *Serm.* 2. *C.* 27.

The Cure of an Apoplexy, propoſed by *Paulus Ægineta*, agrees with theſe already mentioned, in the moſt material Circumſtances. Only he is for anointing the Body with Oil impregnated with Sulphur, and the Head with Oil of Chamomile or Dill, in which Cow-parſnip or Calaminth have been boiled. He alſo orders Sternutatories and Apophlegmatiſms, or Decoction of Thyme or Origanum in Vinegar, in order to promote a Diſcharge of Phlegm from the Mouth. If the Patient is depriv'd of Speech, and if his Strength will permit, he uſes Cuppings, with Scarification, on the Back of the Head, and alſo on the Præcordia, if poſſible. Then the Patient is to have recourſe to Geſtation in a Chair, a Sedan, or Hanging Bed; and after the fourteenth Day to proceed to other Geſtations, and uſe for Aliment old APOMELI, with Crums of Bread, or *Alica*. After this he orders a little Hiera to be given. After the twenty-firſt Day he orders the Uſe of the Bath; and Wine mix'd with warm Water to be drank. The Patients ought alſo, according to him, to live on the Sea Coaſt if poſſible. *Paulus Ægineta, Lib.* 3. *Cap.* 18.

Father *Malbranch* gives an Account of a Man who was cur'd of an Apoplexy by a great many Clyſters of Coffee. And Mr. *Chaplain*, Phyſician of *Montpelier*, cured another who labour'd under the ſame Diſorder, by giving him a Grain of Laudanum. *Hiſt. de l'Acad. R.* 1702.

Thoſe who are ſeiz'd with a phlegmatic *Apoplexy*, grow pale, and fall into a profound Drowſineſs. Their Pulſe is ſmall, they are reliev'd by emetic and purgative Medicines, and become worſe after Bleeding. Hence we may infer, that ſome viſcid Subſtance, of a weak Impetus, and ſufficiently thick, produces theſe kinds of Apoplexies. In a ſanguine *Apoplexy*, on the other hand, the Patient's Face becomes red; the Blood-veſſels of the Head become very turgid. The Drowſineſs is not very great, nor the Pulſe ſo remarkably weak. He is alſo relieved by Veneſection, and his Symptoms are generally heighten'd by emetic and purgative Medicines. From theſe Symptoms we
may eaſily conclude, that Apoplexies of this Kind ariſe from
Obſtruction of the Courſe of the Blood and Spirits in the B
and circumjacent Veſſels. *Baglivi.*

Agreeable to this Obſervation of *Baglivi* is that of Dr. *J*
Drummond, in the *Medical Eſſays*: Suppoſe two Perſons ſei
with an Apoplexy; one is a full-bodied vigorous young Man,
ter a Debauch; the other is an old feeble Perſon, long ſub
to Catarrhs: I preſume Bleeding very plentifully muſt be
principal thing depended on for the Cure of the firſt; and
this Method would very effectually deſtroy the other, who m
be treated with every thing that ſtimulates.

Dr. *Calderwood* (in his new Method of curing the *Apople*
condemns the common Method of letting Blood from any V
giving Emetics, or ſharp Clyſters, and applying Bliſters:
inſiſts much on the Advantage of Arteriotomy; and reco
mends Cordials in the Cure of the Apoplexy.

'Tis a Circumſtance not to be forgot, that ſome Phyſic
aſſert their having learnt from Experience, that People, w
ſo violently ſeiz'd with Apoplexies, as that no Medicines
poſſibly rouſe them, have ſometimes had that Effect very qui
produced upon them by the Application of Cauteries to
Body: But they are not all of the ſame Mind, with regar
the particular Part to which the Application ſhould be ma
for *Scultetus* (*Obſ.* 34.) has directed the Application of a
hot Iron to the back Part of the Head; whereas to oth
eſpecially *Zacutus Luſitanus*, and *Riverius*, the Space betw
the firſt and ſecond Vertebræ of the Neck ſeems a Place m
more commodious and proper for that Purpoſe. Some rec
mend the Place where the ſagittal and coronal Sutures m
whilſt others entirely diſapprove of that Practice. And, ind
Miſtichelli, an *Italian* Author, in a Book publiſh'd in his
ther-tongue, *concerning the Apoplexy*, aſſerts, That in o
to rouſe and recover from that Diſorder, the actual Caute
apply'd ſo ſucceſsfully to no Parts of the Body, as to the Sol
the Feet. And the particular Method of burning them,
Occaſions of this Nature, he endeavours to repreſent in Fig
See Tab. 33. Fig. 11. Where the Places burnt are repreſe
by the Letters A A, and the Cautery itſelf by the Letter
but it may be of any other Form as well as Quadrangular
myſelf try'd this new Method on a Man who was Ap
ctic, but I could not rouſe him by it, and he ſoon after
Heiſter.

Since this Diſorder attacks ſo ſuddenly, and is attended
ſo imminent Danger, timely Aſſiſtance is to be called in, w
there as yet remain any Hopes of Safety. The Patient
be laid in a light and temperate Place in ſuch a Poſture, as
his Neck may neither recline too much, nor yet be quite er
and his Feet are, above all things, to be kept warm with
thers or Cloths. As for the Cure itſelf, the ſeveral Steps
are to be indicated by the Cauſes; and, becauſe the Chi
theſe are the antecedent Efflux of the Blood, which abou
too much in the Veſſels of the Brain, the preternatural
geſtion, and the Vis Motrix, or moving Force, of the V
and Membranes of the Brain, being weakened, the Cure
be directed by, and have a relation to, theſe Cauſes; ſo
the chief Intentions of Cure are to divert the Motion and
petus of the Blood from the Head, and to reſtore Streng
the debilitated and weakened Parts, that the Blood which
not now circulate, may again be put in Motion.

For anſwering the former of theſe Intentions, Bleedi
the very Beginning of the Diſorder has, in all Ages,
looked upon as a Circumſtance of the greateſt Moment
Efficacy, and muſt, in the very Nature of the thing,
choice and excellent Remedy. *Dodonæus*, as well as *N*
nus, deſervedly reckoned it the firſt and principal Step
taken in the Cure, in his *Obſervat. Medic. Cap.* 8. E
Pract. p. 385. where he gives an Account of a Wom
ſeventy-two Years of Age being cured of an Apople
Bleeding. Beſides, that Nature herſelf points out this S
plain from that Obſervation of *Lanciſi*, in which he gi
an Account of a Man of almoſt ſeventy Years of Age
cured of the antecedent Symptoms of an Apoplexy by a
charge of twelve Pounds of Blood from his Noſe.

But in what Shape Blood is to be let, is not by all a
upon. Some are of Opinion, that in this Caſe, Arterio
or the opening of an Artery, is preferable to all other Me
of letting Blood; but the ſtrongeſt Abettor of this Pra
Catherwood, who, in a ſmall Book, written in *Engliſh*, e
vours to eſtabliſh it by Arguments drawn from Reaſon and
perience. Some *German* Phyſicians have given their Suff
behalf of this Practice; and, among the reſt, *Loew*, of
feld, in his *Medic. Pract.* Nor indeed, does the Advice
improper; 'tis only to be lamented, that the Unſkilful
Surgeons, and the Novelty of the Thing, ſhould hind
Practice from becoming univerſal. Many recommend
ſection, but differ in their Sentiments with regard to the
where the Vein is to be opened. Some order opening the
of the Arms, others thoſe of the Forehead. Some th
the Noſtrils, and others thoſe under the Tongue. *Mi*
recommends opening the Occipital Veins, *Adverſ.*

108. becauſe theſe Veins paſs within the Cranium, and have Communication with both the lateral Sinuſes. For this Rea- ſn, when they are opened, the Blood, which they were to nvey into the Sinuſes, is taken away; hence the Quantity of ood, which paſſes through theſe Sinuſes, is leſſened, and its otion increaſed, to the great Relief and Advantage of the atient. But becauſe the Trunks of theſe Veins lie very deep, d are ſometimes found divided into many ſmall Ramifications, is of Opinion, that Cuppings, and frequent deep Inciſions, e preferable. In this manner *Zacutus Luſitanus* [*Med. Princ. Hiſt. Lib.* 1. *Hiſt.* 33.] affirms, that he cured two Apoplectic atients. But the generality of Phyſicians, and thoſe the moſt ilful, as *Severinus*, *Lanciſi*, and *Freind*, recommend opening e Jugular Veins, becauſe, lying very near the Brain, the taking ay ſome of their Contents muſt afford Space and Liberty for e Blood, impacted and congeſted in the Brain, to flow with e greater Eaſe and Freedom.

In letting Blood, theſe Cautions are to be obſerved: Let it e done as ſoon as poſſible, before the ſmall Arteries are ſo di- ted as to loſe their Tone, or the Brain be inundated with the ffuſion of Blood. Let the Orifice be ſufficiently large, that e Blood may flow out quickly, and in a large Stream, becauſe low Efflux is attended with no Advantage. Let the Vein e opened as near to the Part affected as is poſſible, the Arm r Inſtance, or the Jugulars: The Quantity of Blood to be ken is to be determined by the Fulneſs of the Veſſels, the ate of the Pulſe, and the Strength of the Patient; though ought always to be very large. If the Body is plethoric, if e Conſtitution is ſanguine, or if the Diſorder takes its Riſe m a Stoppage of ſome habitual Evacuation of Blood, let lebotomy be ordered again and again, ſince *Dionis* aſſures us, t the opening a Vein ſeven different times, has, in this Caſe, oduced happy Effects. But 'tis firſt to be done in the Foot, n in the Arm or Neck, leſt by firſt opening a Vein in the erior Parts, a greater Afflux of Blood ſhould be invited to e Head from the inferior Parts, and the Circumference of e Body.

For diverting the Afflux of Blood from the Head, beſides eneſection, thoſe Medicines are alſo efficacious, which purge tty ſtrongly. I do not mean thoſe draſtic and herculean thartics, which contain ſomething of a poiſonous Quality; t thoſe harmleſs and innocent ones, which only ſtimulate e nervous Coats of the Inteſtines to a proper Degree of Mo- n, ſuch as Sal Gemmæ, *Seltz* Salt, and Sal Ammoniac. A tty large Doſe of theſe is to be put into Clyſters; and ſuch wders are to be added as are proper for diſcuſſing Flatulencies, corroborating the Tone of the Inteſtines. Of which Kind the Powders of Rue, Sage, Marjoram, Savory, Thyme, other of Thyme, Flowers of Lavender, Lilly of the Valley, *man* Chamomile, the Seeds alſo of Caraway and Dill, toge- r with expreſſed Oils, and Oils of Rue, Chamomile, and s. The Clyſters, thus prepared, are to be injected often, but in great Quantities, leſt they ſhould not be retain'd; they alſo to be thrown in with a Syringe, that they may pene- e the deeper, and reach the farther.

But ſuch Medicines as ſtrengthen the weakened nervous Parts, ſtimulate them into a proper Motion, and by that means pro- te and further the Diſcuſſion of the ſtagnant Humours, are e uſed both internally and externally. The external Ap- ations of greateſt Efficacy are, volatile, urinous Subſtances, ed with Cephalics, the principal of which, in a liquid Form, pirit of Sal Ammoniac prepared with quick Lime, and im- gnated with Oil of Rue, Marjoram, or Lavender; and, in y Form, dry volatile Sal Ammoniac ſprinkled with the e Oils. Theſe Medicines, either applied to the Noſe in ſuch nner as their Effluvia may ſtrike the Olfactory Nerves, or into the Noſtrils themſelves on the Point of a Feather, or blown up into them by means of a Quill, prove an excel- Stimulus, and rouſe very effectually. For the ſame End, with the ſame Intention, ſuch Subſtances as excite a certain e of Pain, are generally applied to ſuch Parts of the Body re of a more exquiſite Senſation, eſpecially the Soles of the ; by which means the whole Syſtem of the nervous Parts mulated into a due and proper Contraction. This Inten- is anſwered by pretty hard Frictions with rough Cloths, or leſh-bruſh, and by the Application of Nettles to the Parts. Efficacy of Veſicatories, in this Caſe, is alſo very great, o that of actual Cauteries, a new Method of uſing which been deſcribed by *Dominicus Miſtichelli*, in a Treatiſe en in the *Italian* Language; and the Author's Method of lication is approved of by *Lanciſi*.

t if the Power of Deglutition either remains with the Pa- , or is reſtored after it is loſt, ſpirituous and volatile Me- s are not to be preſcribed internally; for theſe put the y raging Blood into a greater Commotion, and rarefy it , and are upon that Account deſervedly condemned in of this Nature, by *Pitcairn de Circul. Sangu.* But ſuch cines are to be preſcribed as are of an analeptic, rouſing, and ient Quality; among which, the beſt and moſt approved xed Diaphoretics with Cinnabar, Amber, and Nitre; and theſe may be either exhibited in form of a Powder, with ſome proper Water as a Vehicle, or, which is ſtill better, they may be reduced to the Form of a Potion. In the Courſe of my Practice indeed, I make more frequent Uſe, and more cordially approve, of this Mixture:

> Take of the Water of Lillies of the Valley with Wine, and of diſtilled Vinegar, each two Ounces; of ſuccinated Spirit of Hartſhorn, one Dram; of Diaphoretic Antimony, Cinnabar, and Crabs-eyes, each half a Dram; Syrup of Orange-peel, two Drams; mix all together. To this we ſometimes add a very ſmall Quantity of Emetic Tartar, to give a gentle Stimulus to the ſmall nervous Fibres of the Stomach, which have an Intercourſe and Communication with all the reſt. Yet Care muſt be taken not to exhibit it in ſuch a Quantity as to procure a Vomit.

But becauſe an Hæmorrhage of the Brain is not only very dangerous in itſelf, but alſo very ſubject to recur after it is cured, 'tis the Buſineſs of the Phyſician to employ all his Care and Skill both to carry off the Paroxyſm, and to prevent its Return. Now *Caſpar Hoffman*, [*Lib.* 3. *Inſtit. Med.*] with *Martianus* and *Ballonius*, rightly concluded, that all Apoplectic Patients were plethoric; therefore the Phyſician's chief Care muſt be to leſſen the redundant Blood. For this Purpoſe letting Blood is proper at all Seaſons, but eſpecially about the Æquinoxes, when the Blood and Humours generally uſe to be in a preternatural Commotion, and Nature exerts her utmoſt Efforts to eliminate and throw out of the Body whatever is ſuperfluous and prejudicial. For this very Reaſon, according to the Teſtimony of *Hippocrates*, the hæmorrhoidal Flux is in this Caſe ſalutary, and attended with happy Conſequences, eſpecially in thoſe who have before had Diſcharges of that Kind. But firſt to procure, and then duly to promote, an hæmorrhoidal Diſcharge, are Circumſtances that call for a great deal of Skill, Art, and Caution. For obtaining ſuch a thing, beſides Frictions of the Anus, and the Uſe of proper Fomentations, I think the Application of Leeches very proper; to which may be advantageouſly join'd a balſamic Elixir of corrected Aloes, Saffron, Myrrh, and Amber, prepared not with a ſpirituous, but with an aqueous lixivial Menſtruum. The *Balſamic Pills*, if cautiouſly given, are very proper in this Caſe. But ſuch Medicines as provoke an hæmorrhoidal Diſcharge, ought by no means to be adminiſtered, if the Patient is not diſpoſed to Diſcharges of that Nature; they are only to be uſed when the Diſcharge begins to diſcover itſelf, or to flow too ſlowly; in other Caſes they do more Harm than the Plethora itſelf, under which the Patient labours.

For preventing the Acceſs of this Diſorder, the due Excretion of the Fœces is of uncommon Efficacy; for 'tis almoſt a general Maxim in Practice, *That a Man cannot readily labour under Diſeaſes of the Head, provided his Belly perform its Office duly.* This Diſcharge of the Excrements is by no means, however, to be procured by Medicines of too ſtrong and draſtic a Quality; ſince theſe, by operating too violently upon the nervous Coats of the Inteſtines, excite Spaſms in them, and induce an unequal Circulation of the Blood. This End is rather to be obtained by Medicines, that are mild, gentle, and friendly to the Conſtitution; among which, the moſt proper and efficacious are, Preparations of Rhubarb with abſtergent Salts; as alſo the *Pilulæ Polychreſtæ*, and Clyſters.

Thoſe Waters and Balſams which are called *Apoplectic*, and by ſome highly extolled as proper, not only to be taken internally, but alſo applied externally, by way of Unction, to the Temples, Noſtrils, and Nape of the Neck, are, in my Opinion very hurtful both as a Cure, and a Preſervative againſt this Diſeaſe, in Caſes where an Hæmorrhage of the Brain is dreaded, in plethoric ſanguine Habits of Body, and in Perſons in the Flower of their Age. The Teſtimony of *Dodonæus* [*Stirp. Hiſtoria*, *Lib.* 6.] is of conſiderable Weight in this Point: *When*, ſays he, *there is too great a Quantity of Humours, eſpecially if mixed with the Blood, the Uſe of this Medicine*, that is, diſtill'd Lavender-water, *is not ſafe*; *neither is that Compoſition ſafe, which conſiſts of diſtilled Wine, in which Herbs, Flowers, Seeds, and Spices of this Nature have been macerated, and which are raſhly and indiſcriminately preſcribed by moſt People*; *ſince by the Uſe of thoſe hot Medicines, which ſtuff the Head, the Diſeaſe is increaſed, and the Patient expoſed to a more imminent Danger.* Far ſafer are Infuſions by way of Tea, prepared of common Water and Cephalic Herbs, eſpecially Baum, Betony, Sage, and the leſſer Cardamums, which, being frequently ſupped, not only preſerve an equal Motion in the Blood; but alſo refreſh and comfort the Brain and Nerves.

But the Recovery and Safety of the Patient are juſtly to be deſpaired of, unleſs a cautious and moderate Regimen, with regard to the Non-naturals, is carefully obſerved. But for Prevention, in Caſes of this Nature, Reſt and Abſtinence are of wonderful Efficacy, ſince, according to *Celſus*, very terrible Diſorders may, by their means, not only be prevented, but cured. For this Reaſon, immoderate Eating, and Variety of

Diſhes, are to be avoided; ſweet and palatable Wines, all intoxicating Liquors, and ſevere Exerciſes of the Body, are alſo to be abſtained from, eſpecially after Meals: He who dreads this Diſorder, ſhould not go to Bed immediately after Supper; neither ſhould he lie with his Head too low. If the Conſtitution is ſuch, as to favour the Generation of this Diſorder, the Body is not to be expoſed to its Influences, but the Feet are carefully to be defended from the Cold, and ſometimes immerſed and waſhed in warm Water; and the Patient is to remain in a Chamber moderately warm. Gentle Motion is alſo to be uſed, the Mind is to be kept calm and ſerene, and Sleep is neither to be too long, nor too ſhort. In a word, all thoſe things are to be carefully avoided and abſtained from, which we have above rank'd among the procatarctic Cauſes of this Diſorder.

CASE I.

An illuſtrious Count, almoſt fifty Years of Age, and full of Blood and Juices, was ſome Years ago afflicted pretty often with a milder Species of Palſy, accompanied with a Difficulty of Speech. For the Cure of theſe Diſorders he went to the *Caroline* Baths, which lay contiguous to his Eſtate, and uſed them both internally and externally. But as he did this without the Advice of his Phyſician, and had neglected to prepare his Body for it by proper Evacuations, ſuch as letting Blood, and purging; it happened, that having gone into a Bath, which was as yet too warm, he was ſuddenly deprived of all Senſes, both internal and external. Immediately upon this Accident, he breathed quick, his Breaſt heaved with a ſort of convulſive Motion, his Arteries beat ſtrongly with a certain kind of Hardneſs, and his Face became prodigiouſly red. A Vein was opened, and a Sternutatory apply'd to his Noſtrils; by which means a more terrible convulſive Concuſſion of his Breaſt, together with a violent Stertor, were brought on. His whole Left Side became deſtitute of all Senſation and Motion; but the Hand of his Left Arm, being convulſed, ſhook continually. His Reaſon utterly left him, and, within five Hours, he died; and after his Death, a large Quantity of Blood, and bloody Serum, flow'd from his Noſtrils for the Space of twenty-four Hours, or more.

REFLECTION.

If any of the Mineral Waters, uſed by way of Bath, require Prudence and Circumſpection in their Uſe, the *Caroline* certainly do; for theſe are of ſuch a Quality as ſtrongly to contract the Surface of the Body, and drive the Blood and Humours to the internal Parts, by that earthy, calcareous, and even chalybeate Principle, with which they abound. And this is the very Reaſon why they ſo ſpeedily carry off œdematous Swellings of the Feet, and bring on, if the Body is ſubject to Spaſms, and the Veſſels turgid with Blood, violent Pains, vehement Palpitations of the Heart, acute Pains of the Head, Loſs of Strength, Weakneſs of the Joints, and even continued and intermitting Fevers. We need not therefore wonder, if in this illuſtrious Perſon, whoſe Maſs of Blood was already too large, and whoſe Humours were even thus diſpoſed to ſtagnate in the Brain, the Blood was, by a raſh and inconſiderate Uſe of the *Caroline* Waters, driven with an Impetus to the Head, and both its internal and external Veſſels burſt; a Circumſtance which could not fail to cauſe the immediate Death of the Patient. This is plainly proved by that large and copious Effuſion of a bloody Matter from his Noſtrils, which always ſufficiently diſcover a previous Hæmorrhage in the Brain. And ſince his Stertor and Difficulty of Breathing increaſed upon the Application of Sternutatories; this ſhould teach Phyſicians to be wary and circumſpect in applying ſuch things as promote Sneezing in ſanguine *Apoplexies*, and that too even after the impetuous Motion of the Blood to the Head is allay'd, leſt the Blood ſhould ruſh with too great Violence to the ſtimulated Parts, and haſten the Death of the Patient.

CASE II.

A Gentlewoman of fifty Years of Age, of a ſanguine, but at the ſame time of a very delicate and tender Conſtitution, had always had her monthly Evacuations in a very plentiful and copious manner. But about the forty-ninth Year of her Age, this Diſcharge happening according to the Courſe of Nature to ſtop, ſhe began to complain much of an Uneaſineſs and Streightneſs about her Præcordia, an Inflation in the Left Side of her Abdomen, a painful and flaccid State of her Joints, a vertiginous and heavy Pain of her Head, and unſound and interrupted Sleep, tho' her Countenance all the while remained very florid and ruddy. The Winter at laſt approaching, all theſe Symptoms were ſo heightened, that ſhe was reduced to a Neceſſity of calling a Phyſician, who, in order to diſcuſs her Flatulencies, preſcribed her *Volatile oily Salts*, and *Carminative Eſſences*. He likewiſe ordered her a purging Powder, conſiſting of half a Scruple of Reſin of Jalap, and ſix Grains of vitriolated
Tartar. With which after ſhe had purged ſix times, and th
not without terrible Gripes, ſhe was next Night ſeized wi
an *Apoplectic* Fit, but her Pulſe remained in its ordinary Stat
and her Breathing was free. For her Relief, a Vein was forth
with opened, and an acrid Clyſter injected, by which mea
ſhe was indeed recovered from her *Apoplexy*; but an *Aphon*
and a great Weakneſs of her Head, ſtill remained with he
Her Phyſician, in order at once to carry off theſe Symptom
and the Remains of her other Diſtemper, ordered her a pur
ing Powder of twelve Grains of Reſin of Jalap, and ten Grai
of vitriolated Tartar, to be taken in Water of Lillies of t
Valley as a Vehicle. But ſcarce an Hour after the taking
this, the *Apoplexy* return'd, and kill'd the miſerable Patient.

REFLECTION.

Women of ſanguine Conſtitutions are, upon the Ceſſation
their monthly Evacuations, very much inclined to an *Ap*
plexy, and therefore ſtand greatly in Need of Veneſection
left, by the Concurrence of other Cauſes, the Diſpoſiti
ſhould break forth into the Diſtemper itſelf; and, indee
if any thing is effectual for making it do ſo, it is undoub
edly the Uſe of the ſtronger Purgatives, and ſuch Medicin
as excite Gripes. Among which we may, for its many fa
Effects, juſtly reckon that pernicious Medicine *Reſin of J*
lap exhibited in Powder; for, when taken into the Stomac
it eaſily runs together, and adhering to the Folds of the ne
vous Coat of the Inteſtines, it quickly excites Spaſms, a
painful Tenſions, by which the Blood is forced to the ſup
rior Parts, and produces the moſt fatal Effects. Hence
plain, that the Phyſician committed an egregious Blund
ſince upon the Approach of a gentle *Apoplexy*, which remitt
he repeated this Purgative in ſo large a Doſe, as not only
bring on a Relapſe, but even Death. And though the I
tention of drawing the noxious Humours to the inferior Pa
does not at all ſeem inconſiſtent with a rational Practice,
it ought to be done by mild Laxatives, or even Clyſters, a
not by ſuch Medicines as induce ſenſible Spaſms on the I
teſtines, which may be diſcovered by the Gripes, and
that means force the Blood to the Head in ſuch a Quanti
that it burſts the Veſſels, and produces preſent Death.

CASE III.

A certain Divine of a great Character, not quite fifty Ye
old, of a florid and ſanguine Conſtitution, and who had alw
enjoyed a ſound and vigorous State of Health; by means o
certain Accident, which hurt his Character and Reputation,
into a violent Perturbation of Mind, accompanied with Sadne
and the moſt uneaſy Senſations. Being thus diſturbed,
ſleeping very little, he thought proper to chear his Mind,
diſpel his Melancholy, by a pretty liberal Uſe of Wine, wh
indeed he loved too much before. In Proceſs of Time he
his Appetite for Food, and his Digeſtion being very bad, he
troubled with continual Eructations without any Diſcharge
Flatulencies from his Belly, which was coſtive; his Stren
began to be impaired, he was ſeized with a terrible Pain
Streightneſs about his Præcordia; and, mournful and diſtract
Thoughts unhinging his Mind, at laſt, he ſuddenly and un
pectedly fell down with the total Loſs of his Senſes,
Pulſe and Reſpiration remaining at the ſame time entire.
about two Hours, after proper Remedies being applied,
Strength returned in ſome meaſure, and he came to himſ
but began to complain terribly of a Weakneſs in his Knee
Torpor and Languor of his Right Side, and a Loſs of Mem
Of his own Accord he went to the *Caroline* Baths, not
with a View to carry off his hypochondriac Diſorder, but
to baniſh from his Mind all melancholy and perplexing Thou
by the Journey and Converſation. As I was in the Place,
earneſtly aſked my Advice, and I ordered him to drink m
rately of that temperate Spring, commonly called *Mu*
Brunnen, which he uſed with great Succeſs for about tw
Days. But in his Return home, when he was paſſing thr
a noted Town, beiug invited to a ſplendid Entertainmen
his Friends, he indulged his Palate, and drank too much W
And going home in the cold Night Air, he began to comp
of an Uneaſineſs and Difficulty of Breathing; upon whic
took ſome diaphoretic Powders, by the Uſe of which,
Purple Fever began to appear almoſt over all his Body.
complaining of an inſupportable Pain of his Head, his Ph
cian judged Veneſection in the Foot proper; and, taking
Advice about the Propriety of this Step, I declared m
againſt it, for fear of ſtriking the Purple Fever back to the
ternal Parts. But the Phyſician inſiſting much on the
Conſequences that might attend the Neglect of Veneſect
it was accordingly performed in the Foot, and a ſuff
Quantity of Blood taken away. Soon after, the Unea
about his Præcordia increaſed, the Extremities of his Bod
came cold, and, the Purple Fever diſappearing, a violent
plectic Fit unexpectedly enſued, accompanied with the Lo
all his Senſes, Stertor, a ſtrong and unequal Pulſe, and a

d tumid Countenance; by the Violence of which Diſorder s learned and ingenious Clergyman was, in eight Hours e, convey'd into another World.

REFLECTION.

here are many Circumſtances in this Caſe, the Obſervation of which may be of Uſe for directing a Man in the pathologic and therapeutic Parts of Phyſic: And, firſt, we may obſerve, that in a Man of a ſanguine Conſtitution, when to long and exceſſive Sorrow, a bad Regimen, and eſpecially the immoderate Uſe of Wine, are joined, the nervous Syſtem may be ſo weaken'd, as to induce hypochondriac Symptoms of ſuch a Nature, as would not have otherwiſe, in all Probability, ſeiz'd a Conſtitution of that Kind. It is alſo to be obſerved, that by a long-continued, perplexing, and uneaſy State of Mind, accompany'd with Sorrow, the Brain and nervous Syſtem may be ſo weaken'd, as to become diſpoſed and ſubject to *apoplectic* Fits. Beſides, in the Caſe now under our Conſideration, the firſt Fit was ſlighteſt and moſt gentle, ſince it proceeded only from the Blood being forced to the Head from the lower Belly, by means of the Spaſms there excited, and might have been ſoon carried off by Veneſection, which would have reſolved the Blood ſtagnating in the Veſſels of the Brain: But becauſe no Indiſpoſition is more apt to recur than an *Apoplexy*, eſpecially if it is not averted and guarded againſt by a due Regimen, and proper Medicines, hence it happen'd, that a due Regimen not being obſerved, after the Uſe of the *Caroline* Baths, which are indeed excellent in hypochondriacal Caſes, but very improper in Diſorders of the Head, a more violent Fit enſued, which, in the preſent Caſe, proved fatal to the Patient; which was undoubtedly owing to the large Quantity of Blood taken away, by which means the Matter of the Purple Fever being ſtruck into the internal Parts with great Violence, excited ſuch Spaſms as forced the Blood impetuouſly to the Head, and at laſt broke its Veſſels internally. *Hoffman*, *Vol.* 2.

CASE IV. *From* C. Piſo.

One *Claud Dionis*, a Citizen and Taylor of *Pont-à-mouſon* *Lorrain*, a Man of a ſlender Make, black Hair, and, like Generality of City-tradeſmen, accuſtom'd to Idleneſs and h Feeding, happen'd in the Year 1603. after a Debauch of ine, to drop down ſuddenly, and loſe all Senſe and Motion: at that very time became ſpeechleſs; but his Reſpiration, 'it continued with him, was nevertheleſs unequal, diſor'd, and intermitting, tho' not high, and accompanied with rtor. After he had thus remain'd ſpeechleſs for four Days, was concluded *Apoplectic* by every one who ſaw him, he laſt recover'd on the fourth Day; rather, I ſuppoſe, by peculiar Interpoſition of Heaven, than by the Influence of dicines, which, in Caſes of this Nature, either cannot be hibited at all, or, if exhibited, generally produce no Effect, account of the Oppreſſion under which the ſenſitive Facullabour. But tho' the Patient recover'd thus far, the morbiMatter was nevertheleſs, by a ſalutary Tranſlation, depoſited only on the Middle of the Spine, by which Accident the unk of his Body became paralytic, but alſo on thoſe Branches the Seventh Pair of Nerves which run to the Tongue, by ch means a Stammering in his Speech ſtill remain'd. His ſy was, by proper Care and Warmth, ſo far remov'd, that a Months after he was able to go abroad, and ſtand at the urch-doors, in order to receive the Charity of tender-hearted iſtians: But about a Year and a half after, when this miſee Creature had loſt the Uſe of his Limbs, and betaken himto his Bed, he was ſoon cut off by a Fever, the particular ture of which I know not.

CASE V. *From* C. Piſo.

n the Year 1603. about the Beginning of *September*, a cerCitizen and induſtrious Tradeſman of *Pont-à-mouſon*, hapng to return drunk from a neighbouring Town, dropp'd n in the Middle of his Journey, loſt all Senſe and Motion, lay proſtrate on the Ground for three Days: However, g found on the third Day, and carried home, he indeed recod his Senſes, but at the ſame time loſt the Power of moving middle Part of his Body, and his Right Side; nor is the of theſe Parts as yet reſtor'd to him, tho' four Years are elapſed ſince that Symptom appear'd; beſides, he heſitates is Speech, and walks with Difficulty. 'Tis alſo to be obed, that, in this Patient, the paralytic Parts were always t with Sweat.

CASE VI.

remember, that about ten Years ago, on the Confines of Biſhoprick of *Metz*, a Lady of Diſtinction, the Wife, if I ly remember, of Mr. *Helmeſtat*, became paralytic after an plectic Fit; which returning ſome Months after, put a final d at once to her Palſy, and her Life.

he Duchy of *Lorain* is, indeed, ſo very fruitful in Diſorof this Kind, that there are few of its Towns or Villages, hich the remarkable Changes of Weather, that happen during the Winter-ſeaſon, do not ſuddenly and unexpectedly ſtrike and caſt down ſome of the Inhabitants in this ſudden manner.

But whether the frequent Surfeits of the Inhabitants, or the damp and moiſt Nature of the Climate and Air, produce this Diſorder ſeparately; or, which is more probable, whether they concur, and join their united Forces on this Occaſion, are Diſquiſitions I ſhall not, at preſent, enter upon; neither ſhall I launch out into the more abſtruſe Theories relating to this Diſorder, and its ſeveral Symptoms, ſince theſe Things have already been ſet in a Light ſufficiently clear. I ſhall therefore only obſerve, that there are three Species of Apoplexy; a very ſtrong and violent one, which inſtantaneouſly ſuffocates and kills the Patient; one of a milder Nature, which renders the Patient's Reſpiration violent, difficult, and high, and which is by ſome diſtinguiſh'd into two Sorts, differing rather in Degree than Nature; and one of a very ſlight and gentle Kind, in which the Patient breathes with ſome Labour and Difficulty. The firſt of theſe, or the moſt violent Kind of all, proceeds from a mucous Humour, either alone, or more frequently intermix'd with Serum, but in ſuch a Proportion, that the former much exceeds the latter: The ſlight and gentle Kind, on the other hand, proceeds from Serum, either alone, or intermix'd with a very ſmall Quantity of Mucus, ſo that the former may predominate much over the latter. The intermediate Species proceeds from a Mixture of both of theſe, almoſt in an equal Quantity: And, indeed, this Theory is confirmed by the following Obſervation:

CASE VII.

About the Year 1600. *Stephen Ruiſſeau*, the Son of a noted Advocate, and a Youth about twelve Years of Age, about the Winter Solſtice, ſuddenly dropp'd down without any Senſe or Motion, except a convulſive one, which ſoon after ſeiz'd him, and which was immediately follow'd by a Stertor. In this Caſe we try'd very few Medicines, becauſe we concluded the Patient irrecoverable: Accordingly he was ſuffocated by the Violence of the Diſtemper, about twelve Hours after it had ſeiz'd him; and, to the no ſmall Surprize of all who ſaw him, died diſcharging a mere, but frothy Mucus from his Noſtrils in large Quantities, and not Drop by Drop, which is the Caſe in old Diſorders of the Lungs; ſo that we had no Reaſon to believe, that it came from his Thorax: For altho' thoſe who labour under a Peripneumony may, by the Violence of the Stertor, diſcharge a purulent Matter from their Noſtrils, yet that Matter is not frothy, nor yielded in great Plenty, but is of a pretty good Conſiſtence, and comes away Drop by Drop: This Circumſtance is, perhaps, owing to the Length and Acclivity of the Way thro' which it has to paſs, and the Agitation of its Parts ceaſing ſooner than in the mucous Humour flowing from the Head.

I alſo know, that an Apoplexy may ariſe not only from Concretions of Blood in the Head, but alſo from the Blood being rendered too liquid: Thus, I heard of a certain Perſon who dropp'd down Apoplectic, and died on the Spot, in Conſequence of his hanging his Head down, and ſleeping before a Fire. And about three Years ago, I myſelf ſaw the Son of *Arnulphus Richards*, when, on the Day of Intermiſſion in a Tertian Fever, he had expoſed himſelf for ſome time to the ſcorching Heat of the Sun, during the Dog-days, ſuddenly become Apoplectic, and that to ſuch a Degree, that he died the following Day. *Carol. Piſo. Obſervat. Select.*

From BOERHAAVE.

In an *Apoplexy* the Patient is ſuddenly deprived of the Exerciſe of all the Senſes, both external and internal, and of voluntary Motion, whilſt the Pulſe, which is generally ſtrong, remains, together with a laborious and deep Reſpiration, attended with a conſiderable Elevation of the Breaſt, with a Stertor, and the Appearance of a profound and perpetual Sleep.

A Multitude of the moſt accurate Obſervations have made it appear, that this Diſorder ariſes from whatever Cauſe is capable of preventing, either totally or in part, the Influx of the nervous Fluid, ſecreted in the *Cerebrum*, to the Organs of Senſe and voluntary Motion, and the Reflux of the ſame Fluid from the above-mention'd Organs to the common Senſory in the Brain; whilſt the Progreſs, and perhaps the Return, of the Fluid, ſupply'd by the Cerebellum, to and from the Heart, and Organs of Reſpiration, is preſerved in a Degree ſufficient to ſupport, in ſome meaſure, their Functions.

All theſe Cauſes, as obſerv'd and deliver'd by Authors, may, for the greater Perſpicuity, be reduced to Claſſes; in the firſt of which may be reckon'd,

1. The natural Make of the Body: Thus, when the Head is naturally large, the Neck ſhort, and, as it ſometimes happens, conſiſting only of ſix Vertebræ, whereas there ought to be ſeven, this Structure diſpoſes to an *Apoplexy*, as it favours the Congeſtion of Blood and Humours in the Head. Thus alſo, if the Body is corpulent and fat, the capillary Arteries in general will be ſubject to Compreſſions; and, in Conſequence thereof, a greater Quantity of Blood and Humours will flow into the Veſſels which convey them to the Brain. Thus alſo, a plethoric Habit, and a Redundance of pituitous Humours in the Blood,

lay a Foundation for the Stagnation of the Juices, and a ſubſequent Rupture of the Veſſels in the Brain.

2. To the ſecond Claſs belong all thoſe Cauſes which induce ſuch a Change in the Blood, Lymph, and nervous Fluid, as to render them incapable of circulating freely thro' their reſpective Veſſels in the Brain. Amongſt theſe are,

Polypous Concretions in the Carotid or Vertebral Arteries, whether form'd originally about the Heart, or within the Cranium; which are diſcover'd by a Palpitation of the Heart, an unequal Pulſe, a Vertigo, and temporary Loſs of Sight, often recurring, and which are increas'd by Motion or Heat.

An inflammatory Sizineſs of the Blood, which may be known by an acute continual Fever, a Phrenitis, a conſiderable inflammatory Pain in the Head, which have affected the Patient ſome time before the Attack of the *Apoplexy*: Add to theſe, all thoſe Signs which evince, that the Blood, upon being prevented from circulating duly in the Veſſels of the Brain, in Conſequence thereof, is carry'd in greater Quantities, and with greater Force than uſual, thro' the external Branches of the Carotids; whence a Redneſs, Fullneſs, and Inflammation of the Eyes, Face, and Neck, together with an involuntary Diſcharge of Tears.

A thick, glutinous, pituitous, and ſluggiſh Diſpoſition of the whole Maſs of Blood; whence old People, thoſe who are much ſubject to Catarrhs, whoſe Conſtitutions are cold and moiſt, and who are pale and leucophlegmatic, are very ſubject to *Apoplexies*. It is not difficult to preſage an *Apoplexy* from this Cauſe, as it is generally preceded by an univerſal Liſtleſneſs, and Dulneſs of the Senſes; Sleepineſs; Inactivity, with reſpect to all manner of Motion; unuſual Slowneſs of Speech; Tremors, Stertors, Incubi (*Night-mares*); Paleneſs, Turgidneſs, Humidity, and Dimneſs of the Eyes; frequent Diſcharges of pituitous Humours by Vomit; Vertigos; Shortneſs of Breath upon the leaſt Motion, with a Compreſſion of the Cartilages of the Noſe. Such a State of the Blood is produced and increaſed by all the Cauſes related under the Article LENTOR, which ſee.

3. To the third Claſs belongs whatever compreſſes the Arteries themſelves, or the nervous Veſſels of the Brain, ſo as to prevent a free Circulation of their reſpective Fluids through them.

People who are plethoric, that is, full of Blood, and bloated with bad Humours, are much ſubject to this Species of Apoplexy; eſpecially if extraordinary Motion or Heat increaſe the Velocity of the Circulation. Hence it is apparent, that the Diſorder muſt be promoted in ſuch Conſtitutions by high Feeding, and ſpirituous Liquors; Medicines which are acrid, and excite the Motion of the Blood, ſuch as Cardiacs, Volatiles, and Emetics; by exceſſive Heat and Motion; and by Intenſeneſs of Thought, eſpecially if long continued, and frequently repeated, becauſe this determines a more copious Flux of Humours towards the Brain.

All Tumors alſo ariſing within the Cranium properly belong to this Claſs, whether they are inflammatory, purulent, ſerous, pituitous, ſteatomatous, ſcirrhous, or bony, provided they compreſs the Arteries, or the venous Sinuſes near the *Torcular Herophili*, or the medullary Origins of the Nerves, or the *Medulla* of the Cerebrum itſelf.

To this Claſs alſo belongs too great a Velocity of the Blood in the Veſſels of the Head, determin'd to that Part by ſome Impediment to the Circulation of the Blood in the Arteries of the inferior Parts, which may ariſe from an infinite Number of Cauſes.

Hither alſo may be referr'd all Compreſſions, from whatever Cauſe, of the Veins without the Head, which convey the refluent Blood from the Contents of the Cranium towards the Heart: As alſo Effuſions of Blood, Pus, Ichor, or Lymph, which preſs externally upon the *Dura* or *Pia Mater*.

4. To the fourth Claſs belong all thoſe Cauſes, which, by any means, ſo diſſolve the Texture of the Arteries, Veins, or Lympheducts belonging to the internal Part of the *Cerebrum*, as to cauſe an Extravaſation of their reſpective Fluids, which then preſs upon and injure the Medullary Origins of the Nerves of the *Cerebrum*. Such, for Example, are an acrimonious Serum in hydropic and leucophlegmatic Caſes; a Redundance of Blood in a Plethora; an atrabilarious Acrimony prevalent in melancholy, ſcorbutic, and arthritic Conſtitutions, which frequently produces an Apoplexy, and uſually operates betwixt the fortieth and ſixtieth Years of Life: Now, all theſe may remain latent in the Conſtitution for ſome time; but, upon being excited by adequate Cauſes, they frequently are productive of a ſudden Apoplexy; which may be foreſeen, by comparing the Materials ſubſiſting in the Conſtitution with the Cauſes capable of exciting them to Action, which are principally violent Affections of the Mind, and intenſe Studies; to which, perhaps, imprudent and exceſſive Venery may be added.

5. Some Sorts of Poiſons, which are ſuddenly deleterious, may be rank'd in the fifth Claſs; but theſe may either be referr'd to the ſecond, third, or fourth; or may be more properly ſaid to act upon the Lungs than the Brain. Amongſt theſe are, the Fumes of Mineral Sulphurs, of Charcoal, and that *Gas Sylveſtris*, or incoercible Spirit, which exhales from v table Juices, during Fermentation.

The Anatomical Inſpection of Bodies which have died *Apoplexies*, and the hiſtorical Obſervation of ſuch Circumſtan as occur in the Treatment of ſuch Caſes, furniſh us wit Knowledge of theſe Cauſes; and a due Reflection upon t naturally leads us to a Diſtribution of them into the preced Claſſes, which are admirably adapted to the Inveſtigation of beſt Methods of Cure.

See the Obſervations and Hiſtories in this Article.

Hence it appears, that *Apoplexies* are produced by vario and thoſe oppoſite, Cauſes; and therefore they may be prop ly enough diſtinguiſh'd into *ſanguinious* and *pituitous*; tho' Diſtinction is far from being perfect, ſince, beſides theſe, t are *ſerous*, *atrabilarious*, *polypous*, and other Species of *plexies*.

The Part affected, in a perfect *Apoplexy*, is the entire *com* *Senſory* in the Brain, but in a *Parapoplexia* ſome Parts of *common Senſory*, which are more compreſs'd than the r whilſt the Cerebellum and its Dependencies remain, in the ginning of the Diſorder, unaffected.

Now as the *Cerebrum* ſupplies the Inſtruments of Senſati and voluntary Motion, with their Portions of the nerv Fluid; and as the Heart and Organs of Reſpiration are furni from the Cerebellum, the Reaſon is obvious why the Pulſe Reſpiration remain, whilſt the Senſes and voluntary Motion deſtroy'd; and why even the Pulſe and Reſpiration increaſe proportion as Senſation and Motion decline; for it gener happens, that the nearer the Patient is to Death, the great the Pulſe and Reſpiration, which is to be accounted for th When there is a conſiderable Obſtruction in the *Cerebr* the uſual Quantity of Blood cannot circulate therein; an the ſame Quantity is ſtill brought by the Carotids from Heart, the remaining Part of that which ſhould circulate t the *Cerebrum*, muſt now circulate thro' other Parts of the H Hence an Inflation and Redneſs of the Cheeks, and Foamin the Mouth, cauſed by a greater Quantity of Fluids circula thro' the Branches of the external Carotids; and becau greater Quantity of Blood is determin'd, by this Obſtruc in the *Cerebrum*, to the Veſſels of the Cerebellum, a gre Quantity of Spirits muſt be there ſecreted; and as theſe Sp are ſubſervient only to the vital Functions, the Pulſe and Re ration muſt neceſſarily increaſe.

The Violence, therefore, and Danger of an *Apoplexy*, be eſtimated by the Age, Conſtitution, and Make of the Pati by the Vehemence of the Symptoms, and principally by abſolute Privation of the Senſes and voluntary Motion, ſtrong and profound Reſpiration, attended with a Stertor, Plenty of viſcid Froth about the Mouth, by a ſlight cold Sw which ſticks in Drops upon the Skin, by its being conſequen a former ſlight *Parapoplexia*, or a violent Epilepſy, or any o vehement Cauſe.

On the contrary, an *Apoplexy* which is moderate, and ad of a Cure, may be diſtinguiſh'd by the Slightneſs of the S ptoms, and the Abſence of thoſe Accidents above enum ted.

If a copious Sweat, which is equal all over the Body, de warm, and which relieves the Symptoms, ſupervenes in a ſ Apoplexy, it reſolves the Diſtemper; for by this the ſtagna Matter, which obſtructs the Nerves deſtin'd for Senſation voluntary Motion, is carry'd out of the Habit, being firſt a nuated by the vital Powers.

The ſame ſalutary End is accompliſh'd by a plentiful charge of thick Urine, and for the ſame Reaſons.

The morbific Matter is alſo carry'd off, and the Diſtemp cured, by a large and long-continued hæmorrhoidal Diſcha and, in Women, by a Reſtitution of the Menſtrual Flux.

The Diſorder is alſo removed ſometimes by a Diarrhœa; a violent Fever ſupervening, eſpecially in the Beginning of Diſtemper, attenuates and removes the obſtructing Matter, poſes it to Elimination, and by theſe means ſometimes re the Patient. A ſlight Fever, however, not ſufficient for Attenuation and Removal of the morbific Matter, is of Preſage: But a Fever ſeems principally of Service in that cies of *Apoplexy* which is cauſed by a Viſcidity of the J becauſe Attenuation is more wanted here than in the o Sorts.

When the Cauſe of a ſomewhat more ſevere *Apoplexy* ſome meaſure removed, the Diſtemper is changed into a of ſome of the muſcular Parts; of one entire Side, whi call'd an *Hemiplegia*; or of all the Parts below the Neck, is call'd a *Paraplegia*. Theſe are ſaid to happen during the firſt Days, and ſeldom admit of a Cure, and always impai Memory, Judgment, and the Power of voluntary Mo Hence the Patients remain for ever after heavy, dull, pu mous, and are affected with Tremors, and frequent Vertig

A perfect *Apoplexy*, wherein the *Cerebrum* is much i the Fluids are corrupted, and the Cauſe of the Diſorder is pagated to the *Cerebellum*, ſoon terminates in Death, an dom exceeds the ſeventh Day.

And it is a Maxim laid down by Authors, that if an *Apoplexy* mains unreſolv'd beyond the fourth Day, the Patient dies, leſs reliev'd by a violent acute Fever, before the ſeventh.

An *Apoplexy* may be foreſeen, firſt, from the natural Conſti- ion, Frame, and Make of the Patient.

Secondly, from a Knowledge of the prediſpoſing Cauſes, or terials in the Blood and Juices, capable of producing the ſorder, when excited to Action.

Thirdly, from the Procatarctic Cauſes, which are thoſe ich excite the prediſpoſing Cauſes to Action.

All theſe have been already ſpecify'd.

Fourthly, from the firſt Effects of theſe Cauſes, as a Tre- r, Vacillation, Vertigo, temporary Loſs of Sight, Stupor, ſual Sleepineſs, Depravation of Memory, Ringing in the s, Inflation of the ſuperior Parts, Reſpiration more profound n ordinary, Compreſſion of the Pinnæ of the Noſe, and a uent Incubus.

What has been ſaid above, will enable us to know an Apo- xy when it occurs, and to diſtinguiſh its different Degrees.

As to the Cure and Prevention of an Apoplexy, no univerſal les can be laid down; for as the prediſpoſing and exciting uſes, together with the Parts principally affected, are various, Method of Relief muſt alſo vary; and muſt be attempted re the Diſorder grows inveterate, otherwiſe it will be diffi- to do it with Succeſs.

f, therefore, an *Apoplexy*, from a glutinous, inert, cold uſe, is foreſeen from the Signs above ſpecify'd, the Intentions t be directed, firſt, to avert the Preſſure of the glutinous es from the Head.

econdly, to attenuate the glutinous Viſcidity in the Brain, in the whole Habit.

he Preſſure on the Veſſels of the Brain is diminiſh'd,

irſt, by a Derivation of the Humours to other, and thoſe oſite Parts.

econdly, by univerſal Evacuations.

Derivation of the Humours is effected by Vapours, Fo- tations, and Baths, apply'd to particular Parts, to which it tended the Humours ſhould be invited; by Suction, with ping Glaſſes; by Sinapiſms, and Veſicatories, among which tharides are of great Importance, as they both invite the ours to the Part where they are apply'd, and attenuate at ſame time; by Cauſtics, Iſſues, Setons, and Frictions; Ligatures made upon the large Veins of the Feet, Legs, and hs. To theſe may be added Collutions, Gargariſms, and icatories, which excite a Diſcharge of Saliva, and Apo- gmatiſms apply'd to the Mouth, Fauces, and Noſe.

oerhaave, in his *Materia Medica*, gives the following ms:

ake of the Roots of Maſterwort, Pellitory of *Spain*, Galangals, each an Ounce; of the Leaves of Origanum, Rue, Thyme, each an Handful; of the Flowers of Lavender and Feverfew, each an Ounce; of the Cortex Winteranus, ſix Drams: Boil theſe in a cloſe Veſſel, in a Quantity of Water ſufficient for three Pints of ſtrain'd Liquor; to which add of Spirit of Sal Ammoniac, three Ounces. Let this be uſed as a Collution or Gargariſm.

ake of Maſtich, white Wax, and Ginger, each an Ounce; and make them up into ſmall Troches, which muſt be chew'd in the Mouth by way of Maſticatory.

niverſal Evacuations are procur'd by ſtrong Emetics and rtics, exhibited in ſufficient Doſes; by Scarification and ing; tho' the Efficacy of theſe is not always to be de- ed on.

roper Forms of Emetics and Cathartics recommended by *haave*, are as follows:

ke of Emetic Wine, two Ounces and an half; ſimple Oxymel, an Ounce: Mix for a Vomit.

ke of Emetic Tartar, ſeven Grains; for a Doſe.

ke of the expreſs'd Juice of Horſe-radiſh, an Ounce; ſimple Oxymel, two Ounces: Make a Draught.

ke of Mercurius Vitæ, two Grains: For a Doſe.

ke of Diagrydium, Reſin of Jalap, each ten Grains; rectify'd Spirit of Wine, two Drams: Let them be carefully rubb'd together, till the Diagrydium and Reſin are diſſolv'd; and then add Solutive Syrup of Roſes, with Sena, ſix Drams: Make a purging Potion.

to Bleeding in this Species of Apoplexy, ſome Authors it, others oppoſe it; for my own part, I think this d be determined by the Fulneſs of the general Habit, and tity of Humours to be evacuated; ſo that the Sagacity and Prudence of the Phyſician muſt ſuggeſt to him Reaſons for directing it, or omitting it.

After theſe Derivations and Evacuations, the Lentor or glutinous Viſcidity of the Juices is to be attenuated and diſſolv'd by Remedies adapted to that Purpoſe. Amongſt theſe, a Regimen with reſpect to Aliment cannot be of any great Effect in curing an *Apoplexy*, becauſe there is not ſufficient Time for it to operate; but for the Prevention of one it may be of ſingular Uſe: It ought therefore to conſiſt of both ſolid Foods and Liquids, which have had their natural Viſcidity perfectly deſtroy'd by Fermentation, and which are ſeaſoned with Salt and Aromatics; this ſuppoſes them to be of vegetable Subſtances, becauſe no other will ferment, properly ſpeaking. Salts of all Kinds are here of Service, becauſe they ſtimulate the Solids, and excite the languid and almoſt ſtagnating Juices to Motion, the ready Means for their Attenuation. For the ſame Reaſons aromatic Vegetables, and their eſſential or chymical Oils, are here of Importance; on which Account the *Balſamum Apoplecticum*, deſcrib'd at the End of this Article, has been in great Eſteem, but ſeems to have grown into Diſuſe thro' its frequent Miſapplication; for all theſe ſtimulating Remedies are capable of producing great Miſchiefs, in Apoplexies, from a real Extravaſation, a diſtending Plethora, or an inflammatory State of the Blood. Broths made of Fowls may be alſo allow'd, becauſe they are Deſtroyers of Acids, which are great Promoters of Coagulation and Viſcidity.

Adding Strength to the Veſſels and Viſcera, increaſing the Motion of the Fluids, diluting, reſolving, ſtimulating, bilious, and ſaponaceous Medicines, Frictions, Heat, Baths, and Veſicatories, all contribute to the Attenuation of the glutinous Viſcidity above mentioned. Theſe are more fully treated of under the Article LENTOR, which ſee.

Theſe, however, muſt be uſed with great Care and Caution, becauſe moſt of them may be productive of great Evils, and increaſe the Diſorder they are intended to cure, if apply'd at an improper Seaſon, that is, without previous Derivation and Evacuation, or ſuffer'd to act with too much Violence.

External Topics to the Head, which ſtimulate, evacuate, or reſolve, are not to be omitted. But of all Remedies, Bliſters raiſed by Cantharides are of the greateſt Service.

In caſe an *Apoplexy* from this Cauſe is already form'd, it ſeldom admits of a Cure. However, the Remedies above-mentioned ſhould be try'd; and every thing that is likely to excite the Senſes ſhould be apply'd to the Noſe, Mouth, and Head; the moſt acrid and ſtimulating Remedies are to be uſed; and Stools muſt be procured by acrid Clyſters. *Celſus* directs white Hellebore, one of the moſt ſtimulating Medicines we are acquainted with.

Boerhaave ſpecifies the following Forms:

Take of Tincture of Caſtor, and Spirit of Sal Ammoniac, each two Drams: Apply this frequently to the Noſe.

Take of the ſharpeſt Vinegar, and Tincture of Caſtor, each two Drams: Apply this in the ſame manner.

Take of the Chymical Oils of Roſemary, Tanſy, Lavender, Rue, Wormwood, each four Drops; Tincture of Caſtor, a Dram; Nerve Ointment, an Ounce; Sal volatile oleoſum, a Dram: Mix, and make a Balſam. Let the Vapour of this be received into the Noſtrils, and let the Temples be rubb'd with it.

Take of the Pulp of Colocynth, half a Dram; of the Leaves of Tobacco, a Dram and an half: Boil theſe in a ſufficient Quantity of Water for ten Ounces of ſtrain'd Liquor; to which add of Sal Gem two Drams. Make a Clyſter.

From FULLER.

Take of the Root of Pellitory of *Spain*, half an Ounce; of the Leaves of Rue, two Handfuls; of the Pulp of Colocynth, ty'd in a Rag, half a Dram: Boil theſe in a Quantity of Water ſufficient for twelve Ounces of the ſtrain'd Liquor; to which add of the Infuſion of Crocus Metallorum, three Ounces; Tincture of Caſtor, half an Ounce; Oil of Amber, Sal Gem, each two Drams: Make a Clyſter.

It muſt, however, be confeſs'd, that the Diſorder is frequently increaſed by all theſe intended Remedies, the Motion of the offending Matter being augmented, and more ſtrongly impell'd upon the affected Parts, by every thing which ſtimulates: Mean time the Strength would be too much impair'd by farther Evacuations. Hence appears the Reaſon, why, in procuring a Diſſolution of the glutinous Juices, all poſſible Regard is to be paid to Evacuation and Revulſion. Hence alſo it is evident, why Bleeding, if it does not relieve, deſtroys the Patient.

But if by the Signs above mentioned it is perceiv'd, that an *Apoplexy* is threaten'd, by an inflammatory Sizineſs of the Blood; by a Plethora, or Rarefaction of the Blood; or by too great a Velocity of the Blood in the Head, determined thither by any Cauſe whatever, immediate Recourſe muſt be had to ſuch Remedies, as moſt expeditiouſly evacuate, reſolve, and avert the Blood from the Head.

1. Therefore let a conſiderable Quantity of Blood be taken from the Jugular Veins by a large Orifice; and let this be repeated as Occaſion requires. By this the Patient is generally much reliev'd immediately, if the Caſe is ſuch as will admit of a Cure. See ARTERIOTOMIA.

2. The next Step is to give a conſiderable Doſe of an Antiphlogiſtic Purge, which muſt be repeated in ſuch a manner, that an almoſt perpetual Diarrhœa may be excited; and if theſe Cathartics do not exert their Effects ſoon enough, their Operation muſt be promoted by acrid Clyſters.

Antiphlogiſtic Purges recommended by *Boerhaave* are:

Cream of Tartar, in the Quantity of ſix Drams.
Cryſtals of Tartar, in the ſame Doſe.
Crude Tartar, in the ſame Doſe.
Sal Polychreſton, in the Quantity of five Scruples.
Pulp of Tamarinds, in the Quantity of three Ounces.
Tamarinds, in the Quantity of four Ounces.
Rob of Elder, in the Quantity of four Ounces.
Rhubarb, in the Quantity of a Dram and an half.

Take of choice Rhubarb, a Dram; Sal Polychreſton, thirty Grains; Syrup of Succory, with Rhubarb, an Ounce: Mix theſe well together; and then add of Elder-flower Water, two Ounces; ſmall Cinnamon-water, two Drams. Make a purging Potion.

Take of choice Pulp of Caſſia, two Ounces; Cryſtals of Tartar, three Drams: Mix theſe, and let the Patient take a Dram every quarter of an Hour, till he purges ſufficiently.

Take of the Leaves of choice Sena, with the Stalks, two Drams; of the beſt Agaric, a Dram; of choice Tamarinds, two Ounces: Boil theſe for a quarter of an Hour in a cloſe Veſſel, in a ſufficient Quantity of Elder-flower Water for five Ounces of the ſtrain'd Liquor; to which add of purify'd Nitre, a Dram; ſolutive Syrup of Roſes, with Sena, ſix Drams. Make a purging Potion.

Take of the Leaves of Sena, three Drams; Tamarinds, two Ounces; Agaric, three Drams: Boil for a quarter of an Hour in a Quantity of Water ſufficient for one Pint of the ſtrain'd Liquor; to which add Syrup of Succory, with Rhubarb, an Ounce. Let the Patient take an Ounce every half Hour, till it purges him.

Forms of Purges ſomewhat ſtronger, and more ſtimulating:

Take of Agaric, two Drams and an half; Sal Polychreſton, a Scruple. Mix for a Purge.

Take of the internal Bark of Elder, or Dwarf-elder, an Ounce: Contuſe this with a ſufficient Quantity of Rain-water; then boil them a little, and preſs out four Ounces of the Liquor, which adminiſter for a Purge.

Take of Agaric, two Drams; Leaves of Sena, three Drams; Root of Mechoacan, a Dram; Tamarinds, two Ounces: Let theſe Ingredients be cut and bruiſed, and then macerated in a ſufficient Quantity of Rain-water for half an Hour; then boil gently for ſeven Minutes; and to nine Ounces of the ſtrain'd Liquor, add of Sal Prunellæ, half a Dram; ſolutive Syrup of Roſes, with Sena, nine Drams. Let the Patient take an Ounce every half Hour, till he purges briſkly.

Take of the beſt *Syriac* Scammony, thirteen Grains; Diaphoretic Antimony, a Scruple; ſolutive Syrup of Roſes, with Sena, ſix Drams: Let theſe be mix'd well together, and then add of diſtill'd Succory-water, half an Ounce. Make a purging Potion.

Boerhaave, however, in theſe Caſes, recommends in a particular Manner Tamarinds, and Sena.

3. Beſides theſe, during the whole Courſe of the Cure, the Patient muſt be kept ſtrictly to the Uſe of ſuch Medicines as refrigerate, dilute, attenuate, and excite Urine. For theſe diminiſh the Velocity and Motion of the Blood, whereas all ſtimulating Aromatics increaſe them, and conſequently the Diſorder.

Proper Forms for this Purpoſe are, according to *Boerhaa*
thoſe which follow:

Take of the Leaves of Wood-ſorrel, three Ounces; of M
lows, an Handful and an half; of Oats unhull'd,
Ounce: Boil in a ſufficient Quantity of Whey to twe
Ounces; to which add the Yolks of two Eggs; Rob
Currans, an Ounce: Of this let the Patient drink
quently.

A CLYSTER.

Take of the freſh Leaves of Endive, Succory, Fumito
Mallows, Marſhmallows, each an Handful: Boil theſe
a ſufficient Quantity of Whey for ten Ounces of
ſtrained Liquor. Let this be adminiſter'd twice or th
times a Day.

4. Mean time perpetual and ſtrong Revulſions muſt be m
by the Means ſpecify'd above, till the Cure is completed.

5. With reſpect to Aliment, the Regimen muſt be extre
ly thin and antiphlogiſtic. See INFLAMMATIO.

6. All Medicines which ſtimulate ſtrongly, or excite the Mo
of the Blood, or Heat, muſt be induſtriouſly avoided; as
external Heat; and the Patient muſt not be ſuffer'd to li
Bed, eſpecially in a reclining or ſupine Poſture, but muſt be k
erect. Narcotics are in all theſe Caſes eſteemed prejudicial.

If an *Apoplexy* from this Cauſe is already form'd, a Cur
ſeldom to be expected; the Remedies, however, above ſp
fy'd, are the only probable Means of Relief.

That Species of *Apoplexy* which is cauſed by Juices extra
ſated betwixt the Cranium and Dura Mater, or betwixt
Dura and Pia Mater, from a Wound, Contuſion, Fractu
or Suppuration, is treated of under the Article CAPUT, wh
ſee.

That ſort of Apoplexy which is cauſed by an Extravaſat
of Humours in the internal Cavities of the Brain, ſcarcely
mits of any Cure, becauſe it generally proves very ſoon fa
But if any Relief can be obtained, it muſt be, firſt, from emp
ing the Veſſels by copious Bleeding and Purging, which m
be repeated, provided the Symptoms are alleviated by
firſt; for by theſe means Room will be made in the ev
ated Veins for the Abſorpſion of the extravaſated Humo
which may poſſibly be impell'd into them by the vital Power

Secondly, from correcting at the ſame time the prevai
Acrimony and Viſcidity of the Juices, by Remedies adapte
the particular Kinds of them.

That Species of *Apoplexy* which is cauſed by an Extravaſa
of redundant Lymph, more readily admits of a Cure, by
Hydragogue Purges, to which muſt be added Topics w
diſſipate or draw off a Part of the abounding Lymph, amo
which the principal are large Veſicatories, which muſt be
running a conſiderable time: Beſides theſe, the Regimen
be drying, and Sinapiſms, Iſſues, and Setons, are to be m
uſe of as Occaſion requires. In this Species Bleeding is p
cious, and muſt therefore be omitted.

This Species of *Apoplexy* ſo frequently occurs, that ſome
thors have erroneouſly treated of all *Apoplexies*, as ariſing
an Extravaſation of Lymph.

No Remedies have yet been taken Notice of by Authors,
Apoplexies cauſed by Poiſons, or polypous Concretions in
large Veſſels.

Apoplecticum Balſamum. Apoplectic Balſam.

Take the diſtill'd Oil of Cinnabar, Cloves, Lavender,
mons, Marjoram, Mint, Rice, Roſemary, Sage,
dium, Wormwood, of each twelve Drops; Amber,
Drops; Bitumen Judaicum, two Drams; Oil of
megs by Expreſſion, one Ounce; Balſam of Peru, a
cient Quantity to make all together into a
Balſam.

This warms and enlivens the Nerves, being either ſmell'
or rubbed upon the Temples, or any other convenient
It does much Good alſo to paralytic Limbs, by rubbing
well with it. It has been in mighty Eſteem and Faſhio
wear in little Ivory Boxes and Cane Heads; but it has in
reſpects given place to more modiſh Contrivances. In Di
pers of the Head and Nerves, it is likewiſe directed to be
inwardly from three to ſix Drops, in a Bole or Elec
Quincy's Diſpenſatory.

APOPNIXIS, ἀπόπνιξις, from ἀποπνίγω, to ſuff
Suffocation, apply'd particularly to Hyſterics. Theſe Su
tions were by the Antients thought to proceed from
Uterus.

APOPSYCHIA, ἀποψυχία, from ἀπὸ, ſignifying Priv
and ψυχὴ, Soul, Life. The greateſt Degree of Lipoth
See LIPOTHYMIA. *Caſtellus.*

APOPTOSIS, ἀπόπ7ωσις. *Erotian* explains it by τῶν ἐπι- δέσμων ἄνεσις, "the unloosing of a Bandage;" in which Sense it is the ſame as APOLYSIS.

APORIA, ἀπορία. The ſame as ALYSMUS, which ſee. Ἄπορον νόσημα, in *Hippocrates*, is a doubtful Diſeaſe, or ſuch one as endangers the Life of the Patient.

APORRHAIDES, ἀποῤῥαΐδες. Purple Fiſhes with Prickles. *Caſtellus.* A ſort of Shell-fiſh.

APORRHIPSIS, ἀπόῤῥιψις, from ἀποῤῥίπ7ω, to throw away with Precipitation. A precipitate caſting away. Ἀπόῤῥιψις ἱματίων, in *Hippoc. de rat. Vict. in Morb. acut.* is, "a precipitate Throwing off the Cloaths," as it is cuſtomary for delirious Perſons in the Height of a Fever.

APORRHŒA, ἀπόῤῥοια, of ἀποῤῥέω, to flow from. A Defluxion, or Influx; alſo a Contagion, Pollution, Effluvium, Morboſe *Apocriſis.* See APOCRISIS, CONTAGIUM, EFFLUVIUM. *Caſtellus.*

APORRHOE, ἀποῤῥοὴ, ſignifies a Defluvium, or Falling ff, as ἀποῤῥοὴ τῶν τειχῶν, is "a Falling off of the Hair." ee ALOPECIA.

APOS. A Bird thus diſtinguiſh'd:

Apos, Offic. Aldrov. Ornith. 2. 698. Bellon. des Oyſe, 77. Jonſ. de Avib. 84. Geſn. de Avib. 506. *Apos major,* harlt. Exer. 96. *Hirundo, Apus,* Raii Ornith. 214. Ejuſd. ynop. A. 72. Mer. Pin. 178. Will. Ornith. 156. THE LACK MARTIN, OR SWIFT.

It lives with us in *England* during the Summer. See APO- DES.

Theſe, on account of their habitual Exerciſe and Food, hich is of Inſects, abound much with volatile Salts, and an alted Oil. They are ſaid to be good for Epilepſies, for ak Eyes, for nephritic Pains, and for the Colick.

APOSAEIS, ἀποσαεὶς, is explain'd in *Galen's Exegeſis,* by σϐεσθεὶς, that is, extinguiſhed.

APOSCEMMA, or APOSCEPSIS, ἀπόσκημμα, ἢ ἀπό- ψις, from ἀποσκήπ7ω, a Verb, importing, among other Significations, to remove haſtily, in order to a new Settlement. violent Influx and Settlement of Humours tranſlated from Part to another, *Galen, Lib. 2. ad Glauconem.* This is metimes critical, and owing to the Strength of Nature, as the me Author obſerves, *Lib.* περὶ τȣ̃ προγινώσκειν. He calls alſo the Name of ἀποσκήμματα, thoſe excrementitious Parts of Body, which are depoſited in the Alvus, whereby the er Parts are reliev'd from their Load of Humours. Ἀποσκήψεις, *Hippocrates,* are the ſame as ἀποσκήμματα, or the Settlement Humours, and ſometimes the Tranſmutations or Tranſitions Diſeaſes, as *Aph.* 56. *Lib.* 6. Ἐς τάδε ἀποκίνδυνοι αἱ ἀποσκή- , "are in Danger of, or liable to theſe Tranſmutations;" which Paſſage, which otherwiſe would be obſcure, he hints, Diſeaſes owing to Melancholy are ſubject to make Tranſ- s into Apoplexies, Convulſions, Madneſs, and Blindneſs. σκήψεις, in *Hippoc. Lib.* 1. *de Morb. majore,* as quoted by len, is explained by him in *Exeg.* by ἀποσκάσεις, that is, ifications.

APOSCEPARNISMUS, ἀποσκεπαρνισμὸς, from σκέπαρνος, Ax, is a kind of Fracture of a Bone, when a Piece of it is off, as a Chip from a Block with an Ax. Such a Wound nflicted by a Side-blow, with a light and ſharp Weapon. *ellus.*

APOSCHASIS, APOSCHASMUS, ἀπόσχασις, ἀποσχασμὸς, ἀποσχάζω, to ſcarify. Scarification, and a ſlight ſuperfi- Inciſion in the Skin. Ἀποσχᾶν, and ἀποσχάσαι, in *Hippo- es,* ſignify, to pierce, cut, ſcarify; and in *Lib.* 1. & 2. *orbis,* denote Piercing, or Opening, as apply'd to a Vein; Πρῶτον μὲν τὰς φλέβας τὰς ὑπὸ τῇ γλώσσῃ ἀποσχᾶν· "Firſt pen the Veins under the Tongue." And, Τȣ́τῳ ξυμφέρει τὴν ἀποσχάσαι τὴν ἐν τῇ χειρὶ, τὴν σπληνῖτιν καλεομένην, ἢ τὴν ῖτιν· "It would be convenient for the Patient to open e Vein in the Hand, call'd the Splenetic, or Hepatic Vein." χάσαι is expounded in *Heſychius* by φλεϐοτομεῖν, and in *Va-* alſo by διαχῆσαι, to diſſect.

POSIGESIS, ἀποσίγησις, from ἀποσιγάω, to be ſilent. A ing Silence. Πρὸς τὰς ἀποσιγησίας ἐνθυμηματικοὶ, in *Hippo-* περὶ εὐσχημ. is very differently underſtood by Interpreters: e render it, "ſharp and prompt in making pertinent Anſwers;" others, "grave and ſententious in anſwering." underſtands by the Phraſe, "a Mind obſtinately bent upon lence;" another, "angry and vehement againſt ſuch as hold ir Peace." *Foeſius* takes it in the firſt Signification, acute and prompt in anſwering;" in which Senſe, he ſays, l beſt correſpond with the preceding Clauſe, πρὸς τὰς ἀνα- σιγητικοὶ, which he tranſlates, "ſilent (that is, patient d modeſt) in hearing the Objections of Opponents."

POSITIA, ἀποσιτία, of ἀπὸ, from, and σιτίον, Food. The as ANOREXIA, which ſee.

POSITICA, ἀποσιτικὰ, in *Hippocrates* are expounded in 's *Exegeſis,* by ἀποσιτίας καὶ ανορεξίας ποιητικὰ, "ſuch hings as cauſe a Loathing and Averſion to Food."

APOSPASMATA, ἀποσπάσματα, of ἀποσπάω, to draw off, or ſeparate. A Name by which *Galen, Lib. de Conſtit. Art.* calls thoſe Solutions of Continuity, which are in the organical Parts. In the Beginning of *Lib.* 4. *Meth. Med.* he calls the violent Solution of Continuity in the Ligaments ἀπόσπασμα, as he does that in the Veſſels and Muſcles by the Name of ῥῆγμα and θλάσμα. In his *Comment.* 3. in *Lib.* κατ' ἰητρ. he tells us, That *Hippocrates* calls by the Name of ἀποσπάσματα, the rending aſunder thoſe Parts which ſerve to unite and knit together the Bones.

APOSPHACELISIS, ἀποσφακέλισις, from σφάκελος, a Mortification, in *Hippocrates,* is a Sideration or Mortification of the Fleſh in Wounds or Fractures, which is cauſed by too tight a Bandage.

APOSPHAGE, ἀποσφαγὴ, from ἀποσφάτ7ω, to ſlaughter as a Victim. Butchering, cutting the Throat. *Hippoc.* περὶ ἀρχ. ἰητρικ. According to *Pollux,* σφαγὴ is the Throat, καὶ τὸ κοῖλον ȣ̃ διεςᾶσι αἱ κλεῖδες, "and the Cavity between the Clavicles. *Foeſius.*

APOSPHAGMA, ἀπόσφαγμα, is expounded by *Galen,* τὸ τρυγῶδες περήθημα, "the fœculent Straining," which is alſo called ἀπόσφαγμα. *Apoſphagma* alſo, according to *Pliny* and *Athenæus,* ſignifies the Blood that flows into the Veſſel ſet under the Throat of a ſlaughter'd Beaſt, which was reſerv'd for the Preparation of ſeveral Sorts of Food.

APOSPHINXIS, ἀπόσφιγξις, from ἀποσφίγγω, of σφίγγω, to ſtrain or ſtreighten. A Streightening; the Word is uſed by *Hippocrates,* in ſeveral Places, to expreſs the Conſtriction or Streightening of a Fillet in Bandage.

APOSPONGISMUS, ἀποσπογγισμὸς, is the uſing of a Sponge, either dry, or dipt in Water, for the deterging of Filth, eaſing of Pain, taking off Itching, refreſhing the Spirits, &c. *Caſtellus.*

APOSTAGMA, APOSTALAGMA, ἀπόςαγμα, ἀποςάλαγμα, from ἀποςάζω, and ἀποςαλάζω, to diſtil. That ſweet Liquor which diſtils from the Grapes before they are trodden; it is alſo, on account of its ſingular Sweetneſs, called γλεῦκος, and by ſome *Protropum. Caſtellus.*

APOSTASIS, ἀπόςασις, from ἀφίςημι, to abſcede. An Abſceſs. See ABSCESSUS.

Beſides this common Acceptation of the Word, there are other Significations of it to be met with in *Hippocrates,* whereof two are moſt remarkable; one is, ἀπόςασις κατ' ἔκρουν, ἢ κατ' ἔκκρισιν, "an Apoſtaſis by Efflux, or Excretion," when the Diſtemper leaves the Patient, and paſſes off by ſome ſuch Way, as by an Outlet. The ſecond is call'd an ἀπόςασις κατ' ἀπόθεσιν, "an Apoſtaſis by Settlement," when the morbific Matter by its own Weight falls upon a Part, and there lodges and ſettles. Thus, *Galen, Com.* 8. in *Lib.* 6. *Epid.* Πολλάκις ἀποςάσεις εὑρίσκομεν αὐτὸν ȣ̓κ ἐπὶ μόνων τῶν κατ' ἀπόθεσιν, ἀλλὰ κἀπὶ τῶν ἐκκρίσεως ὀνομάζοντα· "We often find him applying "the Term *Apoſtaſis,* not only to Things depoſited in any "Part, but to thoſe which are diſcharged by Excretion."

Hippocrates alſo uſes ἀπόςασις for the Tranſition of one Diſeaſe into another; as *Lib.* 1. *Epid.* Ἔςι δ' οἷς ȣ̓κ ὀλίγοισιν ἐξ ἄλλων πυρετῶν καὶ νȣσημάτων ἀποςάσιες ἐς τεταρταίȣς ἐγένοντο· "Many of the other Fevers and Diſtempers underwent an Al- "teration, and paſſed into Quartans." Here *Galen* on the Place expounds ἀπόςασις by μετάςασις.

APOSTAXIS, ἀπόςαξις, of ἀποςάζω, from ςάζω, to diſtil. A Diſtillation is generally uſed by *Hippocrates* to ſignify a Diſtillation of Blood from the Noſe; ſometimes it means any Diſtillation or Defluxion.

APOSTEMA, ἀπόςημα, from ἀφίςημι, to abſcede. The ſame as ABSCESSUS, which ſee.

APOSTEMATIAI, ἀποςηματίαι. *Aretæus, Lib.* 1. *de Cauſ. & Sig. Chron. Cap.* 9. calls thoſe, who, labouring under an inward Abſceſs, void Pus downward, ἀποςηματίαι, as he names thoſe who diſcharge it by Expectoration, ἔμπυοι *(Empyi).*

APOSTERIGMATA, ἀποςηρίγματα, from ἀποςηρίζω, to ſupport or prop. It ſignifies whatever Things are uſed for a Stay and Support to any weak Part, without Tying or Binding, as Pillows, Bolſters, &c. to the Head, *Gal. Com.* 3. in Κατ' ἰητρεῖον. In *Hippocrates, Lib. de Flat.* ἀποςηρίγματα is generally ſuppoſed to mean ſuch Diſeaſes as are confirmed and deeply rooted in the Inteſtines.

APOSTOLORUM UNGUENTUM. The Ointment of the Apoſtles. It is thus prepared:

Take of Turpentine, Roſin, Wax, Gum Ammoniacum, each fourteen Drams; Roots of long Birthwort, Olibanum, Bdellium, each ſix Drams; Myrrh, Galbanum, each half a Dram; Opopanax, three Drams; Verdigris, two Drams; Litharge, nine Drams; Oil, two Pounds; Vinegar enough to diſſolve the Ammoniacum, Opopanax, and Galbanum. Digeſt the Bdellium, Galbanum, Ammoniacum, and Opopanax, twelve Hours in the Vinegar upon hot Aſhes; then make them boil, and when they are throughly melted, ſtrain them, and, with a gentle Heat, reduce them to the Conſiſtence of Honey, to which, whilſt warm, add the Turpentine. The Litharge being ſuppoſed in the mean time to be levigated, grind it in Part of the Oil by a gentle Fire; after which, add the reſt of the Oil by Degrees, in which melt the Wax, and the Roſin groſly beaten. Being remov'd from the Fire, mix therewith the Gums before prepared; then the Birthwort and Myrrh; and, laſtly, the Frankincenſe and Verdigris reduc'd to Powder. Stir it continually with the Spatula, till it comes to the Conſiſtence of an Ointment.

It takes its Name from the Number of its Ingredients, which anſwers to that of the Apoſtles, being Twelve, except the Oil and Vinegar. It is vulnerary.

APOSTRACOS OSTEON, ἀπόστρακος ὀστέον, from ὄστρακον, a Shell, in *Hippoc. de Vulner.* is a Bone dry'd to ſuch a Degree as to become a mere Shell.

APOSTROPHE, ἀποστροφὴ, from ἀποστρέφω, to turn away, in *P. Æginet. Lib.* 3. *Cap.* 37. is a Loathing and Averſion to Food.

APOSYRMA, ἀπόσυρμα, from ἀποσύρω, to obtrude. The ſame as ABRASUM, which ſee.

APOTELESMA, the Effect or Event of a Diſeaſe. *Cœlius Aurel. Chron. Lib.* 2. *Cap.* 12.

APOTHECA, ἀποθήκη, from ἀποτίθημι, to lay aſide, or repoſit, formerly ſignify'd a Wine-cellar, but now a Shop where Medicines are ſold; alſo a Gally-pot. Hence,

APOTHECARIUS, A Preparer of Medicines.

APOTHERAPIA, ἀποθεραπεία, from ἀποθεραπεύω, to cure, ſignifies in general a perfect and abſolute Cure; for, in this Senſe, the Verb ἀποθεραπεῦσαι ſeems to be uſed, *Hippoc. Præcept.* In *Galen* it ſometimes ſignifies the End or laſt Part of a perfect Exerciſe, when a Perſon came to uſe Friction, Unction, or Bathing, to remove Laſſitude; and ſometimes it means a particular ſort of Exerciſe, intermix'd with Friction, Remiſſion of Motion, and frequent Intervals of Reſt; and that Part of Medicine which teaches theſe, is called *Apotherapeutica*, ἀποθεραπευτική.

APOTHERMUM, ἀπόθερμον, an acrimonious ſort of Pickle, ſuch as is made of Muſtard, Oil, and Vinegar, or of Vinegar alone, *Gal. de Atten. Diæt. Cap.* 11. Some pretend to prove from *Galen*, *Lib.* 1. *de Alim. Fac.* that *Apothermum*, *Sapa*, *Siræon*, and *Hepſema*, are ſynonymous; but their Arguments from the Text are by no means convincing. *Caſtell.*

APOTHESIS, ἀπόθεσις, from ἀποτίθεμι, to repoſit, in *Hippocrates*, is the right and orderly repoſiting and placing of a Limb that is broken and bound up, in the Situation in which it ought to continue; and is the ſame as THESIS, θέσις, and often join'd with *Analepſis*, ἀνάληψις, which has the ſame reſpect to the Arm, as ἀπόθεσις to the Leg. In *Lib.* κατ' ἰητρεῖον. Ἡ ἀνάληψις, ἡ ἀπόθεσις, ἡ ἐπίδεσις, ὡς ἐν τῷ αὐτῷ ᾖ διαφυλάσσειν· "The Supports, the Poſture, and the Bandage, muſt be kept "in the ſame State."

APOTHLIMMA, ἀπόθλιμμα, from ἀποθλίβω, to ſqueeze, or preſs out, ſignifies the Dregs, and ſometimes the expreſſed Juice. *Gorræus.*

APOTHRAUSIS, ἀπόθραυσις, from ἀποθραύω, to break off. The Removal of a Fragment or Splinter of a Bone, that is looſened from the Surface by Exfoliation or otherwiſe.

APOTOCOS, ἀπότοκος, from ἀποτίκτω, to bring forth Young. Abortive. *Heſychius* expounds ἀποτόκους by ἀπογυμνήσεις γεννημάτων, "the tender Buds of Fruits, or Fœtus of Ani"mals." *Hippocrates*, *Lib. de Art.* ἀποτόκους νοσημάτων χρονίους ποιέοντα, "giving Occaſion to the Production of chronical "Diſeaſes."

APOTOS, ἄποτος, from α Neg. and πότος, Drink. One that never drinks, or deſires to drink. *Caſtellus.*

APOTROPÆOS, ἀποτρόπαιος, from ἀποτρέπω, to avert. One of the Pagan Deities, who were called *Dii Averruncatores*, *Vejoves*; and ἀλεξίκακοι, that is, Deliverers and Defenders from all evil and hurtful Things.

Apotropaia, ἀποτρόπαια, were Sacrifices offer'd to theſe Deities, and ſometimes ſignify'd Amulets againſt Inchantments, and ſo were the ſame as *Periapta*, περίαπτα. *Hippoc. Lib.* περὶ ἐνυπνίων Ἐπὶ δὲ τοῖσιν ἐναντίοισι τοῖσιν ἀποτροπαίοισι, καὶ γῇ, καὶ ἥρωσιν ἀποτρόπαια γενέσθαι τὰ χαλεπὰ πάντα· "In Times of "Adverſity *ſupplicate* the *Dii Averruncatores*, and *Terra*, "(the Earth) and the Heroes, to avert all evil and hurtful "Things."

APOTYCHIA, ἀποτυχία, of the Privative ἀπὸ, and τύχη, Fortune. Misfortune.

APOXE, APOXERA, ἀπόξη, ἀπόξηρα, are underſtood by *Galen*, *Com.* 3. in *Lib. Hippocratis* κατ' ἰητρεῖον, to ſignify thoſe Parts of the Body which are acuminated, and grow ſlender by Degrees towards the Top. Some for ἀπόξη read ἀπόξυ, and ὑπόξηρα for ἀπόξηρα· and take them to be meant of thoſe Parts, which being dry and wither'd, leſſen more and more towards their Extremity, which by that means is acuminat *Foeſius.*

APOZEMA, ἀπόζημα, from ἀποζέω, to boil. A Dec ction. See DECOCTUM, where Rules are laid down for t Management of this Form of Medicines.

APOZYMOS, ἀπόζυμος, from ζύμη, Ferment. F mented. *Hippoc.* in *Prorrh.* 2. Ἅμα δὲ καὶ τὰς γαστέρας ἀπο μυς τε καὶ ῥυπαρὰς ἀποδεικνύουσι καὶ ῥυτιδώδεας. "Beſides, "(the Looſeneſs before deſcribed) makes the Belly appear "if under a Ferment, dirty and wrinkled."

APPARATUS, κατασκευή. An Apparatus. In Surger it is a Collection, and regular Diſpoſition, of all the Inſtrume neceſſary for the perfect Exerciſe of the Art, or for any par cular Operation. The Word may alſo be uſed with reſp to other Parts of Medicine, as well diætetic as pharmaceut which require an Apparatus of the neceſſary Means and Inſt ments for attaining their Ends. The Lithotomiſts have th *Apparatus major* and *minor*. *Caſtellus*, *Blancard*.

APPENDICULA VERMIFORMIS. On one Side the Bottom of the Cæcum lies an Appendix, reſembling ſmall Inteſtine, nearly of the ſame Length with the Cæcu but very ſlender. It is termed *Appendicula Vermiformis*, fr its ſuppoſed Reſemblance to an Earth-worm. Its common ameter is not above a Quarter of an Inch. By one Extremi it opens laterally, and a little obliquely, into the Bottom of Cæcum, and the other Extremity is cloſed, being ſometi greater, and ſometimes ſmaller, than the reſt of the pendix.

It has ſome Contortions like thoſe of a Worm when it touched, from whence comes the Epithet of *Vermicularis*, *Vermiformis*; and it may likewiſe be compared to the Gills Pendants of a Turky-cock. Its Structure reſembles ne that of the other Inteſtines. The internal Coat of this pendix is folliculous, like that of the Duodenum; and it likewiſe Reticular, the Maſhes being the glandular Lacu which continually diſcharge a Fluid into its Cavity.

It has been often diſputed, whether this *Appendix*, or large Portion which is, as it were, the Head of the Col ought to be called the *Cæcum*; but the general Diviſion of Inteſtines into great and ſmall leaves no room to doubt of being only an *Appendix* in Man, whatever Reaſon there ma for talking differently with reſpect to Brutes and Birds. *W ſlow's Anatomy.*

The End which is ſhut, is not tied to the Meſentery, bu the Right Kidney, by means of the Peritonæum. Its U yet unknown. Some take it for a ſecond Stomach, other a Receptacle of the Excrement of the Fœtus, of which always full, till after the Birth. Others ſay, it contains a ment, and others, the Flatuoſity of the Inteſtines; and ot that it ſeparates a Liquor by ſome Glands which are in its vity, which Liquor ſerves to harden the Excrements as paſs thro' the Colon. *Keill's Anatomy.*

APPENDIX, ἐπίφυσις, from ἐπιφύω, to grow to or u The ſame as EPIPHYSIS, which ſee.

APPENSIO, the Suſpenſion of a broken Limb, pr pally of the Arm in a Scarf. *Caſtellus.*

APPETITUS, APPETENTIA, ὄρεξις, ὁρμὴ, ἐπιθ Appetite. In the moſt general Senſe it means that na Inclination which is found in all Beings towards parti things; but in the ſtrict and common Acceptation, it ſig a Deſire of Aliment; or Meat and Drink. Of this App there are two Kinds, which are *Hunger* and *Thirſt*.

APPETITUS CANINUS, ὄρεξις κυνώδης. The ſam BULIMIA, which ſee.

APPLICATIO, ἐφαρμογὴ, προσοικείωσις, from ἁρμόζ fit, and προσοικειόω, to accommodate. Application. Action of the Phyſician or Surgeon, wherein he adminiſte communicates to the Body, internal or external Remedie by the Application of a Plaiſter, Clyſter, &c. *Caſtellus.*

APPLUDA, the Chaff of Millet, Panic, and Seſamum.

APPOSITIO, the ſame as ADDITIO, which ſee.

APPREHENSIO, APPREHENSORIUM, the ſa ANTILEPSIS, which ſee.

APPREHENSIO is ſometimes taken alſo for a CATALE or CATOCHE, which ſee.

APPROPRIATIO, that Action of the natural He vital Flame, by which the Humours and Spirits are ſo u with the Body, and its ſolid Parts, as to enable them to form their proper Functions.

Medicines are ſaid to be *appropriated*, when they are culated for a particular Part of the Body.

APPROXIMATIO. A Method of Cure by tranſpl a Diſeaſe into an Animal or Vegetable Subject by way of mediate Contact. *Caſtellus.*

APRACTA, ἄπρακτα, from α Neg. and πράσσω, Unactive; an Epithet of the Pudenda in a State of Impo *Caſtellus.*

APRONIA. A Name for the *nigra Vitis*, or black otherwiſe called by the Name of *Bryony*, *Chironia*, and

nec

anthe. The Root thereof, bruiſed with a fat Fig, takes off rinkles, if the Patient, immediately after being anointed, lk a quarter of a Mile. *Pliny, Lib.* 23. *Cap.* 1. See BRY- NIA.

APROXIS, an Herb ſo called by *Pythagoras*, whoſe Root es Fire at a Diſtance, like Naphtha. The ſame Philoſopher s, that whatever Diſeaſes happen to the human Body, in the e of the Flowering of the Aproxis, though cured, will be e to give the Patient a Memorandum at the Return of the owering-ſeaſon. The Caſe is the ſame with Wheat, Hem- k, and Violets. *Pliny, Lib.* 24. *Cap.* 17.

APSINTHATUM, ἀψίνθατον, from ἀψίνθιον, Wormwood. ſort of Drink accommodated to the Stomach, of which you e ſeveral Forms in *Aetius, Tetrab.* 1. *Serm.* 3. *Cap.* 69, 70,

APSIRRHOON, ἀψίῤῥοον, from ἄψ, backwards, and ῥέω, flow, in *Hippocrates* is expounded by *Galen*, εἰς τοὐπίσω ῥέον, lowing backwards."

APSYCHIA, ἀψυχία, from α Negative, and ψυχὴ, Life. e ſame as LIPOTHYMIA.

APTISTOS, ἄπτιστος, from α Negative, and πτίσσω, ac- ding to *Erotian*, to peel, or take off the outer coarſe Rind. ocrates, περὶ ἀρχαίης ἰητρικῆς, among the Kinds of Bread ons ἄρτος ἀπτίστων πυρῶν, ἢ ἐπτισμένων, "Bread of Wheat leanſed, or not cleanſed from the Bran."

APTYSTOS, ἄπτυστος, from α Negative, and πτύω, to An Epithet of a Pleuriſy, or other Diſtemper, in which ing is ſpit out. Ἁι ξηραὶ τῶν πλευριτίδων ϗ ἄπτυστοι χαλε- "Dry Pleuriſies, in which there is no Expectoration Spitting, are very dangerous." *Hippocr. Coac.*

PUA, a Fiſh thus diſtinguiſhed:

Encraſicholus, Offic. Aldrov. de Piſc. 214. Charlt. Piſc. 24. del. de Piſc. 1. 211. Jonſ. de Piſc. 51. Raii Ichth. 225. l. Synop. Piſc. 107. *Encraſicholus, quos alii Engraules, Lycoſtomos appellant Rondeletii*, Geſn. de Aquat. 68. *Ha-* , Bellon. de Aquat. 169. THE ANCHOVY.

hey are pickled with Salt, and kept in Barrels, and the e Fiſh, as well as the Pickle, are in Uſe; the Fiſh pickled ly'd like Herrings to the Soles of the Feet; and both Pickles ſerve for the ſame Purpoſes. *Dale.*

ou are to chuſe thoſe that are tender, freſh, white without, ithin, ſmall, plump, firm, and well taſted.

nchovies are of an opening Nature, fortify the Stomach, reate an Appetite.

hen they are uſed to Exceſs, they heat much, and make Humours ſharp and pungent.

ey contain much Oil, and volatile Salt.

ey agree in Winter with old phlegmatic and melancholy e, and with thoſe who have no good Digeſtion: But young e of a hot and bilious Conſtitution ought to abſtain from or uſe them very moderately.

REMARKS.

Anchovy is a ſmall Sea Fiſh, that is as long and as thick, near, as one's Finger; they fiſh for it in ſeveral Parts *Genoa* and *Provence*. They uſually ſwim in Shoals, and e a cloſe Body together; they will run to the Fire, when ſee it, and the ſame is made uſe of as a Snare to catch n. But ſome pretend, that thoſe taken in this manner, ſofter than the others; they are pickled after their Heads cut off, and Guts taken out, which ſoon corrupt.

Fiſh is much uſed in ſeveral Parts of *Europe*; for the ellency of its Taſte, they mix it with Sauces: It helps ſtion, and fortifies the Stomach with its volatile and ſa- Principles, which cauſe a gentle and moderate Heat in Part, and diſperſe and attenuate the Aliments, that are ined therein. In the mean time, if it be uſed to Ex- it very much rarefies the Humours by theſe ſame Prin- s, and ſo produces the ill Effects above-mentioned. *ry on Foods.*

LOTICUS, ἀπυλωτικὸς, the ſame as EPULOTICUS, ſee.

ETOS, ἀπύητος, from α Negative, and πῦον, Pus. ithet for an external Diſeaſe, or Tumor which is not ble; it is the ſame as ἀνεκπύητος, in *Hippocrates*, and rom ἄπυος, which ſignifies Want of Pus. *Caſtellus.*

REXIA, ἀπυρεξία, from α Negative, and πυρεξία, e as πυρετὸς, a Fever. The Abſence of a Fever. It that Interval, or Space of Time, which paſſes between Fits of an intermittent Fever; and alſo the total Ceſ- d Abſence of a continual Fever.

ROMELE, or APYRENOMELE, ἀπυρομήλη, ἢ ήλη, from α Negative, πυρὴν, a Nucleus, and μήλη, A Probe without a Button, that is, a *Melotris*. *Ga- Exegeſ.*

RON, ἄπυρον, from α Negative, and πῦρ, Fire. ver felt the Fire; in particular it is apply'd by *Dioſ-* o *Sulphur Vivum, Lib.* 5. *Cap.* 124. and alſo by *Celſus*, *ap.* 18. Ἄπυρος is alſo an Epithet beſtowed on a Preparation called *Æthiops*, which is performed by means of Trituration only, without the Help of Fire. See ÆTHIOPS.

APYROTHIUM, a Name for Sulphur Vivum. *Blanc.*

APYROTI. Carbuncles, as *Pliny* ſays, are ſo called by ſome, becauſe though thoſe Precious Stones ſo much reſemble Fire, they yield not the leaſt Senſation of it. *Lib.* 37. *Cap.* 7.

AQUA, Water.

See the Article ACIDULÆ, and THERMÆ, and *Hippocrates, on Air, Waters, and Situations*, under the Article AER. See alſo BALNEA.

It is difficult to form a Judgment of Waters in general, becauſe of the peculiar Nature and Qualities of Places, Air, and many other things; but, for the moſt part, the beſt Water is what is pure, ſweet, participating of no manner of Quality, and ſooneſt paſſes off the Hypochondria, creating no Moleſtation in its Paſſage, nor breeding Inflations, and what is leaſt ſubject to Corruption. *Dioſcorides, Lib.* 5. *Cap.* 18.

Of SEA-WATER.

Sea-water is hot and acrimonious, hurts the Stomach, diſturbs the Belly, and expels Phlegm. Uſed warm in a Fomentation, it is both a Drawer and a Diaphoretic, and is therefore proper in Affections of the Nerves, and for Kibes, before they are ulcerated. It is an uſeful Ingredient in Cataplaſms of Barley Meal, and in diſcuſſive Plaiſters and Malagmata. Adminiſtered in a Clyſter warm, it evacuates the Belly; and, injected hot the ſame way, eaſes the Gripes. It makes a good Fomentation for the Pſora, Itch, Tetters [λειχήνων], and Scurf [κονίδων], and for Breaſts turgid with Milk; it alſo diſcuſſes Lividneſs from Blows, if the Place affected be fomented with the ſame hot. An hot Bath of Sea-water is effectual againſt the Bites of venomous Creatures, which are ſucceeded by Tremblings and Refrigerations, eſpecially thoſe of the Scorpion, Phalangium, and Aſp. The ſame relieves under an inveterate Cachexy, or Diſorder of the Nerves; and the hot Vapour thereof comforts and helps thoſe who labour under a Dropſy, Pain in the Head, and Deafneſs. Sea-water kept pure, without being mixed with potable Water, loſes its rank Smell. Some boil it firſt, and then ſet it aſide. It is alſo adminiſtered as a Purge, either alone, or with Oxycras, Wine, or Honey, care being taken, after its Working, to give the Patient ſome Broth made of Chicken or Fiſh, in order to temper its acrimonious and biting Quality. *Dioſcorides, Lib.* 5. *Cap.* 19.

With reſpect to Waters, two things come under our preſent Conſideration, which are, that pure ſimple Element, ſo well known, and of ſo univerſal Uſe in common Life; and medicinal or medicated Waters, diſtilled from, or impregnated with, Animal, Vegetable, or Mineral Subſtances, which are directed to be kept in the Shops.

Many and ſurpriſing are the Properties of Water, which have been diſcovered by Naturaliſts, to whoſe Province theſe properly belong. I ſhall therefore confine myſelf to the Properties of Waters, ſo far as they relate to Medicine. Perhaps it may be of ſome Uſe to ſpecify the Salubrity and Inſalubrity of thoſe Waters we generally meet with, becauſe as good Waters conduce to Health, thoſe which are bad, are productive of Diſeaſes.

It is a common Obſervation, familiar in the Kitchen and Laundry, that ſome Waters are hard, crude, and rough, and others again ſoft, mild, ſmooth, or, as it were, milky: The former whereof are properly accounted bad, and the latter good.

WATER *of diſſolved* ICE *and* SNOW.

Among the crude and hard Waters, we reckon that which is obtained by the diſſolving of Ice: And of this Water *Hippocrates* ſays very juſtly, "That the clear, light and ſweet Part " in frozen Water, is diſſipated and diſcharged; and only the " turbid and ponderous Part left behind: For, if a certain " meaſured Quantity be ſet to freeze in the open Air, and the " Ice be the next Day diſſolved in a warm Place, and the " Water be now meaſured again, it will be found to have loſt " much of its Quantity." The ſame Author likewiſe aſſigns a very good Reaſon why Snow-water is rather pernicious than advantageous to Vegetables and Animals; as Water by freezing has its Texture deſtroyed. For 'tis manifeſt, that the ſubtile Principle of the Water is thereby ſeparated from the groſs Part, and driven towards the Centre: Whence, in the Middle of all Ice, there appear large Bubbles, proceeding from the ſubtile elaſtic Matter being driven inwards; where, by its rarefactive Motion, it increaſes the Bulk of the Ice, and cauſes it to poſſeſs a greater Space, than when in the Form of Water; and thus occaſions the burſting of ſuch Glaſs or Earthen Veſſels as it happens to be contained in. And this ſhews by what means the fine, fluid elaſtic Principle is ſeparated, and only the groſſer and more ponderous Part left behind: Inſomuch that Water being deſpoiled and corrupted by this Operation, muſt needs become unwholſome. But principally the Uſe of Snow-water is found to produce Swellings in the Glands of the Throat, as frequently happens to thoſe who inhabit the Bottoms of Mountains,

tains, which are all the Year covered with Snow; but eſpecially in the Women, who have generally large Tumors hanging at their Throat. And this the People who live at the Foot of the *Alps*, *Pyreneans*, &c. to their great Misfortune, experience. Thoſe Waters therefore muſt be carefully avoided, which, upon a general Thaw, flow down the Sides of the Mountains into the Valleys; and thus often pollute and corrupt the Springs and Rivers.

The WATERS *of* MINES.

In the next place, thoſe Waters are found to be hard, crude, and unwholſome, which are found in metallic Mines, or deſcend from very high Rocks; becauſe they lick up in their Paſſage many rough, earthy, and aſtringent Particles from the Foſſils, Minerals, Chalk-ſtones, and the harder compacted Bodies they run over; and thus become impregnated therewith; whence few can bear to drink them. And their Uſe, to ſuch as are not accuſtomed thereto, proves very pernicious. Thus 'tis obſerved by *Hippocrates*, that thoſe Waters are to be rejected as unwholſome which flow from Rocks; for this renders them hard; and thoſe again which run near to hot Springs, Beds of Iron, Stone, Sulphur, Alum, *&c.* for none but crude, heating, and unwholſome Waters, that paſs not well by Urine, but bind up the Belly, are to be found in ſuch Places. And we cannot but commend the Juſtneſs of the Obſervation, with regard to the common Waters found near hot Springs; for ſuch generally are crude and unwholſome, unfit for brewing, or promoting the Secretions of the Body, but rather obſtruct and hinder them; and the Reaſon hereof ſeems principally owing to the chalky, rough, ſtyptic Earth, with which the Soil about theſe Springs moſt commonly abounds.

CHALKY *and* STONY WATERS.

Again, thoſe Waters are crude, heavy, and ſluggiſh, which ſpring up in chalky Ground, as may appear from the Pipes or Canals through which they run; for they all along depoſit an earthy, chalky Matter, that lines the Inſides of theſe Conduits; and, when boil'd over the Fire, depoſit a ſtony Cruſt on the Sides of the Veſſel. In ſhort, the ſtony Waters of all Kinds, running upon chalky Beds, are unwholſome, crude, and hard; as the Matter of theſe Beds is eaſily imbibed by the Waters, which renders them groſs and heavy; ſo that when drank, they paſs with Difficulty through the fine Canals of the Body; nor readily reach the Extremities of the Veins, without cauſing Obſtructions.

STAGNANT WATERS.

Laſtly, thoſe Waters are unwholſome which collect themſelves in ſtagnant Ponds, marſhy Grounds, or are received into Reſervoirs, formed on Purpoſe to preſerve the Rain, that runs from the Tops of Houſes; as alſo thoſe of Springs ariſing in an open Champain Country, and having a muddy, unctuous, earthy, or bituminous Bottom; for all theſe are groſs, turbid, and ſomewhat fœtid; and, though frequently refreſhed by new Rain, loſe their fine, thin, and moſt uſeful Principle, by the Sun's ſtriking continually upon them; whence they become ſubject to cauſe Obſtructions in the finer Veſſels, and are productive of chronical Diſtempers.

RAIN-WATER.

On the other hand, thoſe Waters muſt be allowed good and wholſome, which are light, ſweet, ſoft, thin, and readily paſs through all the excretory Veſſels of the Body. And of this Kind, in the firſt place, are certainly thoſe raiſed by the Sun into the Atmoſphere. The Cauſe of this is, with more Chymical Knowledge than one could expect, delivered by *Hippocrates*, in theſe Words: "Becauſe the Sun raiſes that Part "which is thinneſt and lighteſt, leaving behind what is ſaline, "groſs and heavy, in the Sea." For, in Reality, Rain-water is Water diſtilled by the Sun, which not only raiſes from the Ocean, but likewiſe from all Springs and Rivers, the lighteſt and thinneſt Parts of the Waters, makes them mount into the Atmoſphere, attenuates, perfects and digeſts them with its Rays; and indeed enriches them with the univerſal, æthereal, and ſulphureous Salt, or rarefied and exalted Nitre, as appears from Experiment and Obſervation: So that by this means, the Chymic Sun ſeems to prepare a moſt perfectly pure and wholſome Water, which will readily paſs through all the fineſt Veſſels of the Body, waſh the capillary Meanders thereof, and promote its own Diſcharge by the Law of Circulation. Whence this naturally diſtilled Water is better fitted than any other for the Nutrition of Vegetables, the brewing of Drinks, the infuſing of Herbs, all Family Uſes, and is of itſelf, without farther Preparation, one of the nobleſt, and, when properly uſed, perhaps the moſt univerſal Remedy in all Nature, as we propoſe more fully to ſhew hereafter.

We are ſenſible of the Objections againſt this general Poſition, as to the Purity and Perfection of Rain-water. "'Tis "ſaid, that this Water ſoon putrefies, corrupts, and ſtinks, and "thence muſt neceſſarily become unwholſome." But, to conſider the Matter chymically and cloſely, though the Fact alledged were certain, yet it only demonſtrates, that this W abounds with ſulphureous Particles, which is alſo confir by numerous Chymical and Philoſophical Experiments.

But this Inconvenience attending Rain-water may, in g meaſure, be prevented, by catching it, not after it has wa the Tops of Houſes, and run through foul Pipes and Cond but as it falls immediately from the Air, in an open Place w no Houſes ſtand. For this, when it has ſtood a while to tle, cleanſe and purge itſelf, as it will in a very few Days, be drawn fine from its Bottom, and long preſerved perfect pure Veſſels of Earth or Glaſs: But if put into Veſſel Wood, eſpecially ſuch as are new, it thence extracts numer fermentable, ſulphureous Parts; and accordingly runs into is commonly called Corruption. And the Reaſon of this ference is plain from Chymical Experiments; for as, by ſt ing, the groſs Sediment falls to the Bottom, that, like Lees of Wine or Beer, contains the ſubtile, fermentable, phureous Particles, which have the Power to begin or re an Inteſtine, fermentative, or corruptive Motion: When buſy Particles are once ſeparated, whether by Standing, Fi tion, or Diſtillation, the pure remaining Fluid muſt neceſſ continue unaltered in its natural Texture and Conſtitution.

'Tis alſo worth obſerving, that the Rains which fall the Vernal Equinox, and in the Month of *May*, when the and South Winds blow, are of a much more ſubtile and tuous Nature, and refreſh and nouriſh all the Vegetable K dom, better and quicker than thoſe which fall in other Mo when the Winds ſtand to different Points of the Compaſs: Reaſon whereof ſeems owing to this, that in the coldeſt C tries, or ſuch as are filled with denſe Vapours, the Exhala of the Earth and Waters cannot be ſo much ripened an fined, as in Countries where a warmer Sun raiſes them concocts, and brings them to Maturity.

SPRING-WATERS.

The next Degree of Perfection we aſſign to thoſe W where the Springs lie high, riſe on clean earthy Hills, an upon a gravelly Bottom, or pure hard Clay; provided th ſweet, that is, perfectly taſteleſs, limpid, tranſparent, c the Summer, warm in the Winter, and receive the riſing For when Waters paſs through ſuch a kind of porous, f Earth, which is not diſſolved thereby, they are thus perco filtred, and purified, after the manner of that common Pr in *Italy*, *Sicily*, *Holland*, and other Countries, where paſs their thick and muddy Waters through a certain ſ Stone, cut and chizzeled into a kind of Mortar, ſo as come a large and proper Filtre for throughly purifyin Water, which it tranſmits perfectly bright, clear, and ful, retaining the Filth and Slime behind.

To try the Goodneſs of WATERS.

There are certain œconomical Obſervations, and W proving the Goodneſs, Excellence, Thinneſs, and Virt Waters. It is a thing known to every one, that thoſe W are ſoft and light, which readily take Soap, eaſily waſh L and quickly boil Peas, Pulſe, *&c.* ſoft and tender; a Waters which will not do this, are properly accounted harſh, and hard. But for theſe Purpoſes, there is nothin parable to Rain-water, which is admirably fitted for the w of Linen, and boiling of Pulſe and Herbs to the g Perfection. So likewiſe theſe Waters are to be eſteemed and excellent, which beſt ſerve the Purpoſes of Brewi the making of Malt Drinks; for, 'tis certain, that the ſomeneſs of Malt Liquors has a great Dependence up Goodneſs of the Waters; whence ſuch Countries alway the beſt, wholſomeſt, and ſoundeſt Drinks, as are with the beſt and pureſt Waters. In general, hard make the beſt Beer for keeping, and ſoft Water the b Flavour; but they are ſubject to turn ſour. And a P Excellence in this Caſe is, when the Drink neither o the Stomach, nor binds up the Belly, but paſſes readily by On the other hand, in thoſe Countries where the Wa thick, groſs, and ſlimy, the Drinks are unwholſome, g Wind in the Stomach and Bowels, paſs ſluggiſhly thro Canals of the Body, breed Stones, and ſtony Concretions, Viſcera, rot the Teeth, relax the Gums, *&c.* of all there are but too many Inſtances in particular Countries. other Sign of Goodneſs in Waters may be taken fro feeding and producing fine wholſome Fiſh; and their poſition to freeze. For theſe Particulars prove a Fine Parts, and a temperate and wholſome Nature, in ſuch W

RIVER-WATER.

Thoſe Waters likewiſe, that remain long ſound and rupted, may be eſteemed good; as this affords ſome T their being free from Impurities, and Parts which do perly belong to them, and of their being rather ſimpl and full of the ſpiritous Principle, which preſerves th Corruption. And hence 'tis found, that if River-

ll as Rain-water, be firſt freed from its Filth by ſtanding,
awing off from its Bottom, or filtring through a porous Stone,
d then put into proper large earthen Veſſels, and preſerved
a cool Vault or Cellar, it keeps much better and longer
n when committed to little Veſſels, and ſet in a warm Place.
nd thus the Water of the River *Tiber*, which the common
ople drink thick and muddy as it runs, is clarified and pre-
ved by the Nobility of *Rome*, in large Earthen Vaſes, which
nd in their Wine-cellars. Whence it remains perfect and
corrupted for many Months, or even for Years.

Beſides the ſeveral Signs of the Excellence of Waters, above
livered, there are abundance more, derivable from the Art
Chymiſtry; though theſe being not ſo well ſuited for gene-
Uſe, we ſhall not enter into a Detail of them, but finiſh
Account with obſerving, that ſoft, ſubtile Waters, and
ticularly thoſe of Rain, are conſtantly found the fitteſt for
hing what we call the Calxes of Metals, from their Salts;
lſt hard Water is very unſuitable for this Purpoſe.

Hoffman, in the following Diſſertation, has farther explained
Natures of different Waters.

WATER *conſidered as a* MEDICINE.

How earneſtly, and how univerſally, a Medicine capable of
duing all Diſorders, of whatever Nature, has been deſir'd, is,
eſume, ſufficiently known to ſuch as have any tolerable
uaintance with phyſical Subjects; and indeed, immorttal
ours ought to crown the Man who ſhould be ſo lucky as
iſcover a Medicine of this Kind, ſince the Recovery of the
, and the Safety of Mankind in general, are ſo nearly con-
ed with a Diſcovery of this Nature. But ſince we have not
erto found a Medicine capable of certainly ſubduing any
Species of Diſorder, ſo we have the greater Reaſon to deſpair
nding one capable of eradicating and baffling the whole
in of Diſeaſes to which Mankind are ſubject; for if we re-
, with Attention, on the Difference of Conſtitutions, on
numerous and often contrary Cauſes of Diſeaſes, and on
Virtues of Medicines varying according to the various Con-
ions of the Patients to whom they are exhibited, we ſhall
ſee, that 'tis in vain to rack our Brains, and ſpend our
e, in the Purſuit of an univerſal Medicine.

t if there is, in Nature, a Medicine which deſerves the
e of *Univerſal*, 'tis, in my Opinion, *common Water:* The
of this is ſo common, and ſo neceſſary to us all, that with-
t we can neither live, nor preſerve our Bodies ſound and
hy; for it guards againſt Diſeaſes of every Kind, protects,
efends the Body from all kind of Corruption, that may
fatal to Life. Beſides, *Water* anſwers all poſſible Inten-
of Cure; ſo that, without it, no Diſorder, whether chro-
or acute, can be happily and ſucceſsfully removed. For
rmation of this Opinion, I ſhall not inſiſt on the Medi-
Springs, whether hot or cold; nor attempt to prove their
y Virtues in ſubduing various Diſorders; but ſhall con-
myſelf entirely to common Water, tho' of the beſt and
Kind, the univerſal Uſe of which I at preſent deſign to
mend.

e, then, I am to conſider *Water* as an univerſal Medicine
enting and curing Diſeaſes, and ſince I intend to prove,
is ſo, by the ſtrongeſt and beſt choſen Topics I poſſibly
think it will not be improper to premiſe a few Things
ning the natural Neceſſity our Bodies lie under of being
or deſtroy'd one time or other; that, theſe things being
, we may be able, with the greater Accuracy, to diſcern
Diſeaſes are curable, and what not. As to the na-
Neceſſity of dying, 'tis ſufficiently known, that the
on of our Bodies, and a Prevention of that Putre-
to which they are naturally very much diſpos'd, depend
upon the perpetual and uninterrupted Circulation of
ood and Humours; for ſo long as this Circulation is
nd unobſtructed, ſo long we are ſaid to be alive; but
rtion as it decreaſes, or is impair'd, we make gradual
es towards *Death*. 'Tis, therefore, this Motion alone
guards the Body againſt Corruption, becauſe it hinders
te of Reſt, which is the Cauſe and Foundation of all Pu-
n, from taking place in that heterogeneous Fluid with
he Parts of all Animals in general abound.

Bodies would, without Doubt, enjoy an eternal Dura-
we could for ever preſerve and maintain the Circulation
Blood; but ſince human Weakneſs, and the wretched
on of our mortal Nature, render this impoſſible, it is
worth while to inquire into the Cauſe which may pro-
Deficiency or Decreaſe of this Circulation, which, in
nion, is as follows: This vital Circulation of Humours
d on by Organs and Ducts; the elaſtic Fibres of the
which are furniſh'd with a ſucceſſive and reciprocal
n and Contraction, conſtitute the Organs. Theſe
re Veſſels, ſome of larger and others of leſſer Diame-
When, then, at any time the Elaſticity and Impulſe of
s are ſo diminiſh'd as not to bear a due Proportion to
tity of Humours to be moved, and when theſe Hu-
e not quickly and expeditiouſly carried thro' the ſmall-
I.

eſt Tubuli, Stagnations of the Humours muſt unavoidably happen in the Capillary Veſſels; and hence ariſe Putrefactions, thoſe fruitful Sources of Diſorders and Death.

For as, in all Machines, the Elaſticity and moving Forces of the component Parts are weaken'd and impair'd, by reaſon of the Change undergone by the Matter of which the ſaid Machines are made, ſo it happens in our Bodies, that the Fibres, which alone are the Inſtruments of Motion, in Proceſs of Time become thick, hard, ſolid, and dry: For this Reaſon they not only move with Difficulty, but the Pores, and minute Paſſages, being by that means render'd narrower, hinder the Fluids from being carried thro' their Chanels in an equal and uniform Courſe. This is ſufficiently proved by the Fleſhes of old Animals, which, by reaſon of their Hardneſs and Solidity, require a ſtronger Heat, and longer Time, to render them ſoft and tender, than the Fleſhes of young Animals do: Hence we may conclude, that there is not the leaſt Doubt to be made but if the ſame State, the ſame Mobility of the Fibres and Veſſels, and the ſame Degree of Aperture in the Pores and minute Paſſages, could always be maintain'd and preſerv'd, Life might of courſe be protracted for ever, if external Cauſes, and foreign Degrees of Violence, did not interfere to put an End to it. That this ſurpriſing Effect may poſſibly be produced, either by Medicines, or a proper Regimen, is a Fact which can by no means gain the Aſſent of thoſe who are ignorant of the Virtues and Qualities of natural Bodies: But 'tis not only probable, but ſtrictly true, that many have fallen ſhort of that Period of Life and Duration, which the natural Temperament and Conſtitution of their Bodies ſeem'd to promiſe, whilſt they were either ignorant of, or deſpiſed thoſe Rules, the Obſervation of which would, in the very Nature of the Thing, have procur'd them that Bleſſing; ſo that the greater Part of the human Species, either by exorbitant Paſſions, Intemperance with regard to the Non-naturals, or a criminal Neglect to diſtinguiſh between things of a ſalutary and a noxious Nature, unavoidably ſhorten their Days, and render their very Exiſtence a Foundation for Diſtreſs, Calamity, and Miſery.

Having thus explain'd the natural and internal Cauſe and Origin of Death, it will not be improper to aſſign a few Reaſons why ſome Diſeaſes are incurable, and of ſo ſtubborn and unrelenting a Nature, that they will not yield to the higheſt Skill, or the beſt choſen Remedies. Now that there is a certain Analogy and Proportion betwixt the Agent and the Patient, and that Effects can only be produced by their proper and adequate Cauſes, are Truths ſufficiently evinced and explain'd, both by Reaſon, and the Laws of Motion: When, therefore, obſtinate Obſtructions of the Veſſels, Indurations of the Viſcera, large Effuſions of Humours into the Cavities of the Ducts, and conſequent Putrefactions, happen, what Phyſician is able to diſcover Medicines of ſuch a powerful and efficacious Quality as to ſubdue and remove theſe Diſorders? Who can put a ſeaſonable Stop to the remote and internal Inflammations of the more noble Parts, and the Mortifications conſequent upon them? Or, what Man is there found among all the venerable Sons of the *Healing Art*, who can, with Certainty, quell and calm the violent and preternatural Commotions of the nervous Syſtem? If I could once find the happy Man, who, by any ſort of Medicines, could perform ſuch miraculous Cures, I would not only pronounce him a ſecond *Æſculapius*, but loudly proclaim, that he was ſent from *Heaven* as a common Bleſſing to the *Earth*; ſince I am firmly perſuaded, that no acute Diſtemper could poſſibly prove fatal to the Patient, who ſhould have the good Luck to be under his Care.

We muſt alſo, on this Occaſion, inquire whether there are, in Nature, Medicines peculiarly adapted and calculated for removing particular Diſorders. 'Tis univerſally known, that ſome Medicines are, even in our own Days, wonderfully extoll'd as *Specifics* againſt certain Diſeaſes. Thus the *Peruvian Bark* is eſteem'd a Medicine of divine and irreſiſtible Efficacy againſt Fevers. *Quickſilver* is wonderfully extoll'd againſt a virulent *Lues Venerea*. *Opium* is ſaid to be the ſureſt and moſt efficacious Aſſwager of all Kinds of Pain. *Steel* is call'd the ſovereign Reliever of the Hypochondriac. *Sulphur* is accounted the moſt valuable Pectoral. *Caſtor* is judged to have the moſt happy Influence on the Nerves. Bitters are applauded as the moſt ſuitable Remedies in dropſical and cachectic Caſes. Nitre is given out to be of uncommon Efficacy in allaying feveriſh Heats. But tho' theſe Medicines are juſtly diſtinguiſh'd on account of their Virtues, and their Praiſes deſervedly celebrated, yet any Perſon, who has been for a conſiderable time employ'd in the Practice of Phyſic, cannot fail to obſerve, that they are by no means ſufficient to remove the reſpective Diſorders to which they are appropriated: For who does not know, that almoſt all Diſtempers are nouriſh'd and fomented by different, and often by contrary Cauſes? Who is ignorant, that the ſame Diſeaſes, in different Stages, appear with different Series of Symptoms; and that, according to theſe, there is more or leſs Danger in the Caſe? Who is not appris'd, that there are different Conſtitutions; and that on theſe the Actions of Medicines vary very remarkably? Hence it muſt neceſſarily follow, that one and the ſame Medicine muſt produce different, and even contrary Effects, according to the different Conſtitutions of the Patients to whom it is exhibited; for ’tis carefully to be adverted to, that Medicines act not only *ſecundum Activitatem ſuam*, or according to their own inherent Qualities, but alſo *ſecundum Receptivitatem*, or according to the Conſtitution of the Patient to whom they are exhibited; or, in other Words, the Force of Remedies is the Reſult of a mechanical, mutual, and reciprocal Action and Reaction of Medicines and Conſtitutions; ſo that if a Medicine acts upon the Body, the Body returns the Favour, and acts in like manner upon it. Hence we may judge, how daring and impious the Practice of thoſe is, who, not regarding the Diverſity of Conſtitutions, morbific Cauſes, and other Circumſtances, in the ſame Diſorder invariably preſcribe the ſame Remedy exhibited in the ſame Form, as blundering and unſkilful Phyſicians do, to the great Reproach of Phyſic, and the unſpeakable Emolument of Funeral-undertakers, Grave-diggers, and all that Claſs of Men who *live* by burying the *Dead:* For the Phyſician who duly adverts to the above-mention’d Conſiderations, will not readily adhere to one and the ſame Remedy in one and the ſame Diſorder, unleſs all Caſes were directly parallel.

It now remains, that I fix and aſcertain the preciſe and determinate Senſe, in which *Water* may be ſaid to be *an univerſal Medicine*. Now I affirm, that Water is excellently ſuited and adapted to all Conſtitutions, and that at all Times and Seaſons whatever; that there is not, in Nature, a more noble or efficacious Preſervative againſt Diſeaſes; that in acute as well as in chronical Diſorders, it affords a moſt certain Relief; and laſtly, that its Uſe anſwers all poſſible Intentions, as well *preſervative* as *curative:* But ſince there is a great Difference between different Waters, we are carefully to inquire which are beſt calculated for anſwering this Medicinal Intention; for ’tis not to be deny’d, that the Nature and Properties of particular Waters differ ſo far as to be eaſily diſtinguiſh’d, even by the Taſte of ſuch as accuſtom themſelves to drink Water. But the beſt Way of diſtinguiſhing them is by Chymical Trials, their Weight, and mixing them with different Subſtances. It muſt not be imagined, that Water is an homogeneous Fluid; there are numerous Experiments that manifeſt it to be a Mixture of different Parts. Thus all Waters contain an aereal or æthereal Principle, whereon their elaſtic Property ſeems entirely to depend; for all Waters are more or leſs expanſive and contractive, as they contain more or leſs Air or Æther. This evidently appears in the Water-thermometer, where the included Liquor poſſeſſes a greater or leſs Space, according to the greater or leſs Degree of Heat it ſuſtains: For ’tis the Nature of all Liquors to admit a great Quantity of æthereal Fluid when they are heated, and again reject it when they are cool’d; as we know by particular Experiments, made in a very ſevere Winter. The Quantity of Air or Æther reſiding in Water cannot perhaps be better determin’d than by means of the Air-pump; for the more ſubtile Waters, included in an exhauſted Receiver, throw up numerous Bubbles, and, if ſomewhat heated, flow over the containing Glaſs; as, on the contrary, thoſe which are groſſer, and more ponderous, afford fewer Bubbles *in Vacuo*.

Waters alſo appear to conſiſt of a lighter and a heavier Part; and the former, as being more moveable, eaſily riſes firſt in Diſtillation; whilſt the heavier and groſſer Particles require a greater Degree of Heat to bring them over: Whence ’tis obſervable, that Waters loſe their more ſubtile Parts in boiling, and leave the cruder and leſs uſeful ones behind, as is known to all thoſe who are curious in the making of Coffee; for if the ground Berries are put into Water, that has long been boiled, the Liquor, ſo made, becomes leſs quick and pleaſant to the Taſte. It has alſo been obſerved, that ſome Waters riſe much faſter than others in Diſtillation. Waters alſo differ extremely in their Gravity, as appears by the Water-poiſe, thoſe which abound with Earth and Salts cauſing the Inſtrument to riſe higher than ſuch as are pure: But Diſtillation is one of the beſt Ways of diſcovering the Purity of Waters; as not only rendering the Quantity, but alſo the Quality, of the Contents evident to the Senſes. ’Tis ſurpriſing to ſee what a large Maſs of earthy or ſtony Matter remains, upon the Diſtillation of ſome Waters. I once diſtill’d two Quarts of Spring-water, in a Glaſs Body, to Dryneſs, repeating the Operation ten times in the ſame Veſſel; and by this means obtain’d a hard ſtony Cruſt at the Bottom, as thick as the Back of a Knife. Moſt Waters contain a chalky Earth, ſome an Oker, others a ſtony Matter, and others again a Proportion of common Salt. But the true Way of examining whether Waters are impure, or contain any foreign Matters, is by the Means of Chymical Experiments; two whereof I have ſingled out for my own Uſe, and recommend, as exactly diſcovering the Purity or Impurity of Waters. The firſt is, by dropping Oil of Tartar into them; and the ſecond, a Solution of Silver in *Aqua-fortis*. If the Waters are pure, ſuch as Rain-water, Water diſtill’d, and ſome Sorts of Spring-water, they manifeſt no Alteration upon mixing with theſe Liquors; but if impure and groſs, they turn milky with Oil of Tartar, eſpecially if they abound with a chalky Earth; and the Solution of Silver turns impure Waters thick, grey-colour’d, and, if th participate of Iron, almoſt red.

The Effects of Waters alſo manifeſt their Nature, Subtilt and Purity: Thus, thoſe that are light and ſoft ſerve beſt mollifying the Bones of Animals, and the Boiling of Sea-fi The Whitſters and Bleachers find a remarkable Difference Waters; the ſofter and fatter Sorts thereof ſerving better waſh and blanch, than ſuch as are ponderous, hard, and ta Soap with Difficulty. The Bakers find, that the more ſoft a ſubtile Waters make their Bread riſe well. The Gardeners ſerve, that ſuch Waters as are light, ſubtile, and ſpirituous, much better to water their Beds with, than ſuch as are ha The Maſons, Makers of Terrace and Figures in Plaſter of *Par* find hard Water the beſt for their Purpoſe; and can ſcarce w with ſuch as is ſoft, ſo as to give their Matter its due Stren and Firmneſs. The Chymiſts find a great Difference in W ters; thoſe of Rain being beſt ſuited to waſh and edulco their Magiſteries and Metalline Powders, *viz.* the Calx of G Silver, the Caput Mortuum of Vitriol, *&c.* as readily drinki in the Salts that hard Spring-waters will ſcarcely touch. daily obſerve, in the domeſtic Operations of Brewing, W ing, the making of Tea, *&c.* that the more ſubtile ſoft River-waters are better for theſe Purpoſes than Spri water.

But for Medicinal Purpoſes we prefer Rain-water, as wh naturally diſtill’d by the Sun, and thus render’d ſubtile, and ter for Solutions, Infuſions, Extractions, and all internal U Only this Water, being mix’d with various mineral, vegeta and animal Exhalations, is thence render’d eaſily corruptibl expoſed to the free Air, or ſuffer’d to ſtand long in Veſſel Wood. The Rain that falls in the Month of *March* is durable, as not then receiving ſo many Effluvia. The b to fit this Water for Medicinal Uſe, ’tis proper to keep i earthen Veſſels, cloſe ſtopp’d down: And thus if it be lected, not in Cities and Towns as it runs from the Spout Houſes, but in the open Fields, it may be kept ſound and viceable for ſeveral Years.

Next to Rain-water, in point of Goodneſs, comes th Rivers: But as Rivers proceed from the Springs ſituated in and mountainous Places, and as Rains increaſe theſe Spr which, running over vaſt Tracts of Land, drink up many ferent Matters from the Earth; hence Rivers become turbid and impure, the larger Tracts of Land they wa their Courſe. Add to this, that they take up numerous rogeneous Parts from the Bottom they run upon, whence often ariſes a conſiderable Difference betwixt Rain and R water. Laſtly, Rivers, being perpetually expoſed to the Air, and the Action of the Sun, have their more ſubtile exhaled and raiſed into the Atmoſphere, ſo as to ſuppl Matter of Clouds and Rain.

There is likewiſe a great Difference between the Wat Rivers; for thoſe that have a ſwift Courſe, or run vio down from the Mountains, where they riſe, into the Plains, are very different from thoſe where the Cou ſlack and gentle, and which riſe in lower Places. the rapid Rivers uſually afford a light and ſubtile Water greatly ſubject to Corruption; tho’ ſomewhat improper f feeding and nouriſhing of Fiſh, becauſe the Rapidity of Motion prevents the Spawn of the Fiſh from clinging to Banks, ſo as to be there animated by the Heat of the Sun. tho’ theſe Rivers of ſwift Courſe do not greatly abound Fiſh, yet thoſe they produce are well-taſted and excellent: the *Rhine* and the *Rhone*, which riſe from the higheſt tains of the *Griſons* Country, are found to be much than the Waters of other Rivers. And ’tis remarkable the Ships coming out of the River *Meyne* into the *Rhine*, much more Water in the latter: And hence the Waters *Rhine* and the *Rhone* appear, upon Hydroſtatical Exami nearly to approach the Lightneſs of Rain-water. And theſe Rivers are very rapid, their Waters are hence rende corruptible, and therefore allow’d, for internal Medicin to excel the Waters of all other Rivers. Thus we are from a good Writer upon the Water of the *Rhone*, th

“ it be kept in Wine-cellars, put up into large earthe
“ ſo as there to depoſit its Sediment, for ſome W
“ Months before ’tis drank, it thus becomes pure and
“ lent; and will afterwards keep many Years, or e
“ Age, without ſpoiling or corrupting.” *Jacob. S Obſervation. circa Aquam Rhodan. in Act. Erudit. Ann. p.* 519.

The Rivers that flow gently, differ from the form only on account of the immenſe Quantities of Fiſh they but alſo becauſe they generally run on fat and clayiſh B or ſuch as afford proper Bedding and Nutriment to Fiſh; ſuch Rivers are not ſo clear and cryſtalline as thoſe of Courſe: But then ſuch Waters are of a ſofter Natu ſerve for the Purpoſes of Waſhing, Fulling, Scouri without any conſiderable Addition of Soap. From may eaſily appear, that Rivers are not at all alike, o fit for Medicinal Uſe: Thoſe to be choſen for this Pu lear, light, do not eaſily corrupt, and receive no Alteration upon the Addition of Oil of Tartar, or any metalline Solution. It muſt be conſtantly obſerved, that Rivers of a rapid Courſe are univerſally more wholſome than thoſe which flow ſlow and gentle.

Spring-waters are alſo ſometimes obſerved to differ in their Virtues; for according to the different Nature of the Soil and earthy Matters they meet with or imbibe, they receive a different Nature and Diſpoſition; whence we ſeldom find Springs of a perfectly pure and light Water. The greateſt Part of them leave a copious earthy Subſtance upon Diſtillation. There are but few that do not turn thick with metalline Solutions, or alcaline Salts: ome of them contain common Salt; and others a ſubtile, olatile Vitriol. If they hold common Salt, Oil of Tartar will iſcover it, by turning milky therewith: If they contain a itriolic Principle, the Infuſion of Galls, or Balauſtines, will anifeſt it by turning black. There are others again, that ontain ſomewhat of Iron, and thence have a ſtyptic Taſte, d let fall an Oker upon ſtanding. 'Tis therefore the Buſineſs f Art and Induſtry, out of ſo large a Number of Springs herewith Nature ſupplies us, to diſcover the wholſomeſt, hich are known by their Lightneſs, Tranſparency, Purity, urability, and the Trials above-mention'd. This Difference Spring-waters muſt alſo be obſerved, that ſome are ſoft, and hers hard, the latter whereof are the moſt durable, and indiſſed to freeze; whereas the former more eaſily turn to Ice. hey are both of them wholſome and medicinal, if properly ted to the Diſeaſe and Conſtitution of the Drinker or Pant.

Having thus ſhewn which Waters are beſt fitted for Medici- Uſe, and how they are to be diſtinguiſh'd and examin'd, we w come directly to prove the Excellence and univerſal Virtue pure Water: Our firſt Poſition is, That pure and light Wa- are agreeable to the different Natures and Conſtitutions of Men; for ſince the Circulation of the Fluids thro' the als, and fineſt Veſſels, is what preſerves and ſecures the Body Corruption, and keeps the Blood and Juices in a thin, eable State, Water muſt neceſſarily be appropriated to the ntinuance of Life. The Fluids of the Body, ſerving to Nutri- and the vital Offices, and whereof the Solids alſo are com- d, actually conſiſt both of Solids and Liquids: That there olid Parts contain'd in the Blood, is evident upon drying it; that theſe Parts are of different Natures, ſome ſaline, others uous, ſome mucilaginous, and others earthy, appears to Senſes, by the inflammable Property they have upon Eva- tion, and other Chymical Experiments. In ſhort, they are mber of heterogeneous Parts united into one Whole, which y corruptible, when put into a State that fits it for Cor- on; that is, a State of Warmth, Reſt, and Moiſture. To nt the Fluids from thus corrupting, and conſequently in- g and changing all the other Parts of the Body, it is neceſ- they ſhould never ſtagnate or collect together, otherwiſe uption would immediately enſue: Whence theſe ſubtile, Particles, both unctuous and earthy, ſhould not only be in perpetual Motion among themſelves, but alſo circulate rogreſſive Motion through the fineſt Tubes of the Body, he ſolid Parts of the Blood may be divided into extremely Globules, by the Motion of Attrition, or Action and Re- between the Juices and the fibrous Parts. Whence ap- the Neceſſity of an aereal, æthereal Fluid, and elaſtic ple, along with a large Quantity of an aqueous Fluid; the Neceſſity of pure Water, to ſecure this indiſpenſa- ect. And hence it is, that, upon examining the Blood from a Man in Health, we find, at leaſt, two Parts of d, for one of a dry and ſolid Matter; for I have fre- y obſerved twelve Ounces of Blood to contain eight s of a liquid, and four of a ſolid Subſtance. Again, e Blood contains a large Quantity of a ſubtile, aereal, hereal Principle, manifeſtly appears from its Bubbling *in* ſo as to run over the Edges of a cylindrical Glaſs, f it at firſt poſſeſſed only one half. From the Whole r, that nothing is more wholſome, nothing better fitted, e neceſſary to preſerve Life, than Water; which is ſo le to the Nature of the human Body, and without t can neither ſubſiſt, nor Life be long preſerved.

next Poſition is, that no Remedy can more effectually Health, and prevent Diſeaſes, than pure Water. If we inquire into the Cauſe of Health, we ſhall find it to be ble and free Circulation of the Juices through all the f the Body, even the fineſt, that lead to the Excretory For by this means it is, that what proves ſerviceable or Nutrition, remains within, ſeparated for Uſe by the trainers; and what would either prove uſeleſs, corrupti- inconvenient to the Body, is diſcharged. And here it the utmoſt Attention, that the Excretions of the Body o directly, ſimply, and abſolutely regard Life, as they y regard Health, and the Exerciſe of all the Functions ces, inſomuch that Health, and even Life itſelf, may be ed, without any Fault in the Excretions. Thus 'tis obvious, that from violent Paſſions of the Mind, extreme Pain, Inflammation of the Stomach, and the ſwallowing of Poiſons, the natural Functions of the Body are ſtrongly diſordered. Neither in the moſt obſtinate Chronical Diſeaſes are the Excretions ſo much to be regarded, as the Obſtructions of the glandular Parts, the Indurations, Corruptions and Sphacelations of the Viſcera, and Extravaſations of the Humours: So likewiſe in Acute Diſtempers, the inflammatory Diſpoſition of the Blood is principally to be regarded. 'Tis therefore an equable Motion of the Blood and Juices that maintains Health, promotes the Excretion of unneceſſary Subſtances, affords a convenient Nutriment to the ſolid Parts, and procures to the Nerves and Fibres that moſt ſubtile Fluid, by means whereof they feel and move. But whenever this free and equable Motion is obſtructed, whether by an Over-charge of Humours, their Viſcoſity, or by Weakneſs in the Spring or Tenſion of the moving Fibres, it becomes an immediate Occaſion to Diſeaſes, eſpecially thoſe we term Chronical; for from theſe Cauſes proceed Stagnations of the Juices in the larger and ſmaller Veſſels, Obſtructions in the Excretory Ducts, and Indurations in the Glandular Parts; theſe are ſoon followed by great Impurities of the Juices, cauſing Pains and ſpaſmodic Diſorders; and not long after, by Putrefactions, which are the Bane of Health, and the direct Oppoſite to Life. And thus are the true Cauſes of Diſeaſes formed in the Body.

Every one who perceives the Juſtneſs of this Deſcription, will readily grant, that a proper Fluidity of the Blood is highly neceſſary, to procure a free and equable Circulation; by means whereof the Veſſels are kept always open, Obſtructions prevented, Excretions ſecured, Stagnations and Impurities of the Juices hindered, and the Cauſes of Diſeaſes cut off. And whether there be in Nature a better diſpoſed Remedy for procurirg this neceſſary Fluidity to the Blood, we leave to the Judgment of ſober and experienced Phyſicians. To us it appears, that a pure and ſubtile Water exquiſitely divides the ſolid and viſcid Parts of the Blood and Juices, ſo as to prevent their coagulating, or coming together; at the ſame time that it drinks up the uſeleſs and recrementitious Matters of various Kinds, whether earthy, ſaline, or unctuous, and diſcharges them by the proper Outlets.

And hence, we conceive, proceeds the Reaſon why Drinkers of Water, provided it be pure and excellent, are more healthy, and longer lived, than ſuch as drink Wine, or Malt Liquors; and why it generally gives them a better Appetite, and renders them plump and fleſhy. For certainly Water is a moſt appropriated Menſtruum to diſſolve the Aliment, extract its Chyle, or nutrimental Part, and carry it through all the innermoſt and fineſt Canals of the Body. Beſides this, it readily waſhes off and diſſolves that tough viſcous Slime, which lines the glandular Coats of the Stomach, and Duodenum, whereby the diſſolving Juices of the Inteſtines, which are the immediate Inſtruments of Digeſtion, may more plentifully mix with the Food, and perform their Office. There goes a common Opinion, that the drinking of Water is pernicious to thoſe who eat Fruit: But this is a great Miſtake; for in *Spain*, *Portugal*, and *France*, Water is the common Liquor; and yet thoſe Nations freely eat Fruit all the Summer, without any Inconvenience. Again, thoſe who drink Water, are obſerved to have much ſounder and whiter Teeth, than others; for Putrefaction and Corruption of the Teeth is cauſed by the Scurvy, a Diſeaſe prevented by the drinking of pure Water, which actually cleanſes and waſhes the Blood, and diſcharges the Foulneſs thereof. Add to this, that the Drinkers of Water are much briſker and more alert to all the Actions both of Mind and Body, than ſuch as uſe Malt Liquors, the greateſt Parts whereof produce clammy, viſcid, and ſluggiſh Juices, hardly capable of paſſing through the exquiſitely fine Veſſels of the Brain and Nerves; whence enſue Indolence, and Weakneſs of the Body, and an Indiſpoſition and Dulneſs of the Limbs, both to Senſe and Motion. And as this plainly appears to be Matter of Fact, 'tis the more ſurpriſing, that the drinking of pure Water, which is ſo conducive to the Preſervation both of Life and Health, ſhould be ſo perverſly, and, as it were, unnaturally nauſeated by the People of our Country, whilſt it is as ſtrongly coveted and admired in other Nations. Such Malt Liquors as are thick, and highly nutrimental, lay the Foundations of many Diſorders among the Inhabitants of Northern Countries, more particularly where the Uſe of Brandies, Spirits, and Strong Waters, prevails. It is certainly much better for all Perſons of delicate Conſtitutions, and ſedentary Lives, to accuſtom themſelves to the drinking of the fineſt and pureſt Water, either alone, or mixed with Wine, to render it more acceptable.

Having thus conſidered the ſingular Efficacy of Water, by way of Prevention, we come next to examine what it will perform in the Cure of Diſeaſes. Phyſicians divide all Diſtempers into Acute and Chronical. Of the Acute Kind, the principal are Fevers; which from the Structure of the Body, and the Laws of Motion, appear to be an Increaſe of the Blood's Velocity and Force, ſo as to diſtend both the ſolid, or fibrous and fluid Parts of the Body beyond their natural Size; this Increaſe of Motion having a Tendency either to overcome and diſcharge the Cauſe of the Diſorder, or to deſtroy the Machine itſelf. Whence there enſues either Recovery, Death, or a Depravation of ſome Parts of the Machine, when the Diſeaſe terminates in another. And thus Nature, which is often her own beſt Phyſician, ſometimes alſo produces Diſeaſes and Death. But here we muſt by no means confound the rational Soul with Nature, which is a Word we uſe to ſignify the Structure, Mechaniſm, and Contrivance of the Body, acting with certain Powers, according to certain neceſſary and mechanical Laws, aſſigned it by its Maker. A Phyſician therefore, in the preſent imperfect State of Medicine, can do no more than ſupply a proper Matter to this augmented Motion in continued Fevers, during the whole Time they thus regularly continue; for they have their own natural Periods, that cannot hitherto be ſafely ſtopped by Art. This increaſed Motion and Diſtention is attended with a great Heat, which violently diſſipates the fluid Part of the Blood and Juices, ſo neceſſary to Life; whence the principal Intention is to ſupply this fluid Part, in proportion as it waſtes. And as the Tendency of this increaſed Motion is to break through the Obſtructions, that cauſe the Diſorder, the Blood can by no means make its way, unleſs ſufficiently thinned and diluted with a proper Fluid; but, thus aſſiſted, it may allay the Heat and Inflammation, propel the ſtagnating Juices, and diſcharge the offending Matter that cauſes the Miſchief. And Experience ſhews, that if Water be not the only thing, there is no better Remedy yet found for this kind of Fever, than a free and large Uſe thereof. Whence *Hippocrates*, and others, highly recommend an aqueous Ptiſan for this Purpoſe. And accordingly, by this alone, with the Aſſiſtance of Reſt, and temperate Warmth, the moſt violent Fevers have frequently been cured, without any other Medicine. All that the beſt Phyſicians do in theſe Caſes, is either to bleed at the Beginning, where the Body is full; or to exhibit an Emetic, if the Diſtemper is ſeated in the firſt Paſſages; or to preſcribe a Sudorific, in order to expel the offending Cauſe, in the moſt expeditious manner; but after this, through the whole Courſe of the Diſtemper, they give nothing more than cooling, moiſtening, and perſpirative Remedies. The Caution required in the Uſe of Water for this Diſtemper, is not to give it too cold, eſpecially near the Criſis, and when there is Reaſon to fear an Inflammation in the firſt Paſſages, nor when the Body is ſtiff and rigid, and the external Parts parched and bound up; but to wait for the Time when there appears a Diſpoſition to ſweat; for then 'tis ever proper to give Water in a large Quantity.

This is agreeable to the Advice of the beſt Phyſicians, and particularly inſiſted on by *Lommius*, in his excellent Diſcourſe of Fevers.

Thoſe called Chronical Diſeaſes generally ariſe from an Obſtruction of the Viſcera and glandulous Parts, or a Surcharge and Foulneſs of the Juices, with a Stagnation thereof in the larger Veſſels; all which, according to the Rules both of Reaſon and Experience, are therefore to be removed in order to a Cure: But to procure this Effect, there is not a more ſerviceable Remedy than pure Water. How eminently ſerviceable the Medicinal Waters, both of hot and cold Springs, are, for this Purpoſe, is a thing manifeſt by Experience. But the greater Part of their Efficacy, in this reſpect, is, beyond all Diſpute, owing to the Quantity of pure elementary Water they contain; for it were inſignificant to exhibit in theſe Diſtempers the mineral volatile Spirit, and the Salt, which ſuch Waters contain, without that purely aqueous Part. And accordingly there are numerous Inſtances of pure and light Water, which, without containing any Mineral Ingredients, prove of extraordinary Efficacy in the Cure of Chronical Diſeaſes. The Effect therefore can poſſibly be aſcribed to nothing elſe, but the pure Water. Of this Kind there are numerous Springs in *Germany*, the Waters whereof, being pure and ſubtile, tho' plentifully abounding with Air and Æther, prove curative of moſt Chronical Diſtempers; particularly the Stone, the Gout, the Rheumatiſm, the Scurvy, and Weakneſs in the Limbs; and by procuring the requiſite Fluidity to the Humours, they remedy Suppreſſions of the Hæmorrhoids and Menſes.

As there is therefore ſufficient Reaſon to perſuade us, that the Wholſomeneſs of many Springs depends upon the Goodneſs of their Waters, it follows, that where other pure Waters are procurable, theſe likewiſe will have the ſame Effects. And this alſo is confirmed by Experience, as may appear from the Teſtimonies of *Riverius*, *Oper. Lib.* 4. *Cap.* 24. *Celſus*, *Lib.* 1. *Cap.* 15. *Ballonius*, *Lib.* 1. *Epidem. p.* 106. *Sylvaticus*, *Cap.* 1. *Obſervat.* 1. *Martianus*, *Rondeletius*, *Aviſenna*, *Lib.* 1. *Sect.* 2. *Cap.* 16. *p.* 102. and others, who ſhew, that the drinking of Water has cured Obſtructions of the Menſes, the Head-ach, Ophthalmias, Colds, Rheums, Inflammations, the Gout, the Colic, *&c.* being uſed either cold or warm, as the Stomach can bear, or the weak State of the Nerves requires.

Of what ſingular Efficacy pure hot Water is, both by way of Preſervative and Cure, appears from the Nature and Uſe of Tea-drinking: For 'tis certainly a Miſtake to attribute a the good Effects of Tea to the Leaves of the Plant. Th principal Virtue of this Infuſion is doubtleſs owing to th Quantity of the pure hot Water employed in the Making whilſt the Herb by its Aſtringency prevents the Fibres of th Body from being too much relaxed and weakened thereby Therefore, as numerous Diſeaſes are attended with a ſtron Contraction of the Fibres, all Phyſicians, who are well verſe in Practice, will be cautious of indulging too free an Uſe this aſtringent Ingredient in ſuch Caſes.

That Tea is an Aſtringent or Styptic Plant, appears by ſeve ral Experiments, as particularly becauſe, like Oak-bark, B lauſtines, and other aſtringent Vegetables, it turns inky with Solution of Iron, or the Chalybeate Waters. See THEA.

And, to ſpeak a ſerviceable Truth, we have in our ow Country many Plants, whoſe Virtues far exceed thoſe of t *Indian* Tea: And Choice ſhould be made of theſe Plants f Medicinal Uſe, according to the Difference of Diſtempe Thus, for Example, in Diſeaſes of the Breaſt, Paul's Beto is proper; common Betony, in Diſorders of the Nerves; Bau and Penyroyal, in Diſorders of the Uterus; Ground-ivy, Ulcers of the Kidneys; Buck-bean, in the Scurvy, *&c.* bei ſeverally made into Tea, with the pureſt Water, and drank h Again, common Chamomile may be advantageouſly uſed in t way of Tea, againſt the Colic; Parſley, in the Stone; t Ranunculus, in the moiſt Aſthma. Roſemary Tea is by ma recommended as excellent in nervous Diſeaſes, *viz.* the E lepſy, Palſy, and Apoplexy; and for defending the Body, a preventing the catching of Cold; eſpecially if made with Flowers of the Plant. But, in all Tea, 'tis a Caution of M ment, that the Water deſigned for the Infuſion be not l boiled, but immediately poured upon the Plant as ſoon as ſimmers ſtrongly, in order to prevent the Loſs of its more ſ tile Parts.

It remains, that we ſhew Water to be an univerſal Reme as it agrees not only with all Conſtitutions, but in all the In cations of Diſtempers. And, firſt, the Drinking of Wate ſerviceable in every Complexion. In the Sanguine, and th of a ſoft Habit of Body, who have but few of the fineſt k of Veſſels, it cauſes the Blood and Juices to circulate free which in this Conſtitution would otherwiſe flow but ſlow and ſo be ſubject to generate Obſtructions in the Viſcera. bilious Habits, where the Humours are in briſk Motion allays the exceſſive Heat, which would otherwiſe evaporate unctuous Parts of the Blood through the widened Tubes Pores of the Body. It likewiſe proves extremely ſervicea by diluting and thinning the Viſcidity of the Blood and Jui in Perſons of melancholy and phlegmatic Conſtitutions.

Again, Water proves agreeable to Perſons of all A Children are frequently ſubject to violent Diſorders from Viſcidity and Acrimony of the Milk they feed on, in w Caſe, beſides Abſorbents, diluting aqueous Remedies are great Service. In Youth, the Surcharge and Thickneſs of nutritious Humours produce various Diſeaſes; ſuch as C and Eruptions of the Skin, which are excellently remedie the Uſe of diluting Liquors. And the ſame holds true of Diſeaſes of grown Perſons, and Perſons in Years; in all w the drinking of Water is ſerviceable. For Men of full Gro are very ſubject to Inflammations and Fevers, and old Me ſuch Diſorders as proceed from Stoppages and Obſtructions which Circumſtances, there can nothing be given more p than the fineſt Water, either hot or cold. We find, by daily perience, what ſevere Diſorders are occaſion'd by Irregulari the Menſtrual and Hæmorrhoidal Flux, to reduce which to natural Periods, and preſerve them in their proper Courſe, convinced from practical Obſervations, that nothing is m effectual than diluting aqueous Remedies.

'Tis well known, that a Fulneſs of Blood and Juices br on many Diſtempers; but, to prevent this Fulneſs, the appropriated thing is hot Water, made into an Infuſion Herbs; which thus, by diſſolving the glutinous Humours, vents the Maſs of Blood from increaſing too faſt. A free of Water is no leſs ſerviceable in purifying bad Juices; readily waſhes off their impure ſaline, and droſſy Parts, thr all the excretory Paſſages of the Body. Beſides this, the dr ing of Water promotes all the Evacuations, preſerves the ſoluble, keeps the urinary Paſſages open, waſhes and cle the ſame from the Adheſion of gravelly or ſtony Matter, powerfully promotes that moſt healthy Diſcharge of inſen Perſpiration. Laſtly, Water is the effectual Vehicle o other Remedies. Thus Antiſcorbutics, and vegetable M cines appropriated to cleanſe the Blood, prove of little Se in correcting the Depravities of the Humours, unleſs by Aſſiſtance of Water their Virtue be carried into the Juices remote Parts of the Body, in the Form of Decoctions o fuſions. To ſum up all, in whatever Caſes there is a Nec either for altering, evacuating, opening, or reſolving, W is at all times the beſt of Remedies.

As Water is thus extenſively uſeful, it may be proper t ſerve, that they who cannot procure the pureſt and beſt

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hereof for Medicinal Uſe, muſt ſerve themſelves with ſuch Rain or River-water as can be had ; but if theſe be not obtain- ble in tolerable Purity, the beſt way is to diſtil them ; or elſe, pon a ſlight boiling, to correct them, by the Addition of cal- in'd Hartſhorn. It is doubtleſs a ſingular Benefit of Nature, o have large Cities and Countries well watered with wholſome prings, which thus bountifully ſupply ſo much better Remedies han thoſe of the Shops. If every prudent and diſintereſted Phy- cian would carefully examine into the Waters of the Place here he reſides, he might thence aſſuredly practiſe more to he Satisfaction of himſelf, and Service of his Patients, than in he common way, by the miſcellaneous Uſe of numberleſs un- ertain Remedies. *F. Hoffman.*

From what has been ſaid above, the great Uſes and Advan- ages of drinking Water, both with reſpect to the Prevention nd Cure of Diſeaſes, will be ſufficiently evident to every intel- ent Reader. I ſhall now proceed to conſider diſtill'd aters.

Of Diſtilled and Medicated Waters.

The Waters ordered to be kept in the Shops are either *ſim- e*, *compound*, or *medicated*. There are ſeveral ways of pro- uring ſimple Waters from Plants by Diſtillation, ſuited to the Natures of the particular Vegetables made uſe of. The Inſtru- ents uſually employ'd in the Diſtillation of ſimple Waters, are f two Kinds, commonly call'd the hot and the cold *Still.* he Contrivance of the firſt of theſe is ſufficiently in every one's cquaintance, ſo as to want no Deſcription ; and the Reaſon hy it hath been called the cold Still, ſeems to be, becauſe no ore Heat is required than to raiſe a Vapour, which is returned own ſlowly by Drops into a Receiver. The other is a Copper eſſel, worked by a ſtrong Fire, which boils the Materials, d ſends over the moſt volatile Parts in an hot Steam, which condenſed, and cooled in its Deſcent by a long ſpiral Pipe, ntained in a Veſſel of cold Water, called its Refrigeratory, om whence it falls in a continual Stream.

The firſt of theſe ſeems beſt fitted to draw off the Virtues of oſe Simples, which are valued for their fine Flavour when een, which is very ſubject to be loſt in drying. Thus Baum, eadow-ſweet, damaſk or white Roſes, and all things of the e Properties in this reſpect, give over much finer ſcented aters this way, than by the hot Still ; the Heat there re- ired, and the Quantity of Water neceſſary to prevent their rning to the Still, very much injuring their natural Flavours. t when thus managed, they require no Water to be put to em, nor to be bruiſed, but ſhould be committed to the Still, t as they are freſh gathered ; and as much is to be drawn off their natural Moiſture will allow ; the Fire required in this ſe being not ſufficient to cauſe an Empyreuma, becauſe it is y juſt enough to make the Top of the Still moderately warm. hoever hath ſeen what in the Shops is called a Roſe-cake, y eaſily conceive in what Condition the Materials are left, ich are thus diſtill'd. And as to the Damaſk-roſes in parti- lar, after they have been thus treated, they will give to a De- ction all their purgative Virtue, and make the Syrup ordered th them better than when managed any other way. And it not only very remarkable concerning Materials thus to be or- red, that they are hurt by the leaſt Mixture of Water, which kes it a Rule to gather them dry, whilſt the Sun is upon m, and commit them forthwith to the Still, in order to have ir Scents in Perfection ; but that even bruiſing them deſtroys ir fine Flavour, as any one may be eaſily convinced by Trial. *rhaave*, however, directs theſe Vegetables to be gather'd th the Dew upon them.

But the latter Contrivance of the hot Still ſeems beſt calcu- ed to raiſe thoſe Materials which have vigorous, ſtrong Scents, d which will not be injured by Fire, or any Mixture of com- n Water with them, ſuch as Hyſſop, Penyroyal, and the e, which from their natural Production have ſomething hot d fiery in them. But then we are taught by common Expe- nce, that theſe give over their Virtues this way much better en dried, than when green, as every one may obſerve in In- on or Decoction of theſe things ; for, when green, they make er of them more foul, and yield leſs Taſte of the Plant, than en dried ; and the Water ſo drawn hath the ſame Diſad- tages.

That Diverſity in the Materials coming under this Manage- nt, which requires ſuch different Treatment, ſeems chiefly conſiſt in this : The lighter and finer ſcented Plants, whoſe ural Flavours cannot be preſerved to them in drying, and ch we moſt covet to preſerve in their diſtill'd Waters, are ordered by a ſlow Heat, without any Mixture ; becauſe by ir drying, it appears, that their proper Juices are the beſt and Vehicles for thoſe Flavours. But Things, whoſe Scents Medicinal Properties conſiſt in ſomewhat more groſs and d than will exhale with their natural Moiſtures, do better out to common Water, by Infuſion, thoſe very Parts ch we want to force from them by Diſtillation ; and in no- g are we more obviouſly directed by Nature, than in this cedure. Where we want to blend ſomething into this Form, that is ſo light and volatile, as not to ſubſiſt in open Air any longer than it is in its Growth, it is certainly beſt removed from the Condition Nature left it in, into an Inſtrument, where, as it dries, thoſe volatile Parts can be collected and preſerved. And what we call the cold Still is ſuch an Inſtrument, where the drying of the Plant or Flower is only forwarded by a moderate Warmth ; and all that ariſes from it, is ſaved for the Purpoſes of Medicine. But when what we want from a Plant is not volatile enough to riſe with its natural Juice in leiſurely drying, it is highly reaſonable to think this way inſufficient to raiſe it, and therefore we muſt have recourſe to ſuch Means as have been taken Notice of in the other Proceſs of the hot Still. *Quincey's Prælect.*

An Example of a Water procur'd by the cold Still, from Boerhaave.

Take Roſemary, freſh gather'd, in its Perfection, with the Morning Dew upon it, and lay it lightly and unbruiſed upon the broad round Plate within the common cylindrical Furnace, the Plate being firſt made clean, and fixed at the Height of two or three Inches. Then cover the Furnace with its large conical Still-head, and apply a Glaſs Receiver to the Noſe thereof. In the Fire-place of the Furnace put a lighted Coal, that does not ſmoke, and raiſe an equable Degree of Heat, not exceeding eighty-five Degrees on *Fahrenheit*'s Thermometer ; and let this Heat be kept up ſo long as any Liquor comes over. Then takeing away the Plant, put in freſh, and proceed as before ; continuing to do this ſucceſſively, till a ſufficient Quantity of the Water be procured. Let this diſtilled Liquor be kept at Reſt, in a clean Glaſs, cloſe ſtopped, for ſome Days, in a cold Place ; whereby it will become limpid, and have the Taſte and Odour of the Plant.

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In this Water are contained the Liquor of Dew, conſiſting of its own proper Parts, which are difficultly ſeparated from the Plant, and cleave to it even in the drying. This Dew alſo, by ſticking to the Outſide, receives the liquid Parts of the Plant, which being elaborated the Day before, and exhaling in the Night, are hereby detained ; ſo that they concrete together into one external Liquid, which is often viſcid, as appears in Wax, Manna, Honey, *&c.* This Water alſo contains the Fluid which exhales from the Veſſels of the Roſemary, and which principally conſiſts of ſimple Water, as appears upon long ſtanding in an open Veſſel, when the Taſte and Odour vaniſhing, leave an inſipid Water behind. Another Part of this Water is that ſubtile, volatile Subſtance, which gives the Plant its peculiar Taſte and Odour ; for theſe the Senſes diſcover in it ; but the Remains of the Proceſs ſcarce afford any thing thereof. This ſame Water ſeems alſo to contain Seeds, or other little Bodies, which in a certain time uſually grows into a kind of thin, whitiſh Weed, ſuſpended in the Middle of the Water ; and, daily increaſing or ſpreading itſelf, becomes a Mucilage, which did not appear at firſt.

I have kept theſe Waters undiſturbed in ſeparate well-cloſed Veſſels, and obſerved, that in a Year's time, they began to appear thick, which Thickneſs gradually increaſed every Year, till at length the whole Liquor grew roapy or mucilaginous. Hence this Water contains the elementary Water, and preſiding Spirit of the Plant, a Spirit ſmall in Bulk, but rich in Virtue, and exhibiting the ſpecific Smell and Taſte of the Subject. This Water, therefore, in exhaling, proves a Vehicle to that Spirit which contains in a ſmall, ſubtile, extremely volatile, and thence eaſily ſeparable Subſtance, the particular Virtue of the Plant, leaving the Remainder exhauſted in this reſpect : And hence proceeds the Medicinal Virtue of theſe Waters, which principally depends upon their native Spirit. For this Spirit, having a briſk Mobility in moſt Plants, affects the Nerves, and raiſes the Spirits in caſe of their Depreſſion. But beſides this common Principle of Action, Plants have another peculiarly appropriated to each, and of wonderful Efficacy : This, in the Language of *Paracelſus*, is called their *Appropriated Eſſence.*

The odoriferous Scents, both of Lavender and of Baum, agree in this, that they excite the languid Nerves ; but the Smell of Lavender, beſides this, has another particular Virtue, and ſo has Baum. From the Virtue of Plants proceed wonderful Effects in the Body, which can only be learnt from a faithful Hiſtory of Plants, where their Virtues, founded upon Experience, are delivered. This peculiar Virtue has often a contrary Effect to the common. The *Indian* Hyacinth has an extremely fragrant Odour, but excites ſtrange Spaſms in Hypochondriacal Men, and Hyſterical Women. Rue alſo diffuſes a very ſtrong Scent, which cures the Spaſms occaſioned by the former Odour.

We muſt alſo obſerve, that human Induſtry has diſcovered, that this fine Vapour of Plants is productive of thoſe ſtrange Effects occaſioned by vegetable Concretes, as well in the way of Evacuants, as Alteratives; becauſe if this alone be totally ſeparated from Medicinal or Poiſonous Plants, the Remainder, tho' without almoſt any ſenſible Loſs of Weight, loſes all that Efficacy. Hence a Chymiſt ſhould be cautious and reſerved in aſſigning the Virtues of theſe Waters, and learn for ſome time before he pronounces with Certainty. From theſe Obſervations we may ſay, that theſe Waters will frequently cure Fainting, and prove agreeable in the way of Perfume; for nothing more directly proves more refreſhing, and enlivening to the Brain and Spirits, than ſuch a Water of Baum or Rue, each of them full of the reſpective Spirit of the Plants.

If the Veſſel be cloſe ſtopped, and ſet in a cool Place, the Waters will retain their Virtues for a Year; but if negligently kept, or any Crack ſhould happen in the Glaſs, their extremely volatile Spirit ſecretly flies off, and leaves the Water vapid. Our Experiment alſo ſhews us, what it is which Plants loſe by being dry'd in the Summer's Sun, *viz.* The Water, and the Spirit we have been deſcribing. Hence alſo we know the Nature of that Fluid, which firſt riſes from Plants in Diſtillation, and what that Matter properly is in Plants, which gives their peculiar Odour, that is, their preſiding Spirit. Laſtly, we hence learn, in ſome meaſure, what thoſe Effluvia are, which principally, in the Summer Seaſon, and the open Air, exhale from Vegetables; for it is highly probable, that theſe conſtant Exhalations of Plants, eſpecially in the Day-time, have a great Agreement in their peculiar Nature with the Liquor produced in our preſent Proceſs, tho' differing in this, that the Exhalation is made from Parts continually recruited by the Root; whilſt in our Experiment thoſe Parts alone are collected, which are driven off from the Plants, after being gathered, and no longer ſupplied with freſh Nouriſhment. Whence the diligent and ingenious Dr. *Hales* obſerves, in his *Vegetable Statics*, that the Diſtillation of the Juice received in Glaſs Veſſels, artificially applied to recent Inciſions of Plants, in the Summer Seaſon, is of a different Kind from common Diſtillations.

Hence we may underſtand, that the various, peculiar, and often ſurpriſing Virtues of Plants, may be widely diffuſed thro' the Air, and carried to a vaſt Diſtance by the Winds. So that we muſt not preſently account as Fables what we find related in the Hiſtory of Plants, concerning the ſurpriſing Effects of Effluvia. The Shade of the Walnut gives the Head-ach, and makes the Body coſtive. The Effluvia of the Poppy procure Sleep. The Vapour of the Yew-tree is reputed mortal to thoſe who ſleep under it; and the Smell of Bean-bloſſoms, if long continued, diſorders the Senſes. The ſtrong Action of the Sun upon Plants certainly raiſes Exhalations of great Efficacy, by means of the Spirits they diffuſe; and the Motions of the Winds carry them to a great Diſtance. The dark Shades of thick Woods, where Vapours are contracted, occaſion various Diſeaſes, and often Death, to thoſe who reſide among them, as appears by melancholy Examples in *America*, which abounds with poiſonous Trees. For this Spirit of Plants is a thing peculiar to each Species, abſolutely inimitable, nor producible by Art: It has therefore Virtues peculiar to itſelf, but ſuch as are ſtrangely agreeable to the human Spirits. But becauſe the Spirits of ſome Plants are very manifeſt to the Senſes, whilſt thoſe of others ſcarce affect our Organs of Smell and Taſte by any ſenſible Action, the Chymiſts have chiefly deſtin'd to this firſt Proceſs thoſe Plants which are remarkable for their grateful Odour. Such as thoſe of the following ſhort Catalogue, for Example, taken from the *European* Officinals, and a few of the *Indian.*

PLANTS.

Angelica,
Aniſe,
Baſil,
Baum,
Bays,
The Calamints,
Calamus Aromaticus,
Caraway,
Cardamon,
Caſſia Aromatica,
Catmint,
Celeri,
Chamomile,
Chervil,
Cinnamon,
Citron,
Clary,
Clove July-flowers,
Coriander,
Creſſes,
Cumin,
Dill,
Dittany,
Fennel,
Feverfew,
Galangal,
The Garlicks,
Heartwort,
Hyſſop,
Jeſſamine,
Lavender,
Leeks,
Lemons,
Lily of the Valley,
Lily-white,
Lovage,
Mace,
Marjoram,
Marum Syriacum,
Maſterwort,
Maſtichina, common Marum,
The Maudlin Tanſies,
Melilot,
Mint,
Motherwort,
Nutmeg,
Onions,
Orange,
Origanum,
Philadelphus Athenæi; or single white Pipe-tree,
Polium,
Roſes,
Saffron,
Sage,
Savory,
Scurvy-graſs,
The Southern-woods,
Spignel,
Tanſy,
Tuberoſe,
Valerian,
Victorialis,
Violet,
Walnut,
Wild Thyme.

TREES.

Bay,
Benjamin,
Box,
Cedar,
Citron,
Elder,
Fir,
Guaiacum,
Juniper,
Lemon,
Lime,
Maſtich,
Myrtle,
Orange,
Peach,
Pine,
Roſe,
Saſſafras,
Savin,
Storax,
Thuya, or Liſe-tree,
Walnut.

Several of theſe Trees contain, in their different Parts, an aro matic, volatile Matter, which may be obtained in this fir Operation; for ſometimes their peculiar Virtue reſides in th Root, as the camphorated Balſam in the Cinnamon-root; o in the Wood, as in the Rhodium Wood; in the Bark, as i Cinnamon; in the Catkins, as in Walnuts; and frequent in the Flowers, Leaves, and Seeds: Again, in the Wate that diſtil from them, as in the Walnut; in their Balſam Gums, Tears, and Roſins, as in the Balſamic Tree *Boerhaave's Chymiſtry, Vol.* 2. *Proceſs* 1.

The much greater Tediouſneſs and Expence of working wi the cold than the hot Still, makes very few care to com ply with it; ſo that where any thing of Moment is depend upon from this particular way, great Care ought to be tak not to be deceived therein.

But to avoid the Tediouſneſs of the one, and the Inconvenienc of the other, of theſe ways, there hath lately obtained a Co trivance ſomething between both, which is by ſuſpending a Copper Still, conveniently filled with Water, a Pew Body, which is to hold the Materials to be drawn off; Head is fitted to the latter, which joins to a ſpiral Wor in a Refrigeratory of cold Water, as in the common Still. Ingredients thus diſtilled, which is *in Balneo*, hav greater Heat given them than in the cold Still; and yet by Interpoſition of the Water, in which the Veſſel contain them is ſuſpended, they have not the Fire ſo forcibly act upon them, as in the common way of the hot Still: that all thoſe things which require a middle Way between other two, are hereby well provided for, as, amongſt Simples, Mint, Angelica, Chamomile, and ſome oth which are of a Texture between very volatile and v fixed. And amongſt the Compoſitions, the *Aqua La Alexiteria*, the ſofter Snail-waters, and thoſe of ſimilar P perties; but neither the very fine-ſcented Simples, nor heavier Compounds, can be thus ordered, but to Di vantage.

One of the greateſt Advantages of this Contrivance is, Waters ſo drawn come over much cooler than from the Still, that is, they have not ſo much of the Fire in them it is commonly termed); ſo that an hot ſpicy Water, ordered, ſhall taſte as cool upon the Palate when juſt dra as in the other way it would do after it had acquired a co derable Age. But another great Benefit is likewiſe obta this way, and that is, the avoiding that Foulneſs in the ter coming over, which ariſes from too great Proportio oily Ingredients in the ordinary Diſtillation: For tho' a C poſition be conſiderably overcharged with things of this D ſition, yet, by the Relaxation of Heat in this Contriva they are ſo much leſs forced over, that the Water wi much finer. Yet, whether a Diminution in the Quanti Ingredients, or in the Force to raiſe them, is the more gible way to avoid this Inconvenience, I will not pre to determine; though I moſt incline to the latter, bec without doubt, they are the finer Parts of the Arom which firſt riſe, and conſequently they muſt be beſt come over with the leaſt Force. But this way is practi only with thoſe Waters which are to come over highly tuous, becauſe there is not here Force enough to raiſe others.

In this View, if we paſs over the ſimple Waters wherein directed to draw theſe Properties, we ſhall find, that bo Wormwoods, the Carduus, and the Fumitory, are reſpect fitted for this Management: As to the firſt, i have any Scent that will come over, it is ſo muc worſe; becauſe they are to moſt very offenſive, eſp that of the common Wormwood; and all of them hav

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Medicinal Virtues only in a bitter, earthy Salt, that will not riſe in the Still, and is to be come at only by Decoction. Celandine, Parſley, and Saxifrage, have nothing in them volatile to ſend over in Diſtillation, but abound with a nitrous Salt, that proves diuretic, when order'd in proper Forms; and the Plantain and Oak-buds yield only a viſcid, mucilaginous Juice, which will afford nothing over the Helm but an inſipid Phlegm, that will ſoon mother and grow ropy. The ſame is chargeable upon the Frogſpawn, Succory, and Eyebright, which likewiſe give over nothing diſcernible in a Water; and what comes from Fennel ſoon grows rank, and is ſo ill-ſcented as not to be endur'd, beſides its Aptneſs to grow ropy. From Flowers, as thoſe of Oranges, Chamomile, Roſemary, Damaſk-roſes, and Elder, the moſt fragrant Waters are procurable; but from the reſt very little of Value. The Citron-peel alſo, among the Fruits, makes a moſt delightful Water; but neither Raſpberries nor Walnuts ſend over any thing that will ſmell, taſte, or keep. The Water from black Cherries ſeems, by much, the beſt we have in the Shops for a Vehicle; the Kernels give it an agreeable Flavour, and there is ſo much of a Spirit in the Juice as preſerves it the Year round, when carefully diſtill'd, without Decay: But this we are frequently cheated in, ſome making it from the Stones only, which thoſe, who expreſs the Juice for other Purpoſes, ſell at a cheap Rate; tho' thoſe taken ut from Brandy, where the Stone hath not been before roken, make this Water well enough; but ſome are not contented only with theſe Pieces of good Huſbandry, but make it from other Kernels, and often from nothing but bit- r Almonds. Theſe Frauds are not eaſily diſcover'd, unleſs the ſubſtituted Materials be crouded in ſuch Quantities, which commonly happens from the Encouragement of their Cheapneſs) that they ſhew a Foulneſs which is not at all perceivable in the genuine Water.

ay indeed, in ſome Caſes, with good Reaſon, be requir'd to ve ſimple Waters under the Denomination of Coolers, or ch as have no other Property than being ſoft Vehicles to other Things; and theſe are beſt procur'd from inodorous or ſoft ubſtances, as Plantain, Frogſpawn, and the like: And cer- inly, a diſtill'd Water is more ſtrictly and ſimply elementary, d more a Diluter, than any other; but it is almoſt impoſſi- e to keep theſe the Year round, which can be had only from egetables at certain Seaſons; and therefore ſuch as are de- 'd for mere Diluters, or Coolers, may poſſibly be had ther drawn, at any Seaſon, from Subſtances of like Smooh- ſs and Texture. The ſimple Waters, indeed, from the hter ſcented Plants, as Baum, and the like, are very ſub- t to the ſame Decay; but that may, in ſome meaſure, be medy'd by ſprinkling the green Herb, before it is put in Still, with a little Spirit, which will be ſo far from a Pre- ice to the Flavour of the Water, that it will rather help d improve it. *Quincey's Prælect. Pharm.*

ple of a diſtill'd Water of a freſh Plant, by the Alembic, ſhewn in Roſemary. From Boerhaave.

e are now to inquire into that Part of Vegetables, which, ſeparated by the Heat of boiling Water, flies off into the The moſt commodious Operation for this Proceſs, is perform'd by a ſtill Head, cloſely fitted in to the Mouth of ſel, ſo as to collect and condenſe the Vapour ariſing by a g Heat, and tranſmit it without Loſs into a Receiver. We ow to collect whatever flies off from a recent Plant, by tural Degree of the Summer's Heat, up to that of two hun- nd fourteen Degrees: And for this Purpoſe we ſhall again Choice of Roſemary, that the Operation may be duly red with that given above upon the ſame Subject; tho', d of this, any other of the ſapid and odorous Plants, rated as fit Subjects for the preceding Proceſs, might be mploy'd, all which contain an inflammable, oily, and a ſaline Part, as alſo a ſaponaceous one, conſiſting of the The Plants deſign'd for this Operation are to be gather'd their Leaves are at full Growth, and a little before the rs appear, or before the Seed comes on; becauſe the Vir- the Subject, expected in theſe Waters, is often little, e Seed or Fruit is form'd, at which time Plants begin to h: The Morning is beſt to gather them in, becauſe the Parts are then condenſed by the Coldneſs of the Night, pt in by the Tenacity of the Dew, not yet exhaled by the This is underſtood, when the Virtue of the diſtill'd principally reſides in the Leaves of Plants, as it does in Marjoram, Penyroyal, Rue, and many more; but the iffers, when the aromatic Virtue is only found in the s, as in Roſes, Lilies of the Valley, &c. in which Caſe oſe their flowery Parts, whilſt they ſmell the ſweeteſt, ſhould be gather'd before they are quite open'd, or begin ; the Morning Dew ſtill hanging upon them. In other the Seeds are to be preferr'd, as in Aniſe, Caraway, in, &c. where the Herb and the Flower are indolent, whole Virtue remains in the Seed alone, where it mani- ſelf by its remarkable Fragrance, and aromatic Taſte, d Seeds chiefly poſſeſs'd of this Virtue when come to perfect Maturity. We muſt not omit, that theſe deſirable Properties are found only in the Roots of certain Plants, as appears in Avens, and in Orpine, whoſe Root ſmells like a Roſe; and here the Roots ſhould be gather'd, for the preſent Purpoſe, at that time when they are richeſt in theſe Virtues, which is generally at that Seaſon of the Year juſt before they begin to ſprout, when they are to be dug up in a Morning. If the Virtue here requir'd be contain'd in the Barks or Woods of Vegetables, then theſe Parts are to be choſen for the Purpoſe.

1. The Subject being choſen, let it be bruiſed, or cut, if there be Occaſion, and with it fill two Thirds of a Still, leaving a third Part of it empty, without ſqueezing the Matter cloſe; then pour as much freſh Rain-water upon it as will fill the Still to the ſame Height, that is, two Thirds, together with the Plant: Fit on the Head exactly to the Neck of the Still, ſo that no Vapour may paſs thro' the Juncture, which the Copperſmiths can order to Perfection. Let the joining of the Noſe of the Still-head to the Worm be luted with a ſtiff Paſte, made of Linſeed-meal and Water. Obſerve, that the Cavity of the Worm be always cleanſed by paſſing fair boiling Water thro' it, leſt otherwiſe the diſtill'd Water ſhould be foul'd. Apply a Receiver to the Bottom of the Worm, that no Vapour may fly off in the Diſtillation; but that all the Liquor, being cool'd in the Worm-tub fill'd with cold Water, may be collected; which is beſt perform'd by keeping the Worm-tub continually ſupplied with cold Water.

2. Things being in this State, digeſt for twenty-four Hours with a Degree of Heat of 150 Degrees. Afterwards raiſe the Fire, ſo as to make the Water and the Plant boil; which may be known by a certain hiſſing Noiſe, proceeding from the breaking Bubbles of the boiling Matter; as alſo by the Pipe of the Still-head, or the upper End of the Worm, becoming too hot to be handled; or the Smoaking of the Water in the Worm-tub, heated by the Top of the Worm; and laſtly, by the following of one Drop immediately after another, from the Noſe of the Worm, ſo as to make an almoſt continued Stream. By all which Signs we know, that the requiſite Heat is given; and if it be leſs than a gentle Degree of Ebullition, the Virtue here expected will not be rais'd: But when the Fire is too great, the Matter haſtily riſes into the Still-head, and fouls the Worm and the diſtill'd Liquor; and the Plant being alſo rais'd, it blocks up the Worm; for which Reaſon it is proper to place a Piece of fine Linen, artificially, at the End of the Still-head Pipe, that, in caſe of this Accident, the Plant may be kept from ſtopping up the Worm. But, even in this Caſe, if the Fire be too violent, it will throw up the Herbs into the Still-head Pipe; whence the Paſſage being ſtopp'd, the riſing Vapour will forcibly blow off the Head, and throw the Liquor and Steam about, ſo as to do much Miſchief, or even to ſuffocate the Operator, without a proper Caution; and the more oily, tenacious, gummy, or reſinous the Subject is, and conſequently the more frothy and exploſive, the greater Danger there is, in caſe of this Accident.

3. Let the due Degree of Heat therefore be carefully obſerv'd, and equally kept up, ſo long as the Water, diſtilling into the Receiver, is white, thick, odorous, ſapid, frothy, and turbid; for this Water ſhould be kept carefully ſeparated from that which will follow it: Whence the Receiver muſt be often chang'd, that the Operator may be certain, that nothing but this firſt Water comes over; for there afterwards riſes a Water that is tranſparent, thin, and without the peculiar Taſte and Odour of the Plant, but generally ſomewhat tartiſh and limpid, tho' ſomewhat obſcur'd and foul'd by white dreggy Matter: And if the Head of the Still be not tinn'd, the Acidity of this laſt Water cauſes it to diſſolve the Copper, ſo as to become green, nauſeous, emetic, and poiſonous to thoſe who uſe it, eſpecially weak Perſons and young Children, as operating both upwards and downwards, with ſevere Gripings. If ſuch a Misfortune ſhould happen, it is remedied by drinking plentifully of Milk, ſweeten'd with Honey, or of the common emollient Decoctions.

4. The firſt Water, above deſcrib'd, principally contains the Oil and preſiding Spirit of the Plant, and always ſomewhat ſaline, which in moſt Plants is acid, but in the more pungent Antiſcorbutics a volatile Alcali; for the Fire, by boiling the Subject, diſſolves its Oil, and reduces it into ſmall Particles, which are carried upwards by the Aſſiſtance of the Water, along with thoſe Parts of the Plant that become volatile with this Motion. And if the Veſſels are exactly cloſed, all theſe, being united together, will be diſcharg'd without Loſs, and without much Alteration, into the Receiver annex'd; for, if we may truſt our Senſes, theſe Waters are richly impregnated with the Odour, Taſte, and particular Virtues of the volatile Parts of Plants: Hence, if the Botaniſt juſtly aſſigns the Virtues of any Plant, as they are contain'd in that Part which is volatile by a boiling Heat, the Chymiſt can preſent thoſe Virtues ſeparated from the reſt. The former was attempted by Mr. *Tournefort*, in his Book of Plants ſpontaneouſly growing about *Paris*; and by Mr. *Ray*, in his Book of the native Plants of *England*. *Dodonæus* has perhaps ſpoken too boldly, and ſometimes raſhly, of them all, eſpecially in the laſt Edition of his Work, printed

at *Antwerp* in 1644. I have expreſly obſerved, that the firſt of theſe diſtill'd Waters contains only the Virtues of the Plants, reſiding in that Part which is volatile with this Heat; becauſe, in the whole mix'd Juice of the Plant, there is a certain Virtue depending upon a Mixture of this firſt Water, and the Liquor remaining after that is drawn off. The freſh expreſs'd Juice of recent Mint has certainly many other diſtinct Properties than the diſtill'd Water thereof: Whence Phyſicians are to obſerve, that the Virtues of this Water, and of the native Juice, are not the ſame, but very different.

5. The Water of the ſecond Running wants the volatile Part above deſcrib'd, yet ſcarce brings over the more fix'd Part of the Plant, except what is ſomewhat acid and vapid: If, when this is come off, freſh Rain-water be pour'd upon the remaining Plant, and boil'd therewith, or ſtrongly diſtill'd, there riſes a more acid Water, containing very little of the particular Virtue of the Plant; almoſt the ſame kind of Acidity appearing to riſe thus from them all at laſt. This I may venture to affirm, upon Experience, that the Virtue of deſtroying Worms, which the more celebrated Phyſicians have juſtly attributed to certain diſtill'd Waters, depends upon this, that the Acid of the Water of the laſt Running diſſolves the Copper, and thus acquires a Virtue not its own. This Operation, however, ſhews, that Plants contain an acid Salt ſo volatile as to riſe and ſeparate from the Subject, with 215 Degrees of Heat. But Experience ſhews, that the Water of this ſecond Running has ſcarce any other Virtue than that of cooling; as may be ſafely tried by uſing a Glaſs Still-head inſtead of a Copper one, by which means the Inconvenience of its diſſolving the Copper is prevented.

6. And this is the beſt Method of preparing the diſtill'd officinal Waters, provided the two Sorts be not mix'd together, for both of them would be ſpoil'd by ſuch a Mixture; they alſo ſpoil with keeping, and will ſeldom remain perfect a Year.

REMARKS.

We learn from the preſent Proceſs,

1. What a Plant parts with by the Heat of boiling Water; that is, the Water of our firſt Proceſs, the volatile Oil with its inherent Spirit, and a ſaline Acid.
2. What remains in the Still after the Separation of theſe three Parts; that is, the Extract, the Earth, and the Salts.
3. In what Part the Odour and Taſte of a Plant reſide; that is, in the Water, in the volatile Oil contained in this Water, and in the Spirit contain'd in this Oil.
4. Hence is eaſily known what exhales by boiling, both in Cookery and Pharmacy, and what remains behind. If Coſtmary, Chervil, Baum, or Smallage be boil'd in Broth, they loſe their peculiar Smell and Taſte, with the Virtues thereon depending, and only leave behind their common ungrateful Parts; but if cut ſmall, and added to the Soup already prepared, and kept hot, but not boiling, in a Veſſel cloſe cover'd, ſo as to infuſe for a while, they communicate their peculiar Virtues thereto. Cinnamon affords an extremely grateful Water, which ſurpriſingly warms and exhilarates; but when this is all come over, there follows another that is acid and indolent, leaving an acid, auſtere, and cooling Decoction behind, reſembling that of Oak-wood.
5. Hence it plainly appears at what time, with the ſame Force of Fire, quite contrary Virtues may ariſe from a Plant; for ſo long as a milky Water comes over from ſuch Plants as are aromatic, ſo long the Water remains warming and attenuating; but when it comes thin and pellucid, it is acid and cooling.
6. In the laſt Place, we have hence the true Foundation for the conducting of Diſtillation; for if the Operation be ſtopt as ſoon as ever the white Water ceaſes to run off, the Preparation will be valuable and perfect; but if, thro' a Deſire of increaſing that Quantity, more be drawn off, and ſo the latter acid Part be mix'd with the firſt Running, this ſpoils the Whole. We ſhould here obſerve, by the way, that the diſtill'd Waters of inodorous Plants, which have no aromatic Sharpneſs, may yet leave very conſiderable Virtues, tho' the contrary is generally ſuppoſed: And again, that the native Virtues of Vegetables may thus, in ſome meaſure, be chang'd by the Boiling, from what they originally are. The Roſemary remaining in our preſent Proceſs ſtill appears green, and preſerves its original Form; being only deprived of its native Smell and Taſte.

The common diſtill'd Water by the Alembic, cohobated or return'd back upon more of the freſh Plant.

The preceding Proceſs has ſhew'd, what Water and Fire may ſeparate from a Plant in cloſe Veſſels, and what is left behind therein; but the preſent Proceſs teaches a Method of opening Plants ſtill farther, and treating them ſo as to obtain diſtill'd Waters much richer in thoſe Virtues of the Subject, which were mention'd in the former Proceſs.

Take the Plant and Liquor, remaining in the Still after t
preceding Proceſs, and preſs them ſtrongly in a Straine
that all the Decoction may be obtain'd, and with this m
all the Water before drawn over. Return this Mixture in
the Still, and add to it as much of the ſame recent Subj
as was employ'd before, and, if neceſſary, add likewiſe
much Water as may make up the former Proportion to t
Plant: Now cloſe the Veſſels exactly, and digeſt the Whol
with 150 Degrees of Heat, for the Space of three Days a
Nights, that the Herb, being ſo long ſteep'd in its own Liqu
may be open'd, looſen'd, and diſpoſed the eaſier to p
with its Virtues. This Digeſtion being ſo long continu
is of great Service; but if protracted too long, introdu
a Change tending to Putrefaction. Let the Water now
diſtill'd off in the ſame manner as in the foregoing Proc
only proceeding more cautiouſly, and ſomewhat more ſlo
ly at the firſt; becauſe the Liquor in the Still being n
thicker, more impregnated with the Plant, and theref
more flatulent, and apt to ſwell upon feeling the Fire,
eaſily boils over; but after about one half of the expe
Water is come off, the Fire may be prudently raiſed.
the Rule before laid down be obſerved, and the Diſtillat
be continued ſo long as the firſt Water, deſcrib'd in the p
ceding Proceſs, comes over, and then the Operation be i
mediately ſtopp'd, the Water ſo obtain'd will be whi
thicker, more odorous, ſapid, frothy, and turbid, t
that of the laſt Proceſs.

This Water alſo preſerves its Virtue much longer, and c
tains it in greater Perfection, than that of the laſt Proce
which ſhews us a way of concentrating the peculiar Virtu
Plants, ſo far as it reſides in their volatile odorous Parts:
likewiſe the remaining Decoction in this Proceſs is much ſtro
than in the former; and as the Operation may be repeate
often as one pleaſes, both the Water and the Decoction m
by ſeveral Repetitions, at length be made extremely rich
that by this means excellent Medicines are procurable. T
in the Year 1730. I diſtill'd Baum after this manner four
times ſucceſſively, and found the Water at laſt had a balſ
Taſte, and the perfect Fragrance of the Plant, ſo as to p
highly refreſhing, even when barely ſmelt to, or taſted:
no Wonder, ſince the Virtue of many large Baſkets of B
was here concentrated, and brought within the Compaſs
ſmall Glaſs; and the Remainder alſo, at the Bottom of the S
being inſpiſſated, fill'd but another Glaſs, and proved gra
auſtere, and ſtrengthening; ſo that, by mixing the two t
ther, the Virtues of the Plant might be thus highly co
trated, or brought into a very little room. This Proceſs t
fore does not only afford excellent Waters, but admirable
tracts alſo, which, when properly mix'd together, yield M
cines of ſuch Efficacy as can ſcarce otherwiſe be imitated
the native Virtues of Vegetables are little chang'd in this
ration, certainly leſs than in others; tho' it muſt be allo
that ſome Alteration is produced by ſo long a Continuati
the Boiling: But both the Odour, Taſte, and Effects, de
ſtrate, that the Waters thus prepar'd, retain, in an hig
gree, the ſpecific Virtues of the Plant.

And hence it is certain, that the ſought Medicinal Vir
truly aromatic Vegetables reſides in that Part of them
riſes with the Heat of boiling Water; and that it is poſſib
Art, to concentrate their Virtues, ſo that they ſhould
much more effectual than in the State they are naturally a
ed: Nor is there any Limitation; for by continuing to r
the Operation, the Virtues of Plants may be thus exalt
any Degree the Artiſt ſhould think proper; which ſhew
extraordinary Power of Chymiſtry.

Paracelſus aſſures us he found, by Experience, that Ba
poſſeſs'd of ſo great a ſpecific Virtue, as, by inſinuatin
the Humours of the Body, to reſtore a new youthful Vig
the Aged, and by this means perfectly to cure the Gout
Iſaac Hollandus avouches the ſame. Now, if theſe A
ſaid true, I judged I might, by means of the preſent P
procure the united Virtues of the Plant in their utmoſt Str
and, indeed, I have in myſelf experienced extraordinary
of the Water ſo prepar'd, by taking it upon an empty St
And, certainly, it has ſcarce its Equal in Hypochondria
Hyſterical Diſorders, the Chloroſis, and Palpitation of the
as often as theſe Diſeaſes proceed rather from a Diſorder
Spirits, than any Collection of morbific Matter; tho'
indeed expenſive. I have reduced dried Mint, by three
Cohobations, into a balſamic penetrating Liquor, which b
an incomparable and preſent Remedy for ſtrengthening
Stomach, and curing Vomiting proceeding from a cold
Phlegm lodg'd about the Mouth thereof; as alſo in Lie
The Water I have in this manner prepar'd from Lemo
has, by its Fragrance, its agreeably penetrating, and
aromatic Taſte and Virtue, immediately cured Flatu
Deliquiums, Faintings, and irregular Motions of the
tho' taken in a very ſmall Doſe. The like Water, prep
repeated Cohobations from recent Wormwood, has ſucc
ſupplied the want of Bile in the Body, ſtimulated all the

Veſſels that are aſſiſtant in forming the Chyle, and kill'd and pell'd Worms. The like Water, from the Leaves of Savine, s given an almoſt incredible Motion to the whole nervous yſtem, ſo as to prove the moſt excellent of all Medicines, for romoting the Excluſion of the Fœtus, and the Diſcharge of the Menſes, and Hæmorrhoids. The cohobated Water of Rue an never be ſufficiently recommended for the Cure of the Fall- g-ſickneſs, the Hyſteric Paſſion, for expelling Poiſon, and romoting of Sweat and Perſpiration. I do not here mention e Water I have made from the Berries of the Juniper-tree, nd the Leaves of the Arbor Vitæ; both of them ſucceſsfully uring the Dropſy, as that from Chamomile-flowers cures Tertian Agues. It were endleſs to purſue theſe Waters thro' l the Variety of Subjects. I judge it manifeſt upon the Whole, at this is a true and excellent Method of obtaining the Chy- ical diſtill'd Waters. Some Rules, however, are required for pplying theſe two general Examples to all Sorts of Herbs, which y require ſomething peculiar. Theſe Rules are as follow:

1. Let the aromatic, balſamic, oleaginous, reſinous, gum- o-reſinous, and ſtrong-ſmelling Plants, which long retain their tural Fragrance, ſuch as Arbor Vitæ, Baum, Bay, Hyſſop, uniper, Marjoram, Mint, Origanum, Penyroyal, Roſemary, ge, &c. be gently dried a little in the Shade; then digeſt em, with the Quantity of Water already mentioned, for enty Hours, in a cloſe Veſſel, with 150 Degrees of Heat, d afterwards diſtil in the Method above deliver'd, and thus ey will afford excellent Waters.

2. When Waters are to be drawn from Barks, Roots, eds, and Woods, that are very denſe, ponderous, tough, d reſinous; let them be digeſted for three, four, or more eeks, with ninety-ſix Degrees of Heat, in Veſſels perfectly oſed, with a proper Quantity of Salt and Water to open and epare them better for Diſtillation: A conſiderable Quantity Sea-ſalt is here added, partly to open the Subject the more, t chiefly to prevent Putrefaction, which otherwiſe would rtainly happen in ſo long a Time, and with ſuch a Heat, as neceſſary in this Caſe, and ſo deſtroy the Odour, Taſte, and irtues required: And thus, for Example, may Waters be epared from Aloes, Box, Cedar, Guaiacum, Juniper, Rho- m, and the like Woods.

3. Thoſe Plants which diffuſe their Odour to ſome Di- nce from them, and thus ſoon loſe it, ſhould immediately be ill'd after being gather'd in a proper Seaſon, without any vious Digeſtion; thus Borage, Bugloſs, Jeſſamin, white es, Lilies of the Valley, Roſes, &c. are hurt by Heat, Di- tion, and lying in the Air. Some Woods alſo are injur'd in ſame manner; thus the Shavings of Saſſafras, by being led in Water, ſoon loſe their Virtue, Taſte, and Smell.

4. The aſtringent, nutrimental, healing, conſolidating, ollient, farinaceous, gelatinous, cooling, and ſtyptic Vir- s of Plants are never, by this means, communicated to the ill'd Waters, but are to be ſought either in the whole nt, or its moſt fix'd Part. Whence Pharmacy ſhould be ev'd from the unneceſſary Trouble of preparing ſuch Wa- ; and, on the other hand, Phyſicians are diligently to be oniſh'd to ſeek for ſuch Virtues in the Infuſions, Deco- ns, and Extracts of ſuch Plants. Would it not be ridicu- to expect any thing nutrimental in the indolent and vapid ill'd Water of Barley, or minc'd Capon's Fleſh? Can any n expect to find the excellent Virtues of Sorrel, in hot, lax, id, and bilious Conſtitutions, from the diſtill'd Water of Plant? So again it were abſurd to attribute the inimitable tues of Plantain to its diſtill'd Water. Such idle and childiſh les are therefore to be rejected in the ſerious Arts of Chy- ry and Medicine.

he Caſe is far otherwiſe in thoſe Plants, whoſe real Vir- entirely reſides in that Part which is ſeparable by a Heat not eding 214 Degrees; for the Waters carefully prepared from e will contain all the Virtue which is loſt in their Deco- ns and Extracts. The celebrated Virtues of Lavender- ers, Lilies of the Valley, and of Rue, againſt that Species he Falling-ſickneſs which proceeds from a Diſturbance in Motion of the nervous Fluid, reſide in the diſtill'd Water, are abſolutely wanting in the Decoctions or Extracts; ſo, he other hand, the anti-epileptic Virtue of Piony remains e Decoction, but is wanting in the Water.

There are ſome Medicinal Plants whoſe Virtues reſide in rt which is volatile, with the aforeſaid Degree of Heat, o, that after theſe are raiſed by Diſtillation, the remaining t, and its Decoction, continue poſſeſſed of other Virtues, of t Medicinal Efficacy. Such Decoctions, therefore, are not e thrown away, but to be inſpiſſated with a moderate Heat, they may be kept uncorrupted; for, being afterwards d with the diſtill'd Water, the Virtues of both are thus d, and afford the whole Efficacy of the Plant: And of kind are Chamomile, Carduus Benedictus, the leſſer Cen- y, Germander, Ground-pine, Mugwort, Roſemary, Sage, dium, Wormwood, &c. This Tribe of Herbs, indeed, alted by Fermentation, ſo as to afford the better Waters; hen their Decoctions come afterwards to be inſpiſſated, they either have leſs, or a different kind of Virtue from the natural.

7. Acid, bitter, auſtere, ſweet, and flat Taſtes, rarely aſcend from Plants in Diſtillation, but commonly remain in their Extracts, tho' they aſcend from Chamomile, Wormwood, and a few more; but the Colour of Plants is ſcarce ever rais'd by Diſtillation, tho' we have a blue Colour in the Diſtillation of Chamomile, and a green one in that of Wormwood; but theſe Colours are rather in the Oil than in the Waters. The ſaponaceous Virtue, conſiſting in the Union of the Salt and Oil, never riſes, but remains in the Extracts; and therefore Plants endow'd with this Virtue are not to be thus diſtill'd.

8. The following Vegetables ſcarce afford any thing of Uſe in their diſtill'd Waters; that is, Barberry, Beet, common Cherries, Colewort, Currans, Elder-berries, Endive, ripe Grapes, Ladies Mantle, Lettice, the Juices of Citrons, Lemons, Oranges, Purſlain, Scorzonera, Sorrel, Strawberries, and Succory. There are alſo very contrary Virtues in the ſame Plant: Thus the diſtill'd Water of Cinnamon, of the Firſt Running, is deobſtruent, heating, enlivening, ſtimulateing, and good in vomiting; but that of the Second Running aſtringent, cooling, and nauſeous; whilſt the Decoction remaining in the Still is of a dark-red Colour, opake, thick, of an auſtere Taſte, aſtringent, coagulating, and ſtrengthening.

Simple Waters are directed by the College of Phyſicians to be drawn

From the Leaves and Buds of

Both the Wormwoods,
Angelica,
Carduus Benedictus,
Succory,
The greater Celandine,
Eyebright,
Fenil,
Fumatory,
Hyſſop,
Marjoram,

Baum,
Mint,
Parſley,
Plantain,
Penyroyal,
Oak,
Rue,
Saxifrage,
Meadow-ſweet.

From the Flowers of

Oranges,
Chamomile,
Beans,
Lilies of the Valley,
Elder,
Red Poppies,
Cowſlips,

Piony,
Roſemary,
White
Red } Roſes.
Damaſk
Limes.

From the Fruits of

Citrons, the Peel,
Raſp-berries,

Green Walnuts, and
Black Cherries.

From twelve Pounds of the latter of which, bruiſed with the Stones, draw one Gallon.

From an Animal,

Frog's-ſpawn.

Quincy's London Diſpenſatory.

To theſe the *Edinburgh* Diſpenſatory adds

Mugwort and Savine.

The ſame Diſpenſatory orders the FROG-SPAWN WATER to be made thus:

> Hang any Quantity of FROG-SPAWN in a Bag, ſo that the Water may run from it into a Veſſel ſet underneath to receive it; and to every Pint of the Liquor, thus obtain'd, add a Dram of Roch-alum.

This is a much better Frog-ſpawn Water than we find order'd in other Diſpenſatories; the Addition of the Alum, and the manner of Preparation by Reſolution, conſiderably increaſe its Virtues; whereas that obtain'd by bare Diſtillation gives us little more of the Spawn than its uſeleſs Phlegm. As it ſtands here, it ſeems deſign'd as a Cooler for external Uſes.

The ſame Diſpenſatory very properly obſerves, that the Waters of thoſe Plants which are obtainable to no good Purpoſe by Diſtillation, may be made by diſſolving a proper Proportion of their eſſential Salt in Spring-water *(or rather in diſtill'd Water)*.

The Method of making the AQUA LACTIS ALEXITERIA, *Alexiterial Milk Water*, is ſpecify'd under the Article ALEXITERIA, which ſee.

AQUA CINNAMOMI TENUIS,

Small Cinnamon-water, is made by infuſing twelve Ounces of Cinnamon in eight Pints of Water, and then diſtilling till the Liquor ceaſes to come over milky.

Another Simple-water has lately been introduced into Practice, not mention'd in any Diſpenſatory that I know of, under the Name of PEPPER-MINT WATER. This, I preſume, is diſtill'd from the MENTHA SPICIS BREVIORIBUS ET HABITIORIBUS, FOLIIS MENTHÆ FUSCÆ, SAPORE FERVIDO PIPERIS of *Ray*'s *Synopſis* ; MENTHA SAXIFRAGA, ANGUSTIORE FOLIO, SPICATA, SAPORE ACRI FERVIDO, of *Plukenet*'s *Almageſt*. 129. MENTHA PIPERATA ACUTA of *Petiver's Herbarium Britannicum* ; Pepper-mint.

This Water is extremely hot in the Mouth, and upon the Stomach ; and therefore ſeems proper to warm, invigorate, and diſcuſs Flatulencies, to deſtroy Acidities in the Stomach and Duodenum, and prevent Coagulations conſequent thereto.

Another Method of procuring a Water from Vegetables, by fermenting the Vegetable before Diſtillation, after the manner of Ludovicus.

The Effects of Diſtillation, Digeſtion, and Cohobation, have ſufficiently ſhewn us the Action of the Fire, limited by the Degree of boiling Water, in Diſtillation and Cohobation ; and of a more gentle Fire, with Water, by Digeſtion. We now proceed to exhibit an elegant and uſeful Way of obtaining Virtues of Plants very little alter'd from what they naturally are, tho' render'd more penetrating and more volatile.

1. Take recent Roſemary, cut and bruiſe it, if that ſeems neceſſary ; put it into a large Oak Caſk, leaving a Space empty at the Top, of four Inches deep ; then take as much Water as would, when added, fill the Caſk to the ſame Height, including the Plant, and mix therein about an eighth Part of Honey, if it be cold Winter Weather ; or a twelfth Part, if it be warm : In the Summer the like Quantity of coarſe, unrefined Sugar might, to the ſame Purpoſe, be added inſtead of the Honey, or half an Ounce of Yeaſt added for each Pint of Water will have the ſame Effect ; but I prefer the Honey uſed as deſcribed : Let the proper Quantity therefore of Honey and Water be warmed and poured upon the Plant in the Caſk ; let the Caſk ſtand upright, and have its wide, upper Orifice, or Bunghole, looſely cover'd with a wooden Cover ; then ſet it in a wooden Cheſt, to be kept heated by means of a live Coal bury'd under light Aſhes, ſo that the Liquor and Plant may feel a Heat of about eighty Degrees, which is afterwards to be conſtantly kept up, by covering the outſide with Cloths, and due Regulation of the Fire, which muſt therefore be greater and more carefully attended in cold Weather ; but in the Heat of Summer, little or no Fire is requir'd. On the ſecond Day a hiſſing Noiſe will begin in the Liquor, with Bubbles, Frothing, and a grateful Smell of Roſemary, the Plant now again riſing to the Surface : This Motion is called *Fermentation*.

2. When this Fermentation has continu'd ſo long, that what was on the Top begins to ſubſide and ſink to the Bottom, the Operation is continu'd long enough for our Purpoſe, ſo that now the Veſſel muſt be cool'd, and cloſely bung'd down ; for if it ſhould continue longer open in the ſame Warmth, the Spirit and Oil, now render'd more volatile, would fly off, and the Virtues requir'd be loſt ; ſo that the Matter ſhould be now directly diſtill'd.

3. Take therefore as much of this Plant, and its fermented Liquor, as may fill Two-thirds of a Still, and work carefully from the firſt ; for the Liquor, containing much fermenting Spirit, eaſily rarefies with the Fire, froths, ſwells, and hence becomes very ſubject to boil over. And as all this happens much quicker in this Diſtillation than in the foregoing Kinds, we ought here to work ſlower, eſpecially at the firſt.

4. And thus there will come over firſt a limpid, unctuous, penetrating, odorous, ſapid Liquor, all which is to be kept ſeparate ; there follows a milky, opake, turbid Liquor, ſtill containing ſomething of the ſame Taſte and Odour ; and at length comes one that is thin, acid, not fragrant, and ſcarce having any Property of the Roſemary : There remains in the Still an Extract, indolent with reſpect to the Roſemary, and retaining much of the Subſtance of Honey. And all theſe Particulars hold, when the Fermentation is continued, till the Plant ſpontaneouſly falls to the Bottom of the Caſk, which, with the above-mention'd Degree of Heat, uſually happens in five or ſix Days.

5. This firſt Water, or rather Spirit, may be kept for ſeveral Years, in a cloſe Veſſel, without changing or growing ropy. It alſo excellently retains the Taſte and Odour of the Plant, tho' a little alter'd ; but if leſs Honey were added, leſs Heat employ'd, or the Fermentation continu'd only two or three Days ; then the diſtill'd Water of the firſt Running would be white, thick, opake, unctuous, frothy, and perfectly retain the Scent and Taſte of the Plant, or much leſs alter'd than in the former Caſe ; tho' the Water will not be ſo ſharp and penetrating. After this is drawn off, a tartiſh, limpid, inodorous Liquor, will riſe, leaving a Remainder behind, that retains mu
leſs of the Properties of Roſemary, than in the precedi
Proceſs.

6. There is alſo in this Caſe always found ſome Oil in
firſt Water, which was not in the former Spirit. Aga
if the Fermentation were to continue only for a Day,
a Day and a half, the Water that firſt comes over wo
largely abound with Oil. In other reſpects Matters
nearly the ſame in both ; for it is conſtantly found, that
longer the Fermentation was continu'd, the leſs Oil appe
in the diſtill'd Water ; and therefore what runs firſt, is
ways clearer and ſtronger ; but upon mixing with comm
Water, the Whole immediately becomes milky : Whe
theſe Waters greatly differ from one another, according
they are differently prepared in the above-mention'd reſpe
When the Fermentation is perfectly performed, the
Water will be limpid, the ſecond milky ; and if a third
forced over by a ſtrong boiling Heat long continu'd,
will prove acid, thin, and limpid, reſembling diſtill'd
negar. The Extract in this Caſe will always be the
impregnated with the Virtue of the Plant employ'd,
longer the Fermentation was continued, or the more p
fectly it was performed ; and *vice verſa*. The Oil a
which in the Diſtillation of the unfermented Plants floa
upon the Surface of the Water, becomes ſo attenuat
when the Plant is perfectly fermented before Diſtillati
as entirely to diſappear, and lie concealed ; or is ſubtilely
vided in the diſtill'd Liquor, which may therefore be ca
Spirit, rather than Water. That this is the Caſe, app
from hence, that if a large Quantity of Water be ad
to the Spirit, it preſently grows white ; which ſh
that there was Oil conceal'd in it : And frequently li
Drops of Oil, thus regenerated, will float upon the S
face of the Water.

REMARKS.

1. Hence we learn, that this Fermentation (when perfectly fini
in the proper Time requir'd for that Purpoſe, with a
Proportion of Ferment, and if the whole fermented Ma
be for ſome time contained cloſely bung'd down in a C
affords theſe Waters extremely limpid, hot, aromatic,
rous, ſapid, and penetrating, without any Sign of their
taining an Oil ; and according as theſe Properties ap
more in the Water, the native Virtues of the Plant are
changed ; ſo that at laſt they can ſcarce be known :
when the Fermentation is perfect, each loſing its pr
Character, they all become nearly alike : Whence it is m
feſt, that the particular Virtues of Vegetables are not ex
or perfected by Fermentation, as they were in the prec
Proceſs by repeated Cohobation ; and that the Waters o
preſent Proceſs, by ſuch Cohobation, are not render'd ſo
tuous, as by a ſingle Fermentation. And this ſeems to pro
from hence, that in the long continued and active Motio
Fermentation, the volatile preſiding Spirit, now freed from
open'd Parts of the Plant, but principally from the att
ated Oil, exhales ; for the Tenacity of the Oil wa
chief thing that detained and locked the Spirit in the P
But a gentle and moderate Fermentation, which does
diſſipate the Spirit, only diſſolves the viſcous Obſtacles,
mirably quickens theſe Waters, makes them durable,
long preſerves them from Corruption, Dregginesſ and
neſs ; as is excellently obſerved by that ſkilful and c
Chymiſt, *Daniel Ludovicus*, in his Diſpenſatory acco
dated to the preſent Age. And thus the Water of C
Benedictus, ſo prepared, is highly commended,
Sweating and Perſpiration are required.

2. Hence the Taſte and Smell of Plants, communica
their diſtill'd Waters, principally depend upon their
Spirit reſpectively. But as this Spirit is wrapped up in
nacious Oil, when this Oil is mixed with the Waters, it
ders them the more odorous and ſapid in the larger Q
it is ſo mixed. This Oil is gradually thinned, made l
nacious, more ſpirituous, and eaſier to mix with Wa
Diſtillation, Digeſtion, and Cohobation in cloſe Veſſels
thus the Spirit alſo becomes more volatile and diſten
ſo as eaſily to fly off, unleſs it is every way very c
confined in the Veſſels during the Diſtillation ; which
performed, highly efficacious Waters may be thus pre
But as Fermentation requires a Length of Time, the
miſſion of the Air, and open Veſſels, it attenuates O
its Motion, ſo as to mix them with Water, and
Form make an inflammable Liquor ; which canno
without a Diſſipation of the native Spirit. It however r
Oils miſcible with the animal Juices, and fit to ent
fineſt Veſſels ; but always deſtroys the peculiar Virtue
Plant. In the mean time, it proves the Medium o
veying ſtimulating and grateful Virtues to the Nerves,
cially thoſe of the Noſe, Mouth, Jaws, Throat, Sto
and Inteſtines.

That nothing relating to the Diſtillation of Waters may be mitted, I ſhall add the Method of diſtilling *per Deſcenſum*.

Chymiſts formerly called that Motion of Bodies Diſtillation, hen, by the Aſſiſtance of Fire, the Subject to be changed, d contained in one Veſſel, to which the Fire was apply'd, ſes into another joined thereto, whether Solids were thus ated or Fluids; and this Operation with them differ'd in ee reſpects: For, 1. The Fire raiſed the Matter perpen- ularly upwards. 2. Somewhat obliquely, or laterally, as in iſtillation by the Retort. And, 3. Downwards, the Fire ing apply'd above; which laſt Species of Diſtillation they lled *per Deſcenſum*, which they uſed in the laſt Age for ſepa- ing Quickſilver from its Ore, and which *Paracelſus* from ence transferred to Vegetables. Of this kind of Diſtillation e are now to give an Example.

Let there be procured a ſufficiently wide and deep cylindrical eſſel, made of ſuch Matter as will neither tranſmit, drink , or foul Liquors. From the upper Rim of this Veſſel cut Inſide Groove, fit to receive exactly, and ſuſtain a round te ſtruck full of Holes, which is to ſink into the open Mouth the Veſſel, ſo far that the upper Surface of the Plate be two ches from the Rim thereof; then place any recent, green, culent Plant, firſt cut or bruiſed, upon the Plate, ſo that may reach up to the Rim; then apply a flat Cover, which y exactly cloſe the Mouth of the Veſſel, with the Aſſiſtance luting, to prevent any Vapours from exhaling. The whole paratus may be made of Iron-plate, if a large Quantity of ater is requir'd at once; otherwiſe, for a ſingle Experiment, of Earth may ſuffice. Let a little fine Aſhes be ſifted upon Cover, and a few live Coals be placed thereon, that the ſt Parts of the Plant may be reſolved into Vapour, and its ces be liquefied ſo as to fall into the wide Part of the Veſſel w, where being condenſed by the Cold, they will gradu- diſtil and collect, if the Fire be prudently managed, and eaſed by Degrees. And thus the Spirit, Water, Wax, n, Oil, Roſin, as alſo the ſaline and ſaponaceous Matter the Vegetable, which do not eaſily riſe in the preceding illations, may be obtained: Care, however, muſt be had, not ake the Fire too large, for fear of quite burning up the Parts he Subject; tho', indeed, a ſmall Degree will have but Effect; but if a violent Fire be uſed, all the Parts will be unded together, the oily Matter burnt up, the Smell and e of the Produce become ſo empyreumatical, ſmoky, bit- nd nauſeous, as to be ſcarce fit for internal Uſe, eſpecially Subject were dry and unctuous. But when ſucculent etables are employ'd, ſuch as Roſe-flowers, and prudently d without burning, the Water ſo prepared will nearly nble the natural Juices, as containing both their ſapona- s Nature, and peculiar Virtues, though always a little ged by the Fire; whence the expreſſed Juices themſelves ot only more agreeable, but more medicinal. *Paracelſus*, ver, by treating Guaiacum in this manner, obtained an Liquor, and a ſharp fœtid Oil, which he recommends for external and internal Uſes; whence this Operation een for ſome time practiſed in *Germany*, but is now al- diſuſed, or changed for others more ſuitable. *Boerhaave*'s *iſtry*.

uous and Compound WATERS *directed by the* COLLEGE *of* PHYSICIANS.

r preparing theſe, the Herbs are to be choſen green, unleſs ularly ordered to the contrary: In Defect of thoſe which een, about a fourth Part of the dry may be ſubſtituted, much Spring-water is to be allowed as will prevent their g to the Still.

UA ABSINTHII MINUS COMPOSITA: Or, *The Leſſer ſition of Wormwood Water.*

ke of the Leaves of dried Wormwood, two Pounds; of e Leſſer Cardamom-ſeeds, two Ounces; of Coriander- eds, half a Pound. Infuſe them all in four Gallons of *ench* Brandy, and draw off the ſame Quantity by Diſtil- tion.

r the ſame manner, but with an Omiſſion of theſe Seeds, r that Reaſon, an Augmentation of four times the Quan- Herbs, are made Waters from the whole Plants of An- Baum, Mint, Sage, &c. the Flowers of Roſemary, f Caraway, Leſſer Cardamoms, Aniſe, Juniper-berries, , Citron, and Lemon-peel, &c.

Water differs chiefly from that of the former Diſpen- by ſubſtituting Cardamom and Coriander-ſeeds in room Aniſeeds, which makes it more cordial and grateful to mach; the Aniſeeds yielding too foul an Oil to ſuit it Purpoſes. This Water is commonly uſed in Stomachic s, on a Suppoſition, that it claims a Right to ſuch Vir- n the Wormwood; but the Water riſing from it par- ot of theſe Qualities which belong to it in Tincture; ſo that it ſeems only to be carminative from the Spice and Seeds now ordered in it. *Quincey.*

AQUA ABSINTHII MAGIS COMPOSITA: Or, *The greater Compoſition of Wormwood Water.*

Take of the Sea, and common Wormwood dried, each one Pound; of Sage, Mint, and Baum dried, each two Handfuls; of the Roots of Galangals, Ginger, Calamus Aromaticus, and Elecampane, of the Seeds of Sweet Fenil and Coriander, each three Drams; Cinnamon, Cloves, and Nutmegs, each two Drams; of the Leſſer Cardamoms and Cubebs, each one Dram; cut and bruiſe the Ingredients as they require; and, after infuſing them for ſome time in twelve Pints of *French* Brandy, draw off the ſame Quantity by Diſtillation.

This differs from that of the former Diſpenſatory, in rejecting Liquorice-root and Raiſins, which can have no Effect in Diſtillation; and in allowing a greater Proportion of Spirit, and more to be drawn off; the former being too much loaded with the oily Ingredients, to admit either of its being fine to the Eye, or grateful to the Stomach. *Quincy's Diſp.*

If we conſider the Wormwood and Gentian Waters as Stomachics, little can be expected from them; becauſe the Materials they are drawn from, are not ſuited to ſend any thing over by Diſtillation, that comes within this Intention; ſo that if there be any thing good in them, we are more beholden to the Spirit than the other Ingredients for it. *Quincy's Prælect. Phamaceut.*

The *Aqua Abſinthii*, and *Angelicæ magis Compoſita*, are ſufficiently uniform in their Intentions, but have too many of the oily Seeds to allow them to come over fine, eſpecially the latter; but neither of them is much preſcribed or made. *Idem.*

AQUA ANGELICÆ MAGIS COMPOSITA: Or, *The greater Compoſition of Angelica Water.*

Take of Angelica-root, and the Leaves of Carduus, each ſix Ounces; of Baum and Sage, each four Ounces; of Angelica-ſeeds, ſix Ounces; and of Sweet Fenil-ſeeds, nine Ounces. Let the dried Herbs and Seeds be groſly bruiſed; and to them add of Cinnamon, two Drams; of Cloves and Mace, each one Dram and an half; of Nutmegs, and the Leſſer Cardamom-ſeeds, each one Dram; of Cubebs, and Galangal-root, each one Dram and an half; of *Jamaica* Pepper and Saffron, each one Dram. Infuſe them in two Gallons of *French* Brandy, and draw off as much by Diſtillation.

This hath rejected the *Species Diamoſchu Dulcis*, and the *Aromaticum Roſatum*, which were in the former; one of theſe Compoſitions being wholly expunged in the preſent Diſpenſatory, and in their room are added Spices more conveniently anſwering the ſame Intentions. But in this, the Carduus avails nothing; and the Sweet Fennel-ſeeds are in too great a Quantity, which will make the Water foul and milky. The laſt Runnings of all the foregoing Waters are worth keeping ſeparate for carminative Juleps, and ſuch-like Intentions. *Quincy's Diſpenſat.*

AQUA BRYONIÆ COMPOSITA: Or, *Compound Bryony Water.*

Take of the Juice of Bryony-roots, four Pints; of the Juice of Rue and Mugwort, each two Pints; of the Leaves of Savine, three Handfuls; Motherwort, Catmint, and Penyroyal, each two Handfuls; of Baſil and Dittany, each one Handful and an half; of freſh outer Peel of Oranges, four Ounces; of Myrrh, two Ounces; of *Ruſſia* Caſtor, one Ounce; Spirit of Wine, eight Pints. Diſtil as uſual after proper Maceration; for the longer things of this Kind infuſe together, the better is the Water.

This is much preſcribed in Hyſterical Caſes, and is very forcing upon the Uterus, which makes it given to promote Delivery, and forward the proper Cleanſings afterwards; as alſo to open Menſtrual Obſtructions, and abundance of Female Complaints. It is likewiſe good againſt Convulſions in Children, and of Service in any nervous Complaint in either Sex. Its Doſe is from two Drams to two Ounces, with any convenient Diluter. *Quincy's Diſpenſat.*

The *Aqua Bryoniæ Compoſita* takes in ſome of the moſt efficacious of the fœtid Simples, and ſeems admirably well contrived for the Intention of an Hyſteric, ſo far as their Virtues are procurable this way; but they who would have it good, muſt expect it very foul and milky; for where it is otherwiſe, it hath been defrauded of its due Quantity of the beſt Ingredients, or their better Parts have been precipitated with Alum, or taken out by the Filtre. *Quincy's Prælect. Pharmac.*

AQUA FLORUM CHAMÆMELI COMPOSITA: Or, *Compound Chamomile-flower Water.*

Take of dried Chamomile-flowers, one Pound; of the outer Peel of Oranges, two Ounces; of the Leaves of common Wormwood and Penyroyal, each two Handfuls; of the Seeds of Aniſe, Cumin and Sweet Fennel, of the Berries of Bay, and Juniper, each one Ounce; infuſe them in one Gallon of *French* Brandy, and draw off double that Quantity by Diſtillation.

This Water is a Carminative, and in that Intention may be uſed at Diſcretion. *Quincy.*

AQUA CINNAMOMI FORTIS: Or, *Strong Cinnamon Water.*

Take one Pound of Cinnamon groſly powdered, and one Gallon of *French* Brandy; draw off by Diſtillation ten Pints.

AQUA EPIDEMICA: Or, *Plague Water.*

Take of the Leaves of Celandine, Roſemary, Rue, Sage, *Roman* Wormwood, Dragon, Agrimony, Baum, Scordium, the Leſſer Centaury, Carduus, Betony, and Mint, each two Handfuls; of dried Angelica-root, Zedoary, and Gentian, each one Ounce; of the *Virginia* Snake-root, half an Ounce; let them be infuſed in one Gallon of *French* Brandy, and draw off ten Pints by Diſtillation.

This very much differs from that of the old Diſpenſatory; and, beſides the Addition of many new Herbs, leaves out the Maſterwort, Piony, and Butterbur-roots, inſomuch that the Intention of the Medicine ſeems changed from an Alexipharmic into a Cardiac. It is taken from *Shipton*'s Additions to the former Diſpenſatory; and is not, by many, ſo much eſteemed as the former Plague Water, ſeveral Ingredients of moſt Efficacy there being here neglected, and many in this either uſeleſs or foreign to the Intentions. *Quincy's Diſpenſat.*

AQUA GENTIANÆ COMPOSITA: Or, *Compound Gentian Water.*

Take Gentian ſliced, one Pound and an half; of the Leaves and Flowers of the Leſſer Centaury, each four Ounces; infuſe them in ſix Pints of *French* Brandy, and diſtil about half that Quantity.

This Water is frequently preſcribed as a Stomachic, and is commended for a Deterger, and is ſaid to do Service in Dropſies, the Jaundice, and any Obſtructions of the Viſcera; and is given from two Drams to two or three Ounces at a Doſe: But, in Truth, theſe Ingredients give ſo little that will riſe in Vapour, that the Spirit comes over but with a very ſmall Alteration; ſo that they who are fond of the Virtues as they ſtand recommended in thoſe Ingredients, muſt look for them in the Extract, or never put them into the Still; and that is eaſily made by ſtraining and evaporating the Reſiduum, and is much uſed in the Shops, chiefly with Stomachics and Deobſtruents, when preſcribed to be made in Pills. *Salmon*, in his Notes upon this Water, ſays, it is a Preſervative in peſtilential Seaſons, excellent againſt the Rickets, helps Stitches in the Side, and provokes the Terms and After-birth; and, with equal Reaſon and Conſiſtency, that wretched Scribbler might have ſaid it cured Corns, broken Bones, and Apoplexies. *Quincy's Diſpenſ.*

AQUA IMPERIALIS: Or, *Imperial Water.*

Take of dried Citron Peels, of Nutmegs, Cloves, and Cinnamon, each two Ounces; Roots of Cyperus, *Florentine* Orris, and Calamus Aromaticus, each one Ounce; of Zedoary, Galangal, and Ginger, each half an Ounce; of the Tops of Lavender and Roſemary, each two Handfuls; of the Leaves of Bay, Marjoram, Baum, Mint, Sage, and Thyme, each one Handful; of the Flowers of white and red Roſes, each half an Handful; Damaſk Roſe-water, four Pints; of *French* Brandy, one Gallon; then diſtil off ten Pints.

This is a very good cephalic Water, and makes a very convenient Julep in any nervous Caſes whatſoever; and though it is ſo much ſlighted in the preſent Practice, this may be ſaid of it, which can be ſaid of few beſides in the Diſpenſatory, that all the Ingredients coincide in one Intention, and ſuch as will part with their Virtues by Diſtillation. It may be given from two Drams to two Ounces in any convenient Vehicle; it is alſo a pleaſant Cordial Dram alone, and very good upon any ſudden Sickneſs of the Stomach. *Quincy's Diſpenſat.*

AQUA LACTIS ALEXITERIA: Or, *Alexiterial Milk* *ter.* See ALEXITERIA.

AQUA LIMACUM TENUIS: Or, *A ſmall Snail Water.*

Take of the Leaves of Baum, Mint, Harts-tongue, Ground-ivy, of the Flowers of Archangel, Mallows, Elder, each one Handful; of Snails waſhed, and White of Eggs, each four Ounces; of Nutmegs, half Ounce; and of Cow's Milk, one Gallon; diſtil ing to Art, either in Balneo Mariæ, or in a Sand-heat.

If this be drawn with ſix Pints of Cow's Milk, and Pints of Canary, it is ſtyled *The ſtronger Snail Water.*

AQUA MIRABILIS: Or, *The wonderful Water.*

Take of Cloves, Galangals, Cubebs, Mace, the Leſſer damoms, Nutmegs and Ginger, each one Dram; the Greater Celandine, half a Pint; *French* Brandy, Pints and an half; and draw off the ſame Quantity by ſtillation.

This is a pleaſant and good Cordial, and greatly breaks Wind off the Stomach, and diſperſes Flatulencies. *Diſpenſat.*

AQUA NEPHRITICA: Or, *A Water againſt the*

Take of the beſt Flowers of White-thorn, four of Nutmegs bruiſed, three Ounces; infuſe them in a cloſe Veſſel with two Gallons of generous wine, and draw off by Diſtillation twelve Pints.

This was much preſcribed by the late Dr. *Radcliffe*, but not in the former Diſpenſatory.

AQUA PÆONIÆ COMPOSITA: Or, *Compound Piony* *ter.*

Take Lily of the Valley Flowers freſh gathered, one and infuſe them in two Gallons and an half of Brandy; and to the ſame put of Lime-flowers, Pound; of Piony, four Ounces; of the Male Piony- two Ounces and an half; white Dittany, and long wort, of each half an Ounce; of Miſleto of the and Rue, each two Handfuls; of Piony-ſeeds huſk'd Drams; and of the Seeds of Rue, three Drams half; of *Ruſſia* Caſtor, Cubebs, and Mace, each Drams; of Cinnamon, an Ounce and an half; of mary-flowers, ſix Pugils; of Stœchas, and flowers, each four Pugils; of Betony, Clove, and ſlip-flowers, each eight Pugils; of the Juice of Cherries, four Pints; and from the Whole draw Diſtillation four Gallons.

The preſent College Diſpenſatory hath left out ſome inſignificant Ingredients that were in the former, and larly the Squills; and avoided alſo the Trouble of a Diſtillation, which was altogether needleſs. This is the as was originally inſerted by the College in their firſt tory, under the Title of *Aqua Antiepileptica Langii.* Quantities alſo of ſome of the Ingredients are three Drams and an half of Seeds of Rue, when the Whole be taken in Subſtance at one Doſe, without any viſible It has ſome Ingredients in it of little or no Efficacy main Purpoſe, and others entirely unfit for this Form; firſt are the Radix Dictamni Albi, and Ariſtolochiæ neither of which will ſend any thing conſiderable Helm. The Semina Pæoniæ, and Viſcus Quercinus howſoever agreeable they may be to this Intention Forms, will not ſend out any thing of that Kind by tion. The Seeds will make well enough into an when huſk'd, and the Miſleto is beſt reduced into a but huſking the Seeds to be diſtill'd, were they proper a Circumſtance very trifling. The Caſtor is in this in its Quantity to what it was before; but although it the moſt conſiderable Ingredient in the Whole for the tention, yet the more it ſends over the Helm, the more deform the Water with a Milkineſs, and diſagreeable and therefore 'tis much better contrived into other in the Quantity it now ſtands here, it is too little to Harm in this reſpect; ſo that this Water, in the main, ſant enough, and now obtains in common Preſcription any of the ſame Rank. *Quincy's Prælect. Pharmac.*

It is an excellent Cordial, and can be exceeded by in all nervous Caſes, both in Children and grown may be diluted into a Julep with Black-cherry Water, ſuch Vehicle, and may be given from one Dram to Children, and from half an Ounce to two Ounces ſons; and, if the Caſe requires it, may be repeated every r eight Hours. But Caſes of Moment are not truſted to Helps as this alone. *Quincey's Diſpenſat.*

QUA PROTHERIACALIS: Or, *A Succedaneum for the cle Water.*

ake of the Leaves of Scordium, Scabious, Carduus, and Goats-rue, each two Handfuls; of Citron-peel, and Orange-peel dried, each half an Ounce; Seeds of Citrons, Hartwort, and Treacle-muſtard, each one Ounce; of the Flowers of Marigolds and Roſemary, each one Handful; Cinnamon, two Drams; of *French* Brandy, two Pints; and diſtil off ſix Pints.

he Carduus Seeds, and the Carduus Water, are in this ted as inſignificant, the reſt continuing much as before. deſigned to be uſed as Treacle Water when that proves dent, in a Seaſon not fit to make it. *Quincey.*

QUA RAPHANI COMPOSITA: Or, *Compound Horſe-radiſh er.*

ake of the Leaves of both Scurvy-graſſes, freſh gathered in the Spring, each ſix Pounds; bruiſe them, and preſs out the Juice; and to it add the Juices of Brook-lime and Water-creſſes, each one Pint and an half; of Horſe-radiſh-root, two Pounds; of Arum-root, freſh, ſix Ounces; of Winter's-bark, and Nutmegs, each four Ounces; of Lemon-peels dried, two Ounces; of *French* Brandy, four Pints; and draw off by Diſtillation eight Pints.

this is rejected the Briony-root, which is ordered in a large ntity in the old College Diſpenſatory, but renders the our of the Water nauſeous, and gives no Virtues ſuitable e main Intention of the Whole. The Arum-root is like- in this increaſed in its Quantity, but half an Ounce, be- ordered in the former, whereby the Medicine is rendered more pungent, and efficacious as an Antiſcorbutic, or a ritic, both which Purpoſes 'tis calculated for. All the edients in this Water, are of a ſubtle penetrating Nature, greatly abound with volatile Salts, which, in many groſs and Conſtitutions of the Blood, do great Service by dividing it, endering it more fluid, which will increaſe the Diſcharges e Kidneys, and likewiſe waſh through any Obſtructions oſe Parts. In all Obſtructions of the other *Viſcera*, it is n excellent Medicine, and prevails againſt the Jaundice, exies, and Dropſies; and, in ſcorbutic Caſes, there is ing beyond it; as it greatly forces thoſe minute Paſſages, otes Tranſpiration, and cleanſes the Skin, and other ſmall ds, which entertain groſs Particles to the Detriment of proper Offices. It may be given from half an Ounce to or four Ounces, unleſs immediately after Diſtillation, be- then it is ſo pungent as makes it difficult to take without diluting. This Water ought to be drawn with the Re- r fixed cloſe to the Worm by a Bladder, otherwiſe a great of the beſt Part will fly away. *Quincey's Diſpenſat.*

e *Aqua Raphani Compoſita* aims at the Intention of a tic; and will, if good, be as foul and milky as the com- d Bryony Water, when rightly prepared. *Quincy's Præ- Pharmac.*

QUA DOCTORIS STEPHANI: Or, *Doctor* Stephen'*s Wa-*

ke of Cinnamon, Ginger, Galangals, Cloves, Nutmegs, Grains of Paradiſe, of the Seeds of Aniſe, Sweet Fennel, and Caraway, each one Dram; of the Leaves of Thyme, Mother of Thyme, Mint, Sage, Penyroyal, Roſemary, Flowers of red Roſes, Chamomile, Origanum, and Lavender, each one Handful; of *French* Brandy, ſix Pints; nd draw off one Gallon by Diſtillation.

the Ingredients in this Water are well ſuited to the main tion of a Cephalic, a Cordial, or Carminative; it is like- omewhat Antihyſterical, and therefore frequently uſed by Midwives amongſt their Women. It is much preſcribed two Drams to two Ounces.

AQUA THERIACALIS: Or, *Treacle Water.*

ke of the Juice of green Walnuts, four Pints; of the Juice of Rue, three Pints; of Carduus and Baum, each two Pints; of the freſh gather'd Butterbur-roots, one Pound and an half; of Burdock, one Pound; of Angelica, and Maſterwort, each half a Pound; of green Scordium, four Handfuls; of old *Venice* Treacle, and Mithridate, each eight Ounces; of Lemon-juice, two Pints; of *French* Brandy, one Gallon and an half; draw off by Diſtillation three Gallons and an half, and then add four Pints of diſtill'd Vinegar.

The new Diſpenſatory omits the needleſs Circumſtance in the former, of depurating the Lemon-juice before Diſtillation, and very prudently adds the diſtill'd Vinegar afterwards, inſtead of putting it into the Still, becauſe with ſuch Management it effectually anſwers all its Intentions, and riſques leſs Hazard of carrying along with the Medicine any Part of the Metal with which the Alembic is made, as all Acids are ſubject to do. This Water is the moſt uſed of any in the Shops, though its Compoſition be blamed by many; for the Juices can contribute very little to its Virtues; and upon account of the proper Seaſon to obtain them, this Water cannot be made at all times, how much ſoever wanted; unleſs, as ſome do, the Juices are expreſs'd in their Seaſon, and kept on Purpoſe; but then they are good for nothing; for ſo little as is of a volatile Nature in theſe Simples, will very ſoon be loſt. The reſt of the Ingredients indeed agree very well to the main Intention of an Alexipharmic and Sudorific; and the Acids contribute much to that Purpoſe.

The Doſe of this Water is uſually to grown Perſons from half an Ounce to one Ounce, which is too little; for four Ounces is but a moderate Quantity to have any Reliance upon, eſpecially to Perſons who are uſed to high living. *Quincy's Diſpenſat.*

It is of great Importance in Compoſition to adapt the Ingredients made uſe of to Forms in which their Medicinal Virtues may be procured and preſerved. But nothing is more idle than to ſtudy the Elegance and Beauty of Medicines, becauſe they are not calculated to pleaſe the Eye or Palate, but to cure Diſtempers. Beſides, all our Endeavours to render Remedies palatable are fruitleſs, becauſe the very Name of a Medicine, with moſt People, conveys an Idea of ſomething nauſeous.

As to the Form of Spirituous Waters, they do not ſeem in the leaſt calculated for the Removal of any Diſtemper, though they may ſomtimes relieve Symptoms. If what has been ſaid under the Article ALCOHOL, with reſpect to Spirits procured by Fermentation, be duly conſidered, perhaps others will, like me, think, that ſpirituous Waters can ſeldom be taken in Quantities ſufficient to do any conſiderable Service by the Ingredients wherewith they are impregnated, without doing a Miſchief more than equivalent by their noxious Spirit.

In ſeveral of the Compound Waters mentioned above, much more is directed to be drawn off, than is put of the Spirit to the Ingredients. In theſe Caſes therefore, the Compounder muſt take care to put into the Still Water ſufficient to admit of the Quantities directed to be drawn off.

Becauſe there are many of the foreign Writers in Phyſic, who make mention of the *Aqua Anhaltina*, and of the *Aqua Sclopetaria*, which laſt is uſually known by the Name of *Eau d'Arquebuſade*, I ſhall in this Place ſpecify the Manner of their Preparation. And to theſe I ſhall add a Snail Water, ſomewhat different from that of the College, on account of its ſingular Excellence.

AQUA ANHALTINA.

Take of the beſt Turpentine, half a Pound; of Olibanum, one Ounce; Wood of Aloes reduced to Powder, three Drams; Grains of Maſtich, Clove-gilly-flowers, or Roſemary-flowers, Nutmegs, Cubebs, or Galangals, Cinnamon, each ſix Drams; Saffron two Drams and an half; Fennelſeeds, and Bay-berries, each half a Dram. Reduce all to a Powder, and digeſt in five Pounds of Spirit of Wine for ſix Days, adding fifteen Grains of Muſk tied up in a little Bag. Then diſtil in a ſlow *Balneum Mariæ*; ſeparate what is clear from what is turbid.

N. B. 'Tis better to put the Muſk in the Beak of the Alembic.

This Water warms, dries, diſcuſſes, ſtrengthens the Heart, Stomach, and other Viſcera; for this Reaſon it is thought good in Faintings and Deliquiums. But it is more frequently uſed externally, and ſaid to be of great Service in Catarrhs, and Pains ariſing from a cold Cauſe, in the Wandering Gout, as 'tis call'd, in Palſies, Epilepſies, Apoplexies, Vertigos, Tremors, and Lethargies, by rubbing the affected Part well with it. *Schroderi Pharmacopœia Medico-chymica.*

AQUA SCLOPETARIA, *ſive* VULNERARIA: *The Vulnerary Water*, commonly call'd *Eau d'Arquebuſade.*

Take of the Leaves and Roots of Comfrey, of the Leaves of Sage, of Mugwort, and of Bugle, each four Handfuls; of the Leaves of Betony, Sanicle, Ox-eye, of Daiſy, of the greater Figwort, of Plantain, of Agrimony, Vervain, Wormwood, and Fennel, each two Handfuls; of St. John's-wort, of long Birthwort, of Orpine, of Paul's Betony, of the leſſer Centaury, of Yarrow, of Tobacco, of Mouſe-ear, of Mint, and of Hyſſop, each one Handful: Cut all theſe, and bruiſe them ſufficiently in a Mortar;

tar; then put them into a large Earthen Veſſel, and pour twenty Pounds of White-wine upon them. Stir the Whole with a Stick, ſtop the Veſſel, and allow it to digeſt in a warm Dung-hill, or any other ſuch Heat, for the Space of three Days. Then pour it over into a large Copper Cucurbit, whoſe Inſide is covered with Tin; and, having adapted its Head and Refrigeratory to it, draw off the Moiſture into a Receiver, by a moderate Fire, in the ordinary manner. Thus you will have the Vulnerary Water, or *Eau d'Arquebuſade*, which muſt be preſerved in a cloſe-ſtopt Bottle.

It is good for Contuſions, and Diſlocations, and very proper for diſcuſſing Tumors; apply'd externally, it deterges Wounds, and old Ulcers. It incarns, corroborates, reſiſts Putrefaction, ſtops Gangrenes, and is by ſome uſed againſt Vapours.

That the Nature, the Uſes, and Virtues of this Water may be the better underſtood, I ſhall ſubjoin a ſhort Account of the Qualities of each of its Ingredients.

As for the Water itſelf, its very Names are expreſſive of its Virtues; for the Word *Vulnerary* imports its being proper for curing Wounds. And the *French* Word *Arquebuſade* implies its being particularly proper in Gun-ſhot Wounds.

1. COMFREY then, or the *greater Conſound*, is glutinous, and proper to conſolidate the Lips of Wounds; hence it receives its *Latin* Name CONSOLIDA. It ſtops Hæmorrhages and Fluxes, and contains little Salt, but a great deal of Oil and Phlegm.

2. SAGE is, by way of Eminence, called *Salvia*, becauſe in a great many Diſorders it is thought to ſave and preſerve Life. Of this Herb there are two Species, the Wild and Garden Sage; of this latter Species there are two Kinds, the large and the ſmall. The ſmall Kind is the beſt, and muſt be uſed in preparing the Vulnerary Water. It contains a great deal of Salt; and an Oil exalted into a Spirit. It has few paſſive Principles, and is cephalic, nervous, antihyſteric, ſtomachic, and aperient.

3. MUGWORT contains a great deal of Salt, little Oil, and Phlegm; and is antihyſteric, aperient, and vulnerary.

4. BUGLE, or *Middle Conſound*, contains a conſiderable Quantity of Salt and Oil, and a great many paſſive Principles. It is vulnerary, corroborative, and proper in Diſorders of the Lungs.

5. BETONY contains an exalted Oil, and an eſſential or volatile Salt, but little fixed Salt, Phlegm, and Earth; and is cephalic, cordial, and vulnerary.

6. SANICLE contains a conſiderable Quantity of Salt and Oil, a great deal of Phlegm, and little Earth. It is aſtringent, conſolidating, vulnerary, proper in *Herniæ*, uſed both internally and externally.

7. OX-EYE contains a great deal of Oil and Phlegm, and a conſiderable Quantity of Salt. It is vulnerary, and preſcrib'd for the *King's-evil*.

8. THE SMALLER DAISY, or *Bellis Minor*, contains little Salt and Earth, but a great deal of Oil and Phlegm. It is uſed for ſtopping Hæmorrhages, conſolidating Wounds, diſcuſſing Tumors, and carrying off Inflammations of the Eyes.

9. *Scrophularia Major*, or the GREATER FIGWORT, contains a great deal of Salt and Oil, a conſiderable Quantity of Phlegm and Earth, and is apply'd for diſcuſſing ſcrophulous Tumors, which its Root reſembles. It is alſo uſed to ſoften Hardneſſes, to deterge Wounds, and old Ulcers.

10. PLANTAIN contains an Oil, a little Salt, but a great deal of Earth and Phlegm. Its Salt, which is acid, being mixed with its Oil, and with a great many paſſive Principles, is almoſt entirely abſorb'd by them; for this Reaſon the Plant is only ſlightly deterſive, but it is aſtringent and refreſhing, on account of its Earth and Phlegm. It is uſed in Fluxes of all Sorts, in Hæmorrhages, and Inflammations of the Eyes.

11. AGRIMONY, or *Eupatorium*, contains a conſiderable Quantity of Salt and Oil. Its active Principles are mixed with a great deal of Earth, and a little Phlegm; for which Reaſon it is deterſive and aſtringent with regard to the Fœces, but aperient with regard to the Urine. It is thought good for Diſorders of the Liver, and ſtops Fluxes.

12. VERVAIN contains a conſiderable Quantity of Salt and Oil, and is cephalic, vulnerary, or deſiccative. It is uſed for Diſorders of the Breaſt, for the Stone and Dyſentery, for generating Milk in Nurſes, and for the Pleuriſy. It is both adminiſter'd internally, and apply'd externally.

13. *Abſinthium*, or WORMWOOD, contains a ſulphureous Spirit, or rather an exalted Oil, in which its Smell conſiſts. It has alſo great Store of Salt, but little Phlegm. It kills Worms, and corroborates the Stomach. It is vulnerary, aperient, and antihyſteric.

14. *Fœniculum*, or FENNEL, contains a great deal of Salt, and Oil half exalted to what we call Spirit; it alſo contains a conſiderable Quantity of Earth and Phlegm. Its Seeds, the largeſt and beſt nouriſh'd, come from *Florence*, are very much uſed in Medicine; they diſpel Wind, and are antihyſteric. Its Root is aperient; and its Leaves are proper for deterging that Sanies which ſometimes infeſts the Eyes, and accompanies Wounds.

15. The *Hypericum*, or ST. JOHN'S-WORT, contains a pretty large Quantity of Oil, Salt, and Earth, but little Phlegm. It is vulnerary, anti-hyſteric, aperient, and nervous.

16. BIRTHWORT is called *Ariſtolochia*, on account of its being proper for bringing away the After-birth. There are four Species of it, the *round*, the *long*, the *ſmall*, and that call'd the *Ariſtolochia Clematitis*; all of them contain a great deal of Oil and Salt, a conſiderable Quantity of Phlegm, but little Earth. They are vulnerary, deterſive, antihyſteric, and proper to reſiſt Gangrenes, attenuate Phlegm, and aſſiſt Reſpiration. The two firſt are apply'd externally; and the Roots o the two laſt are uſed in ſuch Medicines as are deſign'd for internal Uſe.

17. *Telephium*, or ORPIN, contains a great deal of Phlegm and Oil, but little Salt and Earth. It is vulnerary, aſtringent moiſtening, and conſolidating. It is alſo proper for Herniæ Dyſenteries, and deterging and wearing off Blemiſhes in th Skin.

18. *Veronica*, or PAUL'S BETONY, is of two Sorts, th Male and the Female: The Male is of two Sorts, one ſtrait and the other crooked, and creeping on the Ground. This la is moſt in Uſe, and muſt be made Choice of in preparing th vulnerary Water. All the Species of this Plant contain a gre deal of Salt and Oil, and are of an inciding, attenuating, dete ſive, vulnerary, and ſudorific Quality; they are alſo proper f Ulcers of the Breaſt and Lungs, and for reſiſting Poiſon.

19. The *Centaurium Minus*, or LESSER CENTAURY, co tains a great deal of Salt, a conſiderable Quantity of Oil a Earth, but little Phlegm. It is vulnerary, deterſive, dryin and aperient. It is proper for Scurvies, intermittent Feve Worms, Madneſs, Obſtruction of the Menſes, the Sciatica a Jaundice.

20. The *Millefolium*, or YARROW, contains a great deal Salt and Oil, and is aſtringent, vulnerary, diſcutient, and pr per to ſtop Fluxes, Hæmorrhages, and Gonorrhœas.

21. *Nicotiana*, or TOBACCO, is univerſally known to narcotic and vulnerary. It is cuſtomary to bruiſe it, and ap it to Tumors, in order to diſcuſs them, becauſe it contains S rits which attenuate the Matter, and open the Pores. It is cuſtomary to infuſe it in common Water for waſhing Tette and other Deformities of the Skin; but if the Water is too ri ly impregnated with it, it is ſubject to excite Vomiti There is alſo a Syrup of it prepared for the Aſthma. Decocti of it are ſometimes uſed by way of Clyſters in Apoplexies, I thargies, and uterine Suffocations. It contains a Sulphur, a volatile Salt, ſo penetrating, that it is ſcarce ſooner in Stomach, than it ſtimulates its Fibres, and excites Vomit Its Oil is ſo ſtrong an Emetic, that if a Perſon but holds Noſe a little above the Phial in which it is contain'd, he vo I myſelf once made a ſmall Inciſion in the Skin of a D Thigh; and upon putting a ſmall Tent in it, which had b dipt in the Oil of Tobacco, the Animal was violently pur and vomited almoſt immediately after.

22. The *Piloſella*, or MOUSE-EAR, contains a conſider Quantity of eſſential Salt and Oil, little Phlegm, but a g deal of Earth. It is aſtringent, vulnerary, incraſſating, pr for Herniæ, and for ſtopping Hæmorrhages, Dyſenteries, other Fluxes.

23. *Mentha*, or MINT, is either wild, or grows in G dens. Both Sorts contain a great deal of exalted Oil, and tile Salt, and but little Phlegm and Earth. Both Species co borate the Stomach, aſſiſt Digeſtion, diſpel Wind, cur Colic, attenuate and diſſolve Humours, and reſiſt Gangre

24. *Hyſſopus*, or HYSSOP, contains a great deal of vo Salt, and exalted Oil, and but little Phlegm and Earth. vulnerary, deterſive, and aperient. It is uſed in Diſord the Breaſt and Lungs, ſuch as the Aſthma and Phthiſis.

As the Vulnerary Water, or *Eau d'Arquebuſade*, has fo Encomiums paſſed upon it by ſome foreign Phyſicians, and the ſame time ſo little known or heard of in our own Cou I have abridg'd Mr. *Lemery*'s Remarks upon each of its I dients; that, knowing the Nature and Quality of every S apart, we might be the better able to form a true Eſtim the Compound reſulting from their Conjunction and Prepa in the manner directed.

As in this Proceſs moſt of the Plants ſubjected to Diſtill are none of the moſt ſucculent, it is proper to add White- to them, ſince that Liquor excites a Fermentation, and to diſengage the ſaline, ſulphureous, and volatile Parts Ingredients.

Care muſt be taken, that the Fire be not too ſtrong the Diſtillation, leſt the Matter ſhould adhere to the Bo the Cucurbit, and the Water drawn off acquire, of cou empyreumatic Smell. After half the Liquor is diſtill'd proper to pour what remains in the Cucurbit upon a Cloth, and to put it into a Preſs, in order to extract its after which it is to be return'd into the Cucurbit, an ted to Diſtillation. By this means the empyreumatic ll of the Water may be prevented: But a *Balneum Vaporo-* or a ſufficiently large *Balneum Mariæ*, are ſtill more to be ed to in this Proceſs.

we dry and burn the groſs Remains of theſe Herbs, make ixivium of their Aſhes, draw the Salt from this Lixivium by oration, and diſſolve it in the diſtill'd Water, it will by eans become more deterſive and diſcutient, than it would wiſe have been. *Lemery. Courſ. de Chymie.*

Aqua Limacum.

Snail Water different from that of the Diſpenſatory.

ake a great Peck of Garden-ſnails, and waſh them in a great deal of Beer, and make your Chimney very clean, and ſet a Buſhel of Charcoal on Fire; and when they are throughly kindled, make a Hole in the Middle of the Fire, and put the Snails in, and ſcatter more Fire amongſt them, and let them roaſt till they make a Noiſe; then take them out, and, with a Knife and coarſe Cloth, pick and wipe away all the green Froth: Then break them, Shells and all, in a Stone Mortar.

ake alſo a Quart of Earth-worms, and ſcour them with Salt divers times over. Then take two Handfuls of Angelica, and lay them in the Bottom of the Still; next lay two Handfuls of Celandine; next a Quart of Roſemary-flowers; then two Handfuls of Bears-foot and Agrimony; then Fenugreek; then Turmerick; of each one Ounce: Red Dock-root, Bark of Barberry-trees, Wood-ſorrel, Betony, of each two Handfuls. Then lay the Snails and Worms on the Top of the Herbs; and then two Handfuls of Gooſe-dung, and two Handfuls of Sheep-dung. Then put in three Gallons of ſtrong Ale, and place the Pot where you mean to ſet Fire under it: Let it ſtand all Night, or longer; in the Morning put in three Ounces of Cloves well beaten, and a ſmall Quantity of Saffron, dry'd to Powder; then ſix Ounces of Shavings of Hartſhorn, which muſt be uppermoſt. Fix on the Head and Refrigeratory, and diſtil according to Art.

is Water is an excellent Reſtorative, very good when the raiſes Flatulencies in the Stomach, and is ſaid to be effe- in even obſtinate Jaundices.

Medicated Waters from the College.

Aqua Aluminoſa: Alum Water.

ke of red Roſe and Plantain Water, each one Pint; of white Sublimate and Roch-alum, each two Drams: Let the Alum and Sublimate be rubb'd together, and be both oil'd with the Waters, in a Glaſs Veſſel, having a narrow Neck, to the Conſumption of half the Quantity; and fter five Days, when the Fœces are ſettled, pour off the Clear for Uſe.

is is chiefly for external Uſes, and moſt commonly comes the Direction of a Surgeon, in Ulcers and cutaneous ions. The Steam of the Alum-water, when boiling, is lly to be avoided by the Operator, becauſe it may have ffects from its poiſonous Qualities. It was firſt preſcrib'd llopius, *Cap.* 93. *de Morbo Gallico.*

Aqua Calcis: *Lime-Water.*

ke one Pound of Quick-lime, and pour upon it twelve ints of boiling Water: After the Ebullition ceaſes, and he Lime is ſettled to the Bottom, pour off the Clear for Uſe.

is kept in Readineſs for various Uſes, both internal and al.

a Camphorata Styptica: *Camphorated Styptic-Water.*

e of camphorated Vitriol, one Ounce; ſteep it in three ints of Spring-water, and let it ſtand till the Fœces are llen to the Bottom.

Aqua Sapphirina: *Sapphire-colour'd Water.*

ke one Pint of Lime-water, of Sal Ammoniac one Dram d an half: Let them be diſſolved together, and then and in a Braſs Baſon till the Liquor becomes tinged of a pphire Colour.

, by ſome, is greatly eſteem'd for clearing the Eyes pecks and Films, if two or three Drops be frequently d into them

Aqua-Fortis Simplex: *Single Aqua-fortis.*

Take crude Vitriol, three Pounds; Nitre, two Pounds; beat and mix them well: Put the Mixture into an earthen Pot, call'd a long Neck; place it upon a Fire; fit it to a Receiver, which lute well with Clay, Sand, and cut Flax, wrought together: Give a Fire of the firſt Degree for three Hours; in that time there will come ſome red Fumes into the Receiver, which will again diſappear; then raiſe the Fire to the ſecond Degree, where keep it three Hours longer: Go on to the third and fourth, where keep it till the Receiver is free from Fumes. When all is cold, take the Receiver off carefully, and keep the *Aqua-fortis* for Uſe.

Aqua-Fortis Duplex: *Double Aqua-fortis.*

Take Vitriol, calcin'd almoſt to a Redneſs, four Pounds; of Nitre two Pounds, both made into fine Powder, and well mix'd: Put the Mixture into an earthen long Neck, or Glaſs Retort luted; ſet it in a reverberatory Furnace; fit and lute on a Receiver to it: Kindle a Fire, and proceed exactly as in the *Aqua-fortis Simplex.*

Aqua Regia.

Take equal Quantities of Nitre and Sal Ammoniac, and put them into a Retort, big enough to remain above two Thirds empty; place it in Sand, and raiſe under it a Fire of the ſecond Degree, which keep up while any thing continues to come over.

Another Aqua Regia.

Take of Sal Ammoniac four Ounces; put it in Powder into a Matraſs, or Glaſs Veſſel of a good Bigneſs, and pour upon it ſixteen Ounces of Spirit of Nitre: Place the Veſſel in a warm Sand-digeſtion, till all the Sal Ammoniac is diſſolv'd; then pour it into a Bottle, and keep it ſtopp'd with Wax, or a Glaſs Stopple.

This is honour'd with the Appellation of *Aqua Regia*, becauſe it will diſſolve Gold, the Chymiſts *King of Metals*; but it is of no other Uſe in Medicine, than as a Menſtruum in ſome Preparations.

There are many more Preſcriptions for *Aqua Regia* in Chymical Writers, all which conſiſt of an Union of Spirit of Nitre with Spirit of Sea-ſalt.

AQUÆDUCTUS, ὑδροχόν, properly ſignifies a Pipe or Canal to convey Water; but is metaphorically applied to a Sort of bony Canal in the *Os Petroſum*, which is otherwiſe call'd the *Meatus Cæcus*, *Cochlearis*, and *Capreolaris*.

AQUALA. Arſenic, or Sulphur. *Johnſon.*

AQUALICULUS, ἐπίσειον, ἐπίσιον, properly ſignifies that Part of the Belly which reaches from the Navel to the Pubes. It ſometimes is uſed to expreſs the Stomach, or inteſtinal Tube.

AQUARIUS. Iron. *Rulandus. Johnſon.*

AQUASTER, in *Paracelſus*, *Lib.* 1. *de Vita longa*, *C.* 3. is a ſort of Viſion, which repreſents ſomething to our Sight which has no real Exiſtence, but only in Appearance.

AQUATUM, Aqueum, ὑδαρὲς, from ὕδωρ, Water. Watry, diluted. In *Scribonius Largus*, Nº 42. 26. we meet with *Aquatior* and *Aquatiſſimus*. It ſignifies alſo the *Chalaza* of an Egg.

AQUEUS HUMOR OCULI. The aqueous Humour of the Eye. See Oculus.

AQUIDUCUS, ὑδραγωγός. The ſame as Hydragogos, which ſee. The Term Aquiducus is found in *Cælius Aurelianus*, *De Tract. Paſſion. Lib.* 3. *Cap.* 3.

AQUIFOLIUM. The ſame as Agrifolium, which ſee.

AQUILA, Offic. Mer. Pin. 170. *Aquila fulva ſive aurea*, Will. Ornith. 26. Raii Ornith. 58. Ejuſd. Synop. A. 6. *Chryſeatos*, Aldrov. Ornith. 1. 110. Charlt. Exer. 70. Jonſ. de Avib. 2. *Aquila Germana*, Geſn. de Avib. 149. *Aquila Regalis*, Schw. A. 214. *Aigle Royal*, Bellon. des Oyſe, 89. **THE GOLDEN EAGLE.**

The Gall and Dung are the Parts uſed in Medicine: The Gall, diſtill'd with Oil of Violets, is recommended by *Aviſenna* for Pains and Ringings in the Ears; and the Dung againſt Abortions. *Dale.*

AQUILÆ, ἀετοὶ, are Veins ſo call'd firſt by *Philiſtius*, which aſcend through the Temples into the Head, according to *Ruffus Epheſius*.

Aquila bears various Significations in Chymiſtry; it is the *Spirit of Mercury*; and Sal Armoniac paſſes under that Name, becauſe of its Levity in Sublimation; and *Paracelſus* would have *Aquila* often taken for *Mercurius Præcipitatus*. It alſo ſignifies Arſenic, Sulphur, the Philoſopher's Stone, &c. *Rulandus. Johnſon.*

Aquila Philoſophorum is the *Mercurius Metallorum*, reduced into its firſt Matter. *Rulandus.*

Aquila Alba is *Mercurius Dulcis*; alſo the Subſtance which is prepar'd of Sal Armoniac and common Sublimate: Moreover, it is that ſpiritual and cryſtalline Sublimate, in the Compoſition of the Philoſopher's Stone, whoſe Glue is the true Mercurial Water.

Aquilæ Lacrymæ is the Liquor prepar'd from the ſaid Salt, ſometimes in its fix'd, ſometimes in its volatile State.

Aquila Cœleſtis is the Panacea, or Cure for all Diſeaſes, prepared of Mercury eſſentificated.

Aquila Nigra is the Spirit of that venomous Cadmia call'd *Cobalt*, which ſome take to be the Matter of the Philoſopher's Mercury.

Aquila Veneris conſiſts of Crocus, made of Verdegriſe in a Reverberatory, and join'd with Sal Ammoniac, ſeven times ſublimated.

Aquila has many other Epithets beſtow'd on it by theſe ſort of Authors, as *Rubra*, *Salutifera*, *Vitriolata*, *Expanſa*, *Fixa*, *Hæmatica*, *Præcipitata*, *Volans*, &c.

AQUILEGIA, Offic. *Aquilegia cærulea*, Ger. 935. Emac. 1093. Mer. Pin. 9. *Aquilegia ſylveſtris*, C. B. Pin. 144. Tourn. Inſt. 428. Elem. Bot. 340. Dill. Cat. Giſſ. 82. Rupp. Flor. Jen. 131. *Aquilegia ſylveſtris flore ſimplici*, Buxb. 25. *Aquilegia flore ſimplici*, J. B. 3. 484. Raii Hiſt. 1. 706. Synop. 3. 273. *Aquilegia*, Chab. *Aquilegia vulgaris flore ſimplici*, Park. Theat. 1367. *Aquilegia flore cæruleo*, Merc. Bot. 2. 16. Phyt. Brit. 9. COLUMBINES. *Dale.*

The Root of this Plant is pretty thick, at the Head ſending forth many long and large Fibres, which run pretty deep into the Earth. The Leaves grow upon long Foot-ſtalks, compos'd of a three-fold Diviſion of as many roundiſh Segments, cut in, and indented about the Edges, of a bluiſh-green Colour: The Stalks ariſe to be a Foot and a half or two Foot high, ſomewhat hairy, ſlender, and of a purpliſh Colour, pretty much branch'd, and having ſeveral ſmaller Leaves ſet on, without Foot-ſtalks at each Diviſion of the Branches. The Flowers are pendulous, of a fine blue Colour, each conſiſting of five plain, and five horned and hooded *Petala*, or Leaves, placed alternately, the Ends of the horned ones being crooked. When the Flowers are fallen, they are ſucceeded each by four or five longiſh taper Horns or Pods, ſet round about the Stalk, containing black ſhining Seed. Columbines grow wild in ſeveral Parts of *England*; but are not very common, and flower in *May* and *June*.

This Herb is alſo call'd *Leonis Officulum*; but receives the Name of *Aquilegia*, becauſe its Leaves, not as yet fully expanded, collect and gather a great deal of Rain-water. This Herb may alſo juſtly be call'd *Theriacaria*, on account of its remarkable Efficacy in curing malignant and virulent Diſorders. It is well known in Flower-gardens, on account of its Flower, which reſembles King's Conſound, and laſts throughout the whole Summer. When its Leaves firſt begin to appear, it reſembles the greater Celandine, and for this Reaſon it is alſo call'd *Chelidonia Sylveſtris*. Its Flowers are of different Colours, ſome blue, ſome purple, ſome white, and ſome of them are indented. The blue is only uſed in Apothecaries Shops, where the Seed, the Flower, and the Herb, are all employ'd. It is moderately drying, opening, and healing. It purifies the Blood, and removes Obſtructions of the Liver and Spleen. It diſſipates the Bile, and is of ſingular Efficacy in curing the Jaundice. A Powder or Emulſion of its Seeds, as alſo its diſtill'd Water, are of great Service in the Jaundice; in which Caſe its Extract may alſo be uſed with great Succeſs. *Hornung. Ciſt. Med. P.* 6. See alſo *Jo. Lang. Epiſt. Med. L.* 3. *C.* 6. *B. Tim. Epiſt. & Conſ. Med. P. M.* 461. *Joh. Camerar. Hort. Med. P.* 19. *Jo. Johnſton Syntagma*, *Med. Pract. L.* 5. *Tit.* 6. *C.* 2. *Artic.* 6. *Hieron. Braunſchweig. Theſaur. Pauperum.* It removes the Scurvy; promotes a Diſcharge of Urine, and the monthly Evacuations of Women; cures a beginning Dropſy; is excellent for the Breaſt and Lungs; reſiſts all kinds of Poiſons; cures Wounds, and removes Pains of the Belly and Matrix. Mothers ordinarily uſe its Seeds for their Children, when they have the Meaſles or Small-pox, by tying them up in a Piece of Linen Cloth, and ſteeping them among Beer. *Simon Pauli (Quadr. Botan. Claſſ. 2.)* ſays, that he has given half a Dram of its Seed, with the Water of *Carduus Benedictus*, to poor Peoples Children in the Small-pox, and that by its means their Lives have been preſerved. For this Purpoſe, People ordinarily make, of this Seed, Muſtard-ſeed, Water-creſſes, and Melons, an Emulſion, with Fumitory-water, Carduus-water, Viper-graſs-water, that of Columbine-flowers and Fennel. It is uſed with Succeſs in malignant Diſorders, and even in the Plague. It is alſo by ſome extoll'd as a Specific in the Scurvy. *Joh. Michael. Not. in Schrod. Pharm.* *Cluſius* recommends a Quarter of an Ounce of this Seed, reduced to a Powder, and taken in Wine, in difficult and tedious Labours. It is alſo an excellent Remedy againſt a Vertigo, *(Fr. Hoffman. Meth. Med. L.* 1. *C.* 29. *Paulin. Obſ. Med. Phyſ.* 95. *Cent.* 3. *& Obſ.* 64. *Cent.* 4.*)* and againſt the Sciatica and Epilepſy, taken in black Cherry-water. It is alſo commended in hyſteric Diſorders. The Seed, reduced to a Powder, may be given to coſtive Children. The Root, reduced to a Powder, and applied in Form of a Plaiſter to th Ears, removes Pains and Noiſes in them; and if there a Worms in them, kills them. *Camerar.* in *Hort.* ſays, that i *Spain*, in order to prevent a Stone in the Kidneys, Peopl when they riſe out of Bed, take a Piece of the Root in the Mouths, and chew it by little and little. The Flowers have cordial Quality, and may be taken as the other cordial Flowe Many make cordial Syrups, Conſerves, and Tinctures of the They are alſo good in malignant Fevers, Small-pox, and Meaſle Its Syrup is excellent in Diſorders of the Throat, ſuch as t Quinſey, and in thoſe of the Breaſt. It is externally uſed Scurvies of the Mouth, with the Addition of a little ſweet Spi of Salt. Some alſo make a *Vinegar* of its Flowers.

AQUILENA. The *Conſolida Regalis*, or Lark-ſpur. *Joh*

AQUOSA URINA, is crude watry Urine.

AQUOSUS HYDROPS. See ASCITES.

AQUULA. See HYDATIS.

ARA PARVA, βωμὸς μικρός. A little Altar. A neat w of Filleting and Bandage, which, when fix'd, repreſents Corners of an Altar: It was invented by *Soſtratus*, and me tion'd by *Galen de Faſciis*.

ARABE, ἀῤῥάβη, in *Hippocrates*, is expounded by *Eroti* ἡ βλάβη, Hurt or Injury.

ARABICUS LAPIS. The *Arabian* Stone. It is like I ry, blemiſh'd with Spots.

Being levigated, and applied in a Cataplaſm, it dries up Hæmorrhoids; and, when it is calcin'd, is uſed as a Dentifr *Dioſcorides*, *Lib.* 5. *Cap.* 149.

The *Lapis Arabicus* is like Ivory, drying, and aſtring *Oribaſius*, *Med. Coll. Lib.* 15. *P. Æginet. Lib.* 7.

ARABIS MALAGMA, *ad Strumas & Phymata.* T *Arabian*'s Malagma for ſtrumous Swellings, and Tubercles ca *Phymata*.

Take of Myrrh, Sal Ammoniac, Frankincenſe, liquid dry Roſin, Crocomagma, Wax, each one Dram t Grains and an half; of the Stone call'd *Pyrites*, four Dr ten Grains; to which ſome add of Sulphur two Dr five Grains. *Celſus*, *Lib.* 5. *Cap.* 18.

ARABICA ANTIDOTUS, *Hepatica.* The *Arabian* tidote for the Liver.

Take of Myrrh, four Drams ten Grains; Coſtus, one D two Grains and an half; white Pepper, *Indian* Leaf, four Drams ten Grains; bruiſe them, and ſift them, give them in Mulſum: With this Antidote a Decoctio Abrotanum, in Water, ſhould be drank; or ſome Figs, with their Weight in Honey, be eaten. *Myre Sect.* 1. *Cap.* 265.

ARABICUM GUMMI. *Gum Arabic.* See ACACIA GUMMI. It may be proper to obſerve here, that the an Phyſicians, by κόμμι, "Gum," put indefinitely, that is, without any Word to reſtrain its Signification, mean *Gum bic*.

ARABIS. The ſame as DRABA, which ſee.

ARACA GUAM. A Species of the Goavo-tree, acc ing to *Piſo*. See GUAYAVA. *Raii Hiſt. Plant.*

ARACA MIRI. *Piſon. Marcgrav.* A Shrub gro plentifully in *Braſil*, and bearing ripe Fruit in *March* and *tember*, which has the ſweetiſh Taſte of Muſk, and ſome of the Savour of Strawberries: This, when candy'd and ſerv'd, is a pleaſant Cooler, Aſtringent, and Strengthener, ſupplies the Place of Marmalade of Quinces, Conſerve of R and the like.

Of the Leaves and Buds they prepare a very good Ba internal as well as external Affections of the Body; for th aſtringent; but eſpecially the Root, which alſo cures the D tery, and is peculiarly diuretic, and of fine Parts. *Raii Plant.*

ARACHYDNA *aut* ARACOIDES, *Honorii Belli*, *Viciæ ſimilis ſupra infraque Terram Fructum ferens*, C. B. *Theophraſti Araco* ὅμοιον, Cluſ. *Arachidna Cretica*, Park.

This is one of the four leguminous Plants, mention'd by that bear Fruit as well above as under Ground. The three are,

Arachus ſub Terra Siliquifera Luſitanica, Park.

Arachus, ὑπόγαιος, *Americana*, Park. *Mundubi Braſ bus*, Marcgr.

Legumen Trifolium ſub Terra Fructum edens. *Mun Angola*, Marcgr.

Beſides theſe, there is deſcrib'd in the *Memoires de Roy.* for 1723. another Species under the Title of

ARACHIDNOIDES AMERICANA. Or, *Arachidna Quadrifolia villoſa Flore luteo*, Nov. Plant. A Gen. Plum. 49. *Piſtache du Tertre*, 2. 121. *Manobi*, 4. 59.

All the Difference between this and the former *Arachi* that this laſt-mention'd, as in the Synonyma, bears Cods Ground, which hang to the Fibres of the Root.

RACHNE, ἀράχνη, a Spider. The ſame as ARANEUS, ch ſee.

RACHNOIDES, ἀραχνοειδὴς, from ἀράχνη, a Spider, and , a Form. The external Lamina of the Pia Mater has , by ſome Anatomiſts, made a diſtinct Coat, and call'd brana Arachnoides. See PIA MATER.

he Tunic alſo of the Cryſtalline Humour of the Eye is d Arachnoides, or Aranea. Dr. Nicholls, and afterwards mus, found the Means of injecting the Veſſels of this Coat, ch run upon it like Rays from a Centre. But according to ſus, *Rufus Epheſius*, and *Galen*, the Tunica *Arachnoides*, or nea, is that Coat which immediately inveſts the vitreous mour. *Celſus*, *Lib.* 7. *Cap.* 7. ſays it was thus named by ophilus.

RACON, Braſs. *Johnſon.*

RACUS, a Plant thus diſtinguiſh'd:

racus, *Vicia ſylveſtris*, Offic. *Aracus ſive Cracca major*, Theat. 1070. Merc. Bot. 1. 20. Phyt. Brit. 10. Mer. 9. *Vicia ſylveſtris, ſive Cracca major*, Ger. Emac. 1227. Hiſt. 1. 902. Synop. 3. 321. *Vicia ſemine rotundo nigro*, B. Pin. 345. *Vicia anguſtifolia*, Rivin. Irr. Tet. Dill. Cat. 107. Rupp. Flor. Jen. 211. *Vicia vulgaris, acutiore folio, ine parvo nigro*, Tourn. Inſt. 397. Boerh. Ind. A. 2. 43. *a vulgaris ſylveſtris, ſemine parvo & nigro frugum*, J. B. 2. *Vicia vulgaris ſylveſtris frugum: Semine parvo & nigro, cca quibuſdam*, Chab. 146. *Vicia ſylveſtris, ſemine nigro & egato, folio acutiore*, Hiſt. Oxon. 2. 63. *Vicia ſegetum, cus, Cracca*, Mont. Ind. 55. STRANGLE-TARE, or LD VETCH.

t grows in Hedges, on Banks, and among Corn. The b is in Uſe, and has the ſame Virtues with the other Species he Vicia. *Dale.*

RACYNAPPIL, *Malis Aurantiis parvis ſimilis Fructus*, B. *Malo Aurantio parvis Fructibus ſimilis*, C. B.

his Plant is only juſt mention'd by *Ray*, without any Spe- ation of its Virtues or Uſes.

RADOS, ἄραδος, in *Hippocrates*, ſignifies that Perturba- which is excited in the Stomach by concocting Meats of erent Qualities, *Lib. de Rat. Vict. in Morb. acut.* Καὶ ὅτε ν ἔχει, ὅτε ἄραδον κακόν· "Which (Ptiſan) has no Aſtrin- ency, nor is ſubject to raiſe Commotions in the Stomach." ere *Galen* expounds τὸ μηδὲ ἄραδον ἔχειν, by μηδεμίαν ἐν τῷ ιδαι ταραχὴν ἐμποιεῖν, "cauſing no Diſturbance in Con- oction." Ἄραδος alſo ſignifies any internal Perturbation ed by purging Medicines, vehement Exerciſes, or other ſes.

RÆON, ἀραιὸν, ſignifies thin, rare, ſlow, and is oppoſed υκνὸς, thick, cloſe, frequent. Thus ἀραιὸν πνεῦμα, *Lib.* 1. d. is Breath rarely drawn, or with long Intervals of Time, is explain'd by *Galen* and *Erotian*. Ἀραιὰ σώματα are the , lax, and ſoft Parts of the Body, which are eaſily receptible ny heterogeneous Matter, ſuch as the Humours, σπογγοει- τε ϗ ἀραιὰ, the ſpongy and lax Parts of the Body, as the gs, Spleen, and Breaſt. *Lib.* περὶ ἀρχαίης ἰητρικῆς.

RÆON (rare) is properly what contains large Pores, as um, πυκνὸν, "denſe," is what has ſmall Pores; but by a aphor, Catachreſis, or whatever you pleaſe to call it, they uſed to ſignify *lax* and *cloſe*. Thus we call the Air and Fire , and the Water and Earth *denſe*, transferring the Appella- s to the very Elements, which are united, conſiſt of ſimilar ts by Nature, and are incapable of Pores. *Galen. de San.* nda.

RÆOSYNCRITOS, ἀραιοσύγκριτος, from ἀραιὸς, thin, συγκρίνω, to conſtitute or frame. A Perſon of a thin Con- tion of Body. *Galen. de San. Tuend.*

RÆOTICA, ἀραιωτικὰ, from ἀραιόω, to rarefy. Things, edicines, which rarefy.

RALDA. The *Italian* Name for the Fox-glove. See ITALIS.

RALIA, Berry-bearing Angelica. The Characters are:

he Flower conſiſts of many Leaves, which expand in form Roſe, and are naked, growing on the Top of the Ovary. ſe Flowers are ſucceeded by globular Fruit, ſoft and ſuccu- , and full of oblong Seeds. *Miller's Dictionary.*

ralia is altogether like the *Araliaſtrum*, as to the Structure Situation of its Flower; but its Berry conſiſts of five Seeds ed round an Axis; and its Leaves are branch'd almoſt like of Angelica; and its Stalks (which in ſome Species are d, and in others have Leaves ſet alternately) bear each al Umbels at the Top, in the Form of a Bunch of Grapes. Species of *Aralia* are,

. *Aralia caule aphyllo, radice repente*, D. Sarrazin. *Chriſto- iana Virginiana, zarzæ radicibus ſurculoſis & fungoſis, Sar- rilla noſtratibus dicta*, Pluk. Almag. 98. Tab. 238. Fig. 5. *ſaparilla Virginienſibus noſtratibus dicta, lobatis umbelliferæ s Americana*, Ejuſd. Almag. 396.

. *Aralia caule folioſo lævi*, D. Sarrazin. *Aralia Canaden-* Inſt. Rei Herba. 300.

. *Aralia caule folioſo & hiſpido*, D. Sarrazin.

. *Aralia arboreſcens ſpinoſa*, D. Vaillant. *Angelica arboreſcens ſpinoſa, ſeu Arbor Indica, fraxini folio, cortice ſpinoſo*, Raii Hiſt. 2. 1798. *Chriſtophoriana Arbor aculeata Virginienſis*, Pluk. Almag. 98. Tab. 20.

All the Species of theſe two Genera, except the laſt of each of them, are common in *Canada*. The Inhabitants of that Colony, and thoſe of *Virginia*, call the firſt Species of *Aralia* by the Name of *Sarſaparilla*, becauſe its Roots have almoſt the ſame Figure and Virtues. M. *Sarrazin* writes from thence, that he had a Patient who had been cured of an Anaſarca, about two Years before, by the Uſe of a Drink made of theſe Roots; and aſſures us, that the Roots of the ſecond Species, well boil'd, and apply'd by way of Cataplaſm, are very excellent for the curing of old Ulcers; as alſo the Decoction of them, with which they bathe and ſyringe Wounds; and he does not at all doubt, but the Virtues of the third Species are the ſame with thoſe of the ſecond. *Philoſoph. Tranſact. Abridg. Vol.* 5.

ARALIASTRUM is a Genus of Plants, whoſe Flower is complete, regular, polypetalous, and hermaphrodite, ſtanding on the Ovary, which is crown'd by a Calyx cut into ſeveral Parts, and becomes a Berry, in which are, for the moſt part, two flat Seeds like a Semicircle, which, both together, repreſent a ſort of Heart. The Stalk, which is ſingle, ends in an Umbel, of which each Ray bears but one Flower. Above the middle of the Stalk come out ſeveral Pedicles, (as on that of the Anemone) on the Extremity of which grow ſeveral Leaves like Rays, or like an open Hand. The Species of this Genus are,

1. *Araliaſtrum quinquefolii folio, majus, Ninzin vocatum*, D. Sarrazin. *Gin-ſeng*, Des Lettres edifiantes & curieuſes, tom. 10.

2. *Araliaſtrum quinquefolii folio, minus*, D. Sarrazin. *Plantula Marilandica, foliis in ſummo caule ternis, quorum unumquodque quinquefariam dividitur, circa margines ſerratis*, No. 36. Raii Hiſt. 3. 658.

3. *Araliaſtrum fragrariæ folio, minus*, D. Vaillant. *Naſturtium Marianum, Anemones ſylvaticæ foliis, enneaphyllon, floribus exiguis*, Pluk. Mantiſſ. 135. Tab. 435. Fig. 7. *Philoſoph. Tranſact. Abridg. Vol.* 5.

ARANEA, ἀράχνη. The ſame as ARANEUS, which ſee.

ARANEA TUNICA. The ſame as ARACHNOIDES, which ſee.

ARANEOSA URINA, ἀραχνιώδες οὖρον, *in Coac.* is Urine containing ſomething like Spiders Webs, with a Fatneſs at the Top, which indicates a Colliquation. *Celſus*, *Lib.* 2. *Cap.* 8. calls it *Urinam quædam Araneis ſimilia ſubſidentia oſtendentem*: "Urine that ſhews ſomething in it like Spiders Webs."

ARANEOSUS PULSUS, ἀραχνοειδὴς σφυγμὸς, a Spider-like Pulſe, is, as *Galen* defines it, ὁ μικρὸς, ὑπὸ βραχείας αὔρας σαλευομένης κινούμενος, "a ſmall Pulſe, that moves as if it were "ſhaken by ſhort Puffs of Air."

ARANEUS, Offic. Schrod. 5. 337. Mer. Pin. 203. *Araneus ſubflavus hirſutus, prælongis pedibus, domeſticus*, Liſt. Hiſt. 59. Raii Inſect. 27. *Araneus telarius*, quibuſdam. *Araneus domeſticus*, Mouff. Theat. Inſect. 182. Jonſ. de Inſect. 92. THE SPIDER.

It is more common than welcome in Houſes. Both the Spider and its Web are uſed in Medicine: The Spider is ſaid to avert the Paroxyſms of Fevers, if it be apply'd to the Pulſe of the Wriſt, or the Temples; but is peculiarly recommended againſt a Quartan, being incloſed in the Shell of a Hazle-nut. The Web aſtringes and conglutinates, and is therefore vulnerary, reſtrains Bleeding, and prevents an Inflammation.

ARANEUS NIGER, Offic. Liſt. Hiſt. 77. Raii Hiſt. Inſect. 33. THE BLACK SPIDER.

It is common in Woods, Thickets, and Paſtures. Among the approved Remedies of Sir *Matthew Liſter*, I find, that the diſtill'd Water of Black Spiders is an excellent Cure for Wounds, and that this was one of the choice Secrets of Sir *Walter Raleigh*. *Liſter*, *Hiſt.* *Dale.*

The Spider which ſome call the Catcher, or Wolf, being beaten into a Plaiſter, then ſew'd up in Linen, and apply'd to the Forehead or Temples, prevents the Returns of a Tertian. The Web, apply'd, ſtops Bleeding, and keeps ſuperficial Ulcers from an Inflammation.

There is another Kind of Spider, which ſpins a white, fine, and thick Web. One of this Sort, wrapped in Leather, and hung about the Arm, will, it is ſaid, avert the Fit of a Quartan. Boiled in Oil of Roſes, and inſtilled into the Ears, it eaſes Pains in thoſe Parts. *Dioſcorides*, *Lib.* 2. *Cap.* 68.

Thus we find, that Spiders have in all Ages been celebrated for their febrifuge Virtues; and it is worthy of Remark, that a Spider is uſually given to Monkeys, and is eſteem'd a ſovereign Remedy for the Diſorders thoſe Animals are principally ſubject to.

The Country-people have a Tradition, that a ſmall Quantity of Spiders Web, given about an Hour before the Fit of an Ague, and repeated immediately before it, is effectual in curing that troubleſome, and ſometimes obſtinate Diſtemper. This Remedy is not confin'd to our own Country; for I am well inform'd, that the *Indians* about *North-Carolina* have great Dependence on this Remedy for Agues, to which they are much ſubject; and I am acquainted with a Gentleman long reſident in thoſe Parts, who aſſures me he was himſelf cur'd by it of that Diſtemper.

The following Caſe, which is literally true, will be ſome Evidence in favour of the Virtue of Spiders Webs in intermittent Diſorders.

Some time in *April* 1742. I was deſir'd, by Mr. *Crawley*, an Apothecary in *Berry-ſtreet*, to ſee one Mrs. *Radcliffe*, who liv'd in a Stable-yard at the lower End of *Duke-ſtreet*, near St. *James*'s *Square*. Upon my firſt Viſit I was inform'd, that ſhe ſome time before came from *Nottinghamſhire*, with an inveterate Ague upon her, which return'd every Night at eight o'Clock, and continu'd for about nine Hours, the greateſt Part of which Time ſhe was delirious; and, indeed, during the Intermiſſion, ſhe could not be ſaid to be entirely free from the Fever. She was very big with Child, and told me, ſhe had but a Fortnight to reckon, and that ſhe had been ſubject to Hyſteric Diſorders all the Time of her Pregnancy.

She had, by the Advice of her Midwife, taken the Bark, without any good Effect.

As the Time of her Delivery was ſo near, I judg'd it would be of ſome Importance to remove the Fever before her Labour, for Reaſons too obvious to require mentioning. I therefore directed ſuch Evacuations as her Condition would permit, and put her into a ſhort Courſe of neutral Salts, after which I directed the Bark, which was for ſome time repeated in various Forms, and with various Additions; but all to very little Purpoſe, for the Fever never ceas'd for more than three Days, and during that time ſhe was in a worſe State of Health than even when her Fever return'd, being affected with an exceſſive Diarrhœa. In this State ſhe continu'd for about ſix Weeks, having miſtaken in her Reckoning about a Month; and on or about *May* 26. in the Evening, ſhe was ſeiz'd with Labour-pains, and much about the ſame time with her Fever-fit, the Conſequence of which was an exceſſive Delirium. A Man-midwife was call'd, who, not finding ſhe was likely to be deliver'd ſoon, left her, after having order'd her a Bolus, with Lapis Contrayerva, and a Cordial Julap. In the Night ſhe was deliver'd, but the Gentleman refus'd to attend her again, becauſe he judged it impoſſible for her to recover, as I was informed. I was then again conſulted, and was told there was an entire Suppreſſion of the Lochia, and that the Fever-fit conſtantly returned at one o'Clock in the Day, and laſted nine Hours, never without a Delirium. Till *June* 3. or 4. I us'd all my Endeavours to remove the Fever, and reſtore the Lochia; which laſt I effected, but in a Degree ſcarcely worth Notice; but the Fever perpetually return'd at one o'Clock, and continu'd as uſual, and had reduc'd her to an exceſſive Weakneſs.

In ſuch a Situation I believe the Gentlemen of the Faculty will not think I did amiſs, if, in purſuance of the Advice of *Celſus*, I choſe to *try a doubtful Remedy, rather than ſuffer the Patient to periſh without uſing any Means for her Relief.* Upon this Principle, on *June* 4. about Ten in the Morning, I order'd a Bolus, made of a Scruple of Cobweb, with ſome Syrup, to be given at Eleven o'Clock, and to be repeated before One. My Directions were punctually obſerv'd, and Mrs. *Radcliffe* miſs'd her Fit that Day. At Night ſhe ſlept well for ſeven Hours, which ſhe had not done for ſome Weeks before. The next Day the Bolus was repeated: At Night ſhe ſlept nine Hours, and has never ſince had any Return of her Fit, except once upon a Fright ſome Weeks after, when the ſame Remedy again cur'd her. I muſt not omit taking notice, that when the Fever was removed, the Lochia were very ſoon plentifully reſtored.

As the Cobweb had no ſenſible Operation, that I could learn, it is a Taſk too difficult for me to account in a mechanical way for the ſalutary Effects it produc'd; the Fact, however, appears worthy of Regard.

Among the lower Claſs of animal Beings called Inſects, whoſe Bites or Stings are made venomous, is the Spider; which altho' in ours, or ſome colder Climates, they are leſs dreaded, yet even with us there are ſome (according to the Obſervation of the curious Dr. *Liſter*, and ſuch are generally of the octonocular Kind) whoſe Bites are pernicious, and not to be contemned; an Experiment of which was made by the renowned *Harvey*, as we may find by the following Paſſage.

“ Having, for Trial-ſake, prick'd my Hand with a Needle, I after rubbed the Point of the ſame Needle with the Tooth of the Spider, and perforated the Skin therewith in another Part of my Hand, but could diſtinguiſh no Difference in the Senſe of the Punctures: However, there was one remarkable enough in the Skin; for, in the envenom'd Puncture, the ſame was ſoon raiſed up into a Tubercle, looking red with Heat and Inflammations, riſing up as it were to ſhake off the inflicted Evil. ”

But the Spider, ſwallow'd and received into the Stomach, whether of Man or other Animals, is not always alike hurtful, of which *Mouffett*, in his Treatiſe of Inſects, gives a ſingular Example, and which may be inferr'd from their being ſo much coveted by ſmall Birds, to whom they are the greateſt Dainties, and which they pick up without Diſtinction. A farther Proof of their being inoffenſive, otherwiſe than by their Bites, may take from their Webs, ſo much in Requeſt among the A tients, and at this Day, by the common People, apply'd recent Wounds, on account of the Flux of Blood, wh are, according to *Celſus*, a noble Agglutinative for ſmall Hur There are even ſome who hold the Humour flowing out their Bodies, as a great Secret for theſe Purpoſes, ſo far they from being thought hurtful by ſuch.

A yet farther Proof of their being inoffenſive is ſet down *Mouffett*, which is, that Eggs of theſe Inſects, being de ſited on ſome Fruits or Herbs, are frequently (as may be m apparent) taken in, tho' unobſerv'd, and well digeſted by moſt tender Stomach.

Signior *Redi* takes Notice, that this Creature, altho' it pr poiſonous when inſtilling its Juice into the Wound, yet ma not happen ſo at all times when taken into the Stomach; confirm which, Dr. *Fairfax* alleges Examples of ſeveral P ſons well known to him, (himſelf having been an Eye-wit to ſeveral of the Experiments) who have commonly ſwallo Spiders, even of the rankeſt Kind, without any more H than happens to Hens, Robin-red-breaſts, and other Birds, make them their daily Food.

Swammerdam, in his Deſcription of this Creature, ſays, thoſe Parts which are called by ſome others its Teeth, he ra takes for two ſtrong and ſpiked little Claws; or the poi Parts of two little and leſs conſpicuous Feet, rather than T properly, not much differing in Structure from the Sting of Scorpion, with which they prick the Part in like manner it: And if ſo, ſaith he, there will be little other Differe than this, that the Spider carries its double *Unguiculi* or *A* in the Fore-part of the Breaſt, whilſt the Scorpion darts out ſingle one from the hinder Part of his Body. Theſe *Unguic* according to our Author, are made up of two little Joints Claws, with which they not only catch their Prey, but t fix and wound the ſame, afterwards ſucking up the Juice their Captives. Dr. *Liſter* takes notice of thoſe forked C but ſays they proceed out of the Mouth itſelf of the Creatu *Grodart* ſays much the ſame; whilſt Dr. *Mead* tells us, T the Spider which lives upon Flies, Waſps, and the like Inſe is provided with a hooked Forceps, placed juſt by the Mo very ſharp and fine, with which he pierces the Fleſh of t little Creatures caught in his Web, and at the ſame time fuſeth a Juice into the Puncture, by which means the An being kill'd, he ſucks out the Moiſture from the Body, leaves it a dry huſky Carcaſe.

Leewenhoeck would have the Poiſon diſcharged from the C itſelf, at the ſame time the Wound is inflicted, contrary Dr. *Mead*, who upon repeated Trials affirms, That h fixed its Claws upon the Prey, he obſerv'd a ſhort white *boſcis* thruſt out of the Mouth, which inſtilled a Liquor into Wound.

Jacobus Hoefnagel, (taken notice of, as I remember, by *Sw merdam*) Painter in Chief to his Imperial Majeſty *Rod* hath exactly colour'd by the Life five-and-thirty ſeveral cies of this Inſect, with three hundred others, which are cut upon Copper, and printed with the ſame Emperor's Lic and Privilege, being not inferior to thoſe of *Goedart.*

But if our *Engliſh* Spider be not ſo venomous, yet tho ſome other Countries are reported to be ſo in a very high gree, inſomuch that *Scaliger* takes notice of a certain Sp of them, (which he had forgotten) whoſe Poiſon was of ſo Force as to affect one *Vincentinus* thro' the Sole of his Shoe only treading on it. Even in *Gaſcony* he obſerves, there very ſmall Spider, which, running over a Looking-glaſs, crack the ſame by the Force of her Poiſon (*A mere Fable*).

Remarkable is the Enmity recorded between this Cre and the Serpent, as alſo the Toad: Of the former it is repo That, lying (as he thinks ſecurely) under the Shadow of Tree, the Spider lets herſelf down by her Thread, and, ſtr her Proboſcis or Sting into the Head, with that Force an ficacy, injecting likewiſe her venomous Juice, that, wri himſelf about, he immediately grows giddy, and quickly dies.

When the Toad is bit or ſtung in Fight with this Cre the Lizard, Adder, or other that is poiſonous, ſhe finds R from Plantain, as is ſaid, to which ſhe reſorts, and for that Plant is reckon'd one of the Specifics.

In her Combat with the Toad, the Spider uſeth the Stratagem as with the Serpent, hanging by her own T from the Bough of ſome Tree, and ſtriking her Sting int Enemy's Head, upon which the other, enraged, ſwells up ſometimes burſts. To this Effect is the Relation of *Era* which he ſaith he had from one of the Spectators, of a F lying along upon the Floor of his Chamber in the Sum time, to ſleep in a ſupine Poſture, when a Toad, creepin of ſome green Ruſhes, brought juſt before in, to ador Chimney, gets upon his Face, and with his Feet ſits his Lips. To force off the Toad, ſays the Hiſtorian, have been accounted ſudden Death to the Sleeper; and to her there, very cruel and dangerous; ſo that upon Conſul

s concluded to find out a Spider, which, together with her
, and the Window ſhe was faſten'd to, was brought care-
, and ſo contrived as to be held perpendicularly to the Man's
; which was no ſooner done, but the Spider, diſcovering
nemy, let himſelf down, and ſtruck-in his Dart, afterwards
ing himſelf up again to his Web; the Toad ſwell'd, but as
ept his Station: The ſecond Wound is given quickly after
e Spider, upon which he ſwells yet more, but remain'd
ſtill. The Spider, coming down again by his Thread, gives
ird Blow; and the Toad, taking off his Feet from over the
's Mouth, fell off dead.

d ſo much for the hiſtorical Part: I ſhall ſay ſomewhat
with relation to the Effects and Cure of the Poiſon; an
ce of which I remember, when a very young Practitioner,
ſent for to a certain Woman, whoſe Cuſtom was uſually,
ſhe went to the Vault by Candle-light, to go alſo a Spider-
g, ſetting Fire to their Webs, and burning them with
ame of the Candle ſtill as ſhe purſued them. It happen'd
gth, after this Whimſy had been follow'd a long time,
them ſold his Life much dearer than thoſe Hundreds ſhe
ſtroy'd; for, lighting upon the melting Tallow of her
e, near the Flame, and his Legs being entangled therein,
t he could not extricate himſelf, the Flame or Heat
g on, he was made a Sacrifice to his cruel Perſecutor,
delighting her Eyes with the Spectacle, ſtill waiting for
lame to take hold of him, he preſently burſt with a great
, and threw his Liquor, ſome into her Eyes, but moſtly
her Lips; by means of which, flinging away her Candle,
y'd out for Help, as fanſying herſelf kill'd already with
oiſon. However, in the Night her Lips ſwell'd up ex-
ly, and one of her Eyes was much inflam'd; alſo her
ue and Gums were ſomewhat affected; and, whether from
auſea excited by the Thoughts of the Liquor getting into
outh, or from the poiſonous Impreſſions communicated by
rvous *Fibrillæ* of thoſe Parts to thoſe of the Ventricle, a
ual Vomiting attended: To take off which, when I was
I order'd a Glaſs of mull'd Sack, with a Scruple of Salt of
wood, and ſome Hours after a Theriacal Bolus, which
ng up again. I embrocated the Lips with the Oil of
ons mix'd with the Oil of Roſes; and, in Conſideration
Ophthalmy, tho' I was not certain but the Heat of the
, rais'd by the Flame of the Candle before the Body of the
re burſt, might, as well as the Venom, excite the Diſ-
e (altho' Mr. *Boyle*'s Caſe of a Perſon blinded by this
dropping from the living Spider, makes the latter ſuffi-
yet obſerving the great Tumefaction of the Lips, toge-
ith the other Symptoms not likely to ariſe from ſimple
I was inclin'd to believe a real Poiſon in the Caſe; and
e, not daring to let her Blood in the Arm, I did, how-
ith good Succeſs, ſet Leeches to her Temples, which
much of the Inflammation; and her Pain was likewiſe
by inſtilling into her Eyes a thin Mucilage of the Seeds
ces and white Poppies extracted with Roſe-water; yet
lling on the Lips increaſed; upon which, in the Night,
e a Cataplaſm prepared by boiling the Leaves of Scor-
Rue, and Elder-flowers, and afterwards thicken'd with
l of Vetches. In the mean time, her Vomiting having
ſhe had given her, between whiles, a little Draught of
Water of Carduus Benedictus and Scordium, with ſome
Theriaca diſſolved; and upon going off of the Symptoms,
Woman came luckily in, who, with Aſſurance ſuitable to
ople, (whoſe Ignorance and Poverty is their Safety and
on) took off the Dreſſings, promiſing to cure her in two
me, altho' ſhe made it as many Weeks, yet had the
ion of the Cure; applying only Plantain-leaves bruiſed
d with Cobwebs, dropping the Juice into her Eye,
g ſome Spoonfuls of the ſame inwardly, two or three
Day.

remark upon this Hiſtory, which is from Turner, *that*
ain, as a Cooler, was much more likely to cure this
, than warmer Applications and Medicines.

ſame young Woman told me, before this Accident
to her, the Smell of their Burning oftentimes ſo af-
r Head, as that the Objects about her ſeem'd often to
nd; ſhe grew faint alſo with cold Sweats, and ſome-
light Vomiting; yet ſo great was her Delight in tor-
heſe Creatures, and beating up their Quarters, that
not forbear, till one of them thus alarmed her.

hing akin to this was the Caſe related by *Nic. Ni-*
f a Man he ſaw at his Inn in *Florence*, burning a large
der in the Flame of a Candle, and ſtaying ſome time
lace, from the very Fume thence ariſing, grew feeble,
nto a fainting Fit, ſuffering all Night great Palpitation
art, and afterwards a Pulſe ſo very low as was ſcarce
t. He was recover'd, ſays the Relator, by giving
riaca, mixed with the Species Diamoſchu, and Pow-
edoary.

ſame City, *Nic. Florent.* relates, there happen'd a ſad
e in a certain Monaſtery, by which many of the
eceived their Death, by drinking Wine incautiouſly
out of a Veſſel in which a certain venomous Spider was found drowned, notwithſtanding what hath been before ſaid, of their being inoffenſively taken into the Stomach; but theſe latter very likely might be widely differing, if not in their outward Form, yet in their inward compounding Particles, or their malignant Nature and Properties.

Galen, taking notice of this Inſect, ſubjoins this Interrogation: Who would think ſo ſmall a Creature ſhould work ſo mighty an Alteration upon the whole Body of Man, as we find ſhe does, only by a little Dart or Sting juſt entering the outward Skin, by which certainly ſhe conveys a poiſonous Moiſture, or ſomething, however, more ſpirituous, yet ſtill venomous to the Blood?

Sennertus takes Notice of the Signs of this Bite or Sting to be a Stupor or Numbneſs upon the Part, with a Senſe of Cold, Horror, or Swelling of the Abdomen, Paleneſs of the Face, involuntary Tears, Trembling, Contractions, a perpetual Deſire to make Water, Convulſions, cold Sweats; but theſe latter chiefly when the Poiſon has been received inwardly.

As to the Cure, not ſlighting the uſual Alexipharmics taken internally, he ſays, the Place bitten muſt be immediately waſhed with ſalt Water, or a Sponge dipped in hot Vinegar, or fomented with a Decoction of Mallows, Origanum, and Mother of Thyme; after which a Cataplaſm muſt be laid on of the Leaves of Bay, Rue, Leeks, and the Meal of Barley, boiled with Vinegar, or of Garlick, and Onions, contuſed with Goats Dung, and fat Figs. Mean time the Patient ſhould eat Garlick, and drink Wine freely.

But if the Poiſon were admitted into the Stomach, Vomiting muſt be procured for its ſpeedy Diſcharge, and then ſome proper Antidote preſcribed; among which *Geſner* commends beyond all others the pureſt, whiteſt, and fatteſt Roſin reſembling Frankincenſe; *Fracaſtorius*, Bole and Vinegar taken inwardly, with which he recovered a Perſon ſtung, or bitten in the Neck, by a venomous Spider. *Turner de Morbis Cutaneis.*

Celſus, *Lib.* 5. *Cap.* 27. adviſes to lay a Cataplaſm of Rue and Garlick, beat up with Oil, to the Part wounded by a Spider, or Scorpion.

ARANTIA, the ſame as Aurantium, which ſee. *Blanc.*

ARARA *Fructus ſecundus*, *Cap.* 21. *Lib.* 2. *Exot.* Cluſ. *Arara Fructus Americanus*, J. B.

It grows in *Cayanca*; the Inhabitants bruiſe it, and boil it in Water, with which they waſh malignant Ulcers. They ſay alſo it is good to looſen the Belly, which I ſuppoſe is meant of the Kernel. *Raii Hiſt. Plant.*

ARATICU. *Ray* mentions three Sorts of Trees under this Name. The firſt is the

Araticu *prima ſeu ſimpliciter dicta*, Franciſci Redi Experiment. Natural. *p.* 75. *Araticu Ponhe*, Marcgrav. & Piſon. This Dr. *Robinſon* thinks is THE SOUR-SOP.

The Tree is like an Orange in its Trunk and Boughs, and the Colour of its Bark, but unlike in Leaves, Flowers, and Fruit.

The Leaves, ſcorched in the Fire, and apply'd in Oil to an Abſceſs, maturate, break, and heal it in an excellent manner.

The ſecond is the

Araticu Ape, Piſo. Marcgrav. Redi Experim. Nat. *p.* 77. *Noſtratibus*, THE CUSTARD APPLE. *An Anona Oviedi?*

Araticu *de mato Piſon. An Baly Inſulæ Fructus, aſpero Cortice*, Cluſ.? *Raii Hiſt. Plant.*

ARBOR, δένδρον, a Tree, is defined to be a woody Plant, the biggeſt of all in Thickneſs and Height, whoſe Stock is perennial, and ſingle by Nature, and is divided into many larger Branches, which the *Greeks* call ἀκρέμονας, and ὄζους; and afterwards into many ſmall Branches [Sprigs], which the *Greeks* call κλάδους, and the *Latins Surculos*. *Miller's Dict.*

Arbor *Virginiana, Citriæ vel Limoniæ Folio, Benzoinum fundens*, H. A. The Benjamin-tree, *vulgo*. This Tree is found in great Plenty in moſt Parts of *Virginia* and *Carolina*, and is kept in curious Gardens of Trees, amongſt many other Plants of thoſe Countries, here in *England*. When it was firſt introduced, it was generally believed, that the Gum Benjamin of the Shops was an Exudation from this Tree; but it is now thought to proceed from a very different Tree.

Arbor *Zeylanica, Cotini Foliis, ſubtus Lanugine villoſis, Floribus albis Cuculi modo laciniatis.* Pluk. Phyt. THE SNOW-DROP-TREE.

Arbor *Americana, pinnatis Fraxini Foliis, Fructu reniformi, Phaſeolum exprimente.* Pluk. Phyt. SPANISH ASH.

Arbor *baccifera laurifolia aromatica, Fructu viridi calyculato racemoſo.* Sloan. Cat. Jam. The Winter's-bark, or wild Cinnamon-tree. It grows in the Low-lands of *Jamaica* in great Plenty, to the Height of thirty Feet, or more. The Leaves, Fruit, Bark, and every Part of this Tree are very aromatic, hot, and biting to the Taſte. The Bark is uſed as Spice in moſt of the *Engliſh* Plantations in *America*, and was formerly pretty much uſed in Medicine in *England*, under the Title of *Canella Alba*, or *White Cinnamon*, but at preſent it is not much in Uſe.

Arbor *laurifolia venenata, Folio leviter ſerrato oblongo obtuſo, copioſum Lac præbens.* Sloan. Cat. THE POISON-TREE.

This Tree grows plentifully in *Jamaica*, and other warm Parts of *America*. It abounds with a milky Juice, which is accounted very poiſonous; if the Leaves are broken, the Juice will flow out very faſt; and, if it falls on Cloth, will cauſe it to waſh in Holes, much after the ſame manner as the Juice of the Manchineel-tree.

Arbor *Americana, Fraxini Foliis, Fructu conoide.* The Mahogany-tree. It grows chiefly on the North Side of *Jamaica*.

Arbor *excelſa, Coryli Folio ampliore.* Houſt. It grows only at *Campeachy*.

Arbor *in Aqua naſcens, Foliis latis acuminatis & non dentatis, Fructu oleagino minore. Cateſb. Hiſt. Nat.* THE TUPELO-TREE. In grows in *Virginia*, *Maryland*, and *Carolina*.

Arbor saponaria, Offic. *Arbor ſaponaria Americana*, Raii Hiſt. 2. 1548. *Prunifera racemoſa, folio alato, coſta media, membranulis utrinque extantibus donata, fructu ſaponario*, Cat. Jamaic. 184. Sloan. Hiſt. 2. 131. *Prunifera ſeu Nuciprunifera, fructu ſaponario orbiculato monococco nigro, Americana*, Pluk. Phytog. 217. Fig. 7. *Nuciprunifera arbor Americana, fructu ſaponario orbiculato monococco nigro*, Pluk. Almag. 265. *Arbor Miſticæ provinciæ fructu avellanæ ſimili*, Laet. 260. Jonſ. Dendr. 114. *Quity*, Piſon. (Ed. 1658.) 162. *Quity Braſilienſibus*, Marcg. 113. *Saponariæ ſphærulæ*, Chab. 22. *Saponaria ſphærulæ arboris filicifoliæ*, J. B. 1. 312. *Nuculæ ſaponariæ non edules*, C. B. Pin. 511. *Sapindus foliis coſtæ alatæ innaſcentibus*, Tourn. Inſt. 639. *Baccæ Bermudenſes*, Marl. Obſ. SOAP-BERRIES.

It grows in *Jamaica*, and other Parts of the *Weſt-Indies*; the Fruit is ripe in *October*, and, when dry, is ſpherical, of a reddiſh Colour, and leſs than a Gall, of a large Eye, and a bitter Taſte, but no Smell, containing one round black Stone.

It is much recommended againſt the *Chloroſis*, and the Berries are reckoned a ſingular and ſpecific Remedy againſt that Diſtemper, working a perfect Cure after an ineffectual Uſe of Chalybeates. The Spirit, Tincture, or Extract, are more proper to be uſed than the crude Berries.

Arbor Vitæ, Offic. Ger. 1187. Emac. 1368. Park. Theat. 1478. Raii Hiſt. 2. 1408. *Arbor Vitæ, ſive Paradiſiaca*, Chab. 73. *Arbor Vitæ, ſive Paradiſiaca vulgò dicta odorata ad Sabinam accedens*, J. B. 1. 286. *Arbor Vitæ, Thuya*, Mont. Ind. 37. *Arbor Cupreſſo ſimilis in Syria*, Jonſ. Dendr. 332. *Thuya Theophraſti*, C. B. Pin. 488. Tourn. Inſt. 587. Elem. Bot. 489. Boerh. Ind. A. 2. 180. THE TREE OF LIFE.

It is a Native of *America*, but is never found in *Europe*, except in the Gardens of the Curious. The Leaves are uſed as an Alexipharmic, and Diuretic. *Mont.*

It is an opening and warming Plant, provokes the Menſes, and is good againſt the *Chloroſis*; bruiſed with Honey, it diſſolves Tumors. The Oil is commended againſt the Gout, being rubbed on the Part; for it acts like Fire, by ſtimulating and opening. It cleanſes Beds from Lice and Fleas. *Boerh. Hiſt. Dale.*

This Tree never grows to any Bigneſs with us in *England*, being a Stranger, and only planted in Gardens. The younger Branches are flattiſh and tough, bearing on each Side ſeveral winged Leaves, which grow thick together, ſcaly, ſomewhat like Cypreſs, but are ſmooth, and not prickly at the End, and very flat; they have a ſtrong reſinous unpleaſant Scent, which ſome compare to old rotten Cheeſe. It bears little ſmall ſcaly white Cones at the Extremities of the Branches. It came originally from *Canada*.

The Leaves have a digeſting attenuating Faculty. *Parkinſon* ſays, that, chewed in the Mouth for ſeveral Mornings faſting, they have done great Service in expectorating and freeing the Lungs from thick purulent Phlegm. It is but rarely uſed. *Miller. Bot. Off.*

This Tree receives the Name of *Arbor Vitæ*, or *The Tree of Life*, becauſe it flouriſhes with a perpetual Greenneſs, and breathes a fragrant and delicious Odour: It is alſo called the *Cedrus Americana*, and the *Arbor Semper Viridis.* It is imported into *Europe* from *Canada* in *America*, and only to be found in the Gardens of the Curious. It is at all Seaſons cloathed with its Leaves, which, though they become ſomewhat pale in the Winter-time, do nevertheleſs reſume their native Splendor, and uſual Verdure, in the Spring. The Tree itſelf is ſtrait, but rough and uneven in its Surface; its Bark is of a kind of intermediate Colour between Red and Brown, and is unequal and ſcabrous. The Wood itſelf contains a Gum, and ſends forth a ſtrong, but, at the ſame time, an agreeable Smell. In the Beginning of the Summer it bears ſmall yellow Flowers, which contain and fold up in them, as in a kind of Turbant, a bitter Seed. *Caſtor. Durantes* informs us, that there is a Species of this Tree principally found in *France*, which is of a warming and drying Nature, of a ſomewhat bitter Taſte, but of a very agreeable Smell; and that it alſo preſerves the Health, and protracts the Life of Men. T
Tree, ſays *Camerarius*, in *Hort. p.* 169. is deſervedly ha
Eſteem, not only on account of its fragrant Smell, whic
ſo ſtrong, that its Branches, bruiſed and applied to the Noſ
ſometimes occaſion a Diſcharge of Blood from them; but
on account of its other valuable Virtues and Properties. F
it there is diſtill'd a Water and an Oil which prove ſervic
in Paroxyſms of the Gout, if duly applied to the Parts affe
The Balſam and Oil of *Arbor Vitæ*, or *The Tree of Life*,
very much uſed during the Time of the Plague in *Dreſ*
Joh. Mich. Not. in Schroder. Pharm. Barth. Zorn. Botan

Arbor baccifera Canariensis. See Verva Mo

Arbor Benzoinifera. See Benzoin.

Arbor Brasiliana *juglandi ſimilis.* See Copau.

Arbor Camphorifera. See Camphora.

Arbor Coral. See Corallodendron.

Arbor Crepitans. See Hura.

Arbor Exotica *Fraxini Fol.* See Negundo.

Arbor Febrifuga *Peruviana.* See Quinquina.

Arbor Fraxini Folio, C. B. See Azedarach.

Arbor Judæ. See Siliquastrum.

Arbor Lanigera *Bontii.* See Gossypium.

Arbor Lavendulæ Fol. *Cluſ.* See Frutex
or *Lav. Fol.*

Arbor Laurifolia Sinensis. See Lichi.

Arbor Mannifera. See Manna.

Arbor Pentaphyllos *Virgin.* See Pentaphyll

Arbor de Rayz. See Ficus Indica.

Arbor S. Thomæ. See Mandaris.

Arbor Spinosa *Virgin.* See Herculis Clava.

Arbor Tinctoria. See Tinctoria.

Arbor Tulipifera. See Tulipifera.

Arbor Vinifera. See Couton.

Arbor Uvifera Tabacensis. See Uvifera.

Arbor Dianæ is a ſort of Cryſtallization of M
and Silver diſſolved in Aqua-fortis, which runs
Branches like a Tree.

ARBOREUS, Arboreous, of, or belonging to, or
Nature of Trees. An Epithet which Botaniſts apply t
Funguſes or Moſſes which grow on Trees, in Diſtinction
thoſe which grow on the Ground, as Agaric, Jews-ea
Miller's Dictionary.

ARBUSCULA, δένδρειον, a Diminutive from *Arbor*, a
A little Tree, or Shrub.

Arbuscula *Africana repens, Folio ad Latera cri*
Polygona relata. Boerh. Ind. alt. An *African* trailing
with curled Knot-graſs Leaves, and Flowers, ſomew
ſembling thoſe of Orach. It is preſerved in many G
for Variety rather than Beauty. *Miller's Add.*

Arbuscula *Coralloides.* See Corallodendron.

ARBUTUS, Offic. Ger. 1310. Emac. 1496. Park.
1489. Raii Hiſt. 2. 1576. Synop. 3. 464. Mer.
Arbutus, Unedo Theophraſti, Phyt. Brit. 10. *Arbutus*
rus Theophraſti, J. B. 1. 83. Chab. 4. *Arbutus folio*
C. B. Pin. 460. Tourn. Inſt. 599. Elem. Bot. 471.
Ind. A. 2. 217. Jonſ. Dendr. 64. Pluk. Almag. 49.
Plinii vulgò, Herm. Cat. Hort. Lugd. Bat. 634.
STRAWBERRY-TREE.

It grows in Woods and Thickets, that are warmly
The Fruit is uſed, which is of a ſharp and auſtere
Dale.

The *Arbutus* is a Tree like the Quince-tree, of a thi
or with thin Leaves, (λεπτόφυλλον) and bearing a Frui
Size of a Plum, but without a Stone, and called *M*
of a deep-yellow or red Colour, when ripe.

The Fruit is very huſky Food, hurtful to the Stoma
cauſes Head-ach. *Dioſcorides, Lib.* 1. *Cap.* 175.

This Tree grows very frequently in *Spain*, *Sicily*,
Narbon in *France*. *Juba* reports, that in *Arabia* it ri
Height of fifty Cubits, *Plin. L.* 15. *C.* 24. *P. Bellon*
us, that in the Valleys of *Mount Athos*, ſo much cele
the Antients, the *Arbuti* grew up to Trees of a huge
Bulk. Throughout the Winter it retains the Verdu
Leaves, which are large, and whoſe Edges are full o
and about the Middle of each Leaf there is a reddiſh V
bears white and fragrant Flowers, which reſemble
ſuckle, or Lilies of the Valley. After its Flowers a
it bears a round thick Fruit as large as a Strawberry,
at firſt green, then yellow, and, laſt of all, red, of
bitter, and not very pungent Taſte. Some call its F
marus, and *Unedo*, for this Reaſon probably, that o
them ſhould be eaten at a time, according to *Plin*
Dioſcorides, and ſome others, aſſert, that the Fruit,
too large a Quantity, is prejudicial to the Stomach,
Head-achs. For my ſhare, ſays *John Bauhine*, th
occaſioned a Pain in my Stomach when I happened to
But *Car. Cluſius* ſays, he had eaten many of them w
taining any manner of Injury, *Lib.* 1. *rar. Plant. Hi*
Many diſtil a Water from its Leaves and Flowers
Mariæ, which they look upon as a mighty Preſerva

Plague, eſpecially if uſed ſoon enough. *Amatus Luſitanus* rms us, that it is a ſacred Preſervative and Antidote againſt Plague and Poiſons. *Matthiolus* mixes it with the Powder Bone of *Stag's Heart.* Many alſo make uſe of its Root nſt the Plague. Tanners uſe its Leaves in preparing their her; and Bird-catchers uſe its Seeds for catching their Prey e Winter-ſeaſon. *Barth. Zorn. Botanolog.*

RCA *Arcanorum.* The *Mercurius Philoſophorum. Caſtel-*

RCANUM, ἀπόῤῥητον, ἀπόκρυφον, μυστήριον. A kind of edy whoſe Manner of Preparation, or ſingular Efficacy, is ſtriouſly concealed, in order to enhance its Value. *Para-* s deſcribes it to be a principal Medium, which ought to be ſtigated by Experience.

RCANUM, by the Chymiſts, is generally defined a thing t, incorporeal, and immortal, which cannot be known by , unleſs by Experience; for it is the Virtue of every , which operates a thouſand times more than the thing

he *Arcanum Materiale* is a ſpecific Extract more nearly d to the Matter of the Body. But ſince the Matter of pound Bodies conſiſts of two Elements, the *Moiſt* and the , (for Air and Fire are rather the *Form*, and are to be conſi- d as Efficients) therefore this *Arcanum* muſt alſo be of two ds, that is, the *Aqua Stillatitia*, and the *Coagulum Speci-*

he *Arcanum Specificum* is an Extract of the interior Na- , preſenting us with the Subſtance of every thing in a r View, ſo that the Thing itſelf may be known in it; for h Reaſon we are to take the utmoſt Care, that the ſub- al Craſis or Contexture be not ſpoiled, becauſe in this re- it is called *Specific*, and differs from the *Quinta Eſſentia*, h for its conſummate Subtilty, and exalted Rank, ſeems t to deſert from its own to the ſuperior Claſs of Æthereals. *Arcanum Specificum* is of two Sorts, one more *formal*, h is called the *Aſtral*, the other more *material. Rulan-*

preſent there are three remarkable Remedies, which paſs the ſpecious Name of *Arcanums*, which are,

Arcanum Corallinum.

Take of red Precipitate, four Ounces; put it into a Re- tort; add to it Spirit of Nitre, eight Ounces; ſet it in a Sand Furnace, and draw off the Spirit by a gradual Heat raiſed to the fourth Degree. This Operation will be per- formed in five or ſix Hours. Return that Spirit of Nitre with four Ounces of new Spirit; and, at laſt, let it con- tinue at leaſt two Hours, in the fourth Degree of Fire; hen let it all cool, and there will be a very red and ſub- ile Powder, which put into a Crucible, and ſet in a Fire of Charcoal, but not exceeding a Worm-red, half a Quarter f an Hour. Then put it into a Mattraſs, and to it hree Pounds of diſtilled Fountain or Rain-water; ſet it in Sand Furnace, and give it a gradual Fire till it boils, nd ſo keep it half an Hour. Pour off that Water by In- lination, and dry the Powder gently; then put to it of artarized Spirit of Wine, twelve Ounces; and in a gen- e Heat draw it off, and ſo proceed to two Cohobations. Then put to it twelve Ounces of freſh tartarized Spirit of Wine; fit a Glaſs to the Mouth of the Cucurbit, to make a Circulatory; let it ſtand in a gentle Heat of Sand orty-eight Hours; and, at the laſt of all, let it ſimmer a ttle, then let all cool: Decant the Spirit of Wine, and y the Powder.

does not greatly differ from the Prince's Powder. Some this the beſt and ſafeſt of this Tribe: It operates chiefly ol. Its Doſe is from three to ten Grains. This is alſo d good in the Gout, Dropſy, Scurvy, and Itch, as Venereal Infections.

2. Arcanum Duplex, *ſive* Duplicatum.

e any Quantity of the Caput Mortuum of Aqua-fortis, de with equal Parts of Nitre and Vitriol, and diſſolve in t Water by ſtanding ſome Hours, and now-and-then rring the Mixture. Let the Water be filtred; evapo- te to the Appearance of a Skin upon the Surface, or even a Dryneſs, and leave it to ſhoot.

is alſo in ſome Authors by the Name of *Nitrum Vitri-* and *Sal Ducis Holſatiæ*; and is greatly extolled for a , Sudorific, and, as the Humours are diſpoſed, ſome- a Cathartic too; but we hardly ever meet with it in ion. Its Doſe is from half a Scruple to half a Dram.

3. Arcanum Joviale.

e an Amalgama with equal Quantities of Quickſilver Tin: Powder it, and pour upon it Spirit of Nitre, till omewhat more than covers it, which let ſtand in a gentle Digeſtion for ſome Hours; then by a Retort draw off the Spirit of Nitre. The remaining Matter take out, and wet it with Spirit of Wine rectified, which burn away. This repeat five or ſix times, until the pungent Taſte is worn off.

This is recommended in *Bates*'s Diſpenſatory for a powerful Sudorific. Its Doſe is from three to eight Grains. *Quincy's Diſpenſat.*

ARCEUTHOS. The ſame as Juniperus, which ſee.

ARCHÆUS, ἀρχαῖος, antient, former. Ἀρχαίη φύσις, in *Hippocrates*, often ſignifies the former healthy State of the Body before the Attack of a Diſeaſe.

ARCHAGATHI EMPLASTRUM LENE. A mollifying Plaiſter invented by *Archagathus.* Its Preparation is given by *Celſus, Lib.* 5. *Cap.* 19.

ARCHAGATHUS. A celebrated Phyſician amongſt the *Romans.*

'Tis by ſome aſſerted, that before the Arrival of *Archagathus* at *Rome*, Phyſic was not ſo much as known in that City; and if we may believe *Pliny*, this uſeful Branch of Learning was unknown to the *Romans*, till after all the other liberal Arts and Sciences were eſtabliſhed among them: “ The *Roman* People,
“ ſays he, [*Lib.* 29. *Cap.* 1.] were more than ſix hun-
“ dred Years without Phyſicians, though they were very early
“ in cultivating the other Arts, and even fond of *Phyſic* itſelf,
“ till, becoming acquainted with it by Experience, they con-
“ demn'd it. *Caſſius Hemina* informs us, that *Archagathus*
“ the Son of *Lyſanias* the *Peloponneſian* was the firſt Phyſician
“ who arrived at *Rome*, under the Conſulſhip of *Marcus Au-*
“ *relius* and *Marcus Livius*, in the Year of the City 535.
“ adding, that he had the Freedom of the City beſtowed upon
“ him; and that the Public had, at their own Charges, pur-
“ chaſed a Shop for him in the Street of *Accilius*, that he might
“ exerciſe his Profeſſion to the greater Advantage; that at firſt
“ they gave him the Surname of *Vulnerarius*, or *The Healer*
“ *of Wounds*; that his Arrival was very agreeable to the People,
“ but that ſoon after, his Practices of *Burning* and *Cutting* ap-
“ pearing cruel and barbarous in the Eyes of the People, they
“ exchanged his former Surname for that more infamous one
“ of *Executioner*; from which time they conceived an impla-
“ cable Averſion to *Phyſic* and all its Profeſſors.”

It appears ſomewhat ſurpriſing, that a People ſo polite as the *Romans* were, ſhould be ſo long without Phyſicians. To the Authority of *Pliny* we ſhall oppoſe that of *Dionyſius* of *Halicarnaſſus*, who in his tenth Book has theſe Words: “ The
“ Plague beginning to appear in *Rome* in the Year of the City
“ 301. and happening to rage more violently than any other
“ Plague with which they had been afflicted in the Memory
“ of Man, it carried off almoſt all the Slaves, and half of the Ci-
“ tizens, the Phyſicians not being able to attend and take care
“ of ſuch a large Number of Patients.” There were then Phyſicians in *Rome* at that time, that is, more than two hundred Years before the Period mentioned by *Pliny*, as indeed there have been Practiſers of this Art in all Ages among all People. But, in order to reconcile theſe two Authors, we muſt ſuppoſe, that *Pliny* means only foreign Phyſicians, eſpecially thoſe of the *Greek* Nation; and indeed he explains himſelf to that Purpoſe a little afterwards in theſe Words: “ In order to be convinced
“ of the Averſion the *Romans* in thoſe Days bore to Phyſic,
“ we need only hear the Sentiments of *Marcus Cato* upon that
“ Point, who lived ſeventy Years after *Archagathus*, and who
“ was a Man of whom we may ſay, that the Honour of a
“ Triumph decreed in his Favour, and the Dignity of the
“ Cenſorſhip, which Office he bore, are the leaſt ſhining Parts
“ of his Character, ſince ſo many other Circumſtances con-
“ curr'd in his Perſon to render him venerable and awful.”
Theſe following are his own Words, taken from a Letter he wrote to his Son: “ I will tell you, my Son *Marcus*, at a pro-
“ per Occaſion, what Notion I entertain of theſe *Greeks*, and
“ what I think moſt valuable in *Athens.* It is not improper to
“ ſtudy their Learning and Sciences curſorily, but 'tis by no
“ means neceſſary to make one's ſelf a complete Maſter of it.
“ I ſhall ſay no more at preſent of that wicked and arrogant
“ Race; but perſuade yourſelf of this, as much as if an Oracle
“ had ſpoken it, that as ſoon as this Nation has communicated
“ her Learning to us, ſhe will ſpoil and corrupt *Rome*; and
“ this dire Event will be ſtill more eaſily brought about, if ſhe
“ continue to ſend her Phyſicians to us. They have ſworn
“ among themſelves to kill all the *Barbarians*, by means of
“ their Art; and ſtill they exact a Fee for their Pains from
“ the Patients with whom they deal, that they may gain their
“ Confidence more effectually, and conſequently have it in
“ their Power to deſtroy them with the leſs Danger of Suſpi-
“ cion. They have ſuch a Degree of Inſolence as to call not
“ only other Nations, but *us*, *Barbarians*; nay, they carry
“ their Arrogance farther, and ſtyle us ὀπικοί, rude, and
“ Strangers to true Politeneſs. In a Word, my Son, re-
“ member, that I have diſcharged you from having any thing
“ to do with Phyſicians.”

'Tis plain faom the Strain of *Cato*'s Language, that he had only foreign Phyſic in his View; and this *Pliny* acknowledges, by ſtarting to himſelf the following Objection, which he makes uſe of as a Concluſion: "Muſt we then believe, that *Cato* con-
"demn'd a thing ſo uſeful and beneficial as Phyſic? Aſſuredly not;
"ſince he himſelf vouchſafes to informs us by the Uſe of what
"Medicines he himſelf and his Wife had arrived at ſuch an
"advanced Age; and that he had written a Book, in which he
"lays down the Method of his Practice, with regard to his Son,
"his Slaves, and even his Cattle, when they were indiſ-
"poſed."

The *Romans* then were not abſolutely without Phyſicians in the earlier Ages of their Republic; but in all Probability, before the Arrival of *Archagathus*, they only uſed that *Natural Phyſic*, or ſimple Empiriciſm, which we may well ſuppoſe to have been practiſed by the Infant World, when Men made their firſt Appearance upon it. This was the Phyſic reliſhed by *Cato*, and on which he wrote the firſt of all the *Romans*. He had ſome Peculiarities in his Practice, which, if they will not inform the Judgment, will, at leaſt, excite the Laughter of every thinking Perſon; for 'tis well known, that he approved of ſuperſtitious Remedies; and in that Part of his Works which has reached our Hands, he has given us an inimitable *Formula* of Words to be pronounced for the Cure of a Diſlocation or Fracture; but becauſe there is not a Poſſibility of tranſlating them, I ſhall give them as he himſelf gave them: "*Luxum ſi*
"*quod eſt, hac Cautione ſanum fiet. Harundinem prende tibi*
"*viridem P. 4. aut 5. Longam. Mediam diffinde, & duo Ho-*
"*mines teneant ad Coccendices. Incipe Cantare in alio. S. F.*
"*Motas væta Daries Dardaries, Aſtataries Diſſunapiter, uſque*
"*dum coeant. Ferrum inſuper jactato. Ubi coierint, & al-*
"*tera alteram tetigerit; id Manu prende, & dextra ſiniſtra*
"*præcide. Ad Luxum aut Fracturam alliga, ſanum fiet, &*
"*tamen quotidie cantato in alio, S. F. vel Luxato, vel hoc*
"*modo, huat, hanat, huat, iſta. Piſta, ſiſta, domiabo dam-*
"*nauſtra, & luxato. Vel hoc modo, huat, haut, haut, iſta,*
"*ſis tar ſis ardannabon dunnauſtra.*" Cato de re ruſtic Cap. 160.

Pliny alſo informs us, that *Cato* in his Practice made a great deal of Uſe of Cabbage, in which, as he obſerves, the whole Materia Medica of the *Romans* conſiſted for ſix hundred Years. This *Panacea* muſt undoubtedly appear ridiculous in our Days; but we ſhall be leſs ſurpriſed, that this People confided ſo much in a common Plant, if we call to mind the uncommon Eſteem in which it was had among the moſt learned and ſkilful of the firſt *Greek* Phyſicians.

Plutarch obſerves, with regard to the Practice of *Cato*, that he did not approve of Abſtinence for the Cure of Diſeaſes, but recommended Herbs, and the Fleſh of Ducks, Pigeons, and Hares. But this Author does not pay ſo profound a Veneration to the Phyſic of *Cato* as *Pliny* does; he obſerves on the contrary, that the Wife and Son of that *Roman* died before himſelf; adding at the ſame time, that if *Cato* lived to ſo great an Age, it was owing to the natural Goodneſs of his Conſtitution, and not the judicious and happy Choice of his Medicines. As *Plutareh* was a *Grecian*, he may poſſibly be ſuſpected of being animated with too keen a Deſire of revenging the Cauſe of the *Greek* Phyſicians; though, at the ſame time, what he aſſerts has very much the Air of Probability.

As for the Phyſic of the *Greeks*, 'tis not at all ſurpriſing, that the *Romans* ſhould be unacquainted with it till the Arrival of *Archagathus* amongſt them, ſince even in other Inſtances they were very late in cultivating the Sciences and liberal Arts. And tho' *Pliny*, in the Paſſage already quoted, affirms, that the *Romans* ſoon received the Arts; yet this is only to be underſtood of theſe mechanical Arts, which are abſolutely neceſſary to human Life: "*Cicero* [*Tuſculanar. Quæſt. Lib.* 1.] informs
"us, that Poetry was not introduced among the *Romans* till
"very late, and that even Philoſophy had been in great Diſ-
"repute till his Days. *Suetonius* alſo [*De illuſtrib. Gramma-*
"*ticis*] affirms, that Grammar was not at all in Uſe among
"the firſt *Romans*, much leſs was it eſteemed and valued, be-
"cauſe the People of theſe Days were as yet ſavage and unpo-
"lite, and ſo throughly addicted to the Buſineſs of War, that
"none apply'd themſelves very much to the liberal Arts." But there cannot poſſibly be a more convincing Proof, that Learning made her Entrance into *Rome* very late, than *Cato*'s Dread, leſt ſhe ſhould make her Appearance in his Days, though he lived, as we have obſerved, ſeventy Years after *Archagathus*. Though the greater Part of this Article may ſeem to be a kind of Digreſſion, yet, upon a cloſer View, the Whole will appear to have ſome Connection with the Life and Hiſtory of *Archagathus*. Beſides, 'tis fraught with ſo much Learning, and has ſuch a direct Tendency to acquaint us with the State of Phyſic in *Rome*, that it will ſpeak for its own *Propriety*. *Le Clerc. Hiſtoire de la Medicine.*

ARCHALTES, or, according to *Rulandus*, **ARCHATES**. By this Word *Paracelſus* means the Foundations or Pillars of the Earth, becauſe they do not ſeem to be ſuſtained by one another, but by the ſecret and wonderful Operation of G
Rulandus. Caſtellus.

ARCHANGELICA. See ANGELICA.

ARCHE, ἀρχὴ, a Beginning, has a Multiplicity of M
ings among Phyſicians, according to *Galen*. Sometimes,
he, it ſignifies the firſt Attack of a Diſeaſe without any L
of Time at all; ſometimes it means the ſame continued,
but for a ſhort Space. Beſides theſe Significations, ἀρχὴ de
the firſt Stage of the Diſtemper, the ſecond being the *Anab*
ἀνάβασις, [or Increaſe; the third the *Acme*, ἀκμὴ, "St
"Height;" and the laſt the *Paraeme*, παρακμὴ, "De
"ſion." *Aetius* by the *Arche* of a Diſtemper underſtands
Beginning of the Patient's Decubiture. Again, *Galen* tells
that *Hippocrates*, as well as other Phyſicians, uſe this Wo
ſignify the Beginning of a periodical Diſtemper, on the firſt
of the Tranſition from a healthy to a morbid State, w
comes about again on the third or fifth Day in proportion to
Period: He ſays, moreover, that *Hippocrates*, and the an
Phyſicians, meant by *Arche*, a Space of Time in the Begi
of a Diſeaſe which admitted of Help, whether by Blee
Clyſters, &c. and that the *Arche* in a Hectic Fever was
circumſcribed or limited by Days or Hours, as it was in
Diſtempers, but by the Quality of the Affection. In this
is *Arche* taken by *Tully*, when he writes to his Friend *Att*
Δυσουρία *tua mihi valde moleſta; medere, amabo, dum eſt*
"I am very much concern'd about your Difficulty of U
"let me beg you to get it cur'd while it is recent."

ARCHEGONOS, ἀρχέγονος, from ἀρχὴ, a Beginning,
γίνομαι, to be, or be produc'd. Primigenial.

ARCHENDA, a Powder prepar'd of the Leaves of
Egyptian Privet, called *Alcanna*, or *Elhanna*, by the N
with which they plaſter up their Feet after batheing, and
derfully commend it againſt all Humidity, ill Smell, and
cillity of the Feet, on account of its aſtringent and ſtreng
ing Quality. See ALCANNA.

ARCHEUS is a Term introduced by *Paracelſus*, and
by his Interpreter to be an inviſible Species, vague, and
rating itſelf from Bodies, the Phyſician's Power, and N
Virtue. *Paracelſus* ſays of it, That it is the Nature and
poſer of Things, *De Tartaro*; is the Separator of the Elem
De Elemento Aquæ; diſpoſes and orders all Things in N
that every thing may be brought to the ultimate Matter
Nature, 1. *de Mineralibus*; is conſtituted to compound T
which ought to be united, *ibid.* and is the Deſtroyer of
Chirurg. that the Office of the *Archeus* in the Microcoſm
ſeparate the Pure from the Impure, being the prime O
in the Stomach, that prepares and diſtributes whatever
and drink, and employs the expulſive Powers in diſcharg
tartareous Recrements by the Inteſtines and Bladder;
the *Archeus* of the Stomach is more or leſs perfect, ſo in
tion are the Separations of the Pure from the Impure,
conſequence the Microcoſm is more or leſs ſubject to Di
De Morbis Tartar. that the great *Archeus* is the Diſtrib
the different Heats neceſſary for as many different D
according to the Nature of the Parts, *Modus Pharm*
Vol. 1. *p.* 815. that there is a Virtue in Nature which
Archeus, that diſpoſes all things into their ſeveral E
ſeparating one Thing from another, and furniſhing Thin
their proper Seeds, *Meteorum cap.* 4. *Vol.* 2. *p.* 202.

Van Helmont makes very frequent Uſe of this Word,
forms us, that the *Archeus* conſiſts in a Connection of t
Air, as Matter, with the ſeminal Form, which is the
ſpiritual Nucleus, containing the Fœcundity of the Se
of which the viſible Seed is but the Pod. This *Archeus*
Contriver and Director of Generation, inveſting itſelf
dily Cloathing. In animate Beings it perambulates
Receſſes of the Seed, and transforms the Matter, acco
the Entelecheia of its own Image, here placing the He
there the Brain; and to every Part aſſigning, out of
verſal Monarchy, a Governor, according to its Exige
final Uſe, which remains in his Office till Death;
Archeus is always fluctuating, and never fix'd to any M
but keeps a watchful Eye over every particular Gover
Part, and is always clear and lively, but never idle.
Faber.

By theſe Extracts we may perceive, that theſe Phi
only meant *Nature*, by their *Archeus*.

ARCHIATER.

The Word *Archiater* or *Archiatros* has different Ide
to it by different Perſons: Thus *Chaſſaneus* imagin'd,
imply'd no more than a *Porter or Door-keeper of the*
Palace, as if one ſhould ſay, *Princeps Atrii*; but thi
cture is ſo abſurd, that it in a manner confutes itſelf.
has ſucceeded better in tranſlating the Word *Archiate*
or Chief of Phyſicians, as if one ſhould ſay ἀρχὴ τῶν
This Opinion of *Accurſius* was embraced by the antient
lators of *Galen*, and ſome other learned Men, who
the *Greek* Word *Archiater* by the *Latin* ones, *Medic*
trius. *Mercurialis* was the firſt who declared himſelf
Explication of *Accurſius*, and maintained that the Wo

ignified the *Phyſician of the Prince*, as if one ſhould ſay, χοντος ἰατρός. He endeavours to ſupport his Opinion by Reaſon, that the Word *Archiater* was never uſed by any or *Latin* Author before the Days of the *Roman* Empe- He even thinks, that this Word was not known till after Reigns of *Tiberius* and *Claudius*, which is ſufficiently d by this Circumſtance, that *Andromachus*, who lived un- *Nero*, was the firſt who aſſum'd the Title of *Archiater*.

at Title, ſays *Mercurialis*, was not in Uſe before the of the Emperors, becauſe the Thing imported by it had yet a Being; or in other Words, there could not poſſibly *yſicians* to the *Emperors*, before the *Emperors* themſelves eſtabliſhed. This is one Topic inſiſted upon by *Mercurialis*, efence of his Opinion; to which ſome may poſſibly reply, the *Kings* or *Sovereigns* of other Countries might have alſo the Name of *Archiatroi* to their Phyſicians, if that Word ies the *Phyſician of the Prince*. But one may retort this ment, and ſay, that if the Word *Archiater* ſignifies the *e or Chief of Phyſicians*, the *Greeks* would not, in all Pro- ty, have fail'd to beſtow that Title upon *Hippocrates*, *ſtratus*, and ſome others of their moſt eminent Phyſicians. this be as it will, 'tis an unconteſted Fact, that the *Archi-* were not ſo much as heard of before the Days of the Em- s.

ercurialis adduces two Arguments more in Confirmation s own Hypotheſis: The firſt is, that *Andromachus* is not ſimply *Archiater*, without any Mark of Diſtinction, but *rchiater* of *Nero*. The ſecond is, that if *Demetrius* and *mus*, who are called *Archiatroi*, by the ſame Author who s of *Andromachus*, and had that Title beſtowed on them the Reigns of the *Antonini*, had not been the Phyſicians eſe Emperors, then no Reaſon can be aſſigned, why they have been called *Archiatroi*, rather than *Archigenes*, s, and ſeveral other Phyſicians, who flouriſh'd much the ſame Time, and whoſe Names were ſufficiently fa-

ciatus embraces an Opinion, which ſeems to be a kind of *um* betwixt that of *Accurſius* and *Mercurialis*; for he ima- , that the *Archiater* was in Reality the *Prince of Phyſi-* , becauſe he was the *Phyſician of the Prince*, ſince the Man bears that Character, is, for that very Reaſon, placed, in meaſure, in a higher Sphere than other Phyſicians; but ding to that Lawyer, it does not thence follow, that the *Archiatros* is form'd of the *Greek* Words τȣ̃ ἄρχȣ ἰατρὸς.

heſe are the three different Opinions embraced with regard Meaning of the Word *Archiater*; for that of *Chaſſaneus* ſo trifling and diminutive a Nature, that it does not de- a Place among the reſt. I know not whether *Alciatus* has ny Abettors, but the Bulk of the learned World in gene- divided between the Explications of *Accurſius* and *Mercu-* : Each has his reſpective Champions, and thoſe too Men earning. The Opinion of *Mercurialis* is ſupported by *ius*, *Zwinger*, *Caſaubon*, *Mattius*, and *Voſſius*; but not- ſtanding the Authority of theſe great Men, *Meibomius* fa- the Interpretation of *Accurſius*, and adduces ſeveral Argu- in its Defence; the firſt of which is, that of all the ſeve- *reek* Words which begin with *Archi*, ſuch as *Architectus*, *piſcopus*, *Architriclinus*, *Archileſtes*, *Archiereus*, not one s any thing pertaining or relating to the Prince, but they all equally import ſomething that is the *firſt or moſt nt of its Kind*. Juſt ſo ſays *Meibomius*, the *Archiater* is *he Phyſician of the Prince*, but *the Prince or Chief of Phy-* , otherwiſe this Word would be the only Exception from ule now mentioned. *Caſaubon* had indeed pretended, that Word ἀρχικυβερνήτης, in a certain Paſſage quoted by him, ted *the Commander of the Ship in which the King ſailed*, and *he Commander of the whole Fleet*. But *Meibomius* confutes earned Critic with a great deal of Solidity and Judgment.

e ſecond Argument adduc'd by *Meibomius*, in order to , that the *Archiater* was not the Phyſician of the Prince, is, ſome Authors make mention of one *Theon*, and one *Glau-* *Archiaters* of *Alexandria*, and of one *Cyrus*, *Archiater* of *a*: Now there were neither Kings nor Princes in theſe , in the Times of theſe Archiaters. He draws another from a Paſſage of *Oribaſius*, where that Author ſays, *the Emperor* Julian *had called together all the Archiatroi of ountry, and ſelected from their Number ſeventy-two of thoſe he thought moſt learned, of which Number* Oribaſius *him- one*; from which it follows, that the Archiatroi were numerous, and diſperſed thro' all the Quarters of the Em- But to this Argument of *Meibomius* it may be reply'd, the Paſſage on which 'tis built is not to be met with in the Copy of *Oribaſius*. The fourth Argument adduced by learned Phyſician is drawn from this, that *Galen*, or the r of the Book intituled *De Theriaca*, when ſpeaking of *machus*, ſays, *That his Skill in Medicine was very exten- and that for that Reaſon the Emperor made Choice of him iquẽ, to preſide over us, that is, over the Phyſicians*; or, her Words, to exerciſe the Office of *Archiater*, ſince he he Title of it beſtow'd on him. The fifth Argument adduc'd by *Meibomius* in Defence of *Accurſius*'s Interpretation, is, that St. *Auguſtine* calls *Æſculapius Archiater*, by which he undoubtedly meant no more than that he was the *Chief of Phyſicians*; and that St. *Jerom* gives the ſame Title to the *Saviour of the World*, which is juſt as much as if he had called *Jeſus Chriſt* the *ſovereign Phyſician*. *Meibomius* adds, that the Word *Archiater* is tranſlated *Proto-medicus*, by the impure and barbarous Writers of the *Latin* Language; and ſays, that the Phyſicians of the Emperors were only ſimply call'd Phyſicians of *Cæſar*, or ſome Emperor, as appears by ſome Inſcriptions; and that they never aſſum'd the Title of *Archiatroi*, unleſs they belong'd to the Claſs of Phyſicians ſo call'd.

Godofredus on the other hand, favours the Opinion of *Mercurialis*, with regard to the Etymology of the Word *Archiater*. But he obſerves, that there were two Sorts of *Archiatroi*, which *Mercurialis* had confounded with each other. The former Sort were called *Archiatroi S. Palatii*, and according to *Godofredus*, were only employed in the Emperor's Court; whereas the latter Sort were only called ſimply *Archiatri*, or *Archiatri Populares*, and ſerved the People in the Cities of *Rome* and *Conſtantinople*. Theſe latter, continues this Author, were, as well as the former, called *Archiatri*, from the City in which they practiſed, juſt as if one ſhould ſay *Principis Urbis Medici*, that is, the Phyſicians of the principal City, or of the City in which the Prince reſides. The *Archiatri* of this laſt Sort were fourteen in Number, one for each of the Diſtricts into which *Rome* was then divided. And as they had Salaries allowed them by the Public, and enjoyed ſeveral other Privileges and Immunities, which could not be claimed by other Subjects, they were obliged to viſit all ſick Perſons without Diſtinction, *gratis*; for the original End and Deſign of their Eſtabliſhment was to guard againſt the Loſſes, which the poorer Sort of the *Roman* Subjects might poſſibly ſuſtain for want of Phyſicians.

All we know concerning the Salaries, the Privileges, and the Method of electing the *Archiatri*, is drawn from the ſeveral Laws relating to theſe Matters enacted by different Emperors, and from the Works of ſome Authors who lived at that Time; firſt then, from theſe Sources we find, that theſe *Archiatri* had Salaries either from the Prince or the People; and, that in Conſequence of theſe Salaries, they were obliged to viſit all Patients, whether rich or poor, without demanding any Fees, except what the Patient's Generoſity ſhould prompt him to beſtow after his Cure was completed. Secondly, from theſe Laws it appears, that ſeveral Privileges were annexed to the Office of *Archiater*; that theſe Phyſicians themſelves, their Wives and Children, were exempted from all the Taxes and Burdens of the *Roman* State; that ſuch of them as reſided in the Provinces, were neither obliged to quarter Soldiers, nor any other Perſons whatever; that they could not be dragged to the Bar, nor obliged to make a perſonal Appearance before the Judge; that they could not be taken Priſoners; and that none durſt inſult them without incurring the ſtricteſt and ſevereſt Penalties. The Law indeed which ordains this, ſeems to extend theſe Privileges, and render them common to all the Phyſicians of the *Roman* State, or at leaſt to ſome who were not among the Number of the *Archiatri*. But there is alſo another Law reſtraining theſe Privileges ſolely to the *Archiatri* of the *Palace*, and thoſe of the City of *Rome*. Thirdly, from theſe Laws we may alſo gather, that the *Archiatri* ſerved both the Emperors and the Public; and that thoſe of them who were diſcharg'd, either on account of their having bore the Office during the allotted Time, or for ſome other Reaſon, were call'd *Exarchiatri*, or *Ex Archiatris*. Finally from theſe Laws, and the Writings of the Authors who liv'd in theſe Days, it appears, that there was a College of *Archiatri* compoſed of a certain Number of Phyſicians, who took their reſpective Places, according to the Dates of their Admiſſion; ſo that when any of their Number died, the Perſon choſen to ſucceed him was loweſt of all; and that this College judg'd of the Capacity of Candidates, and choſe or rejected them accordingly; but that the Emperor confirm'd them after they were elected, or even nominated and propoſed them before, to the *Archiatri*; who afterwards examin'd them, and admitted them into their Number, if their Merit gave them a Title to that Honour.

The *Archiatri* of the Palace were honour'd with a Title ſomewhat equivalent to our Word *Earl*. This Earlſhip, *Comitiva*, as the *Romans* call'd it, was diſtinguiſh'd into the *firſt* and *ſecond* Ranks, both which were obtain'd by the *Archiatri* of the Palace. Thoſe who obtain'd the *Comitiva* of the *firſt Order*, went equal with *Dukes* and *Vicars*; and, it ſeems, theſe Dignities were at firſt common to ſeveral *Archiatri*, or that there were ſeveral of theſe Earls at one and the ſame time. But, under the *Gothic* Kings, a Revolution happen'd in this Body of Men; and inſtead of ſeveral *Archiatri*, there was one eſtabliſh'd, who had a certain Juriſdiction not only over the reſt, but alſo over the other Phyſicians of the State. The Power of this *Earl* of the *Archiatri* was very extenſive, as we may learn from a Clauſe of the *Formula* of his Inſtalment, which runs thus: "Henceforth "we confer upon you the Dignity of Earl of the *Archiatri*, "that you alone may ſhine diſtinguiſh'd among the venerable

“ *Guardians* of Health; and that all who ſhall have any Dif-
“ ferences or Diſputes, relating to Things of a medicinal Na-
“ ture, may ſubmit to your Arbitration, and acquieſce in your
“ Deciſion: You ſhall be the univerſal *Arbiter* of the ſacred
“ Art of Phyſic, and the Judge of all thoſe Controverſies which
“ were formerly decided by the Caprice of private Phyſicians.
“ You will, in ſome Senſe, cure the Sick, inaſmuch as you
“ will put an End to thoſe Conteſts which embroil Phyſic, and
“ conſequently prove injurious to them: It is a remarkable
“ Piece of Honour, that Men of Learning and Skill ſhould
“ pay a ſincere Deference to your Deciſions; and that you
“ ſhould have ſo rich a Tribute of Veneration from thoſe, who
“ are themſelves venerable in the Eyes of the reſt of Mankind.”
The ſame *Formula* ſubjoins, that this Head or Chief of the Phyſicians was particularly oblig'd to take care of the Emperor's Health; and that, for this very Reaſon, he had free Acceſs to his Perſon at all Times. See *Caſſiodori Formul. Archiatr. Le Clerc.*

I can't, upon this Occaſion, forbear inſtituting the Compariſon between the *Pope* and this Head of the *Archiatri*; only I look upon the latter as the more *noxious Animal* of the two: For the Infallibility and deciſive Power of the former generally exert themſelves upon Modes of Worſhip, and controverted Points of Divinity; things in which the true and genuine Happineſs of Mankind is by no means intereſted: Whereas the irrevocable Deciſions of the latter might tie the Practitioners of Phyſic down to Theories and Practices, which might depopulate Cities, lay waſte Nations, and, in Proceſs of Time, render the Earth itſelf a Deſart. Thus, for Inſtance, if this Pope in Phyſic ſhould decree, that every Phyſician ſhould believe, that Fevers are cauſed by *an Inflammation of the Animal Spirits*, or *from ſomething deleterious reſiding amongſt them*; and, in conſequence of this Doctrine, ſhould ordain, that, in ſuch Caſes, Patients ſhould be deny'd all cooling and diluting Liquors; and ſhould be kept to a conſtant Uſe of heating Medicines, in order to expel this *imaginary Poiſon*, or drive out this *inflammatory Matter* by the Pores of the Skin; in this Caſe, Phyſic could no longer be eſteem'd a ſalutary Art, ſince more muſt neceſſarily periſh by ſuch intended Means of Relief, than by all the Diſtempers which are naturally produced in the World.

This Word *Archiater* has made ſuch a Noiſe in Phyſic, that if I was to give an Account of every thing that has been ſaid relating to it, I ſhould preſent the World with ſeveral Volumes of critical, claſſical, and hiſtorical Learning: But that not being my Deſign, I hope I have fix'd the Meaning of the Word *Archiater*, and given as ſatisfactory an Account of the *Archiatri* as my intended Brevity would permit.

ARCHIDOXA. The Title of a Chymical Work of *Paracelſus*, which *Libavius* explains *magical. Caſtellus.*

ARCHIGENES. A celebrated Phyſician among the Antients.

We are inform'd by *Suidas*, that *Archigenes* lived under the Emperor *Trajan*, practiſed Phyſic at *Rome*, and died in the ſixty-third Year of his Age, after having written a great deal on phyſical and medicinal Subjects. The ſame Author adds, that he was a Native of *Apamea* in *Syria*, and that his Father's Name was *Philip*; which may poſſibly have laid a Foundation for the Miſtake of *Wolfgangus Juſtus*, who makes *Archigenes* Phyſician to *Philip* King of *Syria*.

But *Archigenes* muſt have not only lived under, but alſo ſurvived *Adrian*, if it was he who directed that Emperor to a certain Place under his Breaſt, as moſt proper to be wounded, in order to procure a ſpeedy Death. *Dion Caſſius*, indeed, aſcribes this Affair to one *Hermogenes*; but *Mercurialis* is of Opinion, that the Name ought to be read *Archigenes*, and not *Hermogenes*. However, I don't know but *Mercurialis* may be miſtaken in this; for we read of one *Hermogenes*, a Follower of *Eraſiſtratus*, and there is nothing to hinder his living in the Days of *Adrian*, ſince the Sect or School of *Eraſiſtratus* was in Being till a great while after that Time. It alſo appears, that *Galen* ſpeaks of this ſame *Hermogenes*, as of one who had not lived a great while before him. Now *Galen* was born under the Emperor *Adrian*. As for that other *Hermogenes*, againſt whom *Lucilius* made this Epigram, he muſt have been conſiderably older.

Ἑρμογένην τὸν ἰατρὸν ἰδὼν Διόφαντος ἐν ὕπνοις,
Οὐκέτ' ἀνηγέρθη, καὶ περίαμμα φέρων.

That is:

Diophantes, *happening to ſee the Phyſician* Hermogenes *in a* DREAM, *never awaked after; even tho' he were a* PRESERVATIVE *about him.*

Martial, who imitated this Epigram, attributes the ſame deſtructive Influence to another Phyſician, whom he calls *Hermocrates*; but this, as well as the former Name, may poſſibly be fictitious. *Martial*'s Performance, tho' far ſhort of the Spirit and Pungency of that of *Lucilius*, has nevertheleſs enough of the *Epigram* about it to deſerve the Name of a maſterly Production. It runs thus:

Lotus nobiſcum eſt hilaris, cænavit & idem;
Inventus mane eſt mortuus Andragoras.
Tam ſubitæ mortis cauſam, Fauſtine, requiris?
In ſomnis medicum viderat Hermocratem.

Andragoras *ſupp'd in good Health; but next Morning* was
dead. If, Fauſtinus, *you ſhould aſk the Cauſe of ſo ſu*
Death, I tell you, he had the Miſfortune to ſee Hermocra
a Dream.

But to return to *Archigenes*; he muſt certainly be the P cian meant by *Juvenal*, *Sat.* 6. *l.* 236. in theſe Words:

-------- *Tunc corpore ſano*
Advocat Archigenen, oneroſaq; pallia jactat
Quot Themiſon Ægras. -----

From which Paſſage the Scholiaſt obſerves, that *Archigenes* a very noted Phyſician of theſe Days.

And again, *Sat.* 13. *l.* 98.

Nec dubitet Ladas, *ſi non eget Anticyra, nec*
Archigene. ----

And in *Sat.* 14. *l.* 52.

Ocyus Archigenem quære, atq; eme quod Mithridates
Compoſuit. ----

Now as *Juvenal* lived till the twelfth Year of *Adrian's* R he muſt have been contemporary with *Archigenes*; an Manner in which he ſpeaks of him, imports, that he was a ſician of great Employment.

But *Juvenal* is not the only Author who eſtabliſhes the racter and Reputation of *Archigenes*: He has *Galen* alſo o Side, whoſe Suffrage is of the more Importance, as he h was a Phyſician, and not very profuſe of his Encomium People who differ'd from his own Sentiments. “ *Archi*
“ ſays he, [*De Locis Affect. Lib.* 2. *Cap.* 6.] has taug
“ well, and with as much Care, as any other, all that
“ to the Art of Phyſic; and this renders all his Wri
“ which are very numerous, juſtly valuable. But not
“ ſtanding this, he is not, in every reſpect, free from E
“ and as he did not heſitate to cenſure thoſe who went b
“ him, even tho' he received a great deal of Advantage by
“ Labours; ſo we hope none will take it amiſs, if we,
“ come after him, treat him as he treated others. It i
“ difficult, continues *Galen*, for Men not to err on
“ Occaſions, either by being entirely ignorant of certain t
“ or by not judging of them as we ought; or by writing
“ times in a too negligent and leſs accurate manner.”

It appears ſomewhat contradictory, that *Archigenes* be rank'd among the *Elective*, and among the Pne Sect, at one and the ſame time; but to this I anſwer, *Archigenes* is rank'd among the Pneumatics, or if he em the Sentiments of *Athenæus*, this does not hinder him being at Liberty to chuſe what he thought beſt, from amo other Sects. And tho' he, perhaps, acknowledged the Cauſes of Diſeaſes with the Dogmatic and Pneumatic Sec 'tis poſſible, that to theſe Cauſes he may have join'd that the Pneumatics thought of the greateſt Importance, w their *Spirit*; and might, for this Reaſon, have been intro the Pneumatic Sect. However this be, the Author of the duction places *Archigenes* not only in the Elective, but the Pneumatic Sect; and *Galen* himſelf, who no-where of the former of theſe Sects, obſerves, that *Archigenes* the ſame Sect with *Athenæus*, who was a Pneumatic. *Le* *Hiſtoire de la Medicine.*

ARCHIGENI MORBI. Acute Diſeaſes, ſo call'd ἀρχὴ, the Chief, and γίνομαι, to be; becauſe they ho principal Rank among Diſeaſes. *Blancard.*

ARCHIMAGIA. Chymiſtry, which, being the A making Gold and Silver, deſerves this high Title. *Caſte*

ARCHIMEDIS TRISPASTUM. The ſame as A LIDIS TRISPASTUM, which ſee.

ARCHIMIA differs from *Alchimia*, being, in particu Art of changing imperfect Metals into thoſe which are perfect. *Caſtellus.*

ARCHOS, ἀρχὸς. The Anus. It is alſo taken *Inteſtinum Rectum*, as if it were the primary or chief In Thus, *Aph.* 58. *Lib.* 5. & *Lib. de Fiſtulis*, ἀρχὸς φλεγ means an Inflammation of the *Inteſtinum Rectum*, acco that Expoſition of *Galen*, ἀρχὸν μὲν ὃν λέγων τὸ ὅλον μένον, “ calling the whole *Inteſtinum Rectum* by the N “ *Archos.*” And, *Lib. de Art.* by ἀρχοῦ τὸ χαλαρὸν, “ Laxity of the *Rectum*,” is underſtood the lax Part, adheres to the *Os Sacrum*, excluding the Conſtrictory call'd the *Sphincter*; and the ſame is meant, in *Lib. de* by ἀρχοῦ τὸ ἐγκεκλιμένον, “ the inclining Part of the *Re*

CION, ἀρκειον. The Burdock. See **Bardana**.

COS. Burnt Copper. *Rulandus*.

CTATIO, ξυμ- or συμπέλησις, from ξυμ- or συμπελάω, ας, near. A Streightneſs; in particular, it is apply'd to the nes conſtipated from an Inflammation, and to a preter- Streightneſs of the *Muliebre Pudendum*, or *Uterus*. It is ll'd *Arctitudo*.

ata Pars, in *Scribonius Largus*, No. 206. is an Expreſ- ſignify the Part compreſs'd or cloſed by a Fibula.

CTION, ἄρκτιον. Woolly-headed Burdock. See Bar-

CTOS. The Conſtellation call'd the Ursa Major.

CTOSCORDON, ἀρκτόσκορδον, from ἄρκτος, a Bear, όρδον, Garlick. A ſort of Garlick call'd Bear-garlick.

CTOSTAPHYLOS, ἀρκτοστάφυλος, from ἄρκτος, and , a Grape. *Uva Urſi*, or *Spaniſh* Whortles. See Vac-

м.

CTURUS, ἀρκτοῦρος, from ἄρκτος, and οὖρος, a Keeper, *tian* upon *Hippocrates* is expounded, "Ὄντινες Ἀρκτοφύλακα γορεύουσιν, οὖροι γὰρ οἱ φύλακες καλοῦνται ἔστι δὲ οὗτος λαμ- πρὸς ἐν τῇ ζώνῃ τοῦ Βοώτου κείμενος. "Which ſome call Ar- phylax, (the Keeper of the Bear) for Keepers are call'd : It is a bright Star in *Bootes*'s Belt." *Hippocr. Lib.* 1. n. Πρὸ ἀρκτούρου ὀλίγον, καὶ ἐπ' ἀρκτούρου, *&c.* "A little be- e, and at the (Heliacal) Riſing of *Arcturus*," &c.

hers derive the Word from ἄρκτος, and οὐρή, a Tail; and *Arcturus* a Star in the Tail of the great Bear, of which , as tranſlated by *Tully*:

Huic autem ſubter Præcordia fixa videtur
tella micans radiis Arcturus nomine claro.

turus riſes about our ſecond of *September*; and ſets *Octo-* twenty-ninth, as mark'd in the Calendar.

CTURUS *Creticus Belli*. See **Blattaria**.

CUALIA OSSA, according to ſome, are the Bones of *nciput*; others take them for the Temple-bones.

ualis Sutura is the ſame as the *Coronalis*. See **Sutura**.

CUATIO, according to ſome, is a Gibboſity of the arts, with a Curvation of the Bones of the *Sternum*. *lus.*

CUATUS MORBUS. The ſame as *Arquatus Morbus*, terus, which ſee.

CULÆ, ποελίδες. The Caverns in which the Eyes are d. *Ruf. Epheſ.*

DABAR. A Species of *Arum*. See **Arum**.

DAS, ARDALOS, ἄρδας, ἄρδαλος, according to *Galen rotian*, are the ſame as ῥύπος and μολυσμὸς; that is, Sordes ilth.

DEA, Offic. Schrod. 5. 315. *Ardea cinerea*, Mer. Pin. *Pella & Ardea*, Bellon. des Oyſe, 190. *Ardea cinerea* , Raii Synop. A. 98. Aldrov. Ornith. 3. 377. Charlt. 109. Jonſ. de Avib. 103. *Ardea pulla ſive cinerea*, de Avib. 186. *Ardea cinerea ſive pulla*, Raii Ornith. Will. Ornith. 203. THE HERON.

is Bird is too well known to require a Deſcription. The recommended for aſſwaging the Pains of the Gout; for off Specks from the Eye, and clearing the Sight; and ring Deafneſs, if put into the Ear. *Dale*.

e young Herons are ſometimes uſed as Food; but on nt of their Aliment, which is Fiſh, their Salts muſt be exalted, and their Fleſh rank.

DEA STELLARIS.

rias, Offic. *Ardea Stellaris*, Mer. Pin. 181. Will. Ornith. Raii Ornith. 282. Ejuſd. Synop. A. 100. Charlt. Exer. *Ardea ſtellaris major*, Aldrov. Ornith. 3. 408. Geſn. de 193. Jonſ. de Avib. 104. *Butor*, Bellon. des Oyſe. 192. BITTERN, or MIRE-DRUM.

e Skin and Feathers of this Bird, if burnt, are ſaid to Hæmorrhages.

eſe Birds are ſometimes eaten; but the Fleſh is very rank, eir Salts muſt be much exalted on account of their Food.

DENS FEBRIS, from *ardeo*, to burn. A burning Fe- The ſame as Causus, which ſee.

DENTIA, are Things unfit to be eaten or drank, being Nature obnoxious to Combuſtion, as Carabe (*Amber*), entine, Jet, and the like. *Rulandus*.

DESIA. *Hardeſia vulgaris, ſive Ardeſia*, Ind. Med. 57. *es ſciſſiles, & cruſtoſi*, Mer. Pin. 212. SLATES.

o not know why *Dale* has inſerted theſe among the *Mate- Medica*, as, he ſays, he finds no Virtues attributed to

DOR URINÆ. See **Dysuria**.

E-ALU. A ſort of *Indian* Fig. See **Ficus**.

EA, according to *Rulandus*, is the Maſs dug from the , or the Place whence it is digg'd. In Medicine it is a s of Alopecia, which ſee.

ECA. THE INDIAN NUT, Offic. *Areca ſive Fau-* THE DRUNKEN DATE-TREE, Ger. *Sive Fauſel a Indiana verſicolor*, THE DISCOLOUR'D SMALL IAN NUT, Park.

This is the Fruit of a kind of Palm-tree, that grows in the *Eaſt-Indies*. The outward Coat, or Covering, is about the Bigneſs and Shape of a Pullet's Egg, and is made up of numerous fine Threads or Filaments, running lengthways from the Stalk to the Head; under which is contain'd the Fruit or Nut, of a brown Colour on the Outſide, in Shape like a Nutmeg at one End, but flattiſh at the other, with a kind of Navel towards one Side; within, it is white, and marbled like a Nutmeg, with purpliſh Veins of very little Taſte.

This Fruit is a kind of Cocoa-nut, containing a woody Kernel, incloſed by two different Subſtances. The *Indians* chew the *Areca*, roll'd up in a Bitel-leaf, to help Digeſtion, and to ſtrengthen the Gums, as *Kæmpfer* relates. When freſh, it is a little aſtringent; and of this Fruit the Extract is made, which in our Shops is call'd *Terra Japonica*. To this Extract they ſometimes join that of another Plant named *Lycium*, and alſo calcin'd Shells. *Geoffroy*. See **Catechu**.

AREFACTIO, ξήρωσις. An Exſiccation, or Drying. It is a way of preparing ſuch Medicines as are redundant in Moiſture, in order to their being reduced to a Powder. *Caſtellus*.

AREMAROS, Cinnabar. *Rulandus*.

ARENA MARIS, Offic. *Arena marina*, Kentm. 57. *Arena litoralis*, Mer. Pin. 211. Matth. 1390. SEA-SAND.

Sea-ſand dries up the redundant Moiſture in Hydropic Conſtitutions, if the Patient lies cover'd with it as far as the Head. It is ſometimes heated, and applied by way of dry Fomentation, inſtead of Salt or Millet. *Dioſcorides, Lib.* 5. *Cap.* 167.

ARENAMEN, Arenarmei, Bole Armoniac. *Ruland. Johnſon.*

ARENARIA. A Species of *Coronopus*, ſo call'd, becauſe it delights in ſandy Places. *Blancard*.

ARENATIO, or Saburratio, is caſting Plenty of very hot Sea-ſand, or, for want thereof, of River-ſand, upon the Bodies of the Patients. *Caſtellus*.

AREOLA is the Circle ſurrounding the Nipple. See Mammæ.

ARES. A Word coin'd by *Paracelſus*, by which he would have us underſtand the ſecret Diſpoſer of Nature in the three Principles, whereof every thing conſiſts, who gives it a Form, Species, and Subſtance, peculiar to it, whereby it is diſtinguiſh'd from others. We may here obſerve, ſay the Alchymiſts, the Difference between theſe three Things, which the Divinity has conſtituted in Nature. The *Iliaſtes* is a Subſtance of the moſt general Kind, conſiſting in the firſt univerſal Matter of all Things: The *Archeus*, the firſt Diſpoſer of Nature, diſtributes this Matter into three Kinds, which are Sulphur, Mercury, and Salt, and thence reduces all Things into their Species. At laſt comes the *Ares*, another Diſpoſer of Nature, and produces Forms to every Kind, and diſtributes Species into Individuals. *Johnſon*.

Ares is diſtinguiſh'd by *Paracelſus* into the *Archeic*, which is natural, and the *Chymic*, which is artificial. Hither alſo may be referr'd the *Meloſinicum*, the Principle of Tranſmutation, call'd alſo the *Salamandrine Eſſence*, ſuch as is aſcrib'd to the Philoſopher's Stone. *Paracelſ. de Vit. Long. Lib.* 3. *Cap.* 12. and *Lib.* 4. *Cap.* 6.

ARESTA BOVIS. The ſame as Anonis, which ſee.

ARETÆUS. *Le Clerc*, an Author of profound Learning, and ſingular Penetration, has ſet the Sentiments and Character of *Aretæus* in a very juſt Light.

Aretæus is an Author of ſo uncommon a Character and Reputation, that we ſhould do a manifeſt Injury both to him and to the World, if, on this Occaſion, we ſhould neglect to inquire into the Sect to which he belong'd, and the Time at which he lived; and this Taſk will at once prove curious and uſeful, ſince, as we go along, we ſhall have Occaſion to mention ſome Circumſtances, that place the Sentiments and Practice of *Aretæus* in a clearer Light, than poſſibly moſt People are able to view them in without this Aſſiſtance.

As to the Sect, then, to which this Phyſician belonged, there is not perhaps a ſingle Point in the whole Hiſtory of Phyſic, that has been either more miſtaken, or leſs adverted to; for *Caſtellanus*, who writes a ſmall Abridgment of the Lives of the antient Phyſicians, expreſly affirms, that *Aretæus* was attached to no particular Sect whatever. Something more accurate and explicit might have been expected from *Heniſchius*, a Phyſician of *Auſburg*, who wrote Commentaries upon *Aretæus*; but he declares himſelf of the ſame Opinion with *Caſtellanus*, and all along diſcovers ſuch a Fund of Prejudice and Partiality, that one would be tempted to think he had written his Commentaries with no other View than to miſrepreſent *Aretæus*, and make him ſay things he never ſo much as thought of. Inſtead of explaining the difficult Paſſages of his Author, he endeavours to ſupply the Defects of the Text in ſuch a manner as to ſpeak his own or *Galen*'s Sentiments, and not thoſe of *Aretæus*. And, what is ſtill more ſurpriſing, *Hieronymus Mercurialis*, who was ſo throughly acquainted with the Writings of the antient Phyſicians, and who had undoubtedly read *Aretæus*, as appears from ſeveral Paſſages in his Works, forgets to take Notice of the

Seſt to which this Phyſician belonged. But notwithſtanding the Uncertainty this Point has hitherto laboured under, I ſhall venture to pronounce, that *Aretæus* was an Abettor of the Pneumatic Seſt; and, my Reaſons for thinking ſo, are theſe:

'Tis well known, that the Pneumatic Seſt eſtabliſhed a fifth Element, which they called *Spirit*, the Changes and Alterations of which, according to them, laid the Foundations of various Diſeaſes. Now 'tis plain, that *Aretæus* means this *ſame Spirit*, when he ſays, that "there are two Sorts of Quinſeys, the one cauſed by an Inflammation of the Inſtruments of Reſpiration, of the Amygdalæ, Epiglottis, Pharynx, Uvula, and ſuperior Part of the Aſpera Arteria; and the other proceeding from a Diſorder of the *Spirit*, which is itſelf the immediate Cauſe of this Diſtemper. In the latter of theſe Quinſeys, adds our Author, the Inſtruments of Reſpiration are ſo far from being diſtended, that they are rather more contracted than in their natural State; and yet the Suffocation and Difficulty of Breathing are far greater than in the former; for which Reaſon, thoſe who labour under it, imagine that they have a latent Inflammation in the very Middle of their Lungs, and in the Parts adjacent to their Heart. As for my ſhare, continues he, I am of Opinion, that it is the Spirit alone which is affected, and which by an unhappy Change is become very hot and dry, but that there is no Phlegmon or Inflammation in any Part whatever." *Aretæus* confirms his Opinion, by an Example drawn from the Exhalations which ariſe from the *Charonian Pits*, which in a Moment ſuffocate thoſe who are expoſed to them, though they ſhould happen to be in a State of perfect Health immediately before. He alſo confirms it by an Inſtance drawn from the Breath of mad Dogs, which, as he affirms, kills thoſe who receive it, though they have not been bit by the Dogs themſelves. From theſe Examples he concludes, "That a Change, with regard to Reſpiration, may be produced by internal Cauſes, which bear an Analogy and Reſemblance to ſuch as are external; that, in like manner, there are ſometimes Humours in our Bodies, which partake of the Nature of Poiſons, as much as external Subſtances which come under that Denomination; and that we may obſerve natural Diſtempers accompanied with the ſame Symptoms as thoſe produced by Poiſons; and Patients vomit the ſame kind of Matter in Fevers, which others do upon taking Poiſons: For which Reaſon, continues our Author, we ought not to be ſurpriſed, if the *Athenians*, who were ignorant of the Analogy between the Effects of certain Poiſons, and thoſe of certain peſtilential Diſeaſes, imagined that they were afflicted with Diſtempers of that Nature, becauſe the Inhabitants of the *Peloponneſus*, with whom they were at War, had poiſoned the Wells of the *Piræus*."

From theſe Paſſages we may infer, that by the Word *Spirit*, *Aretæus* meant no more than the *Matter of Reſpiration*; and he ſeems to confirm that Point in another Paſſage, where he ſays, that *the Coldneſs and Humidity of the Spirit are the Cauſe of an Aſthma:* But it is not in theſe Caſes alone, according to *Aretæus*, that the *Spirit* contributes to the Production of Diſeaſes; for the *Iliac Paſſion* is, in his Opinion, produced by a cold and ſlow *Spirit*, which cannot eaſily diſcharge itſelf either upwards or downwards. In a Scirrhus of the Spleen, the Belly, ſays he, is filled with a thick and dark *Spirit*, which ſeems to be humid, though it is not really ſo. In a Dropſy called a *Tympanites*, our Author acknowledges a *Spirit* which does not change its Situation, though the Part which includes it, moves upwards and downwards; and adds, that if this Spirit is changed into Water or Vapour, the Tympanites is changed into an Aſcites. He aſſerts in another Paſſage, that the Smell or Vapour of the Poppy thickens the dry and ſubtile *Spirit* of Phrenetic Patients. In ſhort, *Aretæus* inſiſts ſo much on the *Spirit* eſtabliſhed as a fifth Element by the Pneumatics, that we have no Reaſon to doubt of his being a profeſſed Abettor of that Sect.

And even though this ſhould be denied, a great many other Circumſtances concur to prove, that *Aretæus* was a real Pneumatic; for 'tis paſt all Diſpute, that the Phyſicians of that Sect aſſerted, that Fire, Air, Earth, and Water, were not real Elements; but that the Name of Element rather belonged to the Qualities of which theſe Bodies were poſſeſſed, or to Heat, Cold, Dryneſs, and Humidity: Now, that *Aretæus* was of the ſame Sentiment, is plain from a great Number of Paſſages in his Works.

It muſt be own'd, that in ſome Caſes the Sentiments of *Aretæus* coincided with thoſe of the Methodic Sect; for though other Phyſicians acknowledged a Difference between acute and chronical Diſorders, yet thoſe of the Methodic Sect firſt wrote of them ſeparately and apart: Now, that *Aretæus* followed them in this Particular, is plain from his having written four Books upon acute, and as many upon chronical Diſtempers.

This is not the only Point in which he ſeems to follow them; for, in Imitation of them, he gives very particular Directions with regard to the Chamber in which Patients, labouring under certain Diſorders, ſhould be lodged. He likewiſe ſpecifies the
Air the Patient ought to breathe, the Bed on which he ſho
lie, and the Manner in which he is to be covered. He
imitates them in recommending all the different Exerciſes th
uſed to preſcribe towards the Termination of Diſeaſes, ſuch
Walking, the different Manners of Geſtation, the Exerciſe
the Voice in Vociferation, or talking loud, and the throwing
the Coit, or other weighty Machines, uſed for the ſame Purp
He alſo orders a certain Geſticulation of the Hands, which
calls *Chironomia*. Now all theſe are the profeſſed Tenets
the Methodic Sect. *Aretæus* indeed in one Inſtance car
the Point of Exerciſe farther, and adviſes thoſe who are ſubj
to Vertigos to behave as Prize-fighters do, that is, to b
each other ſoundly with their Fiſts. 'Tis no eaſy matter
comprehend his Meaning by this Advice. *Mercurialis* ſupp
ſes, that it is a Fault in the Text; which is not improbab
ſince we can ſcarce ſuppoſe ſuch a Treatment proper for ve
ginous People, who are incommoded and rendered worſe by
leaſt Noiſe or Motion. Beſides, *Aretæus* had this in comm
with the Methodic Sect, that he aſcribed a great deal to Top
or external Applications, ſuch as Fomentations, Cataplaſ
and Unctions.

Tho' *Aretæus* agreed with the Methodic Sect in the abo
mentioned Particulars, yet on other Occaſions he argued fr
quite different Principles, and preſcribed Remedies that w
openly diſapproved of by *Theſſalus* and *Soranus*, who w
avowed Favourers of the Methodic Sect: For Inſtance,
orders Purgations, and the Compoſition called *Hiera*, was w
he moſt uſed, and moſt confided in. He alſo on ſome Oc
ſions preſcribed ſimple Purgatives, ſuch as the Fecula of w
Cucumbers, Baſtard Saffron, and Hellebore. He no leſs
markably oppoſed the Methodic Sect, in venturing on cer
Occaſions to preſcribe acrid and irritating Clyſters.

He alſo uſed Caſtor on ſeveral Occaſions, which the Met
dic Sect never did; and, in direct Oppoſition to them, p
ſcribed Narcotic Medicines, ſuch as Opium and the Pop
But his Practice with regard to the Uſe of theſe was not r
and unguarded, as appears from the important Caution he g
in theſe Words: "'Tis ſometimes neceſſary, ſays he, to
miniſter *ſomniferous Medicines* to ſuch as labour under P
pneumonies, or are afflicted with long Watchings, leſt t
ſhould become furious, and in order to mitigate and a
their Diſorder and Inquietude. But we muſt beware
uſing Medicines of this Nature, when the Patients are
Danger of being ſuffocated with a Defluxion of Humo
or are thought to be on the very Verge of Death, becauſ
theſe Caſes the Phyſician runs a Riſque of being cenſ
for killing the Patient."

Our Author's Practice, with regard to letting Blood,
alſo very different from that of the Methodic Sect; for in A
plexies he obſerved, that taking away too much Blood killed
Patient, and that taking too ſmall a Quantity produced no E
at all: He was nevertheleſs of Opinion, that it was moſt pr
to take little at a time, and to repeat the Operation frequen
In a Quinſey, he uſed Veneſection, and allowed the Bloo
flow till the Patient was ready to faint away. In Vomiting
Blood proceeding from whatever Cauſe, he univerſally rec
mended Veneſection: "For, ſays he, whether this Diſch
of Blood is the Conſequence of a Veſſel's being broken,
corroded by the acrid Quality of the Blood, Veneſectio
ſtill very uſeful; and if this Accident proceeds from
Thinneſs of the Veſſels, Phlebotomy prevents their b
burſt, in Conſequence of their being over-full. We m
alſo take care, continues he, not to allow the Orifice m
in the Vein of the Arm to agglutinate and cloſe up, that
may the more commodiouſly take away a little Bloo
different times for ſeveral Days running; a ſmall Quan
muſt be taken at a time; but the Operation muſt be rep
ed the ſame Day, the following, the third, and the fou
if the Patient's Strength is not too much exhauſted." S
Phyſicians, in the Days of *Aretæus*, uſed in Vomiting
Blood to open the Veins of the Hand; but he entirely di
proves of that Practice: "For, ſays he, why would you ra
open a Vein near the Fingers than in the Place where
Elbow bends, ſince, in the latter, the Vein is larger,
better diſpoſed for an Evacuation of the Blood?" In
Species of continued burning Fevers, called *Cauſus*, f
a *Greek* Word which ſignifies *to burn*, our Author alſo or
to take away a great deal of Blood, though at different ti
and during ſeveral Days. We muſt likewiſe obſerve,
he imagined Fevers of this Kind to proceed from a Phleg
or Inflammation, properly ſo called, of the Trunk of the
Cava, or that of the great Artery. But what is ſurpriſin
that the People of his Age imagined, that Patients labo
under that Species of Fever called *Cauſus* predicted f
Events; and that they talked or carried on Correſpond
with the Dead. *Aretæus* ſeems to have been convinced o
himſelf, ſince he endeavours to account for it by ſaying,
the Heat of the Fever having conſumed the thicker and
groſs Parts of the Humours, the Soul is by that means re
more pure, and enabled to ſee things it did not formerly

e. This Opinion ſeems to have been originally broached ſome weak and ſuperſtitious Trifler, who liſtened to the herent Reveries of Patients of this Kind, and endeavour- o find out a Senſe and Meaning in them. In acute Pains, Inflammations of the Kidneys cauſed by the Stone, *Aretæus* cribed the taking away a great Quantity of Blood, in order lax the Paſſage in which the Stone was lodged, and allay Inflammation of the Parts, which, he ſaid, *were compreſſed und up with a kind of Ligature, which could not be reſolved y other Means than by evacuating the Veins.*

tæus did not confine Veneſection to the Arm alone; for he ed Bleeding in the Forehead, for ſuch as laboured under nt Head-achs, and took about nine Ounces of Blood from Part, having firſt blooded the Patient in the Arms.

r the ſame Diſorder he preſcribed Bleeding in the Veins, are ſituated in the Inſide of the Noſe, by means of cer- Inſtruments, one of which he calls *κατειάδιον*, and the *τορύνη*. If none of thoſe Inſtruments can be had, he s the Barrel of a Gooſe's Quill, cut at one End like the h of a Saw, to be paſſed into the Noſtrils almoſt as far as *Os Ethmoides*, and to be moved in ſuch a manner with the s, as to procure a Diſcharge of Blood. In an *Elephanti-* of which he gives a very exact Deſcription, he orders ection in both Arms, and both Feet, in one and the ſame

tæus in his Practice made uſe of Vomits, for which Pur- he ſometimes recommends the bulbous Part of a Species of *iſſus*; but confided more in the Efficacy of *White Helle-* of which he talks in this Strain: “ *White Hellebore*, ys he, not only excites Vomitings, but is alſo the moſt cacious and powerful of all purgative Medicines, not with ard to the Quantity and Variety of the Excrements of ich it occaſions a Diſcharge; for in the Diſeaſe called *lera*, the Excrements come away in the ſame manner: either is its Efficacy owing to the Efforts it occaſions, or Violence with which it excites Vomitings, ſince Nau- s, and Sailing on the Sea, operate with ſtill greater Vio- ce; but its Excellence is owing to a particular Virtue ich cannot be ſufficiently admired, ſince, even in the ſes where it purges very little, it nevertheleſs cures the tients who uſe it. Beſides, in Diſeaſes of long ſtanding, en other Medicines have proved too weak, it is the only which operates with Effect. In a word, white Helle- e reſembles Fire; for what Fire produces by burning or aming, white Hellebore produces more effectually, by etrating into all the Parts of the human Body. It ren- s Reſpiration eaſy to thoſe who breathe with Difficulty; eſtores a freſh Colour to thoſe who were pale, and Fat- s to thoſe who were lean and extenuated.”

e Manner in which *Aretæus* uſ'd *Cantharides*, ought not orgot. The Abettors of the Methodic Sect, and even f the antient Phyſicians uſed Medicines, to which they he Name of *Metaſyncritical*, in order to draw Humours he Centre to the Circumference of the Body; for this e they employ'd *Muſtard*, or the Plant called the *deadly* . This was alſo a Part of *Aretæus*'s Practice; but he like- ſed Cantharides, in order to attract more powerfully, and liſters on the Skin, which might be full of an acrid and ater, and might, in due time, diſcharge themſelves, to ſmall Relief of the Patient. This Species of Remedy r Days call'd a *Veſicatory*; and I cannot find, that before e this Remedy was uſed by any of the Phyſicians, or, , that Cantharides were employ'd for that Purpoſe by cept *Archigenes*, who was of the ſame Sect with *Aretæus*, all Probability liv'd ſome time before him.

Knowledge the Antients had of the Effects produced by ides on the urinary Ducts, was probably the Reaſon y look'd upon that Inſect or Fly as very venomous, and a of Poiſon, which prevented their uſing them as a Medi- xcept on ſome particular Occaſions. Thus, according *n*, “ they were mix'd with thoſe Plaiſters which were n'd for making diſtemper'd Nails fall off; and the Pow- of Cantharides was uſed in Medicines againſt the Le- y and Itch, and in the Preparations deſign'd for con- ng and rotting the Fleſh. He adds, that Cantharides e uſ'd internally, in order to provoke a Diſcharge of e; but that great Precaution, both with regard to the ntity and Method of Preparation, was abſolutely neceſ- , leſt they ſhould prove hurtful.”

æus, in Epilepſies, propoſes Frictions of the Head with ides; and when treating of the Head-ach, he alſo men- oſe Remedies which excite Bliſters on the Skin, tho' in ſage he does not ſpecify Cantharides. But as *Archige-* loy'd them on theſe Occaſions, 'tis not improbable but might do the ſame.

genes is by *Aetius* repreſented as ſpeaking in this man- We uſe, ſays he, a Cataplaſm, into whoſe Compo- Cantharides enter, and which produces wonderful ts, provided the little Ulcers it excites remain ſuffici- long open, and run ſufficiently freely. But the Bladder “ in the mean time muſt be guarded and defended by the Uſe of “ Milk, both internally and externally.”

Aretæus was no leſs remarkable for his ſingular Modeſty, than for the Extent of his Skill and Knowledge: Of this we have a remarkable Inſtance, in what he ſays concerning a particular Species of Dropſy, of which other Phyſicians have made no Mention. “ There is, ſays he, a Species of Dropſy form'd by “ a great Number of Bladders full of Water, and lodg'd in the “ Place where the Dropſy Aſcites has its Seat [that is, in the “ lower Belly]. Each of theſe Veſſels is very full; and if “ we pierce the lower Belly with an Inſtrument proper for that “ Purpoſe, the firſt of theſe Bladders which occurs diſcharges “ its Contents, but afterwards contracts itſelf; and if we “ want, that more Water ſhould be diſcharged, we muſt paſs “ the Inſtrument deeper [*in order to pierce others of the Bladders*]. Some, ſays he, affirm, that theſe Bladders proceed “ from the Inteſtines; but for this I have not the Teſtimony of “ my own Eyes, and conſequently can ſay nothing concerning it.”

Aretæus gives alſo an Account of another Diſeaſe, of a no leſs ſingular and uncommon Nature. “ There is, ſays he, a Species of Madneſs, in which the Patients, prompted by a Principle of Superſtition, tear their Bodies, and cut their Fleſh, “ imagining that by theſe means they render themſelves dearer “ to the Gods they ſerve, and that theſe Gods exacted ſuch “ Things at their Hands. This Species of Madneſs only takes “ Place with regard to this Opinion, or religious Sentiment, “ and the Patients are ſenſible enough in other reſpects: They “ are rouſed or reſtored to themſelves by the Sound of the Flute, “ or other Amuſements, or by being made drunk, or by Peoples making Remonſtrances to them. This is a divine Fury, “ and, when the Patients are freed from it, they are of a gay “ and chearful Humour, believing themſelves to be initiated in “ the Service of the particular God under whoſe Influence it “ was pretended they were. Beſides, they are pale and ghaſtly, “ and their Bodies remain for a long time weaken'd by the “ Wounds they have inflicted on themſelves.”

As this is not a proper Occaſion for entering upon the Anatomy of *Aretæus*, I ſhall only take Notice of one Inſtance of his Conduct in this particular, which is, that he generally begins his Chapters by a ſhort Anatomical Deſcription of the Parts whoſe Diſorders he intends to treat of in the Sequel of the Chapter.

Thus it appears, that *Aretæus* was a very exact and ſkilful Practitioner, and his Remedies powerful and well-choſen, tho' at the ſame time it muſt be own'd, that his Reaſoning on Points of Theory was ſometimes none of the moſt concluſive: However, as it does not appear, that it had any great Influence on his Practice, his Succeſs, as a Phyſician, was not on that account the leſs conſiderable.

It now remains, that we fix the particular Time at which *Aretæus* liv'd; a Point which no one has hitherto clear'd up in a ſatisfactory manner. Some Authors will have him to be after *Galen*, and others will have him to be much more antient. The Opinion of the former is ſupported on this, that *Galen* does not quote *Aretæus*. But beſides this Circumſtance of our not having all the Works of *Galen*, it may be anſwer'd, That it is not poſſible he ſhould quote all the Phyſicians who liv'd before him. It was ſufficient, that he mention'd the principal Men of each Sect, and ſpoke, for Inſtance, of *Athenæus* and *Archigenes*, who were the firſt and moſt celebrated of the Pneumatic Sect: Beſides, *Galen* might have poſſibly not cited *Aretæus*, becauſe they might have both liv'd at one and the ſame Time; ſo that the Argument drawn from *Galen*'s Silence, with regard to *Aretæus*, proves nothing either one way or the other.

Voſſius, who is among the Number of thoſe who believe *Aretæus* much more antient, ſupports his Conjecture upon this Circumſtance alone, That this Phyſician wrote in the *Ionic Dialect*, which, according to that learned Critic, was in Diſuſe as well as the *Doric*, long before the *Cæſars*; theſe two Dialects being never us'd, except when *Greece* flouriſh'd. But in this laſt Aſſertion, *Voſſius* is miſtaken, as Mr. *Menage* [*in Amœnitatibus Juris*] proves by one of the Books of *Arrian*, intituled *Indica*, which is written in the *Ionic* Dialect, and by two other Books written in the ſame Dialect; the one by an Author call'd *Cephalio* or *Cephalo*, who liv'd under *Adrian* as well as *Arrian*, and who is quoted by *Suidas*; the other by one *Dionyſius Mileſius*, contemporary with *Philoſtratus*, who liv'd under *Severus*, and who is alſo quoted by *Suidas*.

Theſe are Facts which cannot be contradicted; and beſides, we need only look into *Aretæus* himſelf, to be convinced, that he is not ſo antient. This, in all Probability, *Voſſius* had not done with that Leiſure and Attention he ought to have us'd on ſuch an Occaſion. If he had, he would have ſeen, that this Phyſician, far from living before the *Cæſars*, could not have liv'd at ſooneſt till under *Nero*. To be convinced of this, he had no more to do than caſt his Eyes upon thoſe Paſſages, in which *Aretæus* [*De Curat. Diuturnor. Lib.* 1. *Cap.* 5. & *ibid. Lib.* 2. *Cap.* 5.] talks of the Antidote compoſ'd of Vipers; ſince 'tis well known, that this Antidote is the Invention of *Andromachus* a Phyſician of *Nero*'s. *Aretæus*, in the abovecited

cited Paſſages, alſo makes mention of the *Antidote of Mithridates*, by which 'tis plain, that he liv'd after that King, and conſequently cannot have preceded the firſt Emperors; which ſingle Circumſtance is of itſelf ſufficient to deſtroy the Conjecture of *Voſſius*. I ſhall not here mention the Compoſitions of *Philon*, *Byſtinus*, and *Symphon*, which *Aretæus* likewiſe recommends, becauſe the Times in which theſe Phyſicians liv'd are uncertain.

From all theſe Circumſtances we conclude, that the preciſe Time in which *Aretæus* liv'd, cannot be determin'd, tho' the Knowledge we have of his Sect proves, that he could not live till after *Athenæus*, who is ſuppoſed to be contemporary with *Pliny*, who liv'd under *Veſpaſian*. We alſo know, that *Aretæus* wrote before *Paulus Ægineta* and *Aëtius*, becauſe theſe two Authors quote him. But from all this we cannot infer the preciſe Time in which *Aretæus* liv'd, becauſe the two laſt-mention'd Authors did not live till upwards of two Ages after *Pliny*: Neither can we certainly determine whether *Galen* or *Aretæus* wrote firſt. All we can lay hold of as certain is, that they both liv'd in the Interval between *Pliny*, and *Paulus Ægineta*, and *Aetius*; but this Interval is ſo long, that we cannot pretend to come very near the preciſe Time. It is not impoſſible, as we obſerv'd before, but *Aretæus* and *Galen* may have been Contemporaries; and it may likewiſe have happen'd, that the one follow'd a great many Years after the other.

Thus far *Le Clerc*. *Wigan* concludes, that *Aretæus* liv'd after the Beginning of *Nero*'s Reign, and before that of *Domitian*'s.

EDITIONS *of* ARETÆUS.

Junius Paulus Craſſus publiſh'd a *Latin* Tranſlation of *Aretæus* in 4to. *Venetiis*, 1552.

Jacobus Goupilus firſt publiſh'd *Aretæus* in *Greek*, and added five Chapters, which were wanting in the Tranſlation of *Craſſus*. This was accurately and correctly printed by *Turnebus* at *Paris*, 1554. in 8vo.

In 1554. alſo, at *Paris*, the *Latin* Verſion of *Craſſus* was reprinted by *G. Morelius*, and *J. Puteanus*, with Annotations, and the five Chapters which were omitted in the Verſion of *Craſſus*, by an anonymous Author, who is ſuppos'd to be *Goupilus*.

In 1567. *H. Stevens* publiſh'd the laſt-mention'd Tranſlation amongſt the *Medicæ Artis Principes*.

Petrus Perna publiſh'd the Verſion of *Craſſus*, together with the five Books which before were wanting, tranſlated by the ſame *Craſſus*. *Braſil*, 1581. 4to.

Georgius Heniſchius publiſh'd an Edition of *Aretæus* in *Greek* and *Latin*, *Auguſtæ Vindelicorum*, 1603.

Dr. *John Wigan* publiſh'd a pompous and accurate Edition of this Author, in *Greek* and *Latin*, Fol. *Oxon.* 1723.

Menage, *Le Clerc*, and *Wigan*, take notice of a Commentary of *Aretæus* written by Mr. *Petit*, a Phyſician at *Paris*; and ſeem to regret its not being publiſh'd.

It appears by *Boërhaave*'s Preface to the *Leyden* Edition of *Aretæus*, that he found means to procure the Manuſcript from which theſe Commentaries are printed in the Edition above-mentioned. It is intituled.

Aretæi Cappadocis de Cauſis & Signis acutorum & diuturnorum Morborum Libri Quatuor, de curatione acutorum & diuturnorum Morborum Libri Quatuor, cum Commentariis integris Petri Petiti Medici Pariſienſis, atque Clariſſimi Joannis Wigani doctis & laborioſis notis, & celeberrimi Mattairii opuſculis in eundem, tandemque eruditiſſimi atque celebratiſſimi Danielis Wilhelmi Trilleri Obſervationibus & Emendatis. Editionem curavit Hermannus Boerhaave, Lugd. Bat. 1735.

ARETE, ἀρετὴ, Strength and Firmneſs either of Body or Mind. Ἀρετὴ σώματος, in *Hippoc. Prorrh.* 2. is natural Strength of Body.

AREUS, the Title of a Peſſary in *P. Æginet. Lib.* 7. *Cap.* 24. from *Antyllus*.

ARFAR, ARSAG, Arſenic. *Ruland. Johnſon.*

ARGÆUS MONS. A Mountain in *Cappadocia*, producing Lithontriptic Stones. *P. Æginet. Lib.* 7. *Cap.* 3.

ARGEMON, ARGEMA, ἄργεμον, ἄργεμα, from ἀργὸς, white. *Erotian* on *Hippocrates* expounds ἄργεμον by πάθος τὸ περὶ τοὺς ὀφθαλμοὺς λευκωματῶδες, ὃ δὴ ἐκ τῆς παρεπομένης λευκότητος ὠνομάσθη, "a whitiſh Affection of the Eyes, which "takes its Name from the Whiteneſs conſequent upon it." For the ſame Reaſon it is called by the *Latins Albugo*. See ALBUGO.

ARGEMONE. See PAPAVER.

ARGEMONIA. The Name of an Herb in *Marcellus Empiricus*, which he ſays the *Greeks* call *Sarcocolla*; the ſame being bruiſed, if green, or, if dry, macerated in warm Water, that it may the more eaſily be bruiſed, and rubbed on the Eyes, ſoon removes Lividneſs and Sugillations.

ARGENTINA. The ſame as POTENTILLA, which ſee.

ARGENTUM, Offic. Mer. Pin. 208. Fabr. 6. Aldrov. Muſ. Metall. 72. Charl. Foſſ. 45. Worm. 115. Schrod. 373. Schw. 366. Calc. Muſ. 439. Keptm. 59. *Argentum*, *Luna*, Mont. Exot. 13. SILVER.

Silver is of much greater Uſe in Traffic than Medicine. has been much the Subject of Chymical Reſearches, more w a Deſign to meliorate Metals, than forming Remedies; the however, have by Accident been found out, during Purſu with very different Views; ſo that it may be ſaid, that Love of Riches, amongſt many bad Effects, has had, at le one which is uſeful.

The Characters of Silver are, that it is,

1. The next in Weight to Lead.
2. Very ſimple, and diſcovers the leaſt Diverſity of Parts, any ordinary Means.
3. Fix'd in the Fire, ſo as, when pure, ſcarce to loſe thing thereby. Having been kept two Months in a State Fuſion, in the Eye of a Glaſs Furnace, ſcarce one Twelfth its Weight was found wanting. And it may even be doub whether it had been totally purify'd firſt.
4. It is malleable, and ductile into very fine Wire.
5. It ignites and fuſes at the ſame time.
6. Diſſolves in Aqua-fortis.
7. It is purify'd with Lead, and ſuſtains the ſame.
8. Turns to Scoria with Antimony, and becomes volatil

It is found in many Places, and in different Ores, hav almoſt univerſally a little Quantity of Gold in it.

To the Ore there uſually adheres a corroſive bituminous phur, which, by its rapacious Quality, renders the Silver v tile, and diſſipates it in the Fire, or even converts it into gl Scoriæ, to the great Loſs of the Owner. This, which nei Salts nor Lead will hinder, is however prevented, by mean Mercury, by roaſting the Ore, then reducing it to Pow adding Mercury thereto, and grinding them long together as to unite the Silver with the Mercury; which are afterw to be ſeparated again by Diſtillation. *Boerhaave*'s *Chymi Vol.* 1.

The Solution of pure Silver in Spirit of Nitre, or Aqua-fo from BOERHAAVE.

1. Take an Ounce of Silver, refin'd with ten times Quantity of Lead, upon the Refiner's Teſt; melt it clean Crucible, and directly pour it into fair cold W eight Inches high, in a cylindrical Veſſel: The Silver into it with a hiſſing Noiſe, and is ſcatter'd about i Water in Grains: It is now called granulated Silver. an Ounce thereof into a clean urinal Glaſs; then take Ounces of Aqua-fortis, put thereto a Grain of refin'd ver; and if it be ſoon perfectly diſſolved, ſo as to hav Liquor limpid, the Aqua-fortis was good, and fit for Purpoſe; but if not diſſolved, or the Liquor appears bid, the Aqua-fortis is not genuine, or proper for Purpoſe. The firſt kind of Aqua-fortis is called Aqua-fortis, by the Refiners. Pour two Ounces of Proof Aqua-fortis upon an Ounce of granulated S contained in the urinal Glaſs; the Liquor immed begins to move, bubbles, grows warm, fumes and hiſſes the Surface of the Silver, and then becomes ſpontan hot, briſkly agitated, ſends out red Fumes, and di the Silver, ſo that it perfectly diſappears. A tranſ colourleſs Liquor is thus obtained, of an exceeding bitter, and cauſtic Taſte; a little of a very black der always remains at the Bottom of the Glaſs. Powder is pure Gold, which either always adhe Silver, or elſe, perhaps, is eaſily produced from the in the Fire, as Mr. *Homberg* conceives; and being pable of diſſolving in Aqua-fortis, is thus precipitated the Solution: Pour off the clear Liquor into a Glaſs, and intitle it the *Solution of Silver*.

2. If, inſtead of Aqua-fortis, Spirit of Nitre be emp the Solution is perform'd quicker and ſtronger; but wiſe, in the ſame manner; for Aqua-fortis, or Sp Nitre, prepared either with Bole or Oil of Vitriol, ſeem to differ, except in being more or leſs acid; the leaſt Particle of common Salt or Sal Ammoniac have fallen into the Spirit of Nitre, or Aqua-for have been mixed with them in the Diſtillation, or wards, they will not diſſolve the Silver.

REMARKS.

If this Solution proves limpid, the Silver was pure; greeniſh, it contained ſome Portion of Copper, and fit for the following Experiments: The Silver here, with the Acid of the Spirit of Nitre, keeps ſuſpended Water; a Drop of the Liquor, apply'd to any ſoft Part of the Body, inſtantly burns and eats it; whe once touching, it eats callous and hard Lips of Ulcers rates the corrupted Part, and preſently takes away Spots, Warts, and ſmall Cancers. It may be dilut pure Water, without growing thick, or precipitatin if the Water contains the leaſt ſaline Matter, the Wh preſently grow turbid. This Solution, well weaken

Water, is highly detergent; but ſtains the Skin it touches ith a black Spot, that cannot be got out before the Scarf- in falls off. Hence we ſee how the ponderous Body of ilver may lie concealed in a light limpid Liquor; but it may e diſcover'd by its violently bitter Taſte.

The Vitriol of Silver.

To the Solution made in the preceding Proceſs, gradually put ſingle Grains of pure Silver, ſo long as it will diſſolve them. When the laſt Grain remains perfectly undiſſolved, ſet the ſaturated Solution in a cold Place; it will preſently begin to form little, thin, white Plates, lying over one another, as if compos'd of triangular Needles like Nitre. If the Liquor be poured off from them, we thus obtain the Cryſtals, Salt, or Vitriol of Silver, which may be dried, but are ſo ſharp, that they cannot ſafely be touched.

If the former Solution be not further ſaturated with Silver, but inſpiſſated a little, ſo as to loſe about a tenth Part, and then be ſet by for ſome time, the Silver will concrete at the Bottom of the Glaſs in a ſolid Form, into white Cryſtals, in other reſpects like the former, but much ſharper, as being here ſaturated with more Acid. And theſe alſo have a much greater cauſtic Virtue.

REMARKS.

here ſee the particular and mutual Attraction betwixt Silver d the Acid of Nitre, as Silver ſcarcely unites with any other cid; for tho' it turns black, it does not diſſolve with em. This Vitriol of Silver is a moſt immediate Cauſtic, d leaves a black Spot upon any Part of the Skin it touches er ſo ſlightly; and this Spot cannot be got off but by the aling off of the Skin.

The Lunar Cauſtic.

Take Potters Earth that is well wrought, and not very moiſt; make it into a ſolid Cube, and perforate the upper Surface thereof perpendicularly, with a conical Stick, almoſt to the Bottom. Let the internal Surface of the Whole be ſmooth, leſt the Matter poured in ſhould come out rough. When as many of theſe Holes are made as are neceſſary, preſs the upper Part of each with the Finger into a wide ſpherical Cavity, the Middle whereof ends in a conical Hole; for thus the Matter may be eaſily poured in.

Then take a little Glaſs Diſh, or urinal Bottom, and put into it the firſt Cryſtals of Silver of the preceding Proceſs; ſet the Glaſs, without any Fear of breaking, upon burning Coals; the Cryſtals will diſcharge an unctuous Fume, which ceaſing to riſe, whilſt the Matter flows in the Glaſs, pour it carefully into the conical Cavities made in the Cube of Clay; it will enter with an hiſſing Noiſe. If the Matter in the Glaſs ſhould happen to grow ſtiff, ſet it again over the Fire; and thus pour out all the prepared Silver into the hollow Moulds.

As ſoon as the whole Matter is grown ſolid, immediately break the Clay, and take out the conical Sticks of Silver; wrap them up in hot Paper, and dry them thoroughly therein; then wipe their Surface with a hot and dry Hare's-foot, and thus immediately put them into a clean Glaſs, that is to be well ſtopp'd with a Cork; and thus an excellent Cauſtic will be obtained for Chirurgical Uſes, and may be kept for many Years.

REMARKS.

Acid of the Spirit of Nitre, in the Glaſs over the Fire, ſes its Water in the Form of Fume, and alſo that Part of Acid which remained above what a certain Proportion of ver could retain; but the Silver detains a certain Propor- on of the Acid with itſelf, ſo as not to fume, but remain ed even in Fuſion over the Fire. This Acid, retained in e Body of the pure Silver, forms a ſolid Maſs, in which, rhaps, the Acid is the pureſt and ſtrongeſt that can be epared. When this Acid, adhering to the Silver in a ſolid orm, is expoſed to the Air, it attracts the Moiſture thereof, d ſo diſſolves. The Whole of this Cauſtic will alſo diſ- lve in Water; from whence, by the means of Copper, the Silver may be recover'd, inſipid, inodorous, unactive, way acid or corroſive, but pure, metalline, and un- anged. It is ſtrange, therefore, that the Acid ſhould ſo g adhere to the Surface only of the Principles of Silver, ithout changing them, ſo as that the Nature of the Me- may be entirely recover'd unhurt. This is a moſt pow- ful Cautery, and, by a bare Touch, inſtantly burns the rts of a live Body to an Eſchar, under which, Nature ſes an Inflammation that ſeparates the crude Eſchar, and leaves the Part pure; ſo that, by repeated Touches with this Matter, all ſuperficial, foul, fungous Ulcers and Cancers are excellently cured. Hence ſkilful Surgeons highly extol the Virtue of this Stone; and Phyſicians alſo learn the wonderful Power of an Acid, when collected and fixed. If given internally in this Form, it is an immediate corroſive Poiſon, and therefore never to be uſed in this manner. I have known it prove pernicious to the Artiſt that prepared it.

The Silver Pill of BOYLE, *or* ANGELUS SALA.

1. Take an Ounce of pure Nitre, and diſſolve it in pure diſtill'd Water; then take an Ounce of the pure Cryſtals of Silver, made according to the Directions above; diſſolve them in thrice their Weight of fair Water, ſo that the Liquor may be perfectly limpid; mix the two Solutions together, they will thus make an homogeneous, uniform, and apparently ſimple Liquor, without precipitating the Silver; but uniting perfectly with the Nitre. Put the pure Liquor into a clean urinal Glaſs, and ſet it over a clear Fire, in a Place free from Duſt, till the Water, which will thus be almoſt pure, exhales, ſo as to leave a Pellicule. Set the Glaſs in a cold quiet Place, well covered to keep out the Duſt: Cryſtals, like Nitre, will thus ſhoot. Pour off the remaining Liquor, and exhale as before; the Silver and the Nitre will be thus joined in the ſimple Form of Cryſtals. Let this Maſs be gently dried.
2. Let there be at hand the Bottom-part of an urinal Glaſs, into which put the Cryſtals of Silver and Nitre, firſt dried in Paper; ſet this Glaſs on the Fire, ſo as to prevent the Matter from running by the two great Heat or Nearneſs thereof, and permit it only to dry or to fume; keep it conſtantly ſtirring with a Stick of Glaſs, ſo that it may every way be expoſed to a ſtrong Fire, but ſo as not to melt, that it may be dried and freed from the ſharp Acid that adher'd to the Maſs, and eaſily render'd it cauſtic; but if the Fire ſhould melt it, then the Acid, being more cloſely united, fixes the corroſive Virtue, which by this gentle Calcination is ſeparated. Let this Calcination be performed with Caution, for a long time, keeping the Matter continually ſtirring till no more Fume riſes, tho' the Fire be now conſiderably ſtrong, and almoſt able to melt the Matter; for at laſt, after the Heat has ſeparated all this Acid, there is no Harm if the Maſs be fuſed, becauſe all the external Acid is now driven from it; and thus the purging Silver will be prepared, of an extremely bitter Taſte, and ſhould be kept in a dry cloſe Veſſel.

REMARKS.

It is a wonderful and ſecret Art to unite Silver with Nitre: Hence the pretended Alchymiſts can, by this means, conceal Silver in a large Proportion of Nitre, as ten times its Quantity for Example; and this Nitre, being projected in an equal Quantity upon melted Lead, gives an Increaſe of one tenth Part in Silver, which, remaining upon the Teſt, will deceive the Ignorant, as if a tenth Part of the Lead was here turned into Silver. The Way to diſcover the Cheat is to diſſolve the Maſs of Nitre and Silver in ten times its Quantity of pure diſtill'd Rain-water; then put a poliſh'd Plate of Copper into the Liquor; for thus every Particle of the Silver will immediately be precipitated to the Copper and Bottom of the Veſſel, and thus be obtained perfectly pure from the Nitre and Spirit of Nitre. If, therefore, any Salt be pretended to, for the making of Silver, let it be examined in that manner. Take this dried Maſs, conſiſting of the Salts of Silver and Nitre; reduce it to a fine dry Powder, and it will be of an extreme bitter Taſte, but by no means ſo cauſtic as before. If a little of it be apply'd to Ulcers, it acts like the Lunar Cauſtic, only much milder; and if two Grains of it be fine ground with ſix Grains of Loaf-ſugar, in a Glaſs Mortar, then mixed with ten Grains of the Crumbs of Bread, and formed into nine Pills, and theſe be taken by a grown Perſon upon an empty Stomach, drinking after them four or ſix Ounces of hot Water ſweeten'd with Honey; they will purge gently, and bring away a liquid Water, that often deceives the Patient, as coming away almoſt without being perceived. It kills Worms, and cures many inveterate ulcerous Diſorders; relieves in the Dropſy, and purges without griping; but it muſt not be uſed too freely, nor in too large a Doſe; for it always proves corroſive and weakening, eſpecially to the Stomach, which Inconvenience is remedy'd by the Rob of Juniper.

Inflammable Silver.

Take an ignited Piece of *Dutch* Turf, after it ceaſes to ſmoke; place it with its upper flat Surface parallel to the Horizon; make a little Cavity in the Middle of its Surface, and therein put a Dram of dry Lunar Cauſtic; it will here immediately melt, glow, take Flame, hiſs, and ſhine as briſkly in every reſpect as Nitre. After the Flame ceaſes, pure Silver will be found in the Hollow, as much in Quantity as was diſſolved in making of the Lunar Cauſtic, and may thus be taken out with a Pair of Forceps, without Loſs of Weight.

REMARKS.

This excellent Experiment ſhews the phyſical Manner wherein Acids do but ſuperficially adhere to Silver, and the Manner wherein Acids operate, when united to Metals, whilſt, ſurrounding their metallic Maſs, they arm the ponderous Principles thereof with Spiculæ. It ſhews the Immutability of Silver diſſolved in an Acid, and the various Ways wherein it may lie concealed, yet ſtill have its Action: It alſo ſhews the Difference of potable Silver, while exiſting in a ſaline Form by means of an adhering Acid, from that potable Silver of the Adepts, where the Principles of the Silver are ſuppoſed converted into a Fluid, that will mix with the Juices of the Body, and cannot be reduced to Silver again; but chiefly it hence appears, that the acid Spirit of Nitre, adhering in a ſolid Maſs to the Silver, is as inflammable along with a combuſtible Body, as Nitre itſelf. This ſeems to happen in Silver alone, which is unchangeable by the Spirit of Nitre. Hence alſo we ſee one way whereby Silver may be obtained pure from other adhereing Matters, by bare burning. The Acid here acts neither upon the mercurial Part of the Silver, nor its fixing Sulphur.

The Recovery of Silver, when diſſolved in Spirit of Nitre.

Diſſolve an Ounce of pure Silver in Spirit of Nitre; dilute it with twenty times the Weight of diſtilled Rain-water; heat the Solution in a cylindrical Glaſs Veſſel, and put therein poliſhed Plates of Copper, the ſmooth Surfaces whereof will every-where begin to be covered with a grey Colour, and at length appear as if thick ſet with Down. The Liquor that before was aqueous and colourleſs, will now gradually turn more and more green, in proportion as the Down upon the Copper Plates grows larger. If a Plate be ſhaken, the downy Covering falls off from it to the Bottom, and another like the former preſently comes on; the Liquor grows greener, and the Plates grow leſs. The downy Covering being again ſhaken off, a freſh one grows; and this happens, till at length no more of the Copper diſſolves. Now leave the Veſſels for ſix Hours at Reſt; afterwards ſhake off all the grey-coloured downy Matter from the Plates; decant, and filtre the Liquor, it will be of a beautiful green Colour, ſharp, and entirely cupreous; the Plates will be much diminiſhed in Bulk and Weight. Let the Matter at the Bottom be waſhed in ſeveral hot Waters, till it becomes thoroughly pure; then dry it over the Fire: It will be a fine ſhining Silver Powder, and yield nearly all the Silver employed, pure, inſipid, and mild, without any Acid; nor will it contain the leaſt Copper.

REMARKS.

This is a Method of calcining Silver to a fine Powder, which cannot eaſily be obtained ſo ſubtile by any other Means. This Powder, being ground with Mercury, eaſily affords an Amalgama, which is otherwiſe ſo difficultly obtained, and not without a great Loſs of the Quick-ſilver. If this Powder be melted in a Crucible, it reſtores the ſame Silver that was employed. Hence therefore it appears, how ſuperficially the Acid of the Nitre adhered to the Silver, ſince the Whole of this Acid is ſo eaſily attracted by the Copper from the Silver, without any Remainder. If the Liquor of this Operation be viewed with a Microſcope, it appears plainly, that little Particles of Silver are violently carried along with the Acid of the Nitre up to the Copper Plates from all the Points of the Solution. But when theſe Spiculæ arrive at the ſmooth Surface of the Plate, the Acid is attracted to the Particle of the Copper, whilſt the Particle of the Silver, deprived of its Acid, reſts upon the Surface of the Copper; and being there increaſed by others coming to it in like manner, at laſt a ſoft downy Caſe is compoſed; and this Attraction is ſo exquiſitely performed, that not the leaſt Particle of Silver remains in the former Solution. Hence it appears, that Copper more ſtrongly attracts the Acid of Nitre, than Silver does; wherefore this Action conſiſts in Attraction, and a Straining of the Acid from the Body of the Liquor; for the Acid paſſes thro' the Pores of the Copper, leaving behind the Particles of the Silver now ſet free, and unable to enter; there is ſcarce a more beautiful Sight than this with a Microſcope. The Acid of the Nitre remain'd unchanged in the Silver, and is collected perfect in the Copper, from whence it may again be procured.

Luna Cornea.

1. To the pure Solution of Silver made with Spirit of N
according to the above Directions, and diluted with
times its Quantity of pure Water, let fall by a Drop
time, in a capacious Glaſs Veſſel, a ſmall Quantity
ſtrong and warm Solution of Sea-ſalt in Water. A
Inſtant the Drop falls in, the whole Liquor grows w
and ſurpriſingly thick, without any Efferveſcence. C
tinue thus dropping in, and ſhaking the Glaſs, till the
quor no longer continues turbid; then let it reſt; a
white Matter will fall to the Bottom in a large Quan
Let the limpid Liquor at the Top be poured gently
and drop into it a little hot Solution of Sea-ſalt; if it g
thick no longer, the Operation is well performed;
otherwiſe ſome Silver remains behind, which requir
be ſeparated. Pour clean hot Water upon the white
cipitated Matter, and waſh it till it becomes perfectly
pid; then boil it in an Urinal, with a little fair W
ſhake them together, and pour the Whole into a P
filtre, where the Water will paſs thro', and leave
white Matter behind, which is to be dried with a g
Fire, and preſerved. This is a ſubtile Calx of Silver
cipitated with Sea-ſalt from Spirit of Nitre, or A
fortis; it will weigh more than the Silver employed
nearly a fifth Part, on account of the Salts which ad
thereto.
2. Put this Calx of Silver into a clean Crucible; ſet it
Fire of Fuſion, till it melts, which it eaſily does;
melted, pour it out on a Marble. It appears a ponde
ſhining, opake, brown Maſs, that breaks brittle with
Degree of Tenacity, whence it is called horny. It
tains all the Silver employed, and at the ſame tim
Acid of the Nitre and Sea-ſalt, wonderfully conc
therewith, ſo as not to be ſeparated; for by endeavo
with a violent Fire to drive away the Spirit, which
eaſily done in the *Lunar Cauſtic*, the greateſt Part
becomes volatile, and the Remainder is ſcarce recove
into Silver, but remains changed by the Admixture o
Salts, ſo intimately united and fixed, as not to ma
themſelves by any ſaline Property. If one Part of
Silver, calcined according to the above Directions
mixed with two Parts of Mercury ſublimate, and di
in a Glaſs Retort, with a ſtrong Sand-heat at laſt, a
the ſame perfect *Luna Cornea* will remain at the Bo
of the Retort. And if inſtead of Salt the Spirit of S
were uſed to the Solution of the Silver, the *Luna C*
would be perfectly the ſame. Mr. *Boyle* ſays, that S
being precipitated from Spirit of Nitre with Oil of V
then waſhed and fuſed, will become a true *Luna Co*

REMARKS.

This Experiment is of infinite Uſe, and ſhews how ſmall a
ference in a phyſical Circumſtance may often occaſion a
Difference in the thing phyſically produced; for Silver
with *Aqua Regia* does not unite with the Acid thereof;
if, when Silver is diſſolved by Spirit of Nitre, Sea-ſalt is a
thereto, tho' it thus only makes an Aqua Regia, yet it
ſently occaſions the Acid of the Aqua Regia to unite
mately with the Silver, and produce ſtrange Effects:
two Parts of the precipitated Calx of Silver be well g
with one Part of Regulus of Antimony, and diſtilled w
Sand-heat, there comes over a pure Butter of Antim
equal in Weight to the Antimony employed, whilſt the
ver remaining at the Bottom always affords true Gold
the Reduction. Hence we may be certain, that the W
gained by the Calx of Silver is owing to the Aqua Regia
therein, becauſe it here goes into the mercurial Part o
Antimony; whence it is no Wonder, that thoſe emi
Chymiſts *Becher*, *Boyle*, *Homberg*, and *Stahl*, have ſo m
regarded the concealed arſenical Nature of the Metals
Salts in this Experiment. Who could conceive, that the
ceedingly inſipid Body of *Luna Cornea* held a fifth Pa
the highly corroſive Acid of Aqua Regia? Hence w
what a particular Power Sea-ſalt has upon Metals, how
vertly it may adhere to, and again be recovered from
without Loſs of its Virtues. Hence alſo we ſee how ſtra
ly Metals may be diſguiſed and concealed; and again,
Gold may be obtained from a Matter in which the A
Maſters could not, by all their Art, diſcover any:
hence Adepts have ſaid, that Nature has only placed
fection in Salt and Gold; and hence we may alſo lea
guard againſt the fraudulent Practices of thoſe who ca
mix this Calx of Silver with Nitre, or throw it into a
Lead, and thus pretend an Increaſe of Silver or Gold.
our preſent Deſign does not lead us farther into this Sub
It is certain that the Induſtry of Mr. *Homberg*, by the M
of Tartar, Quick-lime, Sal Ammoniac, and the Whit
E

gs, has from half a Pound of Silver obtained, as he de-
res, three Drams and fifty Grains of running Mercury.
d ſo much of the Nature of Silver for the preſent. *Luna*
rnea neither diſſolves in Aqua Regia, Aqua-fortis, nor the
e. *Boerhaave's Chymiſtry*, *Vol.* 2.

GES, in *Hippoc. Lib.* 5. *Epidem.* ſeems to be the
of a Serpent, which crept into the Mouth of a young
as he lay on his Back aſleep after plentiful drinking of
The Event was, that as ſoon as he was ſenſible, not
able to ſpeak, or cry out, he clench'd his Teeth, and
w'd the Serpent, and, being ſeized with dreadful Pains,
abroad his Arms like one ſtrangled, and tumbled and
about, and at laſt dy'd in Convulſions.

GESTES, or *Circius*, in *Aetius*, *Tetrab.* 1. *Serm.* 3.
163. is the Name of a Wind between the North and Weſt.
North-weſt Wind.

GILLA, Offic. Mer. Pin. 219. Charlt. Foſſ. 1. Worm.
2. Schw. Foſſ. 365. Aldrov. Muſ. Metall. 227. *Argilla*
figulina, Ind. Med. 14. CLAY.

ys of all Sorts are eſteem'd drying, aſtringent, and abſ-
g. *Dale.*

y, as here underſtood, is a ponderous Earth, denſe, viſcid,
ippery. Being held for ſome time in the Mouth, it makes
preſſion on the Tongue, ſomething between that of Soap
at. When freſh dug, it may be moulded into any Figure
ft Wax; and by Fire it may be made as hard as a Stone.
Species of Clay are almoſt innumerable: Some are white,
bling Suet, ſuch as that ſaponaceous Earth with which the
rs of *Plombiere* in *Lorrain* are impregnated; ſome are
ated, like the different Kinds of Porphyry and Marble, as
Earths found in *Bohemia*. Others are of an Aſh-colour,
r black. The Clays uſed in Phyſic are, the *Lemnian*
, the Earth of *Malta*, and ſeveral other ſealed Earths
Germany. *Geoffroy.*

ys which are uſed in Medicine are known in the Shops by
ame of *Terræ*, Earths, of which the principal are

e Terra Chia,
ra Cimolia alba,
ra Cimolia purpuraſcens,
ra Eretria,
ra Lemnia alba,
ra Lemnia rubra,
ra Noceriana,
Ocra,
Terra Pnigites,
Terra Portugallica,
Terra Samia,
Terra Sigillata alba & rubra,
Terra Sigillata Livonica,
Terra Sileſiaca,
Terra Turcica,
Terra Vitriolata.

theſe are taken Notice of as they occur.

GISTATA, *Incerata*, or waxed. *Ruland. Johnſon.*

GOS, ἀργὸς, from α Negative, and ἔργον, Work or Bu-
as if it were ἄεργος. So ἀργὸς ἄργυρος is Silver not
d; ἀργοὶ πυροὶ, in *Hippocr.* περὶ ἀρχαίης ἰητρ. is crude
, not ground or prepared, but ſuch as it is taken from
oor. Ἀργὸς alſo ſignifies idle, without Buſineſs; and
γὰ, in *Hippocrates*, is expounded by *Erotian* ἀγύμναστα
, "without Labour, or Holiday-like;" for λευκὴν
διάγειν is, "to ſpend a Day in Mirth and Pleaſure;"
ch Senſe we are to underſtand that of *Silius Italicus:*

--- *Alboſque Dies, Horaſque ſerenas.*

GYRITIS *Terra*, ἀργυρῖτις γῆ, from ἄργυρος, Silver.
of Earth taken out of Silver Mines, which is beſpangled
any Particles of Silver intermixed. *Gal. Def.*
re is another *Argyritis*, which is a ſort of *Spuma Argenti*,
arge. See SPUMA ARGENTI.

GYROCOME, ἀργυροκόμη, from ἄργυρος, Silver, and
Hair. A Species of GNAPHALIUM, which ſee. *Blan-*

GYRODAMAS, ἀργυροδάμας, from ἄργυρος, Silver,
μάω, to conquer. A kind of Talc, of the Colour of
that will not yield to the Force of the Fire. The La-
hereof ſwallowed adhere to the Stomach, Fauces, and
, and endanger an Inflammation of thoſe Parts. *Ca-*

GYROGONIA, ἀργυρογονία, from ἄργυρος, Silver,
νομαι, to be made or generated of. An argentific Seed,
ly digeſted from a Solution of Silver, or an argentific
re of a white Colour, in the ſame manner as *Chryſogonia*
urific Seed. See CHRYSOGONIA. *Caſtellus.*

GYROPHORA, ἀργυροφορὰ, from ἄργυρος, Silver, and
o bring. The Name of an Antidote in *Myrepſus*, which
to be ſo called on account of its Coſtlineſs.

GYROPŒIA, ἀργυροποιΐα, from ἄργυρος, and ποιέω,
e. The Art of making Silver out of more imperfect Me-
Minerals, by Means of the Philoſopher's Stone, or the
pher's Mercury, or the argentific Seed, ſpoken of before
ARGYROGONIA, which ſee. *Caſtellus.*

GYRUS, ἄργυρος, Silver.

GYROTROPHEMA, ἀργυρότροφημα, from ἄργυρος,
and τροφὴ, Nutriment. A kind of Food made of Milk,
and deſigned to allay the Heat of the Body, and to moiſten it.
Galen. de Succ.

ARHEUMATISTOS, ἀρευμάτιστος, from α Negative, and ῥεῦμα, a Defluxion. An Epithet beſtow'd on the external Parts, and eſpecially the Joints, while they are free from gouty Rheums. *Caſtellus.*

ARIA, Offic. *Aria Theophraſti*, Ger. 1146. Emac. 1327. *Aria Alni effigie, folio laniato, major*, Jonſ. Dendr. 69. *Sorbus Alpina*, J. B. 1. 65. Raii Hiſt. 2. 1459. *Sorbus ſylveſtris, Aria Theophraſti dicta*, Park. Theat. 1421. *Meſpilus Alni lanato folio, major*, Herm. Cat. Hort. Lugd. Bat. 424. *Meſpilus Alni folio ſubtus incano, Aria Theophraſti dicta*, Raii Synop. 3. 453. *Meſpilus Alpina, folio Alni lanato, major*, Rupp. Flor. Jen. 110. *Cratægus Alpinus, Alni folio incano*, Ejuſd. *Meſpilus Alni effigie, lanato folio, major*, C. B. Pin. 451. THE WHITE BOAM-TREE.

It grows in Woods upon rocky Mountains, and flowers in *April*. The Fruit is recommended for mitigating Coughs, and promoting Expectoration. *Dale.*

ARICYMON, ἀρικύμων (from the augmentative Particle ἀρι, which is never read but in Compoſition, and κυέω, to conceive) in *Hippocrates* περὶ ἐπικυήσιος, is explain'd in *Galen*'s *Exegeſis* by ἡ ταχέως ἐγκύμων γενομένη, "One who ſoon con-"ceives." Ἀρικύμων, in *Heſychius*, is expounded by εὐσύλληπτος, "Eaſy and prompt to conceive."

ARIDA MEDICAMENTA, ξηρὰ φάρμακα, dry Medicines, are ſuch as conſiſt of Powders. *Aetius*, in his *Tetrab.* 2. *Serm.* 3. has a good long Chapter, *Cap.* 98. wholly on dry Collyria for the Eyes.

ARIDITAS *Corporis*, a Dryneſs of the Body. See MARASMUS. Alſo the lanuginous Superficies of the Tops of the Hairs, when they look as if they were powder'd, is call'd a Dryneſs, ξηρασία, *Gal. Def. Med.* There is alſo an *Ariditas Linguæ*, Dryneſs of the Tongue, a common Symptom in Fevers.

ARIDUM, ξηρὸν. The ſame as SICCUM, which ſee.

ARIDURA, a total Conſumption, or Syderation, as they call it, of the Body or Members. *Ruland. Johnſon.*

ARIES, a Ram. The Fleſh of the Ram is more rank and indigeſtible than that of the Sheep or Wether. See OVIS.

ARIGEOS, ἀριγέως, from α Negative, and ῥῖγος, Cold, in *Hippocrates*, *De Rat. Vict. in Morb. acut.* ſignifies without Cold, and is there oppoſed to ἀθαλπέως, which is from α Negative, and θάλπος, Heat; and denotes the Abſence of that Quality.

ARILLA, γίγαρτον. The ſame as GIGARTON, which ſee.

ARIOBARZANIUM *Emplaſtrum*. The *Ariobarzanian* Plaiſter. The Compoſition ſee under the Article ABSCESSUS.

ARIS, ἆρις, is expounded by *Galen*, in his *Exegeſis*, οὐ μόνον τὸ ὄργανον, ἀλλὰ καὶ βοτάνη τὶς οὕτως ὀνομαζομένη, "Not only an "Inſtrument, but an Herb ſo call'd;" which is the ſame as *Ariſarum*; or, as others will have it, a ſmall kind of *Ariſarum*.

ARISARUM, Offic. *Ariſarum anguſtifolium Dioſcoridis forte*, C. B. Pin. 196. Boerh. Ind. A. 2. 73. Hiſt. Oxon. 3. 545. *Ariſarum anguſtifolium*, Ger. 686. Emac. 835. J. B 2. 787. Chab. 258. Raii Hiſt. 2. 1211. *Ariſarum longifolium*, Park. Theat. 375. *Arum humile anguſtifolium, piſtillo longiſſimo tenui inflexo mucronato*, Herm. Cat. Hort. Lugd. Bat. 60. *Arum Scorzoneræ folio*, Elem. Bot. 130. Tourn. Inſt. 160. FRIERS-COWL.

This grows in *Italy* and *Dalmatia*.

Dioſcorides ſays it is a ſmall Plant, with a Root like that of the Olive, and more acrimonious than the Arum, which, he ſays, ſtops the Progreſs of *Nomæ*, if apply'd to them by way of Cataplaſm. Of this Root are alſo made *Collyria*, which are effectual in curing Fiſtulas. *By Collyria* Dioſcorides *does not mean what we call ſo, but Tents made in the Shape of a* COLLYRIUM, *which ſee.* It corrupts the *Pudendum* of any Animal whatever, if introduced into it. *Dioſcorides*, *L.* 2. *C.* 198.

It heats, dries, incides, opens, abſterges, and digeſts. *Dale* from *Galen*.

ARISTA, is that ſharp-pointed Needle that ſtands out from the Huſk or Hoſe of a Grain of Corn, Graſs, &c. and is call'd Awn, or Beard. *Miller*'s *Dictionary*.

ARISTALTHÆA, ἀριστάλθαια, from ἄριστος, excellent, and ἀλθαία, the Marſhmallow. A Name beſtow'd on the *Althæa*, or Marſhmallow, for its Virtues.

ARISTARCHI *Antidotus Paulina*. An Antidote of *Ariſtarchus* call'd *Paulina*; the Preparation of which you have in *Aetius*, *Tetrab.* 2. *Serm.* 4. *Cap.* 65.

ARISTEAS. A Phyſician of *Rhodes*, Author of one of thoſe Antidotes in *Myrepſus*, which are call'd *Achariſti*. The Reaſon of this Name ſee under ACHARISTON.

ARISTI *Emplaſtrum nigrum*. The black Plaiſter of *Ariſtus*, a famous Surgeon in *Scribonius Largus*, *Cap.* 80. It is the ſame as the *Tetrapharmacum*.

ARISTIONIS *Machinamentum*. A Machine for reſtoring Luxations, invented by *Ariſtion*; but ſeems to be no more than an Improvement of the *Gloſſocomum* of *Nymphiodorus*. *Oribaſ. de Machin.*

ARISTOGENIS *Malagma*. A Malagma for the Bones and Nerves, invented by *Ariſtogenes*; the Compoſition of it is deſcrib'd by *Celſus*, *Lib.* 5. *Cap.* 18.

ARISTOLOCHIA, Birthwort. Of this celebrated Plant there are many Species taken Notice of by Botanic Authors, as the

Ariſtolochia longa, Offic. & Dod. Lob. J. B. *Longa vera*, C. B. Park. *Altera radice pollicis craſſitudine*, Cæſalp. Ἀριστολοχία μακρά, Dioſc. *Ariſtolochia longa Italica ſive maſcula.*

The Roots of this Birthwort are large and long, often as thick as one's Wriſt, and a Foot long, without Fibres till towards the Bottom, ſending forth numerous ſquare Branches, two Foot high or more; on which grow alternately, at the Joints, yellowiſh-green Leaves, ſomewhat like the Leaves of Ivy, or rather thoſe of black Briony, on pretty long Foot-ſtalks: From the ſetting on theſe ariſe the Flowers, one at each Leaf, which is made of one long and hollow Tube, with a long Flap at the End, of a browniſh-yellow Colour, growing on Foot-ſtalks, half an Inch long, which are ſucceeded by roundiſh Pear-faſhion'd Fruit, as big as a Walnut, containing flattiſh, broad, roundiſh, brown Seed.

It grows in *Italy*, *Spain*, and the Southern Parts of *France*, and flowers in *May*.

This Root is ſo call'd, becauſe it is eſteem'd excellent in promoting the *Lochia*, or Child-bed Evacuations of Women, after the Fœtus and Secundines are expell'd. It is found in *Sicily*, in *Spain*, and in *Narbon* in *France*. In *Germany* it is only found in ſome Gardens. It is beſt when of a very cloſe Texture, hard, entirely free from Worms; externally of a greyiſh, and internally of a yellowiſh Colour.

Ariſtolochia rotunda, *vera & major*, Offic. *Rotunda*, Matth. Dod. Lob. J. B. *Vera*, Trag. Cam. *Prima*, Cæſalp. *Rotunda vulgarior*, Park. *Rotunda flore ex purpura nigro*, C. B. *Malum terræ*, Gaz. & Larg. *Ariſtolochium*, Hipp. *Ariſt. rotunda Italica ſive fœmina.* *Paracelſus* calls it the *great Matrix-root*, becauſe it reſembles the Matrix of Women. Its Flower alſo, as is ſaid, bears an exact Reſemblance to the Uterus.

The Root of this *Ariſtolochia* is thick and roundiſh, hard and tuberous, of a browniſh Colour without, and yellow within, of a very bitter Taſte. The Stalks grow to the Height of the former, ſquare, and weak; the Leaves are ſomewhat rounder, and grow on very ſhort Foot-ſtalks, which ſeem to encompaſs the Branches: The Flowers are, in Shape, like the former, but of a dark-purpliſh Colour on the Inſide; the Fruit is likewiſe of the ſame Bigneſs with that, but more round. This grows in the ſame warm Countries, and flowers about the ſame time.

Ariſtolochia adulterina, *ſive rotunda vulgaris*, Offic. & Trag. Cam. *Radix cava major*, Dod. Cluſ. *Cava herbariorum*, Lob. *Fumaria altera*, Matth. *Tuberoſa ſive bulboſa*, *radice cava*, *major*, C. B. *Radice cava*, *flore purpuraſcente*, J. B. *Radice cava major*, *flore carneo*, Park. *Bulboſa ſpuria flore*, *purpurea & alba*, *radice cava*, J. G. Volkham. Flor. *Pſeudofumaria bulboſa*, *A. Q.* Rivin. *Piſtolochia concava*, Fuchſ. *Capnos phragmites*, Plin. καπνὸς χελιδονίας. *Capnos chelidonia*, Lonicer. *Capnos bulboſa*, *Capnicium chelidonium*, *Capnos latifolia*, *Pſeudariſtolochia*, *pes gallinaceus*.

It grows naturally in moiſt and ſhady Places; and is alſo found in Hedges, Vineyards, and ſhady Foreſts. It is alſo to be met with in ſome Mountains, from whence it is tranſplanted into Gardens. The Root is externally of a greyiſh, and internally of a yellowiſh-dark Colour, entirely hollow, and bitter to the Taſte.

Ariſtolochia longa noſtras, Offic. *Tenuis*, Koker. Cat. Hort. Med. Harmel. *Longa*, Trag. Matth. *Longa vulgaris*, Cam. *Saracenica*, Ger. Dod. *Clematitis recta*, C. B. *Clematitis vulgaris*, J. B. *Ariſt. altera radice tenui*, Cæſalp. Ἀριστολοχία κληματῖτις, Dioſ. This Herb reſembles the true *Ariſtolochia longa* in every reſpect, except that it bears Flowers that are yellow, or of a browniſh Black. It is found in a great many Places in *Germany*, *France*, and *Spain*. In *Germany* it grows wild, and is tranſplanted into Gardens; but is of no Uſe.

The Root of this Birthwort is much ſmaller and ſlenderer, than the firſt or long Birthwort, running and ſpreading much in the Earth: The Stalks are firmer, and grow more erect; and whereas the two former have but one Flower at a Leaf, this has three or four, leſs than the other, but of the ſame Colour; the Fruit likewiſe is bigger, and the Leaves larger and broader.

Ariſtolochia has always been had in great Eſteem; for which Reaſon *Apuleius*, *L. de Virt. Herb. Cap.* 19. and *Oribaſius*, *de Herbar. & Simplic. Virtute*, *L.* 1. *C.* 5. tell us, that Phyſicians cannot practiſe their Art ſucceſsfully without it. In Apothecaries Shops, the *Ariſtolochia longa*, *& rotunda*, are principally uſed. They are of a warm, drying, opening, ſubtile, purifying, and healing Nature. They are principally uſed in Diſeaſes of the Head, Lungs, Liver, and Womb. They purge
and drain the Cerebellum of cold Humours, and are of rem
able Efficacy in Epilepſies ariſing from the Uterus, *Sam. S*
born. Man. Med. Pract. They are alſo good in Palſies an
Cramp; they diſlodge the groſs Humours of the Breaſt
Lungs; and greatly relieve thoſe who labour under Diſorde
the Lungs, *Arnaldus de Villa Nova*, *Lib.* 2. *Breviar. P*
Joh. Fernel. L. 5. *Meth. Med.* They alſo afford Reli
Aſthmatic Patients, *Hier. Reuſner. Obſ. Med.* 151. In
Aſthmatico-ſcorbutic, and thoſe who are afflicted with Co
they fortify the Stomach, kill Worms, remove Obſtructio
the Liver and Spleen, diſſolve coagulated Blood, carry off
tidian Fevers, *Joh. Steph. Strobelberg. Remed. Seng. pro*
Feb. Introd. They cure the Dropſy and Cachexy, reſtor
Menſes when obſtructed, expel the dead Fœtus and A
birth. The Root alſo of the *Ariſtolochia longa*, if tied
Woman's Thigh, is ſaid to haſten Delivery, *Lud. Merc.*
de Mulier. Affect. Cap. 8. *& Lib.* 4. *Cap.* 3. They are
ſerviceable for the neceſſary Purgation of the Matrix after
very: They alſo allay exceſſive Pains of the Womb after C
birth. They cleanſe and cure internal Ulcers, Wounds,
inveterate Runnings, eſpecially of the *Pudenda*.
deſtroy fungous Fleſh about the Lips of Wounds. Their
der corrodes and waſtes away mortify'd Fleſh, either in Ul
or in Fiſtulas, *Gabr. Fallop. L.* 2. *Secret. P. M.* 214. *P.*
Lib. 16. *Pr. C.* 5. *Adr. Toll. Comment. ad Prax. Aur. Jo. Sto*
L. 1. *C.* 16. " *Simon Pauli*, only with the Powder of *A*
" *lochia longa*, boil'd in the Water of Paul's Betony, an
" ply'd in a Linen Cloth, in the Space of a few Days ha
" conſolidated a malignant Ulcer, which a Surgeon had in
" attempted to cure for the Courſe of a whole Year."
purify the Skin, diſſipate Blotches and the Itch, extract no
Matter from Wounds or Ulcers, if the Juice of the Herb
its Powder, are apply'd to them.

The *Ariſtolochia rotunda* is poſſeſs'd of a Quality, by w
it cleanſes the Filth of the Ears, and ſtrengthens the He
Matth. Grad. Pr. P. 1. *C.* 34. It alſo opens internal Abſc
They are alſo good againſt Poiſons, and venomous Bites,
de Divinat. 1. *Cap.* 10. They are alſo good in the Pl
and reſiſt Putrefaction; as Myrrh alſo does, *Joan. Voch*
Colonia, *Tr.* 1. *de Peſte*, *Cap.* 14. *M. Unz. Antidot. peſt*
L. 2. 'Tis alſo for this Reaſon they are added to the *Ther*
The Powder of the *Ariſtolochia rotunda* is very ſucceſsfully
in Cardialgias, and in Diſorders of the Heart and Stom
mix'd with Sugar of Roſes; as alſo in a poach'd Egg, or
other convenient Vehicle, *Joh. Camer. in Hort. Med.*
For " this Root is moſt friendly to the Stomach, reſtor
" Ferment, aſſiſts Concoction, and powerfully diſſipate
" Malignity of the Humours. The *Ariſtolochia longa* i
" of ſingular Efficacy in removing Pains of the Stom
Gualt. Bruel. in Prax. Med. G. H. Velſch. Phil. 1. *Exot.*
& Obſer. 439. The *Rotunda*, according to *Sennertus*,
Inſt. Med. P. 1. *S.* 1. *P.* 4. & J. Heurn. *L.* 2. *Met*
Prax. C. 8. opens internal Abſceſſes. The Root is alſo
lent in Clyſters, exhibited to epileptic and apoplectic Pat
The diſtill'd Water of the *Ariſtolochia longa* is good fo
Gout and the Cramp, removes Belly-aches, cures beg
Dropſies, the Jaundice, the Falling-ſickneſs, Rheumatic
and Fevers. It cures *Fiſtulas in Ano*, and other Diſorders
genital Parts of Men and Women. It is alſo excellent i
Plague. The Extract of the Root of the *Ariſtolochia ro*
is alſo excellent for Oppreſſions of the Breaſt, and for
who labour under Diſorders of the Lungs; in which Caſe
following Pills may be given:

> Take of the beſt *Gum Ammoniac*, reduced to Powder,
> Dram; well prepar'd Flowers of Sulphur, one Scru
> mix with a ſufficient Quantity of the Extract of the
> of the *Ariſtolochia rotunda vera*, and make ſixty-ſix
> which ſhake in any proper Veſſel, along with the Po
> of the Root of *Florentine* Orrice. Of theſe let the Pa
> take eleven for a Doſe. Or,

> Take of the beſt Gum Ammoniac, reduced to Powder,
> Dram and an half; Root of the *Ariſtolochia rotunda*
> reduced to Powder, half a Dram; Flowers of Sul
> half a Scruple: Mix with a ſufficient Quantity
> Extract of the Roots of *Elecampane* and *Ariſtolochia*
> *da vera*, diſſolved in Spirit of Scurvy-graſs. Make
> ſix Pills, and ſhake them in a Veſſel, along with th
> Powder of Liquorice-root. Let eleven of theſe be
> in the Morning faſting.

Ariſtolochia alſo effectually corrects and removes all C
tions, and Putrefactions of the Body, and anſwers the
Intentions that the Extract of *Angelica* does, *Jo. Dan.*
L. 4. *Antidotar. C.* 3. We may alſo uſe a Decoction
Ariſtolochia rotunda vera in ſcorbutic Coughs. *Fernel*
Diſpenſat. & Meth. Med. L. 7. *p. M.* 1246. orders Pills,
of the Root of *Ariſtolochia*, for Epilepſies, for the Lame,

as labour under Diſorders of the Lungs, for old Coughs, ructions of the Spleen and Liver, Diſeaſes of the Kidneys, ructions of the Menſes, Expulſion of the dead Fœtus, and After-birth. Its diſtill'd Oil is highly commended for faci-ing Delivery, in *Ephem. N. C. Dec.* 2. *Ann.* 3. *Obſ.* 207. all Noſe-gay made of *Ariſtolochia* accelerates the Menſes. o brings away the Fœtus and Secundines, *J. Fernel. L.* 6. *M. C.* 9. The *Ariſtolochia longa vulgaris* is an admi-Root, if mix'd with *Unguentum Populeum*, in the blind orrhoids, *Joh. Wittich. Vade Mecum, P. M.* 341. lochia burnt, and apply'd to the Hæmorrhoids, puts a Stop hem, *J. Matth. Grad. Pract. C.* 2. *P.* 20. The Quinteſ-of the *Ariſtolochia rotunda* throughly cures any ſimple unds within the Space of twenty-four Hours, and ſooner; at its Effects ſeem altogether miraculous, and beyond the ers of Nature. It alſo cures deep and compound Wounds ickly, that a Miracle rather ſeems to be wrought, than a perform'd by it. It is ſucceſsfully given to ſuch as have n from Heights, or are in a languiſhing State of Health; alſo to ſuch as have received internal Wounds. It diſcuſſes diſſolves grumous Concretions of Blood in the Stomach, or ny other Parts of the Body, *Barthol. Zorn, Botanolog.*

uleius gives a whimſical Receipt, attended with many ſuper-ous Ceremonies, for diſinchanting thoſe who are render'd otent. It conſiſts in waſhing the Patient with a Decoction hat he calls *Leontipodion*, and a ſubſequent Fumigation the Herb *Ariſtolochia*.

he SERPENTARIA VIRGINIA, which ſee, is a Species of olochia.

y the Chymical Analyſis, it yields a great deal of acid Li-s, Oil, and Earth, a little urinous Spirit, and no volatile rete Salt. Its fix'd Salt gives no Tincture of Yellow to the tion of Sublimate; whence we may conjecture, that the of the *Ariſtolochia* is much the ſame as the Salt of Coral ld be, if one pour'd more Acid upon it than is ſufficient to ate the Coral: Beſides this, the Salt of the *Ariſtolochia* ains a little *Sal Ammoniac*, and is involv'd in a great deal of hur. *Martyn*'s *Tournefort*.

ARISTON, ἄριστον, Dinner. Ἀριστᾶν, "to dine," in *Hip-ates* περὶ ἀρχ. ἰητρ. is oppoſed to μονοσιτέειν, "to eat but once a Day;" which was at Supper-time. Thoſe who eat twice Day, took their *Ariſton*, or Dinner, three Hours after Sun-

riſton magnum & parvum, according to *Aviſenna*, are Re-dies prepar'd againſt a Phthiſis, Pains in the Belly, mix'd ers, &c.

ARISTOPHANEION, ἀριστοφάνειον. The Name of an ollient Plaiſter, which conſiſts of four Pounds of Pitch, two unds of Apochyma, (ſee ZOPISSA) one Pound of Wax, an nce of Opopanax, and half a Pint of Vinegar. *Gorræus, m P. Æginet. Lib.* 7. *Cap.* 17.

ARITHMOS, ἀριθμὸς, Number. Ἀριθμοὶ τῶν νουσημάτων, *Hippoc. de Rat. Vict. in Morb. acut.* ſignify the numerical ferences of Diſeaſes in Individuals, by which the *Cnidian* ſicians diſtinguiſh'd and number'd Diſeaſes. The Paſſage s, Ἔνιοι δὲ τὰς ἀριθμοὺς ἑκάστου τῶν νουσημάτων σάφα ἐθέλοντες ζειν, οὐκ ὀρθῶς ἔγραψαι. "Some, endeavouring to give us a clear Account of the Numbers (numerical Differences) of each Diſeaſe, have ſhewn themſelves miſtaken." This Place me ſeems very well clear'd by *Erotian*, when he ſays, Ἀριθμοὺς, ὀνόματα οὕτω καλεῖ. "He calls the Names *Arithmi*;" for Names of Diſeaſes, by which they are diſtinguiſh'd and mber'd according to their Differences, are plainly hinted at; therefore *Hippocrates* ſubjoins, Μήτ' αὐτὸ δὲ νούσημα δοκέειν , ἢν μὴ τ' αὐτὸ ὄνομα ἔχει "Nor takes it for the ſame Diſ-eaſe, unleſs it be call'd by the ſame Name."

ARLADA, ARLADAR. Realgar burnt, or calcin'd. ſtellus.

ARLES CRUDUM, in *Paracelſus*, are Drops falling in ne, eſpecially by Night; otherwiſe call'd *Hydatis*. *Paracelſ. Grad. & Comp.*

ARMALA, in *P. Æginet. Lib.* 7. the ſame as *Harmala*, armela, or Wild Rue. See HARMELA.

ARMARIUM UNGUENTUM, ὁπλόχρισμα. See OPLOCHRISMA.

ARMATURA, Arab. *Abges*. The ſame as AMNIOS, hich ſee. *Caſtellus*.

ARME, ἁρμὴ, from ἄρω, to adapt, ſignifies, according to *otian*, every Coalition of Wounds in general; but in *Galen*'s *egeſis*, it is particularly apply'd to the Suture of the Head. μη, in *Heſychius*, denotes the joining together, or framing Parts of the Body.

ARMENA, τὰ ἄρμενα, in *Hippocrates*, ſignify the Inſtru-nts, with all the Apparatus, neceſſary for an Operation in rgery. In *Lib. de Rat. Vict. in Morb. acut.* τὰ ἄρμενα in-des all the Apparatus for Bathing; and *Heſychius* expounds ἄρμενα, in general, by τὰ πρὸς τι ὑπουργοῦντα πράγματα ἐπιτή- "Such Things as are convenient for the Performance of any Work we are about."

ARMENA *Bolus*. See BOLUS.

ARMENIACA MALUS, *Præcocia*, Offic. *Armeniaca Malus major*, Ger. 1260. Emac. 1448. *Armeniaca, Malus Armeniaca*, Mont. 37. *Malus Armeniaca major*, Park. Parad. 579. Jonſ. Dendr. 74. *Armeniaca Mala majora*, C. B. Pin. 442. J. B. 1. 167. Raii Hiſt. 2. 1514. *Mala Armeniaca*, Chab. 11. *Armeniaca fructu majori, nucleo amaro*, Tourn. Inſt. 623. Elem. Bot. 495. *Armeniaca Malus, fructu majori ex luteo rubeſcente*, Herm. Cat. Hort. Lugd. Bat. 59. Boerh. Ind. A. 2. 242. THE APRICOCK-TREE.

This Tree is ſo well known, that a ſlight Deſcription of it is ſufficient: It has broad, round Leaves, pointed at the End. The Flowers are larger than thoſe of Plums, of a white Colour. The Fruit is round, and ſomewhat flat-ſided, with a Sinus running on one Side from Head to Stalk; of a yellowiſh Colour, with a Bluſh of Red; when ripe, eaſily parting from the Stone, which is ſmooth like a Plum-ſtone, flattiſh, with three prominent ſharp Ridges on one Side, with a bitteriſh Kernel within. It flowers in *March* and *April*, the Fruit not being ripe till after Midſummer.

Apricocks are of very little Uſe in Medicine; but are eaten as other Summer Fruits, being pleaſant and grateful to the Stomach. They are frequently preſerv'd with Sugar; and of the Kernels, infuſed in Brandy, is made the famous Cordial call'd *Ratafia*. *Miller*'s *Bot. Off.*

Lemery adds, there are three Sorts of Apricocks; the firſt of which are pulpy, almoſt round, and grow as big as a ſmall *Peach*, flat on the Sides, one of which is of a dark Red, and the other yellowiſh. The Pulp is tender, pleaſant, and of a good Smell. It contains a very hard and flat Stone, wherein there is a bitter Kernel.

The ſecond differs from the firſt, in that they are of a more whitiſh Colour, and that the Kernel is ſweet.

The third are ſmaller than the others, but not ſo well taſted, and of a yellowiſh Colour. Theſe laſt grow upon a Tree that is not cultivated like the reſt. In chuſing your *Apricocks*, take thoſe that are pulpy, large, well-colour'd, and well-taſted.

They moiſten, create an Appetite, provoke Urine, are a Cordial, Pectoral, and promote Expectoration. An Infuſion of Apricocks is look'd upon to be good to allay the Heat of Fevers: They alſo ſay, that the Kernel of an Apricock kills the Worms.

Apricocks fill the Stomach with Wind, and eaſily corrupt there; and therefore they ought to be moderately taken.

They contain an indifferent Quantity of Oil and eſſential Salt, and much Phlegm.

They are good, in hot Weather, for young People that have good Stomachs, and of a bilious and ſanguine Complexion.

Apricocks are Fruits of an agreeable Taſte, and uſed more for Pleaſure than Health. They cool and moiſten, becauſe they contain much Phlegm, intermix'd with a great Quantity of acid, eſſential Salt; and are fit to allay the violent Motion of the Fluids; yet they create an Appetite, becauſe this acid Salt lightly pricks the Sides of the Stomach.

In the mean time, People ought to be cautious of this ſort of Food, which contains a viſcous and thick Juice; and ſometimes, in the very firſt Paſſages, cauſes Wind and crude Humours.

They preſerve *Apricocks*, to render them more pleaſing to the Taſte, and that they may keep the longer. Being thus order'd, they are the leſs injurious, becauſe their viſcous Phlegm is rarefy'd by the Sugar and Boiling. They are alſo more pectoral than raw Apricocks; for, beſides the oily and embaraſſing Parts naturally contain'd in them, the Sugar, wherewith they are preſerved, ſupplies them with other Qualities proper to mitigate the Sharpneſs of the Humours in the Breaſt.

You may extract an Oil out of them good for Noiſe in the Ears, for Deafneſs, and eaſing the Piles. *Lemery on Foods.*

The Summer Fruits, when crude and unripe, are extremely pernicious, and productive of various Diſorders; but when perfectly ripe, perhaps nothing is more wholſome or medicinal; as, in this State, they furniſh a ſaponaceous Juice, capable of reſolving Obſtructions. But as our Climate ſeldom ripens theſe to Perfection, it is prudent to boil, bake, or preſerve them; becauſe the Heat ripens them more, and deſtroys their elaſtic Air, which is ſometimes troubleſome on the Stomach.

ARMENUS LAPIS.

Lapis Armenus, Offic. Calc. Muſ. 468. Geoff. Prælect. 76. Schrod. 346. Worm. 66. Charlt. Foſſ. 27. *Lapis Armenus Officinarum*, Woodw. Att. Tom. 1. P. 195. N. 26. *Lapis Armenus*, Boet. 292. Matth. 1352. *Armenium*, Schw. 366. Aldrov. Muſ. Metall. 351. *Azutum, ſive cæruleum Foſſile*, Mer. Pin. 218. ARMENIAN STONE, *per Woodwardum*, COPPER ORE OF A SKY OR PALE-BLUE COLOUR.

The *Armenian* Stone is opake, with green, blue, or blackiſh Spots, ſmooth, and marked like the Azure Stone, with gold-coloured Specks, and friable. There is indeed but very little Difference between the two Stones, they being often found in the ſame Glebe, and uſed indifferently for each other, as having the ſame Virtues; only the *Armenian* Stone is more ſtrongly purgative. It is given from ſix Grains to a Scruple; and, externally uſed, it is detergent, with ſome Degree of Acrimony and Stypticity. It is very ſeldom uſed in Phyſic; but the Painters employ it in making a beautiful blue Colour, with a greeniſh Caſt. *Geoffroy.*

Alexander Trallianus prefers the *Lapis Armenus* to white Hellebore, as a Purge, in melancholy Caſes.

ARMERIA, *Lychnis flore laciniato*, Mont. Ind. 37. *Armerius pratenſis*, Ger. 480. Emac. 600. *Armerius ſylveſtris*, Merc. Bot. 1. 21. Phyt. Brit. 10. *Armoraria pratenſis mas*, Mer. Pin. 11. *Lychnis plumaria ſylveſtris ſimplex*, Park. Parad. 253. Raii Hiſt. 2. 1000. Synop. 3. 338. *Lychnis pratenſis, flore laciniato ſimplici*, Hiſt. Oxon. 2. 537. Tourn. Inſt. 336. Elem. Bot. 281. Boerh. Ind. A. 213. Dill. Cat. Giſſ. 69. Rupp. Flor. Jen. 92. Buxb. 200. *Caryophyllus pratenſis, laciniato flore ſimplici, ſive Flos Cuculi*, C. B. Pin. 210. *Flos Cuculi, Odontis quibuſdam*, J. B. 3. 347. *Flos Cuculi, Odontitis Plinii*, Chab. 445. MEADOW-PINK.

It grows in watry Places, and flowers in *May*; the Flowers are in Uſe. It is a good Alexipharmic, and commended againſt Poiſon. *Dale.*

ARMILLA, that circular Ligament which comprehends all that Multiplicity of Tendons which belong to the whole Hand within a Circle in the Region of the Carpus, and is eaſy to be divided into ſeveral others; for which Reaſon ſome make two of them, one encompaſſing the Inſide of the Carpus, which is broad and ſtrong, and holds together all the Tendons of the Muſculi Flexores; the other, on the Back of the Carpus, conſiſts of ſix leſſer ones connected to one another, and rolled about the Muſculi Extenſores, like ſo many Rings. *Caſtellus.*

ARMONIACUM, the ſame as AMMONIACUM, which ſee.

ARMORACIA, Offic. Schrod. *Raphanus ſylveſtris*, Ger. 185. Emac. 240. *Rapiſtrum album articulatum*, Park. Theat. 863. Raii Hiſt. 1. 805. *Rapiſtrum flore albo, ſiliquâ articulatâ*, C. B. Pin. 95. *Rapiſtrum flore albo*, Mer. Pin. 103. *Rapiſtrum flore Erucæ foliis*, Merc. Bot. 1. 64. Phyt. Brit. 103. *Rapiſtrum flore albo ſtriato, Sinapi agreſte album Trago*, J. B. 2. 852. *Rapiſtrum flore albo ſtriato*, Chab. 273. *Raphaniſtrnm flore albo ſtriato, ſiliquâ articulatâ ſtriatâ minore*, Hiſt. Oxon. 2. 266. Tourn. Inſt. 230. Elem. Bot. 197. Boerh. Ind. A. 2. 21. Dill. Cat. Giſſ. 116. *Raphaniſtrum ſiliquâ articulatâ glabrâ, majore & minore*, Raii Synop. 3. 296. WILD RADISH.

It grows amongſt Corn, and flowers in *June*. The Root is in Uſe. It warms and dries. It incides mucilaginous tartareous Concretions; it attenuates, reſolves, opens Obſtructions of the Viſcera, is diuretic, lithontriptic, and antiſcorbutic. *Dale* from *Schrod.*

ARMORUM PUGNA, a ſort of Gymnaſtics. This kind of Exerciſe, ſays *Oribaſius* from *Antyllus*, was not in Uſe among the Antients as a Remedy, but was invented by the *Romans*, principally with a Deſign to promote the military Art, and is now received among the Gymnaſtics.

The Patient, who is ſuppoſed to prepare himſelf for a Duel, puts on military Armour, and engages with an Adverſary, or fights againſt a Pillar.

This Exerciſe is proper to render the Body more fit for Motion, and to increaſe Fleſh; but it tends to make the Fleſh ſoft and looſe, and is noxious to the Head, which ſuffers as well on account of its being ſo cloſely ſtreightened and covered with the Cap and Helmet, as by the Weight with which it is oppreſſed. But this ſort of Gymnaſtics mightily profeſſes and promiſes to procure us the Benefits of a long Breath, and Firmneſs of Body, ſince they who are inur'd to it may very well bear any other Exerciſe that requires much Breath. *Oribaſ. Med. Coll. Lib.* 6. *Cap.* 36.

ARMUTHEUS LAPIS, corruptly written for ARMENIUS LAPIS, by *Nechepſus. Aetius Tetrab.* 1. *Serm.* 2. *Cap.* 47.

ARNABO, a Name for Zedoary. See ZEDOARIA.

ARNACIS, ἄρνακις, in *Hippocrates* περὶ ἐπικυήσιος, is a Lambſkin with the Wool.

ARNALDIA, the Name of a malignant, ſlow, and chronical Diſeaſe, formerly pretty common in *England*, and uſually attended with an *Alopecia*, whence it ſeems to be a kind of *Lues Venerea. Blancard.*

ARNICA, a Species of DORONICUM, which ſee.

ARNOGLOSSUM, ἀρνόγλωσσον, from ἄρς, a Lamb, and γλῶσσα, a Tongue. Lamb's-tongue, a Name for Plantain. See PLANTAGO.

AROEIRA, a Species of the Lentiſk. See LENTISCUS.

AROHOT, Mercury. *Rulandus.*

AROMA, ἄρωμα. It ſignifies any thing fragrant or odorous; but is ſometimes taken for Myrrh.

AROMATICA, ἀρωματικὰ, from ἄρωμα, a Word apply'd to all fragrant Things, whether Spices, Herbs, Flowers, Seeds, or Roots. It is remarkable, that Aromatics, or Spices, preſerve Animal Subſtances from Putrefaction; and that Providence has taken care to furniſh warm Climates with Plenty of Aromatics, which the Inhabitants make frequent Uſe of, and prob thereby check that ſpontaneous Tendency to Putrefaction which Heat inclines them.

AROMATICUM ROSATUM. *Roſe Spice.*

Take of exungulated red Roſes, fifteen Drams; of Liquo ſliced, ſeven Drams; of Aloes Wood, and yellow Sa ers, each three Drams; of the beſt Cinnamon, five Dr of Cloves and Mace, each two Drams and an half; G Arabic, and Tragacanth, each eight Scruples; of N megs, the greater Cardamoms, and Galangals, each Dram; of *Indian* Spikenard, one Scruple; and let t all be reduced into a Powder to be kept for Uſe.

This Medicine is frequently uſed in Caſes where there is great a Quantity of watry and ſuperfluous Matter in the mach. It contributes to the Concoction of the Food, vents Putrefaction, corrects the Relaxation of the Stomach, moves Weakneſs, ſtrengthens the whole Lower Belly, and gans of Nutrition. It diſſipates the Flatulencies which di the Stomach, reſtores the loſt Appetite, removes Nau and is ſurpriſingly beneficial to thoſe who labour under Di ders of the Stomach. Beſides, it very much refreſhes thoſe are recovering, or have juſt got the better of any long tedious Illneſs. *Zwelfer Not. in Pharm. Auguſt.*

AROMATITIS, ἀρωματῖτις, a precious Stone, of a minous Subſtance, in Colour and Smell reſembling My whence it takes its Name; it is found in *Arabia* and *E* *Gorræus.*

AROMATOPOLA, ἀρωματοπώλης, from ἄρωμα, S and πωλέω, to ſell. A Druggiſt; alſo a Grocer. *Blanc.*

ARON, ἄρον. See ARUM.

ARONIA.

Meſpilus Aronia, Offic. *Meſpilus Aronia, Azarolus*, M Ind. 48. *Meſpilus Aronia*, Ger. 1265. Emac. 1454. *ſpilus folio laciniato, ſpinoſa, fructu majori eſculento*, Hiſt. 2. 1458. *Meſpilus Aronia veterum*, J. B. 1. 67. C 3. *Meſpilus Aronia, ſive Neapolitana*, Park. Theat. 1 *Meſpilus Apii folio laciniato*, C. B. Pin. 453. Jonſ. De 44. Boerh. Ind. A. 2. 256. Tourn. Inſt. 641. Elem. 503. THE NEAPOLITAN MEDLAR.

It is ſown with us in the Gardens of the Curious, and f ers in *May*. The Fruit is in Uſe. It binds the Belly m rately. *Dale.*

AROPH of *Paracelſus* are either Flowers very finely pared after a Chymical way, by Sublimation of equal Por of Lapis Hæmatitis and Sal Ammoniac; or the Word ſig Saffron and Bread moiſtened with Wine, and incloſed in a ſel cloſely ſtopped, and ſet in Horſe-dung for ſome Days, afterwards diſtilled, *Helmont de Lithiaſi. Paracelſus* alſo ſp of *Aroph* as a Thing prepared by Diſtillation, and endued a Virtue of deſtroying the Operation of the Kidneys, *Vir. Memb. Lib.* 2. *Cap.* 10. *Aroph* alſo ſignifies a Mandr *Ruland. Johnſ.* Some take *Aroph* to be one of *Paracel* Terms of Art, by which he intends to ſignify a Lithontr Medicine, and have expounded it by *Aroma Philoſopho* *Helmont. de Lithiaſi, Cap.* 7. *No.* 14.

ARQUATA, the Name of a Bird mentioned by *Aldro* *dus.* It is called τροχῖλος by *Oppian.* A Wren.

ARQUATUS MORBUS, the ſame as ICTERUS, w ſee.

ARQUEBUSADE (Eau de) the ſame as *Aqua Sclopeta* See AQUA.

ARRAPHON, ἄῤῥαφον, from α Negative, and ῥάπ ſew. Without Suture; the Word is applied to the Crani when naturally without Sutures. In this Caſe the Perſon ſometimes an inveterate and incurable Head-ach.

ARRHEN, ARSEN, ἄῤῥην, ἄρσην, Male.

ARRHŒA, ἀῤῥοία, ἀῤῥεῖν, from α Negative, and ῥέω, flow. The Stoppage of a Flux, and by *Hippocrates* appro ated to the Suppreſſion of the Menſes; for ἀῤῥοία, in *Ga* Exegeſis, is ἐποχὴ ἐμμήνων, "the Stoppage of the Menſt Flux."

ARRHOSTIA, ἀῤῥώστημα, ἀῤῥωστία, from α Negative, ῥώννυμι, to be in ſound Health. Infirmity, Weakneſs; it ſignifies a Diſeaſe, as in 2 *Aph.* 31. and 3 *Aph.* 5.

ARRHYTHMUS, ἄῤῥυθμος. See ARYTHMUS.

ARSACUM, the ſame as ACRAI, which ſee.

ARSALTOS, the ſame as ASPHALTOS, which ſee.

ARSANECK, Arſenic ſublimed. *Johnſon.*

ARSATUM, the ſame as ACRAI, which ſee.

ARSENICUM, Arſenic. Of this there are three Sort

ARSENICUM ALBUM, Offic. Ind. Med. 15. *Arſenic* *factitium album*, Aldrov. Muſ. Metall. 354. *Arſenic* Mont. Exot. 12. *Arſenicum album ſeu cryſtallinum*, Sch 3. 498. *Arſenicum album, Riſagallum, quibuſdam Real* Worm. Muſ. 29. Charlt. Foſſ. 13. WHITE ARSEN or RATSBANE.

SENICUM FLAVUM, Offic. *Arſenicum factitium flavum*,
ov. Muſ. Metall. 358. *Arſenicum citrinum ſeu flavum*,
od. 3. 498. *Arſenicum citrinum*, Pharmacopolis. YEL-
W RATSBANE.

SENICUM RUBRUM *factitium*, Offic. Woodw. Att. 2.
p. 50. RED ARSENIC. *Dale*.

ſenic, properly ſo called, is a Subſtance extracted from an
found in *Saxony* and *Bohemia*, named *Cobalt*. It is of three
ds, Cryſtalline, Yellow, and Red; and as this Original of
nic, and the way of preparing it, are not commonly
wn, I ſhall here ſhew what is the Nature of Cobalt, and
hat manner Arſenic, and the other Subſtances found with
the Ore, are extracted, alſo what are the Kinds of facti-
or artificial Arſenic.

eſman Cobalt of the Shops, Cadmia Metallica of *Agricola*,
onderous, hard, foſſil Subſtance, almoſt black, not unlike
mony, or ſome Kinds of Pyrites, emitting a ſtrong ſul-
eous Smell when burnt, often mixed with Copper, ſome-
with Silver. It is dug out of Mines in *Saxony*, near *Goſ-*
in *Bohemia*, in the Valley of *Joachim*; and in *England*,
Mendip Hills, in great Quantities. It has ſo ſtrong a
ſive Quality as ſometimes to turn and ulcerate the Hands
Feet of the Miners, and is a deadly Poiſon for all known
mals. All the three Kinds of Arſenic are extracted from it;
it likewiſe ſerves to make Zaffera, uſed by Potters in giving
Colour to their Veſſels; and the Encauſtum Cœruleum,
at kind of Blue ſometimes uſed by Painters, and often by
men to mix with their Starch, for whitening and ſtiffening
n. The way of making all theſe, is taught by *Kunkel*, in
rt of making Glaſs. To this Purpoſe they put the Cobalt
calcining reverberatory Furnace, made for that Purpoſe in
a manner as that the Flame may juſt graze upon the Ore,
ſo ſet it on Fire. The Flame of the Ore is blue, accom-
d with a copious Smoke, which is received on the Cieling
e Furnace, and from thence conveyed out through a large
el made of Boards, and above an hundred Ells in Length;
he greateſt Part of it ſticks to the Inſide of the Funnel, in
of a whitiſh Soot; and every ſix Months the Labourers
the Funnel with Brooms, and carefully preſerve this Soot,
h afterwards ſerves to make both cryſtalline, yellow, and
rſenic.

yſtalline Arſenic is made only by ſublimating the Soot in
Veſſels into an opake Subſtance, ſometimes white and
g like the Encauſtum Album, ſometimes ſtreaked with
nd cryſtalline Veins.

llow Arſenic is made of the ſame Soot ſublimed with
non Sulphur, in the Proportion of one Part of Sulphur to
Soot. The ſublimed Maſs is of a yellow Colour, ſolid like
ur, ſhining, and not altogether opake, eaſily broken, but not
, or eaſily crumbled into Duſt, and diſtinguiſhable from
ment, by not taking Fire when thrown upon burning Coals,
piment preſently does. Red Arſenic is made of the ſame
and Sulphur, mixed with a ſmall Proportion of a metallic
nce, called the *Spuma of Copper*. The ſublimed Maſs is
of a cinnabarine Colour, and opake.

e calcined Cobalt, after the Evaporation of the Fumes or
e, is powdered and calcined again, and this Operation is re-
d till the Calcination is judged to be perfect. Then being
finely powdered, it is mixed with two or three times the
tity of powdered Flint Stones, and moiſtened with a little
r in large Tubs, where, in a very ſhort time, it becomes
d firm Maſs, called *Zaffera*, as already ſaid, which is
y the Potters, Glaſs-men, Enamellers, &c.

two Parts of calcined Cobalt, one Part of Pot-aſh, and
three of common Sand, be melted together, a vitreous,
pake, bluiſh Maſs is produced, which is ground in Mills
o a very fine blue Powder, which is called *Smaltum*, or
Encauſtum Cœruleum, uſed by Painters, and in waſhing
Linen.

ſenic conſiſts of an acid Salt, and a kind of mercurial or
ic Subſtance, which diſcovers itſelf when it is diſtilled in
rt, mixed with Soap, Suet, Oil, or any fat or oily Sub-
; for with a ſtrong Degree of Fire the Arſenic will be
into the Neck of the Retort in a metallic Form, like
mony. The Sulphur contained in Arſenic is in ſo ſmall a
rtion, that it does not flame when caſt on burning Coals,
h Cobalt contains a great Quantity of Sulphur, which con-
ntly has been ſeparated from the arſenical Parts in the
ation and Deflagration, and ſo evaporated; but the Smell
ſenic proves, that ſome Sulphur ſtill remains in it. Arſe-
very volatile; for if any Quantity of it is put into a
ble, and ſet over the Fire, it will preſently evaporate in
Fumes, without leaving any Remainder. If melted,
d, or cemented with Copper, it turns it of a Silver Co-
but, as it impairs its Ductility, this Change of Colour is
d of no Uſe.

nic is a powerful Corroſive, and reckoned among the
ſt Poiſons. When taken inwardly, it cauſes many bad
Symptoms, of which ſome are common to it with other Poiſons; ſuch as Anxieties, Swoonings, Palpitations, a ſudden Dejection, or Sinking of the Strength and Spirits, Stupors, Deliriums, convulſive Motions of the Limbs, Palſies, Heat and Corroſion of the Fauces, Thirſt, Fevers, Vomiting, Pain in the Stomach, and cold Sweats. Other Symptoms are peculiar to this Poiſon, ſuch as not only an Eroſion of the Stomach, but an Extenuation of it, in ſuch a manner, as that all its Coats, taken together, ſhall not be thicker than a Poppy-leaf in many Places; and at the ſame time, the ſmall Inteſtines are found corroded and perforated; a ſudden Swelling and Sphacelation of the Parts of the Body; and, after Death, a more ſpeedy Putrefaction than is obſerved in other Caſes, eſpecially in the Parts of Generation belonging to Men. If Death does not immediately follow, the Patient becomes afflicted with an Hectic Fever, Maraſmus, Palſy, Tremors, and ſometimes Madneſs. Some recommend Rock Cryſtal reduced to an impalpable Powder, as an Antidote againſt Arſenic; but I ſhould depend much more upon drinking large Quantities of Milk, Oil, or fat Broths, while the Poiſon remains in the Primæ Viæ; but after it has got into the Blood, alexiterial Medicines are to be uſed, ſuch as *Venice* Treacle, Mithridate, Bezoar, Powder of Vipers, Contrayerva-root, and ſuch like, and afterwards a Milk Diet.

Though Arſenic be a quick Poiſon for both Men and Brutes, it is recommended by ſome in intermitting Fevers; but, let it be never ſo much prepared and corrected, its deleterious Qualities are only leſſened, never wholly removed; and therefore, though it may be a good Remedy for the preſent, it will afterwards prove a Poiſon, and bring on very diſmal Symptoms. Arſenic therefore, in my Opinion, is worſe than the Fever itſelf; and among all the Preparations thereof, there is but one which I can recommend, even to be uſed externally:

> Take crude Antimony, yellow Sulphur, and cryſtalline Arſenic, of each two Ounces; powder and mix them well in a Glaſs Crucible, and melt them in a gentle Sand-heat, till they come to the Conſiſtence of Pitch; and, the Fire being removed, they will concrete into a Maſs of a dark-red Colour, which is to be kept for Uſe.

This Medicine is only to be applied externally, as being a mild and gentle Cauſtic, and thought to be endued with a Power of attracting poiſonous, or other morbific Matter from the Centre of the Body to the Surface, like a Loadſtone; and hence it has the Name of the *Arſenical Magnet*. It is alſo ſaid to be a powerful Ripener, and is therefore applied to Venereal Buboes, with the *Emplaſtrum Diachylon Magnum*. It is an Ingredient in the *Emplaſtrum Magneticum* of *Angelus Sala*, and recommended for maturating and breaking Venereal Buboes, and is thought to draw the peſtilential Virus out of them. It is likewiſe proper in ſcrophulous Ulcers, which it opens, cleanſes and incarns, without the Aſſiſtance of any other Ointment. *Geoffroy*.

After giving the Opinion of *Geoffroy* with reſpect to the internal Uſe of *Arſenic*, I need not caution the younger Practitioners in Phyſic to hold as ſuſpected the Advice of *Pitcairn*, who directs *Arſenic* to be given internally in a Dyſentery; and of *Zacutus Luſitanus*, who adviſes the Uſe of it in Clyſters, for the ſame Diſtemper.

Realgar alſo is called *Arſenicum*, and *Sandaratha*. See Realgar.

ARSIORA, Ceruſs. *Johnſon*.

ARTABA, ἀρτάβη. An *Egyptian* Meaſure of dry things, containing five Modii (ſomewhat above five *Engliſh* Pecks). *Galen. de Menſuris*.

ARTANECK, ARTANECH, Arſenic. *Rulandus*.

ARTEMISIA, a celebrated Plant, thus diſtinguiſh'd:

Artemiſia, Offic. Chab. 375. *Artemiſia vulgaris*, J. B. 3. 184. Raii Hiſt. 1. 372. Synop. 4. 190. Park. 90. *Artemiſia vulgaris major*, C. B. Pin. 137. *Artemiſia latifolia vulgaris major*, Hiſt. Oxon. 3. 5. *Artemiſia vulgaris major, caule & flore purpuraſcentibus, & albicante*, Tourn. Inſt. 460. Boerh. Ind. A. 127. *Artemiſia mater herbarum*, Ger. 945. Emac. 1103. MUGWORT. *Dale*.

It is alſo called Mater Herbarum by *Lobel*, and Parthenium by *Apuleius*.

This is alſo called *Cingulum Sancti Johannis*, becauſe a great many People fooliſhly imagine, that, if they make a Crown of it, wear it upon St. *John*'s Eve, and throw it into the Fire, mumbling ſome Verſes, they ſhall for that Year be free from Spectres, Diſeaſes, and Misfortunes. Others call it the Herba Regia, Toxiteſia, Anactorium, Sanguis Hominis, or Rapium. The famous Queen *Artemiſia* with this Herb cured ſeveral Diſeaſes; for which Reaſon *Pliny*, *L.* 25. *C.* 7. thinks it had her Name beſtowed upon it. But others imagine, that it was called *Artemiſia* from *Artemis*, that is, *Diana*, ſince the antient *Pagans* believed, that the Goddeſs *Diana* preſided over the Diſeaſes of Women, which they thought could not be cured without this Herb. The Prieſts, according to *Apuleius*, *Herb. C.* 10.

C. 10. called it *Bubaſteocordium*, that is, the Heart of *Bubaſtus.* Now *Bubaſtus* was a Town in *Egypt*, in which the Worſhip of *Diana*, and of *Dogs*, mightily prevail'd [according to *Herodot.* in *Euterp. L.* 2.]; to this therefore anſwers pretty well the ἀρτεμισία, that is, the *Dianæa* of the *Greeks*; for Ἄρτεμις is *Diana*. It is not material whether the Virtues of this Herb were firſt diſcovered by Dogs, who are Lovers of it, and, according to *Antonius Muſa*, uſe it as a Medicine againſt their natural Diſtempers, or whether they were firſt found out by *Diana*. See ATHAN. KIRCHER. *Oedip. Ægypt. Tom.* 3. *p.* 72.

Mugwort has many large winged Leaves, very much torn, or cut in, even to the middle Rib, green on the upper Side, and white and hoary underneath; of a pretty ſtrong Smell, if rubb'd between the Fingers; the Stalks grow to be two or three Feet high, chaneſl'd, in ſome Plants of a hoary Green, in others of a purple Colour, full of a white Pith, and having ſmaller Leaves, growing alternately. The Flowers are ſmall, round *Corymbi*, yellowiſh, with a Caſt of Purple, ſtanding upright, and not hanging down like Wormwood. The Root is tough and ſlender, running aſlant in the Earth, ſhooting out many white Fibres. It grows in Hedges, and waſte Places, and flowers in *June.*

This Herb is univerſally known, and is the true *Mother-herb*, or Herb for the Matrix; for the Coldneſs of which it is an admirable Remedy. It alſo purifies, warms, and fortifies; it appeaſes the Pains to which it is ſubject, and cures the Green-ſickneſs, promotes the Menſes, expels the dead Fœtus, and the Secundines, if uſed either externally or internally. *Helmont* ſays, that the Tops of Artemiſia cut, and given to Women, ſtop the Menſes; but that its inferior Parts cut, and exhibited, promote them. However, all the Diſeaſes of Women, ariſing from the Matrix and Menſes, may be cured with it. It is the grateful Reliever of Women in Child birth, and of ſuch as labour under any Diſorder incident to Women, *Joh. Mich. Fher. de Scorzoner. p.* 12. It alſo cleanſes the Liver when obſtructed, purges the Kidneys of Gravel, promotes Urine, and removes the Strangury, and Pains of the Belly. It alſo reſiſts Poiſon, and purifies a peſtilential Air, *Ambr. Paræus Chir. L.* 21. *de Peſte, C.* 25. *Caſp. Schwenkf. L.* 1. *Catal. Stirp. Sileſ.* When boiled in Wine or Water, and taken for forty Days ſucceſſively, one or two Ounces for a Doſe, in the Morning before Breakfaſt, it cures the Dropſy and Jaundice. *C. Raygerus* ſays, he ſaw a dropſical Patient throughly cured of his Diſorder by drinking an Infuſion of red Artemiſia in Wine, *Obſ. Med.* 51. *in Schol.* Its Juice drank with White-wine, or with Water of Maiden-hair, cures the Jaundice, *Jo. Matth. Grad. Pract. p.* 2. *C.* 8. It is alſo good for Wounds, and often rank'd among the other vulnerary Herbs. It is alſo good for the Bites of Serpents and Scorpions, eſpecially when drank in Wine, or apply'd immediately to the Wounds. This Herb is alſo excellent in gun-ſhot Wounds; in which Caſe the Herb is taken freſh, triturated with White-wine, its Juice expreſs'd, and two Spoonfuls of it given twice a Day, pouring at the ſame time a little of it into the Wound. It alſo takes away the Pain occaſioned by the Heat of the Powder. When the Herb cannot be had freſh, it is uſual to take the dry, and boil it in an equal Quantity of Wine and Water, of which they give the Patient to drink, Morning and Night; they alſo waſh the Wound with it. *Th. Tabernæmontanus*, in the Siege of *Oketz*, and in a great many other Campaigns, acquired a very great Reputation by means of this Medicine, and aſſures us, that it never failed him. Thoſe who have the Gout ſhould eat the Root of this Herb, which will in a ſhort time relieve their Pain. *Abrahamus Scilerus, Conſil. inter Cratoniana*, 235. affirms, that many have been freed from arthritic Pains only by uſing the Roots of *Artemiſia* boiled in their Victuals, like Parſley-roots. See alſo *Arn. Weckard, Theſ. Pharmaceut. L.* 3. *C.* 2. Artemiſia beat with Axungia and Vinegar cures Pains of the Thighs, if apply'd to them, *P. Bayr. L.* 18. *Pr. C.* 1. *and* 6. *C. V. Schneider. Lib. de Catarrh. Specialiſſ. Tr. de Arthrit. & Podagr. p.* 848. Some others, as *Crato, L.* 2. *Conſ.* 26. *Schenck. L.* 5. *Obſ. Med. Solenander, Conſ. Med.* 24. *S.* 4. adviſe, in order to remove Pains in the Feet, to bathe or foment them with a Decoction of this Herb. For this Purpoſe alſo *Ant. Mizaldus* commends the *Oleum Artemiſiæ, Cent.* 5. *Memor. Aph.* 79. An old Woman is, by *Simon Pauli, in Quadr. Bot. Claſſ.* 3. ſaid to have throughly carried off œdematous Swellings in both her Knees, by applying to them folded Cloths, fumigated with *Artemiſia.* This Herb, when boiled in Wine, with Chamomile-flowers, thoſe of Sage and Roſemary, fortifies and reſtores maimed and refrigerated Limbs, if fomented with the Preparation. It is ſaid, that if People who travel on Foot put ſome of this Herb into their Shoes, they will not ſo ſoon become weary, as they would otherwiſe do. Travellers who carry *Artemiſia* along with them, will not become weary on their Journey, ſays *Pliny, N. H. L.* 26. *C.* 15. and *P. Bayr. L.* 24. *C.* 13. But *Matthiolus* on this Occaſion obſerves, *Let who will believe it; for I cannot. Theodor. Tabernæmontanus* ſays, he believes it very readily, *provided the Journey be very*

ſhort. Caſp. Hoffman, L. 2. *de Med. Offic. Cap.* 22. S
mentions it as a Piece of Superſtition; and wittily ſays, h
not ſoon weary, who has in his Journey *Beyfus*, which
German Name of *Artemiſia*, and ſignifies at the ſame tim
other Foot; that is, adds he, the four Feet of a *ſtrong*
But though this Opinion ſavours of Superſtition, yet 'tis
that a Bath of *Artemiſia* reſtores Strength and Soundneſs to
weakened and galled by Travelling. See *Gorop. Becan. H*
then. Lib. 7. *p.* 135. *David Frolich. Viator. P.* 1. *L.* 2.
Honorat. Taber. de Plantis, Tr. 1. *L.* 2. *Chr. Fr. P*
Part 1. 726. *Simon Paul, Quæſt. Botan. L. C. A*
confirms this, who aſſerts, that it is an Herb of a cold N
and is of wonderful Efficacy againſt Wearineſs. *Philad*
L. de Fuga Iſidis, alſo aſſerts, that this was uſed by *Iſis*
Wearineſs, when wandering through *Egypt* in Queſt of the
of *Oſiris.* Some ſuperſtitious People pull up this Herb, a
under it at a certain Time and Hour, eſpecially on St.
Eve, for *Coals*, which they uſe againſt the Fever, the P
the Falling Sickneſs, Witchcraft, and other Diſorders,
at the ſame time the Herb about their Necks. The *W*
berg Pharmacopœia affirms, *p.* 22. that if on St. *John's*
before the Riſing of the Sun, People dig under the old Tr
red Artemiſia, they will find a black Coal, which, if
about the Neck, is good againſt the Falling Sickneſs.
Chemnitius, Ind. Plantar. Brunſvic. p. 17. mentions its
ſold in ſome Apothecaries Shops as an Amulet to cure F
Tragus, on the contrary, *Part* 2. *Hebr. C.* 113. and *Jo.*
hine, Hiſt. Plant. Univerſ. L. 26. *C.* 78. call theſe Coa
Stones of Fools, becauſe they are ſought for by weak and f
People; but *Mich. Etmuller, Comment. in Schrod. P*
Sect. 1. *& in Ludovic. Pharmac. Tit.* 14. and in C
Practic. C. de Epilepſ. P. M. 887. informs us, that th
nothing either fabulous or ſuperſtitious in what is report
that Coal; and that it was an infallible Remedy again
Epilepſy, which a certain Woman in *Leipſic* had found v
upon her own Son. *Chriſtopher Helwig, in Conſil. Med*
Peſte, p. 139. ſays, For my ſhare, I look upon this Sto
ſomething miraculous: However, I will not venture to
that there is no ſuch thing, ſince a great many People,
cannot be charg'd with Folly, have given Accounts of ve
priſing Effects produced by it. *Fernelius* is, in my Op
far from being a Fool, yet in his *Conſil. pro Epileptico præſ*
he commends that Stone hung about the Neck againſt the
lepſy. See alſo *Anton. Mizald. Cent.* 3. *Mem. Aph.* 10.
Bauhin. in Matthiol. p. 619. *Ephem. N. C. Dec.* 3. *An.* 9
10. *Obſ.* 128. *Oſw. Gabelkhover, p. m.* 24. *H. Petræ*
ſert. Harm. L. 1. *Diſſ.* 6. *Sect.* 53. *Fr. Joel, Oper.*
Lib. 1. *Sect.* 3. *de Epilepſia. Fr. Decker, Not. ad Prax.*
Pauli Barbett, L. 1. *C.* 1. *Th. Mayern. Prax. Med.*
C. 3. *G. H. Velſch. Chil.* 1. *Exot. Cur.* 505. *& Hecat*
Obſ. Med. 40. The Roots of Artemiſia may be kept and
ſerved for a great many Years. In ſome foreign Apoth
Shops we find a Water diſtilled from this Herb; we the
find a Syrup, a Conſerve, an Extract, and a Salt of it.
diſtill'd Water is ſerviceable to Women in Child-bed;
the Fœtus, whether dead or alive; brings away the After-
promotes the monthly Evacuations when ſtopt, purges the
neys and Urinary Paſſages, promotes Urine, and expe
Stone; cures the Jaundice, and is good againſt the D
The Syrup and Conſerve are uſed for all Weakneſs, Col
Impurities, and Pains in the Matrix; they alſo promo
Menſes, and facilitate Child-birth. The Extract di
Stones, and carries off Suppreſſions of Urine, *Andr. Z*
Pharm. Spag. p. 87. The Conſerve is alſo good to puri
fortify the Matrix: It is likewiſe good againſt the Ch
Zacutus Luſitanus, Lib. 2. *Obſ.* 99. *Prax. Adm.* cured a
roſis of ten Years ſtanding with it. Its Salt is, among
things, an excellent Antidote againſt the Plague.
Paræus, L. 21. *Chir. C.* 25. *Conrad. Khunrab.*
Deſtill. p. 2. *C.* 7. *Joh. de Cuba, in Hort. San.* makes
tion of *Artemiſia*, and ſays, that if any one has this Herb
Houſe, the Devil can do him no Harm. If any one p
Piece of this Herb above the Door of a Houſe, nothing u
can befal that Houſe. See alſo *Dioſcor. L.* 3. *C.* 127.
Wier. de Præſt. Dæmon. L. 5. 21. *Artemiſia* hung up
Entry of a Houſe baniſhes all Witches, *P. Bayr, L.* 16.
C. 3. *Fernelius* from *Pliny, N. H. L.* 25. *C.* 10. in
us, that *Artemiſia* held in the Hand baniſhes wild Beaſts
Devils. The Down of Artemiſia is the Moxa of the *Ger*
Ephem. N. C. Dec. 2. *An.* 1. *Obſ.* 6.

The fabulous Accounts above related concerning the V
of *Artemiſia*, in baniſhing Devils, Witches, and Spect
have quoted only with a View of ſhewing the great Vene
which People have had for this Plant, amounting even to S
ſtition.

Mugwort has a little herby, ſaltiſh Taſte, and gives a
red Colour to the blue Paper. The Salt which is natur
this Plant, probably reſembles Sal Ammoniac, but is
with a great deal of Sulphur and Earth; for by the Ch
Analyſis we obtain from *Mugwort*, beſide ſeveral acid Li

ncreted, volatile, and very lixivial fixed Salt, and a al of Sulphur and Earth. All theſe Principles render nt very aperitive, and proper to regulate and reſtore the . *Martyn's Tournefort.*

ſcorides takes Notice of another ARTEMISIA, which he ιπτόφυλλος, which is, I ſuppoſe, the *Artemiſia tenui-* *r Abrotanum Campeſtre*. See ABROTANUM.

re is another Species of Artemiſia which grows in *China*, hich the *Moxa* celebrated by Sir *William Temple* is pro- by taking out the groſs Fibres of the dry'd Leaves, and theſe Leaves with the Hands, till the green Part crum- ay, and the lanuginous Fibres alone remain. *Dale* calls nt *Artemiſia*.

miſia Chinenſis, cujus mollugo Moxa *dicitur*, Pluk. . Tab. 15. Almag. 50. Hiſt. Oxon. 3. 5. *Artemiſia lis vulgaris facie*, Act. Philoſoph. Lond. Nº 276. p. 1020. *pattree*, Malab. *Moxa*, Kempf. Ed. Angl. App. 27. t. Exot. 589. 600. *An Ytzecuinpatli*, Hern. MUG- T OF CHINA.

TEMISION. The Name of a Month among the *Mace-* , in the Beginning of which happen'd the vernal Equi- *Gal. Com.* 1. *in Lib.* 1. *Epid.*

TEMIUS DIANIO. The Inventor of a Dentifrice the *Stridor Dentium*, which conſiſted of equal Quanti- white Bread, old and dry enough to grate; Salt, Pepper, -leaf, Coſtus, and Hartſhorn, reduced to a very fine r. *Marcellus Empiricus, Cap.* 13.

TEMONIUM, ἀρτεμώνιον. The Name of a Collyrium bed by *Galen, Lib.* 4. *de C. M. S. L. Cap.* 7.

TENNA. The Name of an aquatic web-footed Bird, alſo *Diomedea*, becauſe found in the *Diomedean* Iſles, alled *Tremiti*. *Caſtellus.*

TERIA, ἀρτηρία, an Artery.

rein, Arteria, in *Hippocrates*, generally ſignifies what we e *Aſpera Arteria*, that is, the Tube which conveys the the Lungs. However, though this Author was utterly nt of the true Sources and Uſes of the Arteries, which he unds with the Veins, it may be of ſome Importance to the Underſtanding of his Works, to ſpecify his Notions of lood-veſſels.

pocrates, in one Paſſage, [*Lib. de Alimento*] acknowledges, *he Veins proceed from the Liver, which is the Origin and f them, as the Heart is of the Arteries:* And elſewhere he ains, that the Veins and Arteries proceed equally from the [*Lib. de Carnibus*]. "*There are, ſays he, two hollow ins which proceed from the Heart, one of which is call'd Artery, and the other the Hollow Vein.*" In the Days of *crates* the Name of VEIN was indifferently apply'd to all -veſſels; and the Word Artery [Ἀρτηρεῖν, ἀπὸ τοῦ τὸν ἀέρα , becauſe it contains Air] properly denoted the *Aſpera ia*, or *Pipe of the Lungs*. *Hippocrates* alſo gives the of Veins to the *Ureters*, and even to the Nerves. Be- theſe, there are few Paſſages in which he makes a formal ction betwixt *Arteries* and *Veins*; which Circumſtance render the Books, or at leaſt the particular Paſſages of them, hich this Diſtinction is made, ſuſpected. "*The Artery, ds he immediately after, includes more Heat than the hollow in, and is the Reſervoir of the Spirit* (ταμιεύει τὸ πνεῦμα). *here are as yet other Veins in the Body beſides theſe two. As that which has the largeſt Cavity, and is fixed to the eart, it runs through all the Belly and Diaphragm, and ds a Branch to each Kidney, and at the Loins it divides, d ſends Branches to other Parts, and to both Legs. Above e Heart alſo this Vein divides itſelf to the Right and the ft, and, mounting to the Head, diſtributes itſelf to each mple. To this may be joined other Veins, which are alſo y large; but, in one Word, all the ſeveral Veins which are ſperſed over the whole Body, proceed from the Hollow Vein d the Artery.*"

ere are already two Opinions concerning the Origin of the s and Arteries; and there is ſtill a third found in three Paſſages of the Works of the ſame *Hippocrates*, both with d to the Origin and the Diſtribution of the Veins [*Lib. de m Natura, Lib. de Natura Humana, & Lib. de Locis in ine*]. "*The largeſt Veins of the human Body, ſays he, are iſpoſed in this manner: There are four Pairs of them in all. he firſt Pair riſe from behind the Head, and, deſcending by e exterior Part of the Nape of the Neck on each Side the pine, reach the Hip and Thighs; and, paſſing thence through e Legs, they reach the external Ancle-bones and Feet. For is Reaſon, in Pains of the Back or Hip, Bleeding in the Ham, and in the external Ancle, affords great Relief. The cond Pair, coming alſo from the Head, deſcend from the Ears long the Neck; they are called the Jugular Veins, and fol- w the Spine in its inner Part, till, arriving at the Loins, ey branch out on both hands to the Teſticles, the Thighs, and e Inſides of the Hams, and paſs thence through the internal ncles to the inner Sides of the Feet: For this Reaſon, in ains of the Teſticles and Loins, Bleeding in the internal Veins f the Ham and Ancle is very uſeful. The third Pair riſe from the Temples, and, paſſing from the Neck towards the Shoulders, reach the Lungs; and from thence paſſing on one Side from the Right to the Left, run along under the Breaſts to join the Spleen and Kidneys; and on the other Side paſſing from the Left to the Right, run alſo by the Breaſts to the Liver and Kidneys; and at laſt they terminate in the ſtrait Inteſtine. The fourth Pair, riſing from the Forehead and Eyes, paſs below the Lungs and Clavicles, and thence by the ſuperior Part of the Arm, reach the Elbow, the Hands, and Fingers; and they return again from the Fingers by the Palm of the Hand, by the Elbow, and by the under Side of the Arm, in order to reach the Armpits; and by the ſuperior Part of the Ribs on one Side to the Spleen, and on the other to the Liver. Theſe two Branches, paſſing beyond the Belly, terminate at laſt at the private Parts.*"

As a *Salvo* for the Contradiction betwixt this Paſſage and the preceding, it may be alleged, that the Book *De Oſſium Natura*, was not written by *Hippocrates*, but by *Polybius*, his Son-in-law. Neither *Galen* nor *Erotian*, have made any Mention of it among the Books written by *Hippocrates*; at leaſt, they have not ſpoken of its Title, though they ſeem to have explained ſome Words that occur in the ſame Book. There is alſo a Paſſage of *Ariſtotle*, [*De Generat. Animal. Lib.* 3. *Cap.* 3.] in which that Philoſopher, talking of the *Origin and Diſtribution of the Veins*, and relating the Sentiments of ſeveral Phyſicians with regard to that Point, cites the very Words of the Book *De Natura Oſſium*, which we have tranſlated, and cites them as being written by *Polybius*. This Proof, though apparently ſufficient, does not remove the Whole of the Difficulty, becauſe the ſame Words are found in the Book *De Natura Humana*, which *Galen* ſtrongly maintains to be written by *Hippocrates*, pretending to prove it by the Authority of *Plato*, who, as he ſays, has quoted ſome Paſſages of it, as belonging to *Hippocrates*, though others have aſcribed that Book to *Democritus*. The ſame *Galen* [*De Hippocratis & Platonis Decretis, Lib.* 6. *Cap.* 3.] nevertheleſs denies, that this laſt Opinion, touching the Origin and Diviſion of the Veins, was embraced either by *Hippocrates* or *Polybius*; and aſſures us, that it has been foiſted into the Text, which, by the way, is not very probable, ſince we find the ſame Opinion in the Book *De Locis in Homine*.

There is another Difficulty with regard to the Book *De Carnibus*, whence I have taken what I ſaid about the Veins and Arteries proceeding from the Heart. *Ariſtotle*, in the Paſſage juſt cited, after having obſerved, *that almoſt all Phyſicians agreed with* Polybius *to make the Veins proceed from the Head*, concludes, *that they were all in the wrong, not knowing that it was from the Heart, and not from the Head they riſe.* If *Hippocrates* is the Author of the Book *De Carnibus*, where this Sentiment of *Ariſtotle* is clearly eſtabliſh'd, what Appearance is there, that this Philoſopher ſhould have been ignorant of it? And why might he not have read the Writings of *Hippocrates*, as well as thoſe of *Polybius?* One might infer from this, that no more belongs to *Hippocrates*, than that *De Natura Oſſium*. But it may be, *Ariſtotle* has in that Paſſage quoted *Polybius*, or even *Syenneſis* of *Cyprus*, or *Diogenes* of *Apollonia*, Phyſicians of ſmall Reputation, in Compariſon of *Hippocrates*, rather than *Hippocrates* himſelf, who is only mentioned in one Paſſage of all his Works [*Politicor. Lib.* 7. *Cap.* 4.]. It may be, I ſay, he has omitted quoting him, out of a Principle of Envy, or Ill-will; tho' he ſeems to ſpeak advantageouſly of him in the Paſſage referr'd to. *Plato* has behav'd better, with regard to this antient Phyſician, having, in ſeveral Paſſages, made very honourable Mention of him. It is alſo poſſible, that the Book we are talking of may not have been written by *Hippocrates*; the Title of it, at leaſt, is not to be found in the Liſt which *Erotian* has given of his Works. *Le Clerc.*

The Arteries are conical Channels, which convey the Blood from the Heart to all the Parts of the Body.

Each Artery is compoſed of three Coats, of which the firſt ſeems to be a Web of fine Blood-veſſels and Nerves, for the nouriſhing of the Coats of the Artery. The ſecond is made up of circular, or rather ſpiral Fibres, of which there are more or fewer Strata, according to the Bigneſs of the Artery. Theſe Fibres have a ſtrong Elaſticity, by which they contract themſelves with ſome Force, when the Power, by which they have been ſtretched out, ceaſes. The third and inmoſt Coat is a fine, denſe, tranſparent Membrane, which keeps the Blood within its Channels, which otherwiſe, upon the Dilatation of the Artery, would eaſily ſeparate the ſpiral Fibres from one another. As the Arteries grow ſmaller and ſmaller, ſo theſe Coats grow thinner and thinner, and the Coats of the Veins ſeem to be only a Continuation of the Coats of the capillary Arteries.

The Structure of the Arteries being thus premiſed, it will be eaſy to account for their Pulſe. When the Left Ventricle of the Heart contracts, and throws its Blood into the great Artery, the Blood in the Artery is not only thruſt forwards towards the Extremities, but the Channel of the Artery is likewiſe dilated; becauſe Fluids, when they are preſſed, preſs again to all hands, and their Preſſure is always perpendicular to the Sides of the containing Veſſels ; but the Coats of the Artery, by any ſmall Impetus, may be diſtended ; therefore, upon the Contraction of the Heart, the Blood from the Left Ventricle will not only preſs the Blood in the Artery forwards, but both together will diſtend the Sides of the Artery. When the Impetus of the Blood againſt the Sides of the Artery ceaſes, that is, when the Left Ventricle ceaſes to contract, then the ſpiral Fibres of the Artery, by their natural Elaſticity, return again to their former State, and contract the Channel of the Artery till it is again dilated by the Syſtole of the Heart. This Diaſtole of the Artery is its Pulſe, and the Time the ſpiral Fibres are returning to their natural State, is the Diſtance between two Pulſes. This Pulſe is in all the Arteries of the Body at the ſame time ; for whilſt the Blood is thruſt out of the Heart into the Artery, the Artery being full, the Blood muſt move in all the Arteries at the ſame time ; and becauſe the Arteries are conical, and the Blood moves from the Baſis of the Cone to the Apex, therefore the Blood muſt ſtrike againſt the Sides of the Veſſels, and conſequently every Point of the Artery muſt be dilated at the ſame time that the Blood is thrown out of the Left Ventricle of the Heart ; and as ſoon as the Elaſticity of the ſpiral Fibres can overcome the Impetus of the Blood, the Arteries are again contracted. Thus there are two Cauſes, which operating alternately, keep the Blood in a continual Motion, *viz.* the Heart and Fibres of the Arteries : But becauſe the one is ſtronger than the other, therefore, though the Blood runs continually, yet, when the Artery is open'd, it is ſeen to move *per ſaltum.* *Keil's Anatomy.*

Diſtribution of the ARTERIES, *according to* WINSLOW.

The Heart throws the Blood into two great *Arteries* ; one of which is named *Aorta*, the other *Arteria Pulmonalis*.

The *Aorta* diſtributes the Blood to all the Parts of the Body, for the Nouriſhment of the Parts, and for the Secretion of different Fluids.

The *Arteria Pulmonalis* carries the venous Blood thro' all the capillary Veſſels of the Lungs.

Both theſe great or general *Arteries* are ſubdivided into ſeveral Branches, and into a great Number of Ramifications. For an Account of the Pulmonary *Artery*, ſee PULMONES.

Of the AORTA.

The Baſis of the Heart being very much inclined to the Right Side, and turned a little backward, the *Aorta*, *Tab.* 5. *Fig.* 1. goes out from it in a direct Courſe, nearly over-againſt the fourth Vertebra of the Back. Its Courſe is direct, with reſpect to the Heart ; but, with reſpect to all the reſt of the Body, it aſcends obliquely from the Left to the Right-hand, and from before, backward.

Soon after this, it bends obliquely from the Right-hand to the Left, and from before, backward, reaching as high as the ſecond Vertebra of the Back ; from whence it runs down again, in the ſame Direction, forming an oblique Arch. The Middle of this Arch is almoſt oppoſite to the Right Side or Edge of the ſuperior Portion of the Sternum, between the cartilaginous Extremities or ſternal Articulations of the firſt two Ribs.

From thence the *Aorta* deſcends in a direct Courſe along the anterior Part of the Vertebræ, all the way to the Os Sacrum, lying a little towards the Left-hand, and there it terminates in two ſubordinate or collateral Trunks, call'd *Arteriæ Iliacæ*, *Tab.* 5. *Fig.* 53. 53.

The *Aorta* is by Anatomiſts generally divided into the *Aorta Aſcendens*, and the *Aorta Deſcendens*, tho' both are but one and the ſame Trunk. It is termed *Aſcendens*, from where it leaves the Heart, to the Extremity of the great Curvature or Arch. The remaining Part of this Trunk, from the Arch to the Os Sacrum or Bifurcation, at 28. *Tab.* 5. is named *Deſcendens*.

The *Aorta deſcendens* is farther divided into the ſuperior and inferior Portions ; the firſt taking in all that lies above the Diaphragm ; the other, all that lies between the Diaphragm and the Bifurcation.

The *Aorta aſcendens* is principally diſtributed to Part of the Thorax, to the Head and upper Extremities. The ſuperior Portion of the *Aorta deſcendens* furniſhes the reſt of the Thorax ; the inferior Portion furniſhes the Abdomen and lower Extremities.

The great Trunk of the *Aorta* thro' its whole Length ſends off immediately ſeveral Branches, which are afterwards differently ramify'd ; and theſe Arterial Branches may be look'd upon as ſo many Trunks, with reſpect to the other Ramifications, which again may be conſider'd as ſmall Trunks, with regard to the Ramifications that they ſend off.

The Branches which go out immediately from the Trunk of the *Aorta*, may be term'd Original or Capital Branches ; and of theſe, ſome are large, and others very ſmall.

The large capital Branches of the *Aorta* are theſe : Two *Arteriæ Subclaviæ* ; two *Carotides* ; one *Cæliaca* ; one *Meſenterica Superior* ; two *Renales*, formerly termed *Emul*
one *Meſenterica Inferior* ; and two *Iliacæ*.

The ſmall capital Branches are chiefly the *Arteriæ Cor*
Cordis, *Bronchiales*, *Oeſophagææ*, *Intercoſtales*, *Diaph*
ticæ Inferiores, *Spermaticæ*, *Lumbares*, and *Sacræ*.

Theſe capital Branches or *Arteries* are for the moſt p
poſed in Pairs ; there being none in odd Numbers but t
liaca, the two Meſentericæ, ſome of the Œſophagææ
Bronchialis, and ſometimes the Sacræ.

The Ramifications of each capital Branch are in u
Numbers, with reſpect to their particular Trunks ; but
reſpect to the Ramifications of the like capital Trunks
other Side, they are diſpoſed in Pairs. Among the Br
there are in odd Numbers none but the *Arteria Sacra*, w
is ſingle, and the Œſophagææ, the Ramifications of
are, however, ſometimes found in Pairs.

Before I enter upon the Detail of each of theſe par
Arteries, many of which have proper Names, it will be
venient to give a ſhort View of the Diſpoſition and Diſtrib
of the principal Arterial Branches, as a general Plan, to
all the Particularities of each Diſtribution may afterwards
ferred ; for I have found by Experience, that the co
Method of deſcribing the Courſe of all the Ramificatio
theſe Veſſels, without having firſt given a general Idea
principal Branches, is very troubleſome to Beginners.

The *Aorta* gives Riſe to two ſmall *Arteries*, called *Cor*
Cordis, which go to the Heart and its Auricles ; one of
is ſituated anteriorly, the other poſteriouſly, and ſometimes
are three in Number. See *Tab.* 5. *Fig.* 2. 2.

From the upper Part of the Arch or Curvature, the
ſends out commonly three, ſometimes four, large
Branches, their Origins being very near each other.
there are four, the two Middle Branches are termed *A*
Carotides, *Tab.* 5. *Fig.* 5. 5. the other two *Subclaviæ*,
Fig. 4. 4. and both are diſtinguiſh'd into Right and Left

When there are but three Branches, which is oftene
Caſe, the firſt is a ſhort Trunk, common to the Right
clavian and Carotid ; the ſecond is the Left Subclavian, a
third the Left Carotid. Sometimes, tho' very rarely, theſe
Arteries unite in two Trunks.

The Origin of the Left Subclavian, terminates the
Aſcendens ; but I have ſometimes obſerved four Branches, th
three of which were thoſe already mentioned, and the fo
diſtinct Trunk of the Left *vertebral Artery*.

It muſt be obſerved, that theſe large Branches, which
from the Curvature of the *Aorta*, are ſituated obliquely
firſt, or that which is moſt on the Right-hand, lying more
ward than the reſt ; and the laſt, which is moſt on the
hand, more backward. The firſt and ſecond, or middle Bra
are generally in the middle of the Arch, and the third
down. Sometimes the firſt alone is in the middle ; all
Varieties depend on the Obliquity of the Arch.

The *Carotid Arteries* run up directly to the Head, ea
them being firſt divided into two, one external, the oth
ternal. The external *Artery*, *Tab.* 5. *Fig.* 9, 10, 11
goes chiefly to the outer Parts of the Head, and Dura M
or firſt Covering of the Brain, to which it paſſes thro' a
men of the Cranium at B, B, and others. The interna
ters the Cranium thro' the bony Canal of the Os Petroſum
is diſtributed thro' the Brain by a great Number of Ram
tions, *Tab.* 5. *Fig.* 18. 18.

The Subclavian *Arteries* ſeparate laterally, and almoſt t
verſly, each toward that Side on which it lies, behind and
der the Claviculæ, from whence they have their Name.
Left ſeems to be ſhorter, and runs more obliquely, tha
Right.

The Subclavian on each Side terminates at the upper
of the firſt Rib, between the lower Inſertions of the firſt
lenus Muſcle ; and there, as it goes out of the Thorax,
the Name of *Arteria Axillaris*.

During this Courſe of the Subclavian Artery, taking
common Trunk of the Right Subclavian, ſeveral *Arteries*
from it, *viz.* the *Mammaria Interna*, *Mediaſtina*, *Perica*
Diaphragmatica minor ſive ſuperior, *Thymica*, and *Trach*

The *Thymica* and *Trachealis* on each Side are in ſome
jects only Branches of one ſmall Trunk, which ſprings from
common Trunk of the Right *Subclavian* and *Carotid*.

They are generally ſmall *Arteries*, which run ſometimes
rate, and ſometimes partly ſeparate, and partly joined.

The *Subclavian* ſends off likewiſe the *Vertebrales*, *Cervic*
and ſometimes ſeveral of the upper *Intercoſtales*.

The *Axillary Artery*, which is only a Continuation of
Subclavian, from where it goes out of the Thorax to
Axilla, detaches chiefly the *Mammaria externa*, or *Thor*
ſuperior, *Thoracica* inferior, *Scapulares externæ*, *Scapular*
terna ; *Humeralis*, or *Muſcularis*, &c. Afterwards it is
tinued by different Ramifications, and under different Na
over the whole Arm, all the Way to the Ends of the Fing

The ſuperior Portion of the *Aorta deſcendens* gives o
Arteriæ Bronchiales, which ariſe ſometimes by a ſmall com

T

unk; ſometimes ſeparate, and ſometimes do not come imme- ely from the *Aorta*. It next ſends off the *Oeſophagææ*, ich may be looked upon as *Mediaſtinæ Poſteriores*; and n the *Intercoſtales* from its poſterior Part, which in ſome jects come all from this Portion of the *Aorta*; in others only loweſt eight or nine.

The ſmall anterior *Arteries* here mentioned are generally, at r Origins, ſingle, and in uneven Numbers; but they di- ſoon after toward the Right and Left.

The inferior Portion of the deſcending *Aorta*, as it paſſes ' the Diaphragm, gives off the *Diaphragmaticæ inferiores*, *Phrenicæ*; which, however, do not always come imme- ely from the *Aorta*: Afterwards it ſends off ſeveral Branches riorly, poſteriorly, and laterally.

The anterior Branches are the *Cæliaca*, which ſupplies the mach, Liver, Spleen, Pancreas, &c. the *Meſenterica ſu- or*, which goes chiefly to the Meſentery, to the ſmall In- ines, and to that Part of the great Inteſtines, which lies on Right Side of the Abdomen; the *Meſenterica inferior*, ch goes to the great Inteſtines on the Left Side, and pro- es the *Hæmorrhoidalis interna*; and, laſtly, the Right and *Arteriæ Spermaticæ*, or Spermatic Arteries.

The poſterior Branches are the *Arteriæ Lumbares*, of which e are ſeveral Pairs, and the *Sacræ*, which do not always e from the Trunk of the *Aorta*.

The lateral Branches are the *Capſulares* and *Adipoſæ*, the gin of which often varies; the *Renales*, formerly termed *ulgentes*; and the *Iliacæ*, which terminate the *Aorta* by the rcation already mentioned.

The *Iliac Artery* on each Side is commonly divided into the rnal or anterior, and internal or poſterior.

The *internal Iliaca* is likewiſe named *Arteria Hypogaſtrica*; its Ramifications are diſtributed to the Viſcera contained in Pelvis, and to the neigbouring Parts, both internal and ex- al.

The *Iliaca externa*, which is the true Continuation of the Trunk, and alone deſerves that Name, goes on to the In- , and then out of the Abdomen under the Ligamentum opii, having firſt detached the *Epigaſtrica*, which goes to Muſculi Abdominis Recti: Having quitted the Abdomen, mmences *Arteria Cruralis*, which runs down upon the h, and is diſtributed by many Branches and Ramifications the lower Extremity.

ſhall now go on to examine particularly all the capital or nal Branches of the *Aorta*, from their Origin to the Entry em, and of their Ramifications, into all the Parts of the , and all the different Viſcera and Organs.

e CARDIAC *or* CORONARY ARTERIES *of the* HEART.

The *Cardiac* or *Coronary Arteries* of the Heart, *Tab.* 5. *Fig.* ariſe from the *Aorta* immediately on its leaving the Heart. are two in Number, and, according to the natural Situ- of the Heart, one is rather ſuperior than anterior; the rather inferior than poſterior.

hey go out near the two Sides of the pulmonary *Arteries*, h having firſt ſurrounded, they afterward run upon the of the Heart, in form of a kind of Crown or Garland, whence they are called *Coronariæ*, and then purſue the ficial Traces of the Union of the two Ventricles, from Baſis of the Heart to the Apex.

hey ſend communicating Branches to each other, which fterward loſt in the Subſtance of the Heart.

e ſometimes meet with a third *Coronary Artery*, which from the *Aorta* more backward, and is ſpent on the poſte- r lower Side of the Heart.

The CAROTID ARTERIES.

e *Carotid Arteries*, *Tab.* 5. *Fig.* 5. 5. are commonly de- rated after the Subclavian; but I chooſe to deſcribe them that I may afterwards be able to purſue the *Arteries* of horax ariſing partly from the *Subclaviæ*, and partly from *rta deſcendens*, without Interruption.

heſe *Arteries* are two in Number, one called the Right *id*, the other the Left. They ariſe near each other, from urvature or Arch of the *Aorta*; the Left immediately, ight moſt commonly from the Trunk of the *Subclavia* e ſame Side, as has been already obſerved.

hey run upon each Side of the *Trachea Arteria*, between the internal Jugular Vein, as high as the Larynx, with- ny Ramification. During this Courſe, therefore, they be named *Carotid* Trunks, or general, common, and al *Carotids*. Each of theſe Trunks is afterwards ramified following manner.

e Trunk, having reached as high as the Larynx, is divided wo large Branches, or particular *Carotids*, one named *ex-* , the other *internal*, becauſe the firſt goes chiefly to the al Parts of the Head; the ſecond enters the Cranium, and ributed to the Brain.

e external *Carotid* is anterior, the internal poſterior; and ternal is even ſituated more inward, and nearer the Larynx, than the other; but the common Names may ſtill be retained, as being taken not from their Situation, but from their Diſtribution.

The EXTERNAL CAROTID ARTERIES.

The external *Carotid* is the ſmalleſt, and yet appears by its Direction to be a Continuation of the common Trunk. It runs inſenſibly outward, between the external Angle of the lower Jaw, and the parotid Gland, which it ſupplies as it paſſes. Afterwards it aſcends on the Foreſide of the Ear, and ends in the Temples.

In this Courſe it ſends off ſeveral Branches, which may well enough be divided into anterior or internal, and poſterior or external; and the principal Branches of each kind are theſe.

The firſt anterior or internal Branch goes out from the very Origin of the *Carotid* on the Inſide; and having preſently afterwards taken a little Turn, and ſent off Branches to the Jugular Glands near it, to the Fat and Skin, it runs tranſverſly, and is diſtributed to the Glandulæ Thyroidææ, and to the Muſcles and other Parts of the Larynx; for which Reaſon I name it *Laryngææ* or *Gutturalis ſuperior*. It likewiſe ſends ſome Branches to the Pharynx and Muſcles of the Os Hyoides.

The ſecond anterior Branch paſſes over the neareſt Cornu of the Os Hyoides to the Muſcles of that Bone, and of the Tongue, and to the Glandulæ Sublinguales; afterwards paſſing before the Cornu of the Os Hyoides, it loſes itſelf in the Tongue, from whence it has been called *Arteria Sublingualis*; and it is the ſame *Artery* which others have named *Ranina*.

The third Branch, or *Arteria maxillaris inferior*, goes to the Maxillary Gland, to the Styloide and Maſtoide Muſcles, to the Parotid and Sublingual Glands, to the Muſcles of the Pharynx, and to the ſmall Flexors of the Head,

The fourth Branch, which I name *Arteria maxillaris externa*, paſſes anteriorly on the Maſſeter Muſcle, and middle of the lower Jaw near the Chin: Afterwards it runs under the Muſculus Triangularis Labiorum, which it ſupplies as well as the Buccinator, and the Quadratus Menti.

It ſends off a particular Branch, very much contorted, which divides at the angular Commiſſure of the Lips, and, running in the ſame manner along the ſuperior and inferior Portions of the Muſculus Orbicularis, it communicates on both Sides with its Fellow, and thereby forms a kind of *Arteria Coronaria Labiorum*.

Afterwards it aſcends towards the Nares, and is diſtributed to the Muſcles, Cartilages, and other Parts of the Noſe, ſending down ſome Twigs, which communicate with the *Coronary Artery* of the Lips. Laſtly, it reaches the great Angle of the Eye, and is ramify'd and loſt on the Muſculus Orbicularis Palpebrarum, Superciliaris, and Frontalis. Thro' all this Courſe, it is named *Arteria Angularis*.

The fifth Branch ariſes over-againſt the Condyle of the lower Jaw, and, as it is very conſiderable, I call it *Maxillaris Interna*. It paſſes behind the Condyle, and, having given off a Twig among the Muſculi Pterygoidæi, it is divided into three principal Branches.

The firſt Branch goes thro' the inferior Orbitary, or Spheno-maxillary Fiſſure, to the Orbit, after having ſupply'd the Muſculi Periſtaphylini, and the glandulous Membrane of the poſterior Nares, thro' the Foramen Spheno-palatinum. I name this Branch *Spheno-maxillaris*.

It is diſtributed inferiorly and laterally to the Parts contain'd in the Orbit, and detaches a ſmall ſubaltern Branch through the Extremity of the ſuperior Orbitary or Sphenoidal Fiſſure, which enters the Cranium, and is ſpent upon the Dura Mater, communicating there with the other *Artery* of the Dura Mater, which enters by the Foramen Spinale of the Sphenoidal Bone.

It ſends off likewiſe another ſubaltern Branch, which paſſes thro' the poſterior Opening of the Orbitary Canal, and, having furniſhed the Maxillary Sinus, and the Teeth, goes out by the inferior Orbitary Hole, and on the Cheek communicates with the *Angular Artery*.

The ſecond of the three Branches runs thro' the Canal of the lower Jaw, and, being diſtributed to the Alveoli and Teeth, goes out at the Hole near the Chin, and loſes itſelf in the neighbouring Muſcles, communicating with the Rami of the *Arteria Maxillaris externa*.

The third Branch of the *Maxillaris interna* runs up between the internal and external *Carotids*, paſſes thro' the Foramen Spinale of the Sphenoidal Bone, and is diſtributed to the Dura Mater by ſeveral Ramifications, which run forward, upward, and backward; the uppermoſt communicating with thoſe on the other Side, above the longitudinal Sinus of the Dura Mater.

This *Artery* of the Dura Mater, which may be termed *Spheno-ſpinalis*, to diſtinguiſh it from thoſe that go to the ſame Part by another Courſe, ariſes ſometimes from the Trunk of the external *Carotid*, behind the Origin of the Laryngæa or Gutturalis ſuperior, and ſometimes from the firſt Branch of the *Maxillaris interna*, juſt before it enters the Spheno-maxillary Fiſſure.

The ſixth anterior or internal Branch, which is very ſmall, is ſpent on the Muſculus Maſſeter.

The firſt external or poſterior Branch is named *Arteria Occipitalis*, *Tab.* 5. *Fig.* 11. 11. It paſſes obliquely before the internal Jugular Vein; and, having given Twigs to the Muſculus Stylo-hyoidæus, Stylo-gloſſus, and Digaſtricus, it runs between the Styloide and Maſtoide Apophyſes, along the Maſtoide Groove, and goes to the Muſcles and Integuments which cover the Os Occipitis, turning ſeveral times, in an undulating manner, as it aſcends backward.

It communicates, by a deſcending Branch, with the Vertebral and Cervical *Arteries*, as has been already ſaid, near the Top of the Head: It communicates likewiſe with the poſterior Branches of the *Temporal Artery*; and it ſends a Branch to the Foramen Maſtoidæum.

The ſecond external Branch ſpreads itſelf on the outward Ear, by a great many ſmall Twigs on each Side; ſeveral of which run inward, and furniſh the Cartilages, Meatus Auditorius, Skin of the Tympanum, and internal Ear.

The Trunk of the *external Carotid* aſcends afterward above the Zygoma, paſſing between the Angle of the lower Jaw and Parotid Gland, and forms the *Temporal Artery*, which divides into an anterior, middle, and poſterior Branch.

The anterior Branch of the *Temporal Artery* goes to the Muſculus Frontalis, communicates with the *Arteria Angularis*, and ſometimes gives off a very ſmall *Artery*, which pierces the internal Apophyſis of the Os Malæ, all the way to the Orbit. The middle Branch goes partly to the Muſculus Frontalis, partly to the Occipitalis; the poſterior Branch goes to the Occiput, and communicates with the *Arteria Occipitalis*. All theſe Branches likewiſe furniſh the Integuments. Theſe Branches of the external Carotids are, in ſome meaſure, expreſs'd *Tab.* 5. *Fig.* 8, 9, 10, 11, 12.

The internal CAROTID ARTERY.

The *internal Carotid Artery*, leaving the general Trunk, is at firſt a little incurvated, appearing as if either it were the only Branch of that Trunk, or a Branch of the Trunk of the *external Carotid*. Sometimes the Curvature is turn'd a little outward, and then more or leſs inward, paſſing behind the neighbouring *external Carotid*, *Tab.* 5. 13. 13.

It is ſituated a little more backward than the *Carotis externa*, and generally runs up, without any Ramification, as high as the lower Orifice of the great Canal of the Apophyſis Petroſa of the Os Temporis. It enters this Orifice, directly from below, upward, and afterward makes an Angle according to the Direction of the Canal, the reſt of which it paſſes horizontally, being cover'd by a Production of the Dura Mater.

At the End of this Canal it is again incurvated from below upward, and enters the Cranium through a Notch of the Sphenoidal Bone. Then it bends, from behind, forwards, and makes a third Angle on the Side of the Sella Sphenoidalis, or Turcica; and again, a fourth under the Clinoide Apophyſis of that Sella. See *Tab.* 5. *Fig.* 14. 14.

As it leaves the bony Canal to enter the Cranium, it ſends off a Branch thro' the Sphenoidal Fiſſure to the Orbit and Eye; and, ſoon afterward, another thro' the Foramen Opticum, by which it communicates with the external Carotid, *Tab.* 5. D, D.

Afterwards the *internal Carotid* runs under the Baſis of the Brain to the Side of the Infundibulum, where it is at a ſmall Diſtance from the internal *Carotid* of the other Side; and there it commonly divides into two principal Branches, one anterior, and one poſterior.

The anterior Branch runs forward under the Brain, firſt ſeparating from that on the other Side; then coming nearer again, it unites with it by an Anaſtomoſis, or Communication in the Interſtice between the Olfactory Nerves. Afterwards having ſent off ſome ſmall *Arteries*, which accompany theſe Nerves, it leaves its Fellow, and divides into two or three Branches.

The firſt of theſe Branches goes to the anterior Lobe of the Brain; the ſecond, which is ſometimes double, is inverted on the Corpus Calloſum, to which it gives ſome Ramifications; as alſo to the Falx of the Dura Mater, and middle Lobe of the Brain. The third, which, in ſome Subjects, is a diſtinct Branch, in others, only a Diviſion of the ſecond, goes to the poſterior Lobe of the Brain. This might be look'd upon as a third principal Branch, lying between the other two.

The poſterior Branch communicates, firſt of all, with the *Vertebral Artery* of the ſame Side; and then divides into ſeveral Branches, which run between the ſuperficial Circumvolutions of the Brain, and are ramified in many different Directions, on and between theſe Circumvolutions, all the way to the Bottom of the Sulci.

All theſe Ramifications are cover'd by the Pia Mater, in the Duplicature of which they are diſtributed, and form capill reticular Textures in great Numbers; and afterwards they loſt in the inner Subſtance of the Brain. The anterior middle Branches produce the ſame kind of Ramifications; the anterior, in particular, ſends a Twig to the Corpus Cal ſum. The Ramifications of the internal *Carotids* are expreſ betwixt the two Figures 18. 18. *Tab.* 5.

The SUBCLAVIAN ARTERY.

The *Subclavian Arteries* (*Tab.* 5. 4. 4.) are named fr their Situation near the Claviculæ, in the tranſverſe Directi of which they run. They are two in Number, one Rig the other Left; and they ariſe from the Arch of the *Aorta*, each Side of the Left *Carotid*, which commonly lies in the M dle between them; but when both *Carotids* go out ſeparate they both lie between the *Subclaviæ*. Theſe *Arteries* termina or rather change their Name, above the Middle of the two f Ribs, between the anterior Inſertions of the Muſculi Scaleni.

The Right *Subclavian* is larger at the Beginning than Left, when it produces the Right *Carotid*: Its Origin is li wiſe more anterior and higher, becauſe of the Obliquity of Arch of the *Aorta*; for which Reaſon alſo the Left is ſhor than the Right, and runs more obliquely. Both of them diſtributed much in the ſame manner; and therefore the D ſcription of one may likewiſe be applied to the other.

The Right *Subclavian*, the longeſt of the two, gives off, f of all, ſmall *Arteries* to the Mediaſtinum, Thymus, Peric dium, *Aſpera Arteria*, *&c.* which are named *Mediaſtinæ*, T *micæ*, *Pericardiæ*, and *Tracheales*. Theſe ſmall *Arteries* ſo times go out from the *Subclavian* itſelf, either ſeparately, or ſmall common Trunks: Sometimes they are Branches of *Mammaria interna*, eſpecially the *Mediaſtina*.

Afterward this Right *Subclavian*, at about a Finger's Brea from its Origin, often produces the common *Carotid* of ſame Side; and, at a ſmall Finger's Breadth from the *Caro* it gives off commonly three conſiderable Branches, *viz.* *Mammaria interna*, *Cervicalis*, and *Vertebralis*; and ſo times an *Intercoſtal Artery*, which goes to the firſt Ribs, an call'd Intercoſtalis ſuperior.

The ARTERY *of the* THYMUS.

The *Arteria Thymica* communicates with the *Mammaria* *terna*, and ſometimes ariſes from the anterior middle Par the common Trunk of the *Subclavian* and *Carotid*. The T mus receives likewiſe ſome Branches from the *Mammaria in* *na*, and *Intercoſtalis ſuperior*. The ſame Obſervation may applied to the *Mediaſtina* and *Pericardia*.

The ARTERIES *of the* PERICARDIUM.

The *Pericardia* ariſes much in the ſame manner with *Thymica*; and runs down upon the Pericardium all the way the Diaphragm, to which it ſends ſome ſmall Ramifications.

The ARTERIES *of the* MEDIASTINUM.

The *Mediaſtina* ariſes ſometimes immediately after the *mica*, and is diſtributed principally to the Mediaſtinum.

The TRACHEAL ARTERY.

The *Trachealis*, which may likewiſe be named *Guttur* *inferior*, runs up from the *Subclavia*, in a winding Cou along the *Aſpera Arteria*, to the Glandulæ Thyroidææ, Larynx, detaching ſmall *Arteries* to both Sides, one of w runs to the upper Part of the Scapula.

The internal MAMMARY ARTERY.

The internal *Mammary Artery* comes from the anterior lower Side of the *Subclavia*, near the Middle of the Clavic and runs down, for about one Finger's Breadth, behind Cartilages of the true Ribs, an Inch diſtant from the S num.

In its Paſſage it ſends Branches to the Thymus, Mediaſtin Pericardium, Pleura, and Intercoſtal Muſcles. It like detaches other Branches thro' theſe Muſcles, and between Cartilages of the Ribs, to the Pectoralis Major, and other ne bouring muſcular Portions, to the Mammæ, Membrana A poſa, and Skin.

Several of theſe Branches communicate by Anaſtomoſes the *Mammaria externa*, and other *Arteries* of the Tho eſpecially in the Subſtance of the Pectoralis Major, and l wiſe with the Intercoſtals. Afterwards it goes out of the T rax on one Side of the Appendix Enſiformis, and is loſt in Muſculus Abdominis Rectus, a little below its upper Part; c municating at this Place, by ſeveral ſmall Ramifications, the *Arteria Epigaſtrica*; and, in its Courſe, it gives Branch the Peritonæum, and to the anterior Parts of the oblique tranſverſe Muſcles of the Abdomen.

The CERVICAL ARTERY.

The *Cervical Artery* ariſes from the upper Side of the Su vian, and is preſently afterwards divided into two, which c

etimes ſeparately, ſometimes by a ſmall common Trunk:
geſt of theſe two *Arteries* is *anterior*, the other *poſterior*.
. 5. *Fig.* 19.
anterior Cervicalis, running behind the *Carotid* of the
ide, is diſtributed to the Muſculus Coraco-hyoidæus,
dæus, Cutaneus, Sterno-hyoidæus, and Sterno-thyroidæus,
Jugular Glands, the *Aſpera Arteria*, the Muſcles of the
x, Bronchia, Œſophagus, and to the anterior Muſcles
move the Neck and Head. This *Artery* has been ob-
to ſend out the *Intercoſtalis ſuperior*.
poſterior Cervicalis ariſes ſometimes a little after the
ralis, and ſometimes from that *Artery*. It paſſes under
nverſe Apophyſis of the laſt Vertebra of the Neck; and
mes thro' a particular Hole in that Apophyſis; and from
runs up backward, in a winding Courſe, on the Verte-
uſcles of the Neck; and then returns in the ſame man-

mmunicates with a deſcending Branch of the *Occipital*
, and with another of the *Vertebral Artery*, above the
Vertebra. It is diſtributed to the Muſculi Scaleni, An-
Scapulæ, and Trapezius, and to the Jugular Glands
teguments.

The VERTEBRAL ARTERY.

Vertebral Artery goes out from the poſterior and upper
the *Subclavian*, almoſt oppoſite to the *Mammaria inter-*
Cervicalis. It runs up thro' all the Holes in the tranſ-
Apophyſes of the Vertebræ of the Neck; and in its Paſ-
nds off little Twigs thro' the lateral Notches of theſe
bræ, to the Medulla Spinalis, and its Coverings. It alſo
Arteries to the Vertebral Muſcles, and to other Muſcles
hem. See *Tab.* 5. *Fig.* 6. 6.
it paſſes thro' the tranſverſe Hole of the ſecond Vertebra,
nerally incurvated, to accommodate itſelf to the particu-
bliquity of this Foramen. And between this Hole and
the firſt Vertebra, it takes another larger Turn in a con-
Direction to the former: Having paſs'd the tranſverſe
of the firſt Vertebra, it is conſiderably incurvated a third
from before, backwards, as it goes thro' the ſuperior and
ior Notch in this Vertebra. See *Tab.* 5. *Fig.* 15.
this third Curvature it ſends off a ſmall Branch, which is
d on the outer and poſterior Parts of the Occiput, and
unicates with the *Cervical* and *Occipital Arteries*. Having
ards reach'd the great Foramen of the Os Occipitis, it
the Cranium, and pierces the Dura Mater; and on theſe
unts it may be named *Arteria Occipitalis poſterior*, to
uiſh it from the other, which is lateral.
ſoon as it enters the Cranium, it ſends ſeveral ſmall Rami-
ns to the back Part of the Medulla Oblongata, and to
orpora Olivaria, and Pyramidalia; which are likewiſe
on the back Sides of the fourth Ventricle of the Brain,
orm the Plexus Choroides of the Cerebellum.
terwards it advances on the Apophyſis Baſilaris of the Os
pitis, inclining by ſmall Degrees toward the *Vertebral Ar-*
of the other Side, all the Way to the Extremity of that
hyſis where they both join in one common Trunk, which
e named *Arteria Baſilaris*.

The ARTERIA BASILARIS.

e *Arteria Baſilaris* runs forward under the great tranſ-
Protuberance of the Medulla Oblongata, to which it gives
ifications, as well as to the neighbouring Parts of the Me-
Sometimes this *Artery* divides again, near the Extre-
of the Apophyſis Baſilaris, into two lateral Branches,
communicate with the poſterior Branches of the two
al Carotides, and are loſt in the poſterior Lobe of the

The SPINAL ARTERIES.

e *Spinal Arteries* are two in Number, one anterior, and
oſterior, both produced by both the *Vertebrales*; each of
h, as ſoon as it enters the Cranium, ſends out a ſmall
ch, by the Union of which the *poſterior Spinalis* is form'd.
wards the *Vertebrales* advancing on the Apophyſis Baſilaris,
oduction of the Occipital Bone, detach backward two
ſmall Branches, which likewiſe meet, and by their Union
the *Spinalis Anterior*. Theſe *Spinal Arteries* run down
e fore and back Sides of the Medulla Spinalis, and, by
tranſverſe Ramifications, communicate with thoſe which
ntercoſtal and *Lumbar Arteries* ſend to the ſame Part.

The internal AUDITORY ARTERY.

he *internal Auditory Artery* goes off from each Side of the
ia Baſilaris to the Organ of Hearing, accompanying the
tory Nerve; having firſt furniſh'd ſeveral ſmall Twigs to
Membrana Arachnoides.

poſterior ARTERY *of the* MENINX, *or* DURA MATER.

he *poſterior Meningæa* ariſes from the ſame Trunk with
Auditoria Interna, and goes to the back Part of the Dura
Mater, on the Occipital and Temporal Bones; and likewiſe ſupplies the neighbouring Lobes of the Brain.

The ſuperior INTERCOSTAL ARTERY.

When the *ſuperior Intercoſtal Artery* does not go out from the Trunk of the *Aorta Deſcendens*, it commonly ariſes from the lower Side of the *Subclavian*, and runs down on the Inſide of the two, three, or four uppermoſt true Ribs, near their Heads; and ſends off, under each Rib, a Branch which runs along the lower Edge, and ſupplies the Intercoſtal Muſcles, and neighbouring Parts of the Pleura.

Theſe Branches, or particular *Intercoſtal Arteries*, communicate with each other, at different Diſtances, by ſmall Branches, which run upward and downward from one to the other, on the Intercoſtal Muſcles.

They likewiſe give Branches to the Muſculi Sterno-hyoidæi, Subclavius, Vertebrales, and Bodies of the Vertebræ; and alſo to the Pectoralis Major and Minor, piercing the Intercoſtal Muſcles; and laſtly, they ſend Branches thro' the Notches of the firſt four Vertebræ to the Medulla Spinalis, and its Coverings.

Sometimes the ſuperior common *Intercoſtal Artery* comes from the *Cervicalis*, and not immediately from the *Subclavia*. Sometimes it ariſes from the *Aorta Deſcendens*, either by ſmall ſeparate *Arteries*, or by a common Trunk, which divides as it runs obliquely up, upon the Ribs. Laſtly, it ſometimes ariſes from the neareſt *Bronchialis*, or from ſeveral *Bronchiales* together.

The ARTERIAL DUCT *converted into a* LIGAMENT.

The *Ductus Arterioſus*, which is found only in the Fœtus, and in very young Children, ariſes from the *Aorta Deſcendens*, immediately below the Left *Subclavian Artery*. In Adults, this Duct is ſhrunk up and cloſed, and appears only like a ſhort Ligament adhering by one End to the *Aorta*, and by the other to the *Pulmonary Artery*; ſo that, in reality, it deſerves no other Name than that of *Ligamentum Arterioſum*. This is referr'd to, but not well expreſs'd, at *Fig.* 3. *Tab.* 5.

The BRONCHIAL ARTERIES.

The *Bronchial Arteries* go ſometimes from the fore Side of the ſuperior deſcending *Aorta*, ſometimes from the firſt Intercoſtal, *Tab.* 5. *Fig.* 29. and ſometimes from the *Arteria Oeſophagæa*. Sometimes they ariſe ſeparately from each Side, to go to each Lobe of the Lungs; and ſometimes by a ſmall common Trunk, which afterwards ſeparates towards the Right and Left Hand, at the Bifurcation of the *Aſpera Arteria*, and accompanies the Ramifications of the Bronchia.

The *Bronchial Artery*, on the Left Side, often comes from the *Aorta*, while the other ariſes from the *ſuperior Intercoſtal* on the ſame Side; which Variety is owing to the Situation of the *Aorta*. Sometimes there is another *Bronchial Artery*, which goes out from the *Aorta* poſteriorly, near the *ſuperior Intercoſtal*, above the *Bronchialis anterior*.

In the Year 1719. I obſerv'd a very plain Communication of the Branches of the Left Pulmonary Vein with the Branches of an *Arteria Oeſophagæa*, which came from the firſt Left *Intercoſtal*, together with a *Bronchial Artery* of the ſame Side.

The *Bronchialis* gives a ſmall Branch to the neighbouring Auricle of the Heart, which communicates with the *Arteria Coronaria*.

In the Year 1719. or 1720. I diſcover'd a Communication between the *Left Bronchial Artery* and the *Vena Azygos*; and in the Month of *Auguſt*, 1721. I ſaw a Branch of this *Bronchial Artery* join'd by an Anaſtomoſis to the Body of the *Azygos*.

The ARTERIES *of the* ŒSOPHAGUS.

The *Oeſophagææ* are generally two or three in Number, ſometimes but one. They ariſe anteriorly from the *Aorta Deſcendens*, and are diſtributed to the Œſophagus. Sometimes the uppermoſt *Oeſophagæa* produces a *Bronchial Artery*.

The inferior INTERCOSTAL ARTERIES.

The *inferior Intercoſtals*, *Tab.* 5. *Fig.* 31. 31. are commonly ſeven or eight on each Side, and ſometimes ten, when the ſuperior Intercoſtals ariſe likewiſe from the *Aorta Deſcendens*; in which Caſe theſe run obliquely upward, as has been already ſaid.

They ariſe along the back Side of the deſcending *Aorta*, in Pairs, all the Way to the Diaphragm, and run tranſverſly toward each Side, on the Bodies of the Vertebræ. Thoſe on the Right Side paſs behind the *Vena Azygos*; and afterwards they all run to the Intercoſtical Muſcles, along the lower Edge of the Ribs, all the Way to the Sternum, or near it.

They ſend Branches to the Pleura, to the Vertebral Muſcles, to thoſe Muſcles which lie on the Outſides of the Ribs, and to the upper Portions of the Muſcles of the Abdomen; and they communicate with the *Arteriæ Epigaſtricæ* and *Lumbares*.

Sometimes inſtead of going out from the *Aorta* in Pairs, they ariſe by ſmall common Trunks, which afterwards divide, and ſend an *Artery* to each neighbouring Rib.

Before they take their Courſe along the Ribs, each of them detaches one Branch between the tranſverſe Apophyſes on both Sides, to the Vertebral Muſcles, and another which enters the great Canal of the Spina Dorſi. Each of theſe latter Branches divides at leaſt into two ſmall *Arteries*, one of which runs tranſverſly on the anterior Side of the Canal, the other on the poſterior Side: Both of them communicate with the like *Arteries* from the other Side of the Spine, in ſuch a manner, as to form a kind of *arterial* Rings; which likewiſe communicate with each other by other ſmall Ramifications. The ſame is to be obſerved in the *Arteriæ Lumbares*.

Afterwards each *Intercoſtal Artery*, having reach'd the Middle of the Rib, or a little more, divides into two principal Branches, one internal, the other external. Soon after this Diviſion, the *Arteries* that run upon the falſe Ribs, ſeparate a little from them, being gradually bent downward one after another, and are ſpread upon the abdominal Muſcles. They are likewiſe diſtributed to other neighbouring Muſcles, and particularly to thoſe of the Diaphragm, almoſt in the ſame manner with the *Arteriæ Phrenicæ*. They alſo communicate with the *Lumbares*, and ſometimes with Branches of the *Hypogaſtricæ*.

The AXILLARY ARTERIES.

The *Subclavian Artery*, having left the Thorax immediately above the firſt Rib, in the Interſtice left between the Portions of the Scalenus, there receives the Name of *Axillaris*, becauſe it paſſes under the *Axilla*.

In this Courſe it gives off, from its Inſide, a ſmall Branch to the Inſide of the firſt Rib, and afterwards four or five principal Branches; the *Thoracica Superior*, or *Mammaria Externa*, *Tab*. 5. *Fig*. 21. 21. *Thoracica Inferior*, *Muſcularis*, or *Scapularis Externa*, *Scapularis Interna*, and *Humeralis*.

The SUPERIOR THORACIC ARTERY.

The *Superior Thoracica*, or *External Mammary Artery*, *Tab*. 5. *Fig*. 21. 21. runs down in a winding Courſe on the lateral Parts of the Thorax, and croſſes the Ribs. It gives Branches to the two Pectoral Muſcles, to the Mamma, Muſculus Subclavius, Serratus Major, Latiſſimus Dorſi, and to the upper Portions of the Coraco-Brachialis, and Biceps.

Theſe Branches are ſometimes ſeparate for ſome Space; and one of them particularly runs down between the Deltoides and Pectoralis Major, together with the Vena Cephalica, to which it adheres very cloſely, the Extremity of it piercing the Coat of that Vein, as if there were an Anaſtomoſis between them. Another ſometimes runs between the Muſculus Brachiæus, and Anconæus Internus, which communicates with a Branch of the *Radial Artery*.

The INFERIOR THORACIC ARTERY.

The *Inferior Thoracic Artery* runs along the Inferior Coſta of the Scapula, to the Muſculus Subſcapularis, Teres Major and Minor, Infra Spinatus, Latiſſimus Dorſi, Serratus Major, and the neighbouring Intercoſtal Muſcles, communicating with the *Arteriæ Scapulares*.

The SCAPULARY ARTERIES.

The *External Scapulary Artery* paſſes through the Notch in the Superior Coſta of the Scapula, to the Muſculus Supra Spinatus, and Infra Spinatus, Teres Major and Minor, and to the Articulation of the Scapula with the Os Humeri.

The *Internal Scapularis* ariſes from the *Axillary Artery* near the *Axilla*, and runs backward, to be diſtributed to the *Subſcapularis*, giving Branches to the Serratus Major, to the Axillary Glands, and to the Teres Major, upon which it is ramified in different manners. It likewiſe ſends Branches to the Infra Spinatus, and upper Portion of the Anconæi.

The HUMERAL ARTERY.

The *Humeral Artery* ariſes from the Lower and Foreſide of the *Axillaris*, and runs backward between the Head of the Os Humeri and Teres Major, ſurrounding the Articulation, till it reaches the poſterior Part of the Deltoides, to which it is diſtributed.

During this Courſe, it gives ſeveral Branches to the ſuperior Portions of the Anconæi, to the Capſular Ligament of the Joint of the Shoulder, and to the Os Humeri itſelf, through ſeveral Holes immediately below the great Tuberoſity of the Head of that Bone. It likewiſe communicates with the *Scapulary Artery*.

Oppoſite to the Origin of this *Humeral Artery*, the *Axillaris* ſends off another ſmall Branch, which runs in a contrary Direction between the Head of the Os Humeri, and the common Upper-part of the Biceps and Coraco-Brachialis; and having given Branches to the Vagina and Channel of the Biceps, and to the Perioſteum, afterwards joins the principal *Humeralis*.

The BRACHIAL ARTERY. See *Tab*. 5. *Fig*. 23, 24, 26, 27.

The *Axillary Artery*, having given off theſe Branches, p immediately behind the Tendon of the Pectoralis Major, w it changes its former Name for that of *Arteria Brachialis*. runs down on the Inſide of the Arm over the Muſculus Co Brachialis, and Anconæus Internus, and along the inner of the Biceps, behind the *Vena Baſilica*, giving ſmall Bra on both Sides to the neighbouring Muſcles, to the Perioſt and to the Bone.

Between the *Axilla* and Middle of the Arm, it is cov only by the Skin and Fat; but afterwards it is hid under Biceps, and runs obliquely forward as it deſcends, being at Diſtance from the internal Condyle; but it does not reach Middle of the Fold of the Arm.

Between the *Axilla* and this Place, it ſends off many Bran to the Infra Spinatus, Teres Major and Minor, Subſcapul Latiſſimus Dorſi, Serratus Major, and other neighbouring cles, to the common Integuments, and even to the Ne Below the Fold of the Arm, it divides into two prin Branches, one called *Arteria Cubitalis*, the other *Radialis*.

From its upper and inner Part, it ſends off a parti Branch, which runs obliquely downward and backward the Anconæi, and then turns forward again near the exte Condyle, where it communicates with a Branch of the *Ar* *Radialis*.

Immediately below the Inſertion of the Teres Major, it off another Branch, which runs from within outwards, from behind forward, round the Os Humeri, and deſcends liquely forward between the Muſculus Brachiæus, and Ancon Externus, to both which it is diſtributed in its Paſſage. Ha afterwards reached the external Condyle, it unites with Branch laſt-mentioned, and likewiſe communicates wi Branch of the *Arteries* of the Fore-arm, ſo that there is a triple Anaſtomoſis.

About the Breadth of a Finger below this ſecond Bra the *Brachial Artery* ſends off a third, which runs down to the internal Condyle, and communicates with other Bran of the *Arteries* of the Fore-arm, as we ſhall ſee hereafter.

About the Middle of the Arm, or a little lower, much a the Place where the *Brachial Artery* begins to be covered by Biceps, it ſends off a Branch, which is diſtributed to the rioſteum, and penetrates the Bone, between the Muſc Brachiæus and Anconæus Internus.

About an Inch lower, it gives off another Branch, wh having furniſhed Ramifications to the Anconæus Internus, over the inner Condyle, and likewiſe communicates Branches of the *Arteries* of the Fore-arm.

Having got below the Middle of the Arm, the *Brachial* *tery* detaches another Branch, which runs behind the inner C dyle in Company with a conſiderable Nerve; and, having p over the Muſcles inſerted in this Condyle, it communic with that Branch of the *Cubital Artery*, which encompaſſes Fold of the Arm.

A little lower, it ſometimes ſends out another Branch, w paſſes on the Foreſide of the inner Condyle, and then com nicates with a Branch which runs up from the *Cubital Art* Theſe three communicating Branches are termed *Collat* *Arteries*.

The common Trunk of the *Brachial Artery*, having rea the Fold of the Arm, runs together with a Vein and a Ne immediately under the Aponeuroſis of the *Biceps*, and p under the *Vena Mediana*, detaching Branches on each Side the neighbouring Muſcles.

About a large Finger's Breadth beyond the Fold of the A this *Artery* divides into two principal Branches, one inner poſterior, named *Cubitalis*; the other outer or anterior, na *Radialis*, as has been already ſaid.

From this Bifurcation the *Brachial Artery* ſends Branc on each Side, to the Supinator Longus, Pronator Teres, and Skin. It ſometimes, though very rarely, happens, that *Artery* is divided from its Origin into two large Branches, wh run down on the Arm, and afterwards on the Fore-arm, wh they have the Names of *Cubitalis* and *Radialis*.

The CUBITAL ARTERY.

The *Cubital Artery* ſinks in between the Ulna, and the per Parts of the Pronator Teres, Perforatus, Ulnaris Gra and Radialis Internus; then leaving the Bone, it runs down tween the Perforatus and Ulnaris Internus all the way to Carpus, and great tranſverſe Ligaments. In this Courſ winds and turns ſeveral Ways, and ſends out ſeveral Branche

The firſt is a ſmall *Artery* which runs inward to the in Condyle, and then turns upward like a kind of Recurrent, communicate by ſeveral Branches with the *Collateral Art* of the Arm already mentioned, and particularly with the th A little lower down, another ſmall Branch goes off, wh having run upward a little way, and almoſt ſurrounded the ticulation, communicates with the ſecond *Collateral Artery* the Arm, between the Olecranum and inner Condyle.

Af

fterwards the *Cubital Artery*, having, in its Courſe between Heads of the Ulna and Radius, reached the Interoſſeous gament, ſends off two principal Branches, one internal, the er external, which I call the *Interoſſeous Arteries* of the Fore-

The *External Artery* pierces the Ligament about three Fin- Breadth below the Articulation; and preſently afterward s off a Branch, which runs up, like a Recurrent, toward external Condyle of the Os Humeri, under the Ulnaris ternus, and Anconæus Minimus, to which it is diſtributed, alſo to the Supinator Brevis; and it communicates with the llateral *Arteries* of the Arm on the ſame Side.

Afterward this *External Interoſſeous Artery* runs down on the tſide of the Ligament, and is diſtributed to the Ulnaris Ex- nus, Extenſor Digitorum Communis, and to the Extenſores llicis, Indicis, and Minimi Digiti, communicating with e Branches of the *Internal Interroſſeous Artery*.

Having reached the lower Extremity of the Ulna, it unites th a Branch of the *Internal Interoſſeous Artery*, which at this ce runs from within outward; and is diſtributed together th it on the convex Side of the Carpus, and Back of the nd, communicating with the *Arteria Radialis*, and with a nch of the *Cubitalis*, which will be mentioned hereafter.

By theſe Communications, this *Artery* forms a ſort of irre- lar Arch, from whence Branches are detached to the exter- interoſſeous Muſcles, and to the external lateral Parts of the gers.

The *Internal Interoſſeous Artery* runs down very cloſe to the gament, till it reaches below the Pronator Teres, between ch and the Pronator Quadratus it perforates the Ligament, d goes to the convex Side of the Carpus, and Back of the nd, where it communicates with the *External Interoſſeous tery*, with the *Radialis*, and internal Branches of the *Cu- lis*.

From the Origin of the two *Interoſſeæ*, the *Cubital Artery* down between the Perforatus, Perforans, and Ulnaris In- nus, along the Ulna, ſending Branches to the neighbouring ts. Below the *Internal Interoſſea*, it ſometimes ſends off a nch, which runs down between the Flexor Pollicis, Radialis ernus, and Perforatus, to which it is diſtributed all the way the Carpus, where it runs under the internal annular Liga- nt, and communicates on the Hand with Branches of the *teria Radialis*.

Afterward the *Cubital Artery* paſſes over the internal tranſverſe ment of the Carpus, by the Side of the Os Piſiforme, and ing furniſhed the Skin, Palmaris Brevis, and Metacarpus, ips under the Aponeuroſis Palmaris, giving off one Branch the Hypothenar Minimi Digiti, and another, which runs to- d the Thumb, between the Tendons of the Flexors of the gers, and the Baſis of the metacarpal Bones.

likewiſe ſends off a Branch, which, running between the d and fourth Bones of the Metacarpus, reaches to the Back Hand, where it communicates with the *External Inter- Artery*. Afterwards having ſupplied the interoſſeous cles, it communicates with the *Radialis*; and they both an *Arterial Arch* in the Hollow of the Hand, in the fol- ing manner:

The *Cubitalis*, having got about two Fingers Breadth beyond ternal annular Ligament of the Carpus, forms an Arch, convex Side of which is turned to the Fingers, and com- ly ſends off three or four Branches. The firſt goes to the and back Part of the little Finger; and is ſometimes a tinuation or Production of that Branch, which goes to the thenar.

The other three Branches run in the Interſtices of the Four carpal Bones, near the Heads of which, each of them is into two Branches, which paſs along the two internal Parts of each Finger, from the Foreſide of the little , to the poſterior Side of the Index incluſively; and at nds of the Fingers theſe *Digital Arteries* communicate ite with each other.

etimes the Arch of the *Cubital Artery* terminates by a lar Branch in the Middle Finger, and in that Caſe it municates with the *Radial Artery*, which makes up what ther wants.

is Arch ſends likewiſe from its concave Side, toward the Phalanx of the Thumb, a Branch for the lateral internal reof, and then ends near the Head of the firſt metacar- e, by a Communication with the *Radialis*, having firſt Branch to the Foreſide of the Index, and another to of the Thumb next the former. Theſe communicate Ends of the Fingers with the neighbouring Branches, the other Fingers.

Arch ſends likewiſe ſmall Twigs to the interoſſeous es, to the Lumbricales, Palmaris, and to other neigh- g Parts; and laſtly, to the Integuments.

The Radial Artery.

e *Radial Artery* begins by detaching a ſmall Branch, which pward like a Recurrent, toward the Fold of the Arm; and turns backward round the external Condyle, communicating with the neighbouring Branches from the Trunk of the *Brachial Artery*, eſpecially with the firſt collateral Branch on that Side.

It runs down along the Inſide of the Radius, between the Supinator Longus, Pronator Teres, and the Integuments, giving Branches to theſe Muſcles, and likewiſe to the Perforatus, Perforans, and Supinator Brevis. From thence it runs in a winding Courſe toward the Extremity of the Radius, ſupplying the Flexors of the Thumb, and Pronator Quadratus.

Having reached the Extremity of the Radius, it runs nearer the Skin, eſpecially toward the anterior Edge of the Bone, being the *Artery* which we there feel when we examine the Pulſe.

At the End of the Radius, it gives off a Branch to the Thenar; and, after having communicated with the Arch of the *Cubital Artery* in the Palm of the Hand, and ſent off ſome cutaneous Branches at that Place, it detaches one, along the whole internal lateral Part of the Thumb.

Afterwards it runs between the firſt Phalanx and Tendons of the Thumb, to the Interſtice between the Baſis of this firſt Phalanx, and of the firſt metacarpal Bone, where it turns toward the Hollow of the Hand.

At this Turning, it ſends off a Branch to the external lateral Part of the Thumb, which, having reached the End thereof, communicates by a ſmall Arch with the Branch which goes to the internal lateral Part.

It likewiſe ſends Branches outward, which run more or leſs tranſverſly between the firſt two Bones of the Metacarpus and the two Tendons of the Radialis Externus; and it communicates with an oppoſite Branch of the *Cubitalis*, together with which it furniſhes the external interoſſeous Muſcles, and Integuments of the Back of the Hand, and convex Side of the Carpus.

Laſtly, the *Radial Artery* terminates in its Paſſage over the ſemi-interoſſeous Muſcle of the Index, near the Baſis of the firſt metacarpal Bone, and as it runs under the Tendons of the Flexor Muſcles of the Fingers, where it is joined to the Arch of the Cubitalis.

It ſends off another Branch which runs along the Fore-part of the firſt Bone of the Metacarpus, to the convex Side of the Index, where it is loſt in the Integuments.

It gives likewiſe a Branch, to the internal lateral Part of the Index, which at the End of that Finger joins an oppoſite Branch, which comes from the Arch of the *Cubitalis*. It alſo ſends off a ſmall Branch croſs the internal interoſſeous Muſcles, where it forms a kind of ſmall irregular Arch, which communicates with the great Arch by ſeveral ſmall arterial Branches.

When the Arch of the *Cubitalis* ends at the Middle Finger, the *Radialis* runs along the inner or concave Part of the firſt metacarpal Bone, at the Head of which it terminates by two Branches.

One of theſe Branches runs along the inner and anterior lateral Part of the Index, the other paſſes between the Flexor Tendons of this Finger and the metacarpal Bone; and, having communicated with the cubital Branch of the Middle Finger, it advances on the poſterior lateral Part of the Index, all the Way to the End of that Finger, where it unites again with the firſt Branch.

The Diaphragmatic Artery.

The Left *Diaphragmatic Artery* goes out commonly from the *Aorta Deſcendens*, as it paſſes between the Crura of the ſmall Muſcle of the Diaphragm. The Right *Diaphragmatic* comes ſometimes from the neareſt *Lumbar Artery*, but moſt commonly from the *Cæliaca*. Sometimes both theſe *Arteries* ariſe by a ſmall common Trunk immediately from the *Aorta*. They likewiſe have the Name of *Arteriæ Phrenicæ*.

They appear almoſt always in ſeveral Ramifications on the concave or lower Side of the Diaphragm, and ſeldom on the upper or convex Side. They give ſmall Branches to the Glandulæ Renales, or Capſulæ Atrabilariæ, which ſometimes communicate with the other *Arteries* that go to the ſame Part.

They ſend likewiſe ſmall Branches to the Fat which lies upon the Kidneys, called the *Membrana Adipoſa*, from whence they have the Name of *Arteriæ Adipoſæ*; and they ſometimes come immediately from the Trunk of the *Aorta* on one Side of the *Meſenterica Superior*.

Beſides theſe capital *Diaphragmatic Arteries*, there are others of a ſubordinate Claſs, which come from the *Intercoſtales*, *Mammariæ Internæ*, *Mediaſtinæ*, *Pericardiæ*, and *Cæliaca*, as is obſerved in the Deſcription of theſe *Arteries*.

The Coeliac Artery.

The Ramifications of this Artery are not figured in the Table ſo accurately as they are deſcribed by Winſlow.

The *Cæliac Artery* ariſes anteriorly, and a little to the Left Hand, from the *Aorta Deſcendens*, immediately after its Paſſage through the ſmall Muſcle of the Diaphragm, nearly oppoſite to the Cartilage between the laſt Vertebra of the Back, and firſt of the Loins. The Trunk of this *Artery* is very ſhort, and, near its Origin, it ſends off from the Right Side two ſmall *Diaphragmaticæ*, though ſometimes there is only one, which goes to the Right Hand, and is afterwards diſtributed both Ways, communicating with the other *Arteries* of the ſame Name, which come from the *Intercoſtales* and *Mammariæ*. The Left Branch ſends Ramifications to the ſuperior Orifice of the Stomach, and to the Glandula Renalis on the ſame Side; the Right furniſhes the Pylorus, and the Renal Gland on the Right Side.

Immediately after this, the *Cæliaca* gives off a conſiderable Branch, named *Arteria Ventriculi Coronaria*, and *Gaſtrica*, or *Gaſtrica Superior*; and then it preſently divides into two large Branches, one toward the Right Hand, named *Arteria Hepatica*; the other to the Left, called *Splenica*, which is larger than the former.

Sometimes this *Artery* is divided into theſe three Branches at the ſame Place, very near its Origin; the Trunk going out from the *Aorta* almoſt in a ſtrait Line, and the Branches from the Trunk almoſt at Right Angles, like Radii from an Axis, whence this Trunk has been called *Axis Arteriæ Cæliacæ*.

The CORONARY ARTERY *of the* STOMACH.

The *Coronary Artery* of the Stomach goes firſt to the Left Side of that Organ, a little beyond the ſuperior Orifice, round which Orifice it throws Branches, and alſo to every Part of the Stomach near it; and theſe Branches communicate with thoſe which run along the Bottom of the Stomach to the Pylorus.

Afterwards it runs on the Right Side of the ſuperior Orifice, along the ſmall Curvature of the Stomach, almoſt to the Pylorus, where it communicates with the *Arteria Pylorica*; and, turning towards the ſmall Lobe of the Liver, it gives off ſome Branches to it.

Then it advances, under the *Ductus Venoſus*, to the Left Lobe of the Liver, in which it loſes itſelf near the Beginning of the juſt mentioned Duct, having firſt given off ſome ſmall Branches to the neighbouring Parts of the Diaphragm and Omentum.

The HEPATIC ARTERY.

As ſoon as the *Hepatic Artery* leaves the Cœliaca, it runs to the upper and inner Part of the Pylorus, in Company with the Vena Portæ, ſending off two Branches, a ſmall one called *Arteria Pylorica*, and a large one, named *Gaſtrica Dextra*, or *Gaſtrica Major*.

The *Pylorica* is ramified on the Pylorus, from whence it has its Name; and, having diſtributed Branches to the neighbouring Parts of the Stomach, which communicate with thoſe of the Right *Gaſtrica*, it terminates on the Pylorus by an Anaſtomoſis with the *Coronary Artery* of the Stomach.

The Right *Gaſtric Artery*, having paſſed behind and beyond the Pylorus, ſends out a conſiderable Branch named *Arteria Duodenalis* or *Inteſtinalis*, which ſometimes comes from the Trunk of the *Hepatica*, as we ſhall ſee hereafter. Afterwards this *Gaſtric Artery* runs along the Right Side of the great Curvature of the Stomach, to the neighbouring Parts of which, on both Sides, it diſtributes Branches.

Theſe Branches communicate with thoſe of the *Arteria Pylorica*, and of the *Coronaria Ventriculi*, and with the Right *Gaſtro-epiploicæ*, which furniſh the neareſt Parts of the Omentum, and communicate with the *Meſenterica Superior*. After this the Right *Gaſtric Artery* ends in the Left, which is a Branch of the *Splenica*.

The *Duodenal* or *Inteſtinal Artery* runs along the Duodenum on the Side next the Pancreas; to both which it furniſhes Branches, and alſo to the neighbouring Part of the Stomach. Sometimes this *Artery* goes out from the *Meſenterica Superior*, and ſometimes it is double.

The *Hepatic Artery*, having ſent out the *Pylorica* and Right *Gaſtrica*, advances behind the *Ductus Hepaticus*, toward the Veſicula Fellis, to which it gives two principal Branches called *Arteriæ Cyſticæ*; and another named *Bilaria*, which is loſt in the great Lobe of the Liver.

Afterwards this *Artery* enters the Fiſſure of the Liver, and joins the Vena Portæ, with which it runs within a membranous Vagina, called *Capſula Gliſſonii*, and accompanies it thro' the whole Subſtance of the Liver by numerous Ramifications, which may be termed *Arteriæ Hepaticæ Propriæ*.

Before it enters the Liver, it gives ſmall Branches to the external Membrane of this Part, and to the Capſula Gliſſonii. The *Gaſtric* and proper *Hepatic Arteries* come ſometimes from the *Meſenterica Superior*, when the ordinary Ramifications are wanting.

The SPLENIC ARTERY.

Immediately after the Origin of the *Splenic Artery* from the *Cæliaca*, it runs toward the Left Hand, under the Stomach and Pancreas, to the Spleen. It adheres cloſely to the poſterior Part of the lower Side of the Pancreas, to which it gives ſeveral Branches named *Arteriæ Pancreaticæ*.

Near the Extremity of the Pancreas, under the Left Port of the Stomach, the *Splenic Artery* gives off a principal Bra call'd *Gaſtrica Siniſtra* or *Minor*, which runs from Left Right along the Left Portion of the great Curvature of Stomach, giving Branches to both Sides of this Portion, wh communicate with thoſe of the *Coronaria Ventriculi*.

This *Gaſtric Artery* ſends likewiſe another Branch, at le to the Extremity of the Pancreas, which communicates w the other *Pancreatic Arteries*. It alſo ſupplies the Oment with Branches, term'd *Gaſtro-epiploicæ Siniſtræ*; and then communicates with the Right *Gaſtrica*, and from this Un the *Gaſtro-epiploicæ Mediæ* are produced.

From this Detail we learn, that the *Arteria Coronaria Ven culi*, *Pylorica*, *Inteſtinalis*, both *Gaſtricæ*, *Gaſtro-epiploi* and conſequently the *Hepatica*, *Splenica*, and *Meſenteri* communicate all together.

Afterwards the *Splenic Artery* advances towards the Sple in a Courſe more or leſs contorted; but before it arrives that Part, it gives two or three Branches to the large Extrem of the Stomach, which are commonly call'd *Vaſa Brevia*, one to the Omentum, named *Epiploica*.

At the Spleen this *Artery* divides into four or five Branch which enter that Organ, after having given ſome ſmall T to the neighbouring Parts of the Stomach and Omentum.

The ſuperior MESENTERIC ARTERY.

The *ſuperior Meſenteric Artery*, *Tab.* 5. *Fig.* 43. a anteriorly from the lower Portion of the *deſcending Aorta* very little Way below the *Cæliaca*, going out a little tow the Right Hand, but bending immediately afterwards to Left.

Near its Origin it gives off a ſmall Branch, which, divid into two, goes to the lower Side of the Head of the Pancr and neighbouring Part of the Duodenum, communicating w the *Inteſtinalis* by ſmall Arches, and Areolæ or Maſhes.

Afterwards it paſſes over the Duodenum, between this I ſtine and the Meſeraic Vein, between the two Laminæ of Meſentery; and then bending, in an oblique Direction, f Left to Right, and from above downward, by very ſmall grees, it advances toward the Extremity of the Ileum. By Incurvation it forms a kind of long Arch, from the convex of which a great many Branches go out.

Theſe Branches are ſixteen or eighteen in Number, thereabouts, and almoſt all of them are beſtow'd on the ſ Inteſtines, from the lower third Part of the Duodenum to Cæcum and Colon. The firſt Branches are very ſhort, from thence they increaſe gradually in Length all the Way to Middle of the Arch; the reſt diminiſhing again by ſmall grees.

As they approach the Inteſtines, all theſe Branches com nicate firſt by reciprocal Arches, then by Areolæ and Ma of all kinds of Figures, from which is detach'd an infi Number of ſmall Ramifications, which ſurround the Inteſ Canal like an annular Piece of Net-work.

Theſe Arches and Maſhes increaſe in Number proportion to the Length of the Branches, and their Size diminiſhes dually as they approach the Inteſtines.

The firſt Branches from the convex Side of the Meſent Arch, which are very ſhort, ſupply the Pancreas and M colon, and communicate with the *Duodenal Artery*. The Branches go to the Appendicula Vermiformis, and ſend a tion of an Arch to the Beginning of the Colon.

The conſiderable Branches from the concave Side of Meſenteric Arch are ſeldom above two or three in Numb but before they ariſe a ſmall Branch goes out to the Duoden and gives ſome very ſmall *Arteries* to the Pancreas.

The firſt conſiderable Branch from the concave Side of Arch goes into the Meſocolon, towards the Right Portio the Colon, being firſt divided into two Branches; the fi which runs along the whole ſuperior Part of the Colon, w it forms the famous Communication with the *Meſenterica* *rior*; and might be named *Arteria Colica ſuperior*. The Diviſion of this Branch runs down on the Right Portion o Colon.

The ſecond principal Branch, having run for ſome Space t the Meſentery, divides into three Branches; the firſt of w goes to the lower Part of the Right Portion of the Co where it communicates with the ſecond Diviſion of the Branch: The ſecond goes to the Beginning of the Colon, w it communicates with the firſt, and to the Inteſtinum Cæc

The third Diviſion of this ſecond Branch, having com nicated with the ſecond, gives ſmall Twigs to the Cæcum, pendicula Vermiformis, and Extremity of the Ileum. A wards it communicates with the Extremity of the Arch curve Trunk of the *ſuperior Meſenteric*.

All theſe Communications are by Arches and Maſhes, thoſe Branches that come from the convex Side of the A and it is to be obſerv'd in general, that all the Branches o *Meſenterica ſuperior* are diſpoſed according to the Folds o Meſentery, and Circumvolutions of the Inteſtines; giving Branc anches, through their whole Courſe, to the Laminæ of the ſentery, its Cellular Subſtance, and to the Meſenteric ands.

The inferior MESENTERIC ARTERY.

The lower *Meſenteric Artery*, *Tab.* 5. *Fig.* 45. goes out teriorly from the *Aorta Deſcendens inferior*, about a Finger's eadth or more above the Bifurcation, and below the *Sperma- Arteries*; and having run about the Length of an Inch, or nething more, it is divided into three or four Branches, ich gradually ſeparate from each other.

The firſt or ſuperior Branch, about an Inch from its Origin, ides into two Branches; the firſt of which runs along the ft Portion of the Colon, and forms the Communication of e two *Meſenteric Arteries* already mention'd. It may be named *teriaColica Siniſtra*. The ſecond Branch, having communi- ted with the firſt, runs down upon the ſame Portion of the lon.

The middle Branch, having run the ſame Length with the ſt, divides into two Branches; one of which paſſes upward the Extremity of the Colon, communicating by Arches with e ſecond Ramification of the ſuperior Branch; the other runs wn on the Extremity of the ſame Inteſtine.

When there is another middle Branch, it goes to the firſt rt of the double Curvature of the Colon, by a like Diſtribu- n and Communication from above downward.

The lower Branch goes to the ſecond Portion of the Colon, to both, when the ſecond middle Branch is wanting, and ds up a Branch which communicates with the foregoing.

It ſends another conſiderable Branch downward, call'd *Arte- Hæmorrhoidalis Interna*, which runs down behind the Inte- num Rectum, to which it is diſtributed by ſeveral Ramifica- ns; and it communicates with the *Arteriæ Hypogaſtricæ*.

The RENAL ARTERIES.

The*Renal Arteries*, *Tab.* 5. *Fig.* 49. 49. call'd commonly *Emul- ts*, are ordinarily two in Number, and go out laterally from e inferior deſcending *Aorta*, immediately under the *Meſente- a ſuperior*, one to the Right Hand, the other to the Left: e Right is ſituated more backward, and is longer than the ft, becauſe of the Vena Cava, which lies on the Right Side, ween the *Aorta* and the Kidney.

They run commonly without Diviſion, and almoſt horizon- ly, to the Kidneys; into the Depreſſions of which they enter ſeveral Branches, which form Arches in the inner Subſtance theſe Viſcera.

From theſe Arches numerous ſmall Branches go out toward e Circumference, or outer Surface of the Kidneys. Some- es there is more than one *Artery* on each Side; ſometimes s Augmentation is only on one Side; and theſe ſupernume- y *Arteries* come ſometimes immediately from the *Aorta*, and ter at the upper or lower Part of the Kidneys.

Ordinarily the Right *Renal Artery* paſſes behind the Vena va and Renal Vein on the other Side, and the Left *Artery*, t behind and then before the Vein. Sometimes they ſend anches to the Glandulæ Renales, Membrana Adipoſa of the dneys, and even to the Diaphragm.

The CAPSULAR ARTERIES.

The *Arteries* of the Renal Glands, which may be term'd *teriæ Capſulares*, ariſe ſometimes from the *Aorta*, above the *teria Renalis*; and give out the *Arteriæ Adipoſæ*, which go the Fat of the Kidneys. Sometimes they come from the unk of the *Cœliaca*. The Right *Capſular Artery* comes moſt mmonly from the *Arteria Renalis* of the ſame Side, near its igin; the Left from the *Aorta*, above the *Renalis*.

The SPERMATIC ARTERIES.

The *Spermatic Arteries*, *Tab.* 5. *Fig.* 51. 51. are common- two in Number, ſometimes more. They are very ſmall, d go out anteriorly from the *Aorta Deſcendens inferior*, near ch other, about a Finger's Breadth below the *Arteriæ Renales*, ore or leſs, between the two *Meſentericæ*, or between the *nales* and *Meſentericæ Inferiores*. Sometimes one is higher, placed more laterally, than the other.

They ſend off, to the common Membrane of the Kidneys, all Branches named *Arteriæ Adipoſæ*; and afterwards they run wn upon the Pſoas Muſcles, on the fore Side of the Ureters, ween the two Laminæ of the Peritonæum.

They give ſeveral conſiderable Branches to the Peritonæum, efly to thoſe Parts of it which are next the Meſentery; and ey communicate both with the *Meſentericæ* and *Adipoſæ*. ey likewiſe ſend ſmall *Arteries* to the Ureters.

Afterwards they paſs, in Men, thro' the tendinous Openings the Abdominal Muſcles in the Vagina of the Peritonæum, d are diſtributed to the Teſticles and Epididymes, where they mmunicate with a Branch of the *Iliaca externa*.

In Women they do not go out of the Abdomen, but are ributed to the Ovaria and Uterus, and communicate with Branches of the *Hypogaſtrica*, at the jagged Extremities of the Tubæ Fallopianæ.

The LUMBAR ARTERIES.

The *Lumbar Arteries*, *Tab.* 5. *Fig.* 50. go out poſteriorly from the inferior deſcending *Aorta*, in five or ſix Pairs, or more, much in the ſame manner with the *Intercoſtals*.

They may be divided into Superior and Inferior. The Superior ſend ſmall Branches to the neighbouring Parts of the Diaphragm and Intercoſtal Muſcles, and ſupply the Place of *Semi-intercoſtal Arteries*. Sometimes thoſe Pairs go out by a ſmall common Trunk, and not ſeparately.

They are diſtributed on each Side to the Pſoas Muſcles, to the Quadrati Lumborum, and to the oblique and tranſverſe Muſcles of the Abdomen; and by perforating the oblique Muſcles, they become *external Hypogaſtric Arteries*. They go likewiſe to the Vertebral Muſcles, and to the Bodies of the Vertebræ, and enter the Spinal Canal thro' the lateral Notches, to go to the Membranes, &c. forming Rings much in the ſame manner with the Intercoſtals; and they likewiſe give ſmall Twigs to the Nerves.

The ARTERIÆ SACRÆ.

The *Arteriæ Sacræ*, *Tab.* 5. *Fig.* 52. go out commonly from the back Part of the inferior deſcending *Aorta*, at the Bifurcation. Sometimes they ariſe higher from the *Lumbares*, and ſometimes lower from the *Iliacæ*. They are two, three, or four in Number; and ſometimes but one. They are ramified on the Os Sacrum, and on the neighbouring Parts of the Peritonæum, Inteſtinum Rectum, Fat, &c. and enter the Canal of the Os Sacrum thro' the anterior Holes, being there diſtributed toward each Side. They likewiſe ſend ſmall *Arteries* to the large Faſciculi of Nerves, which go out thro' the Holes of the Os Sacrum; and they penetrate the inner Subſtance of that Bone.

The ILIAC ARTERIES. *Tab.* 5. *Fig.* 53. 53.

The inferior deſcending *Aorta* ends at the laſt Vertebra of the Loins, and ſometimes higher, in two large lateral Branches, one on the Right Hand, the other on the Left, call'd *Arteriæ Iliacæ*; each of which is a common Trunk to two other *Arteries* of the ſame Name. This Bifurcation lies on the anterior and Left Side of that of the Vena Cava. See *Tab.* 4. *Fig.* 13. 13.

The primitive *Iliac Arteries* divaricate gradually as they deſcend, advancing obliquely toward the anterior and lower Part of the Os Ilium, without any conſiderable Ramifications, for about the Breadth of three Fingers; except a few very ſmall *Arteries* that go to the Os Sacrum, ſome of which enter by the upper Holes, and are diſtributed like the *Arteriæ Sacræ*; while others emerge again thro' the poſterior Holes, and go to the neighbouring Muſcles, &c. They likewiſe give ſmall *Arteries* to the Peritonæum, to the Coats of the Veins, and to the Fat and Ureters, behind which the *Iliac* Trunks paſs.

The Right *Iliac* Trunk paſſes firſt on the fore Side of the Origin of the Left Iliac Vein, and runs down on the fore Side of the Right Vein, almoſt to the Place where it goes out of the Abdomen, its Courſe being there directed more inwardly. The Left Trunk goes down likewiſe before the Left Vein, but lies a little toward the Inſide as it leaves the Abdomen.

About three Fingers Breadth from their Origin each *Iliac* Trunk is divided into two ſecondary *Arteries*, one *external*, *Tab.* 5. *Fig.* 54. 54. the other *internal*, *Tab.* 5. *Fig.* 55. 55. The *external Artery* has no particular Name; the *internal* is term'd *Hypogaſtrica*, which often appears to be no more than a Branch of the other in Adults; but in young Children, and eſpecially in the Fœtus, the *Hypogaſtric Artery* looks like the Trunk, and the other like a Branch.

The *external Iliaca*, *Tab.* 5. *Fig.* 54. 54. on each Side runs down to the Ligamentum Fallopii, under which it goes out of the Abdomen. In this Courſe it gives off only a few ſmall *Arteries* to the Peritonæum, and other Parts near it; but as it paſſes out of the Abdomen under the Ligament, it detaches two conſiderable Branches, one *internal*, the other *external*.

The internal Branch is named *Arteria Epigaſtrica*, *Tab.* 5. *Fig.* 57. 57. and goes out anteriorly from the *external Iliaca*. From thence it runs obliquely upward, on the Tendon of the tranſverſe Muſcle, toward the poſterior Part of the Rectus, which it reaches about two or three Fingers Breadth above the Os Pubis.

Afterwards the *Epigaſtric Artery* runs up along the poſterior or inner Side of this Muſcle, ſending Ramifications to the Tendons of the neighbouring Muſcles, and then loſes itſelf by a true Anaſtomoſis of ſeveral Ramifications with the *Mammaria Interna*. It likewiſe communicates with the *inferior Intercoſtals*, which are ſpread on the Abdomen.

It ſometimes gives out two particular Branches, one of which, accompany'd by a Nerve, goes thro' the Foramen Ovale of the Pelvis to the Triceps Muſcles; the other runs down to the

Teſticles, along with the *Spermatic Artery*, and there communicates with it.

The external Branch of the outer *Iliaca*, *Tab.* 5. *Fig.* 58. 58. goes off laterally from the Outſide of that *Artery*, under the Ligamentum Fallopii; and from thence to the internal Labium of the Os Ilium, where it divides into two, and is ramified on the oblique and tranſverſe Muſcles of the Abdomen, communicating with the *Arteria Lumbaris*.

Beſides theſe two Branches, the *external Iliaca* gives off a ſmall Branch internally, under the Ligament which runs to the Vagina of the Spermatic Cord; and ſometimes another ſmall Twig goes from the Outſide to the Os Ilium.

The *internal Iliaca*, or *Hypogaſtrica*, *Tab.* 5. *Fig.* 55. 55. having run a little more than a Finger's Breath inward and backward, bends by ſmall Degrees obliquely forward, and toward the Outſide; and afterwards, contracting in its Dimenſions, it ends in the *Umbilical Artery*, *Tab.* 5. *Fig.* 56. 56. which ought to be look'd upon as a true Continuation of the Trunk of the *Hypogaſtrica*.

This *Arteria Umbilicalis* aſcends on the Side of the Bladder; and having detach'd ſmall Branches to that, and to the neighbouring Parts of the Peritonæum, it contracts; and, in Adults, is quite cloſed up, above the Middle of the Bladder, as in *Tab.* 5. *Fig.* 56. on the Right Side. It likewiſe gives Branches to the Uterus in Females, and to the Parts about the Pelvis in both Sexes. Afterwards it aſcends, in form of a Ligament, to the Umbilicus, where it joins the *Umbilical Artery* on the other Side; its Name being taken from its Uſe in the Fœtus.

From the convex Side of the Curvature of the *Hypogaſtric Artery*, four or five principal Branches commonly go out very near each other. Sometimes they all ariſe ſeparately, ſometimes by ſmall common Trunks; and what is the firſt Branch in ſome Subjects, is only a Ramification of another principal Branch in others; ſo much does the Number, Diſpoſition, Origin, and Diſtribution of theſe Branches vary in different Subjects. For this Reaſon, I think it is fit to diſtinguiſh them by the following proper Names: *Iliaca minor*, *Glutæa*, *Sciatica*, *Pudica communis*, *ſive Pudica Hypogaſtrica*, and *Obturatrix*.

The *Iliaca minor*, the moſt poſterior of theſe Branches, and which is often no more than a Branch of the Glutæa, paſſes between the laſt two Lumbar Nerves, and divides into two Branches; one of which enters the Canal of the Os Sacrum, thro' the loweſt large anterior Holes; the other paſſes behind the Muſculus Pſoas, to which it gives Twigs, and behind the Crural Nerve, being afterwards diſtributed to the Iliac Muſcle, and to the middle Part of the Inſide of the Os Ilium, penetrating into the Subſtance of the Bone, ſometimes by one Hole, ſometimes by more.

The *Arteria Glutæa* is commonly very conſiderable, and ſometimes the largeſt of all the *Hypogaſtric* Branches. Near its Beginning it ſometimes ſends out the *Iliaca minor*, and ſometimes the ſmall Branch that goes from that *Artery* to the Os Sacrum, and other Parts fix'd to that Bone. Afterwards this *Artery* goes out of the Pelvis in Company with the Sciatic Nerve, thro' the upper Part of the great Sinus of the Os Innominatum, below the Muſculus Pyriformis, and is diſtributed, in a radiated manner, to the Glutæus Maximus and Medius.

In its Paſſage it gives ſome Branches to the Os Sacrum, Os Coccygis, Muſculus Pyriformis, the Muſcles of the Anus, and to the neighbouring Parts of the Inteſtinum Rectum, forming a particular *Hæmorrhoidalis Interna*. It likewiſe ſends Twigs to the Bladder, and parts near it; and detaches a pretty long Branch, which runs down with the Sciatic Nerve.

The *Arteria Sciatica* gives, firſt of all, ſome Branches to the Muſculus Pyriformis, the Quadrigemini, and the Os Sacrum, and even to the inner Side of the Os Iſchium. It likewiſe detaches a Branch, which runs under the Muſculus Quadratus, to the Articulation of the Os Femoris.

It paſſes obliquely over the Sciatic Nerve, and as they both go thro' the great poſterior Sinus of the Os Ilium, it detaches ſmall *Arteries*, which are diſtributed to the inner Subſtance of that Nerve. Afterwards it runs up in a radiated manner on the Outſide of the Os Ilium, and is diſtributed to the inner Subſtance of that Bone, and to the Muſculi Glutæi, eſpecially to the Medius and Minimus.

The *Pudica Communis*, call'd commonly *Pudica Interna*, ariſes ſometimes by a Trunk common to *it* and to the *Glutæa*, and gives out two principal Branches; the firſt of which paſſes thro' the great Sinus of the Os Ilium, in Company with the *Glutæa* and *Sciatica*, and then divides into two Branches.

The firſt Branch goes behind the Spine of the Iſchium, between the two Ligaments which lie between that Bone and the Os Sacrum, and runs on the Inſide of the Tuberculum Iſchii, all the way to the Origin of the Corpus Cavernoſum Penis: There it divides into ſeveral *Arteries*, one of which goes to the Sphincter Ani, under the Name of *Hæmorrhoidalis Externa*.

The reſt are diſtributed to the neighbouring Integuments, to the Bulb of the Urethra, and to the Corpus Cavernoſum Penis; but the laſt of theſe *Arteries*, or rather the Extremity of this firſt Branch, runs from behind forward, over the Neck o Os Femoris, and communicates with a Branch of the *Ar Cruralis*.

The ſecond principal Branch, call'd commonly *Arteria dica Externa*, runs between the Bladder and Inteſtinum Rec and is diſtributed in Men to the Veſiculæ Seminales, Nec the Bladder, Proſtate Gland, and neighbouring Parts of Rectum.

Afterwards it runs under the Os Pubis, on the Side of a ſiderable Vein, which lies directly under the Symphyſis; a runs along the Penis between this Vein and a Nerve, b diſtributed in its Paſſage to the Corpus Cavernoſum, and munidating with the *Pudica minor*, which comes from the *ralis*.

This ſecond Branch of the *Pudica major* goes off ſome ſeparately from the *Hypogaſtrica*, eſpecially in Women, b diſtributed to the lateral Parts of the Uterus, where it com nicates with the *Spermatic Artery*, near the jagged Extre of the Tuba Fallopiana, and to the neighbouring Parts of Vagina.

The *Arteria Obturatrix* perforates the Obturator Muſ from whence it has its Name, and goes out of the Pelvis at upper Part of the Ligament of the Foramen Ovale; having ſent a ſmall Branch, over the Symphyſis of the Os Ilium Os Pubis, to the Inguinal Glands and Integuments.

As it paſſes by the Muſcles, it divides, and is diſtribute the Pectineus and Triceps. It likewiſe ſends out an Branch, which communicates with that Branch of the *Sci* which goes to the Articulation of the Os Femoris; and ſmall *Arteries* to the Holes in the Neck of that Bone.

Afterwards the *Hypogaſtric Artery* ends in the *Umbilicalis* has been already ſaid.

The CRURAL ARTERIES. *Tab.* 5. *Fig.* 69.

The *Iliac Artery* goes out of the Abdomen between the L mentum Fallopii and Tendon of the Pſoas, at the Union of Os Ilium and Os Pubis, and there it takes the Name of *Ar Cruralis*.

It ſends off, firſt of all, three ſmall Branches; one of wh call'd *Pudica Externa*, goes over the Crural Vein to the and Ligament of the Penis, and to the Inguinal Glands, c municating with the *Pudica Interna*. The ſecond goes to Muſculus Pectineus; and the third to the upper Part of Sartorius. All theſe Branches furniſh likewiſe the neighbou anterior Integuments.

Afterwards the *Crural Artery* runs down on the Head of Os Femoris; and, by taking a particular Turn, gets on Inſide of the Crural Vein, about three Fingers Breadth where it goes out of the Abdomen. From its Origin to Place, it is cover'd only by the Skin and Fat, and lies on Pectineus and Triceps Primus.

In changing its Situation it ſends out three conſider Branches; one external, one middle, and one internal. T all go out, more or leſs, poſteriorly; ſometimes by a common Trunk, ſometimes by two.

The external Branch runs on the upper Side of the T to the Crureus, Vaſtus Externus, Rectus Anterior, Muſc Faſciæ Latæ, and Glutæus Medius, ſending up a Branch to Apex of the great Trochanter, which communicates with firſt principal Branch of the *Pudica major* and *Sciatica*, as been already ſaid.

The middle Branch runs down on the Inſide of the Th between the Triceps Muſcles, to which it gives ſev Branches; one whereof perforates the ſecond Muſcle, an diſtributed to the Glutæus Maximus, Seminervoſus, Se membranoſus, Biceps, and to the neighbouring Integumen

The internal Branch runs backward on the Quadrigem towards the great Trochanter; and having detach'd a Bran which goes into the Joint of the Os Femoris, it runs do ward, and gives Branches to all the Muſcles that lie on the b Side of that Bone, one of which enters the Bone itſelf on Side of the Linea Aſpera.

Having ſent off all theſe three Branches, the *Arteria Cr lis* runs down between the Sartorius, Vaſtus Internus, Triceps, giving Branches to all the Parts near it: It is cov by the Sartorius all the Way to the lower Part of the Th where it is inflected backward, over the Triceps Tertius, a tle above the internal Condyle of the Os Femoris. Afterw continuing its Courſe thro' the Hollow of the Ham, it is ca *Arteria Poplitea*, being accompany'd by the Vein of the Name.

The *Poplitea*, while in the Ham, is cover'd only by Integuments, ſending off Branches toward each Side, wh run upon the Condyles, and communicate with the lower mifications of the *Arteria Cruralis*.

It ſends Branches to the Joint of the Knee, one of wh at leaſt, paſſes between the Crucial Ligaments. As it down, it ſends Branches to the Gaſtrocnemii and Poplit having reach'd the back Side of the Head of the Tibia, it es off two Branches, one to each Side.

The firſt or internal Branch ſurrounds the fore Part of the ead of the Tibia, paſſing between the Bone and internal eral Ligament; and, beſides ſeveral other Ramifications, nds up a ſmall Branch, which communicates with the *Arteries* at lie round the Condyles of the Os Femoris.

The ſecond or external Branch runs over the Head of the ibula, and between the Head of the Tibia and external late- l Ligament of the Knee, ſurrounding the Articulation all the ay to the Ligaments of the Patella, and communicating with e Branches which lie round the Condyles of the Os Femo- , together with a Ramification of the firſt or internal Branch.

Immediately after the Origin of theſe two Branches, and fore the *Poplitea* ends, it ſends a ſmall *Artery* down on the ck Side of the Interoſſeous Ligament, very near the Tibia, o which it enters by a particular Hole a little above the mid- e Portion of the Bone. As the *Poplitea* ends, it divides in- two principal Branches, one of which runs between the eads of the Tibia and Fibula, paſſing from behind forwards the Interoſſeous Ligament, where it takes the Name of *rteria Tibialis anterior*. The ſecond Branch divides into two hers; one internal and larger, call'd *Arteria Tibialis poſte-* r; the other poſterior and ſmaller, named *Arteria Peronæa terior*.

The *Tibialis anterior*, having paſs'd between the Heads of the bia and Fibula, ſends ſmall Branches upward and laterally. he ſuperior Branches communicate with thoſe Ramifications of e *Poplitea* which lie round the Articulation; and the lateral anches go to the neighbouring Parts. Afterwards this *Tibial tery* runs down, on the fore Side of the Interoſſeous Liga- nt, toward the Outſide of the Tibia, between the Muſculus bialis Anticus and Extenſor Pollicis.

Having run laterally on the Tibia for about two Thirds of e Length of that Bone, it paſſes on the fore Side, under the mmon annular Ligament and Extenſor Pollicis, to the Arti- ation of the Foot; giving off ſeveral Branches both to the ght and Left Hand, which communicate laterally with the *ialis poſterior* and *Peronæa poſterior*; ſo that theſe two Bones in a manner ſurrounded by *Arteries*.

At the Joint of the Foot it ſends out Branches, which run ween the Aſtragalus and Os Calcis; being diſtributed to the iculation, and to the Bones of the Tarſus. The Commu- ations are here very numerous on all Sides.

Having paſs'd the Fold of the Foot, it ſends off, toward h Sides, other Branches, which communicate with the *poſte- Tibialis* and *Peronæa*; all theſe Branches making a kind of cles round the Tarſus. Afterwards the *anterior Tibial Artery* ances on the convex Side of the Foot, as far as the Inter- e, between the firſt and ſecond Metatarſal Bones; between Heads of which it ſends a large Branch, which perforates ſuperior Interoſſeous Muſcles, and, joining the *Tibialis rior*, forms an Arch on the Side of the Foot.

t likewiſe ſends two or three conſiderable Branches over the r Metatarſal Bones, which go to the reſt of the Interoſſeous ſcles and Integuments, and communicate with each other.

aſtly, this *Artery* terminates by two principal Branches, of which goes to the Thenar and Inſide of the great Toe; other is ſpent upon the Outſide of the great Toe, and the de of the ſecond Toe.

he *Tibialis poſterior*, call'd likewiſe *Suralis*, runs down ween the Solei, Tibialis poſticus, Flexor Digitorum com- is, and Flexor Pollicis; giving Branches to theſe, to the a, and to the Marrow of that Bone, through a particular al in its poſterior and upper Part.

fterwards it runs behind the inner Ankle, communicating the *Tibialis anterior*, and ſurrounded by the neighbouring s, and paſſes to the Sole of the Foot, between the concave of the Os Calcis and Thenar Muſcle; where it divides two Branches, one large or external, the other ſmall or nal.

he great Branch, or *Arteria Plantaris externa*, paſſes on concave Side of the Os Calcis obliquely, under the Sole of oot, to the Baſis of the fifth Metatarſal Bone; and from ce runs in a kind of Arch toward the great Toe, commu- ing there with the *Tibialis anterior*, which perforates the oſſeous Muſcles, in the Manner already ſaid.

he convex Side of this Arch ſupplies both Sides of the laſt Toes, and the Outſide of the ſecond Toe, forming ſmall municating Arches at the End, and ſometimes at the Mid- f each Toe, as in the Hand. The concave Side of the furniſhes the neighbouring Parts.

he ſmall Branch, or *Arteria Plantaris interna*, having 'd beyond the Middle of the Sole of the Foot, is divided two; one of which goes to the great Toe, communicating the Branch of the *Tibialis anterior*; the other is diſtributed e firſt Phalanges of the other Toes, communicating with amifications from the Arch already mention'd.

he *Arteria Peronæa* runs down on the back Side of the Fibula, between the Soleus and Flexor Pollicis; to which, and to the neighbouring Parts, it gives Branches in its Paſſage.

Having reach'd to the lower third Part of the Fibula, it ſends off a conſiderable Branch, which runs in between the Tibia and that Bone, paſſing between their Extremities, from behind, forward, below the Interoſſeous Ligament, and is diſtributed to the Integuments of the Tarſus.

Laſtly, the *Peronæa* continuing its Courſe downward, on the back Side of the Fibula, as far as the Os Calcis, forms an Arch with the Tibialis poſterior, between the Aſtragalus and the Tendo Achillis.

From thence it runs outward, and, a little above the outer Ankle, communicates with the *Tibialis anterior* by an Arch, which ſends ſeveral ſmall Ramifications to the neighbouring Parts.

In this Deſcription of the *Arteries*, I have ſaid nothing of the Cutaneous Anaſtomoſes, which are exceedingly beautiful in the Fœtus; nor of the frequent and conſiderable Communications of ſmall *Arteries* upon the Perioſteum, which form a delicate kind of Net-work, or Rete Mirabile.

EXPLICATION *of* TABLE *the Fourth, which repreſents the Situation of the principal Blood-veſſels.*

From EUSTACHIUS.

TABLE IV.

1. The Heart.
2. The *external Jugular*, on the Right Side, cut off.
3. The *internal Jugular* on the Left Side.
4. 4. The *Subclavian Veſſels* on each Side.
5. 5. The *Axillary Veſſels*, ariſing from the *Subclavian*.
6. 6. The *Cephalic Vein* on each Side.
7. 7. The *Vena Mediana* on each Side.
8. The *Vena Baſilica* on the Right Side.
9. The inferior Part of the *Aorta Deſcendens*.
10. The *Vena Cava*.
11. The *Emulgent Veins*.
12. The *Kidneys*.
13. The *Iliac Veſſels* on each Side.
14. The Blood-veſſels of the *Penis*.

EXPLICATION *of the Fifth* TABLE, *repreſenting the Arteries diſſected out.*

From DRAKE.

TABLE V.

1. The *Aorta*, or *Arteria magna*, cut from its Origin at the Orifice of the Left Ventricle of the Heart.

A. The three ſemilunar Valves of the *Aorta*, as they appear when they hinder the Blood from coming back into the Left Ventricle, when the Heart is in *Diaſtole*.

2. 2. The Trunk of the *Coronary Arteries* of the Heart, ariſing from the Beginning of the *Aorta*.

3. *Ligamentum Arterioſum*, not well expreſs'd.

4. 4. The *Subclavian Arteries*, ariſing from the *Arteria magna*; from which the *Axillary Arteries*, and thoſe of the Arms, (23. 23.) are continued.

5. 5. The two *Carotid Arteries*, the Right ariſing from the *Subclavian*, the Left from the *Aorta*.

6. 6. The two *Vertebral Arteries*, ariſing from the *Subclavicula*, which paſs thro' all the tranſverſe Proceſſes of the *Vertebræ* of the Neck, from whence they are here freed.

7. 7. The *Arteries* which convey Blood to the lower Part of the Face, Tongue, adjacent Muſcles, and Glands.

8. 8. The Trunks of the *Temporal Arteries* ſpringing from the *Carotids*, and giving Branches to the *Parotid Glands*, and to,

9. 9. The neighbouring Muſcles, hairy Scalp, and Forehead.

10. 10. Trunks which ſend Blood to the *Foramina Narium*, particularly the Glands of its *Mucous Membrane*.

11. 11. The *Occipital Arteries*, whoſe Trunks paſs cloſe by the *Mammiform* Proceſs, and are diſtributed on the hinder Part of the hairy Scalp, where they are inoſculated with the Branches of the *Temporal Arteries*.

12. 12. *Arteries* which carry Blood to the *Fauces*, *Gargareon*, and Muſcles of thoſe Parts.

B. B. A ſmall Portion of the *Baſis* of the Skull, that is perforated by the *Artery* of the *Dura Mater*, here expreſs'd, with Part of the *Dura Mater* remaining to it.

13. 13. The Contorſions of the *Carotid Arteries*, before they paſs the *Baſis* of the Skull to the Brain.

14. 14. Thoſe Parts of the *Carotid Arteries*, where they paſs by each Side of the *Sella Turcica*, where divers ſmall Branches ariſe from them, and help to compoſe the *Rete Mirabile*, which is more conſpicuous in Quadrupeds than Men.

C. The *Glandula Pituitaria*, taken out of the *Sella Turcica*, lying between the two contorted Trunks of the *Carotid Arteries* (14. 14.).

D. D. The *Arteriæ Ophthalmicæ*, which ſpring from the *Carotids* before they enter the *Pia Mater*.

15. The Contorſions of the *Vertebral Arteries*, as they paſs the tranverſe Proceſſes of the firſt *Vertebræ* of the Neck, towards the great *Foramen* of the *Os Occipitis*. We have, more than once, taken Notice, that the Cavities of theſe *Arteries*, where they are contorted, have been larger than their inferior Trunks; whereby the *Impetus* of the Blood muſt neceſſarily be very much leſſen'd, as well as by their Contorſions only. In Quadrupeds the Angles of three Contorſions of the *Arteries* of the Brain are more acute, which in them is the more neceſſary to leſſen the Force of the Blood at their Extremities, by reaſon of the horizontal Poſition of their Trunks.

16. The two Trunks of the *Vertebral Arteries*, that lie on the *Medulla Oblongata*.

17. The communicant Branches between the *Carotid* and *Cervical Artery*.

18. 18. The Ramifications of the *Arteries* within the Skull; the larger Trunks of which lie between the Lobes of the Brain, and in its *Sulci*. From the Extremities of theſe *Arteries* of the Brain are continued its Veins, whoſe Trunks vary much in their continued Poſition from the *Arteries*, theſe entering the Brain at its *Baſis*, and diſtributing themſelves, as above noted; whereas the Trunks of the Veins are extended on the Surface of the Brain, and diſcharge their Blood into the longitudinal *Sinus*. Nor do the Veins of the Brain accompany their *Arteries* at their Ingreſs, as in other Parts, and as the *Arteries* and Veins of the *Dura Mater* do; both which paſs thro' the ſame *Foramen* in the *Baſis* of the Skull, B. B.

E. E. The *Arteries* of the *Cerebellum*.

19. 19. The *Arteries* of the *Larynx*, *Thyroid Glandules*, and adjacent Muſcles and Parts, ariſing from the *Subclavian Arteries*.

20. 20. Others ariſing near the former, which convey Blood to the Muſcles of the Neck and *Scapula*.

21. 21. The *Mammariæ*, which ariſe alſo from the *Subclavian Arteries*, and deſcend on the Cartilages of the true Ribs internally, about half an Inch diſtant, on each Side the *Os Pectoris* or *Sternum*. Some Branches of theſe paſs thro' the Pectoral as well as Intercoſtal Muſcles, and give Blood to the *Mammæ*, where they meet with ſome Branches of the *Intercoſtal Arteries*, with which they are inoſculated.

Theſe *Mammary Arteries* join with the large Trunks of the *Epigaſtrics* (57. 57.) alſo, by which means the *Impetus* of the Blood of the Integuments of the *Abdomen* is carried on with more Force: The Extremities of the *Intercoſtal* and *Lumbal Arteries* alſo inoſculate with each other, as well as theſe.

22. 22. The *Arteries* of the Muſcles of the *Os Humeri*, and ſome of thoſe of the *Scapula*.

23. 23. Thoſe Parts of the large Trunks of the *Arteries* of the Arm, which are liable to be wounded in opening the *Vena Baſilica*, or innermoſt of the three Veins in the bending of the Cubit.

24. 24. The Diviſions of the *Arteries* of the Arm, below the Flexure of the Cubit.

25. 25. A communicant Branch of an *Artery*, ariſing from the Trunk of the *Artery* of the Arm, above its Flexure at the Cubit, which is inoſculated with the *Arteries* of the Cubit below. In ſome Subjects you will not find this communicant Branch, as here repreſented, in whom there are divers ſmaller Branches of the ſame Kind. By theſe communicant Branches of the upper Part of the *Brachial Artery* with thoſe of the Cubit, the Blood ſtill paſſes, tho' the Trunk (23.) is firmly tyed; which is done in taking up the *Artery*, as it is call'd, when 'tis wounded in the Caſe of an *Aneuryſm*: Beſides firmly tying the Trunk of the *Artery* above the Place where it is wounded, it is alſo neceſſary to tye it in like manner below, leſt the Blood, convey'd by the communicant Branches to the inferior Trunk, ſtill pours out at the Wound of the *Artery* from below, in a retrograde manner.

26. The *external Artery* of the Cubit, which makes the Pulſe near the *Carpus*.

27. 27. The *Arteries* of the Hands and Fingers.

28. 28. The deſcending Trunk of the *Arteria magna*.

29. The *Arteria Bronchialis*, ſpringing from one of the *Intercoſtal Arteries*: It ſometimes ariſes immediately from the deſcending Trunk of the *Aorta*; at other times from the *ſuperior Intercoſtal Artery*, which ſprings from the *Subclavian*. Theſe *Bronchial Arteries* inoſculate with the *Pulmonary Arteries*. *Vid. Ruyſch. Epiſt. Anatom.* 6 Fig. c. c. c.

30. A ſmall *Artery*, ſpringing from the fore Part of the *Aorta Deſcendens*, paſſing to the *Gula*. *Ruyſch* tells us of Branches of *Arteries* from the *ſuperior Intercoſtal*, which go to the *Gula*.

31. 31. The *Intercoſtal Arteries* on each Side the *Arteria magna Deſcendens*.

N. B. *The Repreſentations of the Arteries in this Plate, from* Fig. 32. *to* Fig. 42. *are not as they uſually appear in Subjects. The References alſo do not agree with the Figures; and the Whole, in this Place, is much confuſed.*

32. The Trunk of the *Arteria Cœliaca*, from whenc ſpring,

33. 33. 33. The *Hepatic Arteries*, and,

34. The *Arteria Cyſtica*, on the Gall-bladder.

35. *Arteria Coronaria Ventriculi inferior.*

36. The *Pylorica*.

37. The *Epiploica Dextra*, *Siniſtra*, and *Media*, ſpringin from the *Coronaria*.

38. The Ramifications of the *Coronary Artery*, which em brace the Bottom of the Stomach.

39. *Coronaria Ventriculi ſuperior.*

40. 40. The *Phrenic Arteries*, or the two *Arteries* of t Diaphragm; that of the Left Side ariſing from the Trunk the *Arteria magna*; the Right ſpringing from the *Cœliaca*.

41. The Trunk of the *Splenic Artery*, ariſing from the *C liaca*, contorted.

42. Two ſmall *Arteries*, going to the upper Part of the *D denum* and *Pancreas*; the reſt of the *Arteries* of the *Pancr* ſpring from the *Splenic Artery* in its Paſſage to the Spleen.

43. The Trunk of the *Arteria Meſenterica ſuperi* turn'd towards the Right Side.

44. 44. The Branches of the *ſuperior Meſenteric Arte* freed from the ſmall Guts. Here the various *Anaſtomoſes* Branches of this *Artery* make in the *Meſentery* before th arrive at the Inteſtines, may be obſerved.

45. The *inferior Meſenteric Artery*, ariſing from the *Arte magna*.

46. 46. 46. Remarkable *Anaſtomoſes* of the *Meſenteric tery* with the *Superior*.

47. 47. The Branches of the *inferior Meſenteric Artery*, they paſs to the *Inteſtinum Colon*.

48. Thoſe of the *Rectum*.

49. 49. The *Emulgent Arteries* of the Kidneys.

50. The *Vertebral Arteries* of the Loins.

51. 51. The *Spermatic Arteries*, which deſcend to *Teſtes*, and are ſo ſmall as to eſcape being fill'd with Wax.

52. *Arteria Sacra.*

53. 53. *Arteriæ Iliacæ.*

54. 54. *Rami Iliaci externi.*

55. 55. *Iliaci interni*, which are larger in the *Fœtus*, portionably, than in the Adult, by reaſon of their Conjunc with the two *Umbilical Arteries*.

56. 56. The two *Umbilical Arteries* cut off; that of Right Side being drawn as in the *Fœtus*; the Left is expr as in an Adult.

57. 57. The *Epigaſtric Arteries*, which aſcend under Right Muſcles of the *Abdomen*, and are inoſculated with *Mammariæ*, as above noted.

58. 58. Branches of the *external Iliac Arteries*, p between the two oblique Muſcles of the *Abdomen*.

59. 59. Branches of the *internal Iliac Arteries*, which vey Blood to the *Extenſores* and *Obturatores* Muſcles of Thighs.

60. 60. The Trunks of the *Arteries*, which paſs to *Penis*.

61. 61. The *Arteries* of the Bladder of Urine.

62. 62. The *internal Arteries* of the *Pudendum*, w with thoſe here expreſs'd of the *Penis*, make the *Hypogaſtric teries* in Women. The *external Arteries* of the *Pude* ariſe from the upper Part of the *Crural Artery*, which is mediately below the Epigaſtrics.

63. The *Penis*, diſtended with Wind, and dry'd.

64. The *Glans Penis*.

65. The upper Part or *Dorſum Penis*, cut from the of the *Penis*, and raiſed to ſhew the *Corpora Cave Penis*.

66. 66. *Corpora Cavernoſa Penis*, freed from the *Pubis*, and tyed after Inflation.

67. The two *Arteries* of the *Penis*, as they appear in with Wax, in each cavernous Body of the *Penis*.

68. The *Capſula* and *Septum* of the *Corpora Cave Penis*.

69. The *Crural Arteries*.

70. 70. The *Arteries* which paſs to the Muſcles o Thighs and *Tibiæ*.

71. That Part of the *Crural Artery* that paſſes the Ha

72. The three large Trunks of the *Arteries* of the Le

73. The *Arteries* of the Foot, with their commun Branch, from their ſuperior to their inferior Trunk, a as their Communications at the Extremity of each To thoſe of the Fingers. *Drake's Anatomy*.

ARTERIACA, ἀρτηριακὰ, are Medicines againſt th orders of the Voice and *Aſpera Arteria*, whence they tak Name. *Blancard*.

ARTERIOTOMIA, Arteriotomy. The opening Artery with a View of taking away Blood.

This Operation was much practiſed by the Antients, now actually much in Uſe in ſome foreign Nations, b rare in *Europe*. *Oribaſius* gives an Account of it from nd *Antyllus*: *Paulus Ægineta* ſpeaks of it as a thing com- only practiſed; and *Proſper Alpinus* tells us, it is frequently erformed in *Egypt*. It is from theſe Authors, and *Heiſter*, I hall give the Particulars of Arteriotomy.

Phyſicians cut the *Temporal Arteries* for a Defluxion of hot nd flatulent Humours into the Eyes, and the *Arteries* behind he Ears of Perſons ſubject to a Vertigo, eſpecially if they have een long afflicted with Diſorders in the Head, proceeding from Heat and Wind, or any other chronic Diſtemperature of that art.

When any other Place is affected, they do not cut the *Arte- ies*, though there are many Parts which require to be relieved his way, rather than by opening a Vein; for where-ever a Diſ- der ariſes from a Collection of hot and flatulent Blood in the *rteries*, the affected Part requires *Arteriotomy*. But ſince it is fficult to ſtop the Flux of Blood, and when the Wound is ought to cicatrize, there commences an *Aneuryſm*; for theſe eaſons, Phyſicians have been cautious of opening the larger *rteries*; and as for the ſmaller, they forbear them, as think- g them of little Service: However, the Cutting of a ſmall *Ar- y* has been known to do much Good, and the Wound has en cicatrized without an *Aneuryſm*; and even if one of the ger *Arteries* be opened, a Cicatrix may be induced on it ithout an *Aneuryſm*, that is, by means of cutting it quite ough, the doing of which has often delivered the Patient om the Danger of an Hæmorrhage. For it plainly appears, t when the *Artery* by a croſs Section is divided in two, both rts being retracted, one retires upwards, and the other down- rds. For my own part, having received ſome clear Admo- tions in my Dreams, I cut the *Artery* which lies between the umb and Fore-finger of my Right Hand, and ſuffered the od to flow till it ceaſed of itſelf; for ſo I was ordered in Dreams; but the Quantity was leſs than a Pound. By this ans an inveterate Pain, which principally affected that Part ere the Liver joins to the Diaphragm, went off on a ſudden. other, by a Wound in his Ancle, had an *Artery* cut, which ſed not to bleed, till I was ſent for; when I came, I di- ed the *Artery* in two, after which I applied a Remedy, which ſiſted of Aloes, Frankincenſe, and Whites of Eggs, ſpread n the ſoft Fur of Hares; and the Wound was cicatrized hout an *Aneuryſm*, the Orifice of the *Artery* being incarn'd; the Patient, who for four Years paſt had felt a Pain in his , with very ſhort Intervals, was perfectly cured from that e. This Succeſs has often induced me to uſe *Arteriotomy* e Joints of the upper Extremities, and in the Head itſelf, ll Pains proceeding from a hot and flatulent Matter; but cially when a Membrane is affected with a ſort of pricking , which extends itſelf by Degrees in ſuch a manner, that pungent Senſation ſeems, as it were, fixed in the Centre he Place affected, while all the circumjacent Parts labour r a Tenſion. *Oribaſius, Med. Collect. Lib.* 7. *Cap.* 13. n *Galen.*

e cut the Artery that lies under the Top of the Head to- ds the hinder Part, among the Tendons; or we open the y behind the Ears, or thoſe which lie on each Side of the r towards the fore Part of the Head, for they belong to the al and middle Sutures. Thoſe *Arteries* which reach from Temples to the Forehead, are not cut, becauſe they are ted againſt a Muſcle; but they may be ſafely opened, if Patient, in Compliance with Directions, move his Cheeks ly, by which means all the Muſcles of the Temples, through- their whole Extent, are viſibly put in Motion. We have pportunity then of letting alone the Part in the Forehead moves, and making the Section in the Part that is at Reſt. ever, the Blood does not flow very faſt, nor in any great tity, from theſe *Arteries*, becauſe of their Smallneſs; nor it iſſue forth with much Spirit, becauſe they approach the re of Veins. The *Arteries* before the Ears, where the les of the Jaws ariſe, are very firm and ſtrong; but are n cut without Danger, becauſe of the Nearneſs of the les, and the Foldings of the Membranes of that Place. e *Arteriotomy* on the Occiput, the *Artery* is to be cut home Bone, which is to be ſcraped, that Fleſh may repullulate it for the Reception of the Mouths of the *Artery*. In g the *Artery*, the beſt way is to treat it like a Varix, by it up with the Forceps, or ſome ſuch Inſtruments, and g not a great Inciſion, but ſeveral ſmall ones. When ve drawn off a ſufficient Quantity of Blood, the Veſſel e taken up with the Forceps, and quite divided; for by eans it will never be joined again, nor will there be any r of an Hæmorrhage, the Mouths of the *Arteries* being back into the Fleſh. *Oribaſius, Med. Coll. Lib.* 7. *Cap.* om *Antyllus.*

Defluxions in the Eyes of long Standing, and vertiginous ions, we uſe to cut the *Arteries* behind the Ears. In order Operation, the hinder Part of the Head is firſt to be , and then felt with the Fingers; for by the Pulſe in ace, we very eaſily diſcover the Situation of the *Artery*. en cut home to the Bone, making an Inciſion of two Breadth in Length, the Place being before marked with Ink. If we miſs the *Artery*, we are to take the Diſtance of three Fingers Breadth from the Ears, and perform the Operation, cutting the *Arteries* acroſs, till we perceive the Blood to flow with a Pulſation, and our Inſtrument touches the Bone. After taking away a moderate Quantity of Blood, we divide the Pericranium, that it might not be diſtended, and ſo inflamed; and having ſcraped the Bone, thruſt a Linen Tent into the Wound, and heal it with Dreſſings of Lint. If the Bone in that Place ſtill remains bare, we repeat the ſcraping it. *P. Æginet. Lib.* 6. *Cap.* 4.

Arteriotomy, or the opening *Arteries* in order to procure an Evacuation of Blood, was among the *Egyptians* an Operation as common, and undertaken with as little Dread, as Veneſection itſelf. This Practice they not only uſed on many Occaſions, but looked upon it as a divine Secret, and the ſafeſt and moſt infallible Means of Recovery in long-ſtanding and inveterate Inflammations of the Eyes; as alſo for long-protracted Head-achs, and obſtinate Pains of the Viſcera.

Some Phyſicians in After-ages declared themſelves Enemies to this Practice, and ſupported their Judgment by a Paſſage of *Galen*, who [*in Lib. de Curat. per Sang. Miſſ.*] has theſe Words: "I have known ſome die in Conſequence of the in- "terior *Artery* of the Cubit lying under the Vein being open- "ed. In ſome I have found Grangrenes immediately pro- "duced by the Application of Bandage, with a View to ſtop "the Hæmorrhage; and I have known others expire under "the Operation for the Aneuryſm." They imagined, that an opened Artery could not be agglutinated, and that the Danger of an Aneuryſm, at leaſt, and even of Death itſelf, muſt of Conſequence be the Reſult of *Arteriotomy*. But theſe Phyſicians ſeem to have forgot the Reaſoning of *Galen* their great Maſter, in the ſixth Chapter of the fifth Book of his *Methodus Medendi*, where he uſes theſe Words: "Some, ſays he, aſſert that "one of the Coats of an *Artery* is hard and cartilaginous; and "a Subſtance of that Nature cannot poſſibly coaleſce and ag- "glutinate, ſince a Diſpoſition to join and unite is only found "in ſoft Bodies. As in external Objects we do not find, that a "*Stone*, for Inſtance, unites with its Neighbour *Stone*, nor a "*Shell* with a *Shell*; ſo neither with ourſelves do *Cartilages* "unite with *Cartilages*, nor *Bones* with *Bones*; for broken "Bones do not cohere by *Union*, but are joined by a glutinous "*Callus*, which the *Greeks* call πόρος. It muſt be owned, "that ſuch is the Nature of an *Artery* as to render the Agglu- "tination of its hard Coat difficult; but yet this Difficulty is "not altogether unſurmountable, ſince an *Artery* is neither ſo "dry nor ſo hard as a Bone or Cartilage, but much ſofter, and "of a more fleſhy Nature. And we have the leſs Reaſon to "deſpair of agglutinating the Orifice of an *Artery*, ſince the "*Artery* itſelf is ſmall, and the Body of a Man of a ſoft and "yielding Nature. Experience herſelf ſeems in this Caſe to "join her friendly Voice to Reaſon, ſince in Children and Wo- "men, who have moiſt and ſoft Bodies, I have ſeen the *Arteries* "agglutinated; and eſpecially in one Youth, who had one "of his *Arteries* ſlightly cut. But though an Orifice in an "*Artery* is more difficultly agglutinated, than that in a Vein, "yet the Medicines uſed in both Caſes are not very different, "but plainly of the ſame Species, and only vary in Degree; "for an *Artery* requires Medicines ſomewhat drier than a Vein; "but if the Intention is to produce Fleſh around the Orifice, "the Medicines to be uſed are the ſame in both Caſes." Two things concur to render the Agglutination of *Arteries*, and the Cure of Ulcers formed in them, difficult; for, as *Galen* juſtly obſerves, that Ulcers in the Lungs cannot be cured by reaſon of their continual Motion; ſo the Motion and Pulſation of the *Arteries* is a great Obſtruction to the Agglutination of Wounds made in them. The Difficulty of Agglutination is alſo augmented by the Hardneſs of that Subſtance of which the *Artery* conſiſts. The Pulſation of the *Artery* is moſt efficaciouſly prevented by the Application of a ſmooth, round and thick Plate of Braſs, after having duly united the Orifice.

The *Egyptians* uſed to open all the *Arteries* diſcoverable in the Head; for in Head-achs of a long ſtanding, eſpecially ſuch as are attended with Pulſation, and in all Inflammations of the Head, they uſed to cut the *Arteries*, and thoſe placed behind the Ears; in opening all of which they were ſucceſsful; but they moſt commonly opened that in the Forehead, eſpecially in caſe of old Inflammations of the Eyes; and I myſelf, when in *Grand Cairo*, ſaw many cured, as by a Charm, of old Head-achs, and obſtinate Inflammations of the Eyes, by opening the *Artery* in the Forehead, and making a ſudden Evacuation of Blood. This Practice was known to *Galen*, as is plain from theſe Words in the fourteenth Book of his *Methodus Medendi*: "The Head, ſays he, muſt be ſhaved, and thoſe *Arteries* "which are ſituated near the Ears, and thoſe behind them, "thoſe alſo in the Forehead and Temples, are to be carefully "felt. And thoſe of them which are felt warmer, and whoſe "Pulſation is ſtronger than that of the others, are to be cut. "But of thoſe which are ſmall, and lie near the Skin, it is "proper to cut out a Part, as we uſed to do in *Varices* of the "Legs." This Practice is very frequent among the *Egyptians*, and that very deſervedly, ſince the *Arteries* which appear large and warm, contain much hot Blood mixed with a kind of flatulent Matter.

“ Among the ſeveral *Arteries* of the Head, the *Temporal* is ſometimes burned; and this is done with a View to intercept and cut off theſe ſubtile Defluxions, which fall down upon the Eyes: And the two *Arteries* behind the Ears are opened for certain Species of Opthalmies, watry Humours, *Nyctalops*, and old Pains of the Liver; but there is always ſome Danger in opening them, and they require a long Time to conſolidate.”

I never indeed ſaw the *Egyptian* Phyſicians cut an *Artery* quite thro', or contract any Part of it; but I have often ſeen them open *Arteries* juſt as we do Veins. They often burn the *Temporal Arteries* in order to prevent Fluxions on the Eyes; for which Reaſon you may obſerve many People in all Parts of *Egypt* with their Temples burned. This Practice of burning the *Temporal* and other *Arteries*, they firſt had from *Ethiopia*; for many of the *Ethiopians* and *Abyſſinians* uſe this Method of burning. I never ſaw, that any of them uſed this Operation on the *Arteries* behind the Ears for Diſorders of the Eyes, and Pains of the Liver; for when the Liver is affected, they uſed to open the *Artery* between the Thumb and Fore-finger, which Practice is alſo approved of by *Galen*, in his Book *De Curat. per Sang. Miſſ.* Theſe Phyſicians alſo told me, that they opened the *Jugular Arteries* in Patients who were in Danger of Suffocation, but I never had an Opportunity of ſeeing that Operation performed. They open the *Artery* between the Thumb and fore Finger, for Pains and Inflammations of the Viſcera. The Method of opening an *Artery* among the *Egyptians* was this: The Operator firſt of all applies a Linen Ligature to the Part in which the *Artery* is to be opened, juſt as in Veneſection; and ſuffers the *Artery* to become turgid, and full of Blood; then he makes an oblique Inciſion with a very ſharp Lancet or Inciſion-knife; but in performing this Operation, the Inciſion ought always to be made very little, becauſe the Blood contained in the *Arteries* is very thin, and becauſe a large Orifice agglutinates with more Difficulty than a ſmall one. Having thus opened the *Artery*, he takes away as much Blood as he judges neceſſary: But the Rule obſerved by moſt, with regard to the Quantity of Blood to be taken, is to let it flow till it ſtops of its own Accord. When a ſufficient Quantity is taken away, they bring the divided Lips of the *Artery* into Contact with their Fingers, juſt as we uſe to do theſe of Veins; then they apply a little Cotton to the Orifice of the *Artery*, over which they lay a large Braſs Coin, called by them *Follara*, which they tye upon the wounded *Artery* for three Days; at the End of which Time they take away the Ligature and Coin, uſing no other Step in the Cure; and all the times I ſaw this Operation performed, I obſerved the Patients rendered entirely ſound by the foregoing Method. Others, before tying the *Artery*, and applying the Cotton to it, uſe a little Frankincenſe made warm in the Flame of a Candle, with which they unite the Lips of the Orifice; then they apply the Cotton, and, laſt of all, the *Follara*. Two things then, in the *Egyptians* Method of performing this Operation, deſerve to be duly reflected upon: Firſt, that they made the Inciſion very ſmall, oblique, and with a very ſharp Inſtrument. Secondly, the Application of the Braſs Coin, by means of the Coldneſs and Hardneſs of which the Pulſation of the *Artery* was ſo far deſtroy'd, as to allow the Agglutination and Cure of the Inciſion made in the *Artery*. *Proſper. Alpini Medicina Ægyptiorum.*

The Word *Arteriotomy*, according to its Etymology, ſignifies that Chirurgical Operation, by which, for the Safety of the Patient, the *Arteries* are opened almoſt in the ſame manner with the Veins, in order to procure a Diſcharge of Blood. But though in our own Days this Operation is not ſo frequently attempted as in former Ages, for fear not only of too great an Effuſion of Blood, but alſo of an *Aneuryſm*; yet if it be cautiouſly performed, it has the Suffrage of the greateſt Phyſicians in its Favour, as being a Practice of ſingular Uſe, and unattended with any bad Conſequences. Accordingly we read of the more antient Phyſicians opening *Arteries* in various Parts of the Body; in the Forehead, for Inſtance, in the Temples, behind the Ears, in the hinder Part of the Head, between the Thumb and the fore Finger, and in every other Part of the Body where the Pulſation was felt by the Touch. The modern Phyſicians, on the other hand, ſcarce open any other *Artery* than that ſituated in the Temples; for it is generally moſt eaſily opened, becauſe it is ſufficiently expoſed to the Touch; and its Aperture is attended with the leaſt Danger, either of an Effuſion of Blood, or an *Aneuryſm*, becauſe it lies on the *Os Frontis*, and may therefore be eaſily compreſſed. No one in his Senſes will, however, deny that 'tis, for the moſt part, far more difficult to open *Arteries* than *Veins*, ſince the former are not expoſed to our Sight, but muſt be diſcovered by the Impreſſions made on the Touch by their Pulſations. But not to ſpend Time in deſcribing the now obſolete Methods of *Arteriotomy* practiſed by the Antients, I come to give an Account of that uſed by ſome of the later and more modern Surgeons.

The firſt Step then to be taken is, to place the Patient in
Chair or Bed, and make him recline his Head from that Sid
on which the *Artery* to be opened lies. Then the Surgeon i
carefully to explore and find out the *Artery*, in which the In-
ciſion is to be made; the moſt proper Method of doing which
is by applying his Left Hand to the Temple in which it lies
Then having diſcovered the *Artery* by its Pulſations, and dul
obſerved its Situation, he is to fix and ſecure it by his two fir
Fingers, which muſt yet be removed at ſuch a Diſtance fro
each other, that a Lancet may be commodiouſly paſſed betwee
them into the Cavity of the *Artery*. But the Lancet muſt, fo
the moſt part, be paſſed deeper in this Operation than in Vene
ſection, and carried tranſverſly upwards in its Retraction,
the end the *Artery* may be the more infallibly reached; nor
there any Danger, though the whole *Artery* ſhould be cut aſu
der. As ſoon therefore as the Inciſion is made, if a ruddy a
florid Blood, whoſe Stream, as it were, beats Time to t
ſeveral Pulſations of the *Arteries*, burſts from the Orifice,
are ſure the *Artery* is opened, and the Operation well pe
formed. But if it ſhould happen otherwiſe, the Lancet is
ſecond time to be paſſed deeper, till by the forementioned Sig
we diſcover, that the *Artery* is either opened, or cut aſunde
But as the Point of an ordinary Lancet is ſlender, and may
this Occaſion be eaſily broken on the Bones of the Head, I ha
learned from Experience, that this *Artery*, eſpecially if the I
ciſion is made downwards, and not upwards, may more comm
diouſly be laid open by a ſtrait Inciſion-knife, repreſented
the Letter G, in *Tab*. 22. But that the Operation may pr
duce the more happy Effects, a large Quantity of Blood, t
is, a Pound, or, if a Plethora call for it, a Pound and an ha
may be allowed to flow from the *Artery*, otherwiſe its havi
been opened proves of little Service; ſo that we need not
ſurpriſed at the antient Phyſicians, whoſe Practice was to all
the Blood to flow till ſuch time as the Patient began to fa
away. If an *Artery* is to be opened behind the Ear, in
back Part of the Head, or in any other Part of the Body,
ſame Method is to be followed, ſo far as the different Situati
of Parts, and other Circumſtances, will admit of it.

When as much Blood is taken from the Patient as the P
ſician ſhall judge proper, Bandage muſt be forthwith appli
for which Purpoſe three ſquare Compreſſes of different S
muſt be provided. The leaſt of theſe muſt be applied im
diately to the Orifice, the intermediate one over it, and
largeſt over both: Nor on this Occaſion is it improper to
up a Piece of Money, or a ſmall Piece of Lead, in the und
moſt or intermediate Compreſs, or to apply a Piece of che
Paper to the Orifice itſelf, uſing the Compreſs at the ſame t
over it; for thus the Blood will not only be the more e
ſtopped, but the opened *Artery* the more effectually preſe
from burſting out afreſh. And that all theſe may be the m
ſecurely fixed upon the Wound, the knotted Bandage,
FASCIA NODOSA) or ſome other proper Bandage, muſt
applied pretty tight, and kept ſo for about eight Days,
an *Hæmorrhage* or *Aneuryſm* may be the more effectually gu
ed againſt; and if it ſhould happen to be relaxed, it is a
carefully to be rendered tight, and ſo kept, if poſſible, till
Wound is entirely agglutinated.

As for the Uſes of *Arteriotomy*, they are by ſome Phyſi
extolled as ſo numerous, and of a Nature ſo uncommon,
the moſt obſtinate Diſeaſes of the Head and Eyes, pro
they owe their Origin to too great a Quantity of Blood,
receive remarkable Relief from this Operation, even after
have reſiſted the Force of all other Medicines. It is a
common Obſervation, that *Arteriotomy* is generally highly
ficial in Vertigos, obſtinate Head-achs, Epilepſies, Suffu
and Inflammations of the Eyes, proceeding from too gr
Quantity of Blood. And *Catherwood*, a late *Engliſh* W
has in a Book, intituled, *A new Method of curing the Apo*
endeavoured to ſhew, that the *Morbus Attonitus*, or *Apo*
may be very ſpeedily removed by it; but I muſt on this C
ſion take Notice, that I myſelf performed the Operatio
Arteriotomy upon two *Apoplectic* Patients, one of whom
young, and the other old; but they both ſoon after died,
withſtanding the Operation was performed in the very B
ning of the Diſeaſe, and other proper Remedies were uſe
that *Arteriotomy* is not always effectual in Apoplexies.
Arteriotomy then is obſerved in many Caſes to be attended
Advantages ſuperior to thoſe of Veneſection, and ſinc
whole Danger of it may be prevented by proper Compre
Bandage, we may hence be enabled to make a due Eſtim
the Opinion of thoſe who not only pronounce it dang
but alſo place it upon a Level with Veneſection in point o
cacy. Notwithſtanding what has been ſaid, I muſt never
own, that thoſe Phyſicians moſt effectually conſult bo
Welfare of the Patients, and their own Reputation, who
eaſes, where Life is not immediately threatened, never ha
courſe to *Arteriotomy*, till they have found all other Remedi
fectual. But, that the Effects to be expected from this O
tion may be the more ſpeedily and ſenſibly produced, it
neceſſary, at the ſame time, to injoin a proper Regime

Medicines, that have a Tendency to remove the Diſorder
r which the Patient labours, and for which the Opera-
was performed. *Heiſter's Inſtitutiones Chirurgicæ.*
RTETISCIUS, ARTETISCOS. One who ſuffers the
of any Member. *Rulandus.*
RTHANITA. A Plant of which *Dale* mentions two
. The firſt is the
thanita Cyclamen, Offic. *Cyclamen*, Schrod. Lib. 4.
. *Cyclamen orbiculato folio*, Ger. 694. Emac. 843. *Cy-*
n orbiculato folio inferne purpuraſcente, C. B. Pin. Tourn.
154. Elem. Bot. 158. Boerh. Ind. A. 2. 150. Hiſt.
n. 3. 552. *Cyclamen vulgare, folio rotundo*, Park. Parad.
Cyclaminus folio rotundiore vulgatior, J. B. 2. 551. Raii
2. 1205. *Cyclamen, Panis Porcinus*, Chab. 510. SOW-
EAD.
he Root of Sowbread is round, and ſomewhat flattiſh,
ſmall Turnep, of a dark-brown Colour on the Outſide,
ſeveral dark Fibres ſhooting from the Bottom. The
es grow on thick, reddiſh Stalks, of a darkiſh Green
, frequently marked with white Spots, and underneath
reddiſh or purpliſh Colour, in Shape like the Leaves of
abacca, round, and hollow'd in next the Stalk. Among
ariſe the Flowers, each on its own Foot-ſtalk, which
ally ſlendereſt next the Ground. They are made up of
ſingle pendulous Leaf, divided into five ſharp-pointed
ents, which turn themſelves backward when they open,
re of a pale purple or bloom Colour: When theſe are fal-
the Stalk with the Seed-veſſel coils itſelf round towards the
like a little Snake: Sowbread is planted with us only in
ens, its native Place being the *Alps*, and the Mountains of
ia and *Styria*. It flowers in *September* and *October*.
he Root of Sowbread is very forcing, and principally uſed
ing away the Birth and the Secundines, and to provoke the
ſes. The Juice is commended by ſome againſt vertiginous
ders of the Head, uſed in Form of any Errhine. It is of
ce alſo againſt cutaneous Eruptions. *Miller's Bot. Off.*
le ſays it ſhould be uſed with Caution internally.
he ſecond is the
clamen Arthanita, Offic. *Cyclamen hederæ folio*, Ger.
Emac. 843. Raii Hiſt. 2. 1206. C. B. 308. Tourn. Inſt.
Boerh. Ind. A. 2. 151. Hiſt. Oxon. 3. 552. *Cyclamen*
hederæ, Autumnale, Park. Parad. 296. COMMON
BREAD.
is Species agrees in Virtues with the preceding; and is the
which is kept in our Shops. *Dale.*
RTHETICA, or ARTHRETICA, is the Herb Ground-
ſo called from ἄρθρον, a Joint. It cures Affections of the
. *Blancard.*
RTHOICUM is a red Oil extracted from the Roots of
together with Bread artfully digeſted in Dung. *Ruland.*
on.
ſhould rather be written Artoicum, as *Caſtellus* obſerves,
e derived from ἄρτος, Bread. *Rulandus* calls it alſo *Pan-*
.
RTHREMBOLUS, ἀρθρέμβολος, from ἄρθρον, a Joint,
μβάλλω, to impel, or force in. An Inſtrument, by means
ich the luxated Bone of a Joint is reſtored to its natural
and Situation. *Caſtellus* from *Sponius*.
RTHRITICA, ἀρθριτικὴ, is the ſame as
RTHRITIS, the Gout, from ἄρθρον, a Joint; as if we
ſay the Diſeaſe of the Joints, or Joint-evil.
much has been ſaid on this Diſtemper by Authors of almoſt
es; and ſo many trifling Theories have been erected with
to the Gout, that it would take up a great Number of
es to give only an Extract of what has been ſaid on this
s Subject. Much of this I ſhall therefore paſs over; and
eader will ſuſtain but little Loſs by this Omiſſion, becauſe
s in Practice, the only thing which can render a Theory
le, has not yet confirmed the Speculations of any Author;
uch that the Diſtemper has remained incurable, notwith-
g all the Viſions of Theoriſts, and Boaſts of Empirics.
e Method I ſhall take in this Article will be to give, firſt,
ntiments of two Authors only amongſt the Antients,
are *Aretæus*, and *Cælius Aurelianus*.
ondly, the Hiſtory of the Diſtemper from *Sydenham*.
irdly, the Hiſtory of the *Anomalous*, or Irregular Gout,
he Method of Cure, from *Muſgrave*.
d laſtly, I ſhall take the Liberty of making ſome Remarks
g to this obſtinate Diſtemper.

From ARETÆUS.

e Pain which affects all the Joints in common is an *Ar-*
; if it be ſeated in the Feet, it is called *Podagra*; if in
ps, it is a *Sciatica*; if in the Hands, a *Chiragra*: And
is, whether the Pain immediately attacks the Patient
ome ſudden Cauſe; or the Matter of the Diſeaſe, which had for a long time lain dormant, is, upon ſome ſlight Occaſion, kindled into a Fit. If the Diſeaſe becomes univerſal, it affects the whole nervous Syſtem. The Pain firſt ſeizes the Nerves, the Ligaments of the Joints, and all thoſe Parts which ariſe from and terminate in the Bones. And here it is Matter of great Admiration, that the Bones, which are utterly inſenſible to a Cut, or a Bruiſe, ſhould under this Diſtemper acquire ſo exquiſite a Senſation of Pain, as no Blows from an Iron Bar, no Compreſſion with Cords, no Wounds with a Sword, nor Burnings with Fire, are capable of producing, but are rather wiſh'd for and choſen as Alleviations and Remedies of greater Pains. Nay, if the affected Bones were even to be amputated, the Pain endur'd under the Section would be diminiſhed, as a ſmall thing is by Compariſon with a greater; or, if it ſhould happen to prevail, the Patient would by that means receive a Pleaſure from the Oblivion of his former Pain. Such then are the Miſfortunes which are incident to the Teeth, as well as the Bones.

The true and undoubted Cauſe hereof is only known to the Gods, but Men may be allow'd to aſſign a probable Reaſon for it, which I ſhall do in ſhort as follows. Bodies of a very denſe Subſtance are inſenſible to the Touch and Wounds, and therefore can feel no Pain from ſuch Impreſſions: For Pain is a Senſation of Aſperities; but a denſe Subſtance is not ſubject to be exaſperated, and therefore is unſuſceptible of Pain: On the contrary, whatever is of a rare Contexture, is quick of Senſation, and exaſperated with a Wound. But ſince denſe Subſtances are alſo animated by their native Heat, they exerciſe Senſation by the ſame Heat. Tho' there be a ſubſtantial efficient Cauſe then of a Wound, as a Sword, or a Stone, the Subſtance of the ſuffering Body receives no painful Senſation, becauſe of its natural Denſeneſs. But if the native Heat be alter'd from its juſt Temperament, the Senſation is perverted, and the Heat of ſuch Subſtances, being excited by an internal Impulſe of the ſenſitive Faculty, begets its own Pain; but Pains proceed from an Increaſe or Luxuriancy of Nature.

The *Arthritis* makes its Attacks afrer different Manners, according to the Nature of the Joint. Sometimes it ſeizes upon the Hips, and often leaves a Lameneſs behind it; but is more favourable to the reſt of the Members, and ſpares the ſmaller ones, as the Feet and Hands. For if it fixes on a large Member, which has Room to entertain it, it does not tranſgreſs the Bounds of that Limb; but if it begins with a ſmall Part, it makes its Entrance in a mild and unexpected manner. In the Sciatica it begins with the hinder Part of the Thigh, the Ham, or the Tibia; at other times the Pain ſeizes upon the Acetabulum of the Os Femoris, and then makes an Attack upon the Buttocks or Loins, and ſeems to be any thing rather than a Sciatica. In the Joints it begins its Courſe in the following manner: Firſt, the great Toe is ſeized with a Pain; after that, the fore Part of the Heel, on which we lay moſt Streſs; then the Cavity near the ſame Part, and laſt of all the Ancle-bone ſwells. The Patients aſcribe their Illneſs to wrong Cauſes; ſome lay the Fault on their new Shoes, others on a long Walk; one imputes it to a Stroke, another to a Tread: None thinks the Cauſe to be internal, nor will the Patients believe thoſe who are ſo wiſe as to tell them the Truth. For this Reaſon the Diſtemper becomes incurable, becauſe it is not oppoſed by a Phyſician in the Beginning, when it was in its weakeſt State; but when it has acquired Strength with Time, all the Care and Thought ſpent about it are thrown away. Some then are fetter'd with the Gout in their Feet during Life; in others it extends itſelf through the whole Compaſs of the Body; but for the moſt part it ruſhes from the Feet upon the Hands; for the Difference is not much, whether the Diſeaſe be in the Hands or the Feet, both theſe Parts being of the ſame Nature, ſlender and void of Fleſh, moſt expoſed to the outward Cold, and moſt remote from the internal Heat. Hence it aſcends to the Elbow and Knee, and ſeizes on the Acetabula of the Oſſa Femoris, where altering its Courſe, and winding about, it makes a Tranſition to the Muſcles of the Back and Thorax. The Diſorder ſpreads at an incredible rate, takes Poſſeſſion of the Vertebræ of the Neck and Spine, and fixes itſelf on the Extremity of the Os Sacrum; and though all theſe Parts labour under one common Diſeaſe, each Part has its peculiar Pain. To proceed, the Tendons, Glands, and Muſcles, ſuffer all together under Pain and Tenſion; the Muſcles of the Jaws, and of the Temples, and afterwards thoſe of the Kidneys and Bladder; and, what is moſt of all to be admired, the very Noſtrils, Ears, and Lips, are affected *, for Nerves and Muſcles are found in every Part.

A certain Perſon was afflicted with a Pain of the Sutures of the Head, and being ignorant of the Parts affected, deſcribed the Figures of the Sutures, as the oblique, ſtrait, and tranſverſe Sutures, on the fore and hinder Part of the Head, complaining of a dull Pain which had fix'd itſelf in the Bones; for the Diſeaſe prey'd as much upon every Cloſure of the Bones, as upon a Joint of the Foot or Hand. The Joints are alſo beſet with Calloſities, which at firſt reſemble an Abſceſs; but growing more and more condenſed, and the humid Matter being concreted, Inflexion becomes painful. At laſt white, ſolid Subſtances, or Tophi, are formed, and ſmall Tubercles, like Pimples in the Face, and ſometimes bigger, overſpread the Part. The Humour itſelf is white, thick, and of a Subſtance like Hail; and indeed the Nature of the Diſeaſe is to diffuſe a Coldneſs like that of Hail over the Body. To ſome this Diſtemper ſeems to conſiſt in ſomething different from Heat or Cold, for we receive Pleaſure ſometimes from one, and ſometimes from the other; but I am of Opinion, that the Diſeaſe is one in Eſſence, and has one Cauſe, that is, innate Cold. But if it ſhould increaſe very faſt, and there appear all the Signs of Heat, there is Need of Refrigeration, in order to mitigate and repreſs the Violence of this, which they call the hot Species of *Arthritis*. But if the internal Pain of the Nerves continues, and the Joint be cold, without any Swelling, the Diſeaſe may be ſaid to be of the cold Kind, for which heating Medicines are required for reſtoring Heat to the Part. And for the moſt part ſuch Medicines as are endued with a great deal of Acrimony are neceſſary to be uſed, which, by their ſtimulating Warmth, may raiſe the collapſed Parts into a Tumor, and draw the internal Heat to the Superficies; after which Refrigerants may be ſerviceable, as appears from conſidering that the ſame Treatment does not always agree with the ſame Patients; for what is beneficial at one time, proves hurtful at another; but, to ſay all in a Word, Heat is neceſſary in the Beginning, and Cold at the End. The *Podagra* is ſeldom perpetual; ſometimes it takes its Leave of the Patient for a long time together, becauſe it happens to be rareſy'd. A gouty Perſon at the Olympic Games, on a Remiſſion of his Fit, won the Prize at a Foot-race.

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* . *Petit* here takes Occaſion to profeſs his Wonder, how *Aretæus*, ſo exact and maſterly in his Deſcriptions, ſhould overlook what
after him obſerved, which was, that in the Extremity of the Diſeaſe the Iris is ſometimes affected.

Men are more ſubject to this Diſtemper than Women, but endure it better; on the contrary, Women are not ſo frequently afflicted with it as Men, but more ſeverely. For whatever Evils we ſubmit to from Neceſſity, their ſtrange and unfamiliar Form increaſes the Calamity. The Age which lies moſt obnoxious to the *Arthritis* is after five-and-thirty; but it may be contracted ſooner or later, according to the Conſtitution, and way of Living. The Pains indeed are great, but the Symptoms which accompany them are more to be dreaded; ſuch are, a Lipothymy at being touched, Inability to move, Loſs of Appetite, Thirſt, and want of Sleep. If the Patients recover, juſt as if they had eſcaped from Death, they lead a remiſs Life, becoming intemperate, open, merry, bountiful, and luxurious in Diet; and, as if they were ſure to eſcape from Death once more, enjoy the preſent Life with all manner of Freedom. The *Podagra* often degenerates into a Dropſy, and ſometimes into an *Aſthma*, in which Caſes Death is unavoidable. *Aretæus περὶ αἰτ. ϰ̀ σημ. χρον. παθ. Lib. 2. Cap.* 12.

* * * Food, and Radiſhes often, after which recourſe muſt be had to Hellebore. The Diet in ſuch Caſes muſt be ſuch as is commonly preſcrib'd in other chronical Diſorders; and, next to Diet, Unctions, and cold Bathing in Sea-water, are the moſt uſual Remedies for all gouty Patients. Hellebore is indeed a noble Medicine in the firſt Attacks of the Gout; but if the Diſeaſe be grown inveterate, and deſcend by hereditary Succeſſion from the Parents, it accompanies the Patient to the Grave.

The following Method is adviſable under a Fit of the Gout: Let the affected Part be wrapped in Sheeps greaſy Wool, and embrocated with Wine and Oil of Roſes. Some have received Benefit from the Application of a Sponge dipt in Oxycrate. After theſe let a Cataplaſm be made of Bread, and Refrigerants, as Gourds, Pompions, the ſmall Gourd, Plantain, and Roſe-leaves. The Herb *Sideritis* is alſo a Lenitive, uſed with Bread, Moſs, Comfrey-roots, the Herb Cinquefoil, and Horehound with fine ſlender Leaves, the Decoction of which drank mitigates Pain; and the Herb, with Crums of Bread and Barley-flower, makes a Cataplaſm. Alſo that Part of a Citron which is not eatable, together with Polenta, is an excellent Remedy; and ſo are dry Figs and Almonds, with Meal of one ſort or other. Theſe Remedies are of the Claſs of Refrigerants; and ſome of theſe have been found to relieve in particular Caſes, and the ſame has alſo ſometimes been effectual in others.

Others require heating Medicines, and among theſe the ſame does Good to different Perſons, on a different Account. The following is commonly eſteemed as an excellent Lenitive: Feed a Goat with Iris, as much as it will eat; and after allowing a ſufficient Time for Digeſtion, kill the Goat, and let the Patient put his Feet into its Belly amongſt the Dung. There are a thouſand Remedies for the Gout; for this Diſtemper puts every one who has the Misfortune to labour under it upon being his own Phyſician. *Aretæus περὶ θεραπ. χρον. παθ. Lib.* 2. *Cap.* 12.

As to the Theory of *Aretæus*, it is much on a Level with thoſe of later Date.

As *Aretæus* is imperfect with reſpect to the Cure, I ſhall give the Methods of the Antients

From Coelius Aurelianus.

If the Patient is coſtive, a ſimple Clyſter is to be injected; and when the Diſeaſe has arriv'd at its greateſt Height, ſo that the Parts appear tumid and inflated, Scarification is to be uſed; and if the Situation of the Parts will admit of it, Cupp Glaſſes or Leeches are to be apply'd. But Scarification wi out Cupping is the more gentle of theſe Methods; for in Caſe there is none of that Shattering of the Parts, which is neceſſary Conſequence of Cupping. The Bites of Leeches alſo accompany'd with ſuch a Degree of Pain, that a ſim Scarification is ſtill more tolerable. Vaporation with Spong alſo to be uſed; and Fomentation with warm Water, or w Water and Oil; or with a Decoction of Fenugreek, Linſe or Marſhmallows. A lenitive Cataplaſm is alſo now to be u though before it was highly improper; becauſe Parts that ſwelling, ought not to be loaded and encumbered with Weight. For this Purpoſe then we are to uſe Bread throug ſoftened, either alone, or mixed with the boiled Roots of Co frey, which the *Greeks* call σύμφυτος, or thoſe of Marſhm lows, or ſuch other things as we approve of for Vaporat When the Diſeaſe is evidently and indiſputably on the Decli we are to preſcribe Bathings, Variety of Foods, Water for the Patients Drink; and in order to allay the P cauſed by the Diſtemper, we are to uſe Cerats made up ſweet Oil, or *Cyprian* Oil, or that Medicine prepared of which the *Greeks* call διὰ ςεάτων, then a Malagma of *Dyach* or Mnaſeum, or what is commonly call'd *Diateleos*, or *Di leum*, or *Diathalaſſeſtum*. The Patients Body is by little little to be ſtrengthened by *walking* in eaſy Shoes; he is at ſame time carefully to guard againſt every thing that may him, and all Exceſſes, eſpecially in Wine, Venery, and e thing that has a Tendency to bring on Indigeſtion. 'Tis proper to give Arthritic Patients Wax to mould ſoft by Fingers; or thoſe Inſtruments which the *Gymnaſtics* c *Halteres*, are to be held in their Hands, and mov'd; and Inſtruments ought at firſt to be of Wax, or Wood with a Lead melted here and there into it; then more weighty Bo may be given them, according to the Advances of the Cure. even though the Diſeaſe ſhould be long protracted, the ab mentioned Simplicity of Cure is to be obſerved during the roxyſms; but in the Intervals, the Body is to be ſtrength and recruited: For this Purpoſe let Geſtation, according t Patients Strength, be uſed, then *walking* upon Ground even with ſoft Straw, together with *Vociferation*, and Un of the Body; for in this Caſe, as well as in other Diſorde an old Date, the want of due and proper Exerciſe renders Patients groſs and corpulent, by which means the Joint rack'd, and the unexerciſed Nerves weakened. Bathing alſo to be employed on ſtated Occaſions, and the Patient have Variety of Food of a neutral Quality. He is alſo to ſmall Quantity of mild Wine; but that muſt always be after his Meals; then a ſimple or compound *Dropax*, and a *ropteſis*, or Provocation of Sweat by Fire, the Heat of the warm Skins, or hot Sea-ſand; after theſe, Sprinklings, w the *Greeks* call συμπάσματα, of *Nitre*, *Adarce*, and *Eu bium*. Then Ointments are to be apply'd; and ſuch M cines as remove Wearineſs and Pain, call'd by the *Greeks* compoſed of Squills, wild Cucumber, as alſo of *Euphorbiu Adarce*. Then a *Malagma* is to be uſed of what we call *halon* or *Diadaphnidon*, or *Diadarce*, or a Lixivium of *ſtacte*, or any thing elſe of a like Nature. The Rubificat the Skin, by the *Greeks* call'd φοινιγμὸς, is alſo to be pro by Applications of Muſtard. He is alſo to be directed wh *Greeks* call *Drimyphagia*, or the Uſe of acrid Subſtances the Regimen of the *Metaſyncritic Cycle*; as alſo Vomi emetic Roots, and Hellebore, and Bathings, ſuch as are ſcribed for thoſe who labour under *Sciaticas*. Fomenta are alſo to be uſed made of Decoctions of Mugwort, or Sea-water. Then the Patient is to uſe Swimming, eith warm or cold Water. The Uſe of natural Waters is alſo per both of the hot and cold Kind, ſuch as thoſe of the and *Cutilian* Lake in *Italy*. The Uſe of all the above-ment Remedies is to be continued; for they will either pro perfect Cure, or, which is next to it, render the Rem the Paroxyſms leſs frequent.

Some of the Antients preſcribed Medicines in this Diſe be drank for a Year, ſuch as that they call'd *Diacentauri Diaſcordeon*. Theſe were to be uſed for a complete Yea ning, by thoſe in whom the Diſtemper was not of long Sta that is, if they had not contracted it above five Years bef Uſe of this Courſe, which they did not approve of, till t tient's Body was diſpoſed by proper Evacuations for e upon it. If the Courſe was not perſiſted in for the Ye ning, yet it was to be followed for the Number of D which a Year conſiſts, though conſiderable Intervals ſhoul pen between them. But in my Opinion, according to t vice of *Soranus*, a long-protracted Courſe of taking Me is to be dreaded in its Conſequences, ſince of courſe t nary and moſt ſalutary Foods to which the Patient was accuſtomed, cannot be uſed by him. Thus in ſome of t tients we find Accounts of ſome Patients falling into eaſes, by a conſtant and protracted Uſe of Medicin others who have died of Apoplexies, Pleuriſies, and Pe monies; and that others, by the ſame means, a ſed with a continual Difficulty of Breathing, which the ks call δύσπνοια. They who affirm, that they have found ntage from ſuch a Courſe, do not advert, that the Bene- ey received was the Reſult of Digeſtion being preſerved by s of a good and ſlender Regimen; for the Exceſs of pec- Humours abating, and Health continuing, ſome have been to give over their Courſe, and have been ſo much preju- in its Favour, that they could not poſſibly believe, that other Means could contribute to their Health and Preſerva- Some adviſe burning the gouty Protuberances, and Parts immediately affected. But I diſapprove of this Practice, it has a Tendency to draw the adjacent Parts into Conſent, by that means excite Tumors. Some alſo approve of try- fferent Means, and preſcribe Ointments and Cataplaſms dely differing Qualities, till they light on the very Medi- by means of which the Patient is relieved; for ſome things in their Natures adapted to ſome Patients, and others to s; and the Uſe of different Medicines will in different Pa- produce the ſame Effect; that is, the Mitigation of Remedies of quite contrary Intentions have alſo been 'd in this Caſe; for Inſtance, laxative Medicines in Con- on with Aſtringents and Reſtorers, ſuch as the Malagma *Mnaſeum*, or Diachylon. Some, on the contrary, have 'd the more violent Aſtringents alone, ſuch as *Dyateon* rιων in *Ætius*) *Cyzicenum*, and thel *Emplaſtrum Eraſiſtra-* ; as alſo a Cataplaſm of the Powder of *Panic* and Lint- and of wild Cabbage or Groundſel, or Water-ſea-green, ndrake, or Henbane, or Lentils, or the Heart of a Ci- or Pompion, or Origanum, or Thyme, or Lupins, or ain, or Beets, or Pomgranates with green Leaves; or its om, which the *Latins* call *Ampullagium*, boil'd with Vi- ; or wild Rue with Vinegar alone, or with common ; or the Sediment of Vinegar with Smallage; or the s of the Vine with common *Polenta*; or fine Meal of itter Vetch; or of Beans, Barley, Darnel, or Lupins, the Dregs of Wine or Vinegar; or Figs boil'd with r and Wine, and beat into the Conſiſtence of Honey; ſeparating the harder Parts, they order the Remainder to ain boiled. As alſo of the tender Stalks of Poppy, which reeks call κωδίαι; or their Leaves, and Quinces and Pom- tes boil'd in Wine, and their Pulps with Honey; or the of Henbane with Storax; or Roots and Leaves of Hya- and Horehound; as alſo Lime boil'd in Honey; and n, Storax, and bitter Almonds thoroughly boil'd in *Cy-* Oil and Vinegar: With theſe they order the Parts af- to be anointed. Thus, without any Order, and, in a er, repugnant to the Art of Phyſic, they order things the directly oppoſite, and paſs from one Medicine to another, ey light on ſuch as are proper for the Diſeaſe; ſince dif- Patients are reliev'd by different Means. This Method ng Experiments is, by the *Greeks* called σχεδιαστικὴ πεῖρα, does not adhere to certain ſtated Medicines for the Cure ſeaſes; but makes Trial of Numbers till the Intention is r'd. Beſides, it ſometimes happens, that the Paroxyſms t ſeize the Patient for a long time, and of their own ac- become gradually more gentle, and, the Diſeaſe declining the Patient is perfectly cured. But thoſe Medicines are thought proper in the declining State of the Diſeaſe, und hurtful in its Beginning or firſt Stage, ſince they are plied at a ſeaſonable Time; they therefore think, that are relieved by one Set of Medicines, and others by an-

But we ought to be very careful to adjuſt and pro- n Medicines to the Stages of the Diſeaſe, and the State Patient; for, in the Beginnings of the Diſtemper, mode- ſtringents are proper; but in its Increaſe and Height, ting and laxative Medicines are to be uſed. In the De- n, Emollients are proper. In the Intervals, corrobo- and recruiting Medicines take Place. But cold and re- Medicines, call'd by the *Greeks* ἀποκρουστικά, are proper when the Diſorder is attended with an Eryſipelas. But ffirm, that even in this Caſe Coolers are ſerviceable, as oderate the Inflammation; for their Application, ſay is agreeable to thoſe burning Heats which ariſe from Tu- and allays them juſt as cold Water poured into hot Wa- duces it to a mild and tepid Heat. But this Concluſion ly falſe, ſince 'tis what the *Greeks* call *Sophiſma*; for if Reaſoning was good, it would follow, that cold Subſtan- re proper for all Tumors. We are therefore to adjuſt ines to the Natures of Diſorders, and their ſeveral Stages. in gouty Caſes commend an *Acopum* of Toads. Some their Feet with the Fat of a Sea-calf, and wear Shoes of its Skin. Others again boil this Animal alive, and a Wolf, and affirm that anointing with the Oil, pro- is of ſingular Efficacy; for many fooliſh Medicines are d by credulous People to be effectual, becauſe they have ply'd at a Time when the Diſeaſe was not fixed, but ng with a gentle Attack on the Body, and often chang- Appearances.

y have, in like manner, approv'd of Vomits exhibited eals twice or thrice every Month, imagining that by that means the peccant Matter was hinder'd from reaching the Joints, and Indigeſtion prevented; not adverting that the Patient ſuffer'd ſtill more and more, ſince by this means the Gums become putrid, the Teeth are render'd looſe, the Eyes diſtorted and weaken'd, the whole Head fill'd, the Stomach violently affected, and all the Nerves drawn into Conſent. A ſpare and ſlender Diet is therefore more commendable in this Caſe, and the Foundation of the Cure is to be laid in Abſtinence.

, I.

Many Phyſical Writers in this Diſtemper recommend the more acrid Purgatives, and ſuch Medicines as promote Urine, which they call *Diuretic*. But we muſt carefully guard againſt Irritations of the Stomach, which are very readily produced by Variety of Medicines; we muſt alſo take care not to irritate the Bladder, which is of a very nervous, and conſequently a very ſenſible Nature; and when it is affected, by its nervous Quality it conveys Pain and Uneaſineſs to all the Parts of the Body: But, not to enumerate all the Errors of the Antients, I think what they have written concerning the *Gout* vain, prolix, and frivolous; and that the ſeveral Steps of Cure abovemention'd are ſufficient; but as I have hitherto made no mention of the ſeveral Authors from whom they were taken, I ſhall here ſubjoin an Account of them. The firſt then is *Diocles* in the Books he wrote concerning Diſeaſes, their Cauſes and Cures. *Praxagoras* in his third Book of Diſeaſes. *Eraſiſtratus* in the Book he wrote concerning the *Gout*, in which, tho' he forbids Purgatives call'd *Cathartics*, yet he promiſed a Malagma to King *Ptolemy*, a Receipt of which he has not left; tho' ſome People mention their having ſeen this Medicine of *Eraſtrotus*. Many alſo of the Followers of *Herophilus*, and *Aſclepiades* in his Books wrote to *Eraſiſtratus*, and *Heraclides Tarentinus*; and *Themiſon* in his ſecond Book of chronical Diſeaſe, who ſometimes talks like one of the Methodic Sect, and ſometimes not; for he recommends Phlebotomy in the Feet, does not account for any Part of his Practice, and confounds the Qualities of Cataplaſms, not diſtinguiſhing between Aſtringents and Laxatives: But what occaſion have we to confute his Sentiment in this Particular, ſince 'tis as well known, that Phlebotomy in the Feet occaſions a Derivation of Humours to the Parts affected, as 'tis, that exceſſive Drinking weakens the Nerves? *Theſſalus*, however, in his ſecond Book, which he calls *Regularis*, has laid down the Cure of the Gout imperfectly indeed, but in a manner conſiſtent enough with the Principles of the Methodic Sect. *Cæl. Aurel. Chron. Lib.* 5. *Cap.* 3.

From SYDENHAM.

The *Gout* generally attacks thoſe aged Perſons who have ſpent moſt Part of their Lives in Eaſe, Voluptuouſneſs, High-living, and too free an Uſe of Wine, and other ſpirituous Liquors, and at length, on account of the common Inability to Motion in old Age, entirely left off thoſe Exerciſes, which young Perſons generally uſe. And further, ſuch as are liable to this Diſeaſe have large Heads, and are generally of a plethoric, moiſt, and lax Habit of Body, and withal of a ſtrong and vigorous Conſtitution, and poſſeſſed of the beſt Stamina Vitæ.

The *Gout*, however, not only ſeizes the groſs and corpulent, but ſometimes, tho' leſs frequently, affects lean and ſlender People; neither does it always wait till old Age comes, but ſometimes attacks ſuch as are in the Prime of Life, when they have received the Seeds of it from gouty Parents, or have otherwiſe occaſioned it by an over-early Uſe of Venery, or the leaving off ſuch Exerciſes as they formerly indulged to Exceſs; and beſides have had a voracious Appetite, and uſed ſpirituous Liquors immoderately, and afterwards quitted them of a ſudden for thoſe of a thin and cooling kind.

When it ſeizes a Perſon far advanced in Years, for the firſt time, it never has ſuch ſtated Periods, nor proves ſo violent, as when it attacks one that is younger, becauſe, he generally periſhes before the Diſeaſe accompany'd with its natural Symptoms, comes to its Height; and becauſe the native Heat and Vigour of the Body being diminiſh'd, the Diſtemper cannot be ſo conſtantly and effectually propell'd and fix'd upon the Joints. But when it comes on ſooner, tho' it may not yet fix on one Part, nor prove ſo ſevere, but affect the Patient occaſionally, keeping no certain Period, giving only a little Pain for a few Days, and coming on and going off without any Regularity; yet, however, in time it takes full Poſſeſſion, and becomes regular both with reſpect to the Time of its coming, and the *Duration* of the Fit; ſo that it is more ſevere in its Progreſs than in its Beginning.

I ſhall firſt treat of the *Regular Gouts*, and next of the *Irregular*; whether occaſioned by an unadviſed Uſe of improper Remedies, or the Weakneſs of the Subject.

The *Gout*, when *regular*, generally ſeizes the Patient in the following manner. It comes on a ſudden towards the Cloſe of *January*, or the Beginning of *February*, giving ſcarce any Sign of its Approach, except that the Patient is afflicted for ſome Weeks previous thereto, with a bad Digeſtion, Crudities of the

Stomach, and much Flatulency and Heavineſs, that gradually increaſe till the Fit at laſt commences ; which, however, is preceded for a few Days by a Numbneſs of the Thighs, and a ſort of Deſcent of Flatulencies thro' the fleſhy Parts thereof, along with convulſive Motions ; and the Day preceding the Fit, the Appetite is ſharp, but preternatural. The Patient goes to Bed, and ſleeps quietly till about Two in the Morning, when He is awakened by a Pain which uſually ſeizes the great Toe, but ſometimes the Heel, the Calf of the Leg, or the Ankle. The Pain reſembles that of a diſlocated Bone, and is attended with a Senſation, as if warm Water were poured upon the Membranes of the Part affected ; and theſe Symptoms are immediately ſucceeded by a Chilneſs, Shivering, and a ſlight Fever. The Chilneſs and Shivering abate in proportion as the Pain increaſes, which is mild in the Beginning, but grows gradually more violent every Hour, and comes to its Height towards Evening, adapting itſelf to the numerous Bones of the Tarſus and Metatarſus, the Ligaments whereof it affects ; ſometimes reſembling a Tenſion or Laceration of thoſe Ligaments, ſometimes the Gnawing of a Dog, and ſometimes a Weight and Conſtriction of the Membranes of the Parts affected, which becomes ſo exquiſitely painful, as not to endure the Weight of the Cloaths, nor the ſhaking of the Room from walking briſkly therein. And hence the Night is not only paſſed in Pain, but likewiſe with a reſtleſs Removal of the Part affected from one Place to another, and a continual Change of its Poſture : Nor does the perpetual Reſtleſſneſs of the whole Body, which always accompanies the Fit, and eſpecially in the Beginning, fall ſhort of the Agitation and Pain of the *gouty* Member. Hence numberleſs fruitleſs Endeavours are uſed to eaſe the Pain, by continually changing the Situation of the Body, and of the Part affected, which notwithſtanding abates not till two or three o'Clock in the Morning, that is, twenty-four Hours from the firſt Approach of the Fit ; when the Patient is ſuddenly relieved by means of a moderate Digeſtion, and ſome Diſſipation of the peccant Matter, tho' he erroneouſly judges the Eaſe to proceed from the laſt Poſition of the Part affected. And, being now in a breathing Sweat, he falls aſleep, and upon waking finds the Pain much abated, and the Part affected to be then ſwell'd ; whereas before only a remarkable Swelling of the Veins thereof appeared, as is uſual in all *gouty* Paroxyſms. The next Day, and perhaps two or three Days afterwards, if the gouty Matter be copious, the Part affected will be ſomewhat pained, and the Pain will increaſe towards the Evening, and remit about Break of Day. In a few Days it ſeizes the other Foot in the ſame manner ; and if the Pain be violent in this, and that which was firſt ſeized be quite eaſy, the Weakneſs thereof ſoon vaniſhes, and it becomes as ſtrong and eaſy as if it had never been indiſpoſed : Nevertheleſs, the Gout affects the Foot laſt ſeized, as it did the former, both with reſpect to the Vehemence and Duration of the Pain : And ſometimes, when the peccant Matter in the Beginning of the Fit is too copious for one Foot to contain, it affects both at the ſame time with equal Violence, but it generally attacks the Feet ſucceſſively, as above remarked. When it has ſeized both Feet, the following Fits are irregular, both with reſpect to the Time of Seizure, and their Continuance ; but the Pain always increaſes in the Evening, and remits in the Morning ; and what we uſually call a Fit of the *Gout*, which goes off ſooner or later, according to the Age of the Patient, is made up of a Number of theſe ſmaller Paroxyſms. For when this Diſeaſe laſts two or three Months, it is not to be eſteemed one continued Fit, but rather a Series or Aſſemblage of ſmall Fits, the laſt of which proves milder and ſhorter, till the peccant Matter being at length entirely expelled, the Patient recovers his former Health ; which in ſtrong Conſtitutions, and ſuch as ſeldom have the *Gout*, often happens in the Space of fourteen Days ; and in the Aged, and thoſe that have frequent Returns of the Diſeaſe, in two Months ; but in ſuch as are more debilitated, either with Age, or the long Duration of the Diſtemper, it does not go off till Summer advances, which drives it away. During the firſt fourteen Days the Urine is high-colour'd, and, after Separation or Standing, lets fall a red, gravelly Sediment ; and not above a third Part of the Liquids taken in is voided by Urine, and the Body is generally coſtive during this Time. The Fit is accompanied throughout with Loſs of Appetite, a Chilneſs of the whole Body towards the Evening, and a Heavineſs and Uneaſineſs even of thoſe Parts that are not affected by the Diſeaſe. When the Fit is going off, a violent Itching ſeizes the Foot, eſpecially between the Toes, whence the Skin peels off, as if the Patient had taken Poiſon. The Diſeaſe being over, the Appetite and Strength return ſooner or later, according as the immediately preceding Fit hath been more or leſs ſevere ; and, in Conſequence of this, the following Fit comes on in a ſhorter or longer Space of Time ; for, if the laſt Fit proved very violent, the next will not attack the Patient till the ſame Seaſon of the Year returns again.

In this manner does the regular *Gout*, accompany'd with its genuine and proper Symptoms, appear ; but when it is exaſperated, either by wrong Management, or long Continuance,
ſo that the Subſtance of the Body is in a manner changed
Supplies for the Diſeaſe, and Nature unable to expel it
cording to her uſual Way, the Symptoms differ conſider
from thoſe juſt deſcribed : For, whereas the Pain hitherto
affected the Feet, (which are the genuine Seat of the m
Matter, which, whenever it attacks any other Part, c
proves, either that the Courſe of the Diſeaſe is obſtructed
the Strength gradually impair'd) it now ſeizes the H
Wriſts, Elbows, Knees, and other Parts, no leſs ſeverely
it did the Feet before : For ſometimes it renders one or
of the Fingers crooked and motionleſs by Degrees, an
length forms ſtony Concretions in the Ligaments of the Jo
which deſtroying both the Scarf-ſkin and Skin of the Jo
Stones not unlike Chalk or Crabs-eyes appear, and ma
pick'd out with a Needle. Sometimes the morbific Matt
thrown upon the Elbows, and occaſions a whitiſh Swel
almoſt as large as an Egg, which becomes gradually infla
and red. Sometimes it affects the Thigh, which ſeem
ſuſtain a great Weight, yet without much Pain ; but th
gaining the Knee, it attacks that Part more violently,
priving it of Motion, ſo as to nail it, as it were, to one
in the Bed. And when it is neceſſary to move the Pati
either on account of the Reſtleſſneſs of the whole Body, w
is ſo frequent in this Diſeaſe, or ſome other urgent Occa
it ought to be done with great Caution, as the leaſt con
Motion or Shock may perhaps give Pain, which is only
rable for this Reaſon, becauſe it ſoon goes off. And, in
this Neceſſity of moving the Patient with ſuch Care
Tenderneſs by the Aſſiſtants, is no inconſiderable Part o
Evils which attend the *Gout* ; for an Exceſs of Pain does
laſt during the whole Paroxyſm, in caſe the Part affecte
kept perfectly without Motion.

As the *Gout* heretofore did not uſually come on till the
cline of Winter, and went off in two or three Months, it
continues all the Year, excepting two or three of the war
Summer Months. And it is further to be obſerved, that a
cardinal or general Fit continues longer now than it did
tofore, ſo likewiſe thoſe particular Fits, of which the genera
is made up, rage a longer time ; for whereas one of theſe
not laſt above a Day or two before, it now, where-ever it
does not go off till the fourteenth Day, eſpecially if the Fe
Knees be affected thereby. To this may be added, tha
Patient on the firſt or ſecond Day after its coming, beſide
Pain, is afflicted with Sickneſs, and a total Loſs of Appeti

In the laſt Place, before the Diſeaſe came to ſuch a He
the Patient not only enjoy'd longer Intervals between the
but likewiſe had no Pain in the Limbs, and the other Parts
Body, all the bodily Functions being duly performed ; wh
now his Limbs, during the Intermiſſion of the Diſeaſe, a
contracted and diſabled, that tho' he can ſtand, and pe
walk a little, yet it is very ſlowly, with great Trouble,
ſo lamely, that it ſcarcely deſerves the Name of walking
if he endeavours to walk beyond his Strength, in order to
ver the Uſe of his Feet, the ſtronger they grow, and th
liable they are to Pain upon this Account, ſo much more
the morbific Matter, not wholly diſſipated during this Inte
threaten the Bowels, to the great Danger of the Patient,
cannot be ſo freely thrown upon the Feet, which, in this
of the Diſeaſe, are never quite free from Pain, but always
an uneaſy Senſation in ſome Degree.

Moreover, the Patient is afflicted with ſeveral other
ptoms ; as a Pain in the Hæmorrhoidal Veins, nidorous
tations reſembling the Taſte of the Aliment laſt taken in,
corrupted in the Stomach ; this happens always after eatin
thing of difficult Digeſtion, or even no more than is prop
a healthy Perſon : Add to theſe a Loſs of Appetite, and
bility of the whole Body, for want of Spirits ; which rend
Life melancholy and uncomfortable. The Urine, which
before high-colour'd, eſpecially in the Fits, and voided
ſmall Quantity, now reſembles that which is evacuated
Diabetes both in Colour and Quantity, and the Back and
Parts itch much towards Bed-time.

It alſo happens, when the Diſeaſe is grown inveterate,
after Yawning, eſpecially in the Morning, the Ligaments
Bones of the Metatarſus are violently convulſed, and fee
be forcibly preſs'd by a ſtrong Hand. And ſometimes,
no Yawning has preceded, when the Patient is compoſing
ſelf to Sleep, he feels a ſudden Pain, as if the Metatarſus
breaking in Pieces by a Blow with a Stick, ſo that he
crying out with Pain. The Tendons of the Muſcles o
Tibiæ are ſometimes ſeized with ſo ſharp and violent a
vulſion or Cramp, that if the Pain it occaſions were to laſt
a ſhort Time, it would overcome all human Patience.

But after many racking Pains, the following Paroxyſm
come leſs painful, as an Earneſt of the Delivery which app
ing Death is about to give, Nature being in part oppre
the Quantity of the morbific Matter, and in part by old
ſo as not to be able to propel it conſtantly and vigorouſly t
Extremities ; but inſtead of the uſual external Pain, a c
Sickneſs, a Pain in the Belly, a ſpontaneous Laſſitude,

metimes a Tendency to a Diarrhœa, ſucceed. When theſe mptoms are violent, they eaſe the Pain of the Limbs, which urns upon their going off; and the Paroxyſms are much pro- ged by this alternate Succeſſion of Pain and Sickneſs. For s to be obſerved, that when the Diſeaſe has continued ſeve- Years, the Pain diminiſhes gradually every Fit, and the ient at laſt is worn out rather by the Sickneſs than the Pain, ch in theſe Fits, tho' it be longer, is not near ſo violent as t which he uſually ſuffer'd, when his Strength was leſs im- red. But nevertheleſs this Violence of the Diſeaſe was or- rily recompenſed by longer Intervals between the Fits, and good State of Health the Patient enjoy'd during the Inter- on. For Pain in this Diſeaſe is the diſagreeable Remedy Nature; and the more violent it proves, the ſooner the Fit inates, and the longer and more perfect is the Intermiſſion; ſo on the contrary.

ut beſides the above-mention'd Symptoms, as the Pain, neſs, Inability to Motion of the Parts affected, the Sick- , and other Symptoms above enumerated, the *Gout* breeds Stone in the Kidneys in many Subjects, either becauſe the ent is obliged to lie long on his Back, or becauſe the ſecre- Organs have ceaſed performing their proper Functions, or becauſe the Stone is form'd from a Part of the ſame morbific ter; which, however, I do not pretend to determine. But what Cauſe ſoever this Diſeaſe proceeds, the Patient is etimes at a Loſs to know whether the Stone or the Gout oſt ſevere. And ſometimes it happens, that a Stone in or both of the Ureters, intercepting the Paſſage of the e to the Bladder, deſtroys him without waiting for the ſlow ances of the *Gout*.

e Patient is not only reduced to this helpleſs Condition, to complete his Miſery, his Mind, during the Fit, ſym- izes with his Body, ſo that 'tis not eaſy to determine which e two is moſt afflicted. For every Paroxyſm may be as denominated a Fit of Anger, as a Fit of the *Gout*; the nal Faculties being ſo enervated by the Weakneſs of the , as to be diſordered upon every trifling Occaſion; whence Patient becomes as troubleſome to others, as he is to him- Moreover he is equally ſubject to the reſt of the Paſſions, ear, Anxiety, and the like, which alſo torment him till Declenſion of the Diſeaſe, when the Mind is reſtored to th along with the Body, having recovered its former Tran- ity.

o conclude, the Viſcera in time are ſo much injured, from tagnation of the morbific Matter therein, that the Organs cretion no longer perform their Functions; whence the , overcharged with vitiated Humours, ſtagnates, and uty Matter ceaſes to be thrown upon the Extremities as rly; ſo that at laſt the Patient is ſo happy, as to be freed a moſt painful and burdenſome Life, by Death, the ulti- Remedy.

t what may be a Conſolation to me, and other *gouty* s of moderate Fortunes, and ſlender Abilities, is, that , Princes, Generals, Admirals, Philoſophers, and ſeve- her great Men, have thus lived and died. In ſhort, it n a more eſpecial manner be affirmed of this Diſeaſe, that roys more rich than poor Perſons, and more wiſe Men Fools; which ſeems to demonſtrate the Juſtice and ſtrict tiality of Providence, who abundantly ſupplies thoſe that ſome of the Conveniencies of Life, with other Advan- and tempers his Profuſion to others with an equal Mix- Evil; ſo that it appears to be univerſally and abſolutely d, that no Man ſhall enjoy unmixed Happineſs or Mi- but experience both; and this Mixture of Good and Evil, pted to our Weakneſs, and periſhable Condition, is, per- admirably ſuited to our preſent State.

e *Gout* ſeldom infeſts Women, except they are far ad- d in Years, and of a maſculine Habit of Body; for ſuch lean and emaciated, who in their Youth, or riper Age, zed with Symptoms not unlike the *Gout*, owe them to Diſorders, or ſome preceding Rheumatiſm, the mor- Matter whereof was not ſufficiently carried off in the ing. Nor have I hitherto found Children, or People not ived at Maturity, affected with the true *Gout*. Yet I nown ſome who have felt ſlight Touches of it before od; but theſe were ſuch as were begot whilſt their Fa- tually laboured under the *Gout*; and let this ſuffice for ſtory of this Diſeaſe.

n a thorough Attention to the various Symptoms of this , I judge it to proceed from an univerſally depraved ction; for ſuch as are ſubject to it, are either worn out Age, or have contracted prematurely the Infirmities of Debauchery, and hence labour under an univerſal Defect nal Spirits, waſted by the immoderate Exerciſe of the s Functions in the Heat of Youth: For Inſtance, by early, and exceſſive Uſe of Venery; by an extravagant ceſſant Purſuit after Pleaſures, and the like; to which added, the leaving off ſuch bodily Exerciſes on a ſudden had formerly uſed, (whether through Age or Indolence) which ſerved to invigorate the Blood, and ſtrengthen the Tone of the Solids; whence the Strength decays, and the Concoctions are no longer duly performed; but on the contrary, the excrementitious Part of the Juices, which was formerly expelled by means of ſuch Exerciſes, is accumulated in the Veſſels in order to nouriſh the Diſeaſe. And ſometimes it has happened, that the Diſeaſe hath been increaſed by a long-continued Application to Study and Meditation, whereby the finer and more volatile Spirits are diverted from their proper Function of aſſiſting the Concoctions.

Again, ſuch as are ſubject to the *Gout*, beſides having a voracious Appetite in general, principally covet Aliment that is difficult to digeſt; of which, when they have eaten as plentifully as they uſually did when they uſed Exerciſe, their Organs are unequal to the Taſk of digeſting it properly. But this way of Living does not occaſion the *Gout* ſo frequently as the exceſſive Uſe of Wine, which deſtroys the Ferments deſigned for various Concoctions, hurts the Concoctions themſelves, and overcomes and diſſipates the natural Spirits, by reaſon of the Abundance of adventitious Vapours. Now the Spirits, which are the Inſtruments of Concoction, being weakened, and the Blood at the ſame time overburdened with Juices, all the Concoctions muſt neceſſarily be depraved, as all the Viſcera are ſo oppreſs'd. Hence the Spirits, that have long been in a declineing State, are now quite exhauſted. For if this Diſeaſe proceeded only from a Debility of the Spirits, it would equally affect Children, Women, and People debilitated by a tedious Illneſs; whereas the ſtrongeſt and moſt robuſt Conſtitutions are principally ſubject to it, but not before Abundance of Humours are collected in the Body, through the Decay and Waſte of the natural Heat and Spirits, which in Conjunction pervert the vitiated Concoctions.

Again, as each of the Cauſes we have enumerated promotes Indigeſtion, ſo moſt of them contribute, in ſome meaſure, to introduce a Laxity of the Habit, and Muſcles of the Body, which makes way for the Reception of crude and indigeſted Juices, as often as they are thrown upon the external Parts. For when, by lying long in the Blood, they are increaſed in Quantity, and have put on a morbid Quality, they at laſt acquire a Heat ſufficient for Putrefaction; and, Nature being then no longer able to regulate them, they ſhew themſelves in the Form of a Diſeaſe, and fall upon the Joints, and, by their Heat and Acrimony, occaſion exquiſite Pains in the Ligaments and Membranes that cover the Bones; which, being weakened and relaxed, either by Age or Intemperance, eaſily admit them. But this Tranſlation of the Humours occaſioning the *Gout*, and forming a *gouty* Fit, happens ſooner or later, according as theſe Humours are put in Motion by adequate Cauſes.

As to the Cure, in treating of which I ſhall firſt ſpecify the things to be avoided, if regard be had to the Humours, and the Indigeſtion occaſioning them, it ſhould ſeem at firſt View, that the curative Indications ſhould principally tend, firſt, to evacuate the Humours already generated; and, ſecondly, to ſtrengthen the Concoction or digeſtive Powers, ſo as to prevent the Accumulation of other Humours; theſe being the uſual Indications to be anſwered in moſt other Humoral Diſeaſes. But nevertheleſs, in the *Gout*, Nature ſeems to have this ſingular Prerogative, to expel the peccant Matter according to its own Method, and depoſit it upon the Joints, there to be carried off by inſenſible Perſpiration. Now there are only three ways propoſed of expelling the morbific Matter of the *Gout*, which are Bleeding, Purging, and Sweating; but none of theſe will ever anſwer the End.

Though Bleeding ſeems to bid fair for evacuating the Humours, as well thoſe which are upon the point of falling on the Extremities, as thoſe already in the Joints, yet it manifeſtly interferes with that Indication, which the antecedent Cauſe, that is, Indigeſtion, ariſing from a Depravity or Defect of Spirits, demands, which Bleeding further weakens and diminiſhes. For this Reaſon, Bleeding is not to be practiſed either by way of preventing an approaching, or eaſing a preſent Fit, eſpecially in thoſe advanced in Years; for though the Blood which is taken away, generally reſembles Pleuritic or Rheumatic Blood; yet Bleeding is found to do as much Miſchief in this Diſeaſe, as it does Good in thoſe. And Bleeding in the Intervals, though long after the Paroxyſm, is ſubject to occaſion a freſh Fit by the Agitation of the Blood and Juices, which may continue longer, and be attended with more violent Symptoms than the former; the Vigour of the Blood being thus impaired, by means whereof the morbific Matter ſhould be powerfully and conſtantly expelled. This Inconvenience always happens from Bleeding in the Beginning of the Fit; and if it be uſed immediately after the Fit, there is great Danger, leſt Nature, on account of the preſent Debility of the Blood, which has loſt much of its Vigour by the preceding Fit, ſhould be ſo far debilitated as to ſink into a Dropſy. However, if the Patient be young, and overheated by hard Drinking, a Vein may be opened in the Beginning of the Fit; but if Bleeding be always uſed in the ſucceeding Paroxyſms, it will ſoon render the *Gout* inveterate, even in Youth, and cauſe it to ſpread more univerſally in a few Years, than it otherwiſe would have done in many.

With reſpect to Vomiting and Purging, it muſt be obſerved, that as it is a fixed Law of Nature, and interwoven with the Eſſence of this Diſeaſe, that the morbific Matter thereof ought always to be tranſlated to the Joints, Emetics or Cathartics will only invite the *gouty* Matter back into the Blood, which was thrown off by Nature upon the Extremities; and hence what ought to be thrown upon the Joints, fixes, perhaps, on ſome of the Viſcera, and ſo hazards the Life of the Patient, who was before in no Danger. And this hath often been obſerved to prove fatal to thoſe who have ordinarily had recourſe to Purgatives by way of Prevention, or, which is worſe, to eaſe the Pain in the Fit; for when Nature is prevented from purſuing her uſual, ſafeſt, and beſt Method of tranſlating the morbific Matter to the Joints, and the Humours are forced inwards upon the Bowels, then, inſtead of Pain in the Joints, which is either ſlight, or none at all, the Patient is afflicted, and almoſt deſtroyed, by Sickneſs at the Stomach, Gripings, Faintings, and a numerous Train of irregular Symptoms.

For my own part, I am abundantly convinced from much Experience, that either lenient, or more powerful Cathartics, of thoſe Sorts which are uſually thought to purge the Joints, prove very prejudicial, whether they be uſed in the Fit to leſſen the morbid Matter; or in its Declenſion, to carry off the Remainder; or in a perfect Intermiſſion, or healthy State, to prevent an approaching Fit. For I have learned at my own Peril, as well as that of others, that Purgatives exhibited at any of theſe Seaſons have, inſtead of doing Service, haſtened the Miſchief they were intended to prevent. Purging, therefore, during the Fit, by diſturbing Nature when ſhe is employed in ſeparating the *gouty* Matter, and throwing it off upon the Joints, ſometimes cauſes a conſiderable Diſorder in the Spirits, which renders the Fit more violent, and likewiſe evidently endangers the Life of the Patient. Secondly, Purgatives adminiſtered at the End of a Fit, inſtead of expelling the Remains of the Diſeaſe, excite another Fit, as ſevere as the former; and thus the Patient, deceived by fruitleſs Hopes, brings thoſe Evils upon himſelf, which he had eſcaped, if the Humours had not been exaſperated afreſh. And this Inconvenience, I myſelf often experienced, after having had recourſe to Medicine to expel what I eſteemed the Remains of the Diſtemper. Thirdly, as to purging at certain times in the Intervals, by way of Prevention, though it muſt be owned, that there is not ſo much Danger of occaſioning a freſh Fit, as in the Inſtance juſt mentioned, the Patient in that Caſe not being perfectly recovered, yet, even at this Time, it is productive of a Fit, for the Reaſons above ſpecified; and though, perhaps, it may not come on immediately, the Diſeaſe nevertheleſs will not go off entirely, by taking any Purge conſtantly at proper Intervals; for I have known ſome *gouty* Perſons, who, to recover their Health, not only purged Spring and Autumn, but monthly, and even weekly, and yet not one of them eſcaped the *Gout*, which afflicted them more ſeverely afterwards, and was accompanied with more violent Symptoms, than if they had totally abſtained from Medicine. For tho' ſuch Purging might carry off a Part of the *gouty* Matter, yet as it does not at all contribute to ſtrengthen Concoction, but rather weakens it, and injures Nature afreſh, it only ſtrikes at one Cauſe, and is by no means adequate to the Cure of the Diſtemper.

To theſe Obſervations it muſt be added, that the ſame Defect of Spirits which impairs the Concoctions in *gouty* Subjects, renders their nervous Syſtem weak and languid, ſo that the Spirits in general are ſoon diſturbed by any Cauſe which violently agitates either the Body or Miud, and conſequently are very volatile, and eaſy to be diſſipated, as they frequently are in hyſteric and hypochondriac Patients. And from this Tendency of the Spirits to irregular Motions it happens, that the *Gout* uſually follows the ſlighteſt Evacuation. For the Tone of the Parts being deſtroyed, which the Firmneſs of the Spirits, ſo long as they continue ſtrong, preſerves unrelaxed and healthy, the peccant Matter moves without Interruption; and hence a Fit immediately breaks out.

But notwithſtanding this Method is ſo very pernicious, yet there have been Empirics, who have acquired a great Character by artfully concealing the Cathartic they uſed in this Caſe. For it muſt be obſerved, that whilſt the Medicine operates, the Patient feels no Pain at all, or but a ſlight one; and, if a Courſe of Purgatives can be continued for ſome Days, without bringing off a recent Fit, the preſent Paroxyſm will ſoon off. But the Patient will ſuffer greatly afterwards, on accou of the Tumult occaſioned by this Agitation of the Humour

Finally, the carrying off the peccant Matter by Sweat manifeſtly prejudicial, though in a leſs Degree, than above-mentioned Evacuations; for though it does not repel morbific Matter to the Viſcera, but on the contrary propels into the Habit, it is notwithſtanding detrimental for th Reaſons:

Firſt, Becauſe, during the Interval of the Fit, it forces Humours, which are yet crude, and not fitted for a due Se ration, upon the Limbs; and thus occaſions a Fit before Time, and in Oppoſition to Nature.

Secondly, The promoting Sweat in the Fit throws fixes the *gouty* Matter too powerfully upon the Part affected, the ſame time occaſioning intolerable Pain; and, if there b greater Quantity thereof than can be received by the P affected, it immediately throws it upon ſome other Parts, thus raiſes a violent Ebullition of the Blood and other Juic and, if the Body abounds conſiderably with a ſerous Matter for the Generation of the Gout, an Apoplexy is hence to apprehended.

Hence therefore, it is a very dangerous Practice, both this and all other Diſeaſes, in which it is cuſtomary to ex Sweats by Art, with a View of eliminating the morbific Ma without waiting till they naturally ariſe, to force it out too lently, and beyond that Degree of Concoction, which the mours to be carried off have ſpontaneouſly acquired *. The cellent Aphoriſm of *Hippocrates*, intimating, that *concocted not crude Humours are to be evacuated*, holds good with reſ to Sweating, as well as Purging, as appears manifeſtly from Sweat which ordinarily terminates the Paroxyſms of Inter tents; which, provided it be moderate, and proportioned to Quantity of febrile Matter, concocted by the preceding relieves the Patient conſiderably; but in caſe it be prom beyond the Limits preſcribed by Nature, by keeping the tient conſtantly in Bed, a continued Fever thence ariſes, inſtead of extinguiſhing the former Heat, an additional o excited. So in the Gout, the gentle breathing Sweat, generally comes on ſpontaneouſly in the Morning after eac the ſmall Fits, of which, as I have before obſerved, the dinal Fit is compounded, eaſes the Pain and Reſtleſneſs, w tormented the Patient ſo much during the Night; but o contrary, if this gentle Moiſture, which is naturally of Duration, be violently forced, and continued longer tha Quantity of the morbific Matter concocted by the prec Fit requires, the Diſeaſe is thereby exaſperated. In this t fore, and all other Diſeaſes that I have met with, exce only the Plague, it is Nature's Province, more than the P cian's, to excite Sweat, as we cannot poſſibly learn how Matter is already prepared for ſuch a Separation, and c quently what Method is to be taken in order to promote S

Since then it evidently appears from what has been deli that it is both a fruitleſs and a pernicious Attempt to ende to cure the *Gout* by evacuating Medicines, we are next t quire what other Purpoſe the curative Indications are to b rected to anſwer. And, from a thorough Attention to the ptoms above enumerated, we learn, that Regard muſt b to two Cauſes principally in the Cure of this Diſeaſe.

Firſt, The antecedent or primary Cauſe, or the Indig of the Humours, proceeding from a Defect of the natural and Spirits. Secondly, The immediate Cauſe, or the He Effervesſcence of theſe Humours after the Putrefaction Acrimony they have acquired by continuing too long Body, which is occaſioned by the Indigeſtion above-ment Now theſe Cauſes differ ſo much from one another, th Medicines which do Service in the one, prove pernicious other; and hence it is, that this Diſeaſe is ſo difficult of For at the ſame time that we endeavour to cure the Indig by warm Medicines, we run the Riſque, on the other ha increaſing the Heat of the Humours; and on the con whilſt we ſtrive to mitigate the Heat and Acrimony of the mour, by a cooling Regimen or Medicines, we bring on geſtion, the natural Heat being already impaired. But by the immediate Cauſe, I do not only mean that w actually depoſited in the Joints, and forms the preſent Fit, bu alſo which ſtill lies concealed in the Blood, and is not ye pared for Separation. For all the morbific Matter is ſeld entirely expelled by the Fit, how laſting and ſevere ſoe be, as to leave no Remains of it in the Body, after the off; ſo that, of courſe, Regard is to be had to this Cauſe in the Fit, and during the Intervals. But as the Expul- of the immediate Cauſe is entirely the Buſineſs of Nature, o be perform'd according to her own Method, ſince nothing e mean time can be done to cool the hot and acrimonious ours, without injuring the digeſtive Powers, unleſs it be by ing a hot Regimen, and Medicines which inflame the ours; ſo, doubtleſs, the chief curative Intention is, after digeſted Humours are removed, to ſtrengthen the digeſtive rs, which I ſhall now treat of; but in ſuch manner, how- that I may, in the Courſe of this Diſſertation, as Occa- offers, alſo mention thoſe Remedies which tend to miti- the Heat of the Humours, and correct their Acrimony.

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* If *Sydenham* had never written more than this Paragraph, he had merited thereby immortal Honours. For nothing more pernici be contrived than to force Sweats by heating Medicines. When the vital Powers have rendered the morbific Matter of any acute Di fit for Expulſion, Nature will find a Method of diſcharging it out of the Habit; and Sweats, if they are neceſſary, will ſpontaneouſ provided all Obſtacles are removed. It muſt be confeſſed, that Art may aſſiſt the vital Powers in attenuating the Maſs of Humours, and ing them fit for a ſubſequent Extermination. This, however, cannot be done by hot Sudorifics. Warm Remedies, it muſt be conſide dered as Cordials, may poſſibly be of Advantage in the latter End of ſome acute Caſes, as they may rouſe the vital Powers, and excite Action, when too languid; but the great Abuſe of theſe, which has prevailed to a ſurpriſing Degree, renders this Note the more which does not ſo much relate to the Gout, as to febrile Diſorders.

hatever Remedies, therefore, aſſiſt Nature to perform her tions duly, either by ſtrengthening the Stomach, ſo that liment may be well digeſted; or the Blood, that it may ently aſſimilate the Chyle received into the Maſs; or the , ſo as to enable them the better to change the Juices, 'd for their Nutrition and Growth, into their proper Sub- ; and laſtly, whatever preſerves the Secretory Veſſels, e Emunctories, in ſuch a State, that the excrementitious of the whole Syſtem may be carried off in due Time and ; theſe, and all Medicines of the ſame Kind, contribute ds anſwering this Intention, and are properly intitled tives, whether they be of the medicinal or dietetic Kind, iſe, or any other of thoſe Things which are call'd the ſix naturals.

h Medicines, in general, are thoſe which are moderately g, bitter, or of a mild pungent Taſte, inaſmuch as they well with the Stomach, purify the Blood, and ſtrengthen her Parts. For Inſtance, the Roots of *Angelica* and *Ele-* *w*, the Leaves of *Wormwood*, the *Leſſer Centory*, *Ger-* , *Ground-pine*, and the like: To which may be added, are commonly call'd *Antiſcorbutics*, as the Roots of *-radiſh*, the Leaves of *Garden Scurvy-graſs*, *Water-* , and the like. But theſe acrid and pungent Herbs, how ble and ſerviceable ſoever they may be to the Stomach, they agitate the morbid Matter, which has long been gene- and increaſe the Heat, are to be uſed more ſparingly thoſe, which by their mild Heat and Bitterneſs both hen the Stomach, and mend the Blood.

, in my Opinion, a judicious Mixture of ſome Kinds of anſwers the End of digeſting the Humours better than gle Simple of this Claſs. For tho', whenever we have on for a ſpecific Virtue of any Medicine, it be a true , that the more ſimple it is, the better it is for the Pur- yet, when a Cure is intended to be made by anſwering a lar Indication, every Ingredient contributes ſomething curing the Diſeaſe; and in this Caſe, the more Simples dicine contains, the more powerfully it will operate. Reaſon, various Forms of Medicines may be elegantly nded of the Ingredients above-enumerated, and the reſt like Kind. I give the Preference to an Electuary made e manner of *Venice Treacle*; becauſe the Fermentation Simples together improves their Virtues, and produces a ubſtance; which poſſeſſes greater Virtues in the Mix- han any ſingle Ingredient in the ſame Quantity. But I ave the Choice of ſuch Ingredients, and the Forms in hey are to be given, to the judicious Phyſician; for I ought myſelf obliged to write Preſcriptions, but rather at the true curative Indications. The following is, , the Form I myſelf generally make uſe of:

of the Roots of Angelica, Sweet-flag, Maſter-wort, campane, the Leaves of Wormwood, the Leſſer Cen- y, White Horehound, Germander, Ground-pine, rdium, common Calamint, Feverfew, Wild Saxifrage, John's-wort, Golden-rod, Thyme, Mint, Sage, Holy iſtle, Penyroyal, Southernwood, the Flowers of Cha- mile, Tanſey, Lily of the Valley, *Engliſh* Saffron, the ds of Treacle-muſtard, Garden Scurvy-graſs, Carra- y and Juniper-berries, of each a ſufficient Quantity: the Herbs, Flowers, and Roots, be gather'd when they in their utmoſt Perfection; dry them in Paper Bags they are reducible into fine Powder. To ſix Ounces each, well mix'd together, add enough of clarify'd ey and Canary to make the Whole into an Electuary, hich let the Patient take two Drams, Morning and ht.

or want of this, let the following be uſed:

of the Conſerve of Garden Scurvy-graſs, an Ounce an half; *Roman* Wormwood, and Orange-peel, of an Ounce; candied Angelica and Nutmeg, of each an Ounce; *Venice* Treacle, three Drams; compound der of Arum, two Drams; and, with a ſufficient ntity of the Syrup of Oranges, mix them up into an tuary: Let two Drams of it be taken twice a Day, l. with five or ſix Spoonfuls of the following diſtill'd Water after every Doſe:

Take of the Roots of Horſe-radiſh, ſliced, three Ounces; Garden Scurvy-graſs, twelve Handfuls; Water-creſſes, Brook-lime, Sage, and Mint, of each four Handfuls; the Peel of two Oranges; two Nutmegs bruiſed; *Brunſwic* Beer or Mum, twelve Pints: Draw off only ſix Pints by the Alembic.

Of all the Medicines commonly known, *Venice* Treacle is the beſt for ſtrengthening the digeſtive Organs; but as it contains many Ingredients that over-heat, and withal a large Quantity of Opium, an Electuary, like that above-deſcrib'd, may be more commodiouſly compoſed of the principal warming and ſtrengthening Plants. But Care muſt be taken to make Choice of ſuch Simples as are moſt agreeable to the Patient's Palate, becauſe it muſt be continued a long time; that is, for the greateſt Part of his Life. Of all Simples the *Peruvian* Bark is the beſt; for a few Grains of it, taken Morning and Evening, ſtrengthen and enliven the Blood.

And, in reality, theſe and ſuch-like Medicines, which ſtrengthen the Blood, and quicken the Circulation, (provided their Heat be not owing to vinous Spirits) do moſt Service in this and moſt other Chronic Diſeaſes; inaſmuch as every Diſeaſe of this kind is, in my Opinion, to be referr'd to the ſame general Cauſe, that is, the Indigeſtion of the Humours.

It is certain, that warm Herbs do great Service, where there is no manifeſt Contra-indication, not only in the *Gout*, but in moſt Chronical Diſeaſes, as they procure a Warmth like that of Summer, even in the Midſt of Winter; tho', if we accuſtom ourſelves to uſe them in Summer, they will more effectually prevent ſuch Diſeaſes as are ordinarily occaſion'd by the contrary Seaſon: And, in reality, if we defer or neglect taking them till the Approach of Winter, at which time a conſiderable Quantity of Humours is amaſs'd, it is to be apprehended it may then be too late to have recourſe to this Refuge.

But tho' (as I have already amply ſhewn) the *Gout* is of ſo peculiar a Nature, as to be render'd worſe by Cathartics; yet, in moſt other Chronical Diſeaſes, Bleeding and Purging are to be repeated as there is Occaſion, previous to the Uſe of the ſtrengthening and ſtomachic Remedies here recommended; but when the Patient has begun to take theſe, they muſt be continued without any intermediate Evacuations; for it is always to be remember'd, that whenever the Cure of any Diſeaſe is attempted by means of ſtrengthening Remedies, all kinds of Evacuations prove highly injurious. Laſtly, I do not aſſert, that the ſtomachic Medicines, juſt enumerated, are the moſt excellent of the Kind; but I maintain, that whoever can diſcover the moſt effectual Remedy to anſwer this Intention, is able to do much more Service in curing Chronical Diſeaſes, than he himſelf may imagine.

But amongſt the Remarks I proceed to communicate, relating to the Cure of the *Gout*, it is primarily and principally to be attended to, that all ſtomachic or digeſtive Remedies, whether they be medicinal, dietetic, or relate to Exerciſe, are not to be enter'd upon ſuperficially, but are to be perſiſted in daily with great Exactneſs: For ſince the Cauſe in this, and moſt other Chronical Diſtempers, is become habitual, and in a manner chang'd into a ſecond Nature, it cannot reaſonably be imagined, that the Cure can be accompliſh'd by means of ſome ſlight and momentary Change made in the Blood and Juices, by any kind of Medicine or Regimen, but the whole Conſtitution is to be alter'd, and the Body is to be in a manner fram'd anew. For it is otherwiſe here than in ſome acute Diſeaſes, where a Perſon in full Strength, and perfect Health, is ſuddenly ſeiz'd with a Fever; whereas in the *Gout*, a Perſon, by indulging himſelf in Luxury, hard Drinking, neglecting his uſual Exerciſe for ſeveral Years together, and debilitating his Conſtitution by Idleneſs, or an immoderate Application to Study, and other Errors of Life, injures, as it were deſignedly, the various Ferments of the Body, and oppreſſes the Animal Spirits, which are the principal Inſtruments of Digeſtion; whence the vitiated Juices, amaſs'd in the Habit, break out as ſoon as they are exalted to the utmoſt State, and produce great Evils, relaxing the fleſhy Parts, and weakening the Joints, ſo that they readily receive the Humours thrown upon them. And in this manner a different Conſtitution is form'd by Degrees, the original one being quite deſtroy'd: And thoſe Fits which engroſs the Attention of indiſcreet and injudicious Phyſicians, are no more, in Effect, than the Succeſſion and Order of Symptoms, reſulting from that Method which Nature ordinarily employs to expel the morbific Matter. Hence, therefore, 'tis a fruitleſs Labour to attempt the Cure of this Diſeaſe, by uſing any Medicine or Regimen occaſionally; for ſince this Habit is chiefly founded on, and conſiſts in, a Weakneſs of all the Digeſtions, and a Relaxation of all the Parts, both theſe Diſorders muſt be remedied; and the Strength of the digeſtive Powers, as well as the Tone of the Parts, muſt be reſtor'd and recover'd, by Degrees, to the former healthy State. But tho' it may ſeem impoſſible to accompliſh this End effectually, not only becauſe any particular Habit cannot eaſily be changed into a contrary one, but alſo becauſe old Age, which ordinarily accompanies this Diſeaſe, greatly obſtructs this Deſign; yet the Cure is to be attempted, as far as the Strength and Age of the Patient will permit, who will have the *Gout* more or leſs ſeverely, in proportion to his Advancement in Years.

Further, it is to be obſerved, that digeſtive Remedies, either of the medicinal or dietetic Kind, are to be uſed principally in the Intervals of the *Gout*, and at as great a Diſtance as may be from the ſubſequent Fit: For Age obſtructs the Cure ſo much, that the ſtrengthening the digeſtive Powers, the recovering the debilitated Ferments of the Body, and reſtoring the Blood and Viſcera to their due healthy State, cannot be ſpeedily accompliſh'd, and requires a continued Uſe of Medicine.

But tho' theſe and the like Remedies do Service, yet they are not able, alone, to anſwer this Intention of ſtrengthening, but require the joint Aſſiſtance of ſuch Things as do not properly belong to Medicine; it being an Error to imagine, that this, or any other Chronical Diſeaſe, can be cured by Medicine alone. (1.) Therefore, Moderation in Eating and Drinking is to be obſerved; ſo as, on the one hand, to avoid taking in more than the Stomach can conveniently digeſt, and of courſe increaſing the Diſeaſe thereby; and, on the other hand, defrauding the Parts, by immoderate Abſtinence, of the Degree of Nouriſhment requiſite to preſerve the Strength, which will weaken them ſtill more; either of theſe Extremes being equally prejudicial, as I have often experienced, both in myſelf and others. (2.) As to the Quality of the Food, tho' whatever is eaſy of Digeſtion, ſingly conſider'd, deſerves the Preference, yet Regard muſt be had to the Palate and Appetite; becauſe it is frequently found, that what the Stomach earneſtly covets, tho' of difficult Digeſtion, does nevertheleſs digeſt better than what is eſteem'd of eaſier Digeſtion, in caſe the Stomach nauſeates it; but, however, Aliments, difficult of Digeſtion, ſhould be uſed ſparingly. (3.) I am of Opinion, the Patient ought to eat only of one Diſh at a Meal, becauſe feeding on different Sorts of Fleſh injures the Stomach more than eating an equal Quantity of any one Kind; but, excepting Fleſh, he may eat other Things at Pleaſure, provided they be not acrid, nor ſeaſon'd with Salt or Aromatics; becauſe, tho' ſuch Food does not hurt Digeſtion, it nevertheleſs does Miſchief by agitating the morbific Matter.

As to the Times of Eating, it is prudent to eat at Dinner only; for, as the Night ſhould ſeem peculiarly deſign'd to digeſt the Humours, it would be wrong to waſte that Time in digeſting the Aliment. For this Reaſon, *gouty* Perſons ſhould forbear Suppers; but they may drink a large Draught of ſmall Beer, as being generally ſubject to the Stone in the Kidneys; the Increaſe whereof is conſiderably prevented by drinking ſuch a Liquor at this time, as it cools and cleanſes the Kidneys.

A Milk-diet, or the drinking Milk, either as it comes from the Cow, or boil'd, without adding any thing to it, except perhaps a Piece of Bread once a Day, hath been uſed theſe twenty Years paſt, and hath done more Service in abundance of *gouty* Subjects, whilſt they perſiſted in it exactly, than all other kinds of Remedies: But upon quitting it, and returning to the ordinary way of Living of healthy Perſons, tho' they uſed the mildeſt and ſlendereſt Diet, the *Gout* return'd with much more Violence than ever; for, as this Regimen weakens the Conſtitution, the Patient cannot ſo well ſtruggle with the Diſtemper, whence, of courſe, it proves more dangerous and laſting. Whoever, therefore, intends to begin and go on with this Regimen, ought, before-hand, to conſider maturely, whether he be able to perſevere in it for Life, which perhaps he will find too much for him, tho' he ſhould have great Reſolution. For I knew a Nobleman, who, after living a whole Year on Milk only with much Pleaſure, during which time he had one or more Motions every Day, was conſtrain'd to leave it off, becauſe he grew coſtive on a ſudden; the Temper of his Body was alter'd, and his Stomach at laſt nauſeated Milk, tho' he had ſtill a Liking to it.

Again, it is obſervable, that ſome Hypochondriac Perſons of a groſs Habit of Body, or thoſe who have been long uſed to drink ſpirituous Liquors freely, cannot bear Milk. And further, the ſhort and fleeting Benefit which thoſe who can bear Milk receive from this Regimen, is not only derivable from its exceeding Simplicity, whence I doubt not but Water-gruel may have the ſame Effect, provided the Stomach will bear it; but from its rendering the Blood ſofter and ſmoother, by blunting the ſharp Particles contain'd in the Maſs. And moreover, which I eſteem the principal Thing, Milk, being an Aliment that is abſolutely unfit for grown Perſons, repreſſes that tumultuary Motion of the Humours which occaſions the *Gout*; and for this Reaſon, the few with whom it agrees, eſcape this Diſeaſe, ſo long as they live upon Milk only, but no longer: For as it runs directly counter to the original Cauſe of the *Gout*, which is the Debility of the Digeſtions and Ferments, it does
much more Miſchief in this reſpect, than Benefit in the ot
And for want of ſufficient Attention to this Particular, ſ
inconſiderate People have fallen into groſs, and manifeſtly f
Errors; having, by attempting to attack the containing C
of the Diſeaſe, that is, the Heat and Acrimony of the Humo
deſtroy'd the Digeſtions, and all the natural Functions.

As to Liquors, thoſe are beſt, in my Opinion, which
weaker than Wine, and not ſo weak as Water, ſuch as
London ſmall Beer, hopp'd or unhopp'd, Extremes on ei
hand being pernicious. For, firſt, as to Wine, tho' the c
mon Proverb intimates, that whether a Perſon does, or
not, drink Wine, he will have the *Gout*; yet it is certain,
confirm'd by the Experience of abundance of *gouty* Patie
that Wine is, in Fact, detrimental: For tho' it may be
poſed to do Service by ſtrengthening the digeſtive Powers,
Weakneſs whereof I have long look'd upon as the antece
or primary Cauſe of the *Gout*; yet, with reſpect to the
taining Cauſe thereof, it muſt be deem'd wholly pernici
becauſe it inflames and agitates the Humours which feed
Diſeaſe. Neither do we grant, that Wine, uſed by wa
common Drink, helps Digeſtion; but rather aſſert, that i
ſtroys it, unleſs in ſuch as have been long inur'd to it.
tho' Wine may, in paſſing thro' the Veſſels, communicate
Heat to the Parts, yet it certainly depraves the Ferments o
Body, and waſtes the natural Spirits: And hence I conce
is, that great Drinkers generally die of the *Gout*, *Palſy*, D
ſy, and other cold Diſeaſes. Furthermore, the continued
immoderate Uſe of Wine relaxes and enervates the Body,
dering it like the Bodies of Women; whereas moderately
ing Liquors ſtrengthen the Tone of the Parts; whence ſu
have always drank ſmall Liquors are rarely afflicted wit
Gout. It muſt farther be remark'd, that thoſe are c
ſubject to this Diſeaſe, who, tho' they have naturally a
Digeſtion, do notwithſtanding receive too much Nouriſh
from a certain Richneſs of the Blood, and have their Bul
creas'd by a Kind of indigeſted Matter, inſtead of a
wholſome Subſtance: And the Uſe of Wine adds to this
neſs of the Blood, and ſo not only amaſſes a new Collecti
Matter, but alſo actually occaſions the Diſeaſe, by ſtirri
the Cauſe of it, which had long lain conceal'd and ina
Again, as the Blood of *gouty* Subjects nearly reſembles
which is taken away in a Pleuriſy, and other inflammator
eaſes, it is abſurd to inflame it more with ſpirituous Li
And it is as dangerous, on the contrary, to have recou
over-cooling Liquors, which, by utterly deſtroying bot
Digeſtions, and natural Heat, do more Miſchief; not occ
ing Pain, as Wine doth, but Death itſelf; as Expe
evinces in thoſe Perſons, who, having accuſtom'd themſe
drink Wine freely from their Youth upwards to old Ag
quitted it on a ſudden for ſmall Liquors, have ſoon de
themſelves thereby.

Gouty Perſons ſhould therefore obſerve it as a Rule
Particular, to drink ſuch Liquors as will not inebri
drank in a larger Quantity, or injure the Stomach by
Chilneſs. Of this Kind, as I before hinted, is our
Beer; and in other Countries a ſimilar Liquor may be
by diluting Wine well with Water.

As to Water alone, I eſteem it crude and pernicio
have found it ſo to my Coſt; but young Perſons may d
with Safety; and it is, at this Day, the common Drink
greateſt Part of Mankind, who are more happy in th
verty, than we are with all our Luxury and Abundance.
is confirm'd by the great Multitude of Diſeaſes, with
we are afflicted upon this Account, as the Stone, *Gout*,
plexy, and Palſy; beſides the Injury done to the M
being forcibly acted upon, contrary to its natural Re
by the Diſturbance which the preternatural Spirits of ſu
quors, together with the Animal Spirits, which are ſub
to Thinking, occaſion, by volatilizing it too much, a
geſting vain and idle Notions, inſtead of ſolid and
Reaſonings; and thus, at length, rendering us facetio
witty, inſtead of wiſe; between which the Difference i
as great, as between a Subſtance and a Shadow. But en
this.

But tho' a Perſon who has the *Gout* mildly, and onl
tervals, need only uſe ſmall Beer, or Wine diluted w
ter, this Degree of the Diſeaſe not requiring a ſtricte
men; yet, when the whole Subſtance of the Body is in
ner degenerated into the Gout, it cannot be conquer'd
a total Abſtinence from all Kinds of fermented Liquo
ſmall and ſoft ſoever they be; inaſmuch as all Liquors
Kind contain a pungent Spirit, with ſome Degree of Acr
and, what is worſe, being poſſeſs'd of a Ferment, the
the Humours to a perpetual Fermentation, in the ſa
ner as Yeaſt, added to Malt Liquors, communicates
menting Quality to the whole Liquor. For this R
Diet-drink is to be order'd for common Drink, to be
thoſe Ingredients which are commonly known and
this Purpoſe; but it muſt not be too ſtrong, becauſe

Caſe it will inflame the Humours as much as Wine; neither, on the contrary, muſt it be ſo ſmall as to injure the natural Functions by over-cooling. And this kind of Drink, provided it be made of ſuch Ingredients as are moſt agreeable to the Patient, tho' it may occaſion ſome Loathing for the firſt Week or Fortnight, nevertheleſs proves as agreeable afterwards as any other Liquors he has been uſed to drink. It will alſo excite the Appetite, and render it more natural than it uſed to be with fermented Liquors; and will be attended with this further Convenience, that whoever uſes it for his own common Drink, may indulge more freely in other kinds of Diet, than when he drank Wine or Beer: For the Errors in point of Diet, which it is hardly poſſible to avoid entirely, will be, in ſome meaſure, corrected and amended thereby. But the principal Benefit, derivable from it, is its preſerving from the Stone, which is the general Attendant of the *Gout*; as ſharp and attenuating Liquors both contribute to breed the Stone, and occaſion a Fit thereof. I prefer the following Decoction for its agreeable Colour and Taſte:

> Take of Sarſaparilla, ſix Ounces; Saſſafras-wood, China-root, and the Shavings of Hartſhorn, each two Ounces; Liquorice-root, an Ounce: Boil them together in two Gallons of Spring-water for half an Hour; afterwards infuſe them upon hot Aſhes, cloſe cover'd, for twelve Hours; then boil them till a third Part of the Liquor is exhaled; and as ſoon as it is taken off the Fire, infuſe therein half an Ounce of Aniſeeds for two Hours. Laſtly, ſtrain it off, and let it reſt, till it becomes clear, and put it up into Bottles for Uſe.

It is moſt proper to begin with this Decoction, immediately fter the Fit of the *Gout* is gone off; and it muſt be continued, oth in the Fit, and in the Intervals, during the Remainder of ife. For it is not ſufficient at a time when the Diſeaſe ctually rages to ſtudy for new Medicines, as Nature, whilſt e Humours are in ſuch Commotion and Diſturbance, cannot ell bear the Exchange of fermented Liquors of an active and irituous Quality, for ſuch as are ſmall and without Spirit. At e ſame time the above-mentioned Electuary muſt be uſed, king it in like manner, both in the Fit, and in the Intervals; r the Warmth of this will in ſome meaſure correct the Small- ſs of the Diet-drink, as it will communicate a due Degree of at to the Blood and Viſcera, without that Agitation which generally occaſioned by the Heat of fermented Liquors.

If it be objected, that a total Abſtinence from Wine, and er fermented Liquors, would render Life in a manner inſup- rtable, I anſwer, it muſt be conſidered, whether it be not ch worſe to be tortured daily by the Pain accompanying an veterate *Gout*, (for, when it is gentle, there is no Need of ſo ſt a Regimen) than to be confined to this Decoction, which the Patient continues, he may indulge himſelf in moſt other tables; not to repeat, that this Drink, like all other things, ws pleaſant by Cuſtom. Doubtleſs, whoever hath had this eaſe, ſuppoſing him not void of Reaſon, will not heſitate at , to which he ſhould give the Preference.

But notwithſtanding, if the Patient, either from a long-con- ued and immoderate Uſe of ſpirituous Liquors, from Age, laſtly, from great Weakneſs, cannot digeſt his Food with- Wine, or ſome other fermented Liquor, 'tis certainly dan- ous for him to leave off Wine on a ſudden; an Error that in Reality deſtroyed Abundance of People. Such a Perſon, refore, in my Opinion, ſhould either not uſe the dietetic ſtem above preſcribed; or, if he be reſolved to take it, ld accuſtom himſelf to it by Degrees, (drinking a Glaſs of e for ſome time at Meals) and rather by way of Medicine Diet, till it becomes more familiar to him. But *Spaniſh* e is to be preferr'd here to *Rheniſh*, or *French* Wine, e laſt being ſubject to exaſperate the Humours, and increaſe morbific Matter, notwithſtanding they are very grateful to Stomach. To which we may add, that as they are almoſt ude and indigeſted as our Cyder, they are conſequently not rm and cardiac, as the Caſe demands. And theſe Particu- may ſuffice concerning the Diet of *gouty* People. There is her Caution to be inculcated, which, though it may ſeem g, is of great Moment, both in digeſting the *gouty* Mat- uring the Fit, and preventing the Generation thereof in the vals; and that is going to Bed early, eſpecially in Winter; ext to Bleeding and Purging, nothing impairs the Strength than ſitting up late at Nights; which every Valetudina- can affirm from his own Experience, provided he has only ully obſerved how much more vigorous and chearful he n the Morning when he goes to Bed early, and how lan- and faint he has found himſelf after ſitting up late. And here ſhould ſeem to be no Difference betwixt going to Bed r or later, provided a Perſon lies in Bed for the ſame time, as ſtance, whether he goes to Bed at Nine and riſes at Five, Eleven and riſes at Seven, It is not an indifferent Matter; conceive, for this Reaſon principally, that in the Day the Spirits are diſſipated, either by Exerciſes of the Body or Mind, which are ſo weak in Valetudinarians, that they require the Aſſiſtance of Sleep earlier in the Evening; and, as the Approach of Night occaſions a kind of Relaxation of the Animal Œconomy, which was preſerved in the Day by the Heat of the Sun, the Heat of the Bed becomes neceſſary to ſupply the Place of the Sun, eſpecially during the Winter Seaſon. But the Spirits being refreſhed and invigorated in the Morning by the preceding Night's Sleep, together with the Warmth of the Bed, and the enſuing Day likewiſe ſtrengthening the Tone of the Parts ſtill more, the riſing early at this time, though it may take an Hour or two from the Morning Sleep, hurts the Conſtitution leſs than ſitting up an Hour or two later in the Evening. This being the Caſe, I would adviſe ſuch as are ſubject to the *Gout* to go early to Bed, eſpecially in Winter, and to riſe betimes in the Morning; though their having had leſs Sleep than uſual may incline them to lie longer, in order to make it up. For the Sleep which is got in the Morning will rob them of as much the enſuing Night; and thus at laſt by doing Violence to Nature, and deſpiſing its wiſe Leſſons, the Night may be prepoſterouſly turned into Day, and the Day into Night.

The Patient muſt alſo uſe his utmoſt Endeavour to keep his Mind eaſy, as all unbounded Appetites, and inordinate Paſſions, eminently tend to diſſolve the Texture of the Spirits, which are the Inſtruments of Digeſtion, and ſo of courſe to increaſe the *Gout*. He ſhould therefore wiſely reflect on his Mortality, and not vainly imagine he is to eſcape the Evils that are neceſſarily annexed to this State. For, whether any Affliction of Mind befals him through his own Fault, or that of others, certain it is, that he will never be able to preſcribe Laws to the World, which has not always obey'd any ſingle Perſon hitherto, how powerful and wiſe ſoever he has been; nor will every thing always anſwer any one's Expectation ſo exactly, as he may have promiſed himſelf; and perhaps, whilſt he is intent upon worldly Affairs, unexpected Death renders him an Example of human Frailty, whilſt he fooliſhly deprives himſelf of the tranſitory Enjoyments of Life. Too much Application to Study and Buſineſs is likewiſe equally pernicious; for as this Diſeaſe is more frequently accompanied with Melancholy than any other, ſuch as are ſubject to it ordinarily fatigue and oppreſs the Spirits to that Degree, by long and intenſe Meditation, even without the artificial Help of Books, that the Body cannot long preſerve itſelf in a healthy State; and hence I conceive it is, that few Fools have had the *Gout*.

But nothing ſo effectually prevents the Indigeſtion of the Humours, (which I eſteem the principal Cauſe of the *Gout*) and conſequently ſtrengthens the Fluids and Solids, as Exerciſe. It muſt, however, be obſerved, as I have already mentioned, that as there is more Neceſſity for making a thorough Change in the Conſtitution in this than in any other Chronical Diſeaſe, ſo Exerciſe, unleſs it be uſed daily, will do no Service; for if it be intermitted at times, it will avail little towards changing the Conſtitution, now reduced to a languiſhing and effeminate Condition by Idleneſs and Indulgence, and may perhaps do Miſchief by cauſing a Fit, after leaving it off for a conſiderable Space of Time. But Exerciſe ſhould be moderate, becauſe the contrary in aged Perſons, who are principally ſubject to the *Gout*, waſtes the Spirits too much, and conſequently hurts the digeſtive Faculties. And though this may not be reliſhed by one, who beſides old Age, Inability to Motion, and Slothfulneſs, which are natural in this Diſeaſe, is likewiſe tormented with Pain, yet, if Exerciſe be omitted, all the Remedies which have been hitherto diſcovered will not avail. And as the Intervals between the Fits cannot be long without conſtant Exerciſe, ſo the Patient will likewiſe without it be more ſubject to the Stone, which is a more dangerous and painful Diſeaſe than the *Gout*.

To theſe add a Particular of ſome Importance, which is, that the chalky Concretions are conſiderably increaſed in the Joints, and eſpecially in the Fingers by long Inactivity; ſo that at laſt theſe Parts are entirely deprived of Motion. For, however poſitively ſome may aſſert, that the Matter of theſe Concretions is only the Tartar of the Blood tranſlated to the Joints, it will nevertheleſs readily appear, upon conſidering the Matter with a little more Attention, that when a large Quantity of indigeſted *gouty* Matter falls upon ſome of the Joints, and occaſions a laſting Swelling of the neighbouring Parts, it happens at laſt partly from their aſſimilating Property being deſtroyed, and partly from the Obſtruction cauſed therein by this ſluggiſh Humour, that this Matter is generated; which is changed into this kind of Subſtance by the Heat and Pain of the Joint, and increaſed every Day in Bulk, converting the Skin and Fleſh of the Joint into its own Nature, and may be got out with a Needle, and reſembles Chalk, Crab's-eyes, or ſome ſimilar Subſtance. But I have experienced in my own Caſe, that not only the Generation of theſe Concretions may be prevented by daily and long-continued Exerciſe, which duly diſtributes the *gouty* Humours throughout the whole Body, that otherwiſe readily attack a particular Part, but it alſo diſſolves old and indurated Concretions, provided they be not come to ſuch a Degree of Hardneſs, as to change the external Skin into their Subſtance.

As to the Kind of Exerciſe, Riding on Horſeback is certainly the beſt, provided it be not contra-indicated by Age, or the Stone; and indeed I have often thought, if a Perſon was poſſeſſed of as effectual a Remedy as Exerciſe is in this and moſt Chronical Diſeaſes, and had the Art alſo of concealing it, he might eaſily raiſe a conſiderable Fortune. But if Riding on Horſeback cannot be uſed, frequent Riding in a Coach nearly anſwers the ſame End; and in this reſpect at leaſt, the Generality of *gouty* Perſons have no Cauſe for Complaint, becauſe their Riches, which excited them to indulge thoſe Exceſſes that occaſioned the Diſeaſe, enable them to keep a Coach, in which they may take the Air, when they cannot ride on Horſeback. It muſt be remark'd however, that a wholſome Air is greatly preferable to one which is unwholſome for this Purpoſe: Thus the Country is better than the Town, where the Air is full of Vapours that exhale from the Shops of different Mechanics, and render'd ſtill more denſe by the Cloſeneſs of the Buildings, as it is in *London*, which is eſteemed the largeſt City in the Univerſe. But the great Difference there is between uſing Exerciſe in the Country, or in Town, a *gouty* Perſon will ſoon find upon Trial.

With reſpect to Venery, if the *gouty* Patient be in Years, as he is unprovided now with a ſufficient Share of Spirits to promote the Digeſtions, and his Joints, and the neighbouring Parts, are conſequently too much debilitated and relaxed, without any Aſſiſtance from this deſtructive Quarter; in this Caſe, I ſay, it is as imprudent for ſuch an one, in my Opinion, to indulge thoſe Pleaſures, as it would be for a Perſon, after having engaged to go a long Journey, to ſpend all his Stock of Proviſions before ſetting out. Moreover, beſides the Miſchief it does himſelf, for want of reſtraining the languid Inclinations of declining Age, he loſes the great Privilege of enjoying that exquiſite Satisfaction, which by the particular Indulgence of Nature is reſerved for the Aged only, who, towards the Period of their Lives, are freed from the Violence of thoſe Paſſions, which, like ſo many ſavage Beaſts, prey'd upon them perpetually in Youth; the Gratification of them being by no means an Equivalent for the long Train of Evils which either accompany, or follow it.——And let this ſuffice for the Regimen.

But though a *gouty* Perſon, by carefully obſerving theſe Rules relating to Diet, and the reſt of the Non-naturals, may prevent violent Fits, and ſo ſtrengthen the Blood, and ſolid Parts, as to free himſelf from that Multitude of Evils, which render the Diſeaſe not only intolerable, but in, the End, fatal; yet, notwithſtanding, after ſome Intervals, he will ſometimes be ſeized with the *Gout*, eſpecially towards the Cloſe of Winter. For though in the Summer-ſeaſon, whilſt the Tone and Strengh of the Blood are mended, and preſerved in that State by the Heat of the Sun, and Perſpiration goes on in a proper manner, the Digeſtions muſt neceſſarily be much better performed than in Winter; yet, as the Blood is weakened, and Perſpiration obſtructed, upon the Approach of this Seaſon, there muſt neceſſarily be a copious indigeſted Matter amaſſed, which at laſt, by its long Continuance in the Habit, will form a Diſtemper, and manifeſt itſelf by proper Symptoms, giving a Fit upon the firſt Occaſion, either by the Humours being put into Motion by the nearer Approach of the Sun, the Uſe of Wine, violent Exerciſe, or any other evident Cauſe.

'Tis clear from what has been delivered, that whoever undertakes the Cure of this Diſeaſe, muſt endeavour to make a thorough Change of his Habit of Body, and reſtore it to its former Conſtitution, as far as Age, and other Circumſtances, will permit; and this muſt be attempted only in the Intervals between the Fits. For when the morbific Matter is not only generated, but already thrown upon the Joints; it will be too late to endeavour to change it, or to expel it, any other way; ſince it muſt be expelled by that Method only which Nature points out, and the Buſineſs is to be left entirely to her Management. This Practice obtains in the Paroxyſms of Intermittents; which, for the ſame Reaſon, we do not attempt to remove till the Heat be over. For it is equally abſurd to be ſolicitous to take off the Heat, Thirſt, Reſtleſneſs, and other Symptoms of theſe Fevers, as to think the *Gout* is to be cured by endeavouring only to abate the Symptoms, whereas the Cure is by this means obſtructed and prolonged. For the more the Pain is eaſed, the more the Concoction of the Humours is prevented; and, in the ſame Degree, the Lameneſs is relieved, and the Expulſion of the morbific Matter is check'd. Again, the more the Violence of the Fit is ſuppreſſed, the longer it will laſt, and the ſhorter likewiſe the Interval will be between the Fits, and leſs free from every Degree of the Symptoms accompanying this Diſeaſe; which will be acknowledged by any one who has attentively conſidered what we have delivered above, in our Hiſtory of this Diſeaſe.

But though nothing conſiderable muſt be attempted in the Fit, excepting only, that thoſe Symptoms are to be relieved, which an improper Method of Cure ſometimes occaſions; ye as this Diſeaſe is unanimouſly held to ariſe from a Plenitude Humours, it may not, perhaps, be amiſs for the Patient forbear Fleſh for a few Days in the Beginning of the Fit, a inſtead of it to uſe Water-gruel, or ſome ſuch Aliment; ſuch a ſlender Diet will greatly contribute towards leſſening t Quantity of the morbific Matter, and give Nature an Oppo tnnity of digeſting it ſooner. But as Conſtitutions differ co ſiderably, inſomuch that ſome Perſons cannot bear to abſt from Fleſh, without being immediately ſeized with a Diſtur ance of the Spirits, Faintings, and other Symptoms of t hyſteric Kind; ſuch therefore will receive Hurt by refraini from Fleſh any longer than the Stomach is ſet againſt it, whic for the moſt part, is only the firſt or ſecond Day of thoſe p ticular Fits; all which, joined together, conſtitute the who Fit, as we have intimated above. But whether the Patie eats Fleſh ſooner or later, he muſt be equally cautious, bo with reſpect to eating more, during the Fit, than is requiſ to ſupport Nature, and to the Quality of the Food. For gr Care ſhould be had to guard againſt every Error, either in t Quantity or Quality of the Diet, both as to Solids and Liqui even in the Intervals of the Fit, and eſpecially in the Fit itſe And further, no little regard is to be had, in the Intervals, the reſt of the Non-naturals, of which we have diſcourſed lar ly above; and though the Pain, and great Inability to Motio may ſeem to contra-indicate Exerciſe, which I have principa recommended in this Diſtemper, the Labour muſt neverthel be undertaken; for though the Patient may think himſelf terly unable to bear to be carried into a Coach in the Beg ning of the Fit, and much more ſo to abide the Motion of yet, upon Trial, he will ſoon find himſelf more eaſy from ſu a Motion, than when he is at home in his Chair. Again, if kind of Exerciſe be uſed Morning and Afternoon for ſo Hours; another Advantage attends it, which is, that it ca him to reſt a great Part of the Night, which he could not when he kept conſtantly within Doors; for very moderate E erciſe fatigues a *gouty* Perſon ſo much, that he falls aſle Beſides, this kind of Exerciſe is, in ſome Degree, preventiv the Stone, which an idle and ſedentary Life generally occaſio But the principal Advantage derivable from the conſtant Uſ Exerciſe, is the preventing the Loſs of Motion in the Limbs, wh ſeizes ſeveral People after the firſt or ſecond long Fit, occaſio by the Contraction of the Tendons of the Hams and Heels; when the Pain has been ſo violent, that they have lain ſtill a l time, not caring to ſtretch out their Legs when it has attac the Knees, they at laſt loſe the Uſe of their Legs and F for the Remainder of Life, both during the Intervals, and the Fits, which nevertheleſs they do not eſcape. Again aged People, whoſe Concoctions are conſiderably vitiated, who, through the long Continuance of the Diſeaſe, have Subſtance of their Bodies, in a manner, changed into the G it is not to be expected, that the Diſeaſe can ever be brou to Digeſtion without Exerciſe; for when it exceeds the na Strength, they frequently periſh by Faintings and Sickneſs, caſioned by the copious morbific indigeſtible Matter; w cannot be aſſimilated, and deſtroys them like Poiſon.

But notwithſtanding what has been ſaid of the Uſefulne Exerciſe in the Paroxyſms of the *Gout*, yet, if the Fit b violent as to ſink the Patient in the Beginning of it, (w happens chiefly in thoſe Subjects in whom the *Gout* is in Height, and hath continued in that State for many Years) confine him to his Room, it will be proper for him to kee Bed a few Days, till the Pain abates, as the Warmth th will, in ſome meaſure, ſupply the Want of Exerciſe; for h conſtantly in Bed digeſts the morbid Matter more effect in a few Days, than ſitting up does in many, eſpecially in Infancy of the Diſeaſe, provided the Patient can forbear F without Faintings, and other bad Symptoms, and be conte only with Water-gruel, ſmall Beer, and the like. But well worth obſerving, that if the *Gout* be inveterate, an poſes the Patient to Faintings, Gripings, a Looſeneſs, an like Symptoms, he is in great Danger of being deſtroyed by of theſe Fits, unleſs he uſes Exerciſe in a free and open for abundance of *gouty* Perſons have been carried off by Symptoms, which they have been ſubject to from being fined within Doors, and eſpecially in Bed, who had lived lo if they would have undergone the Fatigue of Riding in a C a great Part of the Day. For though a Perſon, who is a ed only with a Pain of his Limbs, may keep his Room another, who, inſtead of violent Pain, is troubled with Sick and the other Symptoms above enumerated, cannot do the without endangering his Life. And, in Effect, it is well fo Patient, that there is no great Neceſſity for Motion or ciſe, ſo long as the Pain continues ſo ſevere, that he c bear it; his Life being ſecured by the Pain, which is the tary, though diſagreeable Remedy of Nature.

But as to the Symptoms of the *Gout*, we are to relieve which threaten Life; the moſt frequent of which a Weakneſs and Languor of the Stomach, with Gripings, occaſioned by Wind; and theſe happen either to thoſe wh the Gout many Years; or thoſe, who, though they have had it long, have nevertheleſs brought it on too haſtily by ing ſpirituous Liquors, on a ſudden, for thoſe which are and very cooling, or by applying repelling Plaiſters, and cooling Topics, to the Parts affected, to eaſe the Pain; ce the morbific Matter, which ſhould have been depoſit- the Joints, is tranſlated to the Viſcera. I have tried ſe- Remedies in my Fits, of late Years, to relieve theſe Sym- s; but nothing did me ſo much Service as a ſmall Draught anary, taken occaſionally, as the Sickneſs and Faintneſs red. Neither red *French* Wine, *Venice* Treacle, or any of the Cardiacs I am hitherto acquainted with, is ſo effi- us. But we are not to imagine, that Canary, or any Cordial, can wholly ſecure the Patient without the Uſe xerciſe.

t if ſome violent Symptom comes on ſuddenly, from the ng in of the gouty Matter, and threatens Life, we are o truſt to the Wine or Exerciſe above commended; but provided only the natural or vital Parts, and not the , be affected, we muſt have immediate recourſe to Lau- n, exhibiting twenty Drops of it in a ſmall Draught of e-water, and the Patient muſt compoſe himſelf to Reſt in

t if the gouty Matter occaſions a Looſeneſs for want of tranſlated to the Limbs, provided it be not the Criſis of ticular Fit, and yields not to Laudanum and Exerciſe of inds, (for this is to be tried firſt in the Cure of a Looſe- but continues, attended with Sickneſs, Gripings, and ke Symptoms, the only Remedy I know in this Caſe, is iſe a Sweat by a ſuitable Method, and proper Medicines; if this be done every Morning and Night, for two or Days together, keeping it up two or three Hours at a it generally checks the Looſeneſs, and forces the morbi- atter to the Limbs. To this Method I owe my Recovery this Diſeaſe ſome Years ſince, (which I had imprudently oned by drinking cold Water for my common Drink) having uſed Cardiacs and Aſtringents of various Kinds to rpoſe.

ere is another Symptom, which I have often ſeen, though not ſo common, which is a Tranſlation of the peccant r to the Lungs by a Cough in the Winter-ſeaſon, occa- d by taking Cold in the Fit, which, by Degrees, invites atter to thoſe Parts; the Joints, the mean while, being at part, or totally, freed from the Pain and Swelling, by ranſlation of the morbid Matter to another Part. In this Caſe, the curative Indication is not to be levelled at the ; but this Symptom is to be treated like a true Peripneu- ; that is, by repeated Bleeding, and cooling and incraſ- Medicines and Regimen, as the Blood which is taken exactly reſembles that of Pleuritic Perſons. The Pa- likewiſe ſhould be gently purged in the Intervals of Bleed- o carry off the Matter that is lodged in the Lungs. But ing, how effectual ſoever it may be in forcing the morbific r upon the Limbs, proves detrimental in this Caſe, by ing the Matter that is forced upon the Lungs; whence d ſmall Abſceſſes, and in the End, certain Death. *See rave's Sentiments on this, below.*

s farther to be remarked, that moſt *gouty* People, after iſeaſe has been of long Standing, become ſubject to the in the Kidneys, and are generally ſeized with Nephritic either at the Height, or more frequently at the Decline, Cardinal Fit, which are very ſevere, and weaken the t conſiderably, who was too much debilitated and ex- d by the preceding Diſtemper. In this Caſe, omitting er Remedies, let him immediately drink a Gallon of -drink, in which two Ounces of Marſhmallow-roots een boiled, and inject the following Clyſter:

e of the Roots of Marſhmallows, and white Lilies, of ach an Ounce; the Leaves of Mallows, Pellitory of the Wall, Bears-breech, and Chamomile-flowers, of each one Handful; Linſeed and Fenugreek-ſeed, of each half an Ounce; boil them together in a ſufficient Quantity of Water to a Pint and an half; diſſolve in the ſtrained Li- uor brown Sugar, and Syrup of Marſhmallows, of each wo Ounces; mix the Whole for a Clyſter.

ſoon as the Poſſet-drink is ejected by Vomit, and the come away, exhibit twenty-five Drops of *Liquid Lau-* , or fifteen Grains of *Matthew's Pills.*

utward Applications be inquired after to eaſe the Pain in ut, I know of none, (though I have tried abundance, myſelf and others) beſides Coolers and Repellents, which already ſhewn to be unſafe. And I ſcruple not to affirm, long Courſe of Experience, that moſt of thoſe who are d to periſh by the *Gout*, are rather deſtroyed by wrong gement, than by the Diſeaſe itſelf. But if any one be s of trying the Efficacy of ſuch external Medicines as emed certain Anodynes, to prevent being miſtaken, inſtead of applying them at the Declenſion of a particular Fit, when the Pain is juſt going off ſpontaneouſly, let them be uſed in the Beginning, and he will ſoon be convinced of their Inſignificancy, and the Groundleſneſs of his Expectation, as they ſometimes do Miſchief, but can never do Service.

For this Reaſon I have laid aſide the Uſe of Topics for ſeveral Years; but I found moſt Benefit formerly from a Cataplaſm, made of white Bread and Saffron boiled in Milk, with the Addition afterwards of a ſmall Quantity of Oil of Roſes; which, however, did not at all relieve me in the Beginning of the Fit. If therefore the Pain be extremely ſevere, the Patient had better keep in Bed till it abates a little, than to have recourſe to Anodynes; but however, it will be proper, if the Pain be very violent, to take a Doſe of Laudanum in the Evening, otherwiſe it is better omitted.

But now I am treating of external Applications, I muſt ſay ſomething of a certain *Indian* Moſs, intituled *Moxa*, which is highly eſteemed of late in the Cure of the *Gout*; the manner of uſing it being to burn a ſmall Quantity of it upon the Part affected. Now, though this Remedy is ſaid to come from the *Eaſt-Indies*, and to have been unknown to the *Europeans* till of late Years, it will nevertheleſs appear to be of more antient Date with us, by conſulting the Writings of *Hippocrates*, compiled above two thouſand Years ago. Treating of the Sciatica, he adviſes, “*If the Pain be fixed in* “ *any one Part, and does not yield to Medicines, in whatever* “ *Part it be, to burn it with raw Flax*;” and a little farther, ſpeaking of the *Gout* in the Feet, he ſays, “*The ſame Things* “ *are proper here, that do Service in the* Gout *of the Joints*; “ *and indeed, this is a long and painful, but not a mortal Diſeaſe: If the Pain, however, continue in the Fingers, burn* “ *the Veins above the Joints with raw Flax.*” Now, I am of Opinion, that no one can imagine, that there is ſuch a Specific Difference betwixt the Flame of burning Flax, and that of *Indian* Moſs, as to render the latter more effectual in the Cure of the Gout than the former, any more than he can ſuppoſe, that a Fire made with Oak Billets can do more than another made of Aſh. This Burning of the Part affected bids fair to eaſe the Pain, and may ſometimes effect it, the moſt ſubtile and ſpirituous Part of the morbific Matter depoſited on the Part being by this means expelled. But the Relief hereby obtained muſt neceſſarily be of ſhort Duration, becauſe it does not at all amend the Indigeſtion, which is the antecedent Cauſe of the *Gout*; and it ſeems ſuperfluous to obſerve, that it is to be uſed only in the Beginning of this Diſeaſe. For when the *Gout*, either on account of its long Continuance, or through wrong Management, retreats to the internal Parts, which ſometimes happens, and inſtead of Pain cauſes Sickneſs, Gripings, and Abundance of the like Symptoms, no judicious Perſon will be for uſing Fire. See MOXA.

And now I have delivered all that I have hitherto diſcovered concerning the Cure of this Diſeaſe; but if it be objected, that there are many ſpecific Remedies for the *Gout*, I freely own I know none; and fear that thoſe who boaſt of ſuch Medicines are as ignorant as myſelf. And, in Effect, it is to be regretted, that the excellent Art of Medicine ſhould be ſo much diſgraced by ſuch Trifles, which the Credulous are deceived with, either through the Ignorance or Knavery of Authors; Remedies of this Kind being extravagantly magnified in moſt Diſeaſes by thoſe who offer them to Sale. *Sydenham.*

Before I proceed to *Muſgrave*'s Account of the *Anomalous Gout*, I muſt ſpecify the Preparation of ſome Remedies he frequently refers to. The firſt of theſe is what he calls

ALCOHOL MARTIS.

Put ten Pounds of the Filings of Steel into a Pan, or glazed Earthen Veſſel; moiſten them with human Urine, then dry them, either by the Heat of the Sun, or that of the Fire; then moiſten them again with the ſame Liquor, ſtirring the Particles twice a Day with an Iron Spatula to prevent their Coaleſcence; continue this till the whole Maſs is reduced, as it were, to Ruſt; when it is ſo, pound it in an Iron Mortar. When 'tis pounded, throw it into a Veſſel in which there are about four Gallons of Spring-water; mix the Powder with the Water. About a quarter of an Hour after, gently draw off the uppermoſt and leaſt turbid Part of the Water, and evaporate it till the Powder ſwimming in it is left dry. Let the Liquor alſo left in the Veſſel be evaporated in like manner. Let the groſſer Powder in the Bottom be moiſtened with Urine, and managed in the ſame manner as at firſt. Let the Nutrition, Trituration, and Separation by Water, be thus continued, till the Whole of the Iron is reduced to a very fine Powder. Put this Powder, when dry, into a Piece of coarſe Paper wrapt up in the Form of a Cone; pour upon it by little and little, and at different times, warm Spring-water, till the urinous Salt being quite waſhed away, an inſipid Water drops through the Paper; then dry the Powder again, and keep it for Uſe.

This moſt ſubtle Ruſt of Steel is a mere *Alcohol* of uncommon Efficacy, not only in the Gout, but alſo in moſt other chronical Diſorders, eſpecially if the Patients are of weakly and tender Conſtitutions.

The Doſe is half a Scruple, either once or twice a Day, as the Circumſtances of the Patient ſeem to require.

Pulvis ruber Exonienſis.

Take of the Tops of Pimpernel, Scabious, Dragons, Betony, Germander, and Tormentil, each four Ounces; mix them together, and cut them. Digeſt for twenty-four Hours in a Sand-heat, in four Pounds of white Port Wine, the Glaſs in the mean time being well ſtopped; then ſtrain off, and make an Expreſſion.

Then take of the Powder of *Armenian* Bole, one Pound; with the aforeſaid Infuſion let it be reduced to the Conſiſtence of a Liniment; ſhake it often, then moiſten it again with the Infuſion. Thus let the Maſs be nouriſhed or moiſtened with the Infuſion; but along with the laſt half Pound of the Infuſion, let there be added to the Maſs one Ounce of Mithridate, one Ounce and an half of Diaſcordium, Confection of Kermes, and Powder of Turmeric-root, each half an Ounce; *Virginian* Snake-root, and *Engliſh* Saffron, each two Drams. Mix all together, and dry the Whole; make into Troches, or little Cakes, to be hardened in the Heat of the Sun, and preſerved for Uſe. The Doſe is from one Scruple to one and an half, or two Scruples.

Aqua Hispanorum Arthritica.

The *Spaniſh Gout Water*, as 'tis called, is by ſome highly eſteemed, and is indeed of very great Efficacy; 'tis prepared in the following manner:

Take of Cloves, Nutmegs, Ginger, Mace, Cinnamon, Black Pepper, Saffron, Zedoary, Galangals, Juniper-berries, Citron and Orange-peel, Spikenard, Cubebs, Hepatic Aloes, Wood of Aloes, Sweet Flag, and Stœchas, each half an Ounce; Tops of Sage, Baſil, Roſemary, Mint, Marjoram, of common Bay-berries, Penyroyal, Shavings of Gentian, Elder-flowers, White and Red Roſes, Ground-pine, Germander, Calamint, Baum, Origanum, and Feverfew, each two Handfuls; of Figs, Dates, Bitter Almonds, Pine-nut Kernels, and Raiſins of the Sun, each ſix Ounces; of Virgin Honey, one Pound; of the fineſt Sugar, one Pound; and grated Muſk, one Dram. When theſe Ingredients are cut and bruiſed, let them be put into fifteen Pounds of the beſt Canary Wine to infuſe for ten or twelve Days; then diſtil in Balneo Mariæ.

This Water is eſteemed of uncommon Efficacy in Arthritic Diſorders of the Stomach and Inteſtines. The Doſe is half an Ounce, to be taken with a little Sugar or Crumb of Bread; it may be repeated at Pleaſure. It is alſo uſed externally for removeing arthritic Pains of the Joints; and the Method of applying it is, to make it very warm, and then embrocate the Part affected with it.

From Musgrave.

Whilſt the Arthritic Matter is depoſited upon the Extremities, particularly the Joints, and remains there without any Danger of returning, Nature is purſuing her Purpoſe, and defending herſelf from the Danger ſhe would be in from a Retroceſſion of the Gout, and its fixing upon any Part of the Trunk.

Theſe anomalous Symptoms of the Gout, when they appear before the Patient has had a Fit regularly, are very difficult to be diſtinguiſhed from other Diſeaſes, which the Part where it fixes, is ſubject to. And therefore *Muſgrave* ſays, 'tis impoſſible to know anomalous Symptoms of the Gout, without a previous Fit.

The Arthritis Vaga is attended with Pain, and ſometimes with a white Swelling, like an Œdema.

Thoſe who have the regular Gout, have ſeldom, unleſs by Accident, any other great Diſorder.

The anomalous Gout viſits moſt frequently the Stomach and Inteſtines; whence ariſe Loſs of Appetite, and bad Digeſtion, Vomiting, Colic, Dyſentery, Diarrhœa, and ſometimes Arthritic Abſceſſes.

Sometimes it ſeizes the Head, and cauſes a Cephalalgia, Vertigo, or Apoplexy; and ſometimes ſeizing the Nerves, cauſes a Palſy.

It often fixes upon the Organs of Reſpiration, and cauſes an Aſthma, Cough, Hæmoptoe, and Phthiſis.

Sometimes it appears in the Shape of an Angina.

At ſome times it ſeizes the Gums, and is called *Dentium Podagra*, improperly.

At other times it ſeizes upon the Kidneys, and cauſes Stone, Dyſury, and Strangury.

No Part of the Body is free from it.

The natural or acquired Weakneſs of any of the Viſc or internal Parts, is the Cauſe of the *Gout*'s fixing u them.

Whatever repels the *Gout* from the Extremities, as C plaſms, Plaiſters, &c. cauſes it to fix upon the Viſcera.

The Symptoms of the Anomalous Gout differ exceedin as they happen to fix upon different Parts, cauſing in App ance different Diſtempers.

They alſo differ, as the Matter is ſometimes purely go and ſometimes has with it a Mixture of ſome other Diſtem as Scrophula, Scurvy, or the like.

The Anomalous Gout is driven into the Extremities f ſome Parts much more eaſily than from others. From the Fa it removes without much Trouble, and almoſt of its own Acc On the contrary, it is removed from the Nerves with the ut Difficulty.

Too tight Shoes are ſometimes the Cauſe of the Go leaving the Extremities, and fixing on the Viſcera.

Thoſe things which evacuate the gouty Matter, tho' ſo times abſolutely neceſſary, yet ſeldom cure the Diſtemper, are even prejudicial when improperly uſed. But the Cu the Diſtemper can be no otherwiſe completed, than by an pulſion of the Gout into the Extremities.

Thoſe Medicines which expel the gouty Matter, and it upon the Extremities, are taken from the Claſſes of Car and Diaphoretics, amongſt which are the following:

Powders of Zedoary, Contrayerva, Gentian, *Virg* Snake-root, *Gaſcoign*'s Powder, the Pulvis Purpureus of B Goa Stone, Contrayerva Stone, Species Diambræ, Conf Liberans; the Pulvis Alexipharmacus, and Pulvis Stomac Amarus, of *Fuller*; the Pulvis Bezoarticus of *Willis*; the vis Ruber Exonienſis; the Flowers of Sal Ammoniac, others of the ſame Kind.

Venice Treacle, Mithridate, the Electuarium de Ovo.

Spirit of Hartſhorn, either ſimple or ſuccinated; Spiri human Blood, of Urine, of Silk, and Sal Volatile oſum.

Amongſt Wines, the moſt effectual are *French* White- Champaign, Moſel, Rheniſh, Burgundy, Bourdeaux, P gueſe Wines, to which may be added ſubacid Cyder.

As *gouty* Patients are generally forbid the Uſe of ſo theſe Wines, it may ſeem extraordinary to ſuch, that *grave* ſhould recommend them. But it muſt be conf that they are directed to abſtain from ſuch Wines, becauſ promote Fits of the *Gout*; with which View *Muſgrave* r mends them, in order to render an anomalous *Gout* regu the Extremities.

But of all Remedies, *Muſgrave* thinks nothing ſo po as Steel, the beſt Preparation of which is, the *Alcohol* above deſcribed.

If, after the Uſe of theſe Medicines for four of five no Pain is perceived in the Extremities, we muſt then p to ſuch external Applications, as invite the *arthritic* downwards. Therefore apply to the Part, which uſed pained in Fits of the *Gout*, a Plaiſter of Gum Caran that called *Oxycroceum*; or the Cephalic Plaiſter, with o a third, or a fourth of *Burgundy* Pitch.

Urtication *(whipping with Nettles)* is of Uſe, whic much practiſed by the Antients; as alſo extremely hot and the Skins of Animals juſt taken off, and Oil Caſe.

In Caſes of extreme Danger, where the Strength of th tient can bear it, ſuch a *Phœnigmus* as the following of great Uſe:

Take of old Barm, two Parts; of Muſtard-ſeed, radiſh, Garlick, the Tops of Rue, and Pigeons-du each equal Parts; beat up theſe to the Conſiſtenc Cataplaſm, with ſharp White-wine Vinegar.

Part of this is to be applied, as hot as the Patient c it, and the Part muſt be covered with Flanels, or th plaſms may be ſpread on Flanels, and applied, rene when it grows cold, till it cauſes a Tumor. Mean time, Patient is low, or faint, through Exceſs of Pain, he have a Cardiac Julap, or a Glaſs of generous Wine, w much better. When a Tumor is formed, an Epiſpaſti be applied to let out the contain'd Matter, leſt otherwiſe i return into the Blood.

When there is no Neceſſity for immediate Help, Patient is weak, tender, or impatient of Pain, a comm ſpaſtic ſhould be applied to the Legs, or Cubit, accordin *Gout* uſed to verge towards the upper or lower Parts; being taken off twelve or eighteen Hours after, the f Plaiſter muſt be applied to continue the Running:

Take of Hog's Lard two Drams and an half; of Melilot Plaiſter, a Dram and an half; Powder of Cantharides, a Dram.

By this means the Running ſhould be continu'd ſix, eight, or en Days, according to the Circumſtances of the Caſe.

Either of theſe Proceedings generally relieves the *Gout* in a ew Days. Mean time the Matter diſcharg'd is ſo ſalt, that makes the adjacent Parts itch, and ſometimes inflames them. Vhen this Ichor is evacuated, the Symptoms generally are lieved, and the Patient gets hearty, and recovers his Appe- te and Spirits, and for ſome time is free from another Fit of e *Gout*.

Muſgrave is of Opinion, that the moſt dangerous thing a erſon long afflicted with the *Gout*, and us'd to a free Way f living, can attempt, is to endeavour to conquer it by Abſ- nence.

Of the GOUT *in the* STOMACH.

As the primigenial *Gout* is often cauſed by Indigeſtion, and Veakneſs of the Stomach, ſo no Part is ſo often, or ſo much, licted with the anomalous *Gout*.

This Facility to receive and retain the *Gout*, is often owing a connate Imbecillity; and ſometimes to a Weakneſs con- cted from too much Venery, Grief, Fear, or any other axing Paſſion of the Mind, by which Imbecillity the Stomach comes more liable to receive, and leſs capable to repel, the *thritic* Matter.

But it very frequently happens, that the *Gout* is invited into Stomach by crude, acid, bilious, or ſome other vicious ices contain'd therein, which ſtimulate the Coats thereof; d this happens juſt for the ſame Reaſons that Sinapiſms and iſpaſtics invite it to the Extremities.

Sometimes external repelling Cataplaſms or Plaiſters, apply'd udiciouſly to the Extremities, are the Cauſe of the *Gout*'s ng in the Stomach. External Cold has the ſame Effect, her from the Air or Baths.

When the *Gout* has been for ſome time regular, and the tient has had many Acceſſions and Receſſions in the Extre- ies at Intervals, we often ſee the Fit ſhorten'd, or broken unexpectedly, by means of Cold, repelling Plaiſters, Ca- laſms, or Unguents; or elſe by a Debauch, overloading Stomach, or ſome Error in point of Diet; or elſe the In- al has been longer than uſual, and the Paroxyſm has been rred longer than was conſiſtent with Health.

This Interruption or Intermiſſion of the *Gout* is often fol- 'd by Loſs of Appetite, and loathing of Food; to which ward a Weight in the Breaſt is joined, and then Eructa- , Vomiting, and Heart-burn. To theſe frequently are 'd an Oppreſſion of the Inteſtines, with Pain, Conſtriction, ſometimes Heat; an interrupted and ſtreight Reſpiration; uent Oſcitation, (*Yawning*) Head-ach, Vertigo, and etimes Dejectedneſs; frequent and ſudden Dimneſs of Sight, neſs of the Face, and, after ſome time, an univerſal Im- llity and Leanneſs.

Theſe Symptoms, perhaps, never appear all at the ſame , in the ſame Perſon, but frequently a great many of n.

om the Time that theſe internal Symptoms appear, there tle or no *Gout* in the Extremities. The Patient, who be- was confin'd to his Bed, can now get up and walk about great Eaſe. Mean time, the internal Complaints grow worſe and worſe; and the Patient, worn out with want ood, Languors, and Pain, after ſome Months miſerably , dies, unleſs the Weather changing from immoderately to warm and mild, or proper Medicines, reſtore a regu- it of the *Gout*.

is *Gout* in the Stomach afflicts old People moſt frequent- however, young People often have it, probably, from Careleſneſs and Licentiouſneſs in point of Diet, becauſe generally fall into it, immediately after an Error in Eating or Drinking.

o' this Diſtemper happens at any time of the Year, yet oſt frequent in Autumn, which may be owing, in ſome re, to Fruits eaten at that Seaſon, and lying in a State of faction in the Inteſtinal Tube.

netimes theſe Symptoms will happen, without any Cauſe dent as is above ſpecify'd; ſometimes with a regular Fit; metimes at a greater Diſtance from its Interruption.

netimes old People, now grown ſober and abſtemious, but ave drank hard, and lived freely in their Youth, are ſub- o Hypochondriacal Diſorders, which are ſomewhat like Symptoms, as perpetual Languors, Eructations, Anxie- Dejectedneſs, ſometimes Pain, and other Diſorders of the ch. Now, in order to enable us to diſtinguiſh theſe from ut, we are to weigh the Circumſtances attending, as the r in which they ſeize the Patient, their Vehemence, and ervals, and then the Caſe will be pretty plain.

akes no Difference in theſe Caſes, whether the *Gout*, g the Inteſtines, goes directly into the Stomach; or whether it takes a round-about Way, ſeizing firſt the Fauces, ſome contus'd Part, or any other Place; nor whether it immediately follows the fix'd or erratic *Gout*.

It is farther obſervable, that ſuch as have an hereditary *Gout*, are more ſubject to theſe Diſorders than others; thoſe who are born of old Parents, than thoſe born of young ones; thoſe who have a bad Appetite, than thoſe who enjoy a good one; thoſe who have a languid, cold *Gout*, than thoſe who have a hot, ſharp, and painful one.

The CURE.

The Curative Indication is to relieve, as ſoon as ſafely may be, the Stomach, and to free it from the *Gout*: And, in order to this, two things are requiſite:

Firſt, To remove all Impurities from the Stomach, which attract and detain the *Gout* in its Coats, by proper Vomits or Purges.

Secondly, After this is done, or omitted, if not neceſſary, to drive the Gout from the Stomach into the Extremities.

If a Shortneſs, or Difficulty in Breathing, a Gravity and Inflation of the Stomach, and particularly an Eructation, Nauſea, or Vomiting, are troubleſome, a gentle, but effectual Vomit will be neceſſary; provided the Patient has ſufficient Strength, and there are no Reaſons to the contrary.

A great deal of Caution is neceſſary in making Choice of a proper Emetic; for, on the one hand, thoſe which are too languid to operate well, are trifling; and, on the other, thoſe which operate with too much Violence, are dangerous.

For ſuch as vomit eaſily, an Infuſion of green Tea-leaves, or the Tops of Carduus Benedictus, is ſufficient, drank ſo as to vomit four, five, or ſix times, and in the Quantity of eight, ten, or twelve Pints in the Whole, if the Patient can bear it.

Thoſe who are not ſufficiently affected by this ſort of Vomit, ſhould take a proper Quantity of Salt of Vitriol in every, every other, or every third Pint of the Infuſion.

Thoſe who vomit with more Difficulty, ſhould take Wine, or Oxymel of Squills, or equal Parts of both, in the Quantity of two or three Ounces together; and, half an Hour after taking it, ſhould work it off with ſome ſimple or bitter Poſſet-drink.

But thoſe who either cannot, or will not, drink a ſufficient Quantity of Poſſet-drink, warm Water, or ſome other Liquid, ſhould never take any officinal Emetic; for, by this means, there would be a great Quantity of Humours invited into the Stomach, and none diſcharg'd out of it, which would injure the Patient.

Sometimes neither Poſſet-drinks, Decoctions, nor any other Medicines of this Kind, can ſafely be given the Patient, becauſe they give him violent Gripes and Spaſms, eſpecially Hard-drinkers.

The Reaſon of this ſeems to be, becauſe they are too cold for the Stomach.

In this Caſe *Muſgrave* ſays he has ſaved many Patients from the Jaws of Death, by giving Quantities of Wine as an Emetic, but which is, at the ſame time, a good Cardiac.

The Matter evacuated by Vomit is ſometimes bilious, ſometimes crude, eſpecially after a Debauch of Eating or Drinking.

The good Effects of a Vomit appear in an Amendment of Reſpiration, and a Removal of the Gravity of the Breaſt.

And ſometimes it happens, that the very Efforts of Vomiting, and the Agitation of the Blood caus'd thereby, drive the *Gout* from the Stomach, and it immediately falls on the Extremities.

An Hour after the Vomit, eſpecially if promoted by any of the Officinals, a Clyſter ſhould be adminiſter'd, in order to carry the Remains of it out of the Inteſtines; and at Night a Bolus, with *Venice-treacle*, and *the Counteſs of* Kent'*s Powder*, with a Draught of burnt Wine, ſhould be exhibited. After this, let the Patient take, three or four times a Day, a Draught of bitter Wine, with a Scruple or half a Dram of the Counteſs of *Kent*'s Powder, till it is time to purge him.

After one Day's Interval from the Vomit, provided the Patient has ſufficient Strength, he ſhould be purged. But in caſe of too great Weakneſs, this ſhould be deferr'd a little; however, as ſoon as poſſible, a Purge ſhould be given, ſuch a one as will ſufficiently clear the Inteſtines, without cauſing a Hypercatharſis: For 'tis a certain Rule, that the Cure of this anomalous Gout is moſt likely to ſucceed, if 'tis begun by clearing the Stomach and Inteſtines.

Proper Purges on this Occaſion are,

Tinctura Sacra, in the Quantity of three or four Ounces.
Pill Rudii; Doſe half a Dram, or two Scruples.
Earl of Warwick's Powder; Doſe about half a Dram.
Manna and *Salts* diſſolved, with an Addition of *Daffy*'s *Elixir*.

If the Purge does not operate in ſix Hours, it will be proper to give a Clyſter.

At Night, let the Patient take ſuch a Bolus as after the Vomit.

Sometimes it happens, that after even ſufficient Vomiting and Purging, a troubleſome Nauſea remains, inſomuch that all Medicines are thrown off the Stomach, as ſoon as taken, by Vomit. This is probably cauſed by the Arthritic Matter lodg'd in the Coats of the Stomach. In order to prevent this, exhibit about ten Drops of *Liquid Laudanum*, in two Drams of *ſtrong Cinnamon* or *Wormwood-water*, or *Spirit of Mint*, every fourth, fifth, or ſixth Hour; that is, in ſuch a Doſe, and at ſuch Intervals, as will ſtop the Vomiting, and give the Stomach Power to retain the Medicines deſtin'd to expel the *Gout*, which ſhould be given in the Intervals betwixt the Doſes of *Laudanum*: For Example, if the *Laudanum* is given at ſix and twelve, the other Medicines ſhould be adminiſter'd at three and nine. As ſoon as there is no farther Occaſion for the *Laudanum*, is muſt be omitted, being then prejudicial.

What has been hitherto ſaid about Evacuations, muſt be underſtood of ſuch as have Occaſion for both Vomiting and Purging, and Strength ſufficient to bear it: But when there is no Occaſion for it, as it happens when this anomalous Gout is brought upon the Stomach by Grief, or when there is a Deficiency of Strength, we muſt begin with Medicines that drive the *Gout* from the Stomach, omitting theſe Evacuations.

Steel has a peculiar Excellence in driving the Gout from the Stomach.

Muſgrave recommends the following Forms:

> Take either of *Gaſcoign's Powder*, or the *Pulvis Purpureus*, or *Goa Stone*, or the *Pulvis Ruber Exonienſis*, a Scruple, or half a Dram; of *Virginian* Snake-root, ten Grains; *Alcohol Martis*, five Grains. Mix and make a Powder.

Inſtead of Virginia Snake-root, Gentian, Zedoary, or Contrayerva-root may be uſed in the ſame or a larger Quantity.

> Take of the compound Arum-powder, and Pulvis Ruber Exonienſis, each a Scruple; Alcohol Martis, five Grains. Make a Powder. Or,

> Take of Species Diambræ, (or *Aromaticum Roſatum*) and Gaſcoign's Powder, a Scruple, or half a Dram; Alcohol Martis, five Grains. Mix and make a Powder. Or,

> Take of Ginger candy'd in the *Indies*, a Scruple (or *Pods of Pepper candy'd*, ſix Grains); Pulvis Purpureus, a Scruple, or half a Dram; Alcohol Martis, five Grains; Syrup of Wormwood, a ſufficient Quantity to make a Bolus. Or,

> Take of Species Diambræ, and Lapis Contrayerva, in Powder, each a Scruple; Alcohol Martis, five Grains; Confection of Kermes, enough to make a Bolus. Or,

> Take of the Species call'd Aromaticum Roſatum, (or *Dianthos*) two Scruples; Flowers of Sal Ammoniac, ten Grains; Syrup of Cloves, enough to make a Bolus. Or,

> Take of the Conſerve of *Roman* Wormwood and Gaſcoign's Powder, each a Scruple; Oil of Caraway-ſeeds, one Drop; Alcohol Martis, five Grains; Syrup of Citron-peel, enough to make a Bolus. Or,

> Take of *Venice* Treacle, (or *Mithridate*, or the *Electuarium Stomachicum* of *Fuller*) and of Gaſcoign's Powder, each a Scruple; Alcohol Martis, five Grains; Syrup of Mint, enough to make a Bolus. Or,

> Take of Camphire, five Grains; of the Powder of Contrayerva-root, fifteen Grains; of the Extract of Rue, a ſufficient Quantity. Form into Pills. Or,

> Take of the Powder of Long-pepper (or of the Species *Diatrion Pipereon*) five Grains; Gentian Powder, half a Scruple; Myrrh, five Grains; Extract of the leſſer Centaury, a ſufficient Quantity. Form into Pills. Or,

> Take of the Powder of *Virginian* Snake-root, one Scruple; of Alcohol Martis, five Grains; of Syrup of Oranges, a ſufficient Quantity. Form into Pills.

With every Bolus, or Doſe of the Powder or Pills, a Draught of the following Julap is to be taken:

> Take of the Waters of Carduus, Mint, Alexiterial Milk-water, compound Gentian-water, compound Wormwood-water, or ſtrong Cinnamon-water, each four Ounces; prepar'd Pearls, two Scruples; Sugar, a ſufficient Quantity. Make into a Julap.

The Chymical Oils incorporated with the Julap, by means of Sugar, render it much more efficacious than it would otherwiſe be. For a liquid Form I recommend the following Infuſions:

> Take of Zedoary-root, of Gentian, of the Tops of *Roman* Wormwood, of Agrimony, or Marſh-trefoil, each two Drams; Cochineal, one Scruple; Orange-pill, two Scruples. Infuſe in two Pounds of Red Port Wine, or Spaniſh Wine, till the Wine is ſufficiently impregnated. Then ſtrain off for Uſe. The Doſe is two or three Ounces.

After the ſame manner Infuſions may be prepar'd from other Aromatics, as the Cortex Winteranus, Cubebs, the Seeds of Cardamoms, Aniſe, Caraway, ſweet Fennil, and Scurvy-graſs.

Every Draught of bitter or aromatic Wine ſhould have ten Drops of Tincture of Steel, or elſe *Alcohol Martis* take with it.

The Poor may readily have an Infuſion of Garlick, Saffron Ginger raſp'd, with the Tops of Roman Wormwood.

It ſometimes happens that the Patient cannot take Medicine in any ſolid Form, or by way of Infuſion; and in this Ca *Spirit of Mint*, Juniper, or Wormwood, may be both uſe ful and ſerviceable. The Aqua Hiſpanorum Arthritica is muc eſteemed by ſome, the Preparation of which ſee above.

After ſufficient Purging, *Muſgrave* recommends the Uſe the above deſcribed Medicines, or the like, in the followin manner.

In the Morning, about Nine, a Draught of bitter Wine.

At Three in the Afternoon, Pills or Powders.

At Nine in the Evening, a Bolus, eſpecially that with V nice-treacle.

At Three in the Morning, Powder or Pills.

The Patient muſt drink, after every Doſe of each, a Draug of Port Wine, or of ſome proper Julap.

Sometimes it happens, that in two or three Days, by t Uſe of theſe Remedies given after this manner, the Gout driven from the Stomach, and fixes upon the Joints. So times this is not done without a long Perſeverance; and ſom times not without other Remedies call'd in to our Aſſiſtanc

If, after perſiſting in the Uſe of theſe Medicines for t Days, no Pain or Tumor appears, it will then be prudent apply to the Part where the *Gout* uſed formerly to fix, Cephalic Plaiſter, with equal Parts of Burgundy Pitch; or t Green Cerate; or elſe a Bliſter to each Cubit or Leg, to i vite the Humour downwards.

If theſe external and internal Remedies are not ſuffici with united Forces, to remove the Gout from the Stoma the Strength of one or both muſt be increaſed, and other A muſt be called in, if neceſſary. The Doſe, for Example, the *Alcohol Martis* muſt be increaſed to ten Grains, and Tincture of Steel to twenty Drops.

Moreover, every intermediate Hour betwixt the Doſes Medicines, let the Patient drink a Glaſs of Port Wine, ſ to drink two or three Pints in twenty-four Hours, reckon alſo what is taken with the Medicines. But this is princip ſerviceable to thoſe who have uſed themſelves to drink Q tities of Wine, and cannot well do without it.

Thoſe who cannot drink ſuch Quantities of Wine, ſh take ſome Drops of ſuccinated Spirit of Hartſhorn in a p Julap, at the intermediate Hours.

Finally, the Uſe of theſe Medicines and Wine ſhoul continued, till a Heat and Orgaſm is raiſed in the Blood, the Stomach is relieved, unleſs there ſhould be ſome great ſon to diſcontinue them ſooner.

At the ſame time, the Force of the internal Applica ſhould be increaſed, and that till the *gouty* Humour is exp and a Tumor is raiſed in ſome external Part, proper to re the *Gout*. For this purpoſe, the Extremities may be wr in a Sheep-ſkin juſt taken off.

But nothing anſwers the End ſurer or ſooner, than an and ſtimulating *Phœnigmus* apply'd very hot to a proper and renew'd as it grows cool, whilſt the Tumor is riſing.

Thoſe who are too nice to bear the Smell of a Sheep- or too tender to bear the Pain of the *Phœnigmus*, may hot Brick or Plate of Iron, wrapt up in Linen, and apply the Part.

During the whole Courſe of this Method, the Patient ſ keep in Bed, or in his Chamber, and guard particularly a Cold.

Mean time let the Patient eat Panada, Jelly of Hartſhor Chicken-broth, or ſome ſuch Food which is thin and ea Digeſtion.

If the Pain thus raiſed ſhould be ſo intolerable as to a Lipothymia, ſomething of the Force of Medicines, a mulating Applications, may be abated.

If the Fever ſhould run too high, the Doſe of the C ſhould be leſſen'd, or they ſhould be entirely omitted. the Patient drink as much white Decoction as he plea temperate his Heat.

As ſoon as a ſufficient Orgaſm is excited in the Bloo gouty Matter generally fixes where the external Applic invite it, upon the Extremities; inſomuch, that ſometi an Hour's Time after the Application of the Phœnig Tumor will appear.

Mean time, ſuch a Fomentation as the following ſhould e apply'd to the Abdomen twice or three times a Day, by eans of flanel Stuphs.

Take of the Tops of common Wormwood, Mint, Red Roſe-leaves, and Chamomile-flowers, each half an Ounce; of Aniſe and Caraway-ſeeds, each two Drams; Powder of Cinnamon, Cubebs, and Cloves, each one Scruple; common Spirit of Wine, half a Pound; of Red Port Wine, one Pint and an half. Let them macerate for three or four Hours in a well-ſtopt Glaſs plac'd in *Balneo Mariæ*. Let the ſtrain'd Liquor be apply'd as hot as poſſible. Or, let ſuch a Plaiſter as this be worn conſtantly on the Abdomen.

Take of Japan Earth, Balſam of Chili or Peru, each half a Dram; Gum Galbanum, a Dram; Burgundy Pitch, two Drams; of the Magiſterial Stomach-plaiſter, half an Ounce; of Chymical Oil of Cinnamon and Nutmegs, each two Drops.

Theſe Applications are of moſt Uſe after Purging, and that thoſe Conſtitutions which are enervated with Age, or the iſtemper: However, the Phyſician is to take care, leſt, in guine and robuſt People, theſe Applications do not rather ite the Gout to the Part, than defend againſt it.

As ſoon as a conſiderable Tumor is rais'd, *Muſgrave* adviſes a iſter to be laid on the Part, to evacuate the Humour, leſt it uld return into the Blood. Theſe ſometimes diſcharge a vaſt antity, and continue running a great while, inflaming the in, and cauſing an Itching; inſomuch that it is not to be ubted but that the arthritic Poiſon is diſcharg'd with the Serum.

As ſoon as ever the Tumor and Pain are ſufficiently raiſed, Doſe of the Medicines is to be decreaſed, and not given often.

But if it ſhould happen, that by reaſon of the Inclemency of Air, or the Coldneſs of the Seaſon, or ſome Error in Eat- or Drinking, the Gout ſhould leave the Extremities, and urn to the Stomach, which is often the Caſe, the Cauſe of Relapſe muſt be diligently inquir'd into, and immediately oved.

If freſh Crudities are collected in the Stomach, they muſt be cuated by a lenient, and very gentle Purge.

If the Skin is contracted by Cold, it muſt be relax'd by ex- al Warmth, and warm Cloathing. In both theſe Caſes, in- al Medicines muſt be plentifully adminiſter'd.

Podagragogue Medicines are requir'd ſo ſtrong, and in ſo at Quantities, in no Caſe, as in a Relapſe, or where the y is loaded with Crudities, which cannot be purged off reaſon of the Weakneſs of the Patient, or the long Conti- nce of the Diſeaſe. In theſe Caſes, the Medicines ſhould compoſed of Steel, Ginger, and Pepper, and full of volatile s; and ſhould be taken in much greater Quantities, than e directed; and even then they will ſometimes fail us, and Patient will die ſometimes unexpectedly, complaining all while of an inexplicable Depreſſion of Spirits, and Coldneſs he Stomach. Sometimes, in the Irregularities of the *wan- ng Gout*, it is ſufficient to reduce the Gout to the Inter- s: And ſometimes 'tis even ſufficient to free the Sto- h from the gouty Matter, tho' it is only reſorb'd and re- 'd in the Blood. But in the Irregularities of the *fix'd Gout*, moſt deſirable Method is to have the Gout fix'd upon the remities.

is entertaining to obſerve, that as the Pain, Tumor, and ptoms of a regular Gout appear and increaſe, the Pain of Stomach, Nauſea, Cardialgia, and other Symptoms, diſappear; hich ſucceed Hunger, good Digeſtion, a healthful Luſtre e Eyes, and other Signs of returning Health.

order to guard againſt theſe irregular Fits, the Uſe of the -waters is very good, drank properly, and for a long ; to which may be added, ſuch Stomachics as cauſe Hun- nd Digeſtion; particularly the *Conſerves of Roman Worm-* , *Red Roſes*, or *Hips*; the *compound Powder of Arum*; *of Steel*, and *Ens Veneris*. Mean time, Care muſt be n to avoid Indigeſtions, Cold, and all evident Cauſes of Irregularities.

is alſo uſeful to have an Iſſue in the Arm, or below the , according as the Gout is more ſubject to fix on the s or Feet.

uſgrave obſerves, that Affections of the Mind will ſome- make the Gout recede from the Extremities, and fix the Stomach, and gives a Caſe to this Purpoſe. e alſo gives ſome Caſes, which prove that cold Weather Froſt will ſometimes prevent the Gout from falling on xtremities, eſpecially in old People; or make it recede.

The ARTHRITIC COLIC.

e *Arthritic Colic* is very frequent, and extremely pain- nd has its Seat in the whole inteſtinal Tube from the *Sto-* to the *Anus*, tho' not in every Part at the ſame time; and it often happens, that the *Stomach* ſuffers at the ſame time.

Both the fixed and wandering *Gout*, the regular and irregular; the primogenial and ſymptomatic, ſometimes appear in the Shape of the *Colic*: But principally that kind of ſymptomatic *Gout*, which begins originally with the *Colic*; for the Seat of this is ſomewhat ambiguous, fixing alternately on the Extremities and Inteſtines. This very often ſeizes upon old and infirm People, and ſometimes affects thoſe of Athletic Conſtitutions, who have not yet paſſed the Meridian of Life.

When a Perſon has been for a long time uſed to have regular Fits of the *Gout* at Intervals, and now grows old, Nature begins to leave off theſe Paroxyſms, and gives no Fit at all, or very ſeldom, or elſe little and ſhort ones, either thro' Weakneſs, or ſome other Cauſe, which muſt diligently be inquir'd into. And then an Evil of another Kind, either ſooner or later, generally ſeizes upon the internal Parts.

Firſt, the Patient perceives an univerſal Indiſpoſition, and Loſs of Appetite, and frequently a Nauſea and Pain in the Inteſtines, which is uſually fixed to ſome one Point of the Abdomen, generally about the Navel. Another Symptom is an Oppreſſion and Heavineſs of the Breaſt, as if it was preſs'd by a Weight. This happens to moſt of thoſe that are afflicted with the *Colic*, and is extremely troubleſome.

Theſe two Symptoms, Pain in the Abdomen, and Oppreſſion of the Breaſt, may be eſteemed the primary Symptoms. The ſecondary are, a Diſtention of the Præcordia, Murmurings in the Inteſtines, Eructations, Vomiting of Matter generally binoſe, and Coſtiveneſs. To theſe are to be join'd ſome others, which happen only ſympathetically, as Languor of the Eyes, Dejection of the Spirits, Want of Sleep, Indolence, Anxiety; and if the Diſtemper continues long, a Weakneſs, and Emaciation of the whole Body.

This often, tho' not always, begins in Autumn, and, without proper Relief, miſerably afflicts the Patient all Winter following. For from the firſt ſeizing of the Inteſtines, he languiſhes and is oppreſſed with Wind, Uneaſineſs, and Pain, lies awake all Night, and laments himſelf all Day, till at laſt, depriv'd of Sleep, Food, and all the Refreſhments of Life, weary'd with perpetual Strainings to vomit, enervated and worn out with Pain, and extremely emaciated, Death, ſooner or later, frees him from his Torments.

It ſeems to be very plain, that the *gouty* Matter is the Cauſe of all theſe Diſorders. But theſe Symptoms, particularly the aforeſaid Pain in the Belly, and Heavineſs of the Breaſt, give a great Light into the Caſe; yet as theſe are not ſo peculiar to the *gouty Colic*, but that they ſometimes appear in *Colics* of another Kind, we muſt take the Diagnoſtic from the preceding Diſtemper, that is, the *Regular Gout*: We muſt therefore obſerve, if the Patient has lately had a Fit, whether it has ſuddenly remitted, or gone off; and whether the *Colic* immediately follow'd this Intermiſſion. And from theſe Circumſtances we may eaſily judge of the Nature of the *Colic*.

The external Cauſes of the *Colic* are Cold, too tight Shoes, or any ſort of Ligatures, repellent Plaiſters, Unguents, or Cataplaſms.

The internal Cauſes are, a natural Imbecillity of the Inteſtines; an Accumulation of Impurities in the Viſcera, which, being diſcharged from the Liver, Pancreas, and other Glands that empty themſelves into the Inteſtines, invite the *gouty* Humour to thoſe Parts by their Stimulus, juſt in the ſame manner as ſtimulating Applications do to the Feet. And Crudities from the Stomach act in juſt the ſame manner. But no Impurities are more frequent here than thoſe which are bilious, as the Stools, and what is thrown up by Vomit, evidently ſhew. Amongſt the internal Cauſes, may alſo be reckon'd the eating or drinking improper Things; as Fruit, too ſharp Cyder taken in large Quantities, or any other Error in point of Aliment, eſpecially thoſe that are of a cold Nature.

This *Arthritic Colic* is often fatal, and always dangerous. If the Heavineſs in the Breaſt, and Pain in the Inteſtines, eſpecially if it is pungent, continue long, 'tis a bad Sign, and the Patient generally grows gradually worſe and worſe, till he dies.

There is ſeldom any Safety till the *Gout* is expell'd into the Extremities, and even then, not in every Caſe, nor always. For tho' the Gout gives Pain in the Joints, yet, if the Maſs of Humours remain within, the Hopes we have from this Pain are very precarious; for the *Gout* is frequently invited thereby into the Inteſtines again, and deſtroys the Patient.

But if the Pain of the Inteſtines, Oppreſſion of the Breaſt, and Coſtiveneſs, entirely vaniſh, and at the ſame time Pain appears in the Extremities, it gives a much better Proſpect.

But if the Pains of the internal Parts entirely ceaſe, the Appetite returns, and at the ſame time the Pain of the Inteſtines is conſiderable, the Patient in all Probability is out of all Danger.

In regard to the Cure, foraſmuch as a bilious Fever ſometimes accompanies this Diſorder, regard muſt be had to the Fever and its Symptoms, as Thirſt, Heat, Velocity of the Pulſe, &c.

Therefore, if Occaſion requires, the firſt Step we take ſhould be to bleed the Patient, but very ſparingly, and only juſt ſo much as will prevent the Inflammation, leſt, by taking away too much, we at the ſame time take away all Poſſibility of expelling the *Gout*.

Then, in caſe the Stomach is loaded with Crudities, the Patient ſhould vomit, by means of Tea, or an Infuſion of Carduus Benedictus; for it may not be adviſeable to give any ſtronger Emetic.

The Day after the Vomit, the Patient ſhould be purged, if his Strength will permit it, or elſe two Days after, with Extractum Rudii, and Reſin of Jalap, to which may be added, Mercurius dulcis; or with Syrup of Buckthorn, and Elixir Salutis; or, if the Fever is conſiderable, with a Solution of Manna, and purging Salts, in Barley-water; or by any other proper Purge. But no Paregoric muſt be given at Night after it, unleſs in caſe of a Hypercatharſis, leſt it ſhould put a Stop to the Eruption of the *Gout* upon the Extremities.

Purging is here of the utmoſt Importance; for without it, and that too ſufficiently, the Cure will be extremely perplex'd; and therefore Purging muſt be repeated, till the End of clearing the Inteſtines is anſwer'd.

Mean time, on the Days betwixt purging, the Patient muſt take the *Teſtaceous Powder*, if the Inteſtines abound with an Acid; but if they abound with Bile, a bitter Alterative Infuſion is preferable.

This Work being finiſh'd, which is half the Cure, we are then to endeavour at the Expulſion of the Gout, and not ſooner.

To this End, beſides the Remedies mention'd above for this Purpoſe, there are ſome others, which have always been eſteem'd good for the *Colic*; and Aromatics too are here good; and, with theſe, thoſe above-mention'd may be very properly join'd.

What is here meant, are theſe following:

Powder of Zedoary-root.
Compound Powder of Arum-root.
The Pulvis Aurantiorum Compoſitus, and } of *Fuller*.
Pulvis Bezoardicus,
Species Diatrion Pipereon.
Simple Species of Calamint.
Species Diambræ, and Dianthus.
Electuarium e Baccis Lauri.
Mithridate.
Ginger, candied in the *Indies*, and its Syrup.

The Chymical Oils of Juniper, Cumin, Caraway, ſweet Fennel, Aniſe, and ſuch-like Carminatives and Aromatics.

Amongſt Wines, the ſtrong *Spaniſh* and *Portugueſe* red Wines, either alone, or impregnated with Bitters, have the Preference.

Prepar'd in this manner, we are to attempt removing the *Gout* in the following manner, and endeavour to throw it upon the Extremities.

The Patient muſt be put to Bed, and muſt take a Powder, Bolus, or Doſe of Pills, made after ſome of the following Forms:

Take *Gaſcoign*'s Powder, a Scruple or half a Dram; Alcohol Martis, five Grains: Mix and make a Powder. Or,

Take of the Powder of Zedoary, half a Scruple; Species of Calamint, or *Diambræ*, one Scruple; Alcohol Martis, five Grains: Reduce to a Powder.

The Forms of proper Boluſes are theſe following:

Take of the Electuary of Bay-berries, or of Mithridate, of the compound Powder of Crabs-claws, each one Scruple, or one Scruple and an half; Alcohol Martis, five Grains; Syrup of Oranges, a ſufficient Quantity: Make into a Bolus. Or,

Take of Ginger, candied in the *Indies*, compound Powder of Arum-root, each one Scruple, or one Scruple and an half; Alcohol Martis, five Grains; Syrup of Nutmegs, a ſufficient Quantity: Make into a Bolus. Or,

Take of candied Nutmegs, and Species Diambræ, each one Scruple; Alcohol Martis, five Grains; Chymical Oil of Juniper, one Drop; Confection of Kermes, without Perfumes, a ſufficient Quantity: Make into a Bolus.

Or, the following Pills may be uſed:

Take of the Species, with the three Peppers, and Powder of *Virginian* Snake-root, each half a Scruple; Alcohol Martis, five Grains; Extract of Rue, a ſufficient Quantity: Form into Pills.

After each Doſe of theſe Medicines the Patient is to drink a Glaſs of *Spaniſh* Wine, or red Port; or a Draught of ſome of the following Julaps:

Take of Carduus and Mint-waters, of Alexiterial Milk-water, and compound Chamomile-water, each three Ounces; Spirit of Juniper, half an Ounce, or a whole Ounce; prepar'd Pearls, half a Dram; the fineſt Sugar, a ſufficient Quantity: Make into a Julap. Or,

Take of Alexiterial Milk-water, twelve Ounces; *Brunſwic* Mum, four Ounces; prepar'd Pearls, half a Dram; and a ſufficient Quantity of Sugar: Make into a Julap.

If the Patient likes a liquid Form better than any other, le him have a Draught of the following Infuſion, with the Addition of Steel:

Take of Zedoary-root, Galangals, ſweet Flag, and Top of *Roman* Wormwood, each two Drams; Juniper-berries, and *Engliſh* Saffron, each one Dram: Infuſe in two Pounds of *Spaniſh* Wine, till the Liquor is ſufficiently impregnated; then let the Infuſion be ſtrain'd off.

Take three Ounces of this Infuſion, and five Grains of *Alcohol Martis*, for a Draught: Let it be ſhaken before th Patient drinks it.

Let the Patient take ſome one of theſe Medicines every four five, or ſix Hours; and in the Middle of the Intervals, betwixt each Doſe, let him drink a Glaſs of one of the above-mention'd, or ſome other generous Wine, in as large a Quantity as he can with Safety.

This Rule is to be obſerv'd in regard to his Medicines, th they muſt be taken in ſuch a Doſe, and repeated ſo often, as ſufficient to remove the *Gout* to the Extremities, witho raiſing any greater Degree of Fever, or any greater Orgaſm the Blood, than what is ſufficient for this Purpoſe.

It ſometimes happens, that, after Vomiting and Purgin the Gout diſcharges itſelf upon the Extremities, and becom regular, eſpecially in robuſt Conſtitutions; and then nothin remains farther to be done, but to take care, that it diſcharg all its Fury there, and that it remains where it is.

But as many Difficulties often occur, before the *gouty* Matter can be brought to fix upon the Extremities, it is neceſſa to point them out.

Sometimes, then, the Inteſtines are ſo contracted wi Spaſms, that very ſtrong purging Medicines will have no Effe nor in the leaſt purge the Patient: In this Caſe, a Fomentati muſt be apply'd to the Abdomen, which muſt be occaſiona repeated:

Take of the Tops of Southernwood, and Mugwort, each Ounce; of the Roots of round Birthwort, and Chamom flowers, each two Ounces; of Bay-berries, an Ounce; the Seeds of Caraway, and ſweet Fennel, each half Ounce: Boil in ten Pints of Spring-water to five; and the ſtrain'd Liquor add camphorated Spirits of Wine, a Pi Make a Fomentation, to be apply'd, as hot as it can endur'd, to the Region of the Belly.

After each Fomentation, let the following Liniment rubb'd in:

Take of Soldiers Ointment, two Ounces; Oil of Turp tine or Tar, and Chymical Oil of *Rhodium*, each Drops: Make into a Liniment.

Inſtead of uſing this, the whole Belly may be anointed w the *Galbanetum Paracelſi*, deſcrib'd in *Riverius* from *Cr* *Cap. de Colica*, and is as follows:

Take of Gum Elemi, Hedera, Galbanum, Oil of B each equal Parts: Diſtil in a Retort by a Sand-heat; the Water which comes over firſt, the clear Oil, and thick Oil which comes over laſt, of the Conſiſtence Honey, be kept ſeparate; the laſt of which is to uſed.

It ſometimes happens, eſpecially in tender Conſtituti that, after purging, conſiderable ſpaſmodic Contractions, a great deal of Pain, will ſtill remain, which is ſometimes c tinual, and ſometimes intermittent. Theſe muſt be c partly by the above deſcrib'd Fomentations and Liniment, partly by the following Clyſter:

Take of *Canary* Wine, half a Pound; Electuary of B berries, half an Ounce. This Clyſter is to be retain long as poſſible.

Sometimes the Inteſtines are ſo weak, that they will bear Steel, but immediately throw off that, together whatever other Medicines are join'd with it, by Stool. In a Caſe, it would be adviſeable to give the other Medicines out the Steel.

Sometimes not only Steel, but even teſtaceous Powders, run off by Stool. When this happens, the Diarrhœa mu

ſtop

pp'd; for there is no Hope of the regular Gout whilſt that ntinues: And therefore we muſt, upon this Occaſion, call to our Aſſiſtance *Japan* Earth, Chalk, Dragon's-blood, ice Treacle, Electuary of Bay-berries, and the above-men-'d Species taken from the Vegetable Kingdom, as alſo the ymical Oils, in order to put a Stop to it.

As ſoon as a Medicine is found out which will agree with the tient's Stomach, he muſt continue the Uſe of it for two or e Days; and if, in that Time, there is no Appearance of Gout in the Extremities, we muſt call to our Aſſiſtance mulating Plaiſters, Cerats, or Cataplaſms: And even after the ut appears in the Extremities, it will be convenient to con-e the internal Medicines till it is entirely fix'd there, and quite left the Inteſtines. And when this Point is gain'd, ſhould ſtill continue the Medicines, either in half the former ſe, or elſe repeated half as often, for four, ſix, or eight ys; that is, till we have Reaſon to believe the Inteſtines out Danger from any Reviſit from the Gout.

Mean time, 'tis very agreeable to obſerve, that as ſoon as Gout is once fix'd upon the Extremities, all the Complaints the Inteſtines ſuddenly vaniſh, and a certain Sprightlineſs rns to the Eyes, and appears in the Countenance; as does a good Appetite, and due Digeſtion.

During this whole Courſe the Patient ſhould have a moſt ſt Diet preſcrib'd him.

anada, Jelly of Hartſhorn, of Ivory, Biſcuit, Chicken-th, are very proper; but Wine is particularly uſeful, either itſelf, or mix'd with the White Decoction.

ut very great things may be expected from a plentiful Uſe Wine, in the Caſes of ſuch as have been much uſed to it. the very beſt Sort is red Port, of which the Patient may llow'd to drink from half a Pint to a Quart in a Day and a ht, as Occaſion requires. Mean time, if there is any con-able Coſtiveneſs, which is very common, the Patient ſhould, y other Day, have a lubricating Clyſter, either of Oils, or ton-broths. It is to be obſerv'd, that ſometimes, tho' the ſtines are entirely deliver'd from the Gout, and it is driven the Extremities, the Belly is inflated with Wind, and is ull of Pain, ſo as to make the Patient almoſt out of Hopes Recovery. But as this is only owing to a Flatus, *(Wind)* the Weakneſs which the Diſtemper has left, it may be rally cur'd by this Clyſter, continued every Day, or every Day.

this Caſe alſo the bitter Infuſion, and ſuch ſort of Sto-hics as increaſe the Appetite, and mend Digeſtion, are very l.

order to prevent Returns of this Diſorder, the Patient eat ſparingly, and do all he can to promote Digeſtion. uſt frequently take ſome gentle Purge which is ſtomachic, uſt uſe other ſtomachic and gently reſtringent Medi-.

e Mineral Waters, both purging and diuretic, have been al Service to many; and many others have found great t by taking, twice or three times a Year, either the *Alford* s, *purging Salts*, or *Tartarum Laxans*, diſſolved in Bar-ater. Some have found Relief by mixing the purging the diuretic Waters. The *Bath* Waters have long been 'd good againſt the Colic, and are particularly uſeful in ecies of it. In the Intervals betwixt the Uſe of the diu-Water, ſome proper Alteratives are to be taken; as, at the Morning, a Draught of a bitter Infuſion, made with Port; as alſo every Day, after Dinner, ſome Spoonfuls ſame Wine alone. At five in the Afternoon a Dram of owing Electuary, with any convenient Vehicle, will be :

e of the Conſerve of Hips, or of red Roſes, paſs'd thro' Sierce, *Roman* Wormwood, Ginger candied in the *In-es*, each half an Ounce; Salt of Steel, four Scruples; yrup of Ginger, one Ounce and a half; Chymical Oil of namon, five Drops: Make into an Electuary. Or,

e of Hedychroi Troches, and Conſerve of Orange-peel, ch half an Ounce; Salt of Steel, one Dram; Species ambræ, one Dram; Alcohol Martis, three Drams; yrup of Wormwood, a ſufficient Quantity: Make into Electuary.

oraſmuch as this *Colic* generally takes it Riſe from ex-Cold, we are to guard againſt it by warm Cloathing, and g the Inclemencies of the Air.

uſt be added, that People of an advanced Age, who have ad this Diſtemper, and have been hinder'd, either by uſineſs or Pleaſures, from preventing a Return, have fail'd to pay for this Neglect, either with their or Life.

grave, in Confirmation of his Doctrine, very juſtly Paſſage of *Hippocrates*, from the ſixth Book of Epide-Sect. 4. It runs thus, ᾧ τὸ ἔντερον ἐπὶ δεξιὰ ἀρθριτικὸς ἦν ἡσυχώτερος· ἐπεὶ δὲ τούτῳ ἰητρεύθη, ἐπιπονώτερος. *A certain Perſon, having a Pain in his Inteſtines, on the Right Side, being ſeiz'd with the Gout, became better; but when he was cured of this, he relapſed into his former Pain, and grew worſe.*

This *Hippocrates* repeats at the latter End of his Treatiſe περὶ χυμῶν.

Muſgrave might alſo have taken Notice, in Confirmation of his Practice, that *Hippocrates*, in the ſecond Book of Epidemics, directs, *when there is a ſlight Ileus,* (εἰλεοῦ) *that is, Pain in the Ileon, the Patient muſt drink a reaſonable Quantity of unmix'd Wine, till he falls aſleep, or perceives a Pain in his Legs.*

If there is a thick white Cruſt upon the Surface of the Blood, after 'tis drawn away, it abundantly confirms this *Colic* to be *Arthritic*; becauſe in the genuine *Colic* it is not uſually ſo.

However, in an Inflammation of the Inteſtines, which is often miſtaken for the Colic, the Blood generally appears ſizy.

In *Hiſtory* 3. *Muſgrave* gives an Account of an old gouty and paralytic Gentleman, who, upon a Suppreſſion of a Diſcharge of the Saliva, which had for a long time been conſiderable, and a Ceſſation of the Gout, and Swelling of the Feet, which had for many Years been very great, had this *Colic*; but upon purging, and taking *Goddard*'s *Drops*, and *Alcohol Martis*, the Gout, Salivation, and Swelling of the Feet, return'd, and he was cured of the *Colic*.

The Purge he took was Calomel, with Reſin of Jalap, and *Extractum Rudii*.

Hiſt. 8. he tells us of a Gentleman who was afflicted with the Gout for twenty Years, who, every Autumn that he miſs'd having the Gout, had an Epiphora, which diſcharged an acrid and pungent Serum from the Eyes, for ſix or eight Weeks.

An ARTHRITIC DIARRHOEA.

If a Perſon, long uſed to the *Gout*, in the midſt of his Fit, falls into a Diarrhœa, and at the ſame time the Pain and external Swelling decreaſe, and ſoon entirely vaniſh, 'tis very evident, that this Diarrhœa is *Arthritic*.

It alſo frequently happens, that before the Patient feels Pain in the Joints, the Diarrhœa diverts the *gouty* Humours from the Extremities, where it would otherwiſe fall, and carries it off by the Inteſtines.

This Diarrhœa, which anticipates the Fit of the Gout, is frequently found to be ſalutary, Health and Vigour returning after it; but this happens only in good Conſtitutions, where the Fibres are robuſt, and the Spirits firm.

But the Caſes where this Diarrhœa is moſt frequent are, when either a Purge has been given, or elſe when the Inteſtines are loaded with Crudities, which ſtimulate, and find a Paſſage for themſelves, together with the *gouty* Matter.

The Event of this Diarrhœa is extremely uncertain; for if it ſtops in time, and is not exceſſive, it very often proves of Uſe, as it carries off the *gouty* Matter by a Way that is ſafe enough, tho' not the moſt common; and it has this Advantage attending it, that the Paroxyſm does not return of a long time after it.

But in thoſe whoſe Viſcera are debilitated by Debauchery, ſo as to render Nature incapable of moderating the Criſis, it ſometimes becomes ſo exceſſive as to deſtroy the Patient.

In this Diarrhœa nothing is more fooliſh nor dangerous, than to do too much; for an officious Diligence diſturbs Nature, and interrupts her in the Work ſhe has begun, when it is better to leave her to herſelf, and permit that to be diſcharged, which, if retain'd, would do Miſchief.

But if the Diarrhœa becomes too exceſſive, and is too great for the Patient's Strength, it muſt be moderated by Aſtringents, and the Strength muſt be kept up by Cardiacs.

But whether the Diarrhœa ſtops of its own Accord, or is ſtopp'd by Medicines, after ſome time the Relicts are to be purg'd off by the Purging Waters, with an Addition of *Tartarum Laxans*, or Manna, if the Caſe requires ſuch Addition.

If this Diarrhœa ſhould happen from taking a Purge, Medicine in this Caſe, as in the former, is unneceſſary, we having only to guard againſt an *Hypercatharſis*.

But in caſe this Diarrhœa ariſes from Crudities, which is, of all, the moſt dangerous Caſe, it muſt be treated in a different manner. Here it ſometimes happens, that the Stomach is loaded, and then a Vomit of Tea, or Carduus, may be proper. After which, or without one, a gentle Purge ſhould be given: And then recourſe muſt be had to Reſtringents, and ſuch Medicines as will moderate the Diarrhœa. Let the Patient take, every fourth, fifth, or ſixth Hour, a Bolus of

> Diaſcordium, Species of the Confection of Hyacinth, aſtringent Crocus of Mars, *Japan* Earth, and Syrup of Roſes. After which let him drink a Draught of the Cretaceous Julap.

Let the Patient have alſo a Clyſter of *Canary* Wine, Jelly of Starch, or Diaſcordium.

Let the Belly alſo be frequently fomented with a Decoction of the Roots of Biſtort, Tormentil, and Balauſtines, made in ſtrong Beer.

Let his Drink be the White Decoction, or an Infuſion of red Roſes, and ſometimes ſome red Wine burnt.

If the Pulſe will permit, Opiates are of excellent Uſe, as a few Drops of Laudanum, or about a Grain of Opium, with half a Dram or two Scruples of *Venice* Treacle.

If there ſhould be any Danger of the Diarrhœa running into a Dyſentery, let the following Emulſion be taken:

> Take of calcin'd Hartſhorn, half an Ounce; Gum *Arabic*, and Tragacanth, each two Drams: Boil in three Pounds of Rice-water, of the third Decoction, till they are reduced to two. Let the ſtrain'd Liquor be pour'd upon decorticated ſweet Almonds, and white Poppy-ſeeds, during the Time they are bruiſing: Then ſtrain the Liquor a ſecond time, and give it an aromatic Flavour with ſtrong Cinnamon-water: Then edulcorate it with Sugar.

When the Patient is much reduc'd by the Diarrhœa, Vomiting and Purging muſt be omitted; and Cardiacs and Aſtringents only muſt be uſed.

But to whatever Cauſe this *Arthritic Diarrhœa* owes its Origin, the beſt and moſt pleaſant prophylactic Cure is that by the Steel-waters, to which ſome Preparation of Steel ſhould be added; and, amongſt all the Preparations of Steel, the *Alcohol Martis* is the beſt.

In his ſixth *Hiſtory*, *Muſgrave* mentions frequent Oſcitation as a Fore-runner of a *gouty* Diarrhœa, in a certain Perſon he mentions.

An ARTHRITIC DYSENTERY.

An *Arthritic Dyſentery* principally ſeizes upon thoſe who have a thin Habit of Body, and particularly weak Inteſtines, and are uſed to the *Gout*.

An *Arthritic Colic* generally precedes this Diſtemper, and when the Fibres of the Inteſtines are weaken'd by frequent Fits of it, and either ſome external Cauſe forces the *gouty* Humour inward, or ſome internal Cauſe invites it thither, it falls with Fury on the Inteſtines, by the Cœliac and Meſenteric Arteries.

Hence ariſes a gnawing and eroding Pain, with a quick Pulſe, and a ſmall Fever. If, at the ſame time, there is any *Gout* in the Extremities, it immediately vaniſhes, and all flies to the Inteſtines; and there, breaking the diſtended Arteries, the extravaſated Blood is pour'd into the Inteſtines; and is thence thrown out by the Anus, and ſometimes by the Mouth, in the Quantity of a Pint, and ſometimes two. Great Languors immediately ſucceed this, and Loſs of Strength; the Extremities grow cold, the Patient falls into frequent Deliquia, and his Life is in imminent Danger.

The Pain is eaſed by this Evacuation; and if the Patient can ſuſtain the Violence of the Fit, he grows eaſy, and is for ſome time free from any Fit of the *Gout*: For after the *gouty* Matter has been in this manner diſcharg'd, a new Fit cannot happen, till new Matter is form'd in the Blood.

This Diſtemper is not always content with one Viſit, but oftentimes returns, and exactly reſembles the *Gout* in regard to its Periods; and ſometimes the firſt time, ſometimes at its Return, leaves an Ulcer or Abſceſs in the Inteſtines.

The Patient muſt reſt either in Bed, or in a Chair, whilſt the Paroxyſm laſts, leſt the Motion ſhould exagitate the Blood, and increaſe the Flux.

Mean time, it may be of vaſt Prejudice to give Cardiacs in Quantities large enough to inflame the Blood, and by that means increaſe the Diſorder. They muſt therefore be carefully given, and only in ſuch Proportion as is ſufficient to ſupport the Spirits, and keep off a Deliquium.

In caſe the Diſcharge becomes too conſiderable to be eaſily ſupported, it muſt be ſtopp'd by Laudanum: And therefore ſome Laudanum ſhould be held upon the Tongue, and in the Mouth; and muſt be continued in this manner till the Flux ceaſes; for if it goes into the Stomach, it will immediately be return'd by Vomit.

Our Author has often found the White Decoction of great Service: It muſt be taken in ſmall Quantities, and often; and the Patient muſt take nothing elſe for ſome time, either of Food or Medicine.

As Care muſt be uſed, on one hand, that the Inteſtines are not too much open; ſo, on the other, they muſt not be contracted; and if the latter happens, they muſt be gently relax'd. It muſt be remember'd, that this Dyſentery is critical, and that therefore an Error, on either Side, is attended with Inconveniencies, ſo that a Medium is beſt; and this Mediocrity muſt be diſcover'd and obtain'd by having a proper Regard to the Patient's Strength.

It often happens, that after the Gout is expell'd by theſe bloody Stools, all is eaſy and quiet; but in caſe it happens otherwiſe, and the Dyſentery continues, it is proper to give ſuch Remedies as will ſtop it, and contract the Wound of Inteſtines. As,

> Tincture of *Japan* Earth, dropp'd into the White Decoctio or into ſome vulnerary Decoction; or the Balſam of *Lu tellus*, with Olibanum, Maſtich, Dragon's-blood, the aſtringent Crocus of Mars; or with the true Bole, the Form of Pills; or with Conſerve of Hips, or Roſes, paſs'd thro' a Sierce, the Species of the Confect of Hyacinth, with Syrup of dry'd Roſes, in the Form a Bolus, to be taken in the ſame Vehicle.

Let the Abdomen be fomented with Stuphs wrung out reſtringent Decoction, with an Addition of red Wine.

If the Vein, from whence the Blood is diſcharg'd, happen be near the Anus, a Clyſter of the Jelly of Starch, or ſo ſuch gluiſh Medicine, ſhould be injected, and retained f long time. Mean time all Acids are to be avoided as p cious, by reaſon of their Stimulus.

Let the Patient's Diet be Jelly of Hartſhorn, or Ivory, Calves Feet, poach'd Eggs, Rice boiled in Milk, or Crem Rice; and ſuch ſort of things which nouriſh, incraſſate, agglutinate Wounds.

It is eaſy to perceive, that the Cure of this *Arthritic* ſentery is very different from that of a common Dyſent for the latter requires repeated Purging, whereas the fo ſeldom admits of any purging Medicines at all.

The *Tunbridge*, *Bampton*, or ſuch ſort of chalybeate Wa are the beſt Medicines that can be uſed in order to guard ag a Return, eſpecially if ſome Preparation of Steel, with ſtringents, are taken at the ſame time.

In *Hiſt*. 1. *Muſgrave* tells us, he directed a Sheepſkin, taken off, to be apply'd to the Feet, in order to invite the thither.

In *Hiſt*. 2. he gives an Inſtance of his directing *Venice* pentine, with Powder of Marſhmallows, in a Bolus, tw Day, in order to heal the Wound in the Inteſtines, whic Dyſentery had made, or rather the *Gout*.

ARTHRITIC OR GOUTY ABSCESSES OF THE I STINES, ſee under the Article ABSCESSUS.

ARTHRITIC MELANCHOLY.

This ſort of Melancholy affects thoſe People moſt, w of ſoft, tender, and delicate Conſtitutions, who are nat timorous, or who from any other Cauſe have been incli Melancholy from their Infancy. Theſe, whilſt they ha gular Fits of the *Gout* in the Extremities, are, during t tervals, very chearful and well; but when the Paroxyſms altogether ceaſe, or are inſufficient to carry off the *gouty* ter, but particularly when the *Gout* ſeizes upon the St and Inteſtines, the Appetite and Digeſtion begin to be dep Then the Patient is troubled with Hypochondriac Murmurings in the Inteſtines, Diſtention of the Præcordi ſometimes an almoſt continual Pain of the Inteſtines. H by the Conſent of Parts, the Brain and nervous Syſt affected, and the Patient becomes melancholy. Nothi be more miſerable than the State of theſe unfortunate P for they neither ſleep nor eat, and are ſo dejected, a even weary of their Lives, and will not ſo much as hope ever in a better State.

No Species of the anomalous *Gout* is more chronic this, nor ſcarce any more frequent. It generally begin the forty-fifth or fiftieth Year, and ſeldom leaves the entirely, unleſs Medicine effectually interpoſes; but ret Intervals, and thoſe often very ſhort ones. However, the *Gout* is worſe, this Melancholy is better, and *vice v*

Muſgrave diſtinguiſhes between the *Melancholia Art* and the *Arthritis Melancholica*; the former being, acco him, a *Gout* terminating in Melancholy; the latter, choly terminating in the *Gout*. The Cure is to begin w loading the Stomach and Inteſtines of the Maſs of un Humours contained therein, by a Vomit, if neceſſa Purges of the milder Sort, as Tea and Carduus Poſſet-d a Vomit; as Rhubarb, the Tartar Pills of *Bontius*, machic Pills with the Gums, or ſomething of this Kin Purge.

The Evening after the Operation of the Purge, a muſt be given inſtead of a Paregoric; and afterwards, w come to Alteratives, they muſt be given in a Quanti cient to expel the *Gout* from the external Parts into th mities.

In order to prevent a Relapſe, the Diuretic muſt be drank regularly for a conſiderable time; an *Gout* does not return regularly at Spring or Autumn, ſpontaneouſly, Fits muſt be procured by Medicines p that Purpoſe. Mean time the Patient muſt be extrem lar in point of Diet; a gentle Purge muſt alſo be f given, in order to carry off any undigeſted Remains of ment. *Muſgrave* recommends the following, which Pilulæ Melancholicæ.

Take of the Pills of *Macrus*, *(in the old London Diſpenſatory)* and of the Stomachic Pills, with the Gums, each one Dram and an half ; of the Pills of Rudius, one Dram ; Reſin of Jalap, half a Dram ; Chymical Oil of Cinnamon, ten Drops ; Balſam of Peru, a ſufficient Quantity : Form into a Pill.

he Doſe is half a Dram, to be taken every Morning once onth ; or inſtead of theſe, the Laxative Tartar and Manna, in the Quantity of half an Ounce or an Ounce, diſſolved Quart of any purging Water, may be taken.

Paregoric muſt be given at Night after each of theſe Doſes, n by way of Prevention.

othing is more ſerviceable in this Caſe than Exerciſe, par- larly Riding.

V. B. The Caſes which *Muſgrave* relates are worth ob- ing, in one of which, in order to clear the Head, he re- mends the following Snuff :

ake of the Stalks of Tobacco, one Dram ; Tops of Marjoram, Roſemary, and Sage, each half a Dram ; Root of white Hellebore, one Scruple ; Muſk, two Grains : Of all theſe dry'd make a Powder for an Errhine.

An ARTHRITIC SYNCOPE.

he *Gout* often cauſes a Syncope, eſpecially after drinking and thin Liquors, or eating any thing which the Stomach t able to digeſt.

this Caſe the Patient firſt finds himſelf ill all over, then s pale, and breaks out into a cold Sweat. His Pulſe is , ſlow, and unequal, and ſometimes intermits ; at laſt he s away, and loſes all Senſe and Motion. Mean time if e were any Signs of the *Gout* in the Extremities, it in- ly retires, and the Patient dies, without immediate Aſſiſt-

he beſt Medicines are Cardiacs in very large Doſes, and a d Form, to be repeated often. *Muſgrave* recommends *Aqua Hiſpanorum Arthritica* : Or the following Julap :

ake of Compound Wormwood Water, twelve Ounces ; Spirit of Mint, and Compound Spirit of Lavender, each two Ounces ; and of the fineſt Sugar, a ſufficient Quantity : Mix up into a Julap.

he Doſe of this is half an Ounce, an Ounce, or two ces, to be repeated as Occaſion requires.

ith the firſt or ſecond Doſe of this may be given the fol- g Bolus or Powder :

ake of *Venice* Treacle, half a Dram ; Flowers of Sal Ammoniac, half a Scruple ; Conſerve of Roſemary-flowers, one Scruple ; Syrup of Citron-peel, a ſufficient Quantity : Make into a Bolus : Or,

ake of Powder of *Virginian* Snake-root, half a Scruple ; *Species Diambræ*, one Scruple, or one Scruple and an half ; of Long-pepper, three, four, or five Grains ; of Chymical Oil of Cinnamon, one Drop : Reduce to a Powder.

r want of theſe Medicines, burnt Brandy will anſwer the ; or ſuccinated Spirit of Hartſhorn may be added to the ial Waters, for the ſame Purpoſe.

ean time Frictions muſt be uſed ; and Stuphs immerſed in Wine or Brandy muſt be applied to the *Scrobiculum Cordis*, ll over the *Abdomen*, which muſt frequently be renew'd.

his Method muſt be purſued till the Patient comes to him- and is recovered, which however ſeldom happens till the is forced into the Extremities, and fixes there.

the Patient has eaten any thing difficult to digeſt, and is in- to vomit, as ſoon as he comes a little to himſelf, it be brought off his Stomach, by a Decoction of Tea or us. But if he is ſo bad, that there is no Time to loſe, he drink a large Quantity of Wine, in a very little time, t may anſwer the End of a Cardiac, and at the ſame time Vomit.

theſe Fits return frequtntly, the Patient muſt always have Cardiac Waters by him, to take as ſoon as he finds him- iſordered.

eſe ſtrong Waters, though extremely injurious to People ealth, are, however, excellent for old *gouty* People, have been accuſtomed to drink Quantities of Wine, and oubled with this ſort of Syncope.

a Caſe of this ſort *Muſgrave* gave a Patient a few Grains *cohol Martis* with his *Julap*, after he began to complain ain in his Foot ; the Conſequence of which was, that in a Hours, before he had taken a Scruple, his Pulſe became quick and ſtrong ; he began to be very hot all over ; æmorrhoidal Veins diſcharged ſome Blood ; he had great , a violent Agitation of his Spirits, and Swelling with ſs in his great Toe.

He then bliſtered him in ſeveral Places, and apply'd a Plaiſter to his Toe, made up of equal Parts of *Burgundy* Pitch, and Cephalic Plaiſter, and put the Whole of the Foot in a Sock of green Cerate, tying it on with a woollen Roller.

Soon afterwards the Gout ſeized his Shoulder, whilſt he all along uſed the Cordial Waters internally ; and in order to invite it thither, he apply'd to the Part affected a Plaiſter of Gum Caranna.

The STONE *in the* KIDNEYS *from the* GOUT.

This Diſtemper is eaſily diſtinguiſh'd from the *Arthritic Colic* ; for in this there is no Difficulty of Breathing, no acute Pains about the umbilical Region, no Melancholy, nor Diſcharge of crude, acid, and bilious Matter by Vomit, which are Symptoms of the other.

The Method of Cure of the Stone, attended with the *Gout*, differs from the Cure of the Stone without it in ſome Particulars : For in the former, we muſt be very cautious of Bleeding, and of uſing acid Medicines ; nor muſt we apply Fomentations, Liniments, and Cataplaſms, to the Back, eſpecially if the Patient has a Fit of the *Gout* at the ſame time.

But a Paregoric may be given in ſuch a Doſe, and repeated ſo often, that the Pain may be eaſed without prejudicing the Head by driving the *gouty* Matter upon it.

But if the Stone happens in a *gouty* Conſtitution, without being accompanied with a Fit, the Method of Cure is different ; for then the Patient muſt loſe ſome Blood, eſpecially if he is Plethoric ; and ſoon after let him have the following Clyſter :

Take of the common Clyſter Decoction, and new Oil of ſweet Almonds, each half a Pound ; of *Venice* Turpentine diſſolved with the Yolk of an Egg, one Ounce. Let it be injected.

Next Day give a Purge of Lenitive Electuary, or Rhubarb, or Manna, diſſolved in a Decoction of Sena : At Night give as much of *Matthew*'s Pills, as contains one Grain of Opium.

If the Pain is very violent, in order to relieve it, and prevent Spaſms of the Inteſtines, a Paregoric may be given a few Hours before the Purge ; and if it does not operate, give a Clyſter.

When the urinary Paſſages are by theſe means dilated, the Stone muſt be brought away by Opobalſamum, or the Balſam of Chili or Peru, taken two, three or four times a Day, in Syrup of Marſhmallows, or the balſamic Syrup.

The Doſe of Opobalſamum is half a Scruple.

Mean time the Patient may drink ſoft Ale like that commonly called *Grout-ale*, or Apozems made of the Roots of Marſhmallows, Liquorice, and Eringo, Pearl Barley, *&c.* or other things of a like Nature, or Green Tea, or Emulſions made of ſweet Almonds, and the above-mentioned Decoction or Apozem.

Muſgrave recommends an Emulſion made of ten ſweet Almonds, and two Pounds of the Infuſion of Tea, with the Addition of Roſe-water, or Cinnamon or Barley-water, and a ſufficient Quantity of fine Sugar ; or a proper Liquor may be prepared of White-wine, Oil of ſweet Almonds, and fine Sugar.

This Author recommends, by way of Prophylactic, *Briſtol* Waters, taken with Opobalſamum, and ſome lubricating and diuretic Syrup ; or for want of theſe Waters, green Tea every Morning.

It has however been found, that ſometimes the Briſtol *Waters cauſe ſtony Concretions, and increaſe the Diſorder.*

Muſgrave ſays, he knew one who in ſome meaſure kept himſelf free from the Stone, by taking three or four times a Year one Dram of *Venice* Turpentine, reduced to the Form of Pills by the Addition of Liquorice-powder ; after which he drank ſome Pints of Small-beer or Poſſet-drink, and immediately rode four or five Miles upon a trotting Horſe.

Lenient Purges muſt always precede Diuretics.

In caſe of a Dyſury proceeding from Spaſms of the urinary Ducts, nothing is more efficacious than Opiates joined with Diuretics.

The Doſe of Peruvian Balſam is ten Drops taken in a Spoonful of the balſamic Syrup twice, or at moſt three times, a Day.

An ARTHRITIC ASTHMA.

Thoſe People are ſubject to an *Arthritic* Aſthma, who have a bad Conformation of the Breaſt and Organs of Reſpiration ; and thoſe whoſe Parents were Aſthmatic, or *Arthritic*, or both, are moſt ſubject to this Diſorder.

An Opiate improperly given, any thing that repels the *Gout* from the Extremities, a ſudden Suppreſſion of any habitual Evacuation, either of Blood, the Lochia, or from an Ulcer, cauſe this ſort of Aſthma ; and it often happens, that an Aſthma immediately follows a regular *Gout*, when the Fit has by any means been ſhortened; as a Fit of the *Gout* often cures an Aſthma.

Arthritic Aſthmas, like others, are of two Kinds, the dry and moiſt Aſthma: In the former the Patient's Reſpiration is very ſhort and difficult, gaſping as it were for Breath, with a great Oppreſſion of the Breaſt; mean time he has very little, if any Cough, and ſpits but little. Thoſe who have uſed themſelves to drink Brandy, and ſuch ſpirituous Liquors, are moſt ſubject to this Sort.

In the moiſt Aſthma the Patient coughs up generally a thick, viſcid Matter, by which he is relieved, till a freſh Supply is furniſhed by the Blood. This commonly affects People of a thin, lax Habit, and principally in Autumn.

Muſgrave ſays, the *Arthritic* Matter is cough'd up inviſcated as it were in this Phlegm, inſomuch that he has known ſeveral *gouty* People preſerved from more dangerous Diſtempers by this Diſcharge, when regular Fits on the Extremities have been wanting.

This Author imagines, that in a dry Aſthma the *Arthritic* Matter is fixed upon the Membranes, Nerves, and Muſcles of the Organs of Reſpiration; and in the moiſt Aſthma, that the ſame Matter is mixed with the Serum of the Blood.

Sometimes the Gout appears originally in the Shape of an Aſthma, with much the ſame Symptoms as thoſe which attend a genuine Aſthma, from which it is not eaſily diſtinguiſhed, till in Proceſs of Time the *Arthritic* Matter falling upon the Joints ſets the Lungs at Liberty.

The Prognoſtics in an *Arthritic* Aſthma are different from thoſe in a genuine Aſthma; for whereas in the latter young Men are ſaid to be cured with Difficulty, and old ones not at all; in the former, Patients are more eaſily relieved, more frequently freed from it, and ſometimes ſo as not to return again. However, the dry Aſthma is much the moſt dangerous, and often ſuffocates thoſe whom it ſeizes.

The Cure is to be attempted by Evacuations, or by forcing the *gouty* Matter upon the Extremities. Amongſt Evacuations Bleeding is moſt proper for Plethoric People, and Purging for ſuch as have indulged themſelves in eating.

When the Strength will permit, take nine Ounces of Blood from the Patient; and ſoon after give a Clyſter. The next Day give a Purge of Aloes, Pilulæ Cochiæ, or ſome ſuch Cathartic, without any Paregoric at Night after its Operation.

After theſe Evacuations, Spirit of Hartſhorn, Flowers of Sal Ammoniac, and ſuch-like Volatiles, are of great Service in a dry *Arthritic* Aſthma.

> Take of Gaſcoign's Powder, and Conſerve of Colts-foot, each one Scruple; Flowers of Sal Ammoniac, half a Scruple; of balſamic Syrup, a ſufficient Quantity: Make a Bolus, to be taken every fifth or ſixth Hour in a proper Vehicle.

In the moiſt *Arthritic* Aſthma Veſicatories apply'd between the Shoulders very much relieve the Lungs. Preparations of Sulphur, ſuch as the balſamic Tincture of the Flowers of Sulphur, diſlodge the Phlegm, and at the ſame time expel the Gout. Gum Ammoniac, Gum Bdellium, Balſam of Peru of *Chili*, and of Capivi, produce the ſame good Effect.

Give twenty Drops of the Tincture of Sulphur in a Spoonful of balſamic Syrup, and repeat the Doſe every ſix, nine, or twelve Hours; or preſcribe ten or fifteen Drops of the following Balſam in the ſame manner:

> Take of the Tincture of Gum Guaiacum, and of Balſam of Peru, equal Parts: Mix together. *N. B.* This is like the Balſamum Polychreſton.

Though Clyſters and Purging may properly enough be repeated in a genuine Aſthma, in the *Arthritic* Sort 'tis never to be preſcribed more than once, for fear it ſhould hinder the *gouty* Matter from falling upon the Extremities.

In both the dry and moiſt *Arthritic* Aſthma, the Patient muſt perſiſt in the above-mentioned Remedies, till his Lungs are eaſy, and he reſpires without Difficulty.

The Cough may ſometimes be relieved by the common expectorating Medicines, ſuch as Oil of ſweet Almonds, Linſeed Oil, the balſamic Syrup, or Syrup of Maiden-hair.

In caſe the Fit is very violent, and not to be relieved by the above-mentioned Remedies, give Oxymel of Squills, either by Spoonfuls at certain Intervals, or in a Doſe ſufficient to operate by way of Vomit, which helps to remove the *gouty* Matter to the Extremities; for *Muſgrave* ſays, he has often known an irregular *Gout* made regular by one Vomit.

This Author recommends the Smoke of Tobacco, Coffee, and Frictions; but ſays Unguents and Liniments, which are recommended for a genuine Aſthma, are here of no Service.

By way of Preſervative, *Muſgrave* recommends, in a moiſt Aſthma, Diuretics and Antiaſthmatics, after previous Cathartics, ſcapulary Iſſues, and Veſicatories, eſpecially thoſe made perpetual.

In the dry Aſthma he recommends Steel joined with An
aſthmatics, as Gum Ammoniac, *&c.*

In both Sorts freſh Air is of great Service; as is alſo an ex
Regimen, avoiding various Kinds of Diet, and keeping to ſi
ple Aliment.

The Piles are of great Relief in this Diſorder.

Some Patients breathe with moſt Difficulty when the W
is in the Eaſt or North-eaſt. 'Tis not proper for Patients un
any of theſe Diſorders to eat Suppers.

An ARTHRITIC CATARRH, COUGH, *and* PERIPNE MONY.

Thoſe are moſt ſubject to theſe Diſorders who have natur
a bad Conformation of the Breaſt, and a tender Conſtituti
or whoſe Lungs have been hurt by a Blow, Fall, Vociferati
or violent Exerciſe; or thoſe whoſe Parents were Conſump
or Aſthmatic.

'Tis very difficult to diſtinguiſh when the Gout is the C
of theſe Diſtempers in ſuch as have never had it in their Ex
mities; but as the Diſtempers of the Parents may give us ſo
Light in this Affair, 'tis prudent to have them always in vie

When People that have been uſed to regular Fits of the G
have them more ſeldom or more mild than uſual, or the Fi
interrupted by an external Cauſe, as improper Application
the Part, Cold, *&c.* there frequently comes on a Heavineſ
the Breaſt, and Infarction, Shortneſs of Breath, a Titillat
of the Aſpera Arteria, a Cough, and thereby a Diſcharge
Matter, at firſt very thin, and afterwards more thick;
theſe Circumſtances aſſure us, that the *Gout* is the Cauſe of
Diſorder.

Sometimes, though the Fit is not interrupted, theſe A
dents will happen, becauſe it is too mild; and this may m
it doubtful, whether the *Gout* is the Cauſe or not; but a re
lar Fit returning ſome time after with greater Violence,
quently manifeſts the true Cauſe.

Old Men, and thoſe of a middle Age, are moſt ſubje
theſe *gouty* Diſorders of the Lungs; but young Men ſeldom
troubled with them.

Women are ſeldom affected with theſe *gouty* Symptoms
fore they have born Children, or before the Catamenia ceaſe

The Spitting is, at firſt, but ſmall in Quantity, and
thin; but in a little time increaſes, and that ſo much, a
oppreſs the Breaſt greatly, and ſtuff the Lungs, at the ſ
time cauſing Hoarſeneſs, and Difficulty of Breathing; and
laſts for a long time, waſtes and weakens the Patient, an
laſt deſtroys him.

The Gout in the Extremities decreaſes, as the Spitting
creaſes.

Though this Diſcharge by Spitting, provided it is not im
derate, is found generally to be of Service; yet in extreme
Age 'tis ſometimes too great, ſo as to weaken, and at laſt
ſtroy the Patient; but this ſeldom happens.

All theſe Diſorders are relieved by a regular Fit falling
the Extremities; and as that increaſes, theſe decreaſe,
vice verſâ.

A Cough is the moſt frequent of all theſe Accidents, and
nerally follows a regular Fit; but ſeldom accompanies it, u
in very *Arthritic* Conſtitutions, and where the Lungs are a
ſame time weak.

This Cough ſometimes ends in a regular Fit, eſpecia
aſſiſted by ſome briſk Cathartic, that is capable of exagit
the Blood.

Sometimes a Cough is very troubleſome for four or five
before a Fit, and may be looked upon as one of the prec
Symptoms thereof.

A Catarrh is always accompanied with an Aſthma and
moptoe, which, though it may affright the Patient, i
dangerous, provided the Lungs are naturally good, and are
by no Accident, and a proper Method of Cure is early app

Theſe Coughs and Catarrhs have often their Intervals,
return by Fits when the *gouty* Matter abounds in the B
They moſt frequently happen in Autumn.

Theſe Coughs are generally without any Fever, or a
companied with a very ſlight one; but if the Patient
Cold, or indulges himſelf in the Uſe of ſpirituous Liquors,
is Danger of a Peripneumony, the Signs of which are the
as thoſe of a Peripneumony from any other Cauſe. But
it appears to be *Arthritic*, ſome regard is to be had
Cauſe.

In all theſe Bleeding is proper, when nothing contra-indic
in tender and weak Conſtitutions, it is ſcarce ever prop
thoſe worn out with Age and Diſeaſes, never. In caſe
Hæmoptoe or Peripneumony, Patients ſeldom recover
that is omitted; but upon theſe Occaſions we muſt always
with Caution, for fear of rendering the Conſtitution too
to expel the *Gout*, and throw it upon the Extremities.

The next thing to be done is to purge, which is ſervi
in all theſe Diſorders; but more particularly in a groſs C
tution, or where the Inteſtines are loaded, and the Pati
loſt no Blood. Thoſe Purges are beſt, which exagitate the

confide

derably, and help to move the *gouty* Matter. After theſe uations, we muſt proceed to ſuch Medicines as help to re- the *Gout* from the Lungs, and drive it to the Extremities, with theſe Pectorals muſt be joined: For Example,

ake Alcohol Martis, and Balſam of Capivi, each half a Scruple; Conſerve of Hips, one Scruple; Syrup of Maiden-hair, a ſufficient Quantity; make into a Bolus: Or,

ke Flowers of Sulphur, or Benzoin, and Alcohol Martis, each half a Scruple; Gum Ammoniac diſſolved, a ſufficient Quantity; make into Pills.

t this Bolus, or theſe Pills, be taken twice a Day in a nful of Balſamic Syrup, drinking after it a Draught of the al Decoction, provided there is no Suſpicion of a Fever. e Patient alſo take a little of the ſame Syrup frequently Day.

a liquid Form is more agreeable,

ke of the Syrup of Colts-foot, or Maiden-hair, half an Ounce; Tincture of Sulphur, ten Drops; to which, when well mixed, add of the Powder of Olibanum, and Alcohol Martis, each half a Scruple; Hyſſop-water, two Dunces and an half; uſe as a Draught.

ead of the Tincture of Sulphur, the following Medicines e taken in their proper Doſes.

iated Balſam of Sulphur, or Balſam of Sulphur prepared Turpentine, Balſam of Capivi, of *Chili*, of *Gilead*, and f *Peru*.

ſgrave ſays, when the Diſorder has been inveterate, he equently given, with great Succeſs, the *Peruvian* Bark, er to prevent too great a Colliquation of the Blood.

torals either in the Form of Troches, Eclegmas, &c. are to relieve the Cough.

fter three or four Days Uſe of theſe Medicines, no of the *Gout* appear in the Joints, apply to the Part it affects, the Cephalic Plaiſter, either alone, or with an Quantity of Burgundy Pitch, or the Green Cerate.

if theſe do not anſwer the End propoſed, and the Lungs t relieved thereby, more ſtimulating Applications muſt be s acrid Cataplaſms, and Veſicatories. But in the Uſe e, it muſt be obſerved, the weakeſt are always to be nor are we to uſe the moſt ſevere, unleſs the Patient's th will permit them.

ay of Preſervative, the Patient ſhould have Iſſues open- e Back; ſhould contrive to breathe an Air that is dry, itated by the Winds; and ſhould direct all his Endeavours ure a regular Fit of the *Gout* at proper Intervals.

is Method is omitted, or negligently purſued, the Cough worſe, and the Body becomes emaciated; the Matter diſ- d by the Lungs, which was at firſt thin, grows more thick, re difficult to cough up, and ſometimes bloody. Hence the re exulcerated, and the Patient dies of a Conſumption.

n *Arthritic* Peripneumony there is much more Danger, e muſt be taken in the very Beginning, or elſe it will rds be in vain. Therefore immediately let the Patient ne Blood, a few Hours after give a Clyſter, and the y a Purge; let the Patient alſo take, every Hour, Oil t Almonds, or Linſeed Oil in the Form of a Linctus.

lions and Decoctions, that are too cold, muſt be avoided; here is any Appearance of the *Gout* in the Joints, or es of bringing it thither, *Muſgrave* adviſes Medicines will promote it: He therefore recommends, from re- Experience, Diaphoretics, and ſuch external Applica- are likely to bring the *Gout* into the Extremities, con- the Opinion of *Sydenham*, which ſee in the above ons from that Author.

ARTHRITIC CONSUMPTION.

n the *gouty* Matter is repelled by any external Cauſe, en upon the Lungs, or is invited thither by the Weak- the Part, the Patient is firſt ſeized with a Heavineſs in aſt, Difficulty of Breathing, and Hoarſeneſs; then he ſpit, firſt a thin Phlegm, which, by Degrees, grows In Proceſs of Time his Fleſh grows flaccid, he waſtes es, and loſes his Strength in proportion as the Diſ- om his Lungs increaſes. Mean time, there is no *gouty* or Pain, in the Extremities, or, at moſt, but very d that of a ſhort Duration. The Paleneſs of his Face, univerſal Emaciation, daily increaſe; and the violent which attends it, ſometimes brings on a Spitting of At laſt, an Hectic Heat comes on with a quick Pulſe, and eſpecially in the Evening, which is ſucceeded by ſym- Sweats. So that at laſt the Patient is worn out by Cough, great Spitting, colliquative Sweats, obſtinate , or, if there is no Diarrhoea, Swelling of the Feet. uine Phthiſis generally ſeizes upon young People; but h is *Arthritic* rarely affects any but thoſe who are old. Women however are ſubject to it when they ceaſe to breed, and the Catamenia leave them.

An *Arthritic* Phthiſis is generally very chronical and ſlow, and is attended with an Hectic Fever only in the laſt Stage; whereas a genuine Phthiſis is accompanied with an Hectic Heat from the very Beginning, and ſometimes it precedes all the other Symptoms.

Sometimes a Cough does not end in a Conſumption till after the *Arthritic* Matter has for ſeveral Years been changing its Situation, and falling alternately upon the Lungs, and Extremities.

Therefore, in order to adapt a proper Method of Cure to this Diſtemper, a Phyſician muſt carefully examine what Analogy it has with the *Gout*.

In the Beginning of the Diſtemper, when the Cough is troubleſome, and a Phthiſis is coming on, very good Effects are to be expected from Bleeding and Purging, if properly adminiſtered; for by theſe means the *gouty* Matter is ſometimes evacuated, or at leaſt removed, from the Lungs; but as this Effect is not perpetual, and cannot be depended on, theſe Evacuations muſt be uſed with Caution, and confined to proper Limits, leſt the Conſtitution ſhould be ſo far weakened by them, as to be rendered too weak to expel the *Gout*.

After either Bleeding, or Purging, or both, if neceſſary, or without either, if improper, we muſt have recourſe to Pectorals, and Remedies calculated to expel the *Gout*. Let the Patient therefore take every other, or every third Hour, a Spoonful of a Linctus of recent Oil of Sweet Almonds, or Linſeed Oil, with Balſamic Syrup, Syrup of white Horehound, Syrup of Turneps, or ſome other expectorating Syrup.

When there are no Signs of a Fever, let him take, with the Linctus, a proper Doſe of Pills every ſixth or eighth Hour, made of *Gaſcoign*'s Powder, Alcohol Martis, Juice of Liquorice, and Balſam of *Peru*.

The Patient may take, in a liquid Form, ten Drops of the Balſam of Peru, or Tincture of Sulphur, in a Spoonful of the Linctus; and in the Intervals, ſix or eight Grains of *Alcohol Martis*.

Theſe warm Medicines muſt be uſed in ſuch Doſes, and ſo often repeated, as the Expulſion of the *Gout* requires, and the Danger of the Fever will permit.

Muſgrave aſſures us, he has never obſerved any great Danger from this Method, eſpecially in old *Arthritics*, who are moſt ſubject to this Sort of Phthiſis.

If the Fever is too much raiſed, either of its own Accord, or by the Uſe of warm Medicines, that is, if it runs higher than the Expulſion of the *Gout* requires, it muſt be mitigated by withdrawing theſe heating Medicines, by Clyſters, by Bleeding, and the *Peruvian* Bark, together with ſuch Medicines as are uſually ſerviceable in a Peripneumony; and, when the Fever is conquered, the Patient muſt return to warm Medicines as much as the Circumſtances will admit off.

After theſe Remedies have been uſed for two or three Days, or ſooner, if any *gouty* Pain is perceived in the Extremities, ſtimulating Topics muſt be applied to the Part in Pain, or, if there is no Pain, to the Part which uſed to be moſt frequently affected.

Opiates, and ſuch Medicines as render the Diſcharge from the Lungs thick, muſt not be uſed without great Caution, and in very ſmall Quantities.

As ſoon as the *Gout* is expelled, and driven upon the Extremities, the Patient is ſurpriſingly relieved, and the Lungs grow eaſy in proportion as the extreme Parts become painful. *Muſgrave* ſays he has ſeen, by this Method, the Cough made tolerable, the Spitting diminiſhed, and at laſt both entirely cured, inſomuch that the Patient has ſoon recovered his Colour, Fleſh, and Strength.

When theſe good Effects begin to appear, thoſe Remedies which expel the *Gout*, and thoſe Topics which invite it to the Extremities, muſt be obſtinately perſiſted in, till the Lungs are entirely free.

As the Lungs are generally left weak, in order to prevent a Relapſe, the Steel Diuretic Waters are excellent, as is alſo a good Air; therefore let them be drank for a Month; or, if that cannot conveniently be done, let half a Pint of Tea be drank every Morning for ſome Months, and let the Patient take a Diet-drink conſtantly, made with pectoral Ingredients, as Ground-ivy, Harts-tongue, Maiden-hair, Fir-tops, Cypreſs-tops, Burdock, Seeds of the Wild Carrot, Juniper-berries, and dried Millepedes. Let this be uſed for the Patient's ordinary Drink.

A Maritime Air is much recommended by *Muſgrave*, becauſe, he ſays, the Sailors are ſeldom affected with a Cough, and very ſeldom die of a Conſumption.

Riding alſo is much recommended, and Frictions of the external Parts, and thoſe pretty ſtrong ones, twice or three times a Day, as alſo large Iſſues upon the Back. *Muſgrave* alſo mentions Chocolate, either with or without the Yolk of an Egg, as a proper Food; and cautions particularly againſt taking Cold, and contracting Catarrhs; to guard againſt which, he orders, during the Winter Half-year; a Decoction to be taken twice a Day of Saſſafras Wood with its Bark, and the Roots of China and Sarſaparilla.

Muſgrave thinks Cyder does Hurt in this Diſorder.

The ARTHRITIC QUINSEY.

Muſgrave ſays this Diſtemper has yet been but very little conſidered by Phyſicians.

It often ſeizes the Patient at the very ſame time with the *Arthritic* Pain in the Joints; and frequently follows ſome little time after a regular Fit.

When it forms an Abſceſs, which diſcharges Pus plentifully, it ſupplies the Place of an *Arthritic* Fit, renders the Patient healthful and chearful, and frees him for ſome time from the *Gout*.

This Quinſey often ends in a Fit of the *Gout*, by a Tranſlation of the *gouty* Matter upon the Extremities, which ſometimes happens by Accident, and ſometimes is procured by Art.

This Species of Quinſey thoſe People are moſt ſubject to, that have ſhort and thick Necks, and moiſt lax and weak Conſtitutions.

Women are not ſo often affected with it as Men; the latter generally have it about the middle Time of Life, the former after the Menſes have for ſome time left them; but in both Sexes, thoſe whoſe Blood is bilious, hot, and thin, are moſt liable to it.

Muſgrave is of Opinion it never happens to any body, unleſs when the Blood is full of the *Arthritic* Matter, and ready to break out into a Fit.

A greater Fever precedes this Quinſey than any other Species of *Anomalous Gout*; this is ſoon after ſucceeded by a Pain, and inflammatory Tumor, in the Fauces, which is ſometimes ſo great as to prevent the Patient from eating, or drinking, or taking his Breath without the utmoſt Difficulty, for three or four Days; ſometimes a great Quantity of Saliva is diſcharged from the Fauces, the Patient has no Stools, and the Blood, when taken away, appears extremely ſizy, even more than in the regular *Gout*.

The *gouty* Matter is frequently transferred from the Fauces, and falls upon the Hand, Foot, Knee, or any other Part of the Body.

If a Nauſea and Sickneſs of the Stomach, Heavineſs, Torpor, and wandering Pains, have preceded this Diſorder, there is great Reaſon to believe it proceeds from a *gouty* Cauſe, when theſe Symptoms happen to a Patient who has been uſed to violent regular Fits at ſtated Times, which have been interrupted for a long time.

The Method of Cure muſt begin with taking away a conſiderable Quantity of Blood: Preſently after give a Clyſter; the next Day give a Purge, which muſt be of the lenient Kind, becauſe of the Fever, already too violent, which would be increaſed by one more ſtimulating.

After the Inteſtines are evacuated by one Purge, they ſhould not be ſtimulated any more for four or five Days, for fear of inviting the *Gout* to them.

After the Operation of the Purge, apply a very large Bliſter to the Neck; twenty-four Hours after, apply to the veſicated Part Melilot mixed with powdered Cantharides, in order to continue the Diſcharge of Serum.

Inciding and aperient Gargariſms are of perpetual Uſe from the very Beginning.

> Take of Barley-water, one Pound; Diamoron, four Ounces; Spirit of Sulphur by the Bell, as much as the Tongue can endure; uſe as a Gargariſm: Or,

> To Honey of Roſes, add Spirit of Salt or Nitre, ſo that the Tartneſs be not too great; let it be kept in the Mouth a little while, and then diſcharged with the Saliva.

But nothing is more effectual, or cauſes a greater Diſcharge of Saliva, than the following Powder:

> Take of Sal Prunellæ, and Sugar-candy, each equal Parts; mix, and let a Scruple of the Mixture be held in the Mouth till 'tis full of Saliva; then ſpit it out, and about a quarter of an Hour, or half an Hour after, let it be repeated, provided the Patient is not aſleep.

'Tis of great Service to receive into the Mouth the Vapour of a Decoction of the following Plants: Mugwort, Sage, Marjoram, Roſemary, Elder, Chamomile, Calamint, and Feverfew.

The next Day but one, or ſooner, if the Symptoms run high, as Difficulty of Breathing, and of Swallowing, Bleeding muſt be repeated in the Jugular Vein, which is ſometimes neceſſary more than once.

If the Throat is in great Pain, apply to it a Cataplaſm of Marſhmallow-roots, Mallow-leaves, and bruiſed Figs, boiled in Barley-water, adding three Ounces of this Magma:

> Take of boiled Onions, one Ounce and an half; Lin half an Ounce; Crums of Bread, an Ounce; O white Lilies, a ſufficient Quantity.

Let the Mouth be frequently gargled with Milk and Wat equal Quantities.

If the Caſe grows ſo deſperate, that the Patient would im diately be ſuffocated without inſtant Help, the Operatio *Bronchotomy* muſt be performed.

During the Uſe of theſe Medicines, all Methods mu uſed to bring the *Gout* into the Extremities. Therefore; Purging, let the Patient be permitted to drink Cyder, W wine, Rheniſh, and ſuch ſort of acidiſh Liquors, and ſ times pretty freely.

Apply to the Joint which uſed to be moſt frequently a ed with the *Gout*, a Plaiſter made of equal Parts of *Oxycro* the *Cephalic Plaiſter*, and *Burgundy Pitch*; or, if more Applications are neceſſary, ſtimulating Cataplaſms.

Bathing the Feet in Water as hot as the Patient can be invites the *Gout* to the Part.

As ſoon as any Tumor is excited, let it be wrapped i Flanel, or double Linen.

As ſoon as a Tumor appears in the Extremities, that o Fauces generally ſubſides; and ſoon after Pain, with al Signs of a regular *Gout*, returns, and the Patient ſoon ge of the Quinſey.

If a *Vomica* ſhould be formed in the Throat, and brea Emollient and Suppurative Gargariſm muſt be uſed; fo ample, of a Decoction of Barley, Liquorice, and Figs after that, one moderately reſtringent. Mean time, let the ent live on Gruel, Barley-water, and ſuch ſort of thin Ali In the Day-time, let him abſtain from lying on the B much as poſſible. When he is in Bed, let his Head be elev When he is up, the Legs ought to hang down.

When the Caſe is over, let the Cure be finiſhed with ent Purge.

The Cyder that is drank in this Diſorder, ſhould be ge and rough, ſuch as that of *Devonſhire*.

Muſgrave ſays, that of all the Patients he has ſeen labo under this Diſorder, all but one were young Men.

This Author ſometimes allows a Pint or two of Cy twenty-four Hours.

The ARTHRITIC HEAD-ACH *and* VERTIGO.

An *Arthritic* Head-ach generally ſeizes thoſe who hav *gouty* for many Years, and who, being now paſt the M of Life, indulge themſelves too much in eating and dri and, at the ſame time, uſe but little Exerciſe, and hen come plethoric and groſs. People that are full of Bloo moſt of all ſubject to this Diſorder, eſpecially if they ſhort Necks.

This Head-ach is frequently preceded by the Signs of proaching Fit of the *Gout*, which laſt for ſome Days, an end in a regular Fit: But the *Gout* then receding, or be languid, an Head-ach enſues, which laſts for many W and ſometimes Months; and at laſt ends in an Apoplex leſs the *Gout* is transferred to the Extremities, or, a removed from the Head; and, indeed, it ſeldom ends, ex a regular Fit, or an Apoplexy.

The Pain is ſometimes not very great, but of long C ance; ſometimes exceſſive and intolerable, ariſing alm Delirium.

Sometimes the Patient complains of the Head-ach only 'tis commonly accompanied with a Vertigo, and ſom with a Noiſe in the Ears, Difficulty of Breathing, Pulſe, wandering Pains in the Limbs, and a florid Co the Face; all which Symptoms vaniſh as ſoon as the gou ter, falling upon the Extremities, cauſes a regular Fit.

An *Arthritic* Vertigo exactly agrees with an *Arthritic* ach; the ſame ſort of People are principally ſubject to has the ſame Cauſes, is accompanied with the ſame Acc and is in like manner cured by a regular Fit.

A Vertigo is ſometimes ſlight, and a Sign of an appro Fit, ceaſing when the Fit becomes regular. But 'tis ſom very troubleſome, inſomuch that the Patient can ſcarcel without falling.

This in a little time ends in an Apoplexy, if a reg does not happen time enough to prevent it.

Muſgrave ſays, he never knew an *Arthritic* Vertigo te in an Epilepſy, which is very common in one of the Kind.

The Cure muſt begin with Bleeding in both Caſ of a Head-ach, or Vertigo; eſpecially when accompa Dimneſs of Sight, Redneſs of the Face, and Pulſatio Temporal Artery, which threaten an Apoplexy. But *Arthritic* Diſorders, ſo in this, regard muſt be had to th ſo that we are not to bleed ſo much, and ſo often, a Diſtempers when the *Gout* is not in the Caſe. This me fore be regulated in ſuch a manner, that enough may

y to relieve the Head, and no more, for fear of preventing
Expulſion of the *Gout* to the Extremities.

ometimes the *Gout* begins to be felt in the Joints, imme-
ly after Bleeding.

f there is any Complaint of Sickneſs at the Stomach, it may
proper to waſh it with a Decoction of Tea, or Carduus
et-drink, taken by way of Vomit.

urge with Pilulæ Ruffi, the leſſer Pilulæ Cochiæ, or the
læ ex Duobus, with an Addition of ſome few Grains of
n of Jalap, very ſoon after Bleeding or Vomiting, if that is
ght neceſſary.

Conſtitutions which are eaſily purg'd, a Solution of Ca-
tic Salt in Water, or the *Alford* Waters, are ſufficient.

ne Purge is not always enough, when its Operation is but
le, or the Conſtitution is much loaded; it muſt therefore
peated in ſuch a manner, as to anſwer the End of removing
Gout from the Head to the Extremities.

fter Purging, the Patient very frequently begins to feel Pain
he Extremities; but if he does not, we muſt proceed to
Medicines as remove the *Gout* into the Joints; but theſe
be uſed with great Care and Caution, leſt, inſtead of an-
ing the Deſign, they ſhould drive the Blood, and with it
outy Matter, more forcibly into the Head, increaſe the Diſ-
, and deſtroy the Patient. Therefore, we muſt abſtain
powerful Chalybeates, and ſtrong Podagragogues, and ſub-
e the following Cephalics in their room; but even theſe
not be uſed, till the Heat has been much reliev'd by Bleed-
nd Purging.

oper Cephalics, in this Caſe, are red Coral, ſimple or com-
d Powder of Crabs-claws, and white Amber: Theſe, and
of this Claſs as are yet milder, may be taken by them-
, or made into the Form of a Bolus, with Conſerve of
mary-flowers, Flowers of Betony, Syrup of Stœchas,
e Syrup of Piony; or they may be made into Pills, with
ct of Gentian, together with Powder of Dittany of *Crete*,
r, or Piony-ſeeds.

er plentiful Evacuations, three or four Grains of Salt of
or even *Alcohol Martis*, may be added to theſe Medi-
and repeated every ſix or eight Hours.

er each Doſe, let the Patient take a Draught of a Julap
of the ſimple and compound Waters of black Cherries,
-tree-flowers, and Piony, with compound Spirit of La-
r: Let him take, once in the Intervals, a few Drops of
incture of Amber; or, if the Fever does not run high, of
irit of Sal Volatile Oleoſum, or Hartſhorn, in an Infu-
f the Tops of Sage, Roſemary, or Tea.

theſe may be added the Species Diambræ, without the
nes, or its Tincture.

fee is very good, eſpecially if made with an Infuſion of
Cephalic Plant.

like manner in an *Arthritic* Vertigo, after Evacuations,
llowing Medicines may be taken alone:

der of Rue-ſeeds, Male Piony, Caſtor, Valerian-root,
Vild Cypreſs, Winter's-bark, Orange-peel, compound
owder of Roſemary-flowers, Species *Diamoſchi dulcis*;
ſome of theſe may be made into an Electuary, with
onſerve of Piony-flowers, or Syrup of Piony, or Syrup
Nutmeg candied in the *Indies*.

may alſo be given, made of the *Pulvis de Gutteta* and
neris, with Extract of *Calamus Aromaticus*, or a Solution
fœtida.

theſe may be added Salt of Steel, or Salt of Amber; and
ay be taken every ſix or eight Hours, in a moderate
that is, in ſuch a manner that the Spirits may be reliev'd,
diſturb'd thereby.

each Doſe of theſe, a Draught of the Cephalic Julap
be taken.

he Intervals let one Doſe of the above-mention'd Infu-
taken, with ſome Drops of Tincture of Amber.

s, apply'd to the Noſe, are alſo of Service, as Spirit
Ammoniac, with Salt of Tartar, Caſtor, and *Aſa-*

gs of a grateful Flavour have alſo ſometimes a good

grave adviſes to anoint the Temples and Noſtrils with
owing Balſam:

of the Chymical Oils of Roſemary, Lavender, Mar-
am, Thyme, Origanum, Hyſſop, each one Scruple;
ls of Cinnamon, Oranges, Angelica, and Rue, each
Dram; Oil of Amber, half a Dram; Oil of Cloves,
f a Scruple; Oil of Nutmegs, by Expreſſion, four
nces; Ambergriſe, two Drams; Muſk, one Dram;
lſam of *Peru*, five Drams: Let the Ambergriſe and
uſk be laid upon a Marble; let them be moiſten'd with
Oils, and levigated with the Stone for that Purpoſe,
they are reduced to a Maſs of the Conſiſtence of Poma-
n, To this Mixture add ſome *Peruvian* Balſam, and
continue the Levigation for half an Hour: Thenadd the Oil of Nutmegs by Expreſſion, and continue the Trituration for an Hour longer. Let this fragrant Cephalic Balſam be preſerv'd for Uſe in a Phial.

After theſe Cephalic Medicines have been taken for a Day or two, in either of theſe Diſorders, apply to the Joint commonly affected ſome ſtimulating Topic, as a Plaiſter, made of two Parts of Gum Caranna, one Part of yellow Wax, and a ſufficient Quantity of the Oil of Worms: But if this is not ſufficient, and the Diſorder of the Head ſtill remains, or increaſes, we muſt proceed to Sinapiſms, Veſicatories, Flannel, and Ligatures.

Muſgrave is of Opinion, that cooling Emulſions and Decoctions, Narcotics, cooling Embrocations, Epithems, and waſhing the Head with cold Water, are dangerous in this Caſe, tho' they may be of Service in Diſorders of this Kind from another Cauſe.

He alſo diſapproves of applying Leeches to the Hæmorrhoidal Veins, for fear of an Inflammation or Fiſtula.

By way of Precaution, and to hinder a Return of the Diſorder, it would be proper to apply a Bliſter ſometimes to the Neck or Arm, to bleed in the Spring, to take a Purge every Month, and always to avoid being coſtive, and to keep the Feet very warmly cloath'd.

Thoſe that are ſubject to theſe Diſorders, ſhould religiouſly abſtain from Errhines, from ſleeping after Dinner, and from hard Drinking.

An ARTHRITIC APOPLEXY.

Gouty People, who have been ſo for many Years, have ſhort and thick Necks, who begin to grow old; and particularly thoſe who indulge themſelves in Eating and Drinking, and become plethoric, after leaving off ſome accuſtom'd Exerciſe, are moſt ſubject to an *Arthritic Apoplexy*; which happens when a regular Fit of the *Gout* is interrupted, or deferr'd too long, or elſe is not ſufficiently violent to carry off the *gouty* Matter.

The Cure of this Diſtemper is different from that of a genuine *Apoplexy*.

The Signs of an approaching *Arthritic Apoplexy* are, a Head-ach, or Vertigo, or both together; the Head is heavy, the Face is bloated and red, the Tongue faulters often, the Motions of the Patient's Body are diſorderly, and his Steps unequal; and if the Diſorder increaſes, he is ſuddenly deprived of all Senſe and Motion, and his Eyes become greeniſh, as if he was dead: A Stertor and Snoaring, and all the other Symptoms of a genuine *Apoplexy*, attend this, ſo that its *Arthritic* Nature muſt be diſcover'd by adverting to the State of the Conſtitution, and conſidering what Sort of *gouty* Paroxyſms have preceded.

Tight Bandage about the Neck very much contributes to keep the Blood in the Head, and cauſe an *Apoplexy*, eſpecially when People are full of Drink: Theſe People, therefore, when they go to Bed, ſhould have the Collars of their Shirts unbutton'd.

An exceſſive Uſe of Opiates and Errhines contributes much to this Diſorder; as does alſo whatever repels the Gout from the Extremities.

The Spring and Autumn favour the Production of an *Arthritic Apoplexy*.

If a right Method of Cure is apply'd, many Patients recover of this Diſtemper; and afterwards enjoy a much better State of Health, than thoſe who recover of a genuine *Apoplexy*, eſpecially if they become regular, temperate, and ſober.

The proper Method of Cure conſiſts in relieving the Brain by Evacuations and Revulſion, and removing the Gout to the Extremities; at the ſame time removing all Obſtacles which may prevent a regular Fit, as Shoes or Stockings that are too tight. Bleed therefore immediately, to twelve, fourteen, or ſixteen Ounces, according to the Strength and Conſtitution of the Patient.

Immediately after give a Clyſter of human Urine; or the common Decoction for Clyſters, with common Salt, or roſated Aloes, or ſome other ſtimulating Ingredients.

Soon after this give a ſtimulating Purge, as half a Dram or two Scruples of the Counteſs of *Warwick*'s Powder; or elſe one Scruple of the Extract of *Rudius*; between ſix and ten Grains of the Reſin of Jalap; of Elixir Proprietatis, a ſufficient Quantity to form into Pills; or three Ounces of the purgative bitter Decoction; or one Ounce, or an Ounce and an half, of the Syrup of Buckthorn.

If the Purge does not work briſkly in three or four Hours, let a Clyſter be repeated.

During all this time let the Patient be kept in an erect Poſture.

After Purging repeat Bleeding, either in the Arm or Neck.

Cupping betwixt the Scapulæ is of great Service.

After theſe Evacuations, apply to the Joint that has lately been painful, ſome powerfully ſtimulating Plaiſter, as, for Inſtance, that made of *Burgundy* Pitch and *Venice* Turpentine;

or the Cephalic Plaiſter, with Euphorbium: Mean time keep the whole Limb extremely warm with Flannels.

Muſgrave relates, that he has known exceeding great Effects from keeping the Feet a conſiderable time in Water, as hot as the Patient could poſſibly bear it; for by this means he was ſaved, tho' before, in all Appearance, expiring.

If this Method does not relieve the Patient, apply a Bliſter to the Neck, to the Sinciput, or all over the Head, after it has been ſhav'd, and let it lie on four or five Days.

Apply alſo Bliſters to the Ankles, if the Gout uſed to appear principally in the Feet; or to the Arms, if the Hands were uſually affected.

If the Patient is extremely ill, a Cupping Glaſs ſhould be apply'd to the Neck, or to that Part of the Head where the Lambdoidal and Sagittal Sutures meet, if the back Part of the Head is moſt affected; or, if the fore Part of the Head, to the Place where the Sagittal and Coronal meet.

But if none of theſe Applications are thought neceſſary for the Head, it ſhould at leaſt be ſhaved, and rubb'd well, in order to relax the Skin; and a Cumin Plaiſter ſhould be worn upon it, in order to increaſe the Perſpiration of the Part.

But if the Diſorder ſtill continues, it will be ſerviceable to make uſe of ſuch Errhines as draw the Serum from the Noſe, without making the Patient ſneeze, which in this Caſe is dangerous.

The Patient ſhould frequently chew in his Mouth acrid Plants, which cauſe a great Diſcharge of Saliva: For this Purpoſe,

> Take of the Shavings of Horſe-radiſh, and bruis'd Muſtard-ſeed, each half a Dram; Powder of Pellitory of *Spain*, one Dram: Mix up with Honey, and put the Whole in a Piece of Muſlin. This the Patient muſt ſqueeze between his Teeth, and diſcharge the Spittle as 'tis generated in his Mouth.

Mean time, whilſt theſe Evacuations are making, the Patient ſhould frequently take a Doſe of Spirit of Sal Volatile Oleoſum; or Spirit of Hartſhorn ſuccinated, with a Cephalic Julap; or a Doſe of Pills ſhould be taken twice or three times a Day, made of the *Pulvis ad Guttetam* and Caſtor, reduced to a Maſs fit for Pills, with Oil of Amber, and a Solution of *Aſa-fœtida*.

Theſe raiſe the Spirits, at the ſame time that they contribute to expel the Gout; but ſhould never be uſed without plentiful Evacuations preceding.

If theſe Remedies are not ſufficient to bring the *Gout* to the Extremities, we muſt proceed to the moſt ſtimulating Cataplaſms.

As ſoon as any Tumor or Pain appears in the Extremities, we muſt endeavour to keep it there, and hinder a Retroceſſion. To this End, a Bliſter muſt be apply'd to the Part, which muſt be kept running a conſiderable time by Melilot, mix'd with Cantharides, if neceſſary. Mean time let the Part be kept extremely warm, with Flannel and Woollen Rollers; and let the Foot, if that Part is affected, be kept all Day in a declining Poſition.

Violent Frictions of the Extremities, apply'd twice or thrice a Day, are of the utmoſt Importance.

The *Gout* appearing in the Extremities is the moſt happy Circumſtance that can happen; and then, and not till then, ſome gentle Podagragogues may be given, that is, when we perceive the Courſe of the *gouty* Matter to be alter'd, and there is no longer any Danger of driving it more forcibly upon the Head.

The Counteſs of *Kent*'s Powder, in the Quantity of a Scruple, every ſix or eight Hours, is a proper Medicine in this Caſe. And to this may be added, once a Day, or, in a phlegmatic Conſtitution, twice, five Grains of *Alcohol Martis*.

But if by any means the *Gout* ſhould be repell'd from the Extremities, or the Head ſhould ſuddenly grow worſe, theſe Podagragogues muſt immediately be left off, and recourſe muſt be had to ſtimulating topical Applications, and the above-mention'd Medicines, which contribute gently to raiſe the Spirits.

During the Uſe of theſe Remedies, let the Patient's Diet be extremely low; let him live, for Example, on Chicken-broth, Gruel, or Panada, with Currans or Raiſins: Chocolate may ſometimes be allow'd. Inſtead of ſmall Beer let the Patient drink Cyder, Wine and Water, and Infuſion of Tea, or Sage, or Clove-gilly-flowers.

Nothing is more dangerous than full Meals, eſpecially in the Evening.

As to Stools, let the Patient be kept in a moderate way; for too many may invite the *Gout* to the Inteſtines, and Coſtiveneſs oppreſſes the Head.

By way of Prevention, nothing is more ſerviceable than Scapulary Iſſues, Country Air, and purging Spring and Autumn, and bleeding in the Beginning of *October*, in ſtrong Conſtitutions.

But the beſt Preſervative is to keep the *Gout* to regu
Fits.

There is another Sort of the *Arthritic Apoplexy*, which *M*
grave calls Symptomatic, whoſe Cauſe is in the Stomach
Inteſtines. This, he ſays, muſt be cur'd by Vomiting
Purging, by Medicines exciting the Spirits, and which ex
the Gout.

The ARTHRITIC PALSY.

The *Arthritic* Matter, ſometimes falling upon the Origin
the Nerves, cauſes a Palſy of the reſpective Parts to which t
belong; and that more particularly in ſuch *gouty* Conſtituti
as incline to a Plethora.

A moiſt and fenny Air, a ſedentary Life, a bad Regimen
frequent Uſe of Opiates, and of Spirituous Liquors, immo
rate Venery, Cold, too frequent Uſe of warm Medicines
hot and bilious Conſtitutions, or whatever hinders the G
from falling upon the Extremities, or repels it when there,
the uſual Cauſes of an *Arthritic Palſy*.

The Nerves of the Tongue are ſometimes affected, and t
the Patient loſes the Uſe of his Speech, or can utter but
Words confuſedly.

If that Branch of the *Par Vagum* that belongs to the S
mach is affected, the Patient loſes his Appetite and Digeſt
and has an Averſion to all Aliment; inſomuch that he
waſtes, and inſenſibly becomes tabid.

This Caſe *Muſgrave* ſays he has known happen in *Art*
tic Conſtitutions, where there has been alſo a Plethora;
from theſe Cauſes firſt an *Apoplexy*, then a *Palſy*.

When an *Arthritic Palſy* happens in bilious Conſtitut
eſpecially when it follows a bilious Colic, the Patient loſe
Appetite, his Fleſh waſtes, the Skin does not perſpire, b
dry, and of an ictericious Colour, as are particularly the W
of the Eyes.

Sometimes one Side only, or one Member, is affected, a
Tongue in particular: Sometimes the Diſtemper is accomp
with convulſive Motions, and 'tis ſometimes without: S
times the Palſy is imperfect, and only renders the Parts it
on unwieldy, and unfit for Motion; ſometimes 'tis pe
and renders them entirely uſeleſs and immoveable.

This Diſorder is very difficult to be cured, eſpecially w
ſucceeds an *Apoplexy*; and, if the *Apoplexy* returns, 'tis ge
ly fatal; however, if a right Method of Cure is purſued
Patient ſometimes recovers, beyond all Expectation.

If the Pulſe is full, and the Patient inclin'd to a Ple
begin the Cure by Bleeding, either in the Arms or J
Vein, or by Cupping, with Scarification upon the Back.

A few Hours after Bleeding give a Clyſter. Purging i
petually uſeful; but the Purges ſhould be of the ſtimu
Kind, capable of exagitating the Blood, and removin
Gout to the Extremities.

As ſoon as ever an *Arthritic Palſy* ſeizes the Patient,
to the Joint, which uſed to be moſt affected with the *Go*
Apoplectic Cataplaſm of *Bates*, *Fuller*'s Cataplaſm of
radiſh, or ſome other equally ſtimulating.

As ſoon as the Tendency of the *gouty* Matter is chang'd
the Head towards the Extremities, and not before, the P
may take ſome gentle Podagragogues, as *Gaſcoign*'s Powd
the Purple Powder, twice or three times a Day, with a D
of a Cephalic Julap.

As ſoon as any Tumor appears in the Extremities, ap
it a Veſicatory.

'Tis proper alſo, in this Diſorder, to apply an Epiſpa
the Neck; and to the Head, after ſhaving, the Cumin P
or ſome other drawing Plaiſter; but not till after gener
cuations.

Gargariſms, which cauſe a great Diſcharge of Saliva,
be uſed; and a very thin Diet muſt be injoin'd.

Mean while, let the Patient take, from time to time,
of volatile Spirits, Tincture of Caſtor, or of Amber
Draught of a Cephalic Julap, or an Infuſion of Roſem
Sage.

When the *gouty* Matter is much fix'd upon the Nerv
neceſſary to attenuate it by Decoctions of Guaiacum,
the Wood and Bark of Saſſafrax, by Preparations of St
Frictions, Baths, Embrocations, proper Cloathing, Lin
Cerats, and Plaiſters, as in a genuine Palſy.

Muſgrave recommends a Decoction of the Bark, wi
lybeates, as a Thing he has known of great Service.

Muſgrave alſo directs us to examine diligently, whe
Patient is hot or cold; whether the *gouty* Poiſon is
pany'd with a Viſcidity of the Blood, or not; or whe
join'd with a Redundancy of Bile, as in the Caſe of an
tic Palſy, immediately following a bilious Colic, of w
gives an Inſtance.

In the laſt-mention'd Caſes, warm Medicines, t
Quantities, for any time, make the Patient unquiet,
and deprive him of Sleep; nor is he, in the leaſt,
made ſtronger by their Uſe; but, on the contrary,
weaken'd and diſturb'd.

ſuch Caſes, therefore, the Author recommends *German* , or *Briſtol* Water, as Things of great Efficacy, if drank ; and, he ſays, other Chalybeate Waters may have the good Effects : And if Chalybeates are added to theſe at proper Times, and in proper Doſes, he ſays, the Cure of ſuch Diſ- rs is perform'd very agreeably, and with great Certainty.

way of Prevention, nothing has ſo good an Effect, as uring regular Fits of the *Gout* ; for the more the Extremiare in Pain, the leſs the nervous Syſtem is affected.

herefore, as ſoon as there are any Signs of the *Gout* nding in the Blood, if nothing contra-indicates, let the nt take a Draſtic Purge ; and afterwards, twice or three a Day, five Grains of *Alcohol Martis*. A few Days after, ſome ſtimulating Topic to the Joints, in order to invite *Gout* thither.

ean time, the Patient muſt never be ſuffer'd to be coſtive. muſt alſo keep Iſſues perpetually running in the Arms, or the Back.

GULAR ARTHRITIC PAINS *in the* BODY ; ARTHRITIC OPHTHALMY, ERYSIPELAS, *and* ACHORS.

is common enough for a *gouty* Perſon to feel wandering in the Back, Loins, Scapulæ, Sternum, and external of the Head, which affect him for ſome time, and remove elſewhere ; inſomuch that theſe Pains are frely miſtaken for a Rheumatiſm. But ſometimes theſe Pains in a conſiderable Time in the ſame Part, and give the Pa- a great deal of Uneaſineſs ; and this happens frequently Loins, affecting the Patient as if he had the Stone in idneys. The Seat of the *gouty* Matter upon this Occas the Spina Dorſi, and its Membranes ; and it ſeldom ns but in Conſtitutions worn out with Age and the *Gout*, ot able to throw out a regular Fit.

e *Gout* will alſo fall ſometimes upon the Tunica Adnata e Eye, and cauſe an *Ophthalmia*, which immediately vas as ſoon as a regular Fit of the *Gout* appears in the Extre- .

uſgrave relates, that he knew an old *gouty* Patient, who e ſuperior Palpebra in very great Pain for a whole Month ore, which diſappear'd upon a Fit of the *Gout* immey following.

e ſame Author ſays he has known an Eryſipelas termin the *Gout* ; from whence he infers, that it was caus'd *Arthritic* Matter.

ſome *Arthritic* Conſtitutions, when the Fits are too mild nterrupted, the *gouty* Matter is evacuated by the Ears, others by *Achores* only, without any Appearance of it Joints.

all theſe Caſes, the Danger is much leſs than when the Matter fixes upon the internal Parts, and affects any of iſcera ; and they are attended with theſe Advantages, hey very ſeldom recede, and fall upon the Viſcera ; but y often transferred to the Extremities, and cauſe a regu- t.

e ſame Method of Cure is requir'd in all theſe *gouty* Diſ-

e firſt Step to be taken therefore, if they are violent, is d ; and after that to give an Aloetic, or ſome other Drarge, that the *Arthritic* Matter may in part be evacuated, part be removed to the Extremities.

r theſe general Evacuations, *Muſgrave* adviſes to do no unleſs the Pain is very violent ; and in this Caſe, the may endeavour to evacuate the *Arthritic* Matter, or to it to the Joints, by Sweating ; and to this End let him l cover'd with Bed-cloaths ; or let him take Spirit of orn, Venice-treacle with Gaſcoign's Powder, the Pul- er Exonienſis, or ſome ſuch Cordial with Roſemary -drink.

ſe Cardiacs are proper in fixed or wandering Pains, n Eryſipelas.

n *Ophthalmia* ſhould grow worſe after Evacuations, *ave* adviſes the following Collyrium :

e the White of an Egg, beat it, dilute it in Roſeater, and add ſome Grains of Camphire ; make into a ollyrium, a few Drops of which muſt be put into the yes every Morning, and let a Linen Cloth ſoaked in it apply'd to the Eyelids twice or thrice a Day. Lapis alaminaris, or Lapis Tutiæ, may very properly be added the Collyrium, provided they are duly prepared.

or the above-mentioned Achores, they are to be treated ſame manner as others, which are not from a *gouty* but *Muſgrave* ſays they are ſo ſafe, and even uſeful, would not adviſe any Attempt to procure a Pain in remities upon this Account.

n ARTHRITIC EPIPHORA, *and* TOOTH-ACH.

Steph. Strobelbergerus wrote a Treatiſe *De Podagrâ* n.

Sometimes the *gouty* Humour falls upon the Glands in the Orbits of the Eyes, and cauſes a Diſcharge of ſharp Serum from them :

And ſometimes upon the Gums and Membranes which ſurround the Roots of the Teeth, and cauſes violent Pain. Theſe ſometimes happen after the Gout has been repell'd from the Extremities, and ſometimes end in a regular Fit.

If theſe Diſorders become conſiderable, bleed in the Jugular Vein rather than in the Arm. Then give a Draſtic Purge the next Morning. After this, lay an Epiſpaſtic to the Neck ; and when that is taken off, apply ſome ſtimulating Ointment to the veſicated Part, in order to continue the Diſcharge.

But if, notwithſtanding theſe Remedies, the *Gout* continues in the Part, we muſt proceed to uſe thoſe Medicines which force it, and thoſe Topics which draw it to the Extremities.

In an Epiphora, *Muſgrave* recommends Woman's Milk, which he adviſes to be put into the Eye ; or a Collyrium of the Mucilage of Flea-bane and Quince-ſeeds made with Roſe-water, or Plantain-water, with the white Troches of Rhaſes.

In caſe of Pain in the Teeth, the ſame Author adviſes a Gargariſm, that will cauſe a Diſcharge of Saliva.

If 'tis abſolutely neceſſary to pull out the Tooth, the ſame Author adviſes to gargle the Mouth with Spring-water, Honey of Mercury, and common Salt ; and after this he directs that the Tooth ſhould be put into its Place again, which he ſays will become more uſeful for having been drawn.

MISCELLANEOUS OBSERVATIONS.

When the *Gout* ſeizes upon any of the Viſcera, or other Part, it exactly imitates the genuine Diſtemper which the Part is ſubject to, ſo as to be diſtinguiſhed from it with Difficulty.

The *Gout* ſeldom deſtroys any body without becoming firſt anomalous.

People are frequently for a long time in a bad State of Health, and complain of Pains in the Shoulders, Breaſt, Back, and Loins, like thoſe of the Rheumatiſm ; ſometimes of Diſorders in the Head, like Hyſterics, and at other times of Diſorders that ſeem to be Scorbutical ; all which at laſt terminate in the Gout.

Muſgrave calls that *Gout Symptomatic*, which derives its Origin, and proceeds from ſome other Diſtemper, as the Rheumatiſm, Venereal Diſeaſe, Dropſy, or Scurvy.

Having given an Account of the Treatment due to the *Regular*, and the ſeveral Species of the *Anomalous Gout*, it remains that I ſay ſomething with reſpect to the Cauſes of this obſtinate and excruciating Diſtemper.

Sydenham, as we ſee above, and after him *Boerhaave*, and moſt Authors who have written intelligibly on the Subject of the *Gout*, are of Opinion, that its original Cauſe is *Indigeſtion*. And yet this Diſeaſe, when not hereditary, generally attacks thoſe whoſe Conſtitutions are robuſt and good, whoſe Appetites are keen, and who have at leaſt the Appearance of digeſting their Aliment very regularly. Hence it may be aſked, How it happens, that ſuch People have the *Gout*, whilſt others, who are of a weak Habit, whoſe digeſtive Organs are lax and unbrac'd, and whoſe Digeſtions are manifeſtly performed with leſs Vigour, ſhould be ſo fortunate as to eſcape it.

In order to reconcile theſe ſeeming Contradictions, and give a clearer Idea of the *Gout*, than moſt People ſeem to have form'd, two Things are principally neceſſary to be adverted to.

The firſt is, That there is in animal Bodies *a decreaſing Series of Veſſels* deſtin'd to convey Juices to the ſeveral Parts. Phyſicians know what I mean by a *decreaſing Series of Veſſels* ; but that I may not be miſtaken by others, I ſhall explain it farther.

Suppoſe, then, the Veſſels whoſe Diameters are largeſt, are deſtin d to convey the red Globules of the Blood, (and together with theſe, all the other Parts of the circulating Fluid) which are either reconvey'd to the Heart by correſpondent Veins, when they arrive at Veſſels whoſe Diameters are too ſmall to receive them ; or, perhaps, being divided into ſeveral Parts, till at laſt they become tranſparent, circulate forward in the next Series of Veſſels, which we may conceive adapted to convey Serum. The next may poſſibly be capable of receiving Lymph ; the next a Fluid ſtill finer, till at laſt the moſt minute Veſſels in the Body may convey a Fluid conſiſting of finer Particles than we can form any Idea of, as not being the Objects of our Senſes.

That this is in ſome meaſure the Caſe, is certain, becauſe, if red Globules of Blood were to circulate in the Humours or tranſparent Membranes of the Eye, Viſion could not be performed ; as we find it is not, when thro' an *Error Loci*, as *Boerhaave* very properly calls it, ſuch Particles get into the Veſſels of the Parts not adapted naturally to receive them.

Thus, alſo, if a Part furniſh'd with Veſſels which convey theſe red Globules is wounded, red Blood is extravaſated ; but wound a Tendon, and nothing but a fine *Lymph* or *Ichor* ſhall be diſcharged.

The ſecond Thing I would have attended to is, that a great deal of Earth reſides in the circulating Fluid, which I believe nobody will diſpute. It will be of ſome Importance in our preſent Inquiry to trace this Earth from its Source, the Ground to its Entrance into the Blood, after having obſerv'd, that human Bodies, as well as thoſe of other Animals, are nouriſh'd either by Vegetables, or by Animals, which gain their Suſtenance from the Soil.

In the Aſhes of all Vegetables we find a great Quantity of pure Virgin Earth, which, when perfectly freed from the adhering Salts, is neither capable of being alter'd by Fire, nor diſſolv'd by Water; and yet, without ſuch a Solution, it is inconceivable how this Earth could paſs thro' the extremely minute Pores of the Roots, circulate in the Sap, and contribute to the Formation of the Vegetable. It is therefore highly probable, that this Solution is brought about by ſome means, which it is not our Buſineſs at preſent to inquire into: But, for Information in this Particular, ſee the Article Acetum.

When Vegetables are taken into the Stomachs of Animals, the Earth which they contain, or at leaſt a Part of it, muſt neceſſarily undergo a ſecond Solution, otherwiſe it could not enter the minute Orifices of the lacteal Veſſels, circulate with the Fluids, and ultimately be converted by the vital Powers into Nouriſhment for the ſolid Parts of Animals: And that it does actually enter the Lacteals, circulate with the Fluids, and is converted into Nouriſhment, is certain, becauſe we find a great Quantity of this Earth both in all the Solids and Fluids of Animals, which is not convey'd thither by Magic.

If Animal Subſtances are taken by way of Aliment, the contain'd Earth muſt undergo a third Solution, perhaps more difficult to be brought about than the former two, as the Parts of Animals cohere more ſtrongly than thoſe of ſuch young Vegetables, as are generally us'd in Food.

This Solution of the Earth in Animal and Vegetable Subſtances, is made by the *Powers of Digeſtion*; and if theſe are vigorous, and perform their Duties regularly, the Maſs of Blood is ſupply'd with freſh Chyle, ſuited to perform all the Offices requir'd by the Animal Œconomy.

But if the Powers of Digeſtion are defective, this Solution is imperfect in proportion; inſomuch that if the Aliment be ſcarcely diſſolved at all, it is either diſcharg'd by Vomit, or paſſes off by Stool little alter'd, as it happens in a *Lientery*.

Again, let us ſuppoſe the Bile viſcid and unactive, and conſequently incapable of completing, by its ſaponaceous Quality, the Solution begun in the Stomach; ſo that the Aliment is not comminuted ſufficiently to ſupply Chyle fine enough to circulate thro' the Lungs; in this Caſe, Difficulty of Breathing will be the Conſequence, as it happens in a *Chloroſis (Green-ſickneſs)*; and as in this Caſe the Chyle is farther deprived in a great meaſure of the Action of the Lungs, which was neceſſary to comminute it, and convert it into good Blood, the Blood hence form'd is too groſs to circulate thro' the Glands; and the ſuperfluous Water, which ought to be carry'd off by the proper Emunctories, remains in the Maſs; and hence Obſtructions in the Glands, and Dropſies.

It would, perhaps, be ſomewhat difficult to trace the Aliment thro' all the different Degrees of Solution, and account for all the various Diſorders caus'd by the Stagnation thereof in the different *Series* of Veſſels. It ſuffices for my preſent Purpoſe, that whenever any Particles of the Blood, that is, of the diſſolved Aliment, arrive at a Series of Veſſels, whoſe Diameters are leſs than their own, they muſt there ſtagnate, unleſs they are capable of being divided into ſmaller Particles.

Now, with reſpect to the *Gout*, let us ſuppoſe a Man in full Vigour, who eats and drinks with Appetite, and by the Help of due Exerciſe preſerves a Tone and Elaſticity in the Organs of Digeſtion, ſufficient to diſſolve his Aliment effectually. Suppoſe alſo this Perſon on a ſudden leaves off, either in part or totally, his habitual Exerciſe, and that his Appetite does not diminiſh in proportion to the Powers of Digeſtion. It may happen in this Caſe, that the Aliment may be ſufficiently comminuted for moſt of the Purpoſes of the Animal Œconomy, whilſt the Earth is not ſo perfectly diſſolved as to circulate freely thro' the remote *Series* of Veſſels, which convey Juices to the exanguious Parts, or Parts which are nouriſh'd by Lymph, Ichor, or ſome finer Fluid; ſuch are the Tendons, Ligaments, and nervous Membranes. When, therefore, the partially diſſolv'd Portions of Earth arrive at very remote Veſſels, whoſe Diameters are ſmaller than their own, they there ſtagnate, being hard and incapable of farther Diviſion, and diſtend the extremely ſenſible nervous Fibres; being alſo impell'd by the ſucceeding Fluid, they are driven againſt, cut and tear the nervous Fibres, and are productive of that exceſſive Pain, which *gouty* People are too ſenſible of in the Paroxyſms of that Diſtemper.

When a ſufficient Quantity of this obſtructing Earth has, in repeated Fits of the *Gout*, been fix'd upon the Part, the Tendons and Ligaments grow ſtiff and immoveable; and by Degrees the obſtructing Matter works thro' the Integuments, and appears in its proper and original Form, that of *Earth* or *Chalk*.

If this obſtructing Matter ſhould be repell'd, or hinder'd f fixing on the Extremities, by Deſign or Accident, it may impell'd upon the nervous Membranes of the more noble gans, and cauſe the Diſorders peculiar to each reſpective P in the manner ſpecify'd above.

Hence we may underſtand the Reaſon why the *Gout* been in all Ages eſteem'd incurable; that is, becauſe the C reſides in very remote Veſſels, in a great Degree out of Sphere of the Operation of Medicines.

Hence alſo, according to the Syſtem of *Sydenham*, if the geſtive Organs are ſtrengthen'd by warm Aromatics, the F of the Circulation is increaſed, and the *gouty* Matter is imp with greater Force upon the Extremities, and conſeque with a greater Degree of Pain. On the contrary, if the Di is treated with cooling Remedies, the digeſtive Organs are lax'd, and a Foundation is laid for a greater Store of the *thritic* Matter.

That this ſhort Theory of the *Gout* may not appear utt barren, I muſt farther remark, that alcaline Salts are the Subſtances known in Nature, which afford a Menſtruum pable of diſſolving Earth. Thus alcaline Salts of all K diſpoſe the Earth to a Solution ſufficient for a ſubſequ Vegetation, and promote remarkably the Fertility of Soil.

It is therefore in alcaline Salts, that a Remedy for the muſt be ſought for; and if any one can render thoſe ſu ently penetrating, to reach into the remote *Series* of Veſ where the material Cauſe of the *Gout* reſides, and to att ate it in ſuch a manner, as to make it capable of perſpi thro' the Pores of the Part affected, he will be able not to cure a preſent Fit, but to weed it ſo far out of the Co tution, as to render it very little, if at all, troubleſome fo future.

I muſt not omit taking Notice of a Topic for the *Gout* which I had an Account from a Gentleman of Honour Fortune, which gave me much Pleaſure, as he had us'd it ſelf for many Years with great Succeſs, and recommended many of his Friends, who had found much Relief from Uſe of it.

The Receipt is thus:

> Take an Earthen Pot, capable of containing five Gallons it full of Elder-flowers full ripe, and clean pick'd, w as they putrify, will ſink down; continue filling it Day as long as any Flowers are left upon the Trees; put in three Pints of common Vinegar, and half a P of Bay Salt; then ſtop it quite cloſe, and ſet it in th for two Months, ſtirring it every Day with a Stick; ſtop it cloſe, and ſet it in a Cellar. If it breeds W ſtir it with a little Salt, and mix them together. Ap every twelve Hours to the Part afflicted with the It muſt be laid on cold. If too dry, put ſome Vineg it. It muſt be laid upon the Part of the Feet aff juſt when the Violence of the Fit is over, half an thick.

It is remarkable, that this Cataplaſm makes the Part pe exceſſively, inſomuch that almoſt every Pore diſcharges a pid Liquor.

If apply'd in the Manner, and at the Time above dir that is, when the Exceſs of Pain begins to abate, it remov that Pain and Lameneſs, which otherwiſe afflict the Patie many Weeks, and ſometimes Months, as the Gentleman communicated this aſſures me from his own Experience.

If we examine into the Nature of this Compoſition, w find it very likely to perform all that is attributed to it.

The Ingredients are *Vinegar*, *Salt*, and *Elder-flowers*.

The Nature and Properties of Vinegar are ſufficientl plained under the Article *Acetum*. As to *Salt*, I muſt ref Reader to the Article Sal, after having taken Notice, contains an extremely penetrating acid Spirit, and an al Earth.

It is not material to our preſent Purpoſe, what Prop Elder-flowers are endowed with, or what medicinal V they poſſeſs, when in a natural State; becauſe theſe Flo when put into the Pot, putrefy, ſink down, turn to a fœtid Pulp, loſe all the native Virtues of the Plant, and a new ones very different from the former. Thus it ha ſhewn under the Article Alcali, that putrefy'd Veg yield by Diſtillation a volatile, urinous Spirit, and Salt be diſtinguiſhed from Spirit of Hartſhorn, or any other Spirit or Salt; whereas before Putrefaction no ſuch Spirit by any Art whatever be procured from them.

By the Mixture therefore of Elder-flowers putrefy'd i oily Pulp, and abounding with a volatile alcaline Salt, to with Vinegar and Salt, both which are impregnated with penetrating Acid, a third Subſtance is formed very differen the ſeveral Ingredients which enter the Compoſition; Acid of the Vinegar acts upon the alcaline Salts of the p Vegetable; and theſe again upon the Acid, ſo as to ch other, and by their Union to form a *neutral* Body, ſome-hat like the *Tartarus Regeneratus*, otherwiſe called *Terra oliata Tartari*. But as the Salt uſed in preparing the *Tartarus Regeneratus* is fixed, and that of the putrefy'd Elder-flowers is olatile, the Mixture reſulting from the Union of the latter ith Vinegar, muſt of the two be the moſt penetrating.

It is now well known, that neutral Subſtances are extremely ponaceous, and reſolvent; and that they will act as a Men-ruum upon Subſtances, eſpecially thoſe which are earthy, hich neither Alcalis nor Acids will touch. It is probably ſuch Menſtruum as this, which originally diſſolves the Earth in the oil, and prepares it for the Purpoſes of Vegetation. And we ve ſome Reaſon to believe, that the neutral Compoſition, hich is our preſent Subject, penetrates to the obſtructing Mat-r which forms the Paroxyſm of the *Gout*, reſolves it, and ren-rs it capable of perſpiring through the Pores of the Skin. And make no doubt, but that whenever a Method can be diſco-red of conveying alcaline Salts to the remoteſt Series of Veſ-ls, cloath'd or neutraliz'd in ſuch a manner, that their cauſtic uality ſhall do no Injury to the fine Veſſels, the *Gout* will be eaſily and effectually cured, as any other Diſtemper.

ARTHRODIA, ἀρθρωδία, from ἀρθρόω, to articulate. A ecies of Articulation. See ARTICULATIO.

ARTHRON, ἄρθρον, a Joint.

ARTHROSIS, ἄρθρωσις, from ἀρθρόω, to articulate. The me as ARTICULATIO, which ſee.

ARTIA, ἀρτία, ἀρτὶν, according to ſome, is taken in the ne general Senſe as ἀρτηρία; others, as *Erotian* obſerves, it it to the Aſpera Artery.

ARTICOCA, ARTICOCALUS, Artichoke. The ſame CINARA, which ſee.

ARTICULARIS MORBUS. The ſame as ARTHRITIS, ich ſee.

ARTICULATIO, ἄρθρωσις, Articulation.

The Bones cannot ſerve the Purpoſes they are deſign'd for, ept the ſeveral Pieces are fitly adjuſted, and then kept to-her in different Ways. The moſt antient Oſteologiſts eaking only of the perfect Bones of an Adult) call'd the t of theſe *Articulation*, and the other *Symphyſis*.

rticulation, thus underſtood, is of two Kinds, one move-e, by which the Bones are allow'd a certain Degree of Mo-n; the other immoveable, by which they are fixed together hout Motion. The firſt is commonly call'd *Diarthroſis*; t is, (according to the Expreſſion of *Carolus Stephanus*, an ient Phyſician of the Faculty of *Paris*) an *Articulation* rated; the other *Synarthroſis*, or an *Articulation* con-ed.

n the *Diarthroſis*, or moveable *Articulation*, the Pieces are ly ſeparate; and the Parts in which they touch, are each of m cover'd by a ſmooth Cartilage, by means of which they ly ſlide upon one another. In the *Synarthroſis*, or immove- *Articulation*, the Pieces are joined together in ſuch a man-, as that the Parts in which they touch have ſomething par-lar on their Surface, and cannot ſlide upon each other.

here is ſtill another Species of *Articulation*, which cannot be reduced to either of the two former, becauſe it partakes oth; and therefore I think it neceſſary to eſtabliſh a third d, by the Name of *Amphiarthroſis*, which agrees better to Sort, than to the other *Articulations*, to which it has ſome-s been apply'd.

DIARTHROSIS.

iarthroſis is either manifeſt with large Motion, or obſcure ſmall Motion. Each of theſe again is of two Kinds, one *erminate*, or with Motion many different Ways, as that e Os Humeri upon the Scapula, or of the Os Femoris on Os Innominatum; the other alternative, or with Motion n'd to two oppoſite Sides, as that of the Ulna on the Os eri, and of the two laſt Phalanges of the Fingers on the and ſecond.

Bone is ſaid to be moveable many different Ways, when be turn'd upwards and downwards, forwards and back-s, to the Right and to the Left, and quite round.

he Motion quite round is made either on a Pivot, that is, an Axis, or in the manner of a Sling, where the Bone ibes a ſort of Cone, or the Figure of a Funnel, one End moving in a very ſmall Space, the other in a large Circle.

e firſt of theſe round Motions is termed *Rotation*, by Ana-ts; the other is only a Combination of ſeveral Motions rds, downwards, &c. and it muſt be remarked, that Ro- is not to be met with in all the *Articulations* for Motion different ways; for Example, the *Articulation* of the firſt nges of the Fingers with the Metacarpal Bones does not of it.

reover this *indeterminate Diarthroſis* is of two Kinds; *bicular* or *globular*, the other *flat* or *planiform*.

e *orbicular Diarthroſis* is when the round End of one Bone in the Cavity of another, more or leſs proportionable to the Head of the Os Femoris in the Acetabulum of the Os inatum; or when the Cavity in one Bone moves upon an Eminence in another, as the Baſes of the firſt Phalanges on the Heads of the metacarpal Bones.

The planiform *Diarthroſis* is when the *articulated* Bones ſlip upon one another, much in the ſame manner as when we rub the Palm of one Hand againſt the other: This *Articulation* is found in the Bones of the Carpus and Tarſus, and in the oblique Proceſſes of the Vertebræ.

The Antients call'd the firſt of theſe two Kinds of *Articulation*, *Enarthroſis*; the other *Arthrodia*. Some modern *French* Writers ſeem to comprehend both under the Word *Genou*, a Term borrowed from Workmen, who probably firſt ignorantly took it from the human Body, to apply it to their Inſtruments. I own, that this Term, as uſed and explained by them, agrees well enough to all the Degrees of the *orbicular Diarthroſis*; but there are undoubtedly many *Articulations* of the other Kind ſo very flat, that a ſkilful Workman would not allow them the Name of *Genou*.

The *alternative* or *reciprocal Diarthroſis* bears ſome Reſemblance to a Hinge; and for that Reaſon the antient *Greeks* termed it *Ginglymus*, which ſignifies the ſame thing; and has accordingly been tranſlated in ſome modern Languages. It is called by Mechanics *Charnall*.

It has been divided into ſeveral Kinds; but, properly ſpeaking, I think there can be but two. The firſt is that which is confined to *Flexion* and *Extenſion*; and as in one of theſe Motions the two Bones always make an Angle, I term it an *angular Ginglymus*. This is exactly the ſame with the Motion of a Hinge. The ſecond Kind is adapted only to ſmall Turns toward each Side, or to ſmall lateral Rotations, in the Language of Anatomiſts; and therefore I term it a *lateral Ginglymus*. In each Kind ſeveral Differences are to be taken notice of.

In the *angular Ginglymus* either each Bone partly receives, and partly is received by the other, there being reciprocal Eminences and Cavities in each, as in the *Articulation* of the Os Humeri with the Ulna; or there are only ſeveral Eminences in one Bone, received into the ſame Number of Cavities in the other, as in the *Articulation* of the Os Femoris with the Tibia.

The *lateral Ginglymus* is either ſingle, as in the *Articulation* of the firſt Vertebra of the Neck, with the Apophyſis Dentiformis of the ſecond; or double, that is, in two different Parts of the Bone, as in the *Articulation* of the Ulna with the Radius.

It muſt in general be obſerved, concerning theſe kinds of *Articulations*, that ſome of them are more perfect and cloſe than others; and that they are not all confined to Flexion and Extenſion, or to the reciprocal Turns already explained, as we ſhall afterward ſee.

The *obſcure Diarthroſis*, or that which admits only of ſmall Motions, is alſo of different Kinds. Examples thereof are found in the *Articulations* of the Bones of the Carpus and Metacarpus, and of the Fibula with the Tibia.

This *Articulation* was formerly called doubtful and neutral, and by ſome *Amphiarthroſis*, while others reduced it to *Synarthroſis*. The firſt of theſe Names might paſs; the reſt are improper.

SYNARTHROSIS.

Synarthroſis, or the *Articulation* of Bones ſo join'd together as to remain fixed in their Situation, is of two Kinds; one is made by Ingrailing, and the other in the ſame manner as a Nail or Pin is fixed in Wood. The firſt may again be ſubdivided into a deep and more ſuperficial Kind. The deep Kind is obſervable in the *Articulations* of the broad Bones. The Antients term'd it Suture, becauſe of ſome Reſemblance it bears to a coarſe Seam, as is ſeen in the upper Bones of the Scull. It is made by Jags, Notches, and Holes in each of the *articulated* Bones, by which they are mutually indented, much after the ſame manner as what is called Dovetailing by the Joiners. By the Antients it was called Unguis, probably becauſe the indented Pieces are rounded like Nails.

The other Kind is that which is obſerved in Bones joined together by more extended Surfaces, in which no Indentation appears outwardly. This the Antients termed *Harmonia*, and the *Articulations* of ſome of the Bones of the upper Jaw were given as Examples of it. But though they deſcribe it as running in a ſingle Line, they did not mean this in a ſtrict Senſe, but only that the Joint was like that of two rough Boards without Grooves. They have expreſly told us, that ſome ſmall Inequalities might be obſerved in theſe Joints; and ſome of them have uſed the Terms of *Suture* and *Harmonia* indifferently.

Suture differs very much from *Harmonia*. In the firſt, the Jaggings and Notches are very conſiderable, and the Indentation is made likewiſe by ſmall lateral Eminences therein; ſo that the Bones thus join'd cannot be ſeparated without breaking a great many of theſe Jags, and their little Eminences; whereas thoſe that are joined by *Harmonia*, may eaſily be parted without breaking any thing, or at moſt but very little.

Harmonia differs from *Suture*, in that the Inequalities therein are very ſmall, their Union is ſuperficial, and there is no Appearance

pearance of them on the Surface of the Bones; the Joint there repreſenting only a kind of Line, more or leſs irregular.

The other Kind of *Synarthroſis*, an Example of which we have in the *Articulation* of the Teeth, is called *Gomphoſis*, a *Greek* Term ſtill retained.

AMPHIARTHROSIS.

The third general Kind of *Articulation* partakes of both the former two, the moveable and immoveable; and for that Reaſon I have termed it *Amphiarthroſis*, or the mixt *Articulation*; as reſembling *Diarthroſis* in being moveable, and *Synarthroſis* in its *Connexion*.

The Pieces which compoſe it have not a particular Cartilage belonging to each of them, as in the *Diarthroſis*; but they are both united to a common Cartilage, which being more or leſs pliable, allows them certain Degrees of Flexibility, though they cannot ſlide upon each other, ſuch is the Connexion of the firſt Rib with the Sternum, and of the Bodies of the Vertebræ with each other.

SYMPHYSIS.

Having examined the *Articulation* of Bones, we come now to conſider their Union or Connexion, properly ſo called, which the Antients named *Symphyſis*, taking this Term in an improper or large Senſe, when they apply'd it to the Connexion of Bones; but in its proper Meaning they uſed it only to ſignify Oſſification.

The Authors who ſay, that the Antients took *Symphyſis* for a Species of *Articulation*, miſunderſtand them; neither are they more in the right, who advance that the Antients looked upon *Articulation* and *Symphyſis* as oppoſite to each other. If they ſpeak of the moſt early Antiquity, both theſe Propoſitions are falſe.

In the firſt Place, the Antients do not confound *Articulation* with *Symphyſis*, but plainly diſtinguiſh them, taking *Articulation* for the ſimple ſetting of Bones together, independently of their being connected, or kept together. In the ſecond Place, they do not look upon theſe two as Oppoſites, that is, where they talk of *Articulation*, they do not exclude *Symphyſis*; becauſe their Writings clearly ſhew, that in order to compoſe the Sceleton, they thought it neceſſary to bring them both in together.

The Words of *Galen* alone are ſufficient to prove this. In general he tells us, "That the Sceleton is a regular Diſpoſition "of all the Bones connected together:" And afterwards, "That their Compoſition is by *Articulation* and *Symphyſis*; "that *Articulation* conſiſts in the Bones being naturally rank'd, "*Symphyſis* in their being naturally connected." In fine, after having enumerated all the Differences of *Articulation*, he declares in plain Terms, that by *Symphyſis*, or the Union of Bones, he underſtands not only that, by which two or more Pieces become one by Age, but alſo that, by which the Bones are naturally united and connected together in different ways. Of theſe he reckons three, (as his Predeceſſors had done) by Cartilage, Ligament, and Fleſh. The firſt Kind of *Symphyſis* they called *Synchondroſis*; the ſecond, *Synneuroſis*; and the third, *Syſſarcoſis*. He likewiſe takes Notice, that his Predeceſſors did not take the Word *Synneuroſis* ſo far in a literal Senſe, as if it ſignify'd the Union of Bones, by means of Nerves; but that they were accuſtomed to call both Ligaments and Tendons by the Name of Nerves, though they were very well appriſed of the Diſtinction of theſe three things.

The Diſtinction of Symphyſis into that without a Medium, and that with a Medium, can have no Place here; for the firſt, of which the lower Jaw is cited as an Example, belongs not to the Connexion of Bones, but to their Formation while imperfect; and therefore may be called *Symphyſis* of Oſſification; and the other *Symphyſis* of *Articulation*.

In another Senſe, however, this Diviſion may ſtill be made uſe of in this manner: All the Pieces which compoſe the bony Fabric are naturally connected and united together. This Union or Connexion, which, with the Antients, I term *Symphyſis*, is either without or with a Medium.

Symphyſis, without a Medium, is where the *articulated* Bones ſupport themſelves in their Situation, without any other Aſſiſtance than that of their Conformation only; thus the parietal Bones are mutually fixed by their Indentations, and ſo give us at once an Example of *Articulation* and *Symphyſis*. In the ſame manner the Bones in the Baſis of the Scull are ſupported by thoſe which make the convex Part of it. In a natural State however, none of theſe Pieces touch one another immediately, but are ſeparated by Membranes which run in between them.

The Connexion or *Symphyſis* of Bones, with a Medium, is of three Kinds, cartilaginous, ligamentary, and fleſhy or muſcular, that is, as the Antients termed them, by *Synchondroſis*, *Synneuroſis*, and *Syſſarcoſis*.

Synchondroſis, or the cartilaginous *Symphyſis*, is either moveable, as in that by which the Bodies of the Vertebræ are kept together, on which joins the firſt Rib to the Sternum; or immoveable, as that of the Oſſa Pubis, in an ordinary State. The Symphyſis of Oſſification is different from this, and the Unio of Epiphyſes belongs to that, rather than to the *Symphyſis* *Articulation*.

Synneuroſis, or the ligamentary *Symphyſis*, is found in all th Joints deſigned for Motion.

Syſſarcoſis, or the muſcular *Symphyſis*, is as real as the tw former, and may be ſaid to be much more general, becauſe accompanies and ſtrengthens the others, and ſupplies what wanting in them. The Connexion of the Os Humeri wi the Scapula is a ſufficient Proof of this; for the Strength an Security of that Joint is owing more to the Muſcles, than to th Ligaments. *Winſlow's Anatomy.*

ARTICULI *Plantarum* are thoſe Parts of Plants whi ſwell into Nodes, or Joints, which uſually ſend forth Branche *Blancard.*

ARTICULUS, ἄρθρον. A Joint, or Connexion of Bon adapted for the Performance of Motion. *Blancard.*

ARTIFEX, δημιουργὸς, *Hippoc.* τεχνίτης, *Galen.* A Artiſt. What the Word ſignifies in general, is well known but it is often appropriated to the Phyſician, who exerciſes t Art of Medicine from rational Principles confirmed by Exp rience. Sometimes the Chymiſts and Spagiriſts take the L berty to apply the Terms to one another. *Caſtellus.*

ARTIFICIALE. Whatever is made or prepared either the native Stone of Cinnabar itſelf, or from the Vein of Cinn bar. *Rulandus.*

ARTIOS, ἄρτιος. Sound, whole, perfect, complete in its Parts, unhurt, *Heſych.* Ἀρτίως, the Adverb, ſigni wholly, perfectly, ἁρμοδίως, that is, coherently, and fitly, *Heſychius* expounds the Word. Ἀρτίως alſo ſignifies the ſa as ἀπαρτίως, ἀπηρτισμένως, and ἀκριβῶς, Adverbs importi Exactneſs, Adequateneſs, Exquiſiteneſs, in which Senſe it uſed by *Hippocrates* in his Aphoriſms, and *Lib. de Humoribu*

Ἄρτιοι οἱ σπόνδυλοι ἐντὸς ἀλλήλοις, "the Vertebræ are wi in-ſide even with each other." *Lib. de Art. et Mochl.*

Ἄρτιαι ἡμέραι, with reſpect to Criſes, are even Days, which *Hippocrates* oppoſes περισσαὶ, odd, as ἄρτιος ἀριθμὸ περισσὸς is an even and an odd Number. So *Lib.* I. *E* τὰ δὲ παροξυνόμενα ἐν ἀρτίῃσι, κρίνεται ἐν ἀρτίῃσι· ὧν δ παροξυσμοὶ ἐν περισσῇσι, κρίνεται ἐν περισσῇσι· "If the Pa "xyſms happen on even Days, the Criſis will be on an e "Day; but if they moleſt the Patient on odd Days, the C "will in like manner fall out on an odd Day." Again, *eodem*, ἔστι δ' ἡ πρώτη κρίσιμος τῶν περιόδων ἐν ταῖς ἀρ κρινόντων δ'. "Of thoſe periodical Fevers which come t "Criſis on an even Day, the firſt critical Day is the fourth

ARTIPHYES, ἀρτιφυὴς, from ἄρτι, juſt now, and φύω produce, ſignifies new-born; but ARTIPHYES, ἀρτιφυὴς, f ἄρτιος, whole, and φύω, is complete. Thus in *Hippocr* περὶ ἑπταμήνου· ἀρτιφυὴς ἀριθμὸς καὶ τέλειος is a complete perfect Number.

ARTISCUS, ἀρτίσκος, from ἄρτος, Bread, a Loaf, f its being in the Figure of a little Loaf, ſignifies in gene Troche of any Kind; but ſpecially, and κατ' ἐξοχὴν, *Ar* are Troches prepared of Vipers Fleſh. *Caſtellus.*

ARTISTOMA, ἀρτίστομα, in *Hippocrates*, περὶ τῶν ἐν κ τραυμάτων, is expounded by *Galen* in his *Exegeſis*, πανταχ ὁμαλὰ, "plain and ſmooth on all Sides." ARTISTOM ἀρτίστομος, in another Senſe, is one who pronounces the W of any Language perfectly and entirely without Mutilation.

ARTIYPOCHROS COLOR, ἀρτιυπόχλωρος χροιὴ, in *H pocrates*, περὶ τῶν ἐντὸς παθῶν, is a paliſh and yellowiſh Col which attends a Diſorder of the Spleen.

ARTIZOA, ἀρτίζωα, from ζωὴ, Life, ſignifies ſhort-l and is expounded by *Galen* and *Heſychius* ὀλιγοχρόνια, "en "ing but a little Time." *Hippocr.* περὶ ἐπικυήσιος, ταῦτ παιδία ἀρτίζωα, "theſe Children are but ſhort-liv'd."

ARTOCREAS, ἀρτόκρεας, from ἄρτος, Bread, and Fleſh. The ſame as PASTÆTUM. A ſort of Paſty.

ARTOMELI, ἀρτόμελι, from ἄρτος, Bread, and Honey. A Cataplaſm made of Bread and Honey. *Blanc*

ARTOPTA, ἀρτόπτη, a Veſſel to bake a Pye or Pu in, metaphorically apply'd to ſuch Women as have eaſy La *Caſtellus.*

ARTOPTICIUS PANIS, from ἄρτος. Bread, and to toaſt. Toaſted Bread. *Blancard.*

ARTOS, ἄρτος, Bread. Ἄρτος, in *Hippocrates*, γυναικείης φύσ. is a Maſs of farinaceous and other Subſt incloſed in a Linen Cloth, and apply'd warm as a Foment to the Uterus. Of ἄρτος, as it ſignifies Bread, there are Sorts to be found in *Hippocrates*, as

Ἄρτος ἄζυμος, from α Negative, and ζύμη, Fermen Leaven; unleavened Bread; this nouriſhes moſt, and the leaſt Excrement. *Lib.* 2. περὶ διαίτης.

Ἄρτος αὐτοπυρίτης ἢ αὐτόπυρος, from αὐτὸς, mere, very πυρὸς, Wheat. Bread made of Meal, where the Bran ſeparated from the Flour, but the whole Corn goes in Loaf. This is drying, and eaſily paſſes off. *Lib.* π ἐντὸς παθῶν.

ος διπυρίτης ἢ δίπυρος, from δὶς, twice, and πῦρ, the Bread twice baked, or that has twice proved the Fire. preſcribed in the Dropſy. Ἄρτῳ μὲν χρεέσθω πυρίνῳ ὀπτῷ, σκληρῷν διπυρίτῃ· "Let him uſe wheaten Bread toaſted, hard Bread twice baked." *Lib. prædict.* This is alſo δίεφθος, and dries powerfully.

ος ἐγκρυφίης, from κρύπτω, to hide. Bread baked under mbers, called by the *Romans Panis Subcineritius.* This, ding to *Galen*, was the worſt of all Bread, being the drieſt, aſt nouriſhing. *Lib.* 2. περὶ διαίτης, and *Lib.* 2. περὶ

ος ἐξοπτος, from ὀπτάω, to toaſt. Toaſted Bread, which y drying, and preſcrib'd by *Hippocrates* in a Dyſentery, 7. *Epid.* and *Lib.* περὶ τῶν ἐντὸς παθῶν, where, in one it is call'd ἄρτος ἐξοπτος ἑωλος, "ſtale toaſted Bread;" *ib.* περὶ ἀρχ. ἰητρ. ἄρτος ἐξοπτος ἢ ἔνωμος, "toaſted or de Bread," are oppoſed one to another.

ος ἐσχαρείτης, from ἐσχάρα, a Cruſt; Bread broil'd on the h, or a Gridiron; whence ſome call it *Panis focalis, foca-* or *craticularis*, from *Focus*, a Hearth or Fire-place, and *ula*, a Gridiron. This is a very bad ſort of Bread, in 's Opinion, becauſe the Outſide is burnt to a Cruſt, while nſide remains crude. It eaſily paſſes off, but hurts the ch. According to *Hippocrates*, *Lib.* 2. περὶ διαίτης, ſuch (οἱ ἐσχαρεῖται ἄρτοι) is leſs nutritive than what is baked in ven, but more drying, becauſe more ſcorch'd by the

ος ζυμίτης, from ζύμη, Leaven. Leaven'd Bread, what is fermented. This Sort is light, has an eaſy Paſſage, nou- little, and is eaſily digeſted. *Hippocr. Lib.* 2. περὶ

ος ἰπνίτης, from ἰπνὸς, an Oven. Bread baked in an This is very nouriſhing, becauſe very little burnt. *. Lib. prædict.*

ος καθαρὸς, pure Bread; that is, Bread made of fine This is oppoſed to συγκομιστὸς (*ſee below*) and αὐτόπυρος *fore*) in ſeveral Treatiſes of *Hippocrates.* Oppoſite to ay alſo be reckon'd ἄρτος ῥυπαρὸς, and ἀχυρώδης, from Filth, and ἄχυρον, Chaff; impure Bread, and chaffy and alſo what is call'd πιτυρώδης, and πιτυρίτης, from , Bran, branny Bread; for, ſays *Galen*, *Lib.* 2. *de Cur. uc.* as in fine or pure Bread we have the Meal, not as made it, but cleanſed from the Bran; ſo in the coarſe Sort the fineſt Flour is taken out.

ος κλιβανίτης, (from κλίβανος, a little moveable Oven, f Earth, Iron, Copper, or any other convenient Matter) baked in a portable Oven, by ſome call'd *Panis Teſtua-* rom *Teſtus*, the Veſſel in which it was baked. This ſort d, according to *Hippocrates*, *Lib.* 2. & 3. περὶ διαίτης, dry, but not very nouriſhing. In *Galen*'s Opinion, *Lib. lim. Facult.* it is the beſt, with reſpect to its way of Pre- n and Dreſſing; and *Diphilus*, in *Athenæus*, *Lib.* 3. extols ving all good Qualities, and being preferable to all other ; for it is grateful to the Stomach, generates good Juice, digeſted, readily diſtributed, and neither binds the Bel- diſtends it with Inflations.

ος ὀβελιαῖος, or ὀβελίας, from ὀβελὸς, a Spit. Bread ſpitted ſted. It is moderately nutritive, drying, and is not much *Hippocr. Lib.* 2. περὶ διαίτης; where it is alſo call'd . In *Athenæus*, *Lib.* 3. it is ſaid to be call'd ὀβελίας ται ὅτι ὀβολοῦ πιπράσκεται, ὡς ἐν τῇ Ἀλεξανδρείᾳ, ἢ ὅτι ἐν οις ὀπτᾶται· "Either becauſe it was ſold for an Obolus, *Alexandria*, or becauſe it was roaſted on Spits."

ἐκ πυρῶν, Bread of Wheat. It is very nouriſhing, lds but little Excrement. *Lib.* 2. περὶ διαίτης, & *Lib.* αίης ὑγιεινῆς.

ἐκ πυρῶν ἀπτίστων ἢ ἐπτισμένων, (from πτίσσω, to pull off d or Bark, or cleanſe from Huſks) Bread made of Wheat or unhuſk'd; that is, cleanſed or uncleanſed, *Lib.* περὶ ὑγιεινῆς. Bread ἐκ πυρῶν ἀπτίστων ſeems to be the ſame ιτυρώδης, "branny," which has not been cleanſed from n. There is alſo πύρινος ἄρτος ὀπτὸς, ἢ τῶν σκληρῶν πυρῶν· aten Bread toaſted, or made of harden'd Wheat," was preſcrib'd in Dropſies, *Lib.* περὶ τῶν ἐντὸς παθῶν.

πυρῶν σητανίων τῷ χυλῷ τῶν πιτύρων ἐζυμωμένος, Bread *ian* Wheat, (a ſort of Wheat that comes to Perfection Months) fermented with the Juice of Bran, *Lib.* 3. ίτης. This eaſily paſſes thro' the Body.

σεμιδαλίτης, from σεμίδαλις, fine Flour. Bread made Flour. This was powerfully nutritive, tho' leſs than as made of Alica or Siligo, and but little of it paſs'd Body, *Lib.* 2. περὶ διαίτης. *Galen*, as well as *Celſus ulus*, tells us, that this kind of Bread affords moſt ment, next to what is made of Siligo (*ſee below*); and *n*, in *Athenæus*, will have it more ſtrengthening than ade of Alica.

συγκομιστὸς, from συγκομίζω, to collect or bring toge- read made of all the Parts of the Corn taken together. drying, and eaſy of Paſſage, *Lib.* 2. & 3. περὶ διαίτης. oppoſed to καθαρὸς, "pure," *Lib. de Rat. Vict. in Morb. acut.* and *Lib.* περὶ ἀρχ. ἰητρ. *Galen*, in his *Exegeſis*, expounds συγκομιστοὶ ἄρτοι, by ῥυπαροὶ διὰ τὸ πάντα ἅμα τὰ ἄλευρα συγκομίζεσθαι, καὶ μὴ διακρίνεσθαι· "Coarſe, becauſe all "Parts of the Meal were thrown together without Diſtin- "ction."

Ἄρτος ἐκ χόνδρου ἢ χονδρίτης, from χόνδρος, Alica, Bread made of *Alica.* It is extremely nouriſhing, and but little of it paſſes off as excrementitious, *Lib.* 2. περὶ διαίτης.

Ἄρτος ἑωλος, ſtale Bread. It is drying, not very nutritive, and attracts Phlegm, *Lib.* περὶ τῶν ἐντὸς παθῶν. It is call'd by *Celſus*, *Lib.* 1. *Cap.* 3. *Panis Heſternus.*

There are other Diſtinctions of Bread in *Hippocrates*, as τῷ χυλῷ πεφυρημένος, Bread kneaded and macerated in the Juice of Wheat: This is very nutritive, light, and eaſy of Paſſage, *Lib.* 2. περὶ διαίτης. Ἄρτος πολλῷ ὕδατι πεφυρημένος, ἢ ἀφύρητος, Bread work'd up with a great deal of Water, or not work'd at all, *Lib.* περὶ ἀρχ. ἰητρ. Ἄρτων οἱ μέγιστοι, Bread in large Loaves: Such Bread is more nouriſhing than what is in ſmaller Loaves, becauſe leſs burnt and dry'd, *Lib.* 2. περὶ διαίτης. Ἄρτοι θερμοὶ, hot Bread, which dries the Body; ἄρτοι ψυχροὶ, cold Bread, which is leſs drying than the former, but nouriſhes little, and in ſome meaſure emaciates, *Lib.* 2. περὶ διαίτης.

Beſides the foremention'd Sorts there was a more modern kind of Bread in Uſe among the *Romans*, which was made of *Siligo*, the fineſt and pureſt Flour, of which *Pliny* ſays, *Siliginem proprie dixerim Tritici Delicias; Candor eſt, & ſine virtute, & ſine Pondere:* "Siligo may properly be call'd the delici- "ous Part of the Wheat; it is Whiteneſs, without Virtue or "Weight," *Lib.* 18. *Cap.* 8. And *Galen*, ſpeaking of the different ſorts of Bread, has theſe Words: Ὁ μὲν καθαρώτατος ἄρτος καλεῖται σιλιγνίτης, ὁ δ' ἐφεξῆς σεμιδαλίτης, ἀλλ' ἡ μὲν σεμίδαλις Ἑλληνικόν τε καὶ παλαιὸν, σίλιγνις δὲ οὐχ Ἑλληνικὸν, ἑτέρως δὲ αὐτὴν ὀνομάζειν οὐκ ἔχω· "The fineſt Bread is call'd "*Silignites*; the next in Fineneſs, *Semidalites*; now *Semidalis* "is an old *Greek* Word, but *Silignis* is not *Greek*, and I have "no other Name for it." Σίλιγνις is plainly coin'd from the *Latin Siligo.* He goes on to compare the different kinds of Bread, with reſpect to Nutrition, as follows: Τροφιμώτατος δὲ ὁ σιλιγνίτης αὐτῶν, ἐφεξῆς ὁ σεμιδαλίτης, καὶ τρίτος ὁ μέσος καὶ συγκομιστὸς, ὁ καὶ αὐτοπυρίτης, ἐφ' ᾧ τέταρτός ἐστι τὸ τῶν ῥυπαρῶν εἶδος, ὧν ἔσχατος ὁ πιτυρίας, ὃς δὲ καὶ ἀτροφώτατός ἐστι· "The "moſt nutritive of theſe ſorts of Bread is the *Silignites*; the "next, in that reſpect, is the *Semidalites*; the third is a mid- "dle Kind, call'd alſo *Syncomiſtos* and *Autopyrites*; the fourth "is a kind of black and coarſe Bread, the worſt Sort of which "is the *Pityrias*, which alſo affords the leaſt Nouriſhment." *Galen. de Alim. Fac. Lib.* 1. *Cap.* 2.

ARTUS, τὰ κῶλα. The extreme and moſt compacted Parts of the Body, as the Hands and Feet, *Caſtellus.* According to others, they are the Members which extend themſelves from the Trunk, and are divided into Joints. *Caſtellus. Blancard.*

ARTYMA, ἄρτυμα, from ἀρτύω, to ſeaſon, or prepare. The ſame as CONDIMENTUM, which ſee.

ARUBUS, Crude Butter. *Johnſon.*

ARVINA, λίπος, στέαρ. The ſame as ADEPS, which ſee.

ARUM, Offic. J. B. 2. 783. Chab. 258. Raii Hiſt. 2. 1208. Synop. 3. 266. Dill. Cat. Giſſ. 56. *Arum vulgare*, Ger. Emac. 834. Merc. Bot. 21. Phyt. Brit. 11. *Arum vulgare maculatum, & non maculatum*, Park. Theat. 372. *Arum vulgare maculatum & ſine maculis*, Mer. Pin. 11. *Arum maculatum maculis candidis vel nigris, & non maculatum*, C. B. Pin. 195. Tourn. Inſt. 158. Elem. Bot. 130. Hiſt. Oxon. 3. 542. Rupp. Flor. Jen. 203. Boerh. Ind. A. 2. 74. Buxb. 26. CUCKOW-PINT. *Dale.* Or, WAKE-ROBIN.

Arum, among the *Syrians*, is call'd *Lupha.* It ſhoots forth Leaves like thoſe of the *Dracunculus*, but ſmaller, and not ſo ſpotted: The Stalk is a Span long, reddiſh, and ſhaped like a Peſtle, on the Top of which grows a yellowiſh Fruit. The Root is white, much like that of the *Dracunculus*; and, being boil'd, loſes ſo much of its Acrimony as to become eatable. The Leaves are pickled for Food, and, being left to dry of themſelves, are boil'd and eaten.

The Root, Seed, and Leaves, have the ſame Virtues as thoſe of the *Dracunculus*; beſides which, the Root is apply'd as a Cataplaſm, with Cow-dung, to the Parts affected with the Gout. It is preſerved like the Root of the *Dracunculus*, and is commonly ſo little acrimonious as to be eatable. *Dioſcorides*, *Lib.* 2. *Cap.* 197.

The Roots of *Wake-Robin* are roundiſh and tuberous, about as big as a Walnut, of a white Colour on the Inſide, ſending from the Sides ſeveral white Strings, by which it is fix'd in the Earth: The Leaves are long and large, of a ſhining-green Colour, in Shape like the Head of a Spear, or a barb'd Arrow; in ſome Plants they are full of black Spots. From among the Leaves ariſes a round Stalk, having, at the upper Part, a long Skin or Huſk, cloſed at Bottom, and open at the Top; of a greeniſh Colour on the Outſide, and purpliſh within; in which is incloſed a long naked purpliſh cylindrical *Piſtillum*, encompaſs'd on the lower Part with a Circle of Chives ſtanding above the Rudiments of the Berries; which, after the *Piſtillum* and its Covering are fallen off, grow to be large round Berries, of a yellow-red Colour, full of Pulp, each containing one round Seed. The whole Plant, Root, Leaves, and Seed, are very hot and biting, inflaming the Mouth and Throat for a long time. It grows every-where in Hedges and dry Ditches, and flowers in *May*, and the Berries are ripe in *July*.

This Herb is call'd *Aron*, *Jarus*, *Pes Vituli*, *Barba Aronis*, *Sacerdotis Virile*, *Serpentaria Minor*, *Dracontia Minor*, *Alimum*. The Root has a pungent Taſte like Ginger, which burns the Tongue. But 'tis ſaid, that in the Fields about *Cyrene* there is an *Arum* found which eats like a Turnep, and is entirely void of Acrimony. It is gather'd in the Month of *March*, and, when dry, is principally uſed in the Shops of Apothecaries. It is of a hot and drying Nature, diſſolves and liquifies the coagulated Humours of the Body, is an excellent Antiſcorbutic, and opens and diſſolves internal Obſtructions, eſpecially in Dropſical Caſes. It purifies and ſweetens the Blood when impregnated with ſaline Particles, opens the Breaſt, and facilitates Expectoration in Diſorders of the Breaſt, and Coughs; for Inſtance,

> Take of the beſt freſh Arum-root, half an Ounce; boil it in White Wine till it becomes ſoft, and make it into a Linctus, with Syrup of Hyſſop.

It relieves old Coughs, and is good for Conſumptions, eſpecially when it is often moiſten'd, and afterwards dry'd, with Tincture of the Flowers of Daiſy and wild Poppy, *Joh. de Muralt.* in *Hipp. Helvet. P.* 653. *Ephem. N. C. Dec.* 2. *Ann.* 5. *Obſ.* 180. *Dieuches*, according to *Pliny*, *L.* 24. *N. H. C.* 16. gave the Powder of it, mix'd with Meal, and baked in Bread, to thoſe who were afflicted with Coughs, heavy Sighs, or an *Orthopnœa*, or a Spitting of purulent Matter. It promotes Urine, and cleanſes the Urinary Veſſels, and the Matrix. It promotes the Menſes when obſtructed, warms the Stomach when cold, excites the Appetite, and ſtrengthens the Digeſtion. *Hartman*, in *Prax. Chym. Helmont. Pharmac. ac Diſpenſ. Modern. N.* 46. ſays, that it cures Ruptures; as alſo long and tedious Fevers. *Vid. Dan. Milii Pharm. Spagir. L.* 2. *C.* 10. *Pet. Laurenberg. Appar. Plant. L.* 2. *C.* 6. and is very good in Hyſteric and Epileptic Caſes. *Gregor. Horſtius*, with the Root of it alone, recover'd a *Heſſian* Girl of five Years old, who had been entirely deprived of the Uſe of her Speech for almoſt a whole Year, *L.* 3. *Obſ. Med.* 24. The ſame is related by *J. Hotnung*, in *Ciſta. Med. Epiſt.* 132. The Root is alſo an excellent Medicine againſt the Plague and Poiſons, *Plin. l. H. Trag. L.* 2. *Hiſt. Plant. C. de Aro. Jo. Bruyer. de re Cib. L.* 8. *C.* 6. *Tarqu. Schnelleberg. Tr. de* 20 *Herbis Peſtilentiæ veneno adverſantibus*, who ſtyled this Plant the *Miracle of Nature*, on account of its remarkable Efficacy againſt the Plague, *M. Unzer. Antidot. Peſtilent. L.* 2. The Root when freſh, if boil'd, warms and corroborates the Stomach, ſtrengthens the Appetite, purges the Breaſt, and is good for Rheumatic Diſorders, and the Vertigo; as alſo for Stiffneſs of the Limbs, Swellings, and fetid Wounds. The Herb itſelf, boil'd with Victuals, makes People lean. The Leaves, when freſh, as alſo the Powder of the Root, cure inveterate Ulcers, Fiſtulas, fetid Cancers, and the Bites of venomous Animals, if they are apply'd to them. *Tragus* ſays, that for peſtilential Swellings he knew no Herb more efficacious, than the Leaves of *Arum*, apply'd green to them. *Georg. a Turre* has obſerv'd, more than once, from undeniable Experience, that Burns are heal'd by its Leaves when apply'd to them, and frequently renew'd, *De Hiſt. Plant. L.* 2. *C.* 244. In order to cure Ulcers and Wounds, ſome People make an excellent Ointment of its Root, reduced to Powder, and boil'd with Butter made in the Month of *May*. *El. Beynon*, that *tender-hearted Samaritan*, commended the Root of *Arum*, mix'd with Flowers of Sulphur, as one of the moſt efficacious Remedies in a Phthiſis, *Jo. Dolæus, Encyclopæd. Med. L.* 2. *C.* 4. See alſo *El. Beynon, P. M.* 23. The Juice, expreſs'd from the bruis'd Root, is good for a Polypus of the Noſe, if put up the Noſtrils on a little Cotton. The Fœtuſes of all Animals in Nature are expell'd by *Arum*, ſays *Pliny*. Many reduce the Root to a Powder, and apply it to the Part affected by the Gout, *Crat. L.* 2. *Conſ.* 26. The Water diſtill'd from its green Leaves in Spring, is an admirable Remedy for the Scurvy, *Th. Willis, Tr. de Scorbut. C.* 7. It is alſo good for Maniacs, and ſuch as are melancholy. Many diſtil, from the whole Subſtance of this Herb, a Water, which they give to thoſe who labour under Ruptures. This Water is alſo good againſt the Plague, purifies old Wounds and Ulcers, takes Spots off the Face, whitens the Skin, and deſtroys the Wrinkles of the Face. Several People inſpiſſate the Juice of the Root at the Sun, and, when they want to uſe it, diſſolve it in Roſe-water, with which they waſh their Faces. Country Girls, when its Kernels are ripe, uſe them for a Varniſh, to give a purple Colour to their Cheeks, which they rub heartily with them, almoſt to the Loſs of the Epidermis or Scarf-ſkin, *Georg. a Turre, L. C.* The *Tragea Stomachialis* of *Birckmanus*, made of Arum-root, deſcrib'd *Quercetan, Pharm. Reſtit. L.* 2. *C.* 20. is known in the Sh of ſome foreign Apothecaries. This Medicine warms Stomachs, promotes Digeſtion, procures an Appetite, preve the Vertigo, removes Obſtructions of the Liver, Spleen, Meſentery; and is good for thoſe who labour under Hypoch driac Diſorders, Melancholy proceeding from Flatulencies, the Scurvy. It is alſo ſerviceable in the Chloroſis in G Cachexies, Swellings of the Belly, beginning Dropſies, Q tan, and other protracted and intermitting Fevers, and o Diſorders cauſed by groſs and corrupt Matter in the Stom It is alſo given for the Stone. In Apothecaries Shops there formerly prepar'd, from its Root, a particular farinaceous w Subſtance or Powder, call'd by Chymiſts *Fæcula*, from the *L* Word *Fæces*, becauſe that Subſtance ſeparates, of its own cord, from the reſt of the Liquor, and ſubſides to the Bot of the Veſſel. It operates in the ſame manner with the R tho' more mildly; for which Reaſon 'tis ſucceſsfully among the Pectoral Tinctures and Powders, employ'd to pate Phlegm, and glutinous Humours, and facilitate Expect tion. It alſo removes inveterate Obſtructions, and is an e cious Remedy in Quartan Fevers, Cachexies, and Scurvies. *Conſt. de Rebecqu. Atr. Medicin. Helvet. P. M.* 242. *Jo. Helbig.* in *Ephem. N. C. Dec.* 1. *An.* 9. & 10. *Obſ.* ſays, that, among the *Indians*, the Root of *Arum*, boil' uſed inſtead of Bread.

PULVIS RADICUM ARI COMPOSITUS: *Compound Pow of Arum-root.*

> Take of the Root of ſpotted Arum, two Ounces; o common Acorus-root, and Saxifrage Pimpinel, each Ounce; of Crabs-eyes, half an Ounce; of Cinna three Drams; of Salt of Wormwood, one Dram; let them be made into a Powder. *N. B.* The A root is always to be freſh added to it.

This is but lately introduced into the Diſpenſatory; here is left out the Salt of Juniper, which was order'd in the ceding, becauſe it is a thing not uſually made, and anſwe Intention, but what is provided for by the Salt of Wormw but this makes it neceſſary to be kept cloſe from the Air cauſe it will elſe grow moiſt, and ſpoil the Medicine; the principal Neceſſity of ſo keeping it, is to preſerve the Pu cy and Volatility of the Ingredients, which otherwiſe ſoon exhale: And for the ſame Reaſon alſo, it is now di to mix the *Arum* Root always freſh, as it is uſed; becauſ is the chief Ingredient, and ſooneſt ſpoil'd by keeping. cy's *London Diſpenſatory*.

Ray enumerates the following Species in his Chap *Arum*:

1. *Arum*, J. B. *Vulgare*, Ger. *Vulgare maculatum* & *maculatum*, Park. *Arum* 2. & 3. *ſive maculatum Macul didis vel nigris, & vulgare non maculatum*, C. B.

2. *Arum venis albis*, C. B. *Magnum rotundiore folio*, *Majus Veronenſe*, Lob.

3. *Arum Byzantinum*, Cluſ. J. B. C. B. Park. *D tium minus*, Ger. quoad Icon.

4. *Arum montanum*, Alpin. Exot.

5. *Arum maximum Ægyptiacum, quod vulgo Colocaſia*, *Ar. Ægypt. rotunda & longa Radice, vulgo Colocaſia dicta*, *Colocaſia*, Cluſ. J. B. *Ægyptiacum*, Ger.

The Root of this, as well as the whole Plant, is acrim like the common *Arum*, but in a milder Degree, and is fore uſed in Food, and for other Purpoſes. In *Egypt*, and other *Eaſtern* Countries, it is eaten as commonly a neps in *Germany*; and is very much coveted by the *Turk African* Slaves at *Naples*. *Bontius* writes, that it is of a ous Nature, and requires three Days Maceration in Wa render it eatable.

6. *Dracunculus aquaticus*, Ger. J. B. *Noſter aquaticus Paluſtris ſive radice arundinacea Plinii*, C. B.

7. *Arum orientale*, Ardabar *dictum Zanon*, Hiſt Cap. 12.

8. *Arum Indicum*, Rumphal. *Dictum Zanon*, Hiſt Cap. 92.

9. *Ariſarum latifolium*, Park. Ger. *Latifolium* qu J. B. *Latifolium alterum*, C. B. *Item latifolium majus* THE BROAD-LEAVED FRIERS-COWL.

10. *Ariſarum anguſtifolium*, J. B. Ger. *Longifolium Anguſtifolium Dioſcoridis forte*, C. B.

ARUNDO, the Reed. Of this *Dale* takes N ſeveral Species. The firſt is the

Arundo, Offic. *Arundo vallatoria*, Ger. 32. Em Raii Hiſt. 2. 1275. Synop. 3. 401. Mer. Pin. 11. *vulgaris paluſtris*, J. B. 2. 485. Hiſt. Oxon. 3. 218. *vulgaris vallatoria*, Merc. Bot. 1. 21. Phyt. Brit. 11. *vulgaris ſive phragmites Dioſcoridis*, C. B. Pin. 17. 269. Tourn. Inſt. 526. Elem. Bot. 418. Boerh. In 161. Dill. Cat. Giſſ. 175. Rupp. Flor. Jen. 155. B rundo vulgaris ſive vallatoria, Park. Theat. 1208. *Arundo,* undo, *Calamus*, Chab. 193. COMMON REED. le.

The Reed has thick, knotty, join'd Roots, which ſpread increaſe much, running obliquely in the Earth: The Stalks to be above the Height of a Man, hollow, and with ſeve- Joints; at each of which grow long narrow Graſs-like es, rough and hard; and on their Tops a large huſky Spike Panicle, of a browniſh-red Colour, full of a ſoft, downy ance, hanging down the Head, without any viſible Seed. Stalks die away every Winter. The Reed grows by Ri- ſides, and in Marſhes.

RUNDO DONAX, Offic. Park. Theat. 1208. *Arundo* ria, Ger. 32. Emac. 36. *Arundo ſativa, ſeu Donax Dioſ-* lis, Raii Hiſt. 2. 1275. C. B. Pin. 17. Tourn. Inſt. 526. n. Bot. 419. Hiſt. Oxon. 3. 219. Boerh. Ind. A. 2. 162. Theat. 271. *Arundo maxima & hortenſis*, J. B. 2. 485. . 193. THE GREAT REED. *Dale.*

he Medicinal Virtues of theſe are ſaid to be alike, which, ding to *Bartholomæus Zorn*, are as follows:

Root attracts any Matter lodg'd in Wounds, if it is re- d to Powder, with Wine, and apply'd to the Wound; or is taken freſh, and reduced to Powder, with an Onion; the Powder of it is mix'd with Honey, it produces the Effect, *Oribaſ. de Morb. Cur. L.* 3. *C.* 32. It alſo ves the Pains ariſing from Diſlocations of the Limbs, and s off Pains in the Hips. When bruiſed, and apply'd to art that aches, it is of wonderful Service, *Hier. Mercurial. Pract. L.* 4. *C.* 2. If it is boil'd in any Lixivium, and Head frequently waſh'd therewith, it cauſes the Hair to ; and cures ſcald Heads. *Julius Cæſar Claudinus, Ep.* zo *Tanar. fol.* 88. ſays, that the Root of the *Arundo* pro- the ſame Effect in Rheumatiſms and Catarrhs, with the vian Bark. It is alſo good for thoſe who labour under mptions. *Aetius* ſays, it is of a drying and warming Na- and is therefore of Service to dropſical Patients, *Serm.* 10. See alſo *Ephem. N. C. Dec.* 3. *An.* 3. *Obſ.* 159. It Apoſtems to Suppuration, *Lev. Lemn. de Herb. Biblic.* The green Leaves, cut and apply'd, carry off the fire and *Eryſipelas*. Poor People boil the Flowers in r, or in Beer, which they mix with Honey, and drink, having filtrated it, in order to cure Coughs, Oppreſſions of reaſt, and Conſumptions. The Antients made Flutes, her muſical Inſtruments, of the *Arundo*.

UNDO SCRIPTORIA, Offic. Ger. 34. Emac. 37. J. B. . Raii Hiſt. 2. 1276. Hiſt. Oxon. 3. 219. *Arundo ſcri-* *atro-rubens*, C. B. Pin. 17. Theat. 273. Tourn. Inſt. *Harundo minor ſive Elegia*, Park. Theat. 1211. TING REED. *Dale.*

not find any Medicinal Virtues attributed to it.

NDO TABAXIFERA, Offic. *Arundo Mambu*, Piſon. Arom. 186. Raii Hiſt. 2. 1315. *Arundo Indica maxi-* *rea cortice ſpinoſo Hermanni*, Syen. in not. Hort. Mal. mm. Flo. Mal. 36. *Arundo arbor Tabaxifera*, C. B. 285. *Arundo arbor in qua humor lacteus gignitur, qui* r *Avicennæ & Arabibus dicitur*, C. B. Pin. 18. Hiſt. 3. 219. *Arundo arborea Mambu vel Bambu dicta*, Pluk. 53. *Canna ingens Mambu vel Bambu dicta*, Park. 1630. *Tabaxir ſive Mambu arbor*, J. B. 1. 222. *Mam-* r, *Tabaxir Garciæ & Acoſtæ*, Chab. 67. *Bambu &* Nienhou. Leg. 91. Ily, Hort. Mal. 1. 25. Tab. 16. BAMBU CANE. *Dale.*

writes, that the young Bambou-canes are full of a ongy, and liquid medullary Subſtance, (not ſo much s the common Sugar-canes) which the common ſort of reedily ſuck, on account of its grateful Taſte. The hoots, which are very ſucculent and ſavoury, are much n *India*, by Strangers as well as the Natives, as being of that famous Compoſition call'd ACHAR, which is into *Europe*, and accounted a Delicacy among thoſe Palates: And I myſelf, ſays he, have more than once with Pleaſure. But when theſe Canes are grown tall the contain'd Liquor is alter'd in Subſtance, Colour, and Efficacy; and by degrees is protruded forth, and d, near the Joint, by the Heat of the Sun, and har- e a white Pumice-ſtone: Soon after it loſes its native s, acquiring a peculiar Savour, much like that of burnt ith a little Aſtringency, and is call'd by the Natives MAMBU (the Tabaxir of *Garcias* and *Acoſta*); which r, whiter, and ſmoother it is, the greater is the Value it; and the more uneven its Surface, and the more of olour, the worſe it is accounted.

abaxir is very fit for Medicinal Purpoſes, eagerly ſought he *Perſians* and *Arabians*, and purchaſed at its Weight or Silver. The *Indians* uſe it for Wounds of the *Penis*. It is alſo ſaid to be efficacious in Choleric , and the Dyſentery. *Garcias* writes, that it is pro- uſed in burning Heats, internal and external, and in vers and Dyſenteries; but eſpecially in bilious Flu- Strangury, and bloody Urine. The Decoction of the Leaves and Bark, being drank, purges Wounds of Blood retain'd in them; and is proper for Women in Childbed, to cleanſe the Uterus after the Birth. Theſe Canes, cut off and burnt in the Fire, yield a moſt fertile kind of Aſhes; in burning they make loud Cracks with as great a Noiſe as the Exploſion of an hundred Guns; for the Air, which is ſtopp'd in by means of the Joints, being rarefy'd, and wanting more Space, burſts its Incloſure on all Sides, and makes its Way out by Violence. They grow in the Sand of the Sea-ſhores. *Raii Hiſt. Plant.*

The *Gramen Arundinaceum*, Reed Graſs, enumerated amongſt the *Reeds* by *Dale*, agrees in Virtues with the common Reed. See CALAMUS.

ARYSTER, ἀρυστὴρ, from ἀρύω, to draw out. A ſort of Veſſel mentioned by *Hippocrates*, *Lib.* περὶ γονῆς; to which he oppoſes ἄγγος μέγα, a large Veſſel. *Foeſius.*

ARYTÆNOIDES, ἀρυταινοειδὴς, from ἀρύταινα, a Funnel, and εἶδος, Shape. An Epithet of two Cartilages, which, together with others, conſtitute the Head of the Larynx. It is alſo apply'd to ſome Muſcles of the Larynx. *Caſtellus. Blancard.* See LARYNX.

ARYTHMUS, or ARRHYTHMUS, ἄρυθμος ἢ ἄῤῥυθμος (from α Negative, and ῥυθμὸς, properly ſignifying a Modulation or Modification of Time and Sound in Muſic, but uſed to expreſs Order and Harmony in other Things). An Epithet apply'd by *Galen* to a Pulſe not modulated according to Nature. It is oppoſed, he ſays, not to *Enrythmus* (ἔνρυθμος) "modulated," for every Pulſe is modulated after ſome manner or other, but to *Eurythmus*, (εὔρυθμος) "juſtly modulated;" ſo that *Enrythmus* is a common Genus to *Arythmus* and *Eurythmus*. A *Pulſus Eurythmus* is but one, and indiviſible; but a *Pulſus Arythmus* is of three Kinds, as *Pararythmus*, *Heterorythmus*, and *Ecrythmus*. To ſhew what theſe are by an Example: Every Age has its natural Pulſe, which, as long as it keeps its due Rhythmus, or Modulation of Time and Force, is call'd *Eurythmus*; but if it any way tranſgreſſes, it is a *Pulſus Arythmus*. If it tranſgreſſes into a Modulation proper to the next Age, it is *Pararythmus*; if it changes to a Pulſe proper for any other Age, it is call'd *Heterorythmus*; but if it paſſes into a Modulation proper to no Age at all, it is then a *Pulſus Ecrythmus*. The ſame Judgment is to be form'd of Natures, Seaſons of the Year, Places, and all other Things; for all have their determinate *Rhythmus*, and, if this be corrupted, they paſs into one or other of the three Claſſes of the *Arythmi* before-mention'd. *Galen. de Diff. Pulſ. Lib.* 1. *Cap.* 9.

AS, ASSARIUM, ἀσσάριον, μνᾶ, ſometimes means a particular Weight, in which Senſe the *Roman As* is the ſame as the *Libra*, or *Roman* Pound, conſiſting of twelve Ounces. Sometimes it ſignifies a *Roman* Coin, which was of different Matter and Weight, according to the different Ages of the Commonwealth; therefore *Varro* derives the Word *As* from *Æs*, becauſe this Piece of Money was firſt made of Copper of a Pound Weight; and *As*, *Æs*, *Pondo*, and *Mina*, among antient Authors, generally paſs for the ſame. It is alſo uſed to ſignify an Integer, diviſible into twelve Parts, whence comes our Word *Ace*, or *Unit*; and, for this Reaſon, ſome will have *As* deriv'd from the *Doric* αἷς for εἷς, one. In *Galen*, *de Ponderibus & Menſuris*, the ἀσσάριον is the Weight of two Drams.

ASA DULCIS, the ſame as BENZOINUM, which ſee.

ASA FŒTIDA. See SILPHIUM.

ASABON, Soap. *Rulandus. Johnſon.*

ASÆSTUS, ἄσαιστος. See CALCARIUS LAPIS, and CALX.

ASAGEN, Dragon's-blood. *Rulandus. Johnſon.*

ASAGI, Vitriol, or *Atramentum Rubeum*, calcin'd Vitriol. *Rulandus. Johnſon.*

ASAMAR, ASAGAR, ASINGAR, Verdigriſe. *Johnſ.*

ASAMAZ, Vitriol. *Rulandus. Johnſon.*

ASAPEOS, ἀσαπέως, in *Hippocrates*, *Lib. de Rat. Vict. in Morb. acut.* ſignifies the ſame, according to *Galen*, as ἀπέπτως, that is, without Concoction. *Foeſius.*

ASAPES, ἀσαπὴς, unconcocted; otherwiſe expreſs'd by *Aſeptus*, ἀσηπτὸς, (from α Negative, and σήπω, to corrupt, putrefy) unputrefy'd, according to the Notion of the Antients, confounding Concoction with Putrefaction. *Caſtellus.*

ASAPHATUM is a ſort of *Serpigo*, *Impetigo*, or intercutaneous Itch, generated in the Pores like Worms: If the Skin be preſs'd, they come forth like oblong Threads, with a black Head. *Johnſon.*

ASAPHEIS, ἀσαφεῖς, (from α Negative, and σαφὴς, clear, open) in *Hippocrates*, *in Prorrh. & Coac.* are ſuch Patients as do not utter their Words in a clear manner. This Defect is occaſion'd, as *Galen* ſays, *Comm.* 2. *in Prorrh.* ἤτοι διὰ τὴν τῶν διαλεκτικῶν ὀργάνων βλάβην, ἣν ἐκ τῆς τῶν νεύρων κακώσεως ἴσχον, ἢ διὰ τὴν διανοίας αὐτῆς, "either by ſome Hurt, which the Organs of Speech have contracted from a Diſorder of the Nerves, or elſe by a Delirium." In the ſame Senſe we are to underſtand ἀσαφὴς γλῶσσα, *Lib.* 7. *Epid.* of a muffled heſitating Tongue, that has no plain Utterance; and ἀσάφεια, in the ſame Book, means ſuch a Confuſedneſs of Voice as proceeds from an Indiſpoſition of the Vocal Organs. Ἀσαφέες παρακρούσιες, *in*

Lib. 1. *Prorrhet.* means a dubious kind of Delirium, which can hardly be diſcover'd by the Attendants, or even by the Phyſician. The Patient lies at Reſt, like one in a Slumber, ſometimes with his Eyes ſhut, as if betaking himſelf to Sleep, ſometimes with them open, and his Hands thrown about, and employ'd in ſearching and groping here-and-there: Now, becauſe he lies quiet, and does not cry out, nor ſtart up in his Bed, like other phrenetic Patients, his Phrenſy or Delirium is ſaid to be ἀσαφὴς, "obſcure or dubious;" and, being join'd with a Coma in the Beginning, is to be accounted very dangerous. This is the Subſtance of *Galen*'s Comment on the Place.

ASARABACCA, the ſame as ASARUM, which ſee.

ASARCON, ἄσαρκον, from α Negative, and σὰρξ, Fleſh, ſtrictly ſignifies void of all Fleſh; but is comparatively applied by *Ariſtot.* to the Head, in reſpect of the Middle and Lower Belly, compared with which it has but little Fleſh.

ASARINA, a Species of ASARUM, which ſee.

ASARITES, ἀσαρίτης, from ἄσαρον, *Aſarum*, οἶνος, Wine, being underſtood, is Wine of *Aſarum*, which is made by putting ſix Pints of Muſt to three Ounces of *Aſarum*. This Wine is diuretic, and good for thoſe who are afflicted with the Dropſy or Yellow Jaundice, a diſtemper'd Liver, or the Sciatica. *Dioſcorides*, *Lib.* 5. *Cap.* 68.

ASARUM, Offic. Ger. 688. Emac. 836. C. B. 197. J. B. 3. 548. Chab. 510. Raii Hiſt. 1. 207. Tourn. Inſt. 501. Boerh. Ind. A. 2. 95. Dill. Cat. 36. Buxb. 28. *Aſarum vulgare*, Park. 266. *Aſarum vulgare rotundifolium*, Hiſt. Oxon. 3. 511. *Nardus ruſtica*, Hoff. Flo. Altorff. ASSARABACCA.

ASARUM is by ſome called *Wild Nard*; it has Leaves like Ivy, but much thicker, and rounder. The Flower grows in the Middle of the Leaves near the Root, and is of a blue Colour, reſembling that of Henbane, and incloſing a Seed like a Grape-ſtone. The Roots are numerous, jointed, ſlender, running obliquely, reſembling thoſe of Dogs-graſs, but much ſlenderer, of a fragrant Smell, and taſte very hot and biting upon the Tongue.

The Roots are heating, diuretic, and emetic, and are good in a Dropſy, or inveterate Sciatica; they alſo provoke the Menſes; ſix Drams thereof, taken in Hydromel, purge like White Hellebore. They are alſo an Ingredient in Ointments.

ASARUM grows plentifully on ſhady Hills, and in the Countries of *Pontus*, *Phrygia*, *Illyricum*, and the Territories of the *Veſtines* in *Italy*. *Dioſcorides*, *Lib.* 1. *Cap.* 9.

It is called *Aſaron*, as *Pliny* ſays, becauſe it is not worn in Garlands. It has the Virtues of Nard. They dig it when it ſhoots forth Leaves, and dry it; it very ſoon grows mouldy.

The Root of *Aſarabacca* conſiſts of a great Number of ſlender Strings, of an aromatic Scent when dry. The Leaves are ſmooth, and of a Sea-green Colour; of a thick firm Subſtance, of a roundiſh Shape, ſomewhat hollowed in, next the Foot-ſtalk, reſembling a Kidney; among theſe ariſe the Flowers on ſhort Stalks, in form of Cups, or browniſh green Huſks, divided at Top into three Parts, and containing Seed like Grape-kernels. It is planted with us in Gardens, and flowers in *June*. But the dried Roots are brought from *Leghorn*.

Aſarum, according to *Pliny*, [*Lib.* 12. *Cap.* 13. & *Lib.* 21. *Cap.* 6.] takes its Name from the *Greek* Word σαίρω, *to adorn*, and the privative Particle α, *without*, becauſe it was not uſed by the Antients in adorning their Crowns and Garlands. It is alſo called the *Nardus Montana*, *Sanguis Martis Mogorum*, and *Nardus Sylveſtris*, and *Ruſtica*, from its Smell and Virtues, reſembling thoſe of the Nard. The greateſt Virtue is lodged in the Root, which is aromatic, very ſtrong, and burns the Tongue like Ginger. But, according to *Georgius a Turre*, [*De Hiſt. Plant. Lib.* 2. *Cap.* 23.] it ſcarce retains its original Nature and Qualities above a Year. *Helmont* [*De Mag. Vuln. Cur. p. m.* 479.] affirms, that it vomits, and ſometimes purges very ſtrongly. *Dioſcorides* ſays, that an Infuſion of ſix Drams of its Root purges like Hellebore. It nevertheleſs loſes a great deal of its emetic Quality by being boiled in Water. *Helmont*, in *Pharm.* & *Diſpenſ. Modern. Sect.* 46. *Heurn. Meth. ad Praxin, Lib.* 2. *Mich. Etmuller. Oper. Med. Tom.* 2. *p. m.* 15. The *Engliſh* affirm from their Experience, that the Powder of *Aſarum*, boiled in Wine, purges; and that, when boiled in Water, it excites a Diſcharge of Urine. It removes Obſtructions of the Liver and Spleen, purges the Body of all malignant Humours, ſtrongly promotes the Menſes, and expels the After-birth, and the Fœtus, when dead. *M. Ruland. in Theſ. Med. a C. Reyger. Ed. p.* 77. ſays, that a Decoction of *Aſarum* Root, infallibly promotes the Monthly Diſcharges, and expels the Secundines, and dead Fœtus. It diſſolves the thick and viſcid Matter lodged in the Lungs. See *Joh. Freytag. Auror. Med. Lib.* 2. *Cap.* 31. *Gu. Rolfinc. Lib. de Purg. Veget. Sect.* 1. *Art.* 4. *Cap.* 3. It is of great Service in the Jaundice, Dropſies, Pains of the Limbs, Gout and Fevers; and is the great Panacea of ſuch as are afflicted with Quartan Agues. See *Simon Pauli in Quadr. Bot. Claſſ.* 2. *Matth. in Dioſc. Lib.* 3. *Cap.* 42. *Alex. Pedemont. Secret. Lib.* 1. *J. Steph. Strobelberg. Rem. Singul. pro Cur. Febr. intr. p.* 28. & 29. *Roſin. Lentil. Miſcell. Med. Pr. p.* 13. *p.* 197. *G. H. Velſch. Chil.* 1. Ex *Cur.* & *Obſ.* 664. It is principally uſed by the Country Peop in what they call a *Fever-cake*, in order to remove Feve *Petr. Bayrus, Lib.* 12. *Pr. Cap.* 6. ſays it is of wonderful E cacy in the Jaundice. *Jo. Soph. Kozak, Tr. de Salc, Sect.* 1 *Cap.* 6. affirms, that by its means he has reſtored many, w laboured under the Jaundice, to perfect Health. *G. Rondel Meth. Cur. Morb. Lib.* 3. *Cap.* 82. affirms, that in many I ſtances, he found a Decoction of it to cure Sciatic Pains of lo Standing. See alſo *Joh. Ruel. de Natur. Stirp. Lib.* 2. *Cap* In the City of *Dreſden* there was one *Lotichius*, Phyſician the Court, who mixed the Root of this Herb almoſt with ev Medicine he preſcribed. See *Joh. Michael Not. in Joh. Schr Pharm. Med. Chym. p.* 608. & 624. *Frid. Hoffmann. Cl Pharm. Schrod. Lib.* 4. *Sect.* 4. Women with Child ou carefully to abſtain from this Root, becauſe it is very hur to the Fœtus; though *Fernelius, Lib.* 5. *M. M. C.* 13. info us, that it may be given to Women in that Condition with any Danger. Its Leaves reduced to a Powder, and applied the Pulſe, occaſion Sleep, and cure Fevers. *B. Montag Conſil.* 191. affirms, that a Plaiſter made of the Leaves of *rum*, and applied to the Region of the Kidneys, wonderf cleanſes the renal and urinary Ducts. If the Head is wa with any Lixivium, in which its Root and Leaves have boiled, it fortifies the Brain and Memory, tinges the black, and prevents its falling off. Its Root reduced to a P der, and applied to old and foul Wounds, cleanſes and them. If its Root is cut, and ſteeped in Roſe-water, the quor removes Stains and Blotches in the Face. *Foreſt. Lib. Obſ.* 3. *in Schol.* & *Lib.* 4. *Obſ. Chir.* 11. When Hares, other wild Beaſts are indiſpoſed, they eat this Herb, and f Cure in it. The Antients, obſerving this, did for that Reaſon mix this Herb with Salt, and give it to their Sh their Oxen, and Cows, in order to prevent a Putrefactio their Fleſh. When Horſes will not eat their Food, People mix the Root of this Herb with Oats, upon which Horſes begin to eat, and are rendered ſprightly. Some Wo put its Leaves into new-drawn Milk, imagining that by means it will produce more Cream than it would othe have done. This Herb was alſo by the Antients acco good againſt Witchcraft.

Joh. Fernelius, Lib. 7. *Meth. Med.* has a Compoſi which he calls *Diaſarum*; and which he at firſt prepared a View to vomit. This Compoſition, ſays *Hor. Augen.* [*Med. Tom.* 1. *p.* 297.] when exhibited at certain Inte proves a ſafe and agreeable Vomit to Perſons of all Age Sexes, and even to Women big with Child; and with thi View it is prepared in many foreign Shops, where we alſ the Extract of *Aſarum*, called alſo the *Coagulum Aſari*, is excellent in Diſorders proceeding from Melancholy, the Jaundice and Falling Sickneſs, excites a Diſcha Urine, promotes the Monthly Evacuations, kills Worms cures Fevers, eſpecially thoſe of the Quartan Kind. *mann. Prax. Chym. de Vomitor. Sennert. Inſtit. Lib.* 5. *Sect.* 3. *Cap.* 9. *Collectan. Chymic. Leydenſ. Cap.* 48. *Joh. Jungken. Corpus Pharm. Chym. Med. Sect.* 3. *Cap.* 12. from its Leaves and Root diſtil a Water, which they pr for Oppreſſions of the Breaſt, the Jaundice, the Dropſy, tian and Quartan Agues. It muſt alſo be good for Di of the Eyes. *Joh. Camer. Hort. Med. p.* 22. A Co made of its Leaves fortifies the Memory and Hearing. *Tr. de Sign. intr. rer. Marc. Ant. Zimar. Antr. Magic Part.* 2. *p.* 113. *H. Petræus Noſol. Harm. Tom.* 1. *Diſſ Sect.* 52.

The Juice of *Aſarum* has of late obtained great Rep as a Vomit in Maniacal Caſes. The *Pharmacopœia Pa* gives the following Form:

An EMETIC DRAUGHT.

Take of the Juice of Aſarabacca, ſix Drams, or an of Oxymel of Squills, half an Ounce; Carduus- two Ounces; mix into a Draught.

This is a very ſtrong Emetic, and is much uſed at amongſt the Maniacs; for it will operate when neither nor any of the common Mercurial Emetics, will mov And it has been confirmed by all Experience, that tients are much more difficult to be wrought upon others, either by Cathartics or Emetics; inſomuch will bear enough at a Doſe for ſix or ten ordinary their Fibres, and all the Parts of the Brain, moſt adm to Senſation, being extremely clogged with viſcid H which this Medicine is very powerful in draining off; the ſame Account likewiſe it is of good Service as nutatory; for it greatly drains the Head by the Twitches and Vellications it gives to the Fibres of and Parts adjacent.

Aſarum Virginianum, *Serpentaria nigra*, Offic. *Virginianum folio cordato Cyclaminis more maculato*, Hi 3. 511. *Aſarum Virginianum Piſtolochiæ foliis ſubro* ni more maculatis, Pluk. Almag. 53. Phytog. 78. Raii 3. 129. *Aſarum Cyclamini folio Virginianum*, Baniſ. Cat. *Serpentaria major Officinarum*, Bobart. BLACK KEWEED.

his is the *Aſarum* of *Virginia*, with Leaves of *Piſtolochia*, d like Sow-bread, *Plukenet's Phytographia*, *Tab.* 78. *Fig.* he Roots of it are brought over among the true *Serpenta-irginiana*, and are uſed promiſcuouſly with them, being nted of the ſame Diaphoretic and Alexipharmic Nature. r's *Bot. Off.*

BESTUS, ἄσβεςος, from α Negative, and σβέννυμι, to uiſh; unextinguiſhed, as κονία ἄσβεςος, Quick-lime. But Vord is often put ſubſtantively, for Quick-lime, without Addition of τίτανος, Lime. For its other Signification, MIANTUS.

BO, ἄσβο, the Name of an unknown Animal, whoſe among others, is preſcribed as an Ingredient in a Plaiſter e Pleuriſy. *Myrepſus de Emplaſtris*, *Cap.* 79.

CALABOTES, ἀσκαλαβώτης, and καλώτης, a kind of d, mentioned by *Galen*, 11. *de Simp. Fac.* and *Lib. de ac. ad Piſ. Cap.* 9. For a Deſcription of it, ſee Aldro-ous.

CALONIA, ASCALONITIS, a Species of Cepa, , which ſee.

CARDAMYCTES, ἀσκαρδαμύκτης, from α Negative, καρδαμύττω, to wink; in *Lib.* 2. *de Epidem. Sect.* 6. is ho keeps his Eyes long fixed and immoveable without kling.

CARIDES, ἀσκαρίδες, (from ἀσκαρίζω, the ſame as σκαρίζω, p, palpitate, move, as ἄςαφις, and ςαφὶς, ἄςαχυς, and , in *Hippocrates*, are the ſame thing) are expounded by , in his *Exegeſis*, to be ἕλμινθες ἰσχναὶ καὶ μικραὶ ἐν τῷ υσμένῳ ἐντέρῳ γεννώμεναι, "ſmall ſlender Worms bred in Inteſtinum Rectum;" and *Paulus*, *Lib.* 4. *Cap.* 58. καρίδες εἶδός εἰσιν ἑλμίνθων σκώληξιν παραπλήσιοι, συνι-περὶ τὰ ἔσχατα τοῦ ἀπευθυσμένου, καὶ τὰ πρῶτα τοῦ σφιγ-, ἐπιφέρουσαι τῶν τόπων τούτων κνησμὸν ἰσχυρόν. "The *Aſ-rides* are a kind of Worms much like the Scolex, which ge about the Extremity of the Inteſtinum Rectum, and ginning of the Sphincter, and excite a vehement Itching thoſe Parts;" or, according to *Actuarius*, *Meth. Med.* . *Cap.* 21. are ἀεὶ ἐρεθίζουσαι καὶ γαργαλίζουσαι τὸν κάμ-"moleſting the Patient with a continual Irritation and illation."

Signs of theſe Worms, called *Aſcarides*, are a continual g in the Fundament, which ſometimes cauſes fainting nd Swoonings; this Itching proceeds from the Motion eſe Worms, and the quick Senſe of the Part where they or we muſt not believe with *Mercurialis*, and ſome , that the great Guts have only a dull ſort of Feeling, that the Torments of the Colic, which are felt in the , and Pains in the Inteſtinum Rectum, cauſed by the incloſed therein, are a good Proof to the contrary.

Remedies *againſt the* Ascarides.

e *Aſcarides* are a Worm difficult to be expell'd, and that veral Reaſons: The firſt is, becauſe thoſe Creatures are e from the Stomach, ſo that Remedies loſe their Virtue they can come where the Worms are. The ſecond is, ſe the *Aſcarides* are wrapt up in viſcous Humours, which the Operation of Medicines. The third is, becauſe theſe ns aſcend ſometimes into the Cæcum. Now that Gut like the Bottom of a Sack, the *Aſcarides* keep themſelves, ere, intrenched in that Place. However it be, 'tis bet-attack them below; and for that Reaſon there is no Remedy, than to put up into the Fundament a Suppo-of Cotton dipped into Ox's Gall, or in Aloes diſſolved. hing which I preſcribed with Succeſs to ſeveral Patients, to put up into the Fundament a little Piece of Lard tied String, if left there for ſome time; and after that, if back, it will be full of Worms. Inſtead of Lard, you ſe old Fleſh ſalted. Clyſters of the Decoction of Gen-re wonderful againſt the *Aſcarides*. You may add to the an, Birthwort, Succory, Tanſy, Arſe-ſmart, Orach, and a Decoction of it in Water and White-wine: When it , you may add a little of the Confection of Hiera.

Children you may uſe the following Clyſter:

e Mallows and Violet-leaves, of each a Handful; Cole-ort-leaves, one or two Handfuls; Coriander and Fenel-eeds, of each two Drams; Flowers of Chamomile, and he Leſſer Centaury, of each a little Handful: Make a ecoction of the Whole in Milk, and diſſolve in the rained Liquor an Ounce of Honey, and two Drams of he Confection of Hiera.

pocrates advifes, for the expelling of the *Aſcarides*, to gnus-caſtus-ſeed, to bruiſe it well with a little Ox-gall, en to mix the Whole with a little Oil of Cedar, and make a Suppoſitory of it with a little greaſy Wool. *Andry*. See Lumbrici and Vermes.

ASCELES, ἀσκελὴς, from α Neg. and σκέλος, a Leg. Without Legs. *Galen de Hippoc. & Plat. Decr. Lib.* 4. *Cap.* 4.

ASCENDENTIA, Aſcending; ſpoken of the Signs or Conſtellations of the Firmament of Heaven, and eſpecially of the Sidereal Spirits. *Caſtellus* from *Dornæus in Dict. Par.*

ASCENSUS MORBI, the Aſcent of a Diſeaſe, is the ſame as the *Augmentum* or Increaſe of the ſame. See Augmentum. *Aſcenſus* alſo, or *Aſcenſio*, ſignifies a manner of chymical Sublimation and Diſtillation, oppos'd to *Deſcenſus*. See Aqua.

ASCESIS, ἄσκησις, from ἀσκέω, to exerciſe. The ſame as Exercitatio, which ſee.

ASCETES, ἀσκητὴς. The ſame as *Athleta*, or *Athletes*, a Wreſtler. Thus ἀσκητέον, in *Erotian* on *Hippocrates*, is expounded by ἀθλητέον; for *Aſcetæ*, he ſays, are called by the *Attics*, *Athletæ*.

ASCHEMON, ἀσχήμων, from α Neg. and σχῆμα, a Form, or Figure; deformed; ἀσχημονέςερον σκέλος, a more deformed Leg, *Hipp. Lib. de Artic.*

ASCHIA, *Thymallus*, Offic. *Thymallus*, Schrod. 5. 333. Salv. de Aquat. 81. Jonſ. de Piſc. 81. Aldrov. de Piſc. 593. Charlt. de Piſc. 36. Raii Ichth. 187. Ejuſd. Synop. Piſc. 62. Bellon. de Aquat. 182. *Thymallus*, *ſeu Thymus*, Geſn. de Aquat. 978. *Thymus*, Rondel. de Piſc. 2. 187. THE GRAYLING, or UMBER.

This Fiſh reſides in rapid, ſhallow, and ſtony Streams, and is eſteem'd excellent Food. The Part us'd in Medicine is the Fat, which is ſaid to take away Specks and Pearls from the Eye: Melted in the Sun, and mix'd with Honey, it takes away Freckles, and Marks left by the Small-pox. *Dale*.

ASCIA, σκέπαρνος ἢ σκέπαρνον, properly an Ax, or Hatchet, but, by a Metaphor, taken from the Figure, uſed to ſignify a ſort of ſimple Bandage, which is deſcribed by *Galen*, *Com.* 2. *in Lib. de Art.* The *Aſcia* is a ſort of Bandage, that declines a little from the Tranſverſe. And, on *Hippocr.* ἐν τῷ κατ' ἰητ. he tells us, that *Hippocrates* calls the Bandage which declines but a little, *Aſcia*, and what conſiderably declines, *Sime*. Now an *Aſcia*, he ſays, is a Carpenter's Tool, which towards its Extremity, by which it cuts the Wood, is gently incurvated, and ſhelves away like a Rock. But *Erotian* ſeems to give us the cleareſt Idea of it, from *Aſclepiades*, εἰς τὸ ἰητρ. as follows; ἐςι γὰρ ὁ σκέπαρνος, ὅταν ὁ ἐπίδεσμος ἐπιβάλλων αὐτὸς ἑαυτῷ, καὶ χιαζόμενος, κλάσιν τινὰ ποιῇ καὶ γωνίαν, οἷον ὅταν ὀρθόλοξος ἐπιδεθῇ. "The *Aſcia* is, when the Fillet, after one Revolution, runs into the Figure of the Letter χ, making a "Break and Angle, as in the Rectoblique Bandage." This agrees with that of *Hippocrates de Fract.* ἐπιδεσίων γάρ ἐςι αὕτη ποικιλωτάτη, καὶ πλείςους μὲν σκεπάρνους ἔχουσα. "This "Bandage has the greateſt Variety, and a Multitude of *Aſciæ*;" and in the ſame Senſe is σκεπαρνηδὸν uſed. *Lib. de Fract.*

ASCITES, ἀσκίτης, from ἀσκὸς, a Bottle, becauſe it diſtends the Belly in Form of a Bottle. A Species of Dropſy. See Hydrops.

ASCITICUS, ἀσκιτικὸς, one who labours under an *Aſcites*. *Blancard*.

ASCLEPIADÆ.

The Deſcendants of *Æſculapius*, called *Aſclepiadæ*, have been ſaid to preſerve Medicine in their Family without any Interruption; but of this we ſhould have a more diſtinct and accurate Knowledge, if we had the Writings of *Eratoſthenes*, *Pherecydes*, *Apollodorus*, *Arius* of *Tarſus*, and *Polyanthus* of *Cyrene*, who took care to write the Hiſtory of theſe Deſcendants of *Æſculapius*; but though the Works of theſe Authors are loſt, yet we have the Names, at leaſt, of ſome of the *Aſclepiadæ* preſerved, as appears from the Catalogue of the Predeceſſors of *Hippocrates*, who called himſelf the Eighteenth Deſcendant of *Æſculapius*. Now the Genealogy of *Hippocrates* is ſtill entire, and ſtands thus:

That *Hippocrates*, whoſe Writings are handed down to us, was the Son of *Heraclides*, who was the Son of another *Hippocrates*, the Son of *Gnoſidicus*, the Son of *Nebrus*, the Son of *Soſtratus* the IIId. the Son of *Theodore* the Second, the Son of *Cleomytideus* the IId. the Son of *Cryſamis* the IId. the Son of *Soſtratus* the IId. the Son of *Theodore* the Firſt, the Son of *Cryſamis* the Firſt, the Son of *Cleomytideus* the Firſt, the Son of *Dardanus*, the Son of *Soſtratus* the Firſt, the Son of *Hippolochus*, the Son of *Podalirius*, who was the Son of *Æſculapius*. *Stephanus Byzantinus* aſcribes two more Sons to *Gnoſidicus*, beſides him already mentioned; one of whom was called *Ænius*, and the other *Podalirius*. *Nebrus*, the Father of *Gnoſidicus*, had alſo another Son, whoſe Name was *Chryſus*.

This Genealogy may poſſibly be thought fabulous; but, granting that there was ſome Error, or ſomething of a fictitious Nature, in this Succeſſion of the *Aſclepiadæ*, 'tis, at leaſt, certain, that ſeveral Branches of the *Æſculapian* Family were known, beſides that of *Hippocrates*, before his Time; and that the particular Branch of it, from which that Phyſician ſprung, was diſtinguiſhed by the Name of the *Aſclepiadæ Nebrides*, or the Deſcendants of *Nebrus*, who had become particularly famous in Phyſic, and of whoſe Skill the Prieſteſs of *Apollo* had, in one of her Reſponſes, given a very great Character, as *Stephanus Byzantinus* obſerves.

There were ſtill more Branches of the *Aſclepiadæ* ſpread up and down in different Parts, and they had even eſtabliſhed three famous Schools, one at *Rhodes*, which failed firſt by the Extinction of that Branch of the Succeſſors of *Æſculapius*; and this probably happened, long before the Days of *Hippocrates*, ſince he makes no Mention of it, as he does of that of *Cnidos*, which was the Third, and that of *Cos*, which was the Second. Theſe two laſt flouriſhed at the ſame Time with the School of *Italy*, of which were *Pythagoras*, *Empedocles*, and other Philoſophers, who cultivated Phyſic, though at the ſame time the *Greek* Schools were much more antient. As theſe were the only three Schools which made any Noiſe, ſo they had a mutual Emulation, and were for ever contending for the greateſt Improvements in Phyſic. *Galen*, however, gives the Preference to that at *Cos*, as having produced the greateſt Number of famous Diſciples, among whom was *Hippocrates*. That of *Cnidos* was ranked in the ſecond Place, and that of *Italy* in the third.

Herodotus lib. 1. alſo ſpeaks of a School of Phyſicians at *Cyrene*, where *Æſculapius* had a Temple, in which the Service was different from that practis'd in *Greece*; which may lay a Foundation for ſuſpecting, that in that Nation there might have been *Aſclepiadæ*, of a different Sort from the others.

The ſame Hiſtorian in the above-quoted Book alſo mentions a Medicinal School at *Crotona*, the native Country of *Democedes* the famous Phyſician, who was contemporary with *Pythagoras*. This Phyſician, according to *Herodotus*, being baniſh'd by the Cruelty of his Father *Calliphon*, arriv'd firſt at *Ægina*, and afterwards at *Athens*, where he was had in great Eſteem. From thence he went to *Samos*, where he had an Opportunity of attending *Polycrates* King of that Iſland, and the good Fortune to cure him of a very terrible Diſorder, for which he receiv'd two Talents of Gold. Some time after, being taken Priſoner by the *Perſians*, he concealed his Profeſſion, but was at laſt diſcover'd, and compell'd to employ his Skill for the Relief of *Darius*, who was rack'd with Pain in Conſequence of a Diſlocation of one of his *Ancles*. He had alſo for his Patient Queen *Atoſſa*, Wife to the ſame King, for a Cancer in her Breaſt. The Hiſtorian adds, that having been ſucceſsful in both theſe Cures, *Democedes* receiv'd very rich Preſents, and acquir'd ſo great a Share of the King's Favour, that he was invited to eat at his own Table. But finding an Opportunity of returning into *Greece*, on account of a Promiſe he had made to act in Quality of a Spy, he remained in it altogether, deſpiſing all the Honours they had paid him in *Perſia*, and laughing at thoſe who had given him a Commiſſion to betray his native Country. He was afterwards marry'd to a Daughter of the famous *Milo* his Countryman.

We know no other memorable Circumſtances relating to the Phyſic of *Democedes*, or that of the other Phyſicians of *Crotona*: Neither have we any thing of Importance to ſay concerning the School of *Rhodes*. As for that of *Italy*, 'tis poſſible *Polycletes* might belong to it, ſince he was Phyſician to *Phalaris* the Tyrant of *Agrigentum*, the Town of *Sicily*, in which that School was.

We may judge of the Method follow'd in the School of *Cnidos*, by ſome Hints of *Hippocrates* relating to that Affair. “Thoſe, ſays he, [*De Ratione Victus in Acutis, Lib.* 1.] who have compiled the *Cnidian Sentences*, have very well deſcribed what Patients ſuffer under every Diſeaſe; how ſome Symptoms of their Diſorders happen; and, in a word, all that any Perſon ignorant of Phyſic could write, after inquiring of Patients what their ſeveral Ailments were; but they have forgot moſt of what a Phyſician ought to know, without hearing the Report of the Patient.”

The ſame Author beſides obſerves, that the *Cnidians* uſed very few Medicines; for *Elaterium*, which is a Purgative extracted from the wild Cucumber, Milk, and Whey, made up almoſt the Whole of their *Materia Medica*. From what *Hippocrates* here ſays, we may gather, that theſe Phyſicians were content with giving an Enumeration, or exact Deſcription, of the Symptoms attending Diſeaſes, without giving themſelves the Trouble to inquire into their Cauſes, or prognoſticate their Events; we may alſo gather from what he ſays, that they only uſed a very ſmall Number of Medicines, the Virtues of which they and their Predeceſſors had diſcover'd by Experience.

Theſe two Obſervations are ſufficient to convince us, that the *Cnidians* were little more than Empirics, or, at leaſt, that they did not value themſelves on the Accuracy and Juſtneſs of their Theories. The fartheſt they went in this Way, was ſometimes to reaſon from *Analogy*, or a Compariſon of Diſeaſes and Remedies, as we may ſee by the Example *Galen* gives us of it in theſe Words: “The *Cnidians*, ſays he, attempted to cure Abſceſſes of the Lungs in this manner: As they had obſerved, that a Cough occaſions a Diſcharge of any Matter in the Lungs, they pull'd the Tongues of who labour'd under Abſceſſes of the Lungs, without Lips, and endeavour'd to convey ſome Drops of Water the *Aſpera Arteria*, with a View to excite a violent Co which in their Opinion made them diſcharge all the contain'd in their Breaſts.”

As for the Phyſicians of *Cos*, it may be alſo ſaid of them, i *Prænotiones Coacæ*, found among the Works of *Hippocr* are only a Collection of Obſervations made by theſe Phyſic as many of the Antients believed, that they were not Reaſoners; and we plainly perceive, that they were not a Pains to account for their Prognoſtics. *Hippocrates* w the Number of theſe Phyſicians, and we know of no of them, except his Predeceſſors, whom we have alr mentioned.

What we have ſaid proves, that what *Pliny* and *Celſus* hav vanced, is not abſolutely true, when they ſaid, that we h Accounts of Phyſic during the Interval they have mention'd; ſtill leſs true, that Phyſic only began with Philoſophy, as C affirms; unleſs he means rational Phyſic, or that whi employ'd in inveſtigating the hidden Cauſes of Diſeaſes, accounting for the Operations of Medicines. This fo Phyſic had, indeed, little Exiſtence in the World, before Arts and Sciences came to be cultivated.

It may poſſibly be thought, that I forget one Circumſt which not only does a great deal of Honour to the *Aſclepi* but intirely overthrows what *Celſus* and *Pliny* have advanced; even what I myſelf affirmed, when I ſaid that the *Aſclepiadæ* little more than Empirics; and that is, that they were lo upon as great Anatomiſts. *Galen*, 'tis true, was of this nion: “At the Time, ſays he, when Phyſic was con to the Family of the *Aſclepiadæ*, the Fathers taught Children Anatomy, and from their Infancy trained up to the Diſſection of Animals; ſo that this Branc Knowledge paſſing from Father to Son, like a manual T tion, as it were, it was to no Purpoſe to write dow Manner in which theſe Diſſections were performed, ſin was as impoſſible they ſhould forget it, as that they ſh forget the Letters of the Alphabet, which they learne moſt at the ſame Time.”

There are ſtill ſome other Paſſages of this Author, which we perceive, that he believed, that the *Aſclepiadæ* perfect Maſters of Anatomy. But to his Authority we oppoſe that of an antient Commentator upon *Plato*, who a that the Philoſopher *Alcmæon* was the firſt who diſſected an mal; which deſtroys what *Galen* affirms of the *Aſclepiadæ* leaſt, of ſuch of them as came before *Alcmæon*, who are Perſons of whom we now ſpeak; as for thoſe who came him, they were either contemporary with *Hippocrates*, or ceeded him. But though the Teſtimony of *Hippocrates*, i Caſe, were not to be depended on, yet we may conclude the ſmall Progreſs they had in his Days made in Anatomy, till then the Bodies of Animals had been very ſuperficially quired into; which is quite the Reverſe of what *Galen* when he affirms, that *Anatomy was in its Perfection in the* *of the* Aſclepiadæ.

I would not by all this inſinuate, that the *Aſclepiadæ* entirely ignorant of the Parts of the human Body, ſince out ſuch a Knowledge they could neither practiſe Phyſi general, nor Surgery in particular; which, by the way, underſtood better than any other Branch of the Buſineſs. the Knowledge they had in Anatomy was in a great me owing to what they obſerved in the killing of Beaſts, a their Sacrifices. They were alſo very induſtrious in impr themſelves in *Anatomy*, if at any time they found in the F human Bones ſtript of their Fleſh by wild Beaſts, or waſt Time; or when they found the Bodies of Travellers kille Robbers, or thoſe of Soldiers killed in Battle. It is alſo ble, that the *Aſclepiadæ* might have got acquainted wit Improvements of the *Egyptians*, who embalmed their De Preſervation. But their chief and principal Scene of Imp ment was in the Practice of Surgery, where in the Cu Wounds, Ulcers, Tumors, Fractures, and Diſlocations, had an Opportunity of diſcovering in the Living, what wanted ſufficient Opportunities of finding in the Dead. *Clerc*.

ASCLEPIADES.

Though the Deſcendants of *Æſculapius* were called the *piadæ*, that is, the Children of *Aſclepius*, which is the G Name of *Æſculapius*; yet there was a Phyſician of the N of *Aſclepiades*, who was not of that Family.

This Phyſician was in great Reputation at *Rome*, durin Life of *Mithridates*, that is, towards the Middle of the Th ninth Century, according to the Teſtimony of *Pliny*, which I conclude, that this Author contradicts himſelf, he ſays, in the ſame Chapter, that Phyſic was not know *Rome*, till after *Pompey*'s Victory over *Mithridates*. *Arc* *thus*, a *Greek* Phyſician, came to *Rome* about an hundred before; where, on his firſt Appearance, he was well rece but his Profeſſion was afterwards brought into Diſgrace.

Probability, this *Aſclepiades* was one of the firſt who re-
liſhed its Character and Reputation. This Phyſician [ac-
ing to *Pliny*, *Lib.* 26. *Cap.* 3.] was a Native of *Pruſa* in
ynia, but happened at laſt to ſettle in *Rome*, in Imitation
great many other *Greeks*, who had now begun to eſtabliſh
nſelves in this Capital of the World, hoping there to ac-
e greater Riches than in their own Country. Upon his
Appearance in *Rome*, he taught Rhetoric; but not finding
Expectations anſwered by that Profeſſion, he reſolved to try
ther that of Phyſician would not be more fortunate to him;
though, according to *Pliny*, he had at that time no Know-
e of the Buſineſs, yet he imagined, that by the Bright-
of his Genius, he ſhould ſoon ſurmount the Diſadvantages
ng from his not having been regularly bred to Medicine.

he Method this Phyſician uſed to eſtabliſh his Character
to run directly counter to the Practice of *Archagathus*,
had been condemned for his Cruelty; and to decry not
his Method, but alſo a great Part of the Medicines daily
mmended by other Phyſicians. The Practice of *Aſclepiades*
ſted principally, [according to *Pliny*, *Lib.* 26. *Cap.* 3.] in
wing the Patient into a Sweat, by means of warm Cover-
, or by expoſing him to the Heat of the Fire, or the Rays
he Sun. *Aſclepiades* alſo condemned the antient Manner of
ng Quinſeys by thruſting an Inſtrument forcibly down the
oat, in order to clear the Paſſage. But of all other things,
nade the higheſt Remonſtrances againſt Vomits, which, in
e Days, were frequently uſed; and even againſt Purgatives,
h he looked upon as hurtful to the Stomach.

t the ſame time that *Aſclepiades* condemned and decried the
e Medicines, he ſubſtituted in their room very mild ones,
g, *Tuto, celeriter & jucunde, id Votum eſt:* But adds
s, *Lib.* 3. *Cap.* 4. *Sed fere periculoſa eſſe nimia & Feſti-*
& Voluptas ſolet. It were to be wiſhed, that Diſeaſes
d be cured ſurely, ſoon, and agreeably; but Attempts to
too ſuddenly, or by means of too agreeable Medicines,
enerally attended with Danger.

he ſuperſtitious Methods of curing Diſeaſes, or the Magi-
Remedies, of which, before the Arrival of *Aſclepiades*, they
ſo fond, which *Cato* himſelf had on ſome Occaſions
, but which were beginning to be in Diſcredit, contri-
d not a little to the favourable and ready Reception of
new Phyſic of *Aſclepiades*. This Obſervation *Pliny* makes
e Beginning of his twenty-ſixth Book, where he uſes theſe
rds: *The Vanity of Magic was a Circumſtance of more Uſe*
m than any thing elſe. One *Doringius*, a *German* Author,
Medicina & Medicis, not adverting that theſe Words of
had a Relation to what he had ſaid in the Beginning of
foregoing Chapter, explains this Paſſage, as if *Pliny* had
ded to ſay, that *Aſclepiades had, in a particular manner,*
Magic in his Practice of Phyſic, which is quite the Re-
of what *Pliny* thought, and inconſiſtent with the Cha-
r of *Aſclepiades*, who was an *Epicurean*.

'Till the Days of *Aſclepiades*, ſays *Pliny*, Antiquity ſtood
well out. In vain did *Herophilus* advance his refined Spe-
ulations; neither he, nor any of a like Character, were
llowed univerſally; and conſiderable Remains of antient
hyſic as yet ſupported themſelves, with all the Authority
ey had ever acquired. But this ſecond *Æſculapius*, having
duced all the Learning of a Phyſician to the Knowledge
Inveſtigation of the Cauſes of Diſeaſes, Phyſic, which
firſt was an Art founded on Experience, became *con-*
ctural, and entirely changed its Face."

hat eaſily gained a Party to *Aſclepiades*, to the Prejudice
tient Phyſic, and made People reliſh his Reaſoning, was,
ſing very mild and gentle Remedies, which *Pliny* reduces
ve: Abſtinence from Food; Abſtinence from Wine on
in Occaſions; Frictions; Walking; and Geſtation. As
le ſaw, that they could eaſily ſubmit themſelves to theſe,
judged the Phyſic of *Aſclepiades* ſo much the better for its
eaſily practiſed. Beſides, being very eloquent, and a
Philoſopher, he attracted the Eſteem almoſt of all Man-
, and was looked on as one ſent from Heaven.

iny adds, that this Phyſician had the Art of gaining the
ctions of People by certain Stratagems peculiar to him-
ſuch as promiſing his Patients Wine, and actually giving
ſome on proper Occaſions, and allowing them to drink
Water, in order to refreſh themſelves. And as he had
among the firſt who uſed this Remedy, he took a certain
ure in being called Δοσί-ψυχεὸς, or *The Giver of cold Water*.
e, in the mean time, contributed no leſs to the Eſtabliſh-
of his Reputation. *Apuleius* ſays, that *Aſclepiades* was
rſt of the Phyſicians, who preſcribed Wine for the Relief
s Patients; and the ſame Author afterwards tells a Story
Man being reſtored to Life by *Aſclepiades*, after he was
ght dead, and ready to be interred. He does not indeed
ion his uſing Wine upon that Occaſion; but from what
ad before ſaid, one may infer, that the Miracle was
ght by means of that Liquor, though the Author aſcribes
ecovery of the Man to certain Medicines which *Aſclepiades*
him.

This Phyſician alſo contrived, almoſt every Day, ſome new Invention to pleaſe and humour his Patients: He ordered them to be laid in penſile Beds, which were a Species of Cradles ſhaked, in order to lull the Patients to ſleep, or mitigate their Pains. He alſo invented an hundred new Sorts of Baths, ſome of which were penſile.

This is, according to *Pliny*, the Character of *Aſclepiades*; but as that Author is ſuſpected of Partiality in characteriſing, we ſhall inquire what Sentiments others entertained concerning this Phyſician.

We find then, that almoſt all the Antients give a favourable Character of *Aſclepiades: Apuleius* ſtyles him *The Prince*, or *Firſt of Phyſicians*, after *Hippocrates*. He is alſo by *Scribonius Largus* [in *Epiſtol. ad Calliſtum*] called, *A very great Author in Phyſic.* And *Sextus Empiricus*, *Adverſus Mathematicos*, *Lib.* 7. calls him *A Phyſician inferior to none.* *Celſus* alſo had him in great Eſteem. Another Proof of the great Reputation he had acquired, was his being deſired by *Mithridates* to aſſume the Character of his Phyſician. But a Circumſtance of all others the moſt advantageous to his Character is, his having been the Phyſician and intimate Friend of *Cicero*, as he himſelf teſtifies, [*De Oratore*, *Lib.* 1.] and at the ſame time ſeems to pay a great Deference to his Eloquence, which proves that this Phyſician did not quit the Profeſſion of Rhetorician for want of a Capacity.

Galen, who declares himſelf againſt the Practice of *Aſclepiades*, yet owns him to be very eloquent, but upbraids him with being a Sophiſt, and having a Practice of contradicting every one he had any thing to do with. *Cœlius Aurelianus*, *Acutor. Lib.* 1. *Cap.* 15. charges him with the ſame Fault. When *Aſclepiades*, ſays he, was called to a Patient who had another Phyſician, he condemned all the Medicines that Phyſician had ordered, and approved of others which he had not mentioned, as if the ſame Medicines, which, when ordered by others, were noxious, became ſafe and ſalutary, when preſcribed by him. The Author laſt quoted, draws this Conſequence from a Paſſage in one of the Books of *Aſclepiades*, where, in ſpeaking of the Cure of a Phrenſy, he ſays, that if a Perſon labouring under that Diſtemper ſhould fall into his Hands, before having come through thoſe of any other Phyſician, or uſed any other Medicine, that in that Caſe he would uſe external Applications of ſtrong-ſcented Subſtances, ſuch as Caſtor, Hogs-fenel, Rue, and Vinegar, or the Liquor in which theſe Subſtances had been infuſed; and that he would afterwards order him a Clyſter to relieve the obſtructed Parts; but, ſaid he, if another Phyſician has before dealt with the Patient, all Cataplaſms, Oils, and ſtrong-ſcented Medicines, muſt be diſcharged in the very Beginning of the Cure, and the Patient muſt be removed from a dark Place to a clear and open Light. 'Tis poſſible, *Aſclepiades* might not have followed this Practice from a Principle of Envy or Contradiction, as *Cœlius Aurelianus* inſinuates, but from a quite different Motive. As the ſame Diſeaſe may ſometimes be cured by different Methods, he might poſſibly believe, that Succeſs, on ſome Occaſions, might attend a Change of the Method of Cure, from what it was in the Infancy of the Diſeaſe, or the paſſing from the Uſe of cold to hot Medicines, and from hot to cold. As a Proof, that *Aſclepiades* entertained this Notion, he calls the Cure here mentioned, bold and extraordinary, not to be undertaken but in deſperate Caſes.

Pieces of Practice like this undoubtedly made People who were ignorant of the true Principle upon which *Aſclepiades* acted, conclude, that he was an errant Quack. This is the Idea which *Pliny* ſeems to entertain of this famous Phyſician, in what he has hitherto advanced concerning him; and we can have no Reaſon to doubt, that this was his real Sentiment, if we conſider the finiſhing Stroke of theſe Encomiums, which he pretends to beſtow upon him [in *Lib.* 7. *Cap.* 37.]. "*Aſclepiades*, ſays he, having bid a Defiance to "Fortune, by ſaying, he conſented not to be eſteemed a Phy-"ſician, if ever he was attacked by any Diſeaſe whatever, "remained victorious in this Point; for he died in an extreme "old Age, and that by an accidental Fall from a Stair-caſe." It is not probable, that a Man of ſo philoſophical a Turn as *Aſclepiades* was, would have talked in ſo ridiculous and fooliſh a manner.

We ſhould be better able to form a Judgment of the Sentiments of *Aſclepiades*, if his Writings had reached our Hands; but they are loſt, as well as a great many other valuable Pieces of Antiquity, which would have undoubtedly given us Satisfaction with regard to a great many things, of which we muſt now be contented to remain ignorant. Tho' *Aſclepiades* might not, poſſibly, have been a Model for the Direction of Practice, yet there would have been a certain Pleaſure in reading his Works, ſince 'tis to be preſumed they were beautifully written; and if they had not been a Standard for Phyſicians, they would have, at leaſt, proved an Amuſement for Philoſophers, and ſerved to illuſtrate the Doctrines of *Epicurus*, *Lucretius*, and *Democritus*. As the Reputation of this *Aſclepiades* was very great, both during his Life, and after his Death, ſo he had a great Number of Diſciples and Followers.

Among other antient Authors, who wrote on the Compoſition of Medicines, there were two called *Aſclepiades*; but both different from the *Aſclepiades* above-mentioned; for they are both quoted by *Galen*; and that Author obſerves, that they both lived after *Andromachus*, who was Phyſician to *Nero*.

The *Aſclepiades* moſt frequently quoted by *Galen*, and whom he ordinarily calls by the ſingle Name of *Aſclepiades*, was more particularly diſtinguiſhed by the Surname of *Pharmacion*, as *Galen* informs us; and this Surname denoted the principal Buſineſs of this Phyſician, which was the Compoſition of Medicines, by the *Greeks* called *Pharmaca*.

This *Aſclepiades*, whom the learned Mr. *Di Capoa* confounds with the firſt-mentioned *Aſclepiades*, wrote ten Books, five upon Medicines to be uſed externally; and five other upon ſuch as were to be uſed internally. *Galen* ſays, he wrote very well, and ranks him among the beſt Authors who had handled that Subject. He even praiſes him in a particular manner, for his Exactneſs in deſcribing the *Modus Faciendi*, or the preciſe Method one ought to take in making the Compoſitions he deſcribed. He alſo commends him for his Exactneſs in determining the Qualities of theſe Medicines, and the particular Manner in which they were to be uſed. The following is an Example of the Exactneſs of *Aſclepiades*, and of the Advantages attending it:

The PLAISTER *of* ASCLEPIADES *for* CHIRONIAN ULCERS, *and others of difficult Cure.*

> “ Take of Verdigriſe, one Ounce; of Wax, half a Pound;
> “ of the Reſin of the Larch-tree, [*Venice* Turpentine]
> “ half an Ounce. The Wax and Reſin muſt be melted;
> “ and after pounding the Verdigriſe, add it to them; then
> “ ſtir the Whole.”

The way of uſing it is this: Spread a little of this Plaiſter upon as much Leather as will cover the Ulcer; place round it ſome Medicine for preventing Inflammation, and let your Plaiſter lie on for three Days. Then waſh the Part affected gently; waſh alſo and ſoften the old Plaiſter, and apply it again to the Ulcer; continue this Method every three Days till the Cicatrix is formed.

Galen, who gives us an Account of this Method, after approving of it, tries to account for its Succeſs, by a certain Relation the Plaiſter acquires to the Body of the Patient, by means of its long Stay upon the Ulcer. But this may be the more rationally accounted for in another way, which is, that by rarely raiſing the Plaiſter, or allowing it to remain on the Ulcer for three Days, the Cicatrix has more Time to form itſelf, and the Fleſh is more commodiouſly nouriſhed, becauſe the Ulcer is by that means leſs frequently expoſed to the Air, which, by introducing ſome foreign Subſtance into the Wound, breaks the Fibres which began to unite themſelves, and form Fleſh and Skin. Beſides, the Motion excited in the Ulcer, or Part affected, by the taking away, and again applying, the Plaiſter, interrupts the Formation of the Cicatrix, by breaking and putting out of Order the Fibres, which, in ſuch a Caſe, are very tender. In ſhort, the renewing the Plaiſter, for the ſame Reaſon, retards the Cicatrix, becauſe a freſh Plaiſter has always more Force and Penetration, than one which has been uſed before. There are a great many more *Aſclepiades*; but as their Characters have nothing very remarkable in them, and as the Accounts we have of them, are involved in ſuch Obſcurity and Perplexity, as can never be ſurmounted by the greateſt Induſtry, we ſhall ſay no more concerning them. *Le Clerc.*

ASCLEPIAS, a Plant thus diſtinguiſhed:

Ἀσκληπιὰς, Dioſc. *Vincetoxicum Hirundinaria*, Offic. Chab. 119. *Aſclepias flore albo*, Ger. 731. Emac. 898. Park. Theat. 387. C. B. Pin. 303. Raii Hiſt. 2. 1091. Hiſt. Oxon. 3. 611. Tourn. Inſt. 94. Elem. Bot. 80. Boerh. Ind. A. 312. *Aſclepias ſive Vincetoxicum multis, floribus albicantibus*, J. B. 2. 138. *Apocynum Aſclepias dictum*, Par. Bat. 43. *Vincetoxicon*, Rupp. Flor. Jen. 20. Buxb. 336. SWALLOW-WORT. *Dale.*

ASCLEPIAS runs up with long Shoots, on which are long Leaves like thoſe of Ivy. The Roots are numerous, ſlender, and ſweet-ſcented; the Flower of a ſtrong Smell, the Seed like that of the *Securidaca* (Hatchet-vetch). It grows in the Mountains.

The Roots, drank in Wine, give Relief under the Gripes, and the Bites of venomous Animals. The Leaves, applied as a Cataplaſm, are good in malignant Diſeaſes of the Breaſts and Uterus. *Dioſcorides, Lib.* 3. *Cap.* 106.

The Roots of Swallow-wort are ſmall and ſtringy, ſpreading very much in the Ground, and ſending up many tough Stalks, about a Foot and half, or two Foot high, hardly able to ſupport themſelves; having at every Joint two Leaves, ſet oppoſite to one another, on very ſhort Foot-ſtalks, which are round at the Baſe, an Inch and an half broad in the wideſt Part, and about three Inches long, growing narrower and ſharp-pointed; on the Tops of the Stalks come forth ſmall Bunches, of five-leaved Star-faſhion white Flowers; each of which, in warm
Countries, where it is natural, is ſucceeded by two long ſlen
Pods, containing ſmall flat Seeds, lying among a ſilky Do
It grows with us only in Gardens, and flowers in *June*.

The Root, which is the only Part uſed, and that not
often, is accounted a mighty Counter-poiſon, both againſt
bad Effects of *Apocynum*, and other poiſonous Herbs,
againſt the Bites and Stings of venomous Creatures: It is
helpful againſt malignant peſtilential Fevers, which it car
off by Sweat; it is good likewiſe againſt the Dropſy and Ja
dice. *Miller's Bot. Off.*

The Roots of *Swallow-wort* are bitter, acrid, and giv
faint and red Colour to the blue Paper; the Leaves taſte a li
ſaltiſh, and give the ſame Paper a fainter red Colour, wh
makes me believe the Salt of this Plant is, in ſome meaſu
like the Oxyſal Diaphoreticum of *Angelus Sala*, a fixed Sal
little too much impregnated with Acid; but in the *Swall*
wort, it is involved in a great deal of Sulphur and Earth: T
it is no wonder, that this Plant ſhould be ſudorific and de
ſive. *Tragus* affirms, that the Wine in which a Pound of
Roots has been macerated, and boiled to the Conſumption
a Third-part, powerfully provokes Sweat, and gives Eaſe
thoſe who are troubled with the Dropſy: The Decoction
this Plant renders the Humours volatile, and works both
Urine and Tranſpiration. This Decoction is preferable to
of *Scorzonera*, in malignant Fevers, and the Plague. For
Suppreſſion of the Menſes, put one Ounce of the Root
Swallow-wort in a Pint of boiling Water; ſtrain the Infuſi
and give three Glaſſes of it to drink every Day, with the
rup of Mugwort, or the Cachectic Aperitive Syrup of M. C
ras, which is alſo very good for the Biting of a mad Dog. T
Extract of its Roots and Leaves, from half a Dram to a D
and an half, has the ſame Effect. The Herb, applied as a
taplaſm, diſſolves the Tumors of the Breaſts; the Powder
the Leaves and Root cleanſes Ulcers, as well as that of Bi
wort. *Martyn's Tornefort.*

ASCLEPIOS, ἀσκληπιὸς, the Name of a dry Smegma,
ſcribed by *P. Æginet. Lib.* 7. *Cap.* 13. and of a Troch
Aetius, *Tet.* 4. *Serm.* 2. *Cap.* 50. alſo of a Collyrium in Ga
de C. M. S. L. Lib. 4. *Cap.* 7. from *Scribonius*, which is
called *Athenippum*.

ASCLITES, a corrupt Word, uſed by Miſtake, inſtea
Aſcites, by *Paracelſus* and *Avicenna*. *Caſtellus.*

ASCOMA, ἄσκωμα, from ἀσκὸς, a Bottle: The E
nence of the Pubes at Years of Maturity, moſt properly in
Female. *Ruffus Epheſius.*

ASCOS, ἀσκὸς, a Bottle. Ἀσκὸς σκύτινος, (from σκύ
Leather) was a Leather Bottle filled with ſome Matter, as
Water, or Oil, for the Fomentation and Warming
diſeaſed Part, and preſcribed by *Hippocrates*, *Lib.* 2.
Morb. to be applied to the Forehead for eaſing Pains of
Head. He uſes alſo the *Aſcos* inflated with Wind, for reſto
a gibbous Affection of the Spinal Vertebræ, and a Luxatio
the Os Femoris, *Lib. de Artic.* *Galen*, in his *Exegeſis*,
pounds ἀσκοὺς by κεραμοὺς, οὓς ϗ πυριάτους ϗ φακοὺς ὀνομά
“ Earthen Pots, called alſo *Pyriati*, and *Phaci*,” (Len
that is, Veſſels of a lenticular Figure, uſed in Fomentati
Celſus, *Lib.* 2. *Cap.* 17. ſpeaking of Fomentations, ſays, Q
etiam calido Oleo replentur Utriculi, & in Vaſa fictilia ad
militudinem, quas Lenticulas vocant, Aqua conjicitur. “ M
“ over, Bottles are filled with hot Oil, and Water is put
“ Earthen Veſſels, from their Figure called *Lentils*.” G
ſeems to confound the *Utriculi* with the *Vaſa fictilia*. Fo
tations by theſe Earthen Veſſels, and *Utriculi*, or little Le
Bottles, and Bags, are alſo preſcribed by *Hippocrates*, Li
περὶ γυναικ. and Fomentations with the ἀσκοὶ, or Utri
Lib. 7. *Epid.* and *Lib. de Rat. Vict. in Acut.* for a *Tetan*

ASCYRUM, Offic. Ger. 434. Emac. 542. Raii Hi
1019. Merc. Bot. 1. 21. Phyt. Brit. 12. Mer. Pin. 11.
rum vulgare, Park. Theat. 574. *Hypericum Aſcyron dic*
Chab. 445. *Hypericum Aſcyron dictum, caule quadran*
J. B. 3. 382. Raii Synop. 3. 344. Tourn. Inſt. 255.
Bot. 222. Boerh. Ind. A. 241. Dill. Cat. Giſſ. 171.
Flor. Jen. 99. Buxb. 163. *Hypericum ſeu Androſæmum*
rum dictum, caule quadrangulo glabro, Hiſt. Oxon. 2.
SAINT PETER's WORT.

It grows in watery Places, and flowers in *July* and *Au*
The Herb, the Flowers, and the Seed, are in Uſe; the
and Flowers having the ſame Virtues as *Hypericum*, o
John's Wort. The Seed is uſeful in the Sciatica, and p
bilious Humours by Stool. *Dale.*

ASCYRUM, otherwiſe called *Aſcyroïdes*, and *Androſæ*
is a Species of *Hypericum*, but of a different Bigneſs, ha
larger Branches, and being more ſhrubby, or fuller of Sh
with fine ſcarlet Leaves. It bears a purple Flower, and a
like that of *Hypericum*, which ſmells like Roſin, and ſtain
Fingers of thoſe who handle it with a bloody Colour, w
it took the Name of *Androſæmum*.

The Seeds drank (*to the Quantity of two Drams, accord*
Pliny) in a Pint of Hydromel, is good for the Sciatica,
purges Bile plentifully; but the Doſe ought to be continu

is reſtored. It is alſo effectual againſt Burnings, if uſed taplaſm. *Dioſcorides*, *Lib.* 3. *Cap.* 172.

DENIGI, AZEDEGINI, the Blood-ſtone. *Johnſ.*

, ASSE, ἄση, ἄαση, in *Hippocrates*, ſometimes ſignifies hing of Food, or Nauſea, from a Conflux of Humours Stomach. So in *Aph.* 61. *Lib.* 5. if a Woman miſs her , and no Shiverings or Fever ſucceed, ἄσαι δ' αὐτῇ ϖλωσι, "but a Loathing comes upon her," ſhe has con- In *Lib.* 7. *Epid.* ἄση περὶ τὴν καρδίαν, is, "an Anxiety ut the Heart (Mouth of the Stomach)." Ἄση is alſo ften uſed by the ſame Author to expreſs an Anxiety with leſneſs and Jactation; and ſuch Patients are called , though they be free from a Nauſea; for, as *Galen*, 2. *in Prorrhet.* writes, ſick Perſons are ἀσώδεις, on two nts; firſt when the Strength is ſo unable to ſupport dy, that the Patient can bear to lie in no Poſture; and, ly, when the Mouth of the Stomach is vellicated by cor- umours. The former Caſe is very dangerous, and the attended with a Nauſea. So ἀσώδεις πυρετοὶ, in ſeveral of *Hippocrates*, ſignifies ſuch Fevers as are attended with actations and Anxieties.

B, Alum. *Rulandus*, *Johnſon.*

D, *Leo.* *Ibidem.*

DENIGI, the Lapis Hæmatitis, Bloodſtone.

F, ALBASEF, *Arabic* Words for HYDROA, which *Blancard.*

GEN, Dragons-blood. *Rulandus*, *Johnſon.*

LLI, the ſame as MILLEPEDES, which ſee.

LLUS, Offic. Jonſ. de Piſc. 1. *Aſellus major*, Charlt. 2. Schonf. Ichth. 38. *Aſellus major vulgaris*, Raii Piſc. 53. *Aſellus major vulgaris*, *Belgis Cabeliau*, Ichth. 165. *Aſellus*, *Merluccius*, *Cabeliau*, Mer. Pin. Geſn. de Aquat. 84. *Morhua vulgaris*, (*maxima Aſello- ecies*) Bellon. de Piſc. 118. *Morhua vel Molva altera*, de Piſc. 289. *Molua*, Rondel. de Piſc. 1. 280. *Molua orbua altera minor Rondeletii*, Geſn. de Aquat. 88. COD-FISH, or KEELING. *Dale.*

are to chuſe that which is white, tender, freſh, and ted.

nouriſhing enough, and is a tolerable good Food.

Cod is not near ſo well taſted as that which is freſh, is it ſo eaſy of Digeſtion, but harder and tougher. You keep it in Water before it is eaten; for, without that, it t much, and make you very dry.

ntains much Oil and volatile Salt.

rees at all times with any Age and Conſtitution.

REMARKS.

Cod is a Sea Fiſh well known. It is much uſed for . When it is freſh and new, it produces good Juice, nouriſhing, becauſe it contains a great Quantity of oily balſamic Parts; but when it has been ſalted, and is too it is not ſo well taſted, nor ſo eaſy of Digeſtion; not becauſe the Bay-ſalt hath fixed and ſunk down its more le Parts, and ſuch as excite an agreeable Taſte; but ecauſe that being introduced into the Pores of the Fiſh, kes it more ſolid, compact, and hard.

ckle of Cod is of a diſſolving and drying Nature, outwardly applied: They alſo uſe it among other things lyſters; for it is laxative, becauſe it contains much irritates the Inteſtinal Glands, and forces more Liquor f them than before.

ock-fiſh uſed in *France*, and other Parts, is not ſo as ſalted and dried Cod: Some pretend otherwiſe, and ave it to be the Melwel, called in *Latin*, *Molua major:* as it will, Stock-fiſh is no good Food, becauſe it is hard, and not eaſily digeſted: However, there are many that make a Ragou of it.

kle of Melwel has the ſame Virtues as that of Cod. *on Foods.*

ASELLUS MARINUS is the ſame as MERBANGIUS, e.

MOS, ἄσημος, from α Negative, and σῆμα, a Sign, ithet, applied to Events that fall out contrary to all Ap- , and without any manifeſt Cauſe. Thus the Adverb in *Hippocrates*, is expounded by ἀικείτως, ἀλόγως, or ως. Thus, *Lib.* 2. *Epid.* ὁκόσα ἀσήμως ἀφανίζεται, δύσ- "whatever Symptoms diſappear unaccountably, or with- the critical Signs, ſhew a bad Criſis;" and in his . τὰ ὀλέθρια ἀσήμως ῥαςωνήσαντα θάνατον σημαίνει. "bad toms, alleviated and mitigated for no Reaſon, and with- he Signs of a Criſis, ſignify Death;" and again, τὰ ασωνήσαντα φιλυπόστροφα, "Mitigations, or Remiſſions, ut the uſual Signs which accompany a Criſis, foretel a n of the Diſeaſe," which is often quoted by *Galen*, Beginning of his *Lib.* περὶ κρισίμων ἡμερῶν, and theſe oſt celebrated Axioms in the whole Doctrine of Criſes. ασημα ἐκθέματα, "Tubercles appeared without Signi- ns," is explained in *Galen*, *Comm.* 2. *in Prorrhet.* by ρισιν, ἤτοι ἐκκρίσεως, ἢ πέψεως, "without any Signs "either of Excretion or Concoction; and ἀσήμως ῥαςωνήσαντα, before-mentioned, is expounded by *Erotian*, τὰ χωρὶς φανερᾶς ἐπικουρίας εἰς τὸ βέλτιον ἀποκλίνοντα, "Things changing for the "better, without any manifeſt Aſſiſtance or Means."

Ἄσημα πνεύματα, in *Lib.* 6. *Epid.* is a ſmall and ſcarcely ſenſible Reſpiration; and ἄσημα κατὰ πλευρὸν ἀλγήματα, is a ſlight and inſignificant Pain in the Side.

ASENEC, the Sun. *Ruland.* *Johnſ.*

ASEPH, Plumous Alum. *Idem.*

ASEPTA, ἄσηπτα, from α Negative, and σήπω, to putrefy. Unputrefy'd; but ἄσηπτα, in *Hippoc.* *Lib.* περὶ παθῶν, is expounded by *Galen*, *Com. ad Aph.* 1. *Lib.* 6. ἄπεπτα, "uncon- "cocted;" and he tells us, that it was uſual with the Antients ἄσηπτα καλεῖν ἅπερ ἡμεῖς ἄπεπτα λέγομεν, "to call thoſe things "unputrefy'd, which we ſay are unconcocted." Thus, *Lib.* 3. περὶ διαίτης, ἄσηπτον διαχώρημα, is a crude or unputrefy'd Stool; as σεσηπὸς διαχώρημα, *ibid.* is a putrefy'd or concocted one. And *Galen*, *Lib.* 1. *de Loc. Affect.* *Cap.* 3. has the following Expreſſion from *Eraſiſtratus:* Τὰ γίγαρτα, καὶ τὰ σήσαμα, καὶ πάντα τὰ διαχωρούμενα παντάπασιν ἄσηπτά τε καὶ ἀμετάβλητα· "The Stones of Grapes, and Seſamum, and all other Matters "which paſs off by Stool, quite unputrefy'd, (unconcocted) "and unchang'd."

ASERON, ἀσηρὸν, from ἄση, Moleſtation, Uneaſineſs. Troubleſome, uneaſy, noxious. *Hipp.* *Lib. de Fract.* ἀσηρὸν γὰρ εἴη πρὸς τὴν ἰγνύην προσβαλλόμενον· "It might create Unea- "ſineſs, if apply'd to the Ham," ſpeaking of a Chirurgical *Cradle.* Again, *ibid.* ἤν τε ἀσηρὸν ᾖ, "if it be hurtful," that is, the Bone be hurtful to the Fleſh. And, *Lib. de Artic.* you have ἀσηρὸν φόρημα, "an uneaſy Burden," ſpeaking of a Bandage apply'd to a fractur'd Noſe. In the forementiond Places ἀσηρὸν is expounded by *Erotian* ἄσης ποιητικὸν, "cauſing "Moleſtation and Uneaſineſs."

ASIGI. The ſame as ASINGAR, which ſee.

ASILUS, *Oeſtrus*, *Tabanus*, οἶστρος, μύωψ. An Inſect with one Pair of Wings, which carries its Sting in its Mouth, and is deſcrib'd by *Aldrovandus.* *Pliny* calls *Aſylus* the Fly that infeſts Cattle, and tells us, from the Magi, that the Worms out of which theſe Flies were bred, were uſed, before their Wings budded, as an Amulet againſt Fevers. *Pliny*, *Lib.* 11. *Cap.* 28. and *Lib.* 30. *Cap.* 11.

ASIMION, ἀσίμιον. The Name of an Ingredient in *Myrepſus*, *Antidot.* 465. of which his Tranſlator and Commentator *Fuchſius* ingenuouſly confeſſes himſelf ignorant. *Myrepſus.*

ASINEOS, ASINES, ἀσινέως, ἀσινὴς, from α Negative, and σῖνος, Hurt, Miſchief. Without Harm or Damage. *Lib.* 1. & 2. *Epid.*

ASINGAR, ASUGAR, ASMIAR, ASIGI, Verdegriſe, *Rulandus.*

ASINUS, Offic. Schrod. 5. 269. Mer. Pin. 166. Schw. Quad. 61. Raii Synop. A. 63. Aldrov. de Quad. 295. Jonſ. de Quad. 12. Charlt. Exer. 4. Geſn. de Quad. 1. THE ASS. *Dale.*

The *Aſs* is an Animal too well known to require a Deſcription. It has the Misfortune to be much leſs eſteem'd in our Days, than amongſt the Antients, who paid it a very great Reſpect, as we may infer from a great Number of Paſſages in the *Greek* Writers.

Mr. *Baxter* is of Opinion, that the *Anchialus* mention'd by *Martial*, as ſomething ſacred amongſt the *Jews*, and by which he inſinuates that they ſwear, means an Aſs, *Rudens Deus.* For why, ſays he, may it not be ſaid אנחיאל, *Anchiel*, that is, *Rudens Deus*, or Ὀνόθεος, in the ſame Form as אריאל, *Ariel*, *Leoninus Deus*, or Λεοντόθεος; We know the old Reproach in *Tertullian*, DEUS CHRISTIANORUM ONOCHOERITES (for ſo it ſhould be read); whence *Petronius:*

> *Judæus licet & porcinum Numen adoret,*
> *Et cilli ſummas advocet Auriculas.*

Epiphanius alſo ſpeaking of the *Gnoſtics:* Φασὶ δὲ τὸν [θεὸν] Σαβαὼθ οἱ μὲν ὄνου μορφὴν ἔχειν, οἱ δὲ χοίρου· "They ſay, that "the [God] Sabaoth has the Form of an Aſs; others ſay of a "Swine." It appears alſo from *Plutarch*, *in Iſide*, that the Aſs and Swine, among the *Egyptians*, were both ſacred to *Typhon*; and even that this *Typhon* begat *Hieroſolymus* and *Judæus.* 'Tis probable therefore, that the antient *Jews* ſpared Aſſes and Swine out of Contradiction to the *Egyptians*, by whom they were ſlaughter'd as oppoſite Deities. *Baxter's Gloſſarium.*

ASSES DUNG.

We have known, ſays *Aetius*, the Juice of Aſſes Dung highly beneficial in a Dyſentery, eſpecially if the Beaſt has been fed upon the Mountains, or has had an aſtringent Paſture. If the Juice be inſufficient, let the Dung be moiſten'd with the Juice of Plantain, which muſt afterwards be expreſs'd and infuſed. *Aetius*, *Tetrab.* 3. *Serm.* 1. *Cap.* 45.

It is alſo recommended for ſtopping Hæmorrhages.

Asses Hoof.

The Hoofs of Aſſes calcin'd, and drank every Day, are ſaid to cure the Epilepſy; and, mix'd and work'd with Oil, to diſcuſs ſtrumous Swellings: Alſo the Aſhes of the ſame, well-beaten in Woman's Milk, and reduced to a Collyrium, are ſuppoſed to deterge Cicatrices in the Eyes, if rubb'd thereon, together with Milk. *Aetius, Tetrab.* 1. *Serm.* 2. *Cap.* 157.

It is alſo recommended for healing Chilblains, Chaps in the Skin, for diſcuſſing Apoſtemations, and for expelling the dead Fœtus, and in Hyſterical Caſes.

Asses Flesh.

Next, inferior to the Fleſh of Stags, which is itſelf of bad Juice, hard, and difficult of Digeſtion, is the Fleſh of wild Aſſes; but that of tame Aſſes, eſpecially when they are old, tho' eaten by ſome, is of very bad Juice, difficult of Concoction, quite foreign to the Stomach, and ungrateful to the Palate. *Oribaſ. Med. Coll. Lib.* 2. *Cap.* 28.

The Fleſh of Animals which have ſolid Hoofs, is moſt vile Food; but of theſe the beſt and lighteſt (as they ſay who have travell'd over *Aſia)* is the Fleſh of wild Aſſes. *Ibid. Cap.* 68.

The Blood of an Aſs is ſaid to be ſudorific; and that of a young Aſs to cure the Jaundice.

Aſſes Milk is very nouriſhing and abſtergent, and is therefore eſteem'd good in a Conſumption, in Diſorders of the Stomach, Abſceſſes of the Kidneys, the Stone in the Bladder, and Arthritic Pains. It is eſteem'd gently cathartic, and was frequently directed by *Hippocrates* as a Purge, in large Quantities. As a Topic, it makes the Gums firm, eaſes Arthritic Pains, and gives the Face an agreeable Whiteneſs, if waſh'd with it. See Lac.

The Urine of an Aſs is a powerful Remedy, as is ſaid, in Diſorders of the Kidneys; cures the Itch; takes away Warts, and callous Excreſcences; and relieves in Atrophies, and Palſeys of the Limbs, and Pains of the Gout. *Dale* from *Schroder.*

ASJOGAM, *H. M. Part.* 5. *Tab.* 59. *Arbor Indica Foliis adverſis, flore flaveſcente tetrapetalo odorato, Fructu nondum comperto.*

It is a Tree of a moderate Bigneſs, about fifteen Feet high, and grows in the Kingdom of *Malabar* in the *Eaſt-Indies.*

The expreſs'd Juice of the Leaves, mix'd with Cumin-ſeed pulveriz'd, is ſaid to cure the Colic; and the Powder of the Leaves, taken with Sugar and yellow Sanders, to amend and purge the Blood. *Ray Hiſt. Plant.* 1786.

ASIRACUS, ἀσίρακος. A Species of Locuſts, call'd alſo *Onoi*, ὄνοι, in *Dioſcorides, Lib.* 2. *Cap.* 57. See Locusta.

ASITOI, ἄσιτοι, from α Negative, and σιτίον, Food, are thoſe who abſtain from Food. In *Aph.* 32. *Lib.* 2. they are call'd ἀσιτεῦντες, who, in *Aph.* 8. of the ſame Book, are ſaid to be τροφὴν μὴ λαμβάνοντες, "ſuch as receive no Aliment," as ἀσιτεύειν is oppoſed to εὐσιτεύειν, which is expreſs'd by τροφὴν λαμβάνειν, "to take Food," in the ſame Aphoriſm. This is according to the uſual Way of ſpeaking among the *Greeks*; for, as *Galen* ſays, *Com. ad Aph.* 8. *Lib.* 2. λέγειν γὰρ ἡμῖν ἔθος ἐστὶ μὴ λαμβάνειν μὲν τροφὴν τοὺς ἀνορέκτους, λαμβάνειν δὲ τοὺς ὀρεγομένους τε καὶ τρεφομένους ἄχρι κόρου "It is uſual with us to ſay of "thoſe who have no Appetite, that they receive no Aliment; "and of thoſe who hunger and feed to Satiety, that they receive Aliment." Hence it comes, that ἄσιτοι ſignifies the ſame as ἀπόσιτοι, "ſuch as have an Averſion to Food;" and *Galen*, on *Aph.* 32. *Lib.* 2. expounds ἀσιτεῦντες by ἀποσίτους and ἀνορέκτους. And ἀσιτίη alſo means the ſame as ἀποσιτίη.

ASITIA, ἀσιτίη, from α Negative, and σιτίον, Aliment. See Anorexia and Apositia.

ASIUS *Lapis.* See Assius.

ASMAGA, a mixing of certain Metals together. *Rulandus. Johnſon.*

ASMUM, Weight. *Johnſon.*

ASODES, ἀσώδης. See Ase.

ASOPER, Soot. *Rulandus.*

ASPALATHUS. *Lignum Aſpalathi, & Rhodium,* Offic. *Rhodium Lignum,* Schrod. 4. 137. Geoff. Tract. 313. *Radix Rhodina, Lignum Rhodinum,* Mont. Exot. 7. *Aſpalathus,* Ind. Med. 15. ROSE-WOOD, or RHODIUM.

Aſpalathus, which ſome call *Eryſiſceptrum*, is a woody Shrub thick ſet with Thorns. It grows by the *Danube*, and in *Niſyrus, Syria,* and *Rhodes*. The Perfumers uſe it to thicken their Ointments. What is good is ponderous and reddiſh, or purpliſh, when ſtript of the Bark, cloſe, ſweet-ſcented, [of the Smell of Caſtor, *Pliny*] and bitteriſh to the Taſte. There is another Species of it, which is white, ligneous, and has no Smell, and this is leſs valued.

It is of a heating Quality, join'd with an Aſtringency; for which Reaſon a Decoction thereof, in Wine gargariz'd, is good for Aphthæ, and to waſh ſpreading Ulcers, and other Impurities in the *Pudenda*, and alſo the *Ozæna*. Mix'd in a Peſſary, it expels the Fœtus. The Decoction thereof, drank, ſtops a Looſeneſs, and throwing up of Blood; and relieves der Difficulty of Urine and Inflations. *Dioſcorides, Li Cap.* 19.

The *Aſpalathus* grows in *Egypt* and *Cyprus*: It is a Thorn, of the Bigneſs of a moderate Tree, and has a Fl like a Roſe: The Root is uſed in Ointments. It is of a ſm Growth, but equally thorny, in *Niſyrus* and *Rhodes*. call it alſo *Eryſiſceptrum, Sceptrum, Adipſatheon, Dipſ* and *Diacheton*. *Pliny, Lib.* 12. *Cap.* 24. & *Lib.* 24. 13.

The Tree which bears this Wood, is believed, by He and others, to be a *Cytiſus*. It is brought us from the *M* where it grows, being very reſinous, and of a pleaſant S reſembling that of Roſes. The *Hollanders*, being in Qu ſome Ships which periſh'd on the Coaſt of *New-Holland*, i thirty-third or thirty-fourth Degree of Southern Lati found on that Coaſt a great Quantity of this Wood. It i much eſteem'd in *China*, where its Infuſion in Water is be to cure or prevent many Diſeaſes. An eſſential Oil is got it, which has ſo much the Smell of Roſes, as to be often ſ tuted for their eſſential Oil; but the Smell of the firſt Ki never ſo ſtrong as that of the other. This Oil is ſome uſed by Barbers, to make their Water ſmell agreeably. the Antients term'd this Wood *Lignum Rhodium*, we kno whether they intended to expreſs, that it grows in the Iſla *Rhodes*, or ſmells like a Roſe. *Geoffroy.*

ASPALTUM, for Asphaltum, which ſee. *Rul Johnſon.*

ASPARAGUS, Offic. Park. Parad. 503. Raii Hiſt. 1. Synop. 3. 267. Ἀσπάραγος, Dioſcorides. *Aſparagus ſa* Ger. 953. Emac. 1110. Mer. Pin. 11. *Aſparagus ſ* C. B. Pin. 489. Tourn. Inſt. 300. Elem. Bot. 249. Ind. A. 2. 65. Rupp. Flor. Jen. 126. *Aſparagus horte pratenſis,* J. B. 3. 725. *Aſparagus ſive Aſpharagus,* Chab *Aſparagus domeſticus,* Hiſt. Oxon. 2. 3. *Aſparagus vu* Merc. Bot. 1. 21. Phyt. Brit. 12. SPARROW-GRA

The Root of *Aſparagus*, corruptly call'd *Sparrow-graſ* a Head thick and ſpongy, ſhooting out, all round, long drical Shoots, about the Thickneſs of a large Gooſe-quill, few or no Fibres. From the Roots, in the Spring, ariſe greeniſh-yellow Stalks, with brittle ſcaly Tops, bigger o according to the Difference of their Culture; which, Summer comes on, ariſe higher, and open into nu Branches, cover'd with Leaves, as fine as Fenel, bu ſhort, and encompaſſing the Stalk Star-faſhion; among grow ſmall greeniſh ſix-leaved Flowers, one of which is ſ by a round Berry, green at firſt, and, when ripe, of a ſ red Colour, in which are hard tough Seeds.

Aſparagus is found wild in ſome Parts of *England*, n Sea-coaſt; as in *Cornwall*, near the *Lizard-point*; abou *ſtol*, and other Places; but the beſt is cultivated in Gard

The Root is one of the five opening Roots.

The Top of the Plant, or firſt Bud, is a Species of highly eſteem'd by every body. *Auguſtus* made very mu of it, as *Suetonius* informs us in that Emperor's Life. *E* alſo, in his *Adagia*, tells us the ſame thing. It is very g to the Stomach, eſpecially if eaten in the Beginning of It procures Appetite, and tho' the Quantity of Nouriſhm affords is not a great deal, 'tis ſtill more than other Po yield, eſpecially if it is well digeſted, as *Galen* informs u *Aliment. Cap.* 59. If 'tis eaten before Dinner, it r and opens the Liver, Spleen, and Kidneys, puts the an agreeable State, and excites a Diſcharge of the Urine, it renders fetid and ill-ſmell'd, *Rod. a Fonſeca, Tom.* 1. *Med. p.* 599. *Carol. Rayger. in Schol. ad Obſ. Med.* 61. of admirable Service to thoſe who labour under Suppreſ Urine, or the Gravel. It is excellent for thoſe who a butic or dropſical: It augments the Seminal Secretion proves a Stimulus to Venery. It is alſo of ſingular Eff Diſorders of the Eyes, *Plin. Lib.* 2. *Cap.* 10. But it hurtful to ſuch as labour under the Gout, *Crat. Lib.* 7 21. 'Tis alſo prejudicial to thoſe who have weak Sto *C. Hoffman* [*Lib.* 5. *Inſtit. Med. C.* 12. *Sect.* 1.] knew Inſtances of their being thrown up undigeſted ne even tho' they had been very well prepar'd, eſpecially men with Child. Their frequent and immoderate Uſe Women barren, *Ephem. N. C. Dec.* 2. *Ann.* 5. *App. Claud. Deodat. Panth. Hygiaſt. L.* 2. *C.* 22. *Querc. Polyhiſt. S.* 3. *C.* 2. *Got. Mœbius, Epit. Inſtit. Me Part.* 2. *C.* 3. *Chr. Fr. Paullin. Libr. Sing. de Jalapa P.* 3. *C.* 23. & *Cent.* 3. *Obſ. Med. Phyſ.* 58. The principally in Uſe in the Shops, which is of a ſweet an able Taſte, and is one of the five opening Roots; fo Reaſon 'tis uſed in thoſe Diſorders which proceed from pation. It in a remarkable manner purges the Breaſt, ver, Spleen, and Kidneys; and is eſteem'd good for th dice, Dropſy, and Conſumption. *Theod. Tabernæ* gives us the Preparation of a Wine from the *Aſparagus*, performs Wonders in Caſes of the Stone in the Bladder neys. See alſo *Gualt. Charlet. de Lithiaſ. p.* 170.

is put upon a Tooth that aches violently, it cauſes it to
out without Pain, according to *Ant. Mizald. Cent.* 7.
rab.. *Aph.* 34. *Schenck. Obſ. Med. L.* 1. Its red Grains,
dry'd and reduced to a Powder, cure Dyſenteries and

aragus ſylveſtris, Dioſc. *Aſparagus pratenſis*, J. B. 3.
Chab. 550. *Aſparagus ſylveſtris, tenuiſſimo folio*, C. B.
90. Tourn. Inſt. 300. Elem. Bot. 249. Boerh. Ind. A.
Bot. Monſp. 30. WILD SPARROW-GRASS.
s only differs from the preceding by Culture. *Dale.*
Root is ſweetiſh and glutinous, like that of the common
gus; it gives hardly any Tincture of Red to the blue Pa-
which makes it probable, that its Salt reſembles the vitri-
Tartar, diſſolved in a great deal of Phlegm, thicken'd
me Earth and Sulphur, by which the Root is an Aperi-
little temper'd. *Martyn's Tournefort.*
aragus petræa, Corruda, Offic. *Aſparagus petræa*, Ger.
Emac. 1110. *Aſparagus petræus, ſive Corruda*, Raii
. 683. Hiſt. Oxon. 2. 3. *Aſparagus petræus, ſive Cor-
culeata*, Park. Theat. 454. *Aſparagus foliis acutis*, C.
. 490. Tourn. Inſt. 300. Elem. Bot. 249. *Aſparagus
s Corruda dictus*, Rupp. Flor. Jen. 126. *Corruda*,
3. 726. *Corruda ſive Aſparagus ſylveſtris*, Chab. 550.
K SPARROW-GRASS.
young Shoots and Roots of theſe are uſed in the ſame
ions, as thoſe of the *Aſparagus ſativus.*
ASIA, the Name of a conſtrictive Medicine for the
da muliebria. It conſiſted only of Wool, moiſten'd with
fuſion of unripe Galls. *Caſtellus.*
ER, a ſort of ſmall River-fiſh found in the *Rhone*. It
he Name from the Roughneſs of the Scales and Jaws.
od to eat, and is eſteem'd aperitive.
common People inquire frequently for *Oil of Aſper* at
ymiſts, which they uſe, as is pretended, to catch Fiſh.
robably Oil of Oſpray which they mean; for a Fable has,
e immemorial, prevail'd amongſt the Vulgar, that the
drops, as he flies on the Surface of the Water, ſome-
nto it, which allures the Fiſh to it, that he may take
Hence the Oil of this Bird has been eſteem'd to have
me Effect. As there is no ſuch thing as this Oil, the
iſts oblige their Cuſtomers with Oil of Box, or ſome
fetid Oil.
ERA ARTERIA. See ARTERIA, and PULMONES.
ERATA. See ASPERUM.
ERELLA. The ſame as ASPRELLA, which ſee.
ERGULA ASPERUGO. See ASPERULA.
ERIFOLIUS, of *Aſper*, rough, and *Folium*, a Leaf.
folious is an Epithet for ſuch Plants as are rough-leaved,
their Leaves placed alternately, or without any certain
, on their Stalks. They have a monopetalous Flower,
divided into five: After every Flower there ſucceed
nly four Seeds, ſuch as Bugloſs, Borage, Comfrey,
's-tongue, &c. *Miller's Dictionary.*
ERSIO, πρόσκλυσμα, ῥαντισμὸς, ῥαντὶς, ῥανὶς. Sprink-
a well-known Application of ſome medicinal Liquid,
veriz'd Matter, in a thin ſuperficiary Way, or by
Portions. *Scrib. Larg.* N° 46. 207. & *alibi.* Hence
edicines as are adminiſter'd by way of Sprinkling, or
on, are call'd, in *Greek*, συμπάσματα, and in *Latin
ines.* *Caſtellus. Blancard.*
ERULA. *Aſperula odorata, Aſpergula, Aſperula,
Aſperula odorata*, S. Paul. 25. *Aſperula*, Ger. 966.
1124. Raii Hiſt. 1. 483. Synop. 3. 224. *Aſperula aut
a odorata*, Park. Theat. 563. *Aſperula ſeu Rubeola
a odorata*, C. B. Pin. 334. *Aſperula odorata flore albo*,
Ind. A. 149. Hiſt. Oxon. 3. 331. *Aſperula ſylvatica*,
Flor. Jen. 4. *Rubus accedens Aſperula quibuſdam, ſive
ca ſtellaris*, J. B. 3. 718. Chab. 548. *Aparine latifolia
r montana*, Tourn. Inſt. 114. Elem. Bot. 93. Buxb. 23.
ylva Trago, Volck. 281. *Hepatica ſtellata*, Chom.
WOOD-ROOF. *Dale.*
Stalks of Woodroof ſeldom grow above a Foot high,
and ſlender, and but little branch'd, having ſeven or
ong green Leaves growing in a Circle at every Joint,
than Clivers, but with little or no Roughneſs: The
s grow on the Tops of the Stalk, in ſmall Umbels, of
ngle-leaved white Flowers, cut into four Segments, of a
mell; each of which is ſucceeded by two round rough-
s, leſs than thoſe of Clivers. The Root is ſmall, ſlen-
d creeping in the upper Cruſt of the Earth. It grows in
and Copſes, and flowers in *May.*
odroof is eſteem'd to be a good Hepatic, and uſeful
Inflammations of the Liver, and Obſtructions of the
adder, and the Jaundice: The *Germans* put it into
Wine, as we do *Borrage* and *Burnet*, as a great Cordial,
mforter of the Spirits. The green Herb, bruiſed, is ap-
y ſome Country Folks to hot Tumors and Inflamma-
and to freſh Cuts. *Miller's Bot. Off.*

ASPERUM, τραχὺ, rough, is an Epithet apply'd to a Body of an uneven Superficies, grating to the Touch, which Property is call'd *Aſperitas*, or *Aſpritudo*, τραχύτης, Roughneſs. In *Scribonius Largus* we read *Aſprum* for *Aſperum*, by a Syncope, N° 180. Every rough Body is uneven, ſays *Galen*; but, on the contrary, every uneven Body is not rough. Roughneſs or Aſperity, according to the ſame Author, is occaſion'd from Conſtriction, or too great Dryneſs, or from Acrimony. *Gal. Comment. in Lib.* 1. *Hipp. de Morb. vulg.* & *Lib. de Ptiſana, C.* 5.

Aſperata quæ levent, ſimple Medicines ſmoothing Aſperities enumerated by *Celſus*, are, Spodium, Ebony, Gum *Arabic*, the White of an Egg, Gum Tragacanth. *Celſus, Lib.* 5. *Cap.* 13.

ASPHALATUS. The ſame as ASPALATHUS, which ſee.

ASPHALEIA, ἀσφάλεια, from α Negative, and σφάλλω, to deceive. Security, Firmneſs; and ἀσφαλὲς, ſafe, ſecure. *Hippocr.* 5. *Aph.* 22. & 2. *Aph.* 15.

ASPHALTITIS, ἀσφαλτῖτις, according to *Archigenes*, a kind of Trefoil with a larger Leaf, uſed by the *Coronarii*; (Garland-weavers) but *Dioſcorides* writes, that Trefoil was ſimply ſo call'd, *Gorræus. Dioſcorides* makes the Name of it ἀσφάλτιον, not ἀσφαλτῖτις, *Lib.* 3. *Cap.* 123. *Edit. Wechel.* 1598.

Ἀσφαλτῖτις is alſo a Name given by ſome to the laſt of the Vertebræ of the Loins. *Gorræus.*

ASPHALTOS & *Bitumen Judaicum*, Offic. *Bitumen*, Calc. Muſ. 174. *Bitumen Judaicum*, Worm. 30. Charlt. Foſſ. 14. Aldrov. Muſ. Metall. 381. *Bitumen nigrum craſſum*, Kentm. 21. *Bitumen Judaicum Aſphaltum*, Mont. Ind. 12. JEWS PITCH.

The *Aſphaltum* of *Dioſcorides*, and *Bitumen Judaicum* of the Shops, call'd *Carabe* and *Gummi Funerum* by *Serapion*, and by others *Mumia*, is a ſolid, brittle, ponderous Subſtance, of a red, blackiſh, or dark Colour; eaſily inflammable, and of a ſtrong bituminous Smell, eſpecially when warm, and fuſible by Fire. It is found in ſeveral Parts, but the beſt is that which comes from *Judea*, where it is gather'd on the *Dead Sea*, call'd from thence the Lake *Aſphaltites*. It is probable, that a great Quantity of this Bitumen riſes from the Bottom of that Lake to the Surface of the Water. At firſt it is ſo ſoft, viſcid, and glutinous, that it can with Difficulty be ſeparated from any Part which it touches, but in time it grows harder than Pitch; and, from the Place where it is found, it is call'd *Carabe* of *Sodom*; *Carabe* being uſed often by the *Arabians* to denote any ſolid Bitumen, and the *Dead Sea* being the Lake where *Sodom* ſtood. The Names of *Gummi Funerum* and *Mumia* were given it, becauſe the common People, among the *Egyptians*, uſed it in embalming and preſerving dead Bodies.

The true *Bitumen Judaicum* is ſeldom brought to us; for *Dioſcorides* directs us to make Choice of that which ſhines like Purple, and to reject the black Kind as being foul, and of ſmall Value; but all that we ſee of that Kind is black; though even that, when broken in Pieces, appears, againſt the Light, to be of a Saffron Colour; and therefore it is poſſible this may be the ſame Kind recommended by *Dioſcorides*, only boil'd to a hard Conſiſtence in Braſs Kettles, before it is ſent to us.

It is of a diſcutient, emollient, and agglutinating Quality. It diſſolves coagulated Blood, and promotes the Menſtrual Diſcharge. It is an Ingredient in the *Venice* Treacle, and in the Embalming Powder of *Charas. Geoffroy.*

ASPHARAGUS. The ſame as ASPARAGUS, but ſpelt with a φ inſtead of a π, according to the *Attic* Dialect. *Blancard.*

ASPHENDAMNOS, SPHENDAMNOS. A Mountain Maple. *Blancard.*

ASPHODELUS. The Aſphodel.

The Aſphodel is a well known Plant, with Leaves like a large Leek, and a ſmooth Stalk, bearing on its Top a Flower called *Anthericos*. [The Tranſlator of *Nicander* makes *Anthericos* the Fruit, and *Antherix* the Stalk of the Aſphodel. See ANTHERICOS.]

The Roots are oblong, ſmooth, and like an Acorn, of an acrimonious Taſte, and heating Quality. Being drank, they provoke Urine and the Menſes; and the Weight of a Dram taken in Wine cures Pains in the Side, Coughs, Convulſions, and Ruptures. The Quantity of a Dye eaten as Food facilitates Vomiting; and three Drams are an effectual Doſe for thoſe who are bitten by Serpents: But a Cataplaſm of the Root, Leaves, and Flowers, with Wine, muſt at the ſame time be apply'd to the Place. The Root boiled in Lees of Wine makes a good Cataplaſm for foul and ſpreading Ulcers, and for Inflammations of the Breaſts or Teſticles; to recent Inflammations it is apply'd with Polenta. The Juice of the Root mixed with old ſweet Wine, [παλαιοῦ γλυκέος] Myrrh, and Saffron, and boiled all together, makes a good Medicine to anoint the Eyes. The ſame warm by itſelf, or with Frankincenſe, Honey, Wine, and Myrrh, is proper for purulent Ears, and cures the

Pain of the Teeth, if dropped into the oppoſite Ear. The Aſhes of the burnt Root rubbed on an Alopecia cauſe new Hair to ſpring. Oil boiled in the Roots hollowed, and ſet over the Fire, is good to anoint exulcerated Chilblains, and Ambuſtions; and dropped into the Ears it eaſes the Pains therein. The Root abſterges the white Alphus, [ἀλφὸν λευκὸν] if the Part affected be firſt rubbed with a Linen Cloth, and then anointed. The Seed and Flowers drank in Wine are a moſt effectual Antidote againſt the Scolopendra and Scorpion, but diſturb the Belly. *Dioſcorides*, *Lib.* 2. *Cap.* 199.

This Aſphodel does not ſeem to be the ſame as that taken Notice of by *Heſiod*, which he repreſents as eatable, by way of Food, and joins it with the Mallows.

Aſphodelus verus albus, Offic. Ἀσφόδελος, Dioſcorides, *Aſphodelus ramoſus*, Ger. 86. *(figura eſt tranſpoſita)* Emac. 93. *Aſphodelus albus ramoſus mas*, C. B. Pin. 28. Tourn. Inſt. 343. Elem. Bot. 286. Boerh. Ind. A. 2. 110. *Aſphodelus major albus ramoſus*, Park. Parad. 146. *Aſphodelus major ramoſus flore albo*, J. B. 2. 625. Chab. 221. Raii Hiſt. 2. 1191. *Aſphodelus albus ramoſus*, Hiſt. Oxon. 2. 330. WHITE ASPHODEL.

The Stalks of the white Aſphodel grow to be two or three Feet high, branched toward the Top, divided into ſeveral Spikes of ſtarry white Flowers, each being monopetalous, divided into five Parts, with a purple Line on the Back of each, and ſeveral yellow Chives in the Middle. The Leaves are long and narrow, and ſharp-pointed, hollow'd in the Middle like a Sword-blade. The Root is compoſed of a great many long, roundiſh, tuberous Glandules, growing from a ſtringy Head. It is planted with us in Gardens, its native Place being *Italy*, *Spain*, and the Southern Parts of *France*, and flowers in *May*.

The Roots of this Plant were uſed by the Antients to provoke Urine, and bring down the Menſes; but it is very rarely met with in the Practice of Phyſic. *Miller's Bot. Off.*

Aſphodelus verus luteus, *haſta regia*, Offic. *Aſphodelus luteus*, Ger. 87. Emac. 94. J. B. 2. 632. Chab. 221. Raii Hiſt. 2. 1192. *Aſphodelus luteus*, *& flore*, *& radice*, C. B. Pin. 28. Rupp. Flor. Jen. 124. Tourn. Inſt. 344. Boerh. Ind. A. 2. 110. *Aſphodelus luteus minor ſive Haſtula regia*, Park. Parad. 147. *Aſphodelus folio fiſtuloſo ſtriato*, *non ramoſus*, *luteus*, *& flore*, *& radice*, Hiſt. Oxon. 2. 331. KINGS SPEAR. *Dale.*

This is a lower Plant than the former, and much leſs branch'd. The Leaves are long, hollow, and fiſtular, ſomewhat triangular; the Leaves grow in Spikes of a yellow Colour, larger than the other, of the ſame Shape and Make. The Root is compoſed of the like Clogs and Glandules, of a yellow Colour. This likewiſe is a Native of *Italy* and *Sicily*, and is planted here in Gardens, flowering in *May* and *June*.

The ſame Virtues are attributed to this, as to the former, but it is ſeldom uſed. *Miller's Bot. Off.*

Bartholomæus Zorn is more particular with reſpect to this Plant; for which Reaſon I ſhall give his Chapter upon it.

Aſphodelus, *Affodilus & Haſtula regia*. *Aſphodelus luteus*, Dod. J. B. Chabr. *Luteus & flore et radice*, C. B. *Luteus minor ſive Haſtula regia*, Park. *Folio fiſtuloſo ſtriato*, *non ramoſus*. *Luteus & flore & radice*, Moriſ. H. 2. *Iphion* Theophraſti, Ἀσφόδελος, Græc. *Erizambac*, Arab. *Bernhardi Teſticulus.* Others call it *Anthericum*, which, according to the Fiction of *Lucian*, the Ghoſts of the Damn'd eat in Hell. It is an Herb well enough known in our Gardens, on account of its beautiful Flowers. It grows naturally in many Parts of *Italy*, *France*, and *Spain*. The Poet *Heſiod* makes very honourable mention of it. There are three Sorts of it, two of which are white and prickly on the Edges, but the other Species is of a yellow Colour. The Root is principally uſed, which is hot, and of a ſtrong bitter Taſte. *Fallopius*, *L. de Cauter. C.* 10. reckons it among the beſt of the milder Catheretics. It is of a warming, drying, opening, diſcuſſing, purgative, and cleanſing Nature. It alſo excites a Diſcharge of the Urine and Menſes; is good for Spaſms, cures Ruptures, Jaundice, and the Dropſy. A Decoction of the Roots of Aſphodel, uſed as common Drink, is a powerful Medicine. *Guil. Varign. Secret. Med. p. m.* 131. The Root boiled in Wine or Water, and ſufficiently triturated when dry, cleanſes and cures old corroſive and fetid Wounds and Ulcers, Swellings of the Breaſts and Privy-parts; as alſo bloody Ulcers, *Plin. L.* 22. *C.* 22. A Cataplaſm is alſo prepared of it and Pitch, for removing the Stench of the Feet, *P. Laurenb. Horticult. L.* 2. *C.* 7. *p.* 114. If beat, and laid upon ſcrophulous Swellings, it cures them, *Foreſt. L.* 3. *Obſ. Chir.* 11. and heals Chilblains, whether exulcerated or not, *J. Prævot. in Med. Paup. Joh. Scultet. in Armament. Chir. Obſ.* 83. The Vinegar in which the Root has been boiled, if uſed for waſhing the Body, cures the Itch, and other ſcorbutic Eruptions. Some roaſt the Root in hot Aſhes, and rub their Faces and Hands with it, in order to remove all Blotches, and purify the Skin. The Root alſo cauſes the Hair to grow faſt, and curl: See *Laurenberg. Apparat. Plantar. L.* 2. *C.* 7. The Root burnt to Aſhes, and mixed with Honey, makes the Hair grow again on those
from which it is fallen off. This Root reduced to Pow
and mixed with calcined Alum, corrodes the proud Fleſ
foul Ulcers, if apply'd to them. If a Houſe is ſmoaked
this Root, it baniſhes Mice, and proves a Poiſon to them.
its Root is put into the Water which Swine drink, it prev
their being affected with a peſtilential Leproſy; or if they
ſo, it reſtores them to their natural State. It alſo produces
ſame Effect, if they are frequently waſhed with ſuch a W
Florentinus.

ASPHYXIA, ἀσφυξία, from α Negative, and σφύξι
Pulſe, from σφύζω, to leap, or beat like an Artery. A
vation of the Pulſe, when no Artery ſeems to be moved, o
Motion is perceptible to the Touch. A total Privation of
Pulſe indeed cannot be while the Animal is alive; but
reſpect to our Senſe of Feeling, a Privation often happ
Galen. Lib. 1. *de Præcogn. ex Pulſ.* The ſame is occaſio
two Ways, which are either a total Abolition of the Pulſe of
Arteries, which is the moſt mortal of all Symptoms, or bec
it beats ſo weakly and remiſsly, as to eſcape all Notice by
Touch. *Galen. Lib.* 2. *de Præſag. ex Pulſ.*

Ἀσφυξία is rendered by *Cœlius Aurelianus*, *Cap.* 3. *Li*
Tard. Paſſ. Pulſus Parvitas et Amputatio, "a Smallneſs
"Amputation of the Pulſe."

Ἄσφυκτοι, in *Galen*, *Lib.* 4. *de Diff. Pulſ. Cap.* 3. are
as are deprived of Pulſe, or have no perceptible Motion of
Arteries.

ASPIC.

There is an Oil, called by the *French Oil of Aſpic*, dr
from a Plant which *C. Bauhine* calls *Lavendula latifolia*;
to which *J. Bauhine* gives the Name of *Pſeudonardus*, and
French that of *Aſpic*.

This Plant is commonly found in all Parts of *Prov*
and when it produces its Flowers, we put them, when al
dry, into a large Still, with a great deal of Water.
a Maceration for ſome Days, we diſtil the Whole, upon w
there is carried along with the Water an Oil of a yellowi
amber Colour; and this is the *Oil of Aſpic*, pure and unad
rated, as it ought to be. The Flowers of this Plant are
choſen for this Purpoſe, rather than any other of its P
becauſe they contain the largeſt Quantity of eſſential Oil;
indeed, upon ſtrict Obſervation, we find, that the Cup o
Flower contains almoſt all the oily Parts of the Plant.

We muſt here obſerve, that aromatic Plants generally
but a ſmall Quantity of Oil; ſo that before the Oil c
diſtilled with ſmall Expence, a large Quantity of the Flo
muſt be eaſily procured; which is the Reaſon that in *Pro*
the eſſential *Oil of Aſpic* is not only to be found in gr
Abundance, but is alſo ſold cheaper, than the Oil extracted
that Plant in moſt other Parts.

But notwithſtanding the Eaſineſs of extracting the O
thoſe Parts, where the Flowers are found in Abundance,
the immenſe Quantity of it uſed, and the low Price paid f
ſhew that we very rarely have it perfectly pure and un
terated. There are ſeveral ways of adulterating this Oil,
of the leaſt fraudulent of which I myſelf have diſcovered; o
by mixing it with Spirits of Wine, and the other by addi
it Oil of Turpentine. This Oil is for the moſt part imp
to us from *Provence* and *Montpelier*; but as 'tis a great
more employed in Painting, Enameling, and Varniſhing,
in Phyſic, it does not ſo properly come under our preſent
ſideration, *Mem. de l'Acad.* 1715. *by Mr. Geoffroy the young*

ASPIDION, ἀσπίδιον, a Diminutive of ἀσπὶς, a Bu
A Name for the *Alyſſon* of *Dioſcorides*, becauſe it has
round Pods reſembling a Buckler. *Blancard.*

ASPIDISCOS, ἀσπίδισκος, from ἀσπὶς, a Buckler, pr
ſignifies a little Buckler, or the exterior Ornaments of Buck
but is apply'd by Metaphor to the Sphincter Muſcle, as
in a manner the Ring of the Anus, as we are inform
Cœlius Aurelianus, *Tard. Paſſ. Lib.* 3. *Cap.* 3.

ASPIS, ἀσπὶς. The Aſp, a very poiſonous Serpent
which *Galen*, *Lib.* 1. *de Theriac. ad Piſon. C.* 8. makes
Species, the firſt called χερσαῖα, the ſecond χελιδονία, an
laſt πτυὰς, which is the moſt pernicious; for it exten
Neck, and ſuddenly ſpits its Venom upon a Perſon, as
were endued with Reaſon to eſtimate the Diſtance. This
Sort that is ſuppoſed to have bit Queen *Cleopatra* to Death
after the Overthrow and Death of *Antony*, when *Auguſtu*
a Deſign to lead her away captive, to adorn his Triumph
held out her Breaſt to one of theſe Serpents, and by its
received a very ſpeedy Death. The Mark of this Bite is
ſmall, like the Puncture of a Needle, without a Tumor
but a ſmall Quantity of Blood, though black in Colour,
from the Wound. This is ſoon ſucceeded by a Dim
Sight, and various Kinds of Pain in the Body, but very
and not without ſome Mixture of Pleaſure. Wherefor
cander had Reaſon to ſay, in his Verſes, that it kills w
Pain. The Colour changes to a Green and Herbaceous;
is a ſlight Gnawing at the Mouth of the Stomach; the
head has continual Spaſms; the Eye-lids move involuntari

e Approach of Sleep ; and the Patient dies in leſs than the Part of a Day.

he moſt ready and effectual Remedy is Amputation of the ed Part, if it be one of the Extremities, and may be done ; , let the circumjacent Fleſh be ſpeedily ſcarify'd, and cut even to the Bone, that the Venom may not ſpread itſelf he neighbouring Parts, and the reſt are to be treated with eries ; for the Poiſon of this Serpent, as well as that of the ſk, like Bulls Blood, very ſoon congeals the Blood and s in the Arteries. *P. Æginet. Lib.* 5. *Cap.* 18.

plaſtrum ex Aſpidibus. A Plaiſter of Aſps for ſtrumous ings, and other Hardneſſes, and for the Gout in the In- s of the Paroxyſms, you are taught how to prepare by , *Tetrab.* 4. *Serm.* 3. *Cap.* 15.

s probable, that anointing the injured Part with common f Olives by a warm Fire, would cure the Bite of the Aſp, loes that of the Viper. See ALEIPHA, and VIPERA.

PLENIUM, a Plant thus diſtinguiſh'd :

lenium Ceterach, Scolopendria, Offic. *Aſplenium, Scolo- m, Ceterach*, Chab. 556. *Aſplenium ſive Ceterach*, J. B. . Ger. 978. Emac. 1140. Raii Hiſt. 1. 139. Synop. 45. 1046. Hiſt. Oxon. 1. 561. Elem. Bot. 434. Tourn. 544. *Ceterach officinarum*, C. B. 354. SPLEEN- RT or MILTWAST. *Dale.*

is is a ſmall Plant, conſiſting only of Leaves, which ſpring fibrous Root. They are about three or four Inches long, half an Inch broad, cut into ſmall roundiſh Segments, ſtand not oppoſite to one another, but alternately ; they a greeniſh Colour on the upper Side, and browniſh, ll of duſty Seed underneath, generally crumpled, or folded l, in Shape ſomewhat like the Inſect *Scolopendra*, whence s one of the Names. It grows upon old Stone Walls and ngs, eſpecially in the Weſt of *England*.

s is one of the five Capillary Plants, having its Name its good Effects in curing Diſeaſes of the Spleen, taking the Swellings thereof, and hindering its too great Large- whence likewiſe it is called Miltwaſt ; it alſo opens Ob- ns of the Liver, helps the Jaundice, and is very good for ckets in Children. *Miller's Bot. Off.*

uvius gives an extraordinary Inſtance of the Effects of ium in *Crete*, which is ſpecify'd in the Extract from that under the Article AER.

REDO *Cernua*, Offic. Bellon. de Aquat. 291. *Cernua ilis*, Geſn. de Aquat. 192. Charlt. Piſc. 39. Raii Ichth. Ejuſd. Synop. Piſc. 144. Mer. Pin. 190. *Aſpredo*, e Rar. Animal. 107. *Aurata*, Rondel. de Piſc. 1. 115. *fluviatilis minor*, Aldrov. de Piſc. 624. Jonſ. de Piſc. THE RUFF.

Fiſh is common in many of our large Rivers. *Geſner* nends a Bone found in the Head of this Fiſh, for the n the Kidneys ; and for pungent Pains about the Ribs, other Parts. *Dale.*

RELLA. A Name which *Blancard* gives to the *Equi- ajus*, on account of its *Aſperity* ; for which it is uſed to Cheſts and Cupboards.

RIS. A Tree, the ſame as the ÆGILOPS. which ſee.

A-FŒTIDA. The ſame as ASA-FŒTIDA. See UM.

ALA. A Nutmeg. *Ruland. Johnſon.*

ALIÆ, Worms that breed among Planks, otherwiſe *oſſi, Teredones, Termes, Thripes, Xylophagi. Rulandus.*

ANEGI, ASANIRGI, ASARAGI. The Powder s off from the Walls of Salt in the Salt Mines. *Ru-*

ANUS. A Weight among the Antients, conſiſting of ams. *Galen. de Ponderibus et Menſ.*

ATIO, ὄπτησις, Aſſation, is an artificial way of dreſſing s, by means of an extrinſic and foreign Heat, which by ailing Force is effectual towards drying of the ſame. re ſeveral Kinds or Modes of Aſſation ; for either the moved near the Fire, or placed in a Veſſel, with none, n inſufficient Quantity of Moiſture, and Fire put under this Claſs belong fry'd Meats, whence Frying is a of Aſſation. Hither alſo may we refer *Toſtio*, ϛάτευσις, g. Roaſted and fry'd Meats, according to *Galen*, *Alim. Fac. Cap.* 2. afford drier Aliment to the Body. ſt in *Greek* are called ὀπτὰ, the other τηγανιϛά. *Scri- Largus* mentions *Ova aſſa*, N° 221. *Aſſare*, in the al Language, is to dry a Thing, and put it in ſuch a s to be reducible to Powder ; and ſometimes it is the to congeal. What is all red-hot both within and with- dergoes a wrong Aſſation. *Aſſare*, by way of Allegory, the ſeventh Regimen, which is that of the Moon, Office it is to heat and compoſe for the Space of twenty- ys, and this is called the Silver Regimen. Laſtly, , in the Magiſtery of the Philoſophers Stone, is a nd gentle Deſiccation of Bodies diſſolved and ſeparated ir Menſtruums by a ſmall Fire decreaſing towards the hich ſweet Deſiccation is a Calcination. *Caſtellus.*

ASSATURA is the Animal or Piece of Meat but juſt removed from the Fire after Aſſation, and wrapped in a Cloth. They are called *Aſſaturæ ſuffocatæ*, by *Santes Ardoynus*, and reckon'd among Poiſons. *Caſtellus.*

ASSERAC, the ſame as *Aſſis*, is a Species of *Bangue*, which is the *Aſſis* of the *Egyptians*, and differs from the Opium and Maſlac of the *Turks*. *Caſtellus.*

ASSERVATIO, or CONSERVATIO, in Pharmaceutics, is repoſiting ſuch Collections of Simples as are neceſſary for Uſe in proper Veſſels and Places, that they may be always in Readineſs. *Caſtellus.*

ASSIDENS *Signum*, συνεδρεῦαι, an aſſident Sign, or Symptom, that is, ſuch a one as uſually accompanies a Diſeaſe. It differs, however, from the *Pathognomonic* in this, that this laſt is inſeparable from the Diſtemper, as being eſſential to it ; but the other not ſo, *Gal.* 3. *in* 3. *Epid. C.* 34. For Illuſtration, let the Pleuriſy be an Example, in which an acute Fever, a Difficulty of Reſpiration, Cough, and pungent Pain of the Side, are pathognomonic Symptoms ; but that the Pain ſhould extend to the Hypochondrium, or Clavicle, or that the Patient ſhould find more Eaſe in lying upon the affected Side than upon the other, are no more than *aſſident* Symptoms. *Caſtellus.*

ASSIDUUS is uſed by ſome inſtead of *continuus* ; thus with them *aſſidua Febris* is the ſame as *continua Febris*, and is oppoſed to *intermittens*. *Caſtellus.*

ASSIMILATIO, ἐξομοίωσις, ὁμοίωσις, an Aſſimilation. It is the Action by which the Supply of Nouriſhment is alter'd and aſſimilated to the Part nouriſhed, *Galen.* 3. *de Fac. Nat. Cap.* 1. In order to this there muſt be firſt an *Appoſitio*, πρόσθεσις, an Appoſition ; and then an *Agglutinatio*, or *Adhærentia*, πρόσφυσις, an Agglutination, or Adheſion, *Lib.* 1. *de F. N. C.* 11. It differs only in Name from Nutrition, *Lib.* 3. *de Cauſ. Sympt. C.* 2.

ASSIS is either the ſame with Opium, or Meconium ; or elſe it is a Powder prepared of Hemp-leaves, of which, being mixed with Water, the *Egyptians* take five or more Boluſes of the Bigneſs of a Cheſnut, which throws them into a drunken Ecſtaſy for an Hour, during which they delight themſelves with imaginary Scenes. *Proſp. Alpinus de Medic. Ægypt. Lib.* 4. *Cap.* 2. The *Turks* alſo call it *Aſſerac*. See BANQUE.

ASSISTENTES, or *Aſtites glanduloſi*. The ſame as PARASTATÆ, which ſee.

ASSITRA. A Tree in the *Eaſt-Indies*, the ſame as MANDARU, which ſee. *Raii Hiſt. Plant.* 1751.

ASSIUS LAPIS, Ἄσσιος λίθος, Dioſc.

Lapis Aſius, Offic. Matth. 1380. Aldrov. Muſ. Metall. 692. *Aſius vel Aſſius Lapis, quem etiam Sarcophagum vocant*, Worm. Aq. Charlt. Foſſ. 21. *Sarcophagus, ſive Aſſius Lapis*, De Lact. 133. *Sarcophagus, & Aſius ſeu Aſſius Lapis*, Boet. 403. ASSIAN STONES. *Dale.*

This is ſo called from Ἄσσος, a City of *Troas* in the Leſſer *Aſia*, where it was found. The *Aſſian* Stone is of a tophous, ſoft, friable, and looſe Subſtance. Something grows upon it like very fine Meal, ſuch as we ſee ſticking upon the Walls of Mills. They call it the *Flower of the Aſian Rock* : It is of ſubtile Parts, and conſumes Fleſh that is too ſoft and fluid by Colliquation without Mordacity. The Stone on which it grows has the ſame Virtue, but weaker ; for the Flower is not only colliquative, digeſtive, and preſervative like Salt, but performs all this without any remarkably corroſive Quality. It has ſomewhat of Saltneſs to the Taſte, which makes it conjectur'd to be a Dew ariſing from the Sea, which is condenſed by the Rock, and dry'd by the Sun. *Galen de Simp. Med. Fac. Lib.* 9.

The *Aſian* Stone, ſays *Dioſcorides*, ought to be of the Colour of the Pumice-ſtone, ſpongy, and light, and alſo friable, with intercurrent yellow Veins from the Top to the Bottom. Its Flower is a yellowiſh and ſaltiſh Subſtance, on the Surface of the Stone, of a thin Contexture, ſome white, ſome of the Colour of the Pumice-ſtone, inclining to yellow ; it taſtes ſomewhat biting upon the Tongue.

Both the Stone and the Flower have an aſtringent and gently colliquative Virtue, and, being mixed with Reſin of Turpentine or Tar, diſcuſs Tubercles ; but the Flower is eſteem'd moſt effectual, and is, indeed, when dry'd, an extraordinary Remedy for inveterate Ulcers, which are difficult to be cicatrized, and repreſſes carnous Excreſcences. Mixed with Honey it abſterges foul and virulent Ulcers ; it deterges alſo and incarns Ulcers which are hollow, and mixed with Cerate reſtrains the ſpreading Kind. It is made into a Cataplaſm with Bean-meal for the Gout, and for ſplenetic Diſorders with Vinegar and Quick-lime. The Flower made into an Eclegma with Honey is good in a Phthiſis. Veſſels are made of the Stone, in which gouty Perſons put their Feet when they bathe, and find Relief thereby. Coffins are made of the ſame, for the ſpeedy Conſumption of dead Bodies ; and Perſons of a very fleſhy and groſs Habit are extenuated by ſprinkling the Flower inſtead of Nitre in their Baths. If any one thinks fit to waſh the Stone or Flower, he muſt do it as he waſhes *Cadmia*. *Dioſcorides*, *Lib*. 5. *Cap*. 142.

About *Aſſos*, a City of *Troas*, grows a Stone which conſumes all Bodies; they call it *Sarcophagus* [from σάρξ, Fleſh, and φάγω, to devour]. *Pliny*, *Lib*. 2. *Cap*. 96. Dead Bodies interr'd in it are found to be conſum'd within forty Days, Bones and all, except the Teeth. *Idem*, *Lib*. 36. *Cap*. 17.

ASSOS, Alum. *Rulandus*.

ASSUETUDO, the ſame as CONSUETUDO.

ASSUMTIO, πρόσληψις, προσφορὰ, a Reception. The Word is apply'd to every thing, whether Aliment or Medicine, which is communicated by the Mouth to the Body, not excepting Air itſelf. *Caſtellus*.

ASTACUS, Offic. Geſn. de Aquat. 91. Rondel. de Aquat. 1. 538. *Aſtacus verus*, Aldrov. Exang. 112. *Aſtacus marinus communis*, Jonſ. Exang. 13. *Aſtacus marinus*, Mer. Pin. 191. Charlt. Exer. 55. Schoneſ. Ichth. 23. THE LOBSTER. *Dale*.

This Fiſh is too well known to require a Deſcription. The Shell calcin'd, and drank in Wine, is ſaid to break and carry off ſtony Concretions in the Kidneys; and it is likely enough to have ſome Effect in ſuch Caſes, becauſe the Shells of Fiſh calcin'd are a ſort of Lime, and the Salts of Lime are the grand Diſſolvents of ſtony Concretions. It is now well known, that whatever good Effects Mrs. *Stevens*'s Medicine for the Stone may have, are owing to the Salts of Lime.

Lobſters as a Food are highly alcaleſcent, and of conſequence muſt be very proper Food, when an acid Acrimony prevails in the Stomach, and general Habit; but the contrary in caſe of a Tendency to an alcaline Putrefaction. They are eſteem'd very nouriſhing, and good in a Conſumption. See ALIMENTA.

ASTACUS FLUVIATILIS, Offic. Rondel. de Piſc. 2. 210. Schoneſ. Ichth. 20. Geſn. Aquat. 104. Mer. Pin. 192. Charlt. Exer. 56. Aldrov. de Exang. 129. Jonſ. Exang. 15. *Cammarus*, Bellon. de Piſc. 355. *Cancer*, Schrod. 5. 325. The CRAFISH, or CREVIS.

They are found in Rivers, and the Parts of them uſed in Pharmacy are, the *Fleſh*, and what we call the *Lapilli*, or *Oculi Cancrorum*, known by the Name of *Crab's-eyes*. In their Head, according to ſome, or rather in their Stomach, are found two white Stones, as large as a Pea, of a kind of lenticular or orbicular Form, but compreſs'd, and ſomewhat hollow on one Side, whereas the other is convex, and diſpos'd in *Laminæ*. Theſe Stones are of an earthy Taſte. We frequently meet with a counterfeit Species of this Commodity prepar'd of a whitiſh Earth, and made up in the ſame Form; but this fictitious Kind is eaſily diſtinguiſhed by breaking them, ſince they want thoſe *Laminæ* which are always found in the convex Part of natural and genuine Crabs-eyes. The Fleſh of this Animal is cooling, moiſtening, and adapted to nouriſh ſuch as labour under Atrophies. The *Stones* or *Eyes* are cooling, drying, abſtergent, and diſcutient; they reſolve tartarous Concretions, and coagulated Blood, and are poſſeſs'd of a lithontriptic Quality; for which Reaſon they are often preſcrib'd in nephritic Pains, Pleuriſies, Aſthmas, and Colics; they are alſo proper for cleanſing the Teeth. The Shell is poſſeſs'd of the ſame Virtues with the Stones, and is beſides of Service in curing ſuch Itches in Children as ariſe from ſaline Humours, and in carrying off the Paroxyſms of intermittent Fevers. *Schrod*.

ASTAPHIS, ἀσαφὶς, in the *Attic* Dialect, for σαφὶς, a Raiſin.

ASTARZOF. The Name of an Ointment in *Paracelſus*, conſiſting of one Ounce of Litharge waſh'd, one Ounce and a half of Sperniola, with three Ounces each of the Juices of Houſe-leek, and Water-lily. He gives alſo the ſame Name to a Mixture of two Ounces of Roſe-water with an Ounce of Camphire. Theſe he uſes in the Cure of a *Formica*. *Paracelſ. de Apoſtem. Cap*. 38.

ASTCHACHILOS is a Name given by *Paracelſus* to a malignant gangrenous Ulcer, which begins at the Junctures of the Feet, and aſcends up the Legs to the Knees. When there is a Redneſs, he ſays, above the Junctures at the Root of the Heel, and the Ulceration occupies a large Surface, making its way by many little Ulcers up the Leg towards the Knee, you may venture to ſay there will be an *Aſtchachilos*, which I alſo call *Araneus*. *Id. ibid. Cap*. 18.

ASTEION, ἀστεῖον, from ἄστυ, a City, in the ſame Senſe as *Urbanus* comes from *Urbs*. Good, laudable, civil, polite, In *Hippoc. Lib. de Alim*. ἀστεῖον is oppoſed to βλαβερὸν, hurtful; and ſoon after to φλαῦρον, bad, corrupt. In *Hipp. Epiſt. ad Democ*. περὶ ἐλλεβορισμοῦ, ἀστεῖοι τὰ σώματα are ſuch as enjoy a good State of Body. Ἀστεῖον, in the ſame Author, ſignifies civil, polite, laudable, and is commonly oppos'd to ἄγριον, rude, barbarous, malignant. Ἀστεῖον, according to *Varinus*, ſignifies τὸ χαρίεν, καὶ τὸ δεξιὸν, καὶ θαύματος ἄξιον, θαυμάσιον, σπουδαῖον καὶ αἰδέσιμον, "graceful and handſome, worthy of Admira-
"tion, honourable, juſt, and venerable."

ASTERES THALATTII, ἀστέρες θαλάττιοι, (from θάλασσα, or θάλαττα, the Sea, Star-fiſh) are preſcribed, together with Cabbage and ſcented Wine, by *Hippocrates*, *Lib*. 2. περὶ γυναικ. in the Hyſteric Paſſion; and for Hyſterical Pains, περὶ γυναικ. φυσ.

The *Stella Marina* is very ſmall in Bulk; its Inſide is Fl but its Outſide a pretty hard Callus. They ſay it is of ſo a Nature, that it ſcorches every thing it touches, and digeſts its Food in an Inſtant. *Plin. Lib*. 9. *Cap*. 60.

ASTERGES, ἀστεργὴς, from α Neg. and στέργω, prope to love with a natural Affection. Inhuman, unnatural, seve in *Hippoc*. περὶ ἀδένων, it ſignifies hard, denſe, compact, is oppoſed to ἀραιὸς, μαλθακὸς, rare, ſoft; as τὸ ἢ ἄρσεν τι προσδέξαιτο, πυκνόν τε ἐὸν καὶ ἀστεργές. "But the M does not receive any [Moiſture] "being denſe and compact

ASTER ATTICUS, Ἀστὴρ Ἀττικὸς, Dioſcorides *Inguina* *Aſter Atticus*, Offic. *Aſter Atticus*, Ger. 392. Emac. Raii Hiſt. 1. 338. *Aſter Atticus luteus verus*, Park. *Aſter luteus, foliolis ad florem rigidis*, C. B. 266. *Chryſan mum conyzoides, foliis circa florem rigidis*, Hiſt. Oxon. 3. *Chryſanthemum Aſteris facie, foliis ad florem rigidis*, H Cat. *Aſteriſcus annuus foliis ad florem rigidis*, El. Bot. Tourn. Inſt. 497. Boerh. Ind. A. 164. Act. Reg. An. 1710. 382. GOLDEN STARWORT. *Dale*.

The *Aſter Atticus* [by ſome called *Bubonium*, Oribaſius a ligneous Stalk, which has a purple or yellow Flower o Top, divided round about, like that of Chamomile, with ated Leaves like a Star. The Leaves about the Stalk are long and hairy.

Made into a Cataplaſm it is effectually apply'd in hot D ders of the Stomach, Inflammations of the Eyes, Buboes, falling down of the Anus. They ſay that the purple Pa the Flower drank in Water cures the Quinſey, and frees C dren from the Epilepſy; and being apply'd while it is yet and recent, by way of Cataplaſm, is proper for inflamma Buboes. If the Flower, when it is dry, be cropt by the Hand of the Patient, and ty'd about the Bubo, it takes o Pain. *Dioſcor. Lib*. 2. *Cap*. 120.

Aſter by ſome is called *Bubonium*, becauſe it is a pre Remedy for a Bubo. It alſo relieves the *Sciatica*, being on the Part. *Pliny*, *Lib*. 27. *Cap*. 5.

Aſter is alſo the Name of a Medicine invented by *A macbus*, againſt Diſtillations, and various Sorts of Pains. *de Comp. Med. Sec. Loc. Lib*. 7. *Cap*. 5.

The lower Leaves of this *Aſter* are about four or five I long, and about an Inch broad at the End, which is ro pointed, and growing narrower towards the Root; the is downy and hairy, about a Foot and a half high, with like Leaves, but ſmaller, ſet on it without Order: To the Top it is divided into three or four Branches, at the of which grows a yellow Flower like a Marigold, but w broader Thrum, and narrower *Petala*: Cloſe under each F er grow ſix or ſeven ſtiff roundiſh Leaves, in form of a whence it takes its Name; the Seed is oblong, thin, and of a blackiſh Colour: The Root is ſmall and fibrous, peri every Year. It grows in *Italy*, *Spain*, and the Southern of *France*, and alſo in *Greece*. *Millar*'s *Bot. Off*.

This Plant is found in the Gardens of Botaniſts, and ers in *May*. Its Leaves are only uſed, which are of a v rary Nature, tho' rarely preſcribed in Practice. The L and the Herb itſelf are of Service in preternatural Comm and Heats of the Stomach, Inflammations of the Eyes falling down of the Fundament, and Tumors in the G The Water diſtill'd from its Flowers, if drunk, is of S in Quinſeys, and the epileptic Fits of Children. *Dale*.

There are ſeveral other Plants called by the Name of which are Species of CONYZA, which ſee.

The *Helenium*, or *Enula Campana*, is alſo call'd A OMNIUM MAXIMUM.

ASTERIA GEMMA, Offic. *Aſteria*, *aut Solis G* Boet. 226. The BASTARD OPAL, or STAR-G *Dale*.

This Gem is tranſparent like Cryſtal, but of a harder ture. 'Tis thought to be a Species of the *Opal*, but n the one nor the other are now kept in the Shops. If c about with one, 'tis thought to procure Sleep, and p frightful Dreams. *Boet*.

ASTERIAS, ἀστερίας, ἄστειος, ἀστρίτης, ἀστερόβολος, from a Star. The ſame as ASTROITES, which ſee.

ASTERION. The ſame, according to *Blancard*, as A before.

ASTERISCUS, of *Aſter*, or Starwort, which it is like, except that the Seeds are not papous, but cha YELLOW STARWORT.

The Cup of the Flower is ſtellated with little L which are extended beyond the Petals of the Flower in L

This Plant having no *Engliſh* Name, I have call'd it LOW STARWORT, altho' it is very different in its Ch from that Plant; the Seeds of this being plain, and for th part border'd round the Edges, having no Down adhe them, and the Flowers being ſurrounded with a fol Calyx.

here are ſeveral Species of this Plant cultivated in cu- Botanic Gardens; but in *England* we have but three Sorts, are preſerved for their Beauty.

Aſteriſcus annuus, foliis ad florem rigidis, Tourn. THE NUAL ASTERISCUS, WITH STIFF LEAVES FLOWERS.

Aſteriſcus annuus Luſitanicus odoratus, Boerh. THE TUGAL SWEET-SMELLING ANNUAL ASTE- US.

Aſteriſcus maritimus perennis patulus, Tourn. THE ITIME PERENNIAL DWARF ASTERISCUS. *'s Dictionary.*

STERITES. A Flint Stone to ſtrike Fire with. *Ru-*

TEROIDES. BASTARD STARWORT.

e Characters are;

hath a compound radiated Flower, whoſe Diſk is com- of many Florets which are Hermaphrodite, and of Semi- which are Female, and reſt upon the Embryos, which included in a ſcaly Empalement. Theſe Embryos after- become Seed, for the moſt part oblong.

e Species are;

Aſteroides Alpina, ſalicis folio, Tourn. Cor. BAS- STARWORT OF THE ALPS, WITH A LOW-LEAF.

Aſteroides orientalis, petaſitidis folio, flore maximo, Tourn. ORIENTAL BASTARD STARWORT, WITH TTER-BUR-LEAF, AND A LARGE FLOWER.

Aſteroides Americana minor annua, Vaill. LESSER RICAN BASTARD ANNUAL STARWORT. *'s Suppl.*

THENES, ἀσθενὴς, from α Neg. and σθένος, Strength. , infirm. The Difference between ἀσθενὴς and ἀσθενέων lies , that the former ſignifies one weak by Nature, and prone kneſs, but the other denotes a Perſon actually ſick. *Hip.* ϖεὶ ἀρχ. ἰατ. ἐγγύτατα δὲ τοῦ ἀσθενέοντός ἐστιν ὁ ἀσθενὴς, ἔστι νέστερος ὁ ἀσθενῶν· "The weak Perſon is next to the k, but the ſick Perſon is the weaker." Ἀσθενὴς is alſo 'd to δίαιτα, *Lib.* 6. *Epid. Aph.* 16. *Sect.* 4. which muſt , according to *Galen*, a weak or low Regimen of Diet, or renders a Perſon weak. By a weak Diet alſo may be un- od ſuch as yields but little Nutriment. So *Lib.* 6. *Epid.* 5. *Aph.* 20. τὰ ἀσθενέστερα σιτία are ſuch Food as nouriſh ; and ſo *Galen* explains the Place, as on the contrary Food is ſuch as contains much Nouriſhment. In the Senſe muſt we take ἀσθενεστάτη πτισάνη, *Lib. de Rat. in Morb. acut.* very weak Ptiſan, for ſuch as affords but little Nutriment; or, as *Galen* expounds it, τὴν ἀσθένειαν ἤτοι διότι βραχεῖαν τροφὴν τῷ σώματι δίδωσιν, ἀκουστέον ἢ ὅτι ποιότητα μηδεμίαν ἔχει σφοδρὰν, ὡς ἤτοι τῶν νεύρων ἢ ώμης ἅπτεσθαι, καθάπερ ὄξος τε καὶ οἶνος· "By its Weak- ſs we are to underſtand, either that it affords but ſlender ouriſhment to the Body, or that it poſſeſſes no vehement uality, by which it may offend the Nerves, or ſubvert the aſon, as Vinegar or Wine."

THMA, ſee DYSPNOEA.

TITES. The ſame as PARASTATÆ, which ſee.

TOMOS, ἄστομος, from α Neg. and στόμα, a Mouth. out a Mouth. This can be apply'd to nothing but Mon- For the Fable of *Pliny*, which gives an Account of an People who live by Exhalations only, and have no ths, is utterly extravagant and puerile.

TRABES, ἀστραβὲς, from α Neg. and στραβὴς, diſtorted, orted. Αἱ γένυες ἀστραβέες, the Jaws undiſtorted. *Hip- es de Articulis.*

TRAGALOIDES, BASTARD MILK-VETCH.

e Characters are;

hath a papilionaceous Flower, out of whoſe Empalement the Pointal, which afterwards becomes a Pod, ſhaped like a Boat, and full of Kidney-ſhap'd Seeds.

e have but one Sort of this Plant, which is;

ragaloides Luſitanica, Inſt. R. H. PORTUGAL TARD MILK-VETCH. *Miller's Dict. Vol.* 2.

TRAGALUS. The Name of a Bone in the Foot, and Plant.

cording to the natural Situation of the Foot, and its Con- n with the Leg, the *Aſtragalus* is the ſuperior and firſt of it. This Bone may be divided into two Portions, one and poſterior, which is, as it were, the Body of the Bone; ne ſmall and anterior, which is an Apophyſis, or the an- Portion.

e Body or poſterior Portion has four Sides, one ſuperior, lateral, and one inferior. The upper Side is the largeſt, 'd all over with a Cartilage cylindrically convex from be- ackward, with a Depreſſion running thro' the Middle of eadth, which repreſents half a Pulley, and is continuous the two lateral cartilaginous Sides, of which the external ader than the other. This upper Side is articulated with wer Side of the Baſis of the Tibia, the internal lateral with the inner Ankle, and the external lateral Side with the outer Ankle. Below the internal lateral Side there is a great Depreſſion without Cartilage, and ſeveral other Inequalities.

The lower Side is likewiſe cartilaginous and obliquely concave for its Articulation with the Os Calcis. At the very loweſt and poſterior Part of the Body of the *Aſtragalus*, on the Edge of the lower Side, is a ſmall, oblique, ſmooth Notch or Chanel for the Paſſage of Tendons.

The Apophyſis or anterior Part of the *Aſtragalus* is diſtinguiſhed from the Body by a ſmall Depreſſion on the upper Part, and on the lower, by a long, oblique, unequal Notch, very broad toward the Outſide. The anterior Side of this Apophyſis is all cartilaginous, and obliquely convex, for its Articulation with the Os Scaphoides. The lower Side, likewiſe cartilaginous, is parted in two, and articulated with the Os Calcis, being diſtinguiſhed from the lower Side of the Body of the Bone by the long oblique Notch already mentioned. Beſides theſe two cartilaginous Sides, there is a third below the anterior, towards the inner Part, which in the Sceleton touches nothing. *Winſlow's Anatomy.*

ASTRAGALUS. The Plant called by this Name is thus diſtinguiſhed:

Aſtragalus, Offic. *Aſtragalus Dioſcoridis quibuſdam*, J. B. 2. 341. Chab. 153. *Aſtragalus Dioſcoridis, vulgò Chriſtianæ radix*, Rauwolf. *An Aſtragalus Syriacus*, J. B. 2. 140. Ger. 1058. Emac. 1238. Park. Theat. 1085. *Aſtragalus Syriacus hirſutus*, C. B. Pin. 351. *Aſtragalus Syriacus, Onobrychis peregrina quibuſdam*, Chab. 151. *Aſtragalus argenteus*, Wheel. Itin. THE SILK VETCH OF DIOSCORIDES.

The *Aſtragalus* is a ſmall trailing Shrub, with Leaves and Branches like thoſe of Chiches, and ſmall purple Flowers. The Root is round, and of a good Size like a Radiſh, with ſolid, black, [*Pliny* ſays red] and very hard Appendices, which are entangled within one another like Horns, and of an aſtringent Taſte. It grows in windy and ſhady Places, [in rocky and ſunny Places, *Pliny*] and where much Snow falls. There is great Plenty of it at *Memphis* [*Pheneum*, according to *Pliny*, *Galen*, and *Oribaſius*] in *Arcadia*.

The Root drank in Wine ſtops a Looſeneſs, and provokes Urine; dry'd to a Powder, it is with good Effect ſprinkled on old Ulcers, and ſtops Bleeding; but it is difficult to cut on account of its Solidity. *Dioſcorides, Lib.* 4. *Cap.* 62.

Its Root is ſweetiſh, aſtringent, and gives a deep Tincture of Red to the blue Paper; the Leaves give it hardly any; they are bitter, and ſmell like Elder, which ſhews that the fetid Oil is found in greater Quantity in the Leaves, and that it involves the acrid Salt and Earth. This Plant is not in Uſe; Nevertheleſs, a Night's Infuſion of it in Wine is given with Succeſs for Retention of Urine, and for the Gravel by ſome Herbariſts at *Paris*. *Martyn's Tournefort.*

Dale obſerves, that the Deſcription of the *Aſtragalus* in *Dioſcorides* is ſo ſhort and imperfect, that to this very Day it remains doubtful to what Plant it belongs, ſome aſcribing it to one, ſome to another. But whatever others may think, ſays he, I chuſe to refer it with *Rauwolf* to the abovementioned.

ASTRANTIA. A Name for Maſterwort. See IMPERATORIA.

But there is another Plant alſo called *Aſtrantia*, which is thus diſtinguiſhed by Authors.

Aſtrantia nigra, Offic. Ger. 828. Raii Hiſt. 1. 475. *Aſtrantia*, Rivin. Irr. Pent. Buxb. 33. *Aſtrantia major*, Mor. Umb. 7. Elem. Bot. 263. Rupp. Flor. Jen. 226. *Aſtrantia nigra major*, Hiſt. Oxon. 3. 279. *Aſtrantia major, corona floris purpuraſcente*, Tourn. Inſt. 314. Boerh. Ind. A. 73. *Aſtrantia nigra ſive Veratrum nigrum Dioſcoridis*, Ger. Emac. 978. *Helleborus niger, Saniculæ folio, major*, C. B. Pin. 186. Park. Theat. 213. *Sanicula fœmina quibuſdam, aliis Helleborus niger*, J. B. 3. 638. Chomel. 567. BLACK MASTERWORT.

This Plant is cultivated in the Gardens of Botaniſts, and flowers in *July*. Its black and fibrous Roots are only uſed. It is ſaid to purge melancholic Humours; and *Dodonæus* thinks that it reſembles the *Veratrum nigrum* of *Dioſcorides*, both in its Form and Qualities. *Hildanus* preſcribes it for the Cure of a ſcirrhous Spleen. *Dale.*

ASTRAPE, ἀστραπὴ, Lightning. It is reckon'd by *Galen* amongſt the Procatarctic Cauſes of an Epilepſy. *Caſtel.*

ASTRICTA. An Epithet very frequently apply'd to *Alvus*, the Belly: It implies Coſtiveneſs, and is oppos'd to *Soluta*, looſe.

ASTRICTORIA. The ſame as ASTRINGENTIA.

ASTRINGENTIA. Aſtringents.

I ſhall here principally conſider Aſtringent Remedies taken by the Mouth; for Aſtringent Topics come more properly under the Article *Styptica*.

Aſtringents are very proper to reſtore a Tone and Elaſticity to the animal Fibres, when debilitated by Diſeaſes, Intemperance, or Accident. But theſe are very ſeldom proper without a previous Attenuation of the Juices, and a Courſe of

Deobſtruent Medicines; becauſe Obſtructions are more firmly riveted, and the viſcid Juices circulate with more Difficulty, when the Diameters of the Veſſels are contracted by Aſtringents.

Among the ſeveral Claſſes of corroborative Medicines, that of *Aſtringents* is none of the leaſt conſiderable and important. The ſeveral Subſtances which come under this Denomination are alſo by the *Latins* ſtyl'd *Vulnerary*, and by the *Greeks Traumatic* Medicines. Their Virtues in general conſiſt in a certain fix'd and gently conſtrictive Principle, by means of which they brace up the Parts and Fibres that are too much relaxed, corroborate thoſe which are weakened, and conſolidate and agglutinate ſuch as are corroded and wounded. The principal Medicines belonging to this Claſs are, the Roots of Avens, Tormentil, Biſtort, the greater Conſound, Cinquefoil, Plantain, and Rhapontic. The *Herbs* Periwincle, Sanicle, Wintersgreen, the greater Conſound, Bugle, Saracens Conſound, Gooſeberries, Agrimony, St. *John*'s Wort, with its Flowers, Yarrow with its Tops, Horſe-tail, *Paul*'s Betony, Strawberries, Vervain, Mouſe-ear, Tree Germander, all ſorts of Plantain, Oak-leaves, *Jeruſalem* Oak, Baum, Mint, Betony, and Lamium, or the Dead Nettle; the *Flowers* of Roſes and Balauſtines; the *Peruvian* Bark, that of Pomgranates, and of the Root of the *Egyptian* Thorn; the *Juice* of the *Egyptian* Thorn, *Japan* Earth, Dragon's-blood, Hurtle-berries, and Quinces; of *Spices*, the Nutmeg; of *Mineral Subſtances*, the Bloodſtone, Alum, and all Species of Earths and Marles; of *Chymical Preparations*, the Chalybeate Flowers of Sal Ammoniac, and the Chalybeate Liquor prepar'd from the *Caput Mortuum* of the Chalybeate Flowers of that Salt; of *Officinal Preparations*, the Traumatic Eſſence of *Wedelius*.

The ſeveral Subſtances now mention'd operate by means of a conſiderably fix'd terreſtrial Principle, in Conjunction with an Acid: And as, by conſtricting the too much relax'd Fibres, they free them from a Congeſtion and Stagnation of Humours; ſo, by bringing them into a nearer Contact with each other, they promote their Conſolidation and Coaleſcence. But this conſtrictive Virtue is not equally ſtrong and powerful in all the Subſtances we have mention'd; for in the Tormentil-root, in the Biſtort-root, and its Extract, in the Balauſtine-flowers, the Pomgranate-bark, the Oak-leaves, the Alum, the Chalybeate Liquor, the Juice and Bark of the *Egyptian* Thorn, the Quinces, and dry'd Hurtle-berries, this aſtringent Quality is much ſtronger than in what we commonly call the vulnerary Herbs, which conſiſting of a ſubtile, earthy, and alcaline Principle, intermix'd with Particles of a ſulphureous, balſamic, and ſomewhat fix'd Nature, operate more ſafely and mildly, and are of ſingular Uſe and Advantage in the Practice of Phyſic. But that theſe *Vulneraries*, as well as the ſtronger and more powerful Aſtringents, contain a Principle of a ſubtile, diſſolvable, and earthy Nature, is plain from this, that rich Infuſions of them, upon the Admixture of Vitriol of Mars, or even of any Chalybeate Liquor whatever, become black, and aſſume an inky Colour, juſt as they would do by the Addition of Galls.

If Skill and uncommon Caution are requiſite in the Uſe of any Medicines whatever, they are certainly ſo in the Adminiſtration of *Aſtringents*; for ſince not only the Soundneſs of the Body in general, and of its ſeveral Parts, but alſo Life itſelf, is maintain'd and preſerved by the perpetual, progreſſive, and circulatory Motion of ſufficiently attenuated and fluid Humours thro' the Compages of the Body, which is almoſt quite vaſcular, and compoſed of inconceivably minute and ſlender Ducts; and ſince, at the ſame time, ſuch are the Natures and Properties of *Aſtringents* as to inſpiſſate our Fluids, when mix'd with them, and brace up the Pores and Ducts of our Solids; 'tis therefore obvious to every one, that Remedies of this Claſs muſt be unfriendly to the very Natures, and vital Motions, of animal Bodies; for which Reaſon they are not ſo ſafe and ſecure as ſome may imagine, unleſs when uſed with the utmoſt Care and Circumſpection: For daily Experience convinces us, that Medicines of an aſtringent Quality, raſhly and unſkilfully apply'd for ſtopping Hæmorrhages or Fluxes, produce numberleſs fatal Conſequences, and generally bring on ſlow Fevers, Cachexies, œdematous Swellings, ſpaſmodic Diſorders, Colics, and hypochondriacal Indiſpoſitions: For this very Reaſon, we are carefully to guard againſt the imprudent and immoderate Uſe of the *Peruvian* Bark, for carrying off the Paroxyſms of intermittent Fevers; ſince by its violent Aſtringency the viſcid, bilious, and ſalival *Sordes*, lodged in the *Primæ Viæ*, and which ought to be diſcharged, are ſo much the longer ſhut up and retain'd, by which means a ſtill more formidable Diſorder is ſometimes brought on.

If Neceſſity ſhould, at any time, call for the Uſe of Aſtringents of this Nature, they are not to be adminiſter'd all at once, but ſucceſſively in gentle Doſes, and in Conjunction with a ſufficient Quantity of ſome proper Liquid; preſcribing at the ſame time a due Degree of Exerciſe for the Patient, which I always do, when I either order the *Peruvian* Bark, or any Medicines whatever of the Chalybeate Kind.

'Tis highly unſafe and dangerous to repreſs exceſſive Vomitings, Diſcharges of bloody Urine, Hæmorrhages of the N Uterus, or Anus, and Spittings of Blood, by means of Aſ gents; ſince the Patients are always ſure to ſuffer by ſu Practice, unleſs the Spaſms, on which theſe Diſcharges of B for the moſt part depend, as much as Effects do upon their mediate Cauſes, are firſt ſooth'd, the violent and impet Motions of the Fluids check'd, and the exorbitant and pr natural Affluence of Humours derived to other Parts.

The Traumatic or Vulnerary Herbs, and Decoction them, are of very ſingular and uncommon Service, not onl Wounds, Eroſions, and Solutions of Continuity, but al ſome Diſeaſes of a chronical and violent Nature; ſuch Phthiſis, Scurvy, Cachexy, and Diſorders ariſing from Stone, when theſe Indiſpoſitions draw their Origins from Tone of the Viſcera and Glands being weaken'd, or fro preternatural Stagnation of the Juices. But we ought, times, carefully to avoid uſing them in Caſes where there great an Obſtruction of the Veſſels, a Conſtriction of th bres, or in a Phthiſis, when the Lungs are full of hard Tu and Tubercles. However, in other Caſes, Infuſions of v rary and gently aſtringent Medicines, are of ſingular Ser and produce excellent Effects; eſpecially in preventing fab and ſtony Concretions in the Kidneys, which, for the part, ariſe from theſe Organs being too much relax'd or rated. Upon this Subject I would recommend *Hench Diſſertation, concerning the Uſe of Aſtringents in the Stone.* Intention is alſo very well anſwer'd by Infuſions of Yarro its Tops, of *Paul*'s Betony, Ground-ivy, Strawberries, mony, and the Bark of the *Egyptian* Thorn-root. In inv tary Diſcharges of the Urine, ariſing from too great a Relax of the Sphincter Muſcle of the Bladder, whether in Chi or in Adults, I have found Infuſions of this Nature pr very happy Effects; applying externally, at the ſame rectify'd Spirits of Wine.

In Caſes where the external Parts are hurt or wounded, rectify'd Spirit of Wine proves, by itſelf, a noble and e cious Vulnerary; ſince it puts a ſpeedy Stop to Defluxio the Blood and Humours, and is of ſingular Service whe more ſenſible nervous and tendinous Parts have ſuffer'd b great an Effuſion of Blood; for ſpirituous Liquors not coagulate the Juices of the human Body, as we find by m the Experiment upon Blood and Lymph, but alſo, by rem the ſuperfluous Humidity, render the Fibres tenſe and and, by bracing them more ſtrongly up, prevent Stagnatio the Blood, and carry off Pains and Inflammations. Nor ſpirituous Water, call'd *L' Eau d' Arquebuſade*, or *Aqua S taria*, uſed in our own Days, a deſpicable Vulnerary, ſin prepar'd, by Diſtillation in *Balneo Mariæ*, from ſome o beſt vulnerary Herbs, and *Rheniſh* Wine: But its Virtue Efficacy are to be aſcrib'd to the Spirit and the Wine, than to the Herbs, whoſe Virtues are lodged in a fix'd Principle, which does not come over the Helm of th *Hoffman*. Lemery *directs the Aqua Sclopetaria to be mad White Wine*. See AQUA.

The Simples commonly term'd *Aſtringents*, prin abound with rough, earthy, or ſaline Particles, and are heavy compact Texture, which, at firſt View, forbids th be meddled with by Diſtillation. In Tincture likewiſe, ſpirituous Menſtruum, they are very unſuitable; becauſe ſuperior Gravities and Bulks will not ſuffer them to unite and be ſuſpended in, ſuch Liquors.

In Decoction, indeed, many *Aſtringents* may be re with Efficacy, eſpecially thoſe of a ſaline and ſtyptic N as Alum, Galls, and Oak-bark; but few others c thus order'd to Advantage, becauſe they are too heavy for penſion in an aqueous Fluid.

There is ſomewhat, 'tis true, peculiar in the *Peruvian* that fits it for this Management, beyond any other Simp the ſame Claſs: Its Particles are ſo very fine and light, broken in the Mortar, that a great deal would be loſt, w not for a Mixture of ſomewhat moiſt and oily to keep it flying away, which is commonly practiſed with Almon ſomewhat of a like Nature; but this is certainly prejudi the medicinal Intention of this Drug. But in Decoction, an aqueous Vehicle, this finer Part is not only ſaved, bu wiſe all that is moſt ſubtle therein is ſuſpended in the L the groſſer Parts only falling to the Bottom, as is very m from the Thickneſs of ſuch Decoctions. So that, in or of this by Decoction, there is only obtain'd the fineſt Subſtance, which cannot be procur'd any other way; a very different from what is commonly expected by this Pr for here the Ingredient is in ſome meaſure diſſolved, and mately united with the Liquor. Doubtleſs, in the Ma ment of this Drug by Decoction, ſomewhat more is ob than can be got by ſimple Tincture, eſpecially where ſu gredients are added, that, by boiling, give a thicker C ence to the Water; becauſe then a much greater Quan the Bark will remain ſuſpended therein. Thus, ſome o ſmall Portion of Storax or Benjamin to be boil'd here which not only enables the Liquor to hold up more of the gives alſo thereunto ſuch a Warmth and Scent, as is very ful to a Stomach weaken'd and pall'd by a Fever and icines.

he uſual Diſtruſt therefore of the Bark, in this Form, is ounded, becauſe it depends upon a Suppoſition, that it is this way given in Subſtance; whereas it is not only thus n in Subſtance, but alſo with greater Advantages than can ny other means be come at. For when it is given in the Powder that can poſſibly be obtain'd from the Mortar and , it is yet too coarſe for a weaken'd Conſtitution, and efore frequently, by its Stimulus, brings on a Diarrhœa; eas this way it is too fine to give any ſuch Diſturbance in irſt Paſſages, and not only ſtrains, by the common Courſe irculation, much farther, but gives a more uniform and al Contraction to the debilitated and relax'd Fibres. Thoſe try it this way alſo, ſeldom find ſo many Relapſes as are mary, after ſome Days, with the coarſer Powder.

very conſiderable Addition may be made to the medicinal es of moſt of this Claſs in Decoction, by a Mixture of , becauſe they greatly improve any aſtringent or ſtyptic ity; and whoſoever tries this, with the Bark in particular, experience its Succeſs in moſt Intentions for which it is uſed, but eſpecially in that of a Styptic in Hæmorrhages; hich Caſe alſo an Addition of red Roſes, at the latter End e Decoction, is not only of Service, but alſo helps agree- o diſguiſe the Medicine.

e Caution ought by no means to be here omitted, erning this Form, with the Simples of this Claſs. a very common way, in the Shops, to clarify their ctions with the White of an Egg, to render them beautiful to the Eye; but where their Virtues are expect- m any thing glutinous, groſs, or earthy, ſuch Procedure deſtroys the Intention, becauſe thoſe Parts are entangled the Egg, and riſe up with it in the Scum; and for this n it is, that almoſt all Syrups made from Decoctions are for nothing, becauſe in their Clarifications they are robb'd ir Virtues.

ere are, indeed, ſome Officinal Syrups from Materials of Diviſion, as the Syrup of Mint, that of Myrtles, and ſome thers; but the Neglect they are under in common Prac- ſhews what Service is to be had from them: They may, s, ſerve as weak Auxiliaries, to things of more Efficacy, etening them, or reducing them into ſome convenient , as Boles, Electuaries, or the like; but no further are o be truſted.

extemporaneous Electuaries likewiſe, things of this Tex- re very ſuitable, and ſome, which require but ſmall Quan- for a Doſe, come well enough in Pills; but they are con- into Officinal Electuaries with great Diſadvantage, be- of their long Continuance in a moiſt Form; and more lly with Honey or Syrups, which are much inclin'd to nt; and this ſubjects them to ſuch Changes as quite their medicinal Virtues; for that Hardneſs or Rigidity, n their *Aſtringency* conſiſts, ſoftens, and, as it were, rots, continual Moiſture. Thus the Confection of *Fracaſto-* which is a Compoſition wholly ſelected out of this Claſs, extremely bad by Age, and will in time change from a rough *Aſtringency*, into an almoſt taſteleſs, ſoft, ſlippery e. This Alteration, indeed, is much haſten'd by the *Lignea*, and *Gum Arabic*. For this Reaſon many Shops e the Species for this Electuary dry; as alſo thoſe for the ction of Hyacinth, tho' the College have now thought fit the latter Compoſition. All the Simples, therefore, of nomination, are with the greateſt Advantage kept in wders, for extemporaneous Occaſions. *Quincy's Prælect.* *ceut.*

RION, ἄστειον. The ſame as ASTRAGALUS.

ROBLES, ἀστροβλὴς, or ἀστρόβλητος, from ἄστρον, a nd βάλλω, to ſtrike. Planet-ſtruck, blaſted. This is ſpoken of Plants; but is ſometimes apply'd to human and then ſignifies *Apoplectic*, and ſometimes *Sphacelated*.

ROBOLISMOS, ἀστροβολισμὸς, Sideration, or Blaſting s. But this is alſo ſometimes apply'd to the Body, as in ations and Apoplexies.

ROCYNOLOGIA, from ἄστρον, a Star, κύων, a Dog, ος, a Diſſertation, or Treatiſe. The Name of a Trea- tten on the Subject of the Dog-days.

ROITES, *ſeu ſtellaris lapis*, Offic. Cod. Med. 16. *s primus*, Boet. 298. *Aſtroites quartus*, Plot. Hiſt. Nat. 88. Tab. 2. Fig. 7. Lithog. Brit. N°. 163. Charlt. . Worm. 67. Schw. 366. Mer. Pin. 211. *Stellaris* e Laet. 97. Aldrov. Muſ. Metall. 872. *Stellaris lapis* Geſn. de Lap. 35. STAR-STONE.

Stone is porous, moderately hard, and white, and as etimes as a Man's Head. It is found in ſome Quarries *and* and *Germany*. It is eſteem'd antipeſtilential, and deſtroy Worms in Children.

ROLOGIA, from ἄστρον, a Star, and λόγος, a Word. y. See ASTRONOMIA.

ASTRONOMIA, from ἄστρον, a Star, and νόμος, Law. Aſtronomy.

No Part of natural Knowledge has more employ'd the Thoughts of the Learned, than the Influence of the Stars upon human Bodies; and, indeed, no one, who has but a moderate Acquaintance with polite Learning, can be ignorant of the Diſputes and Controverſies ſtarted on this Subject by the Phyſicians and Philoſophers of our own Age. Some deny and explode an Influx of the Stars altogether; but at the ſame time admit and patronize the Influence and Efficacy of the Sun upon terreſtrial Bodies. They who embrace this Opinion, aſſert, that the Planets and fix'd Stars are removed at ſuch an immenſe Diſtance from our Globe, that the very Light they diffuſe can have no Influence upon it, much leſs that they themſelves can produce any Effects upon ſuch Bodies as are contain'd in it. The Sun, on the other hand, is, according to them, the only Body whoſe benign Influence extends to our Earth, and whoſe kindly Warmth rears up the vaſt Variety of Plants, and cheriſhes the ſeveral Species of Animals, with which it abounds; for they will by no means allow, that the Planets produce any ſenſible or manifeſt Effects upon any Parts of this our Habitation. But tho' I abſolutely deny, that the Fates, the Morals, and the Fortunes of Men depend upon the Stars alone, I nevertheleſs affirm, that theſe have a very ſurpriſing and remarkable Influence upon the ſeveral Bodies on our Earth. This Opinion has been embraced by many of the Moderns, but more eſpecially by the *Literati* of *England*, whoſe Induſtry, in clearing up this Point, deſerves to be crown'd with all the Encomiums that are due to profound Learning, and a diſintereſted Love of Truth; for theſe Gentlemen have, with a great deal of Judgment, maintain'd the Influence of the Stars, not only with regard to the Phænomena of *Meteors*, but alſo with regard to the human Body, conſider'd as ſubject to Diſeaſes and Diſorders. Nor, indeed, could this Doctrine be unknown to the Antients, who aſcrib'd a great deal to the Stars, and even carried the Point ſo far, as to deduce the immediate Cauſes of the ſeveral Accidents and Revolutions of Life from them. In ſhort, they were ſo prepoſſeſs'd in Favour of this Notion, that they accounted for Health and Diſeaſes, the Tempers and Diſpoſitions of Men, and, which is ſtill more, the Fates of Kingdoms, and the Origins of Wars, from the Influences of the heavenly Bodies. As this is the Caſe, it muſt be a Taſk no leſs curious and pleaſant, than uſeful and profitable, to inquire, whether there really is ſuch an Influx of the Stars upon terreſtrial Bodies, how far it extends, and what Notions Truth and Fact will authorize us to entertain concerning it; and this is what I at preſent deſign.

Aſtronomy, then, or a Knowledge of the Stars, has all along, even from the earlieſt Ages, been highly eſteem'd, and had in the greateſt Honour. It is at firſt ſaid to have been invented by the *Egyptians*, and by them tranſmitted to other Nations, where it met with a favourable Reception, and many zealous Votaries. And, indeed, the Reaſons are plain why the earlier Ages paid ſuch an uncommon Veneration to this Science, ſince they were ſufficiently appris'd of the numberleſs Advantages which accrue to Mankind from the Stars and heavenly Bodies: For Aſtronomy acquaints us with the various, but ſtill regular, Courſes of different Stars, and diſcovers their Poſitions, Motions, and Conjunctions; which are not only glaring Inſtances of the amazing Grandeur and Extent of the univerſal Syſtem, but alſo irrefragable Proofs of the Skill and Wiſdom of its adorable Author. Beſides, all ſublunary Bodies partake of the benign Influence of the Stars, which by their genial Rays diffuſe a certain Life and Vigour to them. By obſerving the Stars we are enabled to diſcover the Situations of different Seas and Countries, to aſcertain the Diſtances of Places, and meaſure out Time into the ſeveral Diviſions of Years, Months, and Days. By means of the heavenly Bodies timorous Mortals were taught to deſpiſe the Fury of the Waves; and the daring *Phœnicians*, truſting to their Skill in *Aſtronomy*, firſt ventur'd to ſail upon the Main, and truſt their Lives to Ships, render'd leſs dangerous by their Knowledge of this Science. By this we are alſo enabled not only to account for, but alſo to foretel and calculate the ſeveral Eclipſes of the Sun and Moon, with the greateſt Exactneſs and Preciſion. 'Tis not therefore to be doubted, but the different Situations and Poſitions of the Stars vary the State of the Weather, and the Seaſons of the Year, and conſequently induce various Changes both upon Vegetables and Animals. For this very Reaſon, 'tis neceſſary every Phyſician ſhould be acquainted with *Aſtronomy*, that he may be enabled to account for epidemical Diſtempers: But let it be remember'd, that, when I require *Aſtronomy* in a Phyſician, I do not mean that Mock-ſcience below all Regard, which, with a great deal of *ſuperſtitious Solemnity*, and no *Truth* at all, predicts the Fortunes, the Diſtempers, and the Deaths of People, by drawing what we call their *Horoſcope*, or inquireing into the Poſitions and Aſpects of the Stars at the Hour of their Nativity. Thoſe trifling Mortals, who apply their Minds to this diminutive Study, loſe their Labour in an egregious manner; ſince they cultivate and adore a *Science*, (pardon the Name)

Name) which has neither *ſpeculative Truth*, nor *Uſe in human Life*, to recommend it. They might indeed, with my Leave, reverence it as highly as they would, provided the Dignity of genuine and real *Aſtronomy* was not brought into Diſgrace by their Folly and Impertinence: But I find myſelf animated with a juſt Indignation, when I reflect, that this *predicting Art* has, in ſome meaſure, deprived *Aſtronomy* of that Eſteem and Veneration which were once ſo juſtly paid it. I frankly own, that the Stars, conſidered as remote Cauſes, may contribute ſomewhat even in Things of this Nature; but I can never, at the ſame time, admit, that any ſuch Occurrences can poſſibly be predicted from them alone: For this Reaſon many of the Antients not only mentioned this Practice as an Abuſe, but ſeverely cenſured it as ſuch. Of theſe the moſt noted is *Albertus*, who, conſidering the Time in which he liv'd, is deſervedly eſteemed a great Man. This Author, in his Book *de Mineral. Tract.* 3. *C.* 3. has theſe Words, “Many,” ſays he, “who pretend to foretel Things from the “Stars, are often found to be wrong in their Predictions; and “by their Lyes bring *Aſtronomy*, which is a valuable and uſe- “ful Science, into Contempt and Diſgrace.” *Averrhoes* is of the ſame Opinion; for in the *Cautica Avicennæ* he uſes theſe Words: “The Art of Aſtrology is ill founded, and its Prin- “ciples are for the moſt part falſe.” *Apollonius* alſo is, by *Philoſtratus*, repreſented as giving his Suffrage in our Favour. “As for my Share,” ſays he, “I think the Power of predict- “ing Events from the Stars, and the Art of Divination in ge- “neral, are Things placed beyond the Reach of the human “Faculties; neither do I know, that any Mortal is a real Maſter “of them.” No leſs intolerable is the Inſolence of thoſe who diſtinguiſh Days into *lucky* and *unlucky*; and with that View compoſe annual Calendars. Theſe infallible Prophets, with a happy Clauſe of Reſervation, which bears, *If God pleaſe*, pronounce like ſo many Oracles, that ſuch and ſuch Days ſhall be lucky, and ſuch and ſuch others the Reverſe; and what crowns the Farce is, that their Knowledge and Skill in this way extend to the moſt ridiculous and inconſiderable things in Life; for, in the Books of this worthy Claſs of Mortals, you may be informed which Days are moſt lucky for putting on a new Suit of Cloaths; and which moſt proper for counting your Money. From theſe Magazines you may learn, which Days you ought to chooſe for ſelling, and which for making Purchaſes. Theſe Treaſures of uſeful Knowledge will alſo direct you to the very Day on which you ought to cut your Hair, or ſhave your Beard. Here their matchleſs Impudence does not ſtop, but boldly incroaches on the ſacred Province of Phyſic, by fixing ſome Days as particularly proper for Veneſection, Purging, and the Exhibition of other Medicines. *Langius*, who was Maſter at once of the Simplicity and Learning of the Antients, in *Ep.* 35. *p.* 1. on this Occaſion falls into this rapturous Exclamation, *O Flagris dignum Facinus, quo innumeros perdunt ægros!* “O blackeſt of Crimes, and worthy of the ſevereſt “Chaſtiſement, ſince by it Numbers of Patients are de- “ſtroy'd!”

But tho' we reject the ſuperſtitious Fables of Aſtrologers, as impertinent and idle, yet we muſt beware of running into the oppoſite Extreme, and utterly denying all Influence and Efficacy of the Stars. If we ſhould, our Conduct would be highly impious, and throw a manifeſt Reflection upon the Wiſdom and Skill of that Being who formed the vaſt and harmonious Frame of Nature; for we cannot poſſibly ſuppoſe, that the ſpacious Canopy of Heaven was thus beſpangled with radiant Orbs, and adorned with twinkling Stars, for no other End than to direct our Steps by their Light, feaſt our Eyes by their Splendor, or gratify the noble Excurſions of our Fancies by the Immenſity of their Number. We ought rather to conclude, that the adorable Author of Nature deſigned them for diſpenſing Bleſſings of a higher and more important Nature to the human Species. The ſurpriſing Number, the vaſt Bulk, and the regular Motions, of the heavenly Bodies, ſtruck the Antients with ſuch an awful Veneration for them, that they paid them a divine Homage, erected Altars for their Worſhip, and in ſhort neglected no Circumſtance by which they could teſtify an unfeigned, but impious and ill-founded Regard for the Stars. They were well appriſed of the Efficacy of theſe Bodies, and throughly convinced, that they imparted Life and Vigour almoſt to every ſublunary Object. For this Reaſon 'tis the leſs to be wondered, that the antient Phyſicians conſulted the Stars ſo much in the Cure of Diſeaſes, and rely'd ſo firmly on the Obſervations they made from them. But though their Diligence in this reſpect calls for due Encomiums at our Hands, yet their Fate is to be lamented; becauſe their want of due Experience, and proper Obſervations, left them in the Dark, as to the real Manner in which the Stars operate on terreſtrial Bodies. The Nature and Extent of this Influx or Operation is what I now intend to handle, and that in ſuch a manner, as to ſeparate Truth from Falſhood, and diſtinguiſh between what is uſeful, and what is trifling. For this Purpoſe it ſeems neceſſary, that I not only confirm my Opinion by the Authorities of the Learned, but alſo give it the more noble and weighty Sanct of Reaſon and Argument.

'Tis therefore my Opinion, that not only the Sun a Moon, but alſo the other Stars, the Planets more eſpeciall operate upon terreſtrial Bodies; and that immediately by Æther and Atmoſphere, theſe, being influenced and chan by the Stars, muſt of Conſequence induce various Changes Alterations, not only on vegetable, but alſo on animal Bod Thus 'tis paſt all Diſpute, as I ſhall afterwards endeavour ſhew, that the Stars are capable of exciting various Stor Winds, and Commotions in the Atmoſphere; from which C cumſtance we may eaſily conceive the Poſſibility of their ducing Alterations, and exciting Commotions, in our Bod Hence any one, who allows himſelf to think, muſt plainly that Aſtronomy is not only an Ornament, but alſo a real genuine Advantage, to a Phyſician.

I ſhall now collect the moſt noted Paſſages of the divine H *pocrates*, which have a Tendency either to illuſtrate the Tr or prove the Importance, of this Doctrine. The firſt of the that elegant Paſſage in his Book *de Aere, Locis, et Aquis*: “ ſays he, “any one diligently obſerves the Changes of the “ſons, and the Manner in which the Riſings and Setting “the Stars happen, he will by this means be qualified to f “ſee the State of the Weather throughout the Year.” in another Treatiſe he affirms, in as many Words, “Tha “one ought to commit the Care of his Health to him wh “ignorant of Aſtronomy, becauſe ſuch a one cannot b “well-qualified Phyſician.” And again, in his Book *de A Loc. & Aquis*, “Tis,” ſays he, “abſolutely neceſſary “ſhould conſider the Riſings of the Stars, eſpecially of “Dog-ſtar, Arcturus, and the Pleiades, ſince, at theſe “Seaſons, Diſeaſes are moſt ſkilfully prognoſticated; “thoſe which will prove mortal, beſt diſtinguiſhed from t “milder ones, which will either entirely quit the Patient, “paſs into Diſorders of ſome other Form and Nature.” the Whole, *Anatomy* is the Right Eye of Medicine, a *Knowledge of the Stars* its Left. And the Phyſician wh ignorant of *Aſtronomy*, ſays *Albo Hazen Halii Filius A ragel*, “is like a blind Man, who, groping for his Way wit “a Staff, ſtumbles hither and thither at random; or lik “infatuated and irreſolute Fool, who is guided in his Con “by falſe and deluſive Appearances of Good and Evil.”

That the heavenly Bodies operate on our Atmoſphere, i aſſerted by the divine *Hippocrates* in that memorable Paſſa his Book *de Flatibus*, where he uſes theſe Words: “Al “intermediate Space between the Heavens and our Earth “led with *Spirit*; and indeed the Efficacy and Virtues o “Sun, Moon, and Stars, are imparted to us by means o “*Spirit*.” By the *Spirit*, or τὸ πνεῦμα, in this Paſſage without Doubt underſtands the Winds, the Æther, and Atmoſphere. But *Galen, Lib.* 2. *Prorrheticor.* beautifully monſtrates the Influx of the Stars upon terreſtrial Bodies in Words: “If,” ſays he, “the mutual Aſpects of the “had no Influence on things below; and if the Sun a “that glorious Source of Light and Life, ſhould only b “lowed to act upon our Earth, then the four Seaſons o “Year would invariably preſerve the ſame Appearance “Temperature, ſince the Sun performs the ſame Courſe i “Year that he does in another. But the Seaſons o “Year are not, in Conſequence of this, invariably o “ſame Nature and Temperature. The Stars muſt t “fore concur in producing their different Qualities in diff “Years.” But I ſhall now have recourſe to the Sugge of Experience, and from them deduce the Power and E of the Stars in raiſing Storms, exciting Tempeſts, and r lating the State of the Weather in general. And here 'ti ticularly to be remembered, that we are not ſo much to the ſeveral Aſpects of the Moon with reſpect to the Plan the mutual Aſpects of the Planets with regard to each o though the Moon is not at the ſame time to be entirely look'd and diſregarded in this Affair. *Cook* and *Good*, celebrated *Engliſh* Philoſophers, have very judiciouſly ma ſame Obſervation; and indeed repeated Experience has firmed me in the full Perſuaſion of it.

When *Saturn* has an Aſpect to any Planet, except th whether he is in Conjunction with that Planet, or in O ſition to it; whether his Aſpect with regard to it be trine, or quartile, he compreſſes the Air, and excites Winds, which for the moſt part blow from the North. in the Winter Seaſon he produces keen and intenſe Froſ renders the Nights ſerene and clear; and in the Spring eſpecially in the Month of *May*, ſuch Aſpects uſher in a and unexpected Cold, which proves hurtful to Plants, e thoſe of the exotic Kind, or ſuch as are not the natural P of our own Soil; when, on the other hand, *Saturn* is i junction with *Venus*, we may expect cold Rains, accom with Weſterly and Northerly Winds.

Jupiter concurring in any of the forementioned Aſpec another Planet, is generally obſerved to excite Winds, e Spring and Autumn; and it rarely happens, that loud boiſterous Winds blow, but *Jupiter* has at that very Sea- n Aſpect to ſome of the reſt of the Planets, which favours Production thereof. Among the Rain-producing Planets, is the principal, eſpecially when ſhe is in Conjunction *Mercury*, *Saturn*, or *Jupiter*. The principal Planets h exhilarate the Face of Nature with ſerene Weather, and ey a genial Warmth to our Atmoſphere, are the *Sun* and s, eſpecially in the Summer Seaſon, and when they happen in Conjunction with each other. They alſo produce the Effect, though in a milder Degree, when they are in Con- tion with *Jupiter* and *Mercury*.

ercury produces ſuch inconſtant Weather, that by his In- ce Showers, ſerene Weather, and cloudy louring Skies, ally ſucceed each other, frequently in one and the ſame He excites Winds when in Conjunction with *Jupiter*, Rains when joined to *Venus*. 'Tis alſo to be obſerved, the Operations of theſe Planets vary very widely, according different Situation of the Sun, and the various Seaſons of Year: For in the Winter Seaſon *Saturn* excites far more ng Colds than in the Summer. *Sol* and *Mars* alſo produce r and weaker Heats in the Winter, than in the Summer n. *Jupiter* and *Mercury* exert their Force and Influence powerfully in producing Winds in the Spring and Autumn, in the Summer. But of all the Seaſons of the Year, none e Misfortune to be rendered ſo diſagreeable and pernicious ormy and inconſtant Weather, as the Autumn; for which n it is a very dangerous Seaſon, and puts an End to the of many, by the great Variety of too ſenſible Changes ed on the State of the Air and Weather; ſince about Noon ir is hot, and in the Evenings, Nights, and Mornings, cold.

will not on this Occaſion be improper to inquire how far Moon contributes either to increaſe or diminiſh the Force nfluence of the Planets; for 'tis plain, from many accu- Obſervations, that the Full Moon ſo ſurpriſingly imparts her to the other Planets, as in a remarkable Manner to in- and heighten their Influence and Efficacy. And, what is ore wonderful, her Influence upon them is ſo conſider- hat they ſometimes anticipate it two or three Days before ſpect becomes perfect and complete. Beſides, the Power nfluence of the Moon is ſufficiently demonſtrated by this nſtance, that under all her Quadratures the State of the not only affected, but undergoes very conſiderable es. For this Reaſon the Antients, by way of Eminence, her the *Miſtreſs of the Weather*, becauſe by her Means were able to account for the Seaſons, and their various es. Every one alſo knows how ſenſibly the State of the er is altered by the various Changes of the Moon; ſo ccording as the New Moon approaches, the Weather we d during the Old is proportionably baniſh'd, and a differ- te of Weather gradually comes in. If the Curious de- ther Satisfaction in this Particular, they may conſult the Cook's *Meteorology*, and *Goad*'s *Meteorological Treatiſe*. aſt all Diſpute, as that excellent Aſtronomer *Kepler* has d, that the Aſpects of the Planets induce a very ſenſible on Meteors, and are of very conſiderable Influence in g Storms and Tempeſts; the Degrees and preciſe Times ch it were to be wiſh'd we could more accurately pre- d determine: But we want a ſufficient Number of Ob- ns for that Purpoſe. How difficult it is to form an in- Judgment in Matters of this Nature, may be gathered s, that the preceding Aſpects produce very conſiderable ions and Changes in thoſe that follow them. To this added the Situation of the Place, the Nature of the Ef- and the Climate itſelf, which, upon an accurate Calcu- will be found to produce Changes no leſs conſiderable.

rience itſelf, the ſureſt Guide to Truth and Knowledge, y demonſtrates to us, that the Aſpects of the Stars have fing Influence, not only on Meteors, but alſo on our This is ſufficiently proved by the Vernal Equinox, and mer Solſtice, about which Seaſons the Force and Vio- Intermitting Fevers are either conſiderably weakened, y eradicated and deſtroyed. And, upon the Approach of mer Solſtice, obſtinate Quartan Fevers, which are ge- roduced by the Autumn, and are for the moſt part un- ble at other Seaſons, do of their own Accord remit, y yield to the Force and Efficacy of Medicines. It is rmed by undeniable Experience, that, about the Vernal umnal Equinoxes, the Humours of our Bodies are in Commotions than at other Times. At theſe Seaſons alſo ion of the Blood is more unequal than at others; for eaſon large and frequent Hæmorrhages then happen to o are ſubject to them. Theſe Seaſons are principally o old Men, who, in Conſequence of them, are trou- h hæmorrhoidal Diſcharges, or at leaſt with the Efforts e to throw the Blood off by the Mouths of theſe Veins. theſe Excretions are not duly carried on, eſpecially in tender and delicate Conſtitutions, various Diſorders om Spaſms, together with Pains in the Abdomen, and about the Parts deſtin'd for the Evacuation of Blood, are by that means brought on. Theſe Seaſons are no leſs dangerous to thoſe whoſe Circulations are languid, and who are advanced in Years, who at theſe Times have Reaſon to be afraid of various Stagnations and Infarctions in theſe Parts. For this Reaſon they have both Theory and Experience on their Side, who before the Equinoxes carefully recommend and injoin Veneſection to People of plethoric Habits, and ſuch as are ſubject to Effuſions of Blood; for by this means the moſt effectual Method is taken to prevent the Diſorder; and the Effuſion of Blood, which otherwiſe ſeemed ready to make its Appearance, is both quickly and ſafely warded off. If the Blood diſcovers a Tendency to diſcharge itſelf by the hæmorrhoidal Veins, Veneſection in the Foot is moſt proper. If on the other hand it is inclined to come away by the Lungs and Noſtrils, a Vein is moſt advantageouſly opened in the Arm.

The Equinoxes are particularly prejudicial to Phthiſical and Hectic Patients, and ſuch as languiſh under ſlow Diſorders. If at theſe Seaſons chronical Diſorders happen, they generally terminate in the Death of the Patient, or in a welcome Recovery; but it rarely happens, that Patients labouring under Diſeaſes of this Nature ſurvive the Equinoxes, but for the moſt part fall unavoidably Victims to the Force of the Diſeaſe with which they ſtruggled.

During the Winter Solſtice, Nature is in her weakeſt State, the Body languiſhes, and becomes leſs fit for Secretion and Excretion, than at other Times. For this Reaſon thoſe who at this Time are ſeized with acute Diſorders, are in imminent Danger, and frequently die. At this Seaſon alſo the ſmalleſt Error committed with regard to Regimen, and the Non-naturals, is attended with fatal Conſequences, and often lays too ſure a Foundation for Diſeaſes. The learned *Sanctorius*, in his Treatiſe *de Medicina Statica*, well obſerves, that, about the Winter Solſtice, we perſpire a Pound leſs than at other Times. By which Obſervation he plainly demonſtrates, that at this Seaſon the Perſpiration is defective, the Motion of the Blood languid, and the Force of the moving Fibres weakened and impaired. For this very Reaſon the divine *Hippocrates*, in his Book *de Aere*, *Locis*, *&* *Aquis*, diſcards the Uſe of Medicines about any of the Solſtices, in theſe Words: "But we "are above all things to have a Regard to the more remarkable "Changes of the Seaſons, eſpecially the Solſtices, on which "Occaſions we muſt neither exhibit purging Medicines, "φαρμακον, without urgent Neceſſity, apply Cauteries, nor "make Inciſions on the Belly and adjacent Parts, 'till ten Days "or more, but never fewer, after the Solſtice."

I now come to ſpeak of the Force and Influence of the Sun upon terreſtrial Bodies; and indeed of this we have not the leaſt Reaſon to doubt, ſince the Point is plainly proved by the different Seaſons of the Year, and their ſeveral Changes and Alterations. The ſenſible Changes produced in our Bodies by the different Seaſons of Spring, Summer, Autumn, and Winter, are Circumſtances too plain and obvious to ſtand in Need of a long and tedious Proof. Each of theſe Seaſons has Diſeaſes proper and peculiar to itſelf, as Experience teaches us, and as *Hippocrates* ſtrenuouſly inculcates in all the Aphoriſms of his third Section, but more fully and particularly in the nineteenth, where he uſes theſe Words: "Diſeaſes, indeed, of every Kind, happen at all Seaſons; but "ſome Diſorders more readily appear at certain particular "Times, than at others. Thus Madneſs, Diſorders ariſing "from black Bile, Epilepſies, Effuſions of Blood, Quinſeys, "Heavineſs, Hoarſeneſs, Coughs, Leproſies, Tetters, ulcer- "ated Puſtules, Tubercles, and Diſorders of the Joints, are "more frequent in the Spring than in any other Seaſon." And in the ſucceeding Aphoriſms he enumerates the Diſorders peculiar to each Seaſon. In the twenty-firſt he muſters up thoſe peculiar to the Summer; in the twenty-ſecond, thoſe which rage in the Autumn; and in the twenty-third, he gives a Catalogue of the ſeveral Diſorders which haraſs Mankind in the Winter Seaſon.

'Tis a Circumſtance particularly worthy of our Regard, that more People die in *March*, than in any other Month of the Year, except *October*, whoſe Influences prove equally fatal, and deſtroy a no leſs conſiderable Number. This is owing to nothing elſe but the Inequality and Inconſtancy of the State of the Air during theſe Months; for at theſe Seaſons an intenſe and nipping Cold ſometimes prevails; ſometimes, ſoon after, the oppoſite Extreme of Heat ſucceeds. Beſides, the State of the Atmoſphere is on theſe Occaſions highly corrupted, and impregnated with noxious Exhalations, which being too groſs and weighty to be carried up, remain near the Surface of our Earth, and produce numberleſs Diſorders and Diſeaſes. Hence the Body, not being able to bear the Intemperature of the Air, is ſuddenly thrown into various Diſorders, and the Tone of the Fibres is miſerably weakened; for the Strength and Elaſticity of the Fibres bear a direct Proportion to the State of the Air. The Circulation of the Fluids, on the other hand, bears a direct Proportion to the Elaſticity and Tone of the Fibres; and, in fine, ſuch as the Circulation is, ſuch will the ſeveral Excretions be. Since then at theſe Seaſons the Secretions are faint and languid, the Humours muſt of Conſequence become impure, ſtagnate in different Parts, and produce various Diſorders; for either, by ſtuffing up the Veſſels, they diſpoſe ſome to ſlow and chronical Diſorders, or, by diſtending them by their too great Quantity in others of more robuſt and hardy Conſtitutions, they excite ſpaſmodic Contractions, which uſher in Hæmorrhages, a Species of Diſorder more frequent at theſe, than at any other Seaſons.

The Influence of the Sun, though great in ſeveral Inſtances, is yet moſt remarkable in this, that Diſeaſes either remit, or reſume their Vigour according to its Courſe. Thus 'tis plain from Fact and Experience, that the Exacerbations of continued Fevers happen about the Riſing of the Sun, and that the Paroxyſms of Tertian Fevers generally ſeize the Patient about Noon. The Paroxyſms of Quartan Fevers, on the other hand, generally happen in the Afternoon; and Catarrhal Fevers, for the moſt part, exert their higheſt Violence towards the Evening. The ſame holds true in Defluxions, heavy Pains, and Tumors, which generally afflict People moſt in the Evening.

The Moon alſo produces very conſiderable Changes and Alterations in morbid Conſtitutions. We ſhall therefore firſt conſider the Effects of her being eclipſed, a Phænomenon of which the Valetudinary and Indiſpoſed are too, too ſenſible. To this Purpoſe, *Joan. Matth. Faber, in Append. Dec.* 2. *Ann.* 8*vo. p.* 49. relates the following Fact: “ A Gentleman, ſays he, “ of more than ordinary Diſtinction, and naturally of a me- “ lancholic Habit, became ſad, moroſe and penſive, the Day “ before the Eclipſe; but at the very Time of the Eclipſe, “ he, like a Mad-man, with a Sword in his Hand, ran furi- “ ouſly, not only up and down his own Houſe, but alſo thoſe “ of his Neighbours, and the adjoining Streets, not only wound- “ ing Men, but alſo breaking Chairs, Doors, and whatever “ came in his Way.” The illuſtrious *Ramazzini* has made a very curious and important Obſervation concerning the Conſtitution of the Years 1692. and 1693. which is, that after the Full Moon, and much more at the Change, the Petechical Fever, which raged in theſe Years, became more fierce and violent; whereas it aſſumed a milder Nature, and a more favourable Set of Symptoms, upon the Approach of the New Moon, but generally killed the Patients upon the Acceſs of an Eclipſe.

The Quadratures of the Moon alſo induce very remarkable Changes and Alterations upon languid and valetudinary Conſtitutions: Thus Epileptic Fits, in ſome, return on ſtated Days and Hours, that is, when the Moon returns to a certain Point of Quadrature, and at the New and Full Moons. And the inſpired Penmen themſelves [*Matthew, Cap.* 4. *Ver.* 24 *and* 47.] ſtyled the Maniacs, and ſuch as were ſubject to Epileptic Fits, Σεληνιαζόμενοι, for no other Reaſon, but becauſe they were in a peculiar manner affected by the Changes of the Moon. A certain Baron of *Limburg* had a young Man for his Servant, who, at every Full Moon, uſed to thruſt his Head out a Window when it ſhined, and twiſt his Neck like a Serpent, till, being ſeized with a kind of Ecſtaſy, he dropped down, and remained for ſome time motionleſs. *Obſerv. Rumleri* 66. *ap. Velſch. Curat. & Obſervat. Cent.* I myſelf know ſeveral, who about the Full Moon are often ſubject to Head-achs, and Cardialgias, ariſing from the Stone. That, about or after the Full Moon, many have been ſeized with Apoplectic Fits, the learned *Wepfer*, in his Diſſertation *de Apoplexia, p.* 3. *& ſeq.* has ſufficiently confirmed by many Inſtances.

How great the Influence of the Moon upon the Female Sex is, may be plainly deduced from this, that the New and Full Moons carry on and ſupport thoſe Monthly Diſcharges on which their Health depends; hence this Diſcharge is, by way of Diſtinction, ſtyled the *Lunar Tribute*, becauſe the more remarkable Changes of the Full and New Moon rarely happen, without uſhering in the Menſtrual Evacuations of ſuch Women as are bleſſed with Health, and Soundneſs of Conſtitution.

This Influence of the Moon upon Bodies induced the more ſuperſtitious of the Antients to pay it an uncommon Adoration, and fooliſhly addreſs her for fruitful Seaſons in their public Prayers. The *Roman* Women imagined, that it was very ſerviceable to them in bringing their Children into the World; for this Reaſon they paid a religious Veneration to *Lucina*, or the Moon, thinking by this means to render her propitious at their *Deliveries*. The Moon ſeems to have been invoked by Women in Labour, for this Reaſon principally, that her peculiar Office conſiſts in dilating the Apertures, and inlarging the Paſſages of the Body; a Circumſtance, as Women well know, of no ſmall Importance in uſhering a Child into the World. See *Macrob. Saturnal. Lib.* 7. *Cap.* 16.

At the Full Moon, ſcrophulous Tumors, as alſo thoſe of the Belly, and glandular Parts, become larger than at other times, but ſubſide, and become gradually leſs, in proportion as the Moon decreaſes. To this Purpoſe, the learned *Maurit. Hoffman* [*Dec.* 11. *An.* 6. *Obſerv.* 161. *Miſc. Curioſ.*] relates the following Story: “ A Girl, ſays he, of fourteen Years of Age, “ and the Daughter of an Epileptic Mother, had her Belly gra-
“ dually ſwelled as the Moon increaſed, and as gradually ren-
“ dered leſs, and reduced to its natural State, as it decreaſed.
“ She was alſo racked with the moſt violent and intenſe Pains,
“ during the Time her Belly was thus diſtended.” *Aulu*
Gellius, Noct. Attic. Lib. 20. *Cap.* 8. in like manner inform
us, that Oyſters, and all Shell-fiſh in general, become gradu-
ally large as the Moon increaſes; and as gradually waſte away,
and become leſs, as it decreaſes, and becomes old. He alſo in-
forms us, that other Animals are inlarged and diminiſhed, ac-
cording to the various Changes of the Moon; and *Hippocrate*
is of Opinion, that moſt Women generally conceive about th
Full Moon.

R. Bennet, whoſe Induſtry cannot be enough admired, ha
[in *Theatro Tabidorum, p.* 98. & 99.] obſerved, that during th
firſt Quadratures of the Moon, or when it begins to arch itſel
into Horns, and more eſpecially on the Nights preceding th
New Moon, thoſe Diſeaſes which ariſe from a ſaline Matter
are exaſperated: For the ſame Reaſon, Aches, Itches, and a
the various Species of exanthematous Eruptions, do, on theſ
Occaſions, exert their higheſt Rage, to the no ſmall Uneaſine
of the Patients; whereas in the laſt Quadratures of the Moon
and when it is become quite full, Water and Humours are ac
cumulated in the Body, as is plainly proved from thoſe Di
eaſes which ariſe from a vitiated Serum. For this Reaſon Co
ryzas, Lethargies, Aſthmas, Palſies, Cachexies, and all Di
eaſes ariſing from a corrupted State of the Lymph, rage mor
at theſe Seaſons than at others.

Galen [in *Lib.* 3. *Prorrhet.*] has written beautifully on th
Influence the Moon has on the human Body; and how muc
terreſtrial Bodies are ſubject to its Impreſſions, is too much fe
by thoſe who are troubled with Arthritic or Venereal Defluxions
for, according as the Moon bears an Aſpect to temperate o
intemperate Planets, it accordingly procures Days of Eaſe an
Reſt, or the Reverſe, to ſuch Patients. Its monthly Motio
not only produces ſenſible Alterations in the human Body, bu
its diurnal Courſe has alſo a manifeſt Influence upon it. Th
Fact has been obſerved by many, but is by none more diſtinct
talked of, than *Carolus Piſo*, in theſe Words [*Hiſt. Natura*
Lib. 1. *p.* 24.]: “ The State of the Sick plainly proves, th
“ Diſeaſes are heightened, and Pains increaſed, in thoſe ſ
“ Hours, during which the Tide flows; and that the Sym
“ ptoms are again remitted in the ſix Hours, during which t
“ Flood ebbs. This Fact holds in chronical as well as acu
“ Diſorders; but more eſpecially in ſuch as draw their Or
“ gins from Defluxions, and too great a Fulneſs of the Veſſe
“ It is alſo known, that when high Tides, and Swells of t
“ Sea, happen about the Full Moon, ſome People are valet
“ dinary; and that moſt People die during the Ebb of t
“ Tide.” This judicious Author aſſerts, that theſe Phæn
mena, in a great meaſure, depend upon the powerful Influen
of the Stars, and the occult Qualities of the Sea and Heavens.

I need not here mention the ſurpriſing Influences of t
Moon, on the Fruitfulneſs, Increaſe, and Decreaſe of Plan
ſince the Experience of Botaniſts and Huſbandmen plac
that Truth in a Light too ſtrong not to be perceived. Ho
ever, among other Inſtances concurring to prove this Poi
it is obſerved, that after the New Moon Trees are tranſplan
ed with the greateſt Proſpect of their proving fruitful. Up
this Occaſion I muſt alſo take Notice of this Difference, t
Trees grafted when the Moon is in the Full, bear Fruit ſoon
than others; but their Fruit is leſs, and more ſtony. Th
Trees, on the other hand, which are planted about the N
Moon, bear later; but make amends for this by the Beauty a
Quantity of their Fruit.

All Plants, which are valued for their Flowers, are moſt p
perly committed to the Earth, when the Moon is in the Fu
thoſe, on the other hand, whoſe Roots we intend for Servi
are moſt ſeaſonably planted during the Decreaſe of the Mo
Wood alſo cut at the Full Moon, rots ſooner, and is leſs p
per for building, than that which is cut whilſt it decrea
This is confirmed by repeated Experience, and is taken No
of by *Macrobius* in theſe Words: [*Saturn. Lib.* 7. *Cap. ult*
“ Wood cut either when the Moon is already in the Full,
“ when it is increaſing, is entirely improper for building, f
“ it is ſoftened by the too great Quantity of Juice in it;
“ Farmers take care to reap when the Moon is on the Decre
“ that by that means their Corn may prove dry.” The ſa
Author, in the above-cited Part, affirms, that Fleſh ca
in the Night-time, whilſt the New Moon ſhines, beco
putrid and rotten, ſooner than other Fleſh. He there inqu
at Length into the Cauſe of this Phænomenon, and aſcr
it to the moiſt and humid Nature of the Moon.

Without ſaying any thing more on the Influences of
Moon, I now proceed to conſider thoſe Powers and Vir
which both antient and modern Aſtronomers have obſerved
other Planets to have upon the human Body, eſpecially w
in a weak and ſickly State. And firſt, *Mars* and *Saturn*
thought to produce none of the moſt benign Effects; for w
either in Conjunction with each other, or with any of the
of the Planets, they have in all Ages been believed to pro
var

rious Diſeaſes, and Commotions of the Blood and Humours. piter and *Venus*, on the other hand, are thought to be more nign Planets; and many Authors have affirm'd, that during ir Conjunction the Body acquires new Strength, and Diſ- es are brought to terminate happily. *Mercury*, again, has ays been thought a Planet of an indifferent Nature, and aſſume the Qualities of the Planet with which he happens to in Conjunction. That this Planet is principally inſtrumeutal promoting the Diſeaſes which ariſe from Serum, has with y good Reaſon been believed.

But more particularly, they believed certain Conjunctions to either benign or malignant; thus they rightly enough ima- ed, that the mutual Aſpect of *Sol* and *Jupiter* was ſubſer- nt to the Cure of chronical Diſeaſes, ſuch as the Hypochon- ac Diſorder and Scurvy. Beſides, under this Aſpect they ommended Veneſection, the Uſe of Purgatives, and other edicines. The Aſpects alſo of *Jupiter* and *Venus*, *Sol* and *ercury*, as alſo of *Jupiter* and *Mercury*, are ſaid to be ſalu- y to phthiſical and hectic Patients, as alſo to ſuch as labour er burning and inflammatory Fevers; favourable *Criſes* are ſaid to happen under this laſt-mentioned Aſpect. The pects of *Mars* and *Mercury*, on the other hand, as alſo of *rs* and *Jupiter*, are bad, ſince they not only excite Inflamma- s, Spittings of Blood, and burning Fevers, but alſo portend worſt under theſe Diſorders.

The Aſpect of *Sol* and *Mercury* is favourable to thoſe Diſ- ers which ariſe from Phlegm and Serum. But the Con- ction of *Mars* and *Sol* is thought to excite Commotions in yellow Bile, and by that means to bring on Inflammations the Stomach, Fauces, and Brain. When *Mars* is in Aſpect h *Mercury*, then People are diſpoſed to the Gout, and to s, eſpecially ſuch as ariſe from Phlegm, and a too great ndance of Humours. The Aſpect of *Mars* and *Saturn* is to be prejudicial to choleric and melancholic People; it excites Cardialgias, Cephalalgias, Phrenſies, and provokes Mind to Wrath, and throws it into preternatural Commo- s. The Conjunction of *Saturn* and *Venus* portends Danger Women big with Child. It alſo excites Coughs, Coryzas, s, Head-achs, Palſies, and is thought to be in a particular ner hurtful to Children. The Aſpects of *Venus* and *Mars* inauſpicious to Women big with Child, and ſuch as are in our; and are for that Reaſon principally to be dreaded by n.

The Aſpects of *Saturn* and *Jupiter*, as alſo of *Saturn* and s, are the inauſpicious Forerunners of terrible Calamities Mortals; for acute epidemical, and even contagious Diſor- , follow the Conjunctions of theſe Planets. The baleful cts of the Aſpects of theſe Stars are ſufficiently ſhewn from violent Fevers, which after them have often raged with cable Fury almoſt over all *Europe*. *Matth. Zeiſius, in . de Cauſ. & Period. Peſtil. Morb.* has ſhewn, from many vations, that the Aſpects of theſe Planets generally threaten th an imminent Danger of a Plague. Thus he ſays, that Year 1127. a Plague raged with ſuch irreſiſtible Violence, the World was like to have been unpeopled by it, and that Aſtronomers aſſigned the Conjunction of *Saturn* with *Ju-* , as its principal Cauſe. *Boccace*, and *Guido de Cauliaco*, in their Writings, informed us, that the Aſpect of *Jupi-* *Saturn*, and *Mars*, was the Cauſe of the Plague which in the Year 1348. And *Marſilius Ficinus*, the greateſt ſopher of his Age, aſſigns the Eclipſes of the Sun and , and the Conjunction of *Saturn* and *Mars*, as the Cauſe t which raged in the Year 1478. Thus alſo the learned *r Bartholine*, Profeſſor at *Tubingen* in *Germany*, from the nction of *Saturn* and *Mars*, in the Year 1628. after a utumn, and mild Winter, in a public Oration there de- d, predicted the Plague, which for ſome enſuing Years almoſt over all *Europe*. Thus alſo *D. Paulus de Sorbact*, cian to the Emperor, accurately predicted the Plague at , from a Conjunction of the ſame Planets. To theſe y add, what *Daniel Sennertus, Lib.* 3. *Part.* 2. *Sect.* 2. 7. has obſerved, concerning the Epidemic Dyſentery which ed in his own Time, in the Years 1624. and 1637. in quence of the ſame Poſition of theſe Stars.

w much almoſt all the Antients aſcribed to the Moon, and rious Poſitions of the Planets, with regard to critical , is every-where to be diſcovered in their Works. Nor ntirely without Reaſon, though at the ſame time they o deſerve ſome Animadverſion even on this Head, that they ſo much, and truſt ſo far, to the Moon, in conſtituting l Days, excluſively of the State of the Diſtemper, and tion of the peccant Matter; for, beſides what has been y ſaid upon the Head, 'tis agreed upon by the *Literati*, r Aſpects with the reſt of the Planets are of the utmoſt tance. To this Purpoſe, I ſhall now quote a memorable e of *Eichſtadius*, concerning critical Days, *Lib.* 2. *Eph.* 11. ſays he, the Moon, in the Beginning of an acute Di- per, ſhould happen to have no Aſpect with the other ets, but ſhould in the Progreſs of the Diſeaſe come in the Influence of ſome baleful Planet, either by Conjunction, Oppoſition, or Quartile Aſpect; or if, in the Beginning of the Diſeaſe, ſhe ſhould be expoſed to the Influence of malignant Planets, and, in its future Courſe, alſo come into malignant Aſpects, you ſhall then ſee deep Tragedies acted, dangerous Perturbations and Commotions excited in the Body, and very often *Criſes*, which prove mortal. We are not therefore, ſays the learned Aſtronomer *Mœbius*, in *Epiſt. Inſt. Med. Lib.* 3. *p.* 3. *Cap.* 8. only to conſider the Moon, but alſo the Force and Virtues of the other Planets, whoſe Influences ſhe ſhall happen to receive."

As to the Method and Form of Practice, and the proper Seaſons of exhibiting Medicines, the Antients alſo carefully conſulted the Stars; for that Purgatives, or Veneſections, uſed raſhly, and without abſolute Neceſſity, for the moſt part, produce bad Conſequences at the Solſtices and Equinoxes, the Eclipſes of the Sun or Moon, or upon the actual Preſence or Approach of a baleful Planet, for Inſtance, of *Saturn* with *Mars*, and their Conjunction with the Moon at the Hour in which theſe are uſed, is not only found from Experience, but fully demonſtrated by that ſkilful Phyſician *Frederic Hoffman* ſenior. *Hippocrates*, in the Paſſage above quoted, abſolutely diſcards the Uſe of Medicines about the Summer Solſtices. Every Surgeon may obſerve a Fact, concerning which *Lev. Lemnius* has given a Caution, which is, that Wounds inflicted during the Conjunctions or Oppoſitions of the Luminaries, are more difficultly and ſlowly cured than Wounds received at other times. In all ſtrumous Caſes, Medicines exhibited during the Decreaſe of the Moon are more efficacious, than if uſed at other times. Patients who are afflicted with Epilepſies, or labour under Diſorders of the Nerves or Head, ought at every Change of the Moon to uſe nervous, cephalic, and epileptic Medicines, from which they will find no ſmall Relief. In Caſes where the Inteſtines are racked with Worms, the Uſe of Anthelminthics is moſt ſucceſsfully preſcribed in the Decreaſe of the Moon. At that Time alſo Blood is moſt advantageouſly taken away; and this Practice is univerſally and religiouſly obſerved by the Inhabitants of *Switzerland*, who are uncommonly fond of this Operation. The Phyſician, who endeavours to promote the ſuppreſſed Menſes, will find his Intentions moſt effectually anſwered by preſcribing the Uſe of Emmenagogues about the New and Full Moons. Three or four ſmall bulbous Roots of Garlick are ſucceſsfully taken by thoſe who labour under the Stone, every Week, on the Days immediately preceding the Four Quadratures of the Moon. See *Frid. Hoffman. Clav. Pharmaceut. Schroed. p.* 406. In like manner, when large Evacuations by Stool are intended, the Deſign is beſt and moſt ſafely carried on three or four Days after or before the Full Moon.

Having thus given an Account of the Sentiments of ſome of the moſt learned of the antient Phyſicians, with regard to the Influence of the Stars on the human Body, it now remains, that I give my own Opinion in this Point. And, to be as brief as poſſible, I declare at once, that I am for keeping a due and proper *Medium*; I neither attribute too much to the Stars, nor abſolutely deny their Influence and Operations, but am for making a due and juſt Diſtinction between rational and well-founded Aſtronomy, and that which is ſuperſtitious, fabulous, and empirical. It is not indeed to be denied, that upon this Head ſome of the Antients have advanced things, which are not only ſuperſtitious and fabulous, but, which is worſe, directly repugnant to Reaſon, and inconſiſtent with a Divine Providence; for who, that is not forſaken of his Reaſon, and deprived of his Senſes, can approve of their running to ſo intolerable a Length of Madneſs, as to determine the Morals, the Fortunes, the Diſeaſes, and Deaths of Men, from them? Who, on the other hand, can help lamenting, that the Part of Aſtronomy, which relates to Meteors, ſhould have been hitherto ſo little cultivated, as, in a manner, to remain imperfect, dubious, and even deſtitute of a due and proper Foundation? And, upon this Occaſion, I cannot help contemning the want of Accuracy in our Almanacks, which boldly predict certain States of the Weather; but the Events rarely agree with the Predictions. By this unlucky Circumſtance, ſeveral, not only of the modern Phyſicians, but Philoſophers, have been induced to run into the oppoſite Extreme, and utterly deny every the leaſt Degree of Influence or Virtue to belong to any of the Stars, or heavenly Bodies, except the Sun. As an Argument for their Opinion, they advance the immenſe Diſtance at which they are removed from us. But certainly this Diſtance is not ſo great as to cut off and deſtroy their Influence upon our Globe; for, if it does not hinder the Influx of the *Light* upon our Eyes, it cannot, *à fortiori*, prevent its Action upon our Atmoſphere, ſince it is interpoſed between us and them. Beſides, Who can be ſo miſerably hoodwinked, as not plainly to perceive and confeſs, that the wonderfully regular Motions of theſe Planets, their regular Progreſſions, and ſtated Conjunctions, were by Heaven, whoſe Deſigns are always vaſt in themſelves, and beneficent to Mortals, intended to anſwer ſome noble and important Purpoſes? Nor indeed can the ſo ſurpriſing Variety of Weather and Seaſons be eaſily accounted for upon any other Hypotheſis than the different Operations and Influences of the Stars, in Conſequence of their various Situations and Poſitions. The Effects, 'tis true, of the Sun, are ſo evidently felt, that the Man muſt be ſomewhat more than Sceptic, who can deny them; but yet its Influences are by no means ſufficient to account for ſo ſurpriſing a Diverſity of Seaſons; for we frequently find one Winter mild and gentle, another exceſſively cold and inclement; one Autumn dry, another rainy; one Summer the Ground is refreſhed with frequent gentle Showers, and in another it is parched with continual ſcorching Heat. The Winds alſo do not always retain the ſame Qualities, nor blow from the ſame Quarter; but alter both, accordingly as they are influenced by the Stars. Thoſe which blow from the North, are ordinarily accompanied with a piercing Cold; yet, which is ſurpriſing, they ſometimes lay aſide their Inclemency, and are obſerved for a conſiderable time to blow in a mild and gentle manner. And Eaſterly Winds, which generally bring Rains, are ſometimes alſo attended with clear and ſerene Weather.

But this Influence of the heavenly Bodies is placed beyond the Reach of Uncertainty or Doubt, when we conſider, that the State of the Air is very much altered under the Aſpect of two Planets. Though indeed we cannot predict and determine this Change in the State of the Air with that Accuracy and Exactneſs we could wiſh, yet we juſtly aſſert the Fact, ſince Experience adds her ſacred and uncontroulable Sanction to it. I cannot, on this Occaſion, forbear commending the Induſtry which Mr. *Cook*, an *Engliſhman*, and Mr. *Schlitters*, have uſed in this Affair, who, after long and accurate Obſervation, at laſt found every particular Change of the Air to be produced by the Situation of the Planets. I myſelf, for ten Years, carefully made meteorological and barometrical *Ephemerides*; and every Day frequently obſerved the Weather, the Changes of the Winds, and the Height of the Mercury in the Barometer. During the Courſe of theſe Obſervations, I can, without tranſgreſſing the Bounds of Truth, affirm, that the Aſpects of the Planets, eſpecially the ſuperior ones *Saturn* and *Jupiter*, as alſo of *Mars*, whether with each other, or with other Planets, are invariably followed with certain and unavoidable Commotions of the Air, eſpecially if ſeveral of theſe Aſpects ſhould happen at one and the ſame time.

There is no Occaſion for proving by a long Train of Arguments and Obſervations, that Changes of the Weather happen about the Quadratures of the Moon, ſince that Fact is well enough known to the meaneſt and moſt ignorant of the Country People. But the Influence of the Moon on our Globe is, in my Opinion, remarkably confirmed by the Flux and Reflux of the Sea, a Phænomenon aſcribed to the Changes of the Moon by the concurring Suffrage of all who know any thing of true Philoſophy.

There is, then, an Influx of the Stars upon our Earth, and that too ſo ſenſible and manifeſt, that it cannot be denied by any one, who allows himſelf to obſerve the Alterations produced in Vegetables and Animals, by the Poſitions and *Phaſes* of the Moon. And I could heartily wiſh, that this Branch of Learning were more carefully cultivated and improved by a ſufficient Number of Obſervations made in different Places at one and the ſame time, leſt, for want of theſe, the Good to be expected from Reſearches of this Nature ſhould be ſtifled in its Infancy. This may be beſt prevented by a ſufficient Number of accurate Obſervations made in different Places at one and the ſame time, not only on the State of the Weather and Air, but alſo on the Winds, the Height of the Mercury in the Barometer, and the Degrees of Heat and Cold in the Thermometer. For this End, our new-invented Thermometer is well calculated, by which, though but one Machine, we not only diſcover the leaſt Changes of Heat and Cold, but alſo the preciſe Proportion in which they are in the Air, without any Influence from the Weight of the Air, which is not the Caſe with other unſcaled Thermometers.

If, then, the Stars have an Influence on our Earth, as they undoubtedly have, it will be no difficult Taſk to ſhew, that our Bodies muſt be ſubjected to very conſiderable Changes and Alterations in Conſequence of ſuch an Influence; for he muſt be utterly ignorant both of Phyſic and Philoſophy, who is unacquainted with the Force and Action of the Air upon our Bodies. The Air is of all the other Elements moſt neceſſary to us; by its means, Reſpiration, in which Life immediately conſiſts, is performed. By it the *Anima Materialis*, as it is called, is nouriſhed and ſupported; and by it that divine and heavenly Part of our Compoſition, called the *Soul*, is kept united with our Bodies. The *Air* acting by its Elaſticity on our Bodies, and their Humours, is deſervedly celebrated as the *productive Cauſe* of the Motion of the *Fibræ Motrices* of the ſeveral Muſcles. The *Air* conveys a due Strength and Tone to the Solids, which maintain and carry on the Circulation of the Blood. The *Air* by its Weight and Preſſure preſerves the ſeveral Humours of our Bodies in a due *Æquilibrium*, leſt, being expanded by their too quick and intenſe Motions, they ſhould interrupt the n ceſſary *Syſtole*, or Contraction of the Veſſels. In fine, Change of the *Air* is by *Hippocrates* [*Lib. de Flat.*] affirm to be the Cauſe of the moſt terrible Diſtempers. Witneſs *E* *demical Diſeaſes*, by which ſuch a Number of Mortals are h ried into the other World, and which ariſe from no other Cau than the Malignity of the Air; for the Circulation of Blood, *cæteris paribus*, bears a direct Proportion to the State the Air; and Health bears a direct Proportion to the Circu tion of the Blood. A ſerene and temperate Air contributes carry on the animal Functions with Eaſe and Tranquillity, renders the Body ſound and vigorous. A groſs and denſe A on the other hand, renders it weak and languid, by injur the Excretions: Hence, the Tone of the Fibres being impair the due Motion and Circulation of the Blood is diſordered diſturbed.

For this Reaſon the great *Hippocrates*, every-where in Writings, inſiſts upon the Air and its Properties. And, wh is ſtill more, from a diligent Obſervation of the preceding S ſon, he ſo accurately predicts the Conſtitution of the enſu Year, and the Diſeaſes that will rage during it, that his P dictions ſeem to carry ſomething of a divine and infallible N ture in them. His incomparable Book *de Aere*, *Locis*, *& Aq* as alſo that *de Flatibus*, are well worth the Peruſal of thoſe want Satisfaction on this Head; ſince his Induſtry, and exten Skill, of which he has given numberleſs other Proofs, no-wh appear more conſpicuouſly, than in theſe Performances; he was the firſt who raiſed this Doctrine, as it were, fro State of Non-exiſtence, and exalted it to a Branch of Phy which is not only curious in itſelf, but beneficial to Manki And it were to be wiſhed, that more had trod in his Steps, uſed their higheſt Care and Induſtry to enrich this Branch Learning with a ſufficient Store of accurate and well-m Obſervations. The Words of this divine Author, in his B *de Humoribus*, contain an Obſervation of ſuch Importance Phyſic and Mankind, that they richly deſerve to be writte Characters of Gold. *Such as the Weather and Seaſons* *ſuch will the Diſeaſes and Conſtitutions ariſing from them be.* the Weather is ſeaſonable and natural, Diſeaſes which re arrive at a Criſis are produc'd. And the Diſeaſes peculiar particular Seaſons are ſubject to Alterations from the Var of theſe Seaſons.

From what has been ſaid, every one muſt plainly perce that ſince the Situations and Poſitions of the Stars in Changes and Alterations on our Atmoſphere, they muſ conſequence affect our Bodies with various Changes. No it to be doubted but they act on our Minds, and variouſly a the Genius and Diſpoſitions of Men; for every judicious ſkilful Phyſician is well appriſed, that the Temperament Motion of the Blood give a particular Turn to the Mind, Morals, and the Genius. But that the *Soundneſs of the* depends upon the Air, which is influenc'd and acted upon the Stars, is a Point already ſo clear and undeniable, th ſtands in need of no Proof. And, indeed, I am inclin' think, that the Antients were by this induced, not only to aſ to the Stars an Influence over the Body and the Mind, but from them ſuperſtitiouſly to predict the Fates of Men, the lucky and unlucky Events of Things. In this they wrong, and their Error is juſtly cenſurable as ſuperſtitious trifling.

But though, by reaſon of our limited and ſhallow Ca ties, we cannot comprehend the real and actual Manner in w this Influx is performed, yet this Circumſtance ought no ſhake and invalidate a Fact, to which Experience gives her Suffrage; for how many Phænomena are there, both in dicine and Natural Philoſophy, for which we cannot acc but which, at the ſame time, leave no room in our Mind Doubt, *Scepticiſm*, and Uncertainty? Beſides, 'tis a M in Philoſophy as juſt as 'tis old, *That from our Ignora* *the* MODUS, *or, as the* Greeks *expreſs it, from the* τὸ *or Manner of Exiſtence, to the* τὸ ὅτι, *or real Exiſtence,* *ariſes no juſt Concluſion.* But it ſeems worth while to at leaſt an Attempt to remove this Doubt. The Manner, in which this Influx is made, ſeems to be by *Rareſa* *Compreſſion, and Direction of Motion in this or that Line.*

Thus *Saturn* ſeems to act upon our Bodies, and the moſphere, by compreſſing the Air, and giving its Parts a linear Direction in their Motion, by which means Cold Winds are produced. *Sol* and *Mars*, if we may in Conjecture in a Point ſo little ſubjected to our Senſes, pr a vertical and inteſtine Motion in the Particles of the Air natural Conſequence of which is *Heat*. But *Venus* and *Moon*, by rendering the Air lighter, lay a Foundation for of Vapours being raiſed, and are therefore found to occ rainy Weather. The Moon at her Quadratures rarefi Air too much. Hence our Bodies and Juices become and our Tranſpiration is too great. At New Moon or an Eclipſe of the Moon, the State of the Air is comp a Circumſtance which excites various Diſorders.

The moſt noble of all the Planets, and that which moſt contributes to the Support of the Body, is the *Sun*, whoſe Efficacy in the Preſervation of Health is ſo conſpicuous, that the Antients aſcribed a Power of curing Diſeaſes to it ; becauſe they obſerved, that the gentle and temperate Heat of the Sun had a Tendency to remove and carry off all Diſtempers ; for *Apollo*, the God who preſides over Phyſic, is the ſame as the Sun. For this Reaſon he was, according to *Macrobius*, ſtyled *Soſpitalis* *t Medicus Deus*, *The God who procures the Safety, and protects the Health of Mankind* ; and had alſoDivine Worſhip paid t by the Heathens on this Account.

The Conjunction of *Sol* with *Jupiter*, of *Jupiter* with *Venus*, s alſo the Aſpect of *Jupiter* and *Mercury*, are particularly eneficial in removing thoſe Diſorders which ariſe from Spaſms, nd ſpaſmodic Conſtrictions of the Fibres. For this Reaſon they are propitious Planets to hypochondriac, hyſterical, phthiſical, and inflammatory Diſorders ; for, by rendering the Atmoſphere light, they relax the Tone of the Fibres, and promote the Tranſpiration of the impure and recrementitious *Sordes* lodg'd in the Body. For this very Reaſon alſo, under he Conjunction of *Sol* and *Jupiter*, all Attempts to reſtore and reſerve Health, whether by Veneſection, Purgatives, or other Remedies, are moſt proper.

The Aſpect of *Sol* and *Mercury* is of Service to phlegmatic Diſorders, and ſuch as draw their Origins from Serum. The me Effect is alſo produced by the Aſpect of *Sol* and *Mars*, hich, on the other hand, is prejudicial and hurtful to the Cho- ric, whilſt it too much increaſes the inteſtine Motion of the lood, and by that means produces bilious and hot Diſeaſes, pecially Hæmorrhages. The Conjunction of *Mars* and *Mer- ry* produces almoſt the ſame Effects.

The Aſpect of *Venus* and *Saturn*, by compreſſing the Air, nders the Fibres tenſe, blocks up the Pores, and prepares and ſpoſes the Body to Spaſms, Rheumatiſms, Fevers, Coughs, oryzas, and Abortions. The Aſpect of *Mars* and *Saturn*, y throwing the Blood into internal Commotions, and ob- ucting external Perſpiration, diſpoſes to Anger, and excites nbridled Paſſions. The ſame Aſpect promotes the Diſeaſes riſing from Bile, and for that very Reaſon uſes to pave an ſy Road to Putrefaction and the Plague. The long-conti- ued Aſpect of *Venus* and *Mercury*, by rendering the Atmo- here lighter than it ought to be, diſpoſes to Ulcers, putrid iſeaſes, Worms, *Aphthæ*, and catarrhous Fevers. The pect alſo of *Saturn* and *Jupiter* produces a Train of fatal d melancholy Effects ; for the Aſpect of *Jupiter* rarefies the umours, whereas that of *Saturn*, by an external Preſſure on the Body, hinders Perſpiration.

I have already ſaid, that, during the Increaſe of the Moon, umors were inlarged ; and this happens for no other Reaſon n this, that the Moon, not only by her Rarefaction, but Humidity, relaxes the Tone of the ſolid Parts: Hence Per- ration is interrupted, and an Accumulation of Humours, od, and Serum, enſues. But, upon the Decreaſe of the oon, the Perſpiration acquires new Force and Strength, by ich means the Tone and Elaſticity of the Fibres are reſtored augmented. For this Reaſon People at this Seaſon receive moſt conſiderable Advantage from the Uſe of Medicines ; then Evacuations of all Kinds, and Veneſection, that great ervative, are more proper, and more beneficial to the Con- tion than at other Times.

That we ought to abſtain from the ſtronger Purgatives ng the *Solſtices*, is evident from this, that, during the mmer Solſtice, the Strength is dejected, and the Spirits uid, in conſequence of the violent Heat. The Winter ſtice, on the other hand, is always accompany'd with the teſt Imbecillity, and Nature is then at her loweſt Ebb. ce alſo the Equinoxes, in conſequence of their Humidity, x the Fibres, they muſt of courſe retain within the Body Humours, whoſe Expulſion and Elimination are attempt- For this very Reaſon, if about the Equinoxes the more ſtic Purgatives are uſed, it readily happens, that the Humours, g by their Violence forcibly driven to particular Parts, ex- dangerous and fatal Stagnations ; for which Reaſon the ſician is at theſe Seaſons to be particularly careful never reſcribe theſe ſtrong Purgatives, but rather make Choice of mild and gently operating Laxatives. In the Decreaſe of Moon, ſuch Medicines as are deſigned againſt Worms and ors, are moſt properly uſed ; becauſe at that Time Nature g in her moſt flouriſhing State, increaſes their Operations, proves an excellent Aſſiſtant to them ; and the more pow- ly Medicines are aſſiſted by the concurring Forces of Na- the more ſpeedy and ſucceſsful their Operations will be, *vice verſa*.

t it is above all things to be remember'd, that the Influ- of the Stars is to be rank'd among thoſe Cauſes of Diſ- only, which affect our Bodies, whether in a ſound or udinary State, in a remote and ſecondary manner ; for tars only diſpoſe to particular Diſorders, and particular of the Body and Fibres; but they are not the proximate mmediate Cauſes producing the Diſorders themſelves.

The Maxim of the Antients relating to this Particular is very juſt, when they ſay, that the Stars indeed *inclin'd*, but could not *neceſſitate*. In order to produce a neceſſary Effect, a proximate and immediate Cauſe is neceſſarily requir'd ; but, in order to produce any Effect, many remote Cauſes muſt concur. It muſt alſo be remember'd, that the Stars act upon our Bodies not *ſecundum modum activitatis*, or merely by their own Virtue and Energy ; but *ſecundum modum Receptivitatis*, or according to the State and Diſpoſition of the Objects on which they act. This Obſervation is on this Occaſion ſo much the more carefully to be adverted to, as it ought to be fixed and riveted in the Mind, with regard to all morbific Cauſes whatſoevor, the Effects of Diſeaſes, and the Operations of Medicines. For this Reaſon we obſerve, that all Bodies are not affected in the ſame manner by the Stars, but the ſame Effect which proves beneficial to one, ſometimes proves hurtful, and injurious to another. Laſtly, 'tis not to be forgotten, that the Influences of the Stars are moſt conſpicuous and perceptible in valetudinary and infirm Conſtitutions ; for theſe, in conſequence of their lax and ſpongy Habit of Body, and the too languid Motion of their Blood, are in a particular manner expos'd to the baleful Influences they diffuſe, whereas thoſe of a more hardy and athetic Make, are not eaſily injur'd by them.

In the laſt Place, this is to be duly remember'd, and carefully adverted to, *That, in Caſes of* URGENT NECESSITY, *neither the Poſition of the Stars, nor the State of the Atmoſphere, are to be regarded* ; for no Phyſician ought to recede from what he thinks a rational Practice in acute Diſeaſes, becauſe the Aſpects and Poſitions of the Stars are bad, according to the Advice of that ſkilful Phyſician *Levinus Lemnius*.

Thus in a Quinſey, Pleuriſy, and Inflammations, we are to diſregard the Stars, but have immediate recourſe to Veneſection : For as the ſkilful Pilot, on the Proſpect of an approaching Tempeſt, loſes no Time, but ſtruggles for Life and Safety againſt Wind and Tide, till, by a prudent Management of his Sails and Oars, he has brought his Ship to a ſecure Station, where ſhe may be ſhelter'd from the Violence of the raging Winds and Billows ; juſt ſo the ſkilful Phyſician, neglecting the Stars, and their Influence, has recourſe, as ſoon as poſſible, to ſuch Medicines as remove the Violence of the Diſtemper, and place the Patient beyond its Reach. *Hoffman*.

ASTRUM, ἄστρον. The ſame as ἀστὴρ, a Star.

Aſtrum, with the Chymiſts, ſignifies that Virtue and Power which accrue to Things from their Preparation : Thus the *Aſtrum* of Sulphur is its Kindling, by which it is changed into a moſt excellent Oil ; and the *Aſtrum* of Salt is its Reſolution intoWater or Oil, by which, in like manner, it acquires greater Strength. The *Aſtrum* of *Mercury* is its Sublimation, by which it acquires a wonderful Force and Power, of more Extent and Subtilty than it was endu'd with by Nature. It is otherwiſe called *Alcol*, *Quinta Eſſentia*, *Extractum*, *Sperma*, &c. *Ruland. Johnſton.* There is alſo the *Aſtrum Solis vel Auri*, *Lunæ*, &c. *Aſtrum ex Igne* is burning like Fire, and making a vehement Impreſſion. *Dict. Paracelſicum.*

Aſtrum is alſo a Name given to certain Medicines, as Troches, or thoſe in the Figure of little round Cakes, impreſs'd with an Aſteriſk. Hence we read in *Galen*, *Lib.* 8. *de C. M. S. L. Cap.* 3. and in other Places, of the invincible, ſomniferous, anodyne *Aſter*. And with ſome Chymiſts a Remedy bears that Name, not ſo much on account of the Impreſſion, as its extraordinary, and, I may ſay, *Aſtral* Virtues ; for Example, the *Aſtrum* of Serpents.

ASTUR, in *Aldrovand. Ornithol.* is the ſame as ACCIPITER.

ASUB. The Galaxy. *Ruland. Johnſon.*

ASULCI. Lapis Lazuli. *Iidem.*

ASUOLI. Ink, Soot. *Iidem.*

ASYMPHOROS, ἀσύμφορος, from α Neg. and συμφορά, a Calamity, Misfortune ; not detrimental or dangerous. Thus *Lib.* 1. ϖερὶ διαίτης· ϗ ἀπὸ βραχείης φλεγμονῆς ϗ ἀσυμφόρου μαίνονται, " after a ſhort Inflammation, which was no way " dangerous, they grow mad."

ASYMPHYTON, ἀσύμφυτον, from α Neg. and σύμφυτος, concrete, coaleſcent, in *Hippoc. Lib.* ϖερὶ τέχνης, ſignifies whatever is disjoin'd by Nature, and not continuous.

AYSMPTOTON, ἀσύμπτωτον, from α Neg. and σύμπτωτος, of συμπίπτω, to ſubſide, to be compreſſed, or contracted. Uncompreſſed, uncontracted. Ἀσύμπτωτον, in *Hippoc. Lib.* ϖερὶ χυμῶν, denotes what is not contracted or compreſſed thro' Dryneſs. In *Gal. L.* 1. *ad Glauc.* ἀσύμπτωτος ἡ ϖᾶσα ἕξις τοῦ σώματος, " the whole Habit of the Body keeps up without ſinking, " was before expreſſed by οὐδὲ ὁ τοῦ σώματος ὄγκος συμπέπτωκεν, " nor was the Bulk of the Body ſunk or contracted. " Thus σύμπτωσις, *Lib.* ϖερὶ χυμῶν, ſignifies a Sinking or Contraction of the outward Limits of the Body ; and *Aph.* 3. *Lib.* 1. ξυμπτώσιες are called κενώσιες, Evacuations, importing ſuch Compreſſions to be the ſubſiding of the Veſſels upon Evacuation.

ASYNETHES, ἀσυνήθης, from α Neg. and συνήθης, customary; uncustomed. *Hippoc. Lib.* 2. *Aph.* 49, 50.

ATAC, Talc, or Nitre. *Ruland. Johnſon.*

ATACTOS, ἀτάκτως, from α Neg. and τάξις, Order, Diſorderly, irregularly. An Adverb often uſed by *Hippocrates*, in Conjunction with πεπλανημένως, "after a wandering manner." Thus, for Inſtance, *Lib.* 1. *Ep.* ῥίγεα δὲ πᾶσιν ἀτάκτως καὶ πεπλανημένως ἐγένοντο, "all had Shiverings in a "vague and irregular manner."

ATA MARAM, H. M. *Pomifera Indica, Fructu conoide ſquamoſo viridi.* The ſame as AHATE DE PANUCHO RECCHI, which ſee.

ATANOR. A Pot perforated. *Ruland. Johnſon.*

ATARACTOPŒSIA, ἀταρακτοποιησία, from α Negat. ταρακτὸς, troubled, and ποιέω, to do. The performing an Action with an undiſturbed and intrepid Mind, becoming a Phyſician. *Hippoc.* περὶ εὐσχημ.

ATAXIA, ἀταξία, from α Neg. and τάξις, Order. Irregularity. In a ſpecial Senſe it ſignifies the Diſorderlineſs and Irregularity in Criſes and Paroxyſms of Fevers, *Hippoc. Lib.* 1. & 3. *Ep.* A Pulſe is ſaid to be ἄτακτος, irregular, when it obſerves no Order in the Time or Tone of the Strokes; and an erratic Fever is called ἄτακτος, or ἄτυπος, which keeps no certain Character or Order in its Periods.

ATAXMIR. An *Arabic* Word in *Albucaſis*, ſignifying the Method of treating an Eye when preternatural Hairs grow under the natural ones on the Eyelids, and incommode the Eye. *Caſtellus.*

ATEBRAS, *uncus aquinus*, that is, a Subliming Veſſel. *Rulandus.*

ATECHNIA, ἀτεχνίη, from α Negative, and τέχνη, an Art. Want of Art. Τοῦτο γὰρ ἔγωγέ φημι ἀτεχνίην εἶναι, ὅπου μήτε ὀρθὸν εἴη μηδὲν, μήτε οὐκ ὀρθόν· "I aſſert that to be void of "Art, in which there is nothing right, and nothing wrong." *Hippoc.* περὶ τέχνης.

ATENES, ἀτενὲς, fix'd, immoveable, rigid. Thus ἀτενὲς ὄμμα is a fix'd and immoveable Eye, a rigid Aſpect. *Galen, Comm.* 3. *in Prorrhet.* explains it by θρασὺ, bold, vehement, a fierce and wild Aſpect, which portends a Phrenſy. Ἀτενέως ἐκλάμπουσιν ὀφθαλμοὶ, "the Eyes are fix'd, and ſhine," which is a Sign of a Delirium. Ἀτενίζοντα ὄμματα, Eyes fix'd, intent, looking earneſtly. *Lib.* 5. & 7. *Epid.*

ATER SUCCUS, or ATRA BILIS, are ſometimes uſed to expreſs the *Black Bile, Melancholy.* See BILIS, and MELANCHOLIA.

ATERAMNA, ἀτέραμνα, in the following Paſſage of *Hippocrates, Lib. de Aere, Locis, & Aquis,* διὰ τὰ ὕδατα ὄντα σκληρά τε καὶ ἀτέραμνα, καὶ ψυχρὰ, is expounded by *Galen* in his *Exegeſis*, by τὰ δυσκατέργαστα καὶ σκληρὰ, "difficult of Con"coction, and hard;" in which Senſe the Place quoted will be render'd, "becauſe the Waters are hard, and difficult of "Concoction, and cold." The ſame Author, *Com.* 4. *in Lib.* 6. *Epid.* writes, that ſome of the Antients call'd bad Waters ἀτέραμνα, and ἀτεράμονα. And in another Place, *Comm. eodem*, he tells us, that Rain-water was better than what fell with Hurricanes, which could neither be digeſted nor alter'd, but was like the Water of ſome Fountains which the Antients call'd ἀτεραμνώδη. Theſe Words import as much as *untameable, indigeſtible.*

Ἀτέραμνοι κοιλίαι, *Lib. de Aere, Locis, & Aquis,* are hard, dry, ſtubborn Bellies, not lubricous or mollify'd, and oppoſed to ὑγρότεραι, "ſuch as are more fluid, or looſe. Ἀτεράμνοις, in the ſame Treatiſe, is expounded, by *Erotian*, δυσμεταλλήτοις, "difficult of Alteration." Ἀτεραμνίη there alſo ſignifies Crudity, and Difficulty of Concoction; but when transferr'd to the Mind, it denotes an untractable Nature, a refractory Diſpoſition, and rough and unciviliz'd Manners, incapable of being poliſh'd or ſoften'd. *Hippoc.* ἐν παραγγελίαις· Τὶς γὰρ, ὦ πρὸς Διὸς, ἠδελφισμένος ἰητρὸς ἰητρεύει πίσει ἢ ἀτεραμνίῃ; "The true "Phyſician will undoubtedly perform his Office with Honour "and Conſcience, rather than by hard and rough Treat"ment."

ATERES, ἀτηρὴς, from ἄτη, Loſs, Miſchief. Noxious, detrimental. *Hippocr. Lib. de Aere, Locis, & Aquis:* Εἰ μέντοι, ποταμοὶ μὲν μὴ εἴησαν, τὰ δὲ ὕδατα κρηναῖά τε καὶ ςάσιμα πίνοιεν, καὶ ἑλώδεα, ἀνάγκη τὰ τοιαῦτα τῆς γαςρὸς ἀτηρέα εἶναι καὶ σπληνός· "But if there be no Rivers, and they drink of ſtink"ing and ſtagnating Springs, ſuch Waters muſt of neceſſity "be pernicious to the Belly and Spleen."

ATHANASIA, from α Negative, and θάνατος, Death (*Immortality*). An Antidote which *Galen* deſcribes in the eighth Book of his Topics, as a Medicine for Infirmities of the Liver, the Gravel, and the Yellow Jaundice. It is thus prepared:

> Take of Saffron, two Drams; Cinnamon, one Dram; Spikenard, two Drams; Caſſia, Myrrh, Juncus odoratus, of each one Dram: Make them into an Electuary with Honey. Taken to the Quantity of a *Grecian* Bean, it provokes Sweat plentifully.

There is another Antidote of this Name, which *Paulus, Lib* 7. aſcribes to *Oribaſius*, which takes in all the Ingredients the former, but varies the Proportions, with an Addition Opium; which, he ſays, is a Lenitive of Pain, and proper fo the Pleuriſy, and would have it ſupply the Place of *Philonium.*

Ἀθανασία ſignifies alſo the Collyrium ἄδηκτον, deſcrib'd by *A tius, Lib.* 7. περὶ τῶν ἀδήκτων καὶ λευκῶν κολλυρίων, that is, white and mild Collyriums. *Gorræus.*

Athanaſia is alſo a Name given to many Compoſitions ſome foreign Diſpenſatories, one of which is in the *Auguſtan.*

Athanaſia, according to *Blancard*, is a Name for TANA CETUM, which ſee.

ATHANATOS, according to the laſt-named Author, the LYCHNIS CORONARIA, which ſee.

ATHANOR. This is, by *Lemery*, deriv'd from *Tannaro* an *Arabic* Word, which ſignifies a Furnace.

It is a ſort of Furnace, contrived in ſuch a manner as keep up an equal and gentle Heat for any Length of Time, only ſupplying it every twenty-four, or ſometimes every fort eight Hours, with a proper Quantity of Coals. It is very u ful in Operations where a long-continued gentle Heat is quired.

ATHARA. See ATHERA.

ATHARES, ἀθαρὴς, from α Negative, and φθείρω, to c corrupt. Uncorrupted. This is an Epithet ſometimes apply to a Virgin; and ſometimes to Iron, with regard to its Ha neſs, Incorruptibility, or Invincibility.

ATHELXIS, ἄθελξις, from ἀθέλγομαι, to ſuck, or dr by Milking. Suction, or that Attraction which is perform'd ſucking or milking. The Verb ἀθέλγομαι is uſed by *Hip crates*, περὶ χυμῶν, and ἄθελξις, in the Treatiſe περὶ ἄρθ but the beſt Copies, as *Foeſius* ſays, for ἄθελξις, read ἄλθε which he himſelf approves, and renders *Sanatio*, a Cure.

ATHENA, ἀθήνα, is a Plaiſter commended by *Aſclepiad* and deſcrib'd by *Oribaſius, Aetius,* and *Paulus.* It is t made:

> Take of Cadmia, twenty Drams; of burnt Braſs, Bark Pomgranate, Galls, long and round Birthwort, Sal A moniac, Squama Æris, round and ſciſſile Alum, Or Miſy, Chalcanthum, Chalcitis, Verdegriſe, Alo Myrrh, Frankincenſe, Gum Ammoniac, Galbanum, e thirty Drams; of Wax, Pitch, each one hundred, or, others, two hundred Drams; of Colophony, four h dred Drams; of Oil, ſix Ounces.

This is *Oribaſius*'s Receipt; but *Aſclepiades* preſcribes

> Twelve Drams of Aloes, as many of Myrrh, and fixt Drams of Gum Ammoniac: Pound the dry Ingredi for ſeveral Days together in the Summer's Sun; then those which are liquifiable, and incorporate them with others.

It is very effectual in Wounds of the Head and Nerves, is reckon'd by *Paulus* among the ἔμμοτα φάρμακα, Reme ſpread upon Lint or Linen, and thus introduced into Wou or Ulcers.

ATHENÆUS.

Athenæus was the firſt Founder of the Pneumatic Sect, a Native of *Attalia.* There were ſeveral Towns of this Na but it is moſt likely, that the *Attalia* which gave Birth to Phyſician was a City of *Cilicia*, becauſe *Cælius Aureli* [*Acutor. Lib.* 2. *Cap.* 1.] mentions one *Athenæus* of *Tar* who is probably the ſame; for *Tarſus* being alſo a City of Province of *Cilicia*, *Cælius* might have, very probably, put one for the other.

This Phyſician appear'd after *Themiſon*, as we may g from a Paſſage of *Galen*, where he ſays, that one *Magnu* Follower of *Athenæus*, had compoſed a Book, intituled, *T diſcover'd ſince the Time of* Themiſon. 'Tis very probable, *Magnus* compoſed this Book with no other View than to an Account of the Innovations his Maſter had made in Ph The Silence of *Celſus* and *Pliny*, with regard to *Athenæus*, alſo a Proof, that he did not live, or at leaſt was not know their Days; ſince 'tis probable, that, having mention'd *Innovators* in Phyſic, they would not have forgotten him. indeed poſſible, that *Athenæus* might not have made his Ap ance in the World in the Time of *Celſus*, who lived unde *guſtus* and *Tiberius*: But as for *Pliny*, if we conſider, firſt, there were about fifty Years between him and *Archigenes*, former having written under the Emperors *Nero* and *Veſp* and the latter, at the fartheſt, under *Adrian*; and ſeco that *Archigenes* was the Diſciple of *Agathinus*, who agai the Diſciple of *Athenæus*; we ſhall find, that this laſt muſt lived at leaſt fifty Years after *Archigenes*, and conſequently have been contemporary with *Pliny*. If this Repreſentat juſt, as we may ſuppoſe *Pliny* to be a little older than *Athe* and to write before him, we have no Reaſon to be ſurp that *Athenæus* is not mention'd by him.

As for the Philoſophical Opinions of *Athenæus*, he did not lieve, [*Galen. Introduct. ſeu Medicus, Cap.* 9.] that the ire, the Air, the Water, and the Earth, were true Elements; r he only gave the Name of Elements to the primary Quali- s of theſe Bodies, that is, to Heat, Cold, Humidity, and Dryneſs; the two former of which were, according to him, ficient, and the two latter material Cauſes. *Athenæus* added fifth Element, which he call'd *Spirit:* He imagin'd, that this pirit penetrated all Bodies, and preſerved them in their natural ate. This Sentiment he borrow'd from the *Stoics*; and 'twas obably this which induced *Galen* to call *Chryſippus* the *Stoick*, e *Father of the Pneumatic Sect.*

This Opinion is alſo hinted at by *Virgil*, [*Æneidos, Lib.* 6.] theſe Words:

Principio Cœlum, ac Terras, Campoſq; liquentes,
Lucentemq; Globum Lunæ, Titaniaq; aſtra,
Spiritus intus alit: totamq; infuſa per Artus
Mens agitat Molem, & magno ſe corpore miſcet.

Athenæus, applying this Syſtem to Phyſic, would have all Diſ- ſes to proceed from the *Spirit ſuffering*, or receiving the firſt Fault, τούτυ πρωτοπαθόντος, that is, πνεύματος [*Galen. Introduct. Cap.* 9.]. But as the Works of this Phyſician have not ch'd us, we know not particularly what he meant by this irit, nor what he underſtood by its *ſuffering:* Only from his finition of the Pulſe we may conclude, that he believed the irit to be a Subſtance capable of Dilatation and Contraction. The Pulſe, ſaid he, is no more than a Motion produced by the natural and involuntary Dilatation of the Spirit con- tain'd in the Arteries and Heart; which Spirit, moving of its own Accord, moves at the ſame time the Heart and Ar- teries."

This is all we know concerning the Sentiments of *Athenæus*, pt ſome things relating to Anatomy, in which he follow'd *ſtotle. Galen* [*de Different. Pulſ. Lib.* 4. *Cap.* 4.] obſerves, none of the Phyſicians of theſe Days had written ſo univer- y on Phyſic as *Athenæus*; but of all he wrote we have ing remaining, except two or three Chapters in the Col- ons of *Oribaſius*, from which we learn nothing that can in this Opinion relating to the *Spirit*, much leſs any thing can diſcover its Uſe with regard to the Practice of Phy-

THENATORIUM, a thick Glaſs Cover, which is in the *trum Chymicum, Vol.* 3. *p.* 33. directed to be luted to a rbit, when the Alembic is taken off, in a particular Pro- there deſcrib'd.

THENIONIS CATAPOTIUM. The Name of a Pill *lſus, Lib.* 5. *Cap.* 25. which is recommended againſt a h. It conſiſts of Myrrh, Pepper, Caſtor, and Opium.

THENIPPON. The Name of a Collyrium, deſcrib'd by *nius Largus*, 26. which is alſo call'd *Diaſmyrnes*, ſaid to ful in ſome Diſtempers of the Eyes.

THENIPPON PANCHRESTON, ἀθήνιππον πάγχρη- Collyrium in *Galen, Lib.* 7. τῶν κατὰ τόπυς, quite dif- from that of *Scribonius Largus*; whence it appears, that ame *Athenippon* was common to many Collyria.

THER, ἀθὴρ, as *Galen* ſays, ſignifies, in *Hippocrates*, he prickly Part or Beard of Barley, as in *Lib.* 2. *de Mor-* nd alſo the Top of that Part in the Point of an Arrow, is called the πώγων, Beard, as in *Lib.* 5. τῶν ἐπιδημιῶν.

THERA, ἀθήρα, or *Athara*, as it is read in *Pliny, Lib.* p. 25. ſignifies a thin ſort of Pulticula, or Pap, fit to be : It is made of Wheat, or Zea, ground and reduced to fine Flour, and is proper for Infants. *Dioſcorides, Lib.* 14. tells us, that it is a ſorbile Liquor, made of very our of Zea, and may be uſed by way of Cataplaſm. The is received among the *Greeks*, tho' *Pliny* ſays it has an an Original. *Gorræus.*

HERINA, a ſmall Fiſh mention'd by *Aldrovandus*, is very full of Bones, but otherwiſe very good Food, as aſy of Digeſtion, and ſupplying good Juices.

HEROMA, ἀθήρωμα, is a colourleſs Tumor, void of containing, in a membraneous Coat, Matter like Pap, ἀθήρα, intermix'd ſometimes with hard and ſtony Cor- and others like the Scrapings of Sulphur, and now- n like chew'd Bones of Chickens. *Leonidas* writes, that etimes met with things like Hairs incloſed within a very umour; and *Philoxenus*, that he found Animals lodged Humour, which were like Gnats or ſmall Flies. ἀθήρωμα, then, is oblong, imminent, hard, not eaſily d by the Fingers, nor, after Impreſſion, haſty to reſtore which Marks diſtinguiſh it from the Meliceris, which round, low, wide, ſoft, and eaſily gives Way to the and as ſoon returns. *Gorræus.* See TUMOR.

LETICUS, ἀθλητικὴ ἕξις, *Athletica Habitudo*, an Habit of Body; ſo the Antients call'd that State of hich was full, fleſhy, and robuſt; for ſuch was the Ap- of the *Athletæ*, or Wreſtlers. They were not of this tion by Nature, but acquir'd it by the cloſeſt Applica- he Gymnaſtic Art. Their principal View in this Study was to take ſuch Care of their Bodies, as that they might be well fortify'd with much and ſolid Fleſh, and have their Veins full of the beſt and moſt fibrous Blood. Nor did they only aim at Strength, but Bulk and Ponderoſity, the better to overbear and foil their Adverſary. For this End, it was neceſſary to uſe much Food and Exerciſe: The firſt was of ſuch a Nature, as not eaſily to be diſſolved and diſſipated, ſuch as Beef, Pork, Bread, and Cheeſe; and what, ſays *Galen*, is extoll'd by all, the fineſt Wheat-flour, with Cheeſe-cakes, and other Dainties made thereof, which he, in his fifth Book of the Preſervation of Health, mentions as provided for Wreſtlers, to increaſe their Strength and Vigour. Their Bread was anciently, by a peculiar Name, call'd *Coliphium*, ἀπὸ τοῦ κῶλυ καὶ ἶφι, from *Firmneſs of Limbs.* They obſerved no Time or Order in Eating or Drinking, that they might the better be enabled to bear all Changes. 1. They indulged themſelves in Sleep and Gluttony, and roll'd in the Duſt and Dirt: As to all honeſt and neceſſary Offices of Life, they were quite indiſpoſed and uſeleſs. They who, by ſuch Methods, had acquir'd this Habit of Body, were accounted excellent Athletæ, Wreſtlers, and the Habit itſelf was call'd ἀθλητικὴ ἕξις, an *Athletic Habit.* But it grew to a Cuſtom in time to call every corpulent and robuſt State of Body by this Name, tho' not procur'd by the Athletic Art. Hence, in *Plautus, pugilice, pancratice, & athletice valere*, is put for *optime & firmiſſime*; and in *Celſus, Lib.* 4. *Cap.* 6. an Athletic Diet is put for a ſtrong one, and ſuch as is accommodated to repair the bodily Forces, as *Budæus* has obſerved in his Notes on the *Pandect.* But this Athletic Habit is cenſur'd by *Hippocrates* as preternatural, and not ſo good as a healthful one; for it is in continual Danger from the Fulneſs of the Veſſels. Therefore it ought to be accounted *neutral* rather than *healthful*, becauſe of the imminent Danger that attends it, except it be ſoon ſolved by a κενεαγγεία, *an Evacuation, or Emptying of* the Veſſels. On other Accounts, as *Galen* writes, *Comment. in Aphor.* 3. *Lib.* 1. it is faultleſs, becauſe *Athletæ* abound with good Humours, and are in full Strength of Body; and, in his Book *de Atra Bile*, he owns their Blood to be very good. *Gorræus.* See GYMNASTICA.

ATHLIPTOS, ἄθλιπτος, from α Negative, and θλίβω, to preſs. Uncompreſs'd. Ἄθλιπτος εἰσβολή, as *Galen* ſays, is an Expreſſion uſed by ſome to ſignify the Approach of a feveriſh Paroxyſm without Compreſſions. This kind of Fever, he ſays, at the very Beginning of the Fit, immediately raiſes the Pulſe in Greatneſs and Swiftneſs, and does not make its Approaches, as is uſual with other Sorts, by Shakings and Shiverings, a Coldneſs of the extreme Parts, or outward Superficies, with a Vellication, Gravation, or Compreſſion of the Stomach, and a ſmall ſlow Pulſe; for one or more of theſe Symptoms attend the Acceſs of a Paroxyſm, and ſoon after ſometimes ſucceeds a Vomiting, which is a plain Indication of a Conflux of vicious Humours to the Stomach; and the Blood, retiring from the whole Superficies inward to the Viſcera, muſt occaſion Compreſſions, Obſtructions, and Diſtenſions of the principal Arteries. A Fever that does not make its Attack on the Patient by any of theſe Methods, is ſaid to make an ἄθλιπτος εἰσβολή, "an Attack without Compreſſions." *Galen. de Præſag. ex Pulſ. Book* 3. *Chap.* 7.

ATHONOR. The ſame as ATHANOR.

ATHORECTOS, ἀθώρηκτος, not drunk. Sober.

ATHRIX, ἄθριξ, from α Negative, and θρὶξ, a Hair. Smooth, without Hair.

ATHROESMA, ἄθροισμα, from ἀθρόος, collected together. This is a Term in frequent Uſe among the Phyſicians of the Empiric Sect. It ſignifies the entire Collection of all their Obſervations.

ATHROOS, ἀθρόος, an Adjective, or Athroon, ἀθρόον, an Adverb, in Medicinal Authors, imports copious, accumulated, or ſudden, and is the Reverſe to *by degrees.* It is apply'd to the Secretions, Nutrition, and other things.

ATHYMIA, from α Negative, and θυμὸς, Courage. Puſillanimity. In Medicinal Authors it uſually ſignifies that Dejectedneſs, Deſpondency, and Deſpair, which frequently occur in the Courſe of Diſtempers, eſpecially in ſome Conſtitutions.

ATINCAR, or ATINKAR, Borax. *Rulandus. Johnſon.*

ATITARA, the *Braſilian* Name for the *Palma humilis ſpinoſa. Raii Hiſt. Plant.*

ATLAS. The firſt Vertebra of the Neck, mark'd *Fig.* 9. in *Table* 8. is call'd Atlas, becauſe it ſupports the Head, as *Atlas* did the Globe of the Univerſe, according to the antient Fable. It has neither Body, nor ſpinal Apophyſis. The Hole or Opening in it is much larger than in the reſt. It looks like an irregular bony Ring, fill'd all round with Eminences and Cavities. It may be divided into two Arches; the anterior, or largeſt; and poſterior, or ſmalleſt.

The anterior Arch is form'd by two thick lateral Portions, and a ſmall curve middle Part, which, with the other, makes a Notch in the anterior Part of the great Cavity of the Vertebra. The lateral Portions may be look'd upon as a Body in two Parts, without which the firſt Vertebra would have been too weak to ſuſtain the Articulations.

In the Middle of the convex Side of the poſterior Arch, is a Tubercle, a little pointed, larger than the anterior Tubercle, and mark'd with Muſcular Impreſſions on each Side, and on the upper and lower Edge. This Tubercle ſeems to be in the Place of the ſpinal Apophyſis.

The tranſverſe Apophyſes of the firſt Vertebra ariſe from the Middle of the Breadth of the lateral Portions, being perforated perpendicularly at their broad Origins. They are much longer than thoſe of the five Vertebræ below them, and, contracting gradually, they terminate in an obtuſe Point, which is ſometimes in a manner double, and mark'd on the upper and lower Side with Muſcular Impreſſions.

The ſuperior articular Apophyſes are larger than any other Apophyſes of the ſame Kind in the whole Spine. Their Situation is almoſt horizontal, and their anterior Extremities are turn'd more inward, that is, nearer one another than the poſterior: They are, in a Word, every way proportion'd to the Condyles of the Os Occipitis.

The inferior articular Apophyſes are leſs hollow, ſhorter, and broader. They are inclin'd laterally from within outwards, and from above downward. They are directly under the ſuperior Apophyſes; and thus the articular and tranſverſe Apophyſes, the Holes and lateral Portions on each Side, are all in the ſame Line.

There is a long Notch, or kind of Groove, between each ſuperior articular Apophyſis, and the poſterior Arch of the bony Ring, reaching from the Hole in the tranſverſe Apophyſis backward; in which Notch the Vertebral Blood-veſſels, in the natural State, make a Turn, before they enter the great Occipital Foramen. Sometimes, tho' very rarely, there is a complete Hole in the room of this Groove. There is another Notch, but more ſhallow, on each Side, between this Arch and the inferior Apophyſes.

In the internal Circumference of the great Hole of this Vertebra, in the Middle of the great Notch, is a Cartilaginous Impreſſion for the Articulation of the Axis of the ſecond Vertebra; and on each Side of that Notch, between the ſuperior and inferior Apophyſes, there is another ſmall Impreſſion for the Inſertion of a tranſverſe Ligament, which ſecures the Axis in its Place. All round this Circumference, both toward its upper and lower Edges, there are many other Inequalities or Impreſſions. *Winſlow*'s *Anatomy*.

ATLE, an *Egyptian* Name for the Tamariſk. *Blancard*.

ATMOSPHÆRA, the Atmoſphere. The whole Body of Vapours, and Air, ſurrounding the Earth. See Aer. It is deriv'd from

ATMOS, ἀτμὸς, a Vapour, or Exhalation.

ATOCIA, from α Negative, and τίκτω, to bring forth Young. Sterility. *Blancard*. But ἄτοκοι, in *Hippocrates*, uſually ſignifies Women who abſtain from the Means of Fecundity, that is, the Embraces of the other Sex.

ATOCIUM, a Name for the *Lychnis Sylveſtris*. *Blancard*. But Atocium, ἀτόκιον, alſo ſignifies a Medicine which prevents Conception.

ATOLLI, a ſort of *Pap*, made of the Meal of *Mays* and Water, which the *Indians* mix with their Chocolate.

ATOLMIA, ἀτολμία, from α Negative, and τόλμα, Intrepidity. Puſillanimity.

ATOMUS, ἄτομος, from α Negative, and τέμνω, to cut or divide. An *Atom*. A Particle of Matter ſo ſmall as to admit of no farther Diviſion.

Cælius Aurelianus, *Acut. Lib.* 1. *C.* 14. giving an Account of the Philoſophy of *Aſclepiades*, ſays, it was his Opinion, that the *Primordia* of all Things were *Atoms*, which were not the Objects of our Senſes, but were only perceptible by the Underſtanding. Theſe *Atoms*, according to him, had of themſelves no Qualities at all; for he aſſerted, that the Qualities of the Bodies which they compoſe depended upon the Order, Figure, Number, and Grandeur of many of theſe Particles join'd together: And when he was aſk'd, How it happen'd, that Bodies poſſeſs'd ſeveral Qualities, ſince the *Atoms*, of which they were compoſed, poſſeſs'd none at all; he anſwer'd, That theſe Qualities depended upon the Order, Figure, Number, and Bulk of ſeveral of theſe *Atoms* united and join'd together; and, for illuſtrating his Opinion, drew a Simile from Silver, which is white when in the Lump, but black when filed down; and from the Horns of Goats, which are black when entire, and white when raſp'd down.

From this Account of the Philoſophical Sentiments of *Aſclepiades*, we plainly ſee, that they were ſomewhat different from thoſe of *Epicurus* or *Democritus*, tho' all the three acknowledged *Atoms*; for the *Atoms* of *Aſclepiades* were diviſible, whereas thoſe of *Democritus* and *Epicurus* were ſuppoſed incapable of being divided. I am of Opinion, that *Cælius Aurelianus*, by *Atoms*, means no more than the ὄγκοι, or *Molecules* of *Galen*. *Epicurus* acknowledged Molecules as well as *Aſclepiades*; and *Lucretius*, who was contemporary with *Aſclepiades*, alſo mentions ſomething of the ſame Nature: But then *Epicurus* and *Lucretius* do not look upon Molecules as the firſt and conſtituent Principles of Bodies, but only as the firſt Effects produced by an Aſſemblage of *Atoms*; which, accordi to them, were the true and genuine Principles: Whereas *Aſc piades*, according to the Account of *Cælius Aurelianus*, ſee to mean Molecules by his *Atoms*; tho', at the ſame time, gives the Name of *Atoms* to the *Molecules* themſelves. But have ſome Reaſon to think, that this Author did not throug underſtand *Aſclepiades*, if we reflect upon a Paſſage of *Ga de Theriac. ad Piſon. Cap.* 11. where he ſays, "That *Aſ* "*piades*, adhering to the Sentiments of *Democritus* and *E* "*curus*, with regard to the Principles of Bodies, had "changed the former Names of Things, calling *Atoms* Mo "cules, and a *Vacuum* Pores." But *Galen* himſelf (*de H pocrat. & Platon. Decret. Lib.* 5. *C.* 3.) eſtabliſhes a for Difference between the Sentiment of *Aſclepiades* and tha *Democritus* or *Epicurus*, in theſe Words: "Whether, "he, the Bodies of Animals are compoſed of Molecules "Pores, as *Aſclepiades* believed, or of ſmall indiſſoluble "ticles, as *Epicurus* imagin'd." The former of the ab cited Books is ſuſpected not to be written by *Galen*; but the ter has undoubtedly him for its Author. The Author of Book call'd the *Introduction*, *Cap.* 9. which is falſly aſcrib' *Galen*, informs us, that the Elements of Bodies were, acc ing to *Aſclepiades*, ὄγκοι θραυστοὶ, or Molecules, or ſmall br Maſſes; and that it was probably this Brittleneſs which di guiſh'd *Aſclepiades*'s Principles of Bodies from thoſe of *E rus*, which were indiſſoluble and indiviſible. The Princip *Deſcartes* ſeem, in ſome Things, to agree with thoſe of *A piades*; and thoſe of *Gaſſendi* with thoſe of *Epicurus*. *Clerc*.

ATONIA, ἀτονία, from α Negative, and τείνω, to ſtr Relaxation, Laxity, Debility, or Diſtemperature. This W was much in Uſe among the Phyſicians of the Methodic who aſcribed the Cauſes of all Diſtempers to Relaxa Stricture, or a Mixture of theſe.

ATOPOS, ἄτοπος, from α Negative, and τόπος, a P It ſignifies abſurd, or inconvenient. It is uſed by *Hippocr Aph.* 52. *Sect.* 4.

ATRA *Bilis*. See Bilis.

ATRACHELUS, ἀτράχηλος, from α Negative, and χηλος, the Neck; ſhort-necked. It is uſed by *Galen* ſometimes alſo ſignifies beheaded.

ATRACTOS, ἄτρακτος, a Diſtaff, or the wooden P a Dart. This Word is ſometimes uſed in *Hippocrates*.

ATRACTYLIS, Offic. Ger. 1008. Emac. 1171. Rai 1. 304. Ἀτρακτυλὶς, Dioſcorides. *Atractylis lutea*, C. B. *Atractylis flore luteo*, Park. 963. *Atractylis vera, flore* J. B. 3. 83. Chab. 353. *Cnicus Atractylis lutea dictus*, Lugd. Bat. 164. Tourn. Inſt. 451. Boerh. Ind. A. *Carduus luteus erectus reticulatus, ramis fuſum refere* Hiſt. Oxon. 3. 160. *Carduo-Cnicus Atractylis dicta*, Almag. 82. DISTAFF-THISTLE.

The lower Leaves of this Thiſtle are long and narrow, cut in on both Sides, ſomewhat hairy, and but little p The Stalks alſo are hairy, without any Prickles; but the which grow on them are very full, being ſmaller, but b in Proportion than the lower Leaves, ſtiffer, and not ſo cut in. The Stalk at the upper End is divided into th four Branches, on which ſtand the Flowers, incloſed i hard prickly Leaves, among which grow yellow fiſtular ers in ſcaly *Calices*; after which come whitiſh angular like thoſe of *Carthamus* incloſed in Down. It gro warm Countries, as *Italy* and *Greece*, where the Women Stalks for Diſtaffs. It flowers in Summer.

The Leaves only of this Thiſtle are uſed, and tho rarely, though ſome Authors affirm they have the ſame with thoſe of *Carduus Benedictus*; and it is particularly mended againſt the Stinging of Scorpions. *Miller's Bot*

It is aperitive, ſudorific, and a good Antidote againſt being taken in Decoction. They extract by Diſtillation ter, which hath the ſame Virtues of the Water of the *C Benedictus*. *Lemery de Drogues*.

ATRAGENE, Offic. *Viorna*, Ger. 739. Ema Mer. Pin. 125. *Viorna vulgi*, Herm. Flor. 2. 12. Bot. 1. 77. Phyt. Brit. 130. *Clematis ſylveſtris l* C. B. Pin. 300. Boerh. Ind. A. 46. Tourn. Inſt. 295. Bot. 244. Dill. Cat. Giſſ. 143. *Clematis ſylveſtris ſive Viorna*, Park. Theat. 380. *Clematis latifolia ſeu quibuſdam*, J. B. 2. 125. Raii Hiſt. 1. 620. Synop. *Clematis Arthragene Theophraſti quibuſdam*, Chab. 116. *mula ſepium foliis integris*, Rupp. Flor. Jen. 54. Bu TRAVELLERS JOY.

This Plant is to be found under Hedges, and flower Month of *July*. The Whole of the Plant is uſed. Its F Bark, Seeds, and Root, are of a cauſtic Quality.

The Bark apply'd to the Skin raiſes Bliſters. *Dale*.

ATRAMENTUM SUTORIUM. Vitriol. C thum. See Vitriolum.

ATRAPHRAXIS, or ATRAPHAXIS. A Nam Atriplex, which ſee.

ATRECEOS, ἀτρεκέως, from ἀτρεκὴς, true, certain, has arious Significations in *Hippocrates*; for the moſt part, as *Erotian* ſays, it is put inſtead of ἀκριβῶς, exactly, and but ſeldom for ἀληθῶς, truly, certainly. The Word is alſo variouſly expounded by the Interpreters of *Hippocrates*. In *Bacchius* it gnifies ἀληθῶς, αὐτάρκως, ἀκριβῶς, truly, ſufficiently, exactly. n *Philinus* it is ἀκριβῶς only: And *Epicles* expounds it by ερῶς, εἰλικρινῶς, openly, ſincerely, perfectly. In *Prognoſt.* δύναται δὲ ὅλῃσιν ἡμέρῃσιν οὐδὲν τουτέων ἀριθμεῖσθαι ἀτρεκέως, " none of theſe (Diſeaſes) can be *exactly* calculated by whole " Days." In *Prorrhet.* 2. ἀτρεκέως διαιτώμενος, is one who bſerves a certain Method of Diet, and Way of Living. And gain, in the ſame Book, ἀτρεκέστατα δὲ καὶ ἐπὶ πλεῖστον χρόνον ὰς φυλακὰς αἰεὶ τῶν δεινοτάτων ποιέεσθαι· "We muſt *very* " *carefully*, and for a long time, be upon our Guard againſt " the moſt formidable Accidents." In his Book of Fractures, τρεκὲς δὲ οὐδὲν, "there is nothing *certain*." In his Treatiſe ερὶ ἄρθρων, κληῒς δὲ κατεαγεῖσα, ἢν μὲν ἀτρεκέως ἀποκαυλισθῇ, " a Fracture of the Clavicle, if it be *wholly* broken off like " a Stalk, that is, tranſverſly." Here *Galen* explains ἀτρεκέως ἀκριβῶς, δι᾽ ὅλως, ὁλοκλήρως, exquiſitely, wholly, quite, en- rely.

Ἀτρεκεῖν, in *Hippocrates*, ſignifies an Aſſeveration, or affirm- g a Thing for perfectly known and certain. Thus in his cond Book of Predictions, ἀμφὶ δὲ τῶν γυμναζομένων καὶ ταλαι- ρεόντων, τὰς μὲν ἀτρεκείας τὰς λεγομένας, ὡς λέγουσιν οἱ λέγοντες, δοκέω εἶναι, οὔτε, εἴ τις δοκέει, κωλύω δοκέειν· " As for what relates to thoſe who fatigue themſelves with Labour and Exerciſe, there are Things aſſerted for certain Truths by the Relators, to which I give no Credit myſelf; but, however, leave every one at Liberty to believe them, if he thinks fit."

ATREMEAS, ἀτρεμέας, in *Hippocrates*, is put for ἀτρέμας, rom α Negative, and τρέμω, to tremble) placidly, quietly, miſly. Thus *Book* 5. *Epid.* οὐκ ἀτρεμέας, that is, οὐκ ἀτρέμας χεν, he had no Reſt, which in *Epid.* 7. is expreſs'd and ex- ined by οὐδ᾽ ἠτρέμιζεν. Ἀτρέμας is expounded, in *Heſychius*, ἡσύχως, ἡσυχῇ, quietly, as ἀτρεμία is by ἡσυχία, ἀτρεμέων ἡσυχάζων, and ἀτρεμῆσαι by ἡσυχάσαι. By ἀτρεμέοντα, *ippocrates* means thoſe Parts of the Body which are at Reſt; ch are underſtood to be thoſe Parts which are without the rticulation in two Bones which meet at the Joint, as the Parts out the Thigh and the Leg with reſpect to the Knee. ρεμέοντα, in *Erotian* upon *Hippocrates*, is expounded by μοῦντα, reſting, with an Eye to that Paſſage in his Book of actures, καὶ τὰ μὴ ἀτρεμέοντα ἐν τῷ τελέῳ σχήματι, " thoſe (Bones) which remain not at Reſt in the ſame Poſture."

ATRESIA, ἀτρησία, from α Negative, and τράω or τρέω, perforate; Imperforation.

ATRETI, ἄτρητοι, imperforate. Thoſe are called ſo in her Sex, whoſe Anus or Urethra are not perforated; and omen, whoſe Vaginas are cloſed, have alſo this Name in irurgical Writers. See IMPERFORATIO.

ATRICES. Small Tubercles about the Anus, which recede, d return again, eſpecially at firſt. They are by *Valeſius de ranta* reckoned among Condylomata and Fici. *Caſtellus*.

ATRICI. Small Sinuſes in the Extremity of the Inteſtinum ctum, which do not reach ſo far as to perforate into its vity.

ATRIPLEX. There are three Plants which uſually go by Name. The firſt is the

triplex, Offic. Chab. 305. *Atriplex alba hortenſis*, J. B. 2. . Raii Hiſt. 1. 191. *Atriplex ſive olus aureum*, Park. Parad. . *Atriplex hortenſis alba, ſive pallidè virens*, C. B. 119. . Oxon. 2. 606. Tourn. Inſt. 505. Boerh. Ind. A. 2. 89. *iplex ſativa alba*, Ger. 256. Emac. 325. *Atriplex ſpuria enſis candida*, Volck. 53. WHITE ORACHE. *Dale*.

Dioſcorides ſays this Plant is alſo call'd *Chryſolachanon*.

This is an annual Plant ariſing yearly from Seed. The ves are triangular, but longer than broad, with two Ears, arp Pieces, at the End next the Stalk, covered, eſpecially n young, with a ſlippery Mealineſs, which may be eaſily 'd off, of a paliſh-green Colour. The Stalk is angular and ch'd, growing about two or three Feet high, having the ves which grow on them ſomewhat longer than thoſe below, without Ears. On the Tops grow Spikes of herbaceous wers, of a greeniſh-yellow Colour, which are ſucceeded by kiſh round Seed in flat Seed-veſſels, of two round Leaves together. The Seeds are of two Sorts, one ſmaller by than the other, and blacker and more ſhining. There is Species of this *Orache*, which has the Leaves, Stalks, and -veſſels, all of a purple Colour, differing in nothing elſe the former. They are both cultivated in Gardens, being promiſcuouſly. *Miller's Bot. Off.*

was by the *Greeks* called Ἀτράφαξις, from ἀδρόως and w, becauſe it ſoon grew to a great Height. There are Species of it, the *Red*, the *pale Green* or *White*, and the *iſh Atriplex*. 'Tis a well known Pot-herb, and very often d with Cabbage; though generally 'tis more uſed by the than the Rich and Luxurious. Yet *Ja. Joſeph Joeſper Manuduct. ad Vit. Long. p.* 2. *Cap.* 8. informs us, that the Inhabitants of *Brabant*, the Low Countries, *France*, and *Burgundy*, eſteem it ſo much, and uſe it ſo frequently, throughout the whole Summer Seaſon, that there is ſcarcely ever a Dinner, or a Supper, in which the Garden Atriplex does not make a Part. It affords but little Nouriſhment, and is cold and moiſt; but the Humidity it contains is of a ſoftening and mollifying Nature, ſince the Soop or Victuals among which it has been boiled, proves laxative. It is eſteemed good for People of hot, choleric Conſtitutions, and ſuch as are ſubject to Vomitings of Blood. But when eaten too plentifully, it renders the Maſs of Blood watery, and brings on the Jaundice and Dropſies: For this Reaſon the Uſe of it was diſcarded by *Pythagoras*, as we are told by *Pliny*, *L.* 2. *H. N. C.* 20. The ſame Author alſo quotes *Dionyſius* and *Diocles*, who both aſſert, that this Herb is very prejudicial to the Stomach, and lays a Foundation for numberleſs Diſorders. The Herb itſelf, bruiſed and applied to the Parts in which Thorns or any other ſmall Splinters have been plunged, extracts them, and cures the Wounds occaſioned by them. When apply'd to the Navel, it diſlodges and expels Worms. It is alſo uſed in mollifying Clyſters, and in ſuch Dreſſings as are intended to mitigate and allay Pain. Its diſtilled Water, mixed with Aloes, ſtops Hæmorrhages, and cures ſcald Heads. The Seeds are purgative, but often operate like an Emetic. The Country People in *Lombardy* make Pies of this Herb, in Conjunction with Butter and Cheeſe, which they look upon as excellent Food. In *Virginia* the Inhabitants prepare a Salt from the Stalks of this Herb, which they uſe in Dreſſing their Victuals. *Barth. Zorn. Botanologia.*

Dioſcorides ſays the Seeds cure the Jaundice, if taken in Hydromel.

Atriplex ſylveſtris, Offic. J. B. 2. 972. Raii Hiſt. 1. 197. Chab. 305. *Atriplex ſylveſtris altera*, C. B. 119. Ger. Emac. 326. *Atriplex ſylveſtris, folio ſinuato, ſaturatè virente, ſpicâ rubrâ*, Hiſt. Oxon. 2. 604. *Atriplex ſylveſtris vulgatior ſinuata*, Park. 747. *Blitum Atriplex ſylveſtris dictum*, Raii Synop. 63. *Chenopodium folio laciniato, comâ purpuraſcente*, Tourn. Inſt. 506. Boerh. Ind. A. 2. 90. Buxb. 69. *Chenopodium folio ſinuato candicante*, Dill. Cat. 106. WILD ORACHE.

The Leaves and Seeds are uſed as Emollients like the preceding. Theſe, either raw or boiled, are ſaid to diſcuſs Boils. *Dale*.

Atriplex olida, Offic. Ger. 258. Emac. 327. Raii Hiſt. 1. 198. *Atriplex fœtida*, C. B. Pin. 119. Cod. Med. 16. J. B. 2. 974. Hiſt. Oxon. 2. 605. *Atriplex fœtida & Vulvaria*, Chab. 307. *Atriplex olida, ſive ſylveſtris fœtida*, Park. Theat. 749. *Blitum fœtidum Vulvaria dictum*, R. Synop. 64. *Chenopodium fœtidum*, El. Bot. 406. Tourn. Inſt. 506. Boerh. Ind. A. 2. 90. Dill. Cat. 106. Buxb. 68. *Atriplex Chenopodia fœtida*, Hort. Monſp. 29. STINKING ORACHE. *Dale*.

The Stalks of ſtinking *Arrach*, or, as it is uſually called, *Orris*, generally lie flat on the Ground, ſpreading about round the Root, ſtriated or chanelled, and of a whitiſh Colour; the Leaves are ſmall and roundiſh, and pointed at the Ends, ſet alternately on the Stalks, and covered over, as is the whole Plant, with an unctuous Mealineſs; the Seed grows incloſed in Spikes, of ſmall green herby Flowers, being ſmall, black and ſhining. The whole Plant has a ſtrong fetid fiſhy Smell: It grows upon Dunghils, and waſte Places.

This is an Herb particularly appropriated to the Female Sex, being aperitive and deobſtruent, and uſeful in uterine Diſorders, good to promote the menſtrual Evacuations, to expel the Afterbirth, and help Child-bed Purgations, to appeaſe the Strangulation of the Womb, and take off Hyſteric Fits. It is uſually given in a Decoction. There is a Syrup kept in the Shops, made with the Juice of this Plant and Sugar. *Miller's Bot. Off.*

ATROPHIA, ἀτροφία, from α Negative, and τρέφω, to nouriſh. An Atrophy.

Morton defines the different Species of Conſumptions thus:

A Conſumption in general is a Waſting of the Muſcular Parts of the Body, ariſing from the Subtraction or Colliquation of the Humours, and that either with or without a Fever, and it is either original or ſymptomatical.

An original Conſumption is that which ariſes purely from a morbid Diſpoſition of the Blood, or animal Spirits, which reſide in the Syſtem of the Nerves and Fibres, and is not the Effect of any other preceding Diſeaſe; of which there are two Sorts, that is, an *Atrophy*, and a Conſumption of the Lungs.

An *Atrophy* is an univerſal Conſumption proceeding from the whole Habit of the Body, and not from any Diſtemper of the Lungs, or of any other Entrail, without any remarkable Fever, and is either nervous, or the Effect of Evacuations.

A nervous *Atrophy*, or Conſumption, is that which owes its Original to a bad and morbid State of the Spirits, and to the Weakneſs or Deſtruction of the Tone of the Nerves; from whence, an Imbecillity, and an univerſal Conſumption in the whole Habit of the Body, ultimately proceed from the want of a due Aſſimilation of the nutritious Juice; ſo from the Beginning

ning of the Diſeaſe there is to be found a want of Appetite, and a bad Digeſtion in the Stomach, from an imperfect Elaboration and Volatilization of the Chyle. Which Sort of *Atrophy* may juſtly be reckoned one of the fatal Symptoms of the Scurvy.

An *Atrophy* from Inanition is that which derives its Original from a preternatural Defect or Subtraction of the nutritious Juice, and that long and habitual, which differs according to the Variety of the Outlets formed in the Body either by Nature or Art, by which this precious Liquor either has or may run off, and be waſted.

A Conſumption of the Lungs is an univerſal Waſting of the Parts of the Body, cauſed by ſome Diſtemper of the Lungs, as Infarctions, Swellings, Inflammations, and Exulcerations; and thence it is attended with a Cough, Difficulty of Breathing, and other Symptoms of the Breaſt; and accompanied with a Fever, which at firſt is ſlow and hectical, afterwards inflammatory, and at laſt putrid and intermitting.

A Symptomatical Conſumption is that, which, though it immediatelys proceed from a preternatural and ill State of the Blood and Spirits, yet has a mediate Dependence upon ſome other preceding Diſeaſe, which impreſs'd that morbid Diſpoſition on the Spirits and Humours.

A NERVOUS ATROPHY.

A Nervous *Atrophy*, or Conſumption, is a Waſting of the Body, without any remarkable Fever, Cough, or Shortneſs of Breath; but it is attended with a Want of Appetite, and a bad Digeſtion, upon which there follows a languiſhing Weakneſs of Nature, and a waſting of the Fleſh, every Day more and more. Which kind of Conſumption I have ſometimes obſerved in *England*, but moſt frequently amongſt thoſe that have lived in *Virginia*, after they have come over hither.

In the Beginning of this Diſeaſe the State of the Body appears œdematous and bloated, and, as it were, ſtuffed with diſpirited Chyle; the Face is pale and ſqualid, the Stomach loaths every thing but Liquids, the Strength of the Patient declines ſo faſt, that, before the fleſhy Parts of the Body are evidently conſumed, he is render'd feeble, and almoſt always confin'd to his Bed. The Urine alſo keeps not conſtant to any Colour, tho' for the moſt part it is high-colour'd, and but little in Quantity; yet it is ſometimes, (as it frequently happens in Nervous Diſtempers) tho' ſeldom, pale and plentiful. But there is no conſiderable Fever to be diſcover'd either by the Pulſe, or a Thirſt, or Heat, how high-colour'd ſoever the Urine appears: So that the Pathognomonic Signs, or thoſe which evidently manifeſt the Beginning of this Conſumption, are, a Decreaſe of the Patient's Strength, and a Loſs of Appetite, without any remarkable Fever, Cough, or Shortneſs of Breath, tho' in the Progreſs of the Diſtemper, when a Conſumption of the Fleſh has gradually affected the whole Habit of the Body, there is ſome Difficulty and Uneaſineſs in Breathing to be obſerved, as it happens to all thoſe who are very weak.

The immediate Cauſe of this Diſtemper I apprehend to be in the Syſtem of the Nerves, and proceeding from a preternatural State of the Animal Spirits, and the Deſtruction of the Tone of the Nerves, whence I uſually call this *a Conſumption in the Habit of the Body*. For as the Appetite and Digeſtion are deſtroy'd, thro' the weak and infirm Tone of the Stomach, ſo alſo the Elaboration, Aſſimilation, and Volatilization of the nutritious Juices, are hinder'd, in the whole Habit of the Body, from the diſtemper'd State of the Brain and Nerves.

The Cauſes which diſpoſe the Patient to this Diſeaſe, I have generally obſerved to be violent Paſſions of the Mind, the intemperate Drinking of ſpirituous Liquors, and an unwholſome Air, by which it is not ſurpriſing that the Tone of the Nerves, and the Temper of the Spirits, ſhould be deſtroy'd.

This Diſtemper, like moſt nervous Diſeaſes, is Chronical, but very hard to be cured, unleſs a Phyſician be called at the Beginning. At firſt it flatters and deceives the Patient; for which Reaſon it uſually happens, that the Phyſician is conſulted too late. It terminates in an Hydropical and Oedematous Swelling of the Body, eſpecially of the lower and depending Parts: In which Caſe no Hopes remain of the Patient's Life, neither is there any thing more to be done for his Cure, than giving him ſome Eaſe, whereby his miſerable Life may be protracted for ſome Days.

The CURE.

The Cure, if attempted in due Time, conſiſts in the convenient Uſe of Stomach Medicines, and ſuch as comfort and ſtrengthen the Nerves, ſuch as Chalybeates, antiſcorbutic, cephalic, and bitter Medicines of all Sorts: For Example,

> Let the Patient, if his Body be coſtive, take every third or fourth Morning four Ounces of the bitter Decoction, with Sena; or every fourth Night, two Ounces of the Tinctura Sacra, or of our ſacred Cephalic Tincture, made with the Species of Hiera Picra infuſed in Rue-water, Black Cherry-water, and ſtrong Piony-water.

For his common Drink let him uſe Ale, in which a Bag o Cephalic and Antiſcorbutic Ingredients has been ſuſpended An Hour before Dinner let him take thirty Drops of *Elixir Proprietatis* in a Draught of Wormwood White-wine. T the Region of the Stomach let there be applied the magiſteria Stomach-plaiſter, with ſome Drops of the Chymical Oil of Cinnamon, and Oil of Wormwood. Or let the Stomach be fomented every Day with *French* Claret, in which Aromati Bags of the Leaves of Mint, Wormwood, Cinnamon, Mace Zedoary, Galangal, Cyperus-roots, and Calamus Aromaticus have been boiled. If it be in the Summer, let him uſe the Chalybeate Waters; but if Winter, let him make Uſe of a Chalybeate Syrup, or our Chalybeate and Aromatic Wine, mad with the Filings of Steel quenched three or four times in ſtron White-wine, and with Zedoary-roots, Galangal, Nutmegs the beſt Cinnamon, Mace, Cubebs, Cloves bruiſed, and ſteepe in the ſame Wine. But for Chalybeates, I prefer *Mynſicht'* Extract before any other, which I order to be given for twent or thirty Days, in the Form of a Bolus, or Pills. For Example:

> Take of *Mynſicht*'s Extract of Steel, half a Scruple; Bal of Gilead, (which in this Caſe is very proper and beneficial, becauſe it is not a little grateful to the Stomach an Nerves) ſeven Drops; old Conſerve of red Roſes, Dram: Mix them, and make them up into a Bolus, to b repeated every Day: Or if the Patient chooſes to tak Pills, let the Extract be made up into that Form, in th manner following:

> Take of *Mynſicht*'s Extract of Steel, half a Scruple; Balm of Gilead, ſeven Drops; of *Haly*'s Powder, fi Grains; of the compound Powder of the Roots of Arum four Grains; of Powder of Liquorice, as much as wi make them into the due Conſiſtence of Pills: Make th Maſs into Pills of a middle Size; let them be gilded, an repeated once every Day.

Opobalſamum alſo by itſelf, as likewiſe Spirit of Hartſhor and Spirit of Sal Ammoniac, are of Uſe in this Caſe, becau they are good for the Nerves. For Example:

> Let the Patient take eight or ten Drops of Opobalſamum, Spirit of Hartſhorn, in a convenient Quantity of Suga candy, twice a Day.

Let the Patient endeavour to divert and make his Mind chea ful by Exerciſe, and the Converſation of his Friends: For t Diſeaſe almoſt always proceeds from Sorrow and Cares. L him alſo enjoy the Benefit of an open, clear, and very go Air, which very much relieves the Nerves and Spirits. A becauſe the Stomach in this Diſtemper is principally affected, agreeable Diet will be convenient; and the Stomach ought n to be too long accuſtomed to one Sort of Food.

Of an ATROPHY *from* INANITION.

To this ſort of original Conſumption from the whole Ha of the Body, belongs alſo another kind of Conſumption, ariſi from the Impoveriſhment of the Blood, occaſioned by the p ternatural Subtraction and Loſs of the nutritious Jui Whence the whole Maſs of Blood, being deprived of the n tritious and balſamic Juices, grows too hot, affording no or very little Nouriſhment to the muſcular Parts; and hen there follows a Conſumption of the whole Body, and an hec cal Heat fixed in the whole Habit, without any conſidera Cough, or Difficulty of Breathing, or any other remarka Affection of the Lungs, at leaſt, in the Beginning of the D temper. But it muſt be confeſſed, that, in the Progreſs of the Lungs ſeem to be, in ſome meaſure, affected, eſpecia where the preternatural Evacuations, which are the Cauſe the Diſtemper, are ſtopped by Art without any Correction the whole Maſs of Blood, by which means it may recove natural balſamic Nature, and ſuch as renders it fit for Nouri ment. In this Caſe it is not ſurpriſing, that the hot and ſh Serum of the Blood continually paſſing, after the Paſſages wh it uſed to be evacuated are ſtopped, through the ſoft and gl dulous Subſtance of the Lungs, at laſt ſhould ſtuff, inflan and in the Progreſs exulcerate them; whereby it comes to p that this Conſumption, which was originally in the Habi the Body, a little before Death ends in a Conſumption of Lungs, with a Cough, Difficulty of Breathing, and other thognomonic Signs of that Diſtemper. And therefore I h often obſerved, that if the Appetite and Digeſtion are not ſtored by ſuch Medicines as have a peculiar Quality of alte the Blood, and ſtrengthening the Stomach, ſo that the M may be ſupplied and filled with a ſweet and balſamic Juice, Conſumption is not cured; but at laſt is changed from a C ſumption in the Habit of the Body, to a fatal Conſumptio the Lungs.

And this Conſumption is indeed akin to the Nervous C ſumption before-mentioned. For as in that, which proc a preternatural State of the nervous Juice and Spirits, the ritious Chyle which is continually carried into the Blood, is dered leſs fit for the Nouriſhment of the Parts; and thence, the Maſs of Blood is loaded with ſtale and diſpirited Juices, h as are unfit for Nutrition, and there being no Demand for h, a Loſs of Appetite enſues, and a Sickneſs of the Sto-ch, and conſequently a Conſumption of the whole Body, at laſt a fixed hectical and colliquative Heat in the ſolid ts, from the Heat of the Blood and Spirits: So in this kind Conſumption, the nutritious Juices running off from the ſs of Blood with a full Stream, the muſcular Parts of the dy, being thus deprived of their due Nouriſhment, fall into *Atrophy*; whereupon likewiſe the Maſs of Blood which re-ins, for want of new balſamic Chyle, is not only diſpirited, rendered unfit for Nouriſhment, but a preternatural, fixed hectical Heat is kindled, not only in the Blood, but alſo in Spirits, and all the ſolid Parts; whereupon there follows a ought and want of Appetite. This kind of Conſumption is t, which we are now in the firſt place profeſſedly to treat of. t becauſe the Cure of this kind of Conſumption is to be al-ed, according to the Variety of the Evacuations, which are the uſe of it, I ſhall add nothing concerning the general Cure of but refer that to the ſeveral kinds of Evacuations, which are Cauſe of this Diſtemper, to be ſpoken of under their pro- Heads.

The things which cauſe theſe Conſumptions, according to *rton*, are

An Hæmorrhage.
A Gonorrhœa, or Fluor Albus.
Abſceſſes and Ulcers.
Giving Suck beyond what the Strength of the Nurſes can r.
A Dyſentery, or Diarrhœa.
A Diabetes.
A Salivation.
A Dropſy.
Profuſe Sweats.

Conſumptions from all theſe Cauſes will be treated of under r reſpective Articles.

Beſides the Cauſes above-mentioned, this general Conſump-, proceeding from Evacuations, frequently depends upon r Diſtempers; and therefore it may juſtly be called a gene- *Symptomatical Conſumption*: As firſt, upon a Lientery, that when the Faculty of the Stomach, which makes the Chyle, injured by a preternatural Diſpoſition of the Spittle, and the Temper of the nervous Liquor: Whence it comes to paſs, t the Blood and Habit of the Body (ſince the Food that is en is carried down through the Inteſtines, and comes away t went in, without any Alteration) cannot receive any Re-its from the Food; and from hence there neceſſarily follows *Atrophy* cauſed by Inanition.

Many times this general Conſumption proceeds from a pre-atural Alteration, or Obſtruction of the Gall and Pancre- Juice, or elſe of the Juices, which naturally uſe to be arated by the ſmall Glands, planted through the whole Duct the Inteſtines, and which ſerve for the Separation of the ex-entitious Parts of the Food from thoſe which are nutritious. ce the chylous Parts of the Food, which paſs out of the nach, ſlipping by the ſmall Orifices of the Lacteals, are t together with the Excrements by Stool; and that either te, and as ſuch are evidently chylous from the Defect, or pre-atural Diſpoſition of the Bile, (which is the proper Men-um for ſeparating the Chyle) as it commonly happens in the ndice, together with a great Weakneſs of the Body, and ing of the Fleſh; or elſe in yellow Stools, as in the Cœ- Paſſion, which either is from an Obſtruction of the Pan-tic Juice, and that which is ſeparated by the Glands of the ſtines, or happens from the Depravation of the Nature of e Juices. In the firſt Caſe, the Urine is much tinged with low, or Jaundice-colour; but in the latter, it is quite con-y. In both of them, the Chyle not being ſeparated from excrementitious Parts of the Food, the Blood is deprived of ue Recruits; upon which I have often obſerved, that an phy, or Conſumption, and that a very acute one, has ſeized Patient.

Laſtly, this general Symptomatical Conſumption is ſometimes ed by many and large ſcrophulous Kernels preternaturally ed in the Meſentery, by which (the Lacteals being ſtreight- as with a Thread, or being compreſſed) the Paſſage of the itious Liquor, which is ſeparated in the Inteſtines, and n in by the Mouth of the Lacteal Veſſels, into the Maſs lood, is either totally, or in part, hindered; in which Caſe Stools are large and chylous, the Belly grows hard, and is d; but the Urine flows in a very little Quantity, yet its natural Colour; thereupon, the Blood not being every replenished with freſh Chyle, the muſcular Parts are de- of their due Nouriſhment, and daily become thin, and are waſted to the degree of a Maraſmus; though the tite at the ſame time be keen, and the Patient continues always free from any thing of a Fever; an Inſtance of which kind I once met with in a Boy about four Years old.

All theſe Symptomatical Conſumptions are evidently incurable, unleſs a particular Reſpect be firſt had to the Diſtempers upon which they depend; but if theſe are once removed by Art, this kind of Conſumption ceaſes of its own Accord; and therefore the Cure of this Conſumption is to be ſought for in another Place, that is, in the Cure of thoſe Diſtempers which are the Cauſe of it.

ATTA, ἄττα, Father, an antient *Pelaſgic* Word, in another Dialect, Ἄππα. Ἐπίφθεγμα τιμητικὸν νεωτέρου πρὸς παλαιότερον, *Didymus*. "A Compellation of Honour given by a "younger Perſon to an elder." We ſay *Atta* to an old Man, by way of Reverence, as if we called him *Avus*, "Grand-"father." *Feſtus*. Children, in Liſping, doubled the Letters, as ἄττα, τάτα, τάττα, or τέττα· ἄππα, πάπας, πάππας, or πάππος, ἄμμη, μάμμα. The *Egyptians* ſaid ἂτ, τὰτ, and ὢθ, θώθ. Our *Britons* (Welſh) call Father and Mother by no other Names but *Tat* and *Mam*.

Atta is alſo a Name for ſuch as have an infirm Tread in their Walk, Limpers. "*Atta*, one who walks on the Fore-part "of his Feet." *Iſidorus*. *Atta*, ὁ τοῖς ποσὶν ἀρχόμενος περιπατεῖν, *Vet. Gloſſ.* that is, "who firſt ſets his Foot to the "Ground," from the Verb ἄττω, or ἄσσω, to hop, or limp, which is a Contraction from ἀΐσσω, or ἀΐττω. The following Paſſage of *Feſtus* has alſo a Relation to this Matter: "The "*Attæ*, ſays he, are ſuch as, on account of ſome Defect in "their Legs or Feet, ſtand upon their Soles, and ſeem rather "to touch the Ground than walk; hence *Quintius* the Poet, "who was remarkable for this Defect, got the Nickname of "*Atta*, which always ſtuck by him."

ATTAGAR, a Stone. *Rulandus*.

ATTAGEN, ἀτταγᾶς, or ἀτταγὴν, an *Aſian* Partridge, commonly called a *Francolin*. The *Greeks* called it λαγώπους, (whence *Lagois* in *Horace*) *Leporipes*, or *Leporarius*, "Hare-"foot," becauſe of its downy Feet, wherein it reſembled thoſe of a Hare. *Pliny* calls it *Attagena Phrygia*. To me, Ἀτταγᾶς, ſeems to be a *Phrygian* and *Pelaſgic* Word, and to ſound like Ἄττα γᾶς, "the Father, or Chief, of the Country;" for this Bird was in principal Eſteem for its delicious Savour. But Ἄττα γᾶν, would be more like the *Phrygian*; γᾶν, or γάνος, is the *Hebrew* גן *Gan*, the *Syriac* גנא *Ganna*, and the *Arabic* *Ginna*, which was the Name they had for their verdant Garden, or Paradiſe. In the ſame Form of ſpeaking did the *Phrygians* call a He-goat ἀτταγῶς, according to *Arnobius*, as being ἄττα γῶς, "the Father of the Goats;" for the *Scythian Cos* is our Goat, and the *Hebrew* גו γῆς. Of the *Attagen* thus ſpeaks *Martial*:

Inter Sapores fertur Alitum primus
Ionicarum Guſtus Attagenarum.

And *Ariſtophanes* in *Athenæus*;

Ἀτταγᾶς ἥδιστον ἕψειν ἐν Ἐπινικίοις κρέας.

"The Fleſh of an *Attagen* is the ſweeteſt that is dreſſed at "publick Feaſts."

Horace alſo;

Non Afra Avis deſcendat in Ventrem meum,
Non Attagen *Ionicus*.

Pliny alſo ſays thus of it: Attagen *maxime Ionicus celebratur, vocalis alias, captus obmuteſcens, quondam exiſtimatus inter raras Aves*: "The *Attagen* of *Ionia* is the moſt celebrated; it makes "a Noiſe when at Liberty; but is mute after it is taken. "Formerly it was reckoned one of the rareſt Birds." Ὁ ἀτταγὴν κονιστικὸς ὄρνις· τῶν γὰρ ὀρνίθων ὅσοι μὲν μὴ πτητικοὶ, ἀλλ' ἐπίγειοι, κονιστικοί· "The *Attagen* is a pulverarious Bird; for all "Birds that make little Uſe of their Wings in flying, but keep "themſelves upon the Ground, are called *pulverarious*." *Athenæus* tells us, that the *Attagen* is a little bigger than a Partridge, and thus deſcribes its Colours: Ὅλος κατάγραφος τὰ περὶ τὸ νῶτον, κεραμοῦ τὴν χρόαν, ὑποπυρρίζων μᾶλλον· "It is all over "the Back of the Colour of a Tile, only ſomewhat more "upon the Red."

By all theſe Circumſtances, the *Attagen* muſt be the ſame as our Red-game, which is thus diſtinguiſhed:

Attagen, Offic. Aldrov. Ornith. 2. 75. Bellon. des Oyſe, 241. Jonſ. de Avib. 41. Geſn. de Avib. 199. *Attagen Aldrovandi*, *Francolino Italorum*, Raii Ornith. 174. Ejuſd. Synop. A. 54. *Attageni Aldrovandi ſeu Francolino Italorum*, Will. Ornith. 125. *Lagopus altera Plinii*. *An Gallina Corylorum*, Schw. A. 277. THE GOR-COCK, MOOR-COCK, or RED-GAME.

Oribaſius ſays, *Medic. Collect. Lib.* 1. *Cap.* 3. that the Fleſh of this Bird is beſt in Autumn. And in the ſame Collections, *Lib.* 2. *Cap.* 42. he ſays, it is of very eaſy Digeſtion. And *Aetius* in this agrees with him.

Trallian recommends this Bird in a Phthiſis; *Galen*, in Nephritic Complaints; and *Avicenna* believed it increaſed the Seminal Secretions.

The Inſide of the Gizzard of this Bird is extremely fragrant when freſh kill'd.

The Red-game lives principally on Vegetables, and uſes but little Exerciſe, ſcarcely ever being on the Wing, unleſs to avoid Danger: Hence it does not abound with highly exalted Salts. It is a very agreeable and wholſome Food.

ATTALUS, and ATTALICUS, are Names appropriated to ſome compound Medicines, mentioned by *Galen*, and tranſcribed from him by others.

ATTELABUS ARACHNOIDES.

ATTELABUS ARACHNOIDES (*Aldrov. Jonſt.*).

This is an aquatic Inſect, which partakes of the Nature of the Spider and Graſshopper: The Head reſembles a Graſshopper; the Eyes are prominent. The other Parts reſemble a Spider, but it has but ſix Feet; it ſwims on the Water, or creeps upon the Earth. It is Aſh-coloured.

It is eſteemed reſolutive, when externally applied. *Lemery des Drogues.*

It is a ſort of Locuſt.

ATTENUANTIA.

Attenuating or *inciding* Medicines are of the utmoſt Importance in Phyſic, as a little Reflection upon their Natures, Qualities, and Manners of Operation, will eaſily convince us. To this Claſs belong the *Roots* of White Burnet, Arum, Sweet-flag, Aſarabacca, Wild-radiſh, Elecampane, Succory, Florentine Orris, Solomon's-ſeal, Swallow-wort. The *Herbs German* Leopards-bane, Brook-lime, Scurvy-graſs, Water-creſſes, *Indian* Creſſes, Dittander, Roſa Solis, Fumitory, Marſh Trefoil, the Leſſer Centaury, Hyſſop, Germander, Chervil, Carduus Benedictus, the Leſſer Houſleek, all the Species of Garlicks, Onions, and Leeks; Wood of Guaiacum with its Bark; of *Spices*, Pepper and Ginger; the *Seeds* of Muſtard, Scurvy-graſs, and Creſſes; the *Gums* Ammoniac, Galbanum, Sagapenum, Opopanax, Myrrh, and Benzoin; of *Chymical and Pharmaceutical Preparations*, Mercurius Dulcis, Æthiops Mineral, Flowers of Sulphur, alcaline fixed Salts, and the Salts of Vegetables prepared by Incineration, but eſpecially the Salts of Tartar and Wormwood; Salts alſo of a neutral Quality, ſuch as the *Digeſtive of Sylvius*, my own aperient Salt, Sal Ammoniac, Sal Polychreſtum, *Epſom* and *Sedlitz* Salts, vitriolated Tartar, the *Terra foliata Tartari*, otherwiſe called *Tartarus Regeneratus*, the *Arcanum Duplicatum*, a Solution of Crabs-eyes, Nitre and Sal Ammoniac. Volatile Subſtances alſo, ſuch as the volatile Salt of Sal Ammoniac, and the urinous Spirit of Sal Ammoniac; as alſo Oxymel of Squills, acrid Tincture of Antimony, Eſſence of Gum Ammoniac, and of *Guiney* Pepper; Reſin of Guaiacum, and the Syrups of Tobacco, Hedge Muſtard, and the Fecula of Aron. Medicated Springs alſo belong to this Claſs, which, beſides their diluting and aperient Natures, are alſo poſſeſſed of an attenuating Quality, ſuch as the acidulated Springs of *Egra* and *Sedlitz*, and the *Caroline* Waters; as alſo Infuſions in the Form of Tea, which in Conſequence of the copious watery Principle they contain, poſſeſs a remarkably attenuating Quality, and are very efficacious in ſeparating and disjoining coaleſcent Molecules; and, in the laſt place, to this Claſs of Medicines belongs ſweet Whey, which, in Conſequence of the ſweet and ſubtile Salt with which it is impregnated, is of a highly deterſive Quality, and wonderfully efficacious in opening the Excretory Ducts.

Of the above-mentioned Subſtances, ſome act upon the fluid, and others upon the ſolid, Parts of the human Body. Such as operate upon the Fluids by immediate Contact, are very few in Number; and indeed this Effect is only to be aſcribed to watery Diluents, which are, without Doubt, of ſingular Efficacy in colliquating the glutinous and viſcid Humours; and to alcaline, fixed, volatile, and nitrous Salts, which, if mixed with the inſpiſſated Blood and Humours, eſpecially when in a liquid Form, colliquate and attenuate them in ſo powerful a manner as to be perceptible even to the Eye. All the other attenuating Medicines mentioned, act only upon the Solids by increaſing their Tone, augmenting their Strength, heightening their contractile Force, and adding to the Elaſticity and ſyſtolic Motion of the Veſſels, by which means they preſs and ſhake their contained Juices more forcibly, and accelerate their progreſſive and inteſtine Motions; ſo that the tenacious and viſcid Humours, being thus frequently and forcibly carried through the minute and capillary Veſſels, are by that very means divided and broken into ſmaller Globules; a Circumſtance abſolutely neceſſary for preſerving their due Degree of Fluidity. Among thoſe attenuating Medicines which operate upon the Solids, ſome produce their Effects by means of a conſiderably fixed and acrid Salt; ſuch as the Roots of Arum, White Burnet, Aſarabacca, *Florentine* Orris, and Solomon's-ſeal; the Herbs *German* Leopards-bane, Dittander, Roſa Solis; as alſo Pepper and Ginger, which, though of a pungent Taſte, yet neither yield an acrid volatile Oil, nor a Water of an acrid Taſte, when ſubjected to Diſtillation with Water, which ſufficie proves their fixed Nature. Others again of the attenua Medicines, which operate upon the Solids, produce their Eff by means of an acrid ſubtile volatile Salt, ſuch as the W radiſh, Elecampane, Creſſes, Scurvy-graſs, Muſtard, and the Species of Garlicks, Onions, and Leeks. Some *Attenu* alſo operate by means of a neutral ſtimulating Salt, of w Kind are thoſe neutral Salts, whoſe Acrimony, and irrita Quality, are not only diſcovered by the Taſte, but alſo by proving purgative or diuretic, when exhibited in pretty l Doſes. Other Attenuants again, operate by means of an Salt, impregnated with a large Quantity of ſulphureous P cles, which is evidently the Caſe with Gum Ammoniac, gapenum, Opopanax, as alſo Guaiacum and its Reſin, wh beſides an acrid Salt, contain alſo an Oil, which they yiel great Abundance when ſubjected to Diſtillation. And, in laſt place, ſome *Attenuants* operate by means of a ſubtile p trating and metallic Salt, ſuch as Mercury, eſpecially Me rius Dulcis, and Æthiops Mineral.

Attenuating and *inciding* Medicines are of very extenſive in the Practice of Phyſic, and come under different Deno nations, according to the different Effects they produce. T when tenacious and viſcid Juices not only ſtagnate in the vities of the Veſſels, but obſtruct the minute Ducts of the cera, and Emunctories, theſe Medicines by their *inciding attenuating* Quality, diſcharge the Humours, and remove Obſtructions; for which Reaſon they may not improperl called *Aperients*. They alſo deſerve the Name of *Antiſc tics*, and Sweeteners of the Blood; for ſince the Purity and per Temperament of the vital Juices depend upon the due *cretion* and *Excretion* of every thing ſuperfluous and recren titious in the Conſtitution; and ſince the neceſſary Degre *Secretion* and *Excretion* are intercepted by the minute Du the Glands and Emunctories being blocked up by thick and Juices; 'tis therefore obvious, that ſuch Medicines as *atte* the inſpiſſated Humours, and remove the Obſtructions, be Sweeteners of the Blood, and excellent Remedies again Scurvy, in which the Humours have evidently loſt their Temperament, and are become impregnated with heterogene viſcid, ſaline, ſulphureous, and acrid Particles. Now, *attenuating* Medicines produce ſo great a Variety of diff Effects, 'tis highly proper we ſhould know what Speci *Attenuants* are beſt adapted to ſuch and ſuch particular orders.

The Intention therefore of diſſolving and *attenuating* Crudities in the Stomach, and *Primæ Viæ*, is excellentl ſwered, by the Roots of Arum, White Burnet, and Sweet- by Pepper, Ginger, depurated Sal Ammoniac, vitriolated tar, *Arcanum Duplicatum*, the digeſtive Salt of *Sylvius*, aperient Salt, Salt of Wormwood, the ſimple Spirit of Sal Spirit of Salt dulcified, as alſo the aperient Tincture of *Ma* And when crude and unconcocted Humours are to be evac by Stool, this Intention is very well anſwered by the n Salts, eſpecially thoſe of *Sedlitz* and *Epſom*, and the *Sal chreſtum* exhibited in pretty large Doſes, and in Conju with a ſufficient Quantity of a watery Vehicle.

When viſcid Humours, occaſioning Diſorders of the B are to be *attenuated* and expectorated, the Intention is effectually anſwered by the Roots of Elecampane, and *F tine* Orris, by Roſa Solis, Hyſſop, Germander, Maiden- Gum Ammoniac, Myrrh, Benzoin, Sulphur, Balſam of Nitre prepared with Antimony, the *Terra foliata Ta* otherwiſe called *Tartarus Regeneratus*, Oxymel of Squi Solution of Crabs-eyes in diſtilled Vinegar, and the Syru Tobacco and Hedge-muſtard.

When the Maſs of Blood is tainted with thick and tena Sordes, and the Emunctories are by that means obſtru and the Humours contaminated by a ſaline, ſulphureous ſcorbutic *Dyſcraſy*, the moſt efficacious of the *Attenuant* the Root of the Wild Radiſh, Scurvy-graſs, Water-c Indian Creſſes, Dittander, Brook-lime, the leſſer Cent Marſh Trefoil, Carduus Benedictus, Fumitory, the Houſe-leek, Muſtard, Gum Ammoniac, Sagapenum, M the Oil of fix'd Nitre per Deliquium, Oil of Tartar per quium, a Solution of Nitre, my temperate Elixir, acrid cture of Antimony, Eſſence of the Woods, Spirit of Sal moniac, Salt of Wormwood, with Citron Juice; as al Salts of the medicated Waters of *Sedlitz* and *Egra*,

When grumous or coagulated Blood, occaſioned by or Contuſions, is to be attenuated, and again diſſolve Intention is admirably anſwer'd by the Root of Solo Seal; by the Herbs German Leopard's-bane and Chervi negar diſtill'd with Crabs-eyes, the *Terra foliata Tartar* Nitre prepar'd with Antimony.

In Caſes where the Lymph has acquir'd a preter Thickneſs and Viſcidity, eſpecially from a Venereal Tai Curative Intention is beſt and moſt effectually anſwe Guaiacum, Soapwort, acrid Tincture of Antimony, M rius Dulcis, and Æthiops Mineral, which, when cau ſkilfully uſed, is of ſingular Efficacy in reſolving and atte-ting the viſcid Juices impacted on the Glands and Liver. fman, *Vol.* 1. *Sect.* 2. *Cap.* 4.

TTENUATIO, Attenuation. See ATTENUANTIA.

TTICUS, Ἀττικὸς. *Attic*, of *Attica*, *Athenian*. The tic Honey is frequently mention'd by Medicinal Writers as beſt.

TTICUM, ἀττικὸν, ſhould be the Name of a Plaiſter, by Uſe *Hippocrates* makes of it in the fourth Book of Epide-cs, where he ſays, *a certain Perſon had an Ulcer in the Leg, anointed it with Atticum*, ἀττικῷ. Ἀττικὸν is alſo ſometimes d as an Epithet for ἀγγεῖον, or χύτρα, and ſignifies an *Attic* eſſel.

ttic Wax is mention'd by *Scribonius Largus.*

TTILUS. A River Fiſh, very common in the *Po*, not like the Sturgeon. The Fleſh is flabby, and not very agree-le.

TTINCAR VENERIS. The Albification of Copper, order to tranſmute it into Silver.

TTINGAT. The ſame as Flos Æris. See ÆS.

TTINGIR, An Earthen Box. *Rulandus.*

TTONITUS MORBUS, An Apoplexy. See APO-EXIA.

TTRACTIO, Attraction, Drawing.

TTRACTIVUM, Attractive. *Paracelſus* gives the fol-wing Account of his SPECIFICUM ATTRACTIVUM.

It *attracts*, ſays he, every thing ſuperfluous in the Body, and aws out of it every thing of a hurtful Quality; for ſome ractive *Specifics* are in their own Natures ſo exquiſitely cal-lated to operate on Fleſh, that they will *attract* an hundred unds of it, in the ſame manner as a Loadſtone does Iron. happen'd in our own Days, that an *Attractive* of this Kind w a certain Man's Lungs up into his Mouth, by which he the Misfortune to be ſuffocated. Another was alſo ſo un-ky, as to have the Pupil of his Eye drawn from its natural uation to his Noſe by the ſame Means, after which there s never any Poſſibility of reſtoring it; for there are not ly *Attractives* accommodated to Iron, but alſo to Wood, rbs, Fleſh, and Water; for I myſelf ſaw a Plaiſter which racted as much Water as was ſufficient to fill a Ciſtern; the Water flow'd from it juſt as if it had fallen from the p of ſome Houſe.

In like manner, Lead, Tin, Copper, Silver, and Gold, y be attracted by certain Compoſitions of *Attractives*; and, theſe very *Attractives*, Branches may be torn from Trees; , which is ſtill more ſurpriſing, a Cow may be carried up o the Air.

For this Reaſon we are to apply ſome Medicines of an *attra-e Quality*, in order to extract from the Body every thing of urtful and corrupt Nature, that what is prejudicial may ſeparated from what is profitable. Theſe *Attractives* are to apply'd upon an Emunctory in the Part affected, or upon Ulcer which ſupplies the Place of an Emunctory; or, if a nd ſhould preſent itſelf, it is to be open'd like an Emun-ry; for I know from my own Experience, that an *Attra-e* of this Kind has extracted and eliminated the Matter, ch occaſioned a Plague, in a more effectual manner than on Occaſion it may ſeem proper to mention. No Patient, ever formidable his Diſtemper might have been, ever died having this Medicine adminiſter'd to him. The following Receipt for preparing this *Attractive*:

Take of the Quinteſſence of each of the Gums, one fourth Part; of Magiſtery, one half that Quantity; of fiery Ele-ment of Amber, one Pound; of fiery Element, Maſtich and Myrrh, each one fourth Part and an half; and of Element of Scammony, ten Ounces. Of all theſe make a Cerate, with Wax, Gum Tragacanth, and Turpentine, to be uſed in the Manner above directed. *Paracelſ. Archidox. Lib. Sept.*

otwithſtanding the Gravity and Air of Importance which ſometimes expected a Phyſician ſhould aſſume, as there is Crime, or even Indecency, in Laughing, I have inſerted the eding Paragraph from *Paracelſus.*

ttractivus is alſo apply'd to any Remedies to which the Fa-y of drawing or attracting is attributed.

TTRACTORIUS, Attractive; endow'd with the Power ttracting.

TTRAHENS, is uſed much in the ſame Senſe as the pre-ng.

TTRITA. Galls from Attrition, or rubbing one Part ſt another. See INTERTRIGO.

TTRITIO. A ſuperficial Galling of the Feet, Thighs, y other Part, by Walking, or otherwiſe.

ttrition is alſo a Word much us'd in Medicine and Philo-, to expreſs the rubbing two Bodies againſt each other, to wear away their Surfaces, or to excite Heat, without Loſs of Subſtance. Or it is in general a rubbing together.

TTY-ALU. The *Indian* Name for the *Ficus Malabarenſis, folio oblongo acuminato, fructu vulgari æmulo.* Raii Hiſt.

ATUREB. *Rulandus* explains this, if it may be call'd an Explanation, by *Vitrum Azazeze*; but does not tell what *Azazeze* is; neither does *Caſtellus.*

ATYPOS, ἄτυπος, from α Neg. and τύπος, a Form, or Tenor. Erratic, irregular. It is apply'd to Diſeaſes which have no Regularity in their Periods. It alſo imports a Deformity of the Limbs. But ἄτυποι, Atypoi, from α Neg. and τύπτω, to ſtrike, ſignifies People who, by ſome Defect in the Organs of Voice, cannot ſtrike the Air ſo as to articulate certain Sounds.

ATZOYATL. The *Mexican* Name for the *Mirabilis Mexicana*, the Marvel of *Mexico*, which *Ray* ſays is a very different Plant from the Marvel of *Peru*. *Raii Hiſt. Plant.*

AVACCARI.

Avaccari, (Garciæ) is a little *Indian* Tree, the Leaves, the Flowers, and the Fruit of which reſemble Myrtle, but a great deal more aſtringent. It grows on Mountains, and in the Province of *Malabar.*

They eſteem this very much in the Country where it grows, for inveterate Dyſenteries proceeding from a cold Cauſe. *Lemery des Drogues.*

AVANACU. See CADEL-AVENACU.

AUANSIS, ἄυανσις, from ἄυω, to dry. Exſiccation in general, but properly of Plants thro' Age.

AUANTE, ἀυαντὴ, or ἀυαψὴ, derived from the ſame Verb as the preceding. It may be tranſlated, *the dry Diſeaſe. Hippocrates*, in his ſecond Book *de Morbis*, gives the following Account of it.

The Patient can bear neither Abſtinence nor Eating. When Faſting, he has a Rumbling in his Belly, with a gnawing Pain in his Stomach, and vomits up Variety of Matters, as Bile, Saliva, Phlegm, and an acrimonious Matter; and after Vomiting ſeems to be a little eaſier. After Eating he is moleſted with Eructations, and an inflammatory Heat and Redneſs. He always fancies he has occaſion to make a plentiful Stool; but, when he is upon the Seat, diſcharges nothing but Wind. He is afflicted with a Pain of the Head, and a Senſe of Pricking as with Needles, in different Parts of his Body. His Legs ſeems heavy, and grow feeble and extenuated, and he becomes very weak.

In this Caſe, a Purge muſt be firſt given, and afterwards a Vomit, and the Head in particular ought to be purged. The Patient is to abſtain from ſweet, oleous, and fat Kinds of Food, and not indulge himſelf in Drinking. After Meals, provoke Vomiting with the Juice of *Ptiſan*; and, if the Seaſon will permit, after drinking Aſſes Milk, or Whey, let him take a Vomit or a Purge, as the Phyſician ſhall think moſt ſuitable to his Caſe. If it be Spring or Summer, let him bathe in cold Water: if it be Autumn or Winter, let him uſe Unctions, Walking, and moderate Exerciſe; but if he be too weak to bear Exerciſe, let him take a Journey: His Diet muſt be cooling and laxative; but if the Belly be coſtive, you are to open it with an emollient Clyſter. This is a Chronic Diſeaſe, and does not forſake the Patient till Old Age, and then either takes its Farewel, or accompanies him to his Grave. *Hippocrates*, περὶ νούσων, *Lib.* 2.

This Diſtemper is, by *le Clerc*, placed among thoſe which have not preſerved the Name by which *Hippocrates* called them, but which may be known by the Accidents which accompany them. This, by the Deſcription, the above-mention'd Author takes for Hypochondriaciſm.

AVANTURINE, is a reddiſh or yellowiſh Stone, cover'd all over with Sparkles which reſemble Gold, which make it look agreeable to the Sight. There are two Species of theſe, one natural, and the other artificial: The natural is found in many Parts of *France*. They mix it in Powder, which they put upon Paper to render it ſhining.

The artificial is made by Vitrification, or by mixing Sparkles of Copper with Glaſs, whilſt it is in Fuſion.

It is uſed by Enamellers, but I don't know, that it is employ'd in Medicine.

AVARAMO TEMO. The Name of a ſiliquoſe Tree, which grows in the *Braſils.*

The Bark is externally of a cineritious, and internally of a deep-red Colour, and is the only Part of the Plant uſed by the Skilful for Medicinal Purpoſes, tho' the ſame aſtringent Qualities are by ſome aſcribed to its Leaves; for the Bark, which is of a bitter Taſte, whether reduc'd to a Powder, or boil'd and us'd by way of Fomentation, happily cures inveterate and obſtinate Ulcers, and has been found to cure Cancers themſelves by means of its remarkably cleanſing and drying Nature.

Beſides theſe Purpoſes, 'tis alſo made Choice of on account of its effectually aſtringent Quality, for Baths deſign'd to ſtrengthen and invigorate the muſcular Parts of the Body, when weaken'd, or too much relax'd. *Ray* ſays it is much uſed by the Courtezans for contracting the Pudenda. *Raii Hiſt. Plant.*

AUCHEN, αὐχὴν. The Neck.

AUCHMOS, αὐχμὸς, from αὔω, to dry. It imports Weather which is extremely hot, ſultry, and ſqualid. The *Latins* tranſlate it by *ſqualor*. *Hippocrates* frequently uſes this Word.

AUCTIO, Augmentation, Accretion.

AUCUPALIS SORBUS, and AUCUPARIA, are Names for the Ornus, or Sorbus Sylveſtris. *Blancard.*

AUDACIA, in a Medicinal Senſe, is that Sort of Boldneſs and Audaciouſneſs, which we meet with in Deliria and Madneſs. It alſo ſignifies Impudence, which *Hippocrates* adviſes a Phyſician not to be guilty of.

AUDE, αὐδὴ, the Voice. See Vox.

AUDITORIUS, Auditory. Thus there is the *Meatus Anditorius*, the Auditory Paſſage ; and *Nervus Auditorius*, the Auditory Nerve. See Auris.

AUDITUS, the Senſe of Hearing. See Auris.

AVELLANA, Offic. *Corylus ſylveſtris*, Ger. 1250. Emac. 1438. Raii Hiſt. 2. 1379. Synop. 3. 439. Mer. Pin. 30. C. B. Pin. 418. Merc. Bot. 1. 31. Phyt. Brit. 31. Tourn. Inſt. 582. Elem. Bot. 453. Boerh. Ind. A. 2. 176. Dill. Cat. Giſſ. 35. Buxb. 86. Rupp. Flor. Jen. 265. *Corylus ſeu Nux Avellana ſylveſtris*, J. B. 1. 269. Park. Theat. 1416. Chab. 38. *Nux Avellana ſylveſtris*, Jonſ. Dendr. 112. The HAZEL. *Dale.*

Miller takes Notice of ſix Sorts of Nuts, the firſt of which is the preceding mention'd by *Dale*, which he calls the *wild Hazel-nut*.

The ſecond is the *Corylus ſativa, fructu albo minore, ſive vulgaris*, C. B. The SMALL MANURED HAZEL-NUT.

The third is the *Corylus ſativa, fructu rotundo maximo*, C. B. The LARGE COBNUT.

The fourth is the *Corylus ſativa, fructu oblongo rubente*, C. B. The RED FILBERT.

The fifth is the *Corylus ſativa, fructu oblongo rubente, pellicula alba tecto*, C. B. The WHITE FILBERT.

The ſixth is the *Corylus Hiſpanica, fructu majore anguloſo.* Pluk. Alm.

The firſt of theſe Trees is common in many Woods in *England*, from whence the Fruit is gather'd in Plenty, and brought to *London* by the Country People.

The ſecond and third Sorts are planted in Hedge-rows, in moiſt ſhady Places in Gardens ; but the Fruit is much better, and in greater Quantities, when they have an open free Air, and are not ſuffer'd either to grow too thick, or be overhung with other Trees.

The fourth and fifth Sorts, that is, the red and white Filberts, are moſtly eſteem'd for their Fruit, being much ſweeter, and their Shells much tenderer.

The ſixth Sort is annually brought from *Spain* in great Plenty, and ſold in *London* all the Winter Seaſon, from which Nuts there have been many Trees raiſed in the *Engliſh* Gardens ; but I have not yet ſeen whether they prove the ſame with the Nuts ſown.

Every body knows, that the *Hazel*, or Nut-tree, never ariſes to be a Tree of any great Magnitude, ſhooting forth from the Root a Number of long, ſmooth, tough, and pliable Branches, bearing large, round, rough Leaves, indented about the Edges, before whoſe appearing, early in the Spring, there come forth on the Branches, a great many long, looſe *Iuli* or *Catkins*. The Nuts grow two, three, or four together, on one Stalk, each cover'd with a membranous Huſk, open and jagged at the Top. When ripe, the Shell is hard and brittle, having a ſweet Kernel. This Tree grows every-where in the Woods and Hedges.

I know not of any great Uſe that is made of any Part of this Tree in Medicine. Some account the *Iuli* and Nut-ſhells to be reſtringent or binding ; the Kernels are hard of Digeſtion, and ſtuffing, cauſing Shortneſs of Breath and Wheeſing ; tho' an Emulſion made of them with Mead is commended for an old dry Cough. *Miller's Bot. Off.*

You are to chuſe ſuch Filberts as are large, full-grown, and each having a Kernel that is almoſt round, reddiſh, full of Juice, of an excellent Taſte, and not Worm-eaten.

Filberts are more nouriſhing than Nuts ; they are by ſome eſteemed pectoral.

They are windy, and hard of Digeſtion.

They contain a middling Quantity of volatile and eſſential Salt, much Oil and earthy Parts.

The moderate Uſe of this Fruit agrees at all times with every Age and Conſtitution, provided there be a good Stomach.

REMARKS.

The Filbert is a Fruit well known ; they are of a different Bigneſs, grow upon a common Shrub in Hedges and Woods, and the ſame is alſo planted in Gardens.

Filberts, as well as Nuts, contain a great Quantity of Oil, and the ſame is eaſily extracted. In the mean time, Filberts have a more agreeable Taſte than Nuts, becauſe their Salt is not ſo ſharp as that of Nuts, and becauſe it is a cloſely united to the oily Parts.

Filberts are pectoral, and nouriſhing, becauſe of their o Parts ; they are alſo of a binding Nature, by reaſon of th earthy Principles, which communicate a greater Conſiſten to the Liquors, and ſwallow up the over-abundant Moiſtu that looſen the ſolid Parts. In the mean while they are ha of Digeſtion, when immoderately uſed, becauſe of their ſo and earthy Subſtance.

The Huſks or Covers of the Filberts are aſtringent, and p per for binding the Body, but provoke Urine.

They cover Filberts with Sugar, and make Comfits of th of an excellent Taſte ; they are commonly uſed for a D ſert, and help Digeſtion. *Lemery on Foods.*

Nuts and Filberts will purge People, when taken in co derable Quantities.

The Cream of theſe Nuts is good in the Stone and Hea Urine. Emulſions may be made of them. *Quercetan* gav Dram of the Powder of Nutſhells, mixed with an equal Qu tity of prepared Coral, in a Glaſs of the Water of C duus Benedictus, or Corn Poppy, in the Pleuriſy. *M tyn's Tournefort.*

AVENA, Offic. βρῶμος, *Dioſcorides.* *Avena veſca*, G 68. Emac. 75. Park. Theat. 1134. Mer. Pin. 13. *A na alba*, J. B. 2. 432. Raii Hiſt. 2. 1253. Synop. 3. Chab. 176. *Avena vulgaris*, Merc. Bot. 2. 16. Phyt. 14. *Avena vulgaris ſeu alba*, C. B. Pin. 23. Theat. Hiſt. Oxon. 3. 209. Tourn. Inſt. 514. Elem. Bot. Boerh. Ind. A. 2. 161. Rupp. Flor. Jen. 244. Buxb. OATS. *Dale.*

This Grain grows not to be ſo tall as Wheat or Rye, bu is fuller of Knots or Joints : The Leaves are like Wheat, it bears on the Top a looſe Panicle of ſeveral diſtinct Gr ſtanding on long ſlender Foot-ſtalks ; the Grain is longer, derer, and ſmoother than Barley, cover'd with a looſe H or Skin. It is ſown in *March* or *April*.

Oats are reſtringent, and drying ; and Oatmeal is of g Uſe both in Health and Sickneſs, being a wholſome and cl ing Food ; Water-gruel, made thereof, being much uſed i Kinds of Diſtempers. Oats fried, and put into a Bag, and ply'd to the Side, are good to eaſe pleuritic Pains ; and to Belly, help the Colic, and Pains in the Bowels. *Miller Offic.*

As for unprepar'd Oats, they are only uſed for feeding tle ; but when reduced to what we call *Oatmeal*, for w Purpoſe the largeſt and beſt Oats muſt be choſen, they ma made into Cakes and Gruels, which are very agreeable, excellent for People in Health ; as alſo for ſuch as labour u Pains of the Breaſt and Throat, eſpecially if Sugar-candy, ſerve of Violets, Currans, or Figs, are added to them. T render the Body ſoluble, and evacuate the glutinous Hum which prove offenſive to it. Some affirm, that they Worms ; which may nevertheleſs be prevented, by prep them with Aniſe or Fenel-ſeed. Oatmeal Cakes cure B aches and Fluxes, and are eſteem'd good for ſuch as l under Conſumptions, Impoſtumations, or Pains ariſing the Stone. *Pliny*, *L.* 18. *N. H. C.* 17. informs us, tha *Germans* eat no other Cakes than thoſe made of Oatmeal ; Experience teaches us, that Children brought up with it rally become very robuſt, and have a freſh lively Colour, *Tabern. Herbar. L.* 1. *Sect.* 7. *C.* 21. and *Joan. Guſers, Med. S. Medicin. Domeſt. Tab.* 60. In many Parts they not only *Bread*, but *Ale*, of Oats ; and a few Grains, rough, are ſaid to cure Heart-burns. The Bread is a coarſ hot Food, of a diſagreeable Taſte, hard Digeſtion, and a ſtipating Quality, *Galen. L.* 1. *de Aliment. Fac. C.* 1 *Bruyer. de Re Cib. L.* 5. *C.* 20. *Claud. Deodat. Panth. L.* 2. *C.* 2. It is nevertheleſs very good for rendering P that are too fat and corpulent, lean, and reducing them more moderate Size. *Cardan. L.* 8. *Subtil.* affirms, th Oats, the *Muſcovites* make an Ale, or Drink, which is hot Nature, and ſo ſtrong, that it intoxicates ſooner tha richeſt Wines. Oatmeal, uſed in Emulſions, is ſervicea Paroxyſms of the Stone. Decoctions of Oats, in Conju with Piony-water, are good againſt Fevers, according to *Velſch. Chil.* 1. *Exot. Cur. & Obſ.* 643.

Oatmeal, boil'd to a conſiderable Conſiſtence in Wate apply'd to hot Tumors and Fiſtulas, diſpoſes them to heal if mix'd with Butter, cures ſcald Heads. *Oats* and put into a Bag, and apply'd hot to the Belly, give Eaſe Colic, and Diſorders of the Matrix, *Caſp. Hoffman.* in *L. Scholz. edit. L.* 3. *Conſ.* 14. Some add Juniper an berries, and Salt. 'Tis here proper to obſerve, that a cine may be prepar'd of Horſe-dung, which is of adm Uſe in the Colic, Jaundice, Pains ariſing from the Stone, Pains of the Sides, and in expelling the Secundines. A of Oatmeal, prepar'd with Water and Powder of Mar lows, is of ſingular Uſe in removing Roughneſs and C the Nails, *Ger. Blaſius, Med. Univerſ. part.* 4. *C.* 3.

w of Oats is uſed in ſuch Baths as are intended to eaſe the ns ariſing from a Stone in the Kidneys. If the Hairs are hed with a Lixivium of it, it renders them of a yellowiſh lour. This Straw is very good for Cows, and they eat it h Pleaſure; but 'tis not ſo proper for Horſes, ſince it gene- y gives them Pains in the Belly. If a Horſe is afflicted with ppreſſion of Urine, boil Oats in Wine, and give him them e eaten pretty hot, and his Diſorder will very ſoon be re- red. When Fowls cannot lay Eggs, Women give them fted Oats to be eaten, with a View to remove that Defect. rthol. Zorn, *Botanolog.*

Oatmeal, made into flat Cakes, is the common Food of the inary People in *Scotland*, *Wales*, *Derbyſhire*, and the *North England.* But the Dough, of which theſe Cakes are made, ermented generally with Barm, which takes away all Viſci- es, renders it more aceſcent, and conſequently very proper ment for People who uſe much Exerciſe, and eat a great deal Animal Food. Oatmeal unfermented, like the Meal of all naceous Seeds, is ſubject to generate Viſcidities in the Sto- ch and Inteſtines; but is more proper when an Alcaleſcence vails in the Conſtitution, than if fermented.

The famous Remedy for acute Diſtempers, and which has y undeſervedly been the Subject of much Ridicule, I mean *ter-gruel*, is made of Oatmeal boil'd with Water. This is low'd with the ſame Medicinal Virtues as the *Ptiſan* of *Hip- rates*; and, as an Aceſcent Aliment, is very good when re is a Tendency to an Alcaline Putrefaction, which is the ſe in moſt acute Diſtempers. Farinaceous Vegetables, by ng digeſted, and boil'd in Water, grow more aceſcent. See t Part of the Article ALCALI, which ſpecifies the Regimen per in acute Diſeaſes.

Dale takes Notice of another Species of Oats, which is the

AVENA NIGRA, Ind. Med. 16. Chom. 746. Raii Hiſt. 2. 53. Synop. 3. 389. Mer. Pin. 13. J. B. 2. 432. Chab. 176. B. Pin. 23. Theat. 472. Tourn. Inſt. 514. Elem. Bot. 5. Boerh. Ind. A. 2. 161. Hiſt. Oxon. 3. 209. Buxb. 35. *na ſemine nigro*, Rupp. Flor. Jen. 244. BLACK OATS.

It is ſown in Fields, for the Uſe of Horſes as well as the ceding.

There are ſome other Species of Oats mention'd by Botanic riters, poſſeſs'd of much the ſame Virtues as thoſe above- ntioned. See ÆGILOPS.

AVENQUA,. the *Portugueſe* Name for the *Adianthum Bra- anum*, Maiden-hair of *Braſil*.

AVENZOAR, the Name of an *Arabian* Phyſician.

venzoar, tho' his Age cannot be preciſely determin'd, ms to have lived after *Avicenna*; and we are ſure he lived ore *Averrhoes*, who more than once gives him a very high d deſerved Encomium, calling him *admirable*, *glorious*, *the aſure of all Knowledge*, and the moſt *Supreme* in Phyſic, m the Time of *Galen* to his own. He was born, or at ſt reſided much, at *Seville*, the Capital of *Andaluſia*, and the t then of the *Mahometan* Chaliph. He lived to 135. began practiſe at 40, or, as others ſay, at 20; and had the Advan- e of a longer Experience than almoſt any one ever had; for enjoy'd perfect Health to his laſt Hour. He tells us him- , how he was impriſon'd, and barbarouſly treated, by *Haly*, King's Conſtable in that City; tho' it appears, by his own count, that once, either before or after, he cured that Mi- er's Son of a Jaundice. He wrote a Book call'd *Thaiſſer*, t is, one which contain'd all Rules for Medicine and Diet in ſt Diſtempers; and this Work, indeed, ſhews him to have n a Man of Buſineſs and Experience. It appears too from ce, that he had the Care of an Hoſpital, and was employ'd en upon the *Miramamolin*'s Commands.

He is reckon'd, by the Generality of Writers, an Empiric; ' I can't imagine, why they pitch'd upon him for this Cha- er, which ſuits him, I think, leſs than any of the reſt of *Arabians*: One would naturally ſuſpect by this, that they never read further than his Preface, which, indeed, does tain a Collection of Receipts uſed by himſelf and others. , not to mention that he was bred in a Phyſical Family, (his her and Grandfather being both Practitioners, whom he ays remembers with great Gratitude and Honour) we have own Teſtimony, that he had a regular Education; and that not only learnt what properly belongs to a Phyſician, but, of a great Deſire of Knowledge, every thing beſides which tes to Pharmacy and Surgery. He lays it down for a Maxim, at Experience chiefly is the right Guide and Standard of a rantable Practice, and muſt abſolve or condemn him, and ry Phyſician, both in this Life and the next. He expreſſes ſelf more remarkably in another Place, where he is ſpeak- how indifferent it is to apply this or that Oil in the Caſe of e Tumors; and obſerves by the way, that the Art of ing is ſo little to be attain'd to, by any logical Diſtinctions, ſophiſtical Subtleties, that long Uſe, aſſiſted by a good Judg- nt, can only furniſh out ſo extraordinary a Talent. For ample, ſays he, if any one would take it into his Head to ne, and nicely diſtinguiſh, about laxative Medicines, and pre- d to find out the proportional Quantity and Quality of any Purge, ſo as to ſquare it exactly to the Conſtitution of the Patient, and the Nature of the Humours to be diſcharged, and calculate it ſo as not to be even a Hair over or under; ſuch Speculations, in his Opinion, contribute very little to form a Judgment about any right Method of Cure. And here, no doubt, he had *Alkindus* in his Eye, who wrote a fanciful Treatiſe in this way, concerning the Doſes and Qualities of Medicines.

And this Author is ſo little addicted to Quackery, and has ſo mean an Opinion of a bare Receipt, that he exclaims againſt the Impudence of old Women in this Point, as well as rejects the idle Superſtition of Aſtrologers. It is a very remarkable Story he tells of himſelf, in a particular Caſe, where he was at a Loſs how to proceed, and aſk'd the Opinion of ſeveral other Phyſicians to no Purpoſe: At laſt he took a Journey to the Town where his Father lived, and deſired his Advice. The old Man would give him no direct Anſwer, but ſhew'd him a Place in *Galen*, and bid him read that; if he could find out the Cure of the Diſtemper by it, it was very well; if he could not, he bid him never think of making any Proficiency in Phyſic. The Advice ſucceeded, ſo that the Patient was cured, to the Satisfaction both of the Father and the Son. And, indeed, throughout all this Work, he profeſſes himſelf ſo much of the Dogmatical or Rational Sect, which was directly oppoſite to the Empirical, that he has a great deal of Reaſoning about the Cauſes and Symptoms of Diſtempers; and as in his Theory he chiefly, if not only, follows *Galen*, ſo he quotes him, upon all Occaſions, oftener than the reſt of the *Arabians* do. *Freind*'s *Hiſtory of Phyſic.*

The Works of *Avenzoar*, or *Abhomeron Aben-Zoar*, are,

LIBER THEISIR DAHALMODANA VAHALTABIR, which imports *Rectificatio Medicationis & Regiminis.*

This was printed at *Venice*, 1496. in *Fol.* and again at the ſame Place, 1514. *Fol.* And in 1531. in 8*vo.* with the Addition of his *Antidotarium*, and the *Colliget* of *Averrhoes*. *Vander Linden*, *de Scriptis Medicis.*

AVERICH, Sulphur. *Johnſon.*

AVERRHOES lived not long after *Avenzoar*; for he intimates himſelf, that he was acquainted with his Sons. He died at *Morocco*, *A. H.* 595. as ſome ſay, or 603. as others. He made a great Figure in Life; and his Works made him celebrated over all *Europe*, after his Death. He was a Native of *Corduba*, bred to the Law, tho' he afterwards ſtudied Mathematics and Phyſic. *J. Leo* gives a long Account of his Grandfather, that he was ſent by his Countrymen, who intended to revolt, to offer the Crown to the Emperor of *Morocco*; that he was by him conſtituted Chief of the Prieſts, and great Judge of the Kingdom of *Corduba*, a Poſt which he enjoy'd a long while, and was ſucceeded in it by his Son, and his Grandſon. Our *Averrhoes* was famous for his Liberality and Patience, and for his continual Application to Study; and, without doubt, he was a Man of ſtrong natural Parts, and a very ſubtle Reaſoner. He had the Title of *Commentator* given him, from the many Volumes he wrote upon *Ariſtotle*, and was call'd, beſides, the *Soul of Ariſtotle.* In Phyſic he wrote a Book, at the Miramamolin of *Morocco*'s Command, which goes by the Name of *Colliget*, divided into ſeven Parts, containing the whole Science of Medicine, and is chiefly a Compendium, as he owns himſelf, of what had been ſaid by others, with ſome Additions of his own. He begins with the general Rules of this Art, and ſo deſcends to Particulars; and therefore, he ſays, nobody will be able to underſtand what he wrote, but who is well verſed in Logic, and natural Philoſophy: Accordingly he mixes more of the *Ariſtotelian* Philoſophy with his Theory of Phyſic, than the other *Arabians* do; for which Defect he finds Fault with the wiſe Men of *Andaluſia*. And this, I ſuppoſe, he muſt be underſtood to mean, when he ſays, he ſhall uſe Expreſſions, and explain Things, which his Predeceſſors never did, and ſhall deduce every thing from the Roots of natural Science. In Anatomy, he profeſſes he gives us nothing new; and, indeed, he here entirely copies after *Galen*. And as to the practical Part of this Work, there is ſcarce any thing in it but what is borrow'd; and tho' he ſpeaks ſeveral times of his own Experience, yet he does not ſeem to have been much converſant in Practice, as indeed we may gueſs he was not, from the Hiſtory of his Life. However, there is one Obſervation he makes, which I find no-where elſe, that the ſame Perſon can have the Small-pox only once. The chief Deſign, indeed, of this Treatiſe appears to be, to lay down right Notions concerning the ſpeculative Part of Phyſic, in which there were, in his Time, great Diſputes; and therefore, as he follows much the ſame Method as his Maſter *Ariſtotle* obſerves in the Hiſtory of Animals, ſo one great Aim he had in writing this Book, was to reconcile the Opinions of that Philoſopher with thoſe of *Galen*, an Author who ſeems to have the ſecond Place in his Eſteem.

Mr. *Bayle* has collected a great many Paſſages out of Authors, relating to *Averrhoes*; and as he ſeems never to have been acquainted with the Original, he follows theſe Authors implicitly, who often miſlead him: As where he tells us, from *Champerius*, that he was a bitter Enemy to *Avicenna*; and that, for this Reaſon, he avoids ever naming him, which he does in this Book often, and in his Metaphyſical Diſputations; not to mention the Comment he has writ expreſly upon that Author's *Cautica*. And as to being his Enemy, as is here ſuggeſted, if we look into this very Comment, we may eaſily be convinced of the contrary; for he thinks this Treatiſe of *Avicenna* one of the beſt Introductions to Phyſic which ever appear'd; and therefore becauſe it was conciſe, and ſometimes wanted an Explanation, he undertook the Taſk himſelf; and to ſhew his Candour, even when *Avicenna* ſeems to lay down ſome wrong Poſitions, he explains in what Senſe they ſhould be underſtood, ſo as to be conſiſtent with Truth; as particularly in the Doctrine about bleeding old Men, (which he diſtinguiſhes perfectly right) and the making Uſe of ſubterraneous Caverns. The laſt Rule particularly, he ſays, would not ſo well ſuit his Climate, which was the fifth, that is, *Spain*; but might be very proper for the fourth, which was hotter, and where *Avicenna* lived. What Mr. *Bayle* recites from Mr. *Paſquier*, about *Averrhoes* bleeding his Son at three Years old, is equally a Miſtake; for *Averrhoes* himſelf tells us, that it was *Avenzoar* who uſed this Practice in the Caſe of his own Son. So where he quotes Mr. *Petit* for ſaying, that *Averrhoes* never gave any Medicine to the Sick, and that he owns as much himſelf, is directly contrary to what this Book will inform us; tho' I agree, that it is probable he was no very great Practitioner.

Mr. *Bayle* wonders why Mr. *Herbelot* is ſo ſhort in his Account of this famous Author; and I ſhould wonder why Mr. *Bayle* is ſo prolix upon the ſame Head, did I not conſider, that he picks up a few odd Stories, which have been handed about, concerning his Irreligion, particularly the celebrated Saying he is charged with, *Sit anima mea cum Philoſophis*; a Saying which, perhaps, there was no more ground to faſten upon *Averrhoes*, than any of thoſe Particulars I have mention'd. This Writer has, with no little Pains, amaſs'd together all that he could meet with, upon this Article, in modern Authors; and, in a more emphatical manner, inlarges upon what he found quoted from the Diſputations which this *Arabian* wrote againſt *Algazel*, a Man famous in the preceding Century, for being the Founder of a Sect call'd the *Motazelas*, and who died *A. H.* 503. a Piece finely written, as he tells us from *Rapin*; but, in his own Opinion, very pernicious. In this are contain'd a great many Speculations concerning the Soul, conſonant to the Doctrine of *Ariſtotle*; amongſt the reſt, the Unity of the Intellect is explain'd: From which Mr. *Bayle* would infer, that he was a very impious Perſon, and one who muſt of courſe maintain the Mortality of the Soul; and conſequently deny any future Rewards or Puniſhments. Why he ſhould be ſo fond of drawing *Averrhoes* into theſe Opinions, I will not take the Liberty ſo much as to gueſs; only give me Leave to obſerve, that if he would have conſulted the Author himſelf, inſtead of the Collectors he here quotes, he would have found a very different Account of his Notions: For, in one Diſſertation, *Averrhoes* aſſerts, that the Soul is not material; and in another, that it is immortal. So uſual is it with theſe Compilers of ſecret Hiſtory to run into infinite Miſtakes, merely becauſe they take every thing at ſecond-hand, and upon Truſt; whereas would they have been at the Pains to go to the Fountain-head, and caſt an Eye only upon the Original, their Memoirs would have been much more exact.

But, to digreſs no further, as there is little material in this Author, *Averrhoes*, relating to Practice, I ſhall not trouble you now with any further Account of him, or his Works. I ſhall only mention, that he takes Notice of *Alkindus*, the Author of a Treatiſe now extant, *concerning the Proportion and Doſes of Compound Medicines*; and who, perhaps, might be the ſame with the famous *Peripatetic* of that Name, in the Reign of *Almanon*. In this Book he endeavours to reduce the Qualities of Medicines to the Rules of *Arithmetic* and Muſic; but *Averrhoes* juſtly thinks he refined too much, and that it is not only a Work of mere Speculation, built upon no ſolid Ground, that is, that of the Quality of a Medicine in the Compound increaſing always in a double Proportion, but owing altogether to his miſtaking the Senſe of *Galen* upon the ſame Subject. *Freind's Hiſtory of Phyſic.*

The Works of *Averrhoes*, are,

Collectaneorum de re Medica Sectiones tres, a Johanne Bruyerino Campegio Latinitate donatæ, Lugdun. 1537. *Fol.*

Averrois Opera. Venetiis apud Juntas, 1552. *Fol.*

His *Colliget*, and Commentaries on the *Cautica* of *Avicenna*, and ſome other Pieces, are extant with the Works of *Avenzoar*, *Venet.* 1496. *Fol.* and *Lugduni*, 1531. 8*vo.*

His Book *De Venenis* was printed *Lugduni*, 1517. 4*to.*

And his Commentary upon *Avicenna*, *Venetiis*, 1484. in *Fol.* and again at the ſame Place, 1555. *Fol. Vander Linden de Scriptis Medicis.*

AVERSIO, Averſion. It ſignifies the diverting a Flux of Humours from one Part to another, whether by Revulſion, Derivation, or Repulſion.

Averſio alſo implies a Nauſea, or Inappetency; and ſometimes is uſed to expreſs that Receſſion of the Uterus from its
proper Place, which the Antients imagin'd to happen in Hy
ric Diſorders.

AVES, Birds. The Natures of theſe, conſider'd as
ment or Medicines, are expreſs'd under their different Nam

Avis Medica, is the Peacock.

Aves, or *Aviculæ Cypriæ*, are perfum'd Candles, or Sti
of Wax.

Aves alſo is a Word made uſe of by ſome of the Enthuſia
cal Chymiſts, to expreſs, or rather to conceal, their Meani
in which they have effectually ſucceeded. *Rulandus*, for Ex
ple, thus defines the *Avis Hermetis*: *Æs Hermetis, avis vol
quia in altum evolat, & tamen iterum in terram propter nutrim
deſcendit: unde nutrix omnium eſt terra.*

The *High Dutch* Interpretation of the ſame Author is ra
greater Nonſenſe than the *Latin*; for which Reaſon the Re
need not regret, that I have not tranſlated it.

AVEVETL, and AHOEHOETL, are *Indian* Names for
Abies Mexicacua. Raii Hiſt. Plant.

AUGARES, ἀυγαρὲς, a Name of an Ingredient in a Cly
for the Cœliac Paſſion, in a Preſcription given by *N. Myrep
Sect.* 17. *Cap.* 45. I don't know, that it has ever been di
ver'd what it means. The Interpreters keep the Word,
confeſs they do not underſtand it.

AUGITES, ἀυγίτης, the Name of a Gem, which *P*
ſays many People eſteem to be not very different from the
lais. It is ſaid to be of a pale Green, and not ſo valuable
Topaz. *Pliny* ſays the Callais imitates the Sapphire, bu
more white.

AUGMENTATIO, Augmentation, Increaſe, Accreti
Growth.

AUGMENTUM. Diſeaſes, eſpecially Fevers, are divi
by Authors into *the Beginning*, *the Augment* or *Increaſe*,
State or ἀκμὴ, and *the Decline*. The *Augmentum*, therefore
that Part of the Diſeaſe which laſts from the Beginning, or
Seizure, to the *State*, or till it arrives at its utmoſt V
lence.

AUGURISTA. By the Explication which *Caſtellus* g
of this Word, it ſhould ſignify what we call a Conjurer.
Perſon who pretends to ſhew preternatural Images in Looki
glaſſes, Cryſtals, and Water; and to foretel Events by
Singing and Flight of Birds.

AUGUSTUM, A ſpecious Epithet given to ſome Medic
Compoſitions by their Authors or Deſcribers.

AVICENNA.

The famous *Avicenna*, the Son of *Hali*, was born at *Bocha*
in *Choraſan*, about 980. He ſtudied Philoſophy very ear
ſo that, if we believe *Sorſanus* his Diſciple, he was Maſte
Euclid, and other mathematical Books, when he was but
teen Years old; and ſoon made ſuch Proficiency in the St
of Phyſic, as to become very celebrated for his Skill in
Art. The *Arabic* Writers tell this Story of his Sagacity, T
he found out, by the Pulſe, the Diſtemper the Nephew of
bous laboured under, which was Love; and that by a Strata
he made uſe of, he diſcovered likewiſe the particular Obje
his Paſſion: The Caſe is ſo parallel, that one would be ap
think, they ſtole this Account from what *Appian* relate
Eraſiſtratus, in a like Illneſs of *Antiochus*, the Son of *Seleu*
Avicenna lived, for the moſt part, at *Iſpahan*; he is repreſ
ed by them, as one very much addicted to his Pleaſures,
that he fell into ſeveral Sorts of Diſtempers; and it was a S
ing, they tell us, in thoſe Times, *That all his Philoſophy c
not make him moral, nor all his Phyſic teach him, how to preſ
his Health.* He died in the 58th Year of his Age, or ra
if we calculate to a Nicety, the 56th, in 1036. at *Medi*
and was buried in the City of *Hamadan*.

Hiſtory tells us, that he made a very conſiderable Figu
the World; ſo that by ſome of his own Countrymen h
reported to have been raiſed up to the Dignity of *Vizir*; f
whence, I ſuppoſe, ſome more modern Writers have fanc
that he was really a Prince; and others have given out,
he was a King; though they do not agree, whether he re
ed in *Corduba*, or *Bithynia*.

This is the Account the beſt Hiſtorians give of the Or
and Age of *Avicenna*, though he is ſuppoſed by ſome, wit
any Ground, to have been a *Spaniard*, and by others an *E
tian*. It is amazing, where *Neander* could pick up the M
rials to furniſh out ſuch a Romance, as he has made of
Writer's Life: He tells us, very formally, that he was bor
Edeſſa, the Capital of *Commagena*, in 1145. that he went f
thence to *Alexandria*, where he ſtudied under *Rhazes*; and
afterwards he travelled into *Spain*, where he was the Diſ
of *Averrhoes*, at *Corduba*. But it is no new thing in this ex
ordinary Author, to write as many Falſities and Contradictio
as he does Pages.

Avicenna compiled a large Work, which he called the *Ca*
and the Fame of this Book was ſo great throughout all
that it was epitomiz'd and commented upon by ſeveral o
Arabians, in the twelfth and thirteenth Centuries; and,
long before this, it began to prevail ſo much in *Europe*,

re was no other Doctrine taught in the Schools of Phyſic ;
d it happened to be the good Fortune of *Avicenna*, to con-
ue his Empire there, till the Reſtoration of Learning.

One would naturally expect to find ſomething in this Au-
r, anſwerable to ſuch a Character ; but though I have very
en looked into his Writings upon ſeveral Occaſions, (for you
n't ſuppoſe, I believe, that I have gone through him in any
ular Courſe of Reading) I could meet with little or nothing
re, but what is taken originally from *Galen*, or what at
ſt occurs, with a very ſmall Variation, in *Rhazes*, or *Haly*
bas. He in general ſeems to be fond of multiplying the Signs
Diſtempers, without any Reaſon ; a Fault too much imi-
ed, as Errors are the eaſieſt to be followed, by our modern
riters of Syſtems. He often indeed ſets down ſome for eſſen-
Symptoms, which ariſe merely by Accident, and have no
mediate Connexion with the primary Diſeaſe itſelf. And,
confeſs the Truth, if one would chuſe an *Arabic* Syſtem of
yſic, that of *Haly* ſeems to be leſs confuſed, and more intel-
ble, as well as more conſiſtent, than this of *Avicenna*.
ind's Hiſt. of Phyſic, *Vol.* 2.

The Works of *Avicenna* were printed at *Venice*, 1596. in
io.

The *Liber Canonis*, *de Medicinis Cordialibus*, *&* *Cautica*,
ether with ſome other Pieces, were printed *Venetiis*, *apud*
tas, 1544. & 1555. *in Fol.* *Baſiliæ*, *apud Johan. Her-*
ium, 1556. *in Fol.* *Venetiis*, *apud Octav. Scotum*, 1500.
to. *Groningæ*, 1649. *in 12mo.*

Canon Medicinæ. *Venetiis*, *apud Juntas*, 1595. & 1608.
Fol. 2 *Vol. apud Vinc.* *Valgriſium*, 1564. *in Fol.* 2 *Vol.*
lem, 1580. *in 4to.* *Lovanii*, *apud Mempœum*, 1658. *in*
Uratiſlaviæ, *Fol. per Petrum Kirſtinium.*

Libro quinque Canonis Medicinæ Aben Ali, *Principis Filii*
, alias corruptè Avicennæ. *Arabicè nunc primùm impreſſi.*
æ ex Typographia Medicea, 1593. *in Fol.*

Libellus de removendis Nocumentis, *quæ accidunt in Regimine*
tatis: Tractatus de Syrupo acetoſo, *uno cum Syraci Medici*
ſitione in 2. & 3. *partem.* 4. *Fen.* 1. *Can. Avic.* & *Ebeneſi*
r 5 *Can.* *Venetiis*, *apud Domitium de Tridino*, 1547. *in*
Fol.

De Corde, *ejuſque Facultatibus*, *Libellus*, *Joh. Bruyerino*
pegio Interprete. *Lugduni*, *apud Nicol. Edvardum*, 1559.
vo.

De Animalibus, *per M. Mich. Schotur ex Arabico in Lati-*
tranſlatus. This is extant in Folio, without any Specifica-
of the Time when printed, or the Place where.

anonis Libri 3. *Fen.* 1. *Tractatus quartus*, *in quo ſcribit de*
itudinibus Capitis, & *noxâ multâ illarum in functionibus*
s, & *moderaminis*, *ſive partis rectricis*, *à Johanne Quin-*
rræo Latinè verſus, & *ad fidem codicis Hebraici correctus.*
ſiis, *apud Martinum Juvenem*, 1572. *in 8vo.*

anonis Libri 3. *Fen.* 2. *quæ eſt de Ægritudinibus Nervorum*,
inquaborræo Latinè verſa. *Pariſiis*, *apud Mart. Juvenem*,
in 8vo.

uarti Libri Canonis Fen. prima de febribus. *Patavii*, 1659.
mo.

e Tinctura Metallorum Tractatus. *Francofurt. apud Cy-*
m Jacobum, 1550. *in 4to.*

his is thought ſuppoſititious, as is the following :

ymicus Liber, *Porta Elementorum dictus.* *Baſiliæ*, *apud*
um Pernam, 1572. *in 8vo.*

VICULÆ HERMETICÆ. The univerſal Salt, which
vogius ſays is to be found in the Dew, is called by this
e in the *German* Ephemerides.

VICULARIA SYLVII, a Name for the *Speculum Ve-*
majus, a Plant ; called otherwiſe, *The greater Venus's*
ng-glaſs.

VILA, is a Species of Apple produced in the *Indies*. It
ger than an Orange, of a conſiderable Size. It is of a
Figure, plump, and of a yellow Colour. It grows in
Colonies of *America* which belong to the *Spaniards*, upon
of Shrub, or creeping Plant, which adheres to the ad-
Trees. This Apple includes eight or ten flat orbicular
which have a ſmall Caſt of the Oval, and at one of their
mities terminate in an obtuſe Point. Theſe Nuts, tho'
to each other, are yet eaſily ſeparable. They are con-
n one Side, concave on the other, almoſt as large as our
rown, half a Finger's Breadth in Thickneſs, covered with
erately thick Bark, which is hard, of a woody Contex-
a little rough, eſpecially on the convex Side, and of a
iſh Colour. Under this Bark is a tender, white, and
Almond, which is eſteemed an excellent Medicine againſt
s, and Malignity of Humours. One or two of theſe Al-
s may be taken for a Doſe. *Lemery Traité univerſel de*
s Simples.

LOS, ἀυλὸς, properly ſignifies a Pipe, or Canal, or Fo-
. In *Hippocrates de Mulierum Morbis*, *Lib.* 2. it im-
the exterior Foramen of, or Entrance into, the Vagina
as ἐγαυλὶν, is the Vagina itſelf.
LOS alſo ſignifies a Pipe to blow through.

Aulus, in *Pliny*, is a Shell Fiſh, which we call the Scal-
lop.

AULISCOS, ἀυλίσκ⊗, is a Catheter, or a Clyſter-pipe.

AVORNUS, the ALNUS NIGRA, is thus called by *Creſcentius*.

AVOSETA.

Avoſeta Italorum, *ſeu Spinzago d'Aqua*, is an aquatic Bird as large as a Pigeon ; its Beak is four or five Inches long, black, turned up, and pointed at the End. Its Head is blackiſh, the Body white, the Feet bluiſh, having the Toes joined by Membranes ; the Legs are long : It is found in *Italy*. The Fat is eſteem'd very reſolutive, emollient, and anodyne. *Lemery des Drogues.*

AURA.

Aura ſive Gallinaſſa, (*Jonſton*)

Is a Species of Raven of *Mexico*, which approaches the Size of a large Eagle ; the *Indians* call it *Tropillotl*. Its Colour is black ; the Beak is made like a Perroquet's ; the Forehead is covered with a Skin wrinkled without Feathers: It is armed with black crooked Claws. This Bird is common in *New Spain* ; it keeps at Night upon the Trees, and upon the Rocks, but comes in the Day near the Cities ; it lives upon Ordure and Excrements. They ſay, that the young ones are white, but that they blacken as they grow larger. They fly in Flocks, pretty high ; they make no Cry, and are of a bad Smell. They contain a great deal of volatile Salt and Oil. The Heart of this Bird, being dry'd in the Sun, is very fragrant. The Fleſh, being eaten, is good for the Small-pox ; the Feathers, burnt, are deterſive, vulnerary, and proper to prevent the Hair from falling off, if the Aſhes are ſprinkled upon the Fleſh. *Lemery des Drogues.*

AURA alſo ſignifies a Vapour or Exhalation, ſuch as thoſe which ariſe from Mephitical Caves.

Helmont ſpeaks much of the *Aura Vitalis*, which ſeems to mean what others call the *Flamma Vitalis*, *Vital Flame*. Both are mere Jargon, and only mean Chimæras exiſting no-where but in the extravagant Imaginations of thoſe who make uſe of them.

AVRANCUM, Egg-ſhells. *Rulandus.*

AURANTIA, a Fruit-tree, thus diſtinguiſhed:

Malus Aurantia, Offic. Ger. 1279. Emac. 1463. Raii Hiſt. 2. 1658. *Malus Aurantia vulgaris*, Park. Theat. 1508. *Malus Arantia major*, C. B. Pin. 436. *Aurantium*, *Mala Arantia*, Mont. Ind. 37. *Arantia Malus*, C. B. 1. 97. Chab. 5. *Aurantium vulgare*, Ferr. Heſp. 377. Tourn. Inſt. 620. Elem. Bot. 493. Boerh. Ind. A. 239. *Mala Aurantia*, Aldrov. Dendr. 489. *Malus Aurantia vulgaris major*, Jonſ. Dendr. 22. THE ORANGE-TREE. *Dale.*

This beautiful Tree grows to a pretty great Bigneſs in its native Places, having many Branches, the younger of which are of a greeniſh Colour, with ſeveral ſharp Thorns growing on them ; the Leaves are of a pale, yellow, green Colour, in Shape like Bay-leaves, each of which is ſet on a Foot-ſtalk in Shape of a Heart, of a pleaſant fragrant Smell, when bruiſed : The Flowers grow on the younger Shoots among the Leaves, of a ſingle Cup-faſhioned Leaf, cut into five Parts, with ſeveral yellow *Stamina* in the Middle, of a fragrant odoriferous Smell ; they are ſucceeded by large round Fruit, green at firſt, and of a reddiſh-yellow Colour, covered with a tough Skin or Peel, under which is contained the Pulp, conſiſting of a great Number of ſmall *Veſiculæ*, full of a ſharp Juice, (among which lie longiſh round Seeds pointed at both Ends) divided by a Skin into ſeveral Cloves, or Partitions.

This Tree grows in Plenty in *Italy*, *Spain*, and *Portugal*, and bears Flowers and Fruit all the Year ; but the Fruit is chiefly gathered in *October* and *November*.

The Juice of Oranges is uſed as Sauce to whet the Appetite. It is cordial and cooling, good to quench Thirſt, and ſerviceable in burning Fevers ; it is of great Uſe in the Scurvy, being frequently mixed among other Antiſcorbutics. The Peel or Bark is cordial and ſtomachic, ſtrengthens and warms the Stomach, prevents *Nauſea* and Vomiting, and helps the Colic.

Officinal Preparations from *Oranges* are, a Water diſtilled from the Flowers, the *Aqua Naphæ*, Off. a Conſerve of the Peel, and the ſame candied, and a Syrup of the Juice.

N. B. The *Sevil* Orange is only uſed in Phyſic, the *China* Orange being only eaten for Pleaſure. *Miller's Bot. Off.*

This Fruit has different Names, ſuch as the *Mala Arantia*, *Aurantia*, *Arangia*, *Mala Aurea*, *Chryſomelea*, *Poma Anarantia*, *Aurantia* & *Nerantia*, *Orangia*, or *Aurangia*. The Poets undoubtedly meant no more by the *Golden Apples* produced in the Gardens of the *Heſperides*, than *Oranges*, which are the Fruit of this Tree. Thus *Virgil* is to be underſtood in this Line :

Aurea Mala decem miſi: Cras altera mittam.

But ſome of the Fruit differ very much in Taſte from others: Some are very bitter, whilſt others are ſweet : Others again keep, as it were, a due Medium between ſweet and bitter ; and this laſt Sort are juſtly preferred to the others, not with regard to the Peel or Bark, which, in Heat and Dryneſs, ſurpaſſes that of the Lemon, but with regard to the Qualities and Agreeableneſs of the Juice, which is leſs cold than that of the Lemon. Their Virtues are the ſame with thoſe of the Citron and Lemon; for which Reaſon, we find, in ſome foreign Shops, their Peel dried and preſerved, a Water, a Syrup, an Eſſence, a Tincture, and a diſtilled Oil of Oranges; but particularly we find the preſerved Flowers, and a Water diſtilled from the Flowers. Freſh Oranges, if eaten, reſiſt Putrefaction, and prevent the Scurvy. *Bald. Ronſteus, de Scorbuto*, ſays, he knew ſome who got entirely free from the Scurvy, only by the Uſe of Oranges, and their Peel. *L. Riverius*, in his fourth Century, *Obſ.* 84. makes Mention of a Shoe-maker, who had laboured under a Quartan Ague for near half a Year, and who was at laſt cured by the Uſe of Oranges, which he cut into ſmall Pieces, and boiled in White-wine; by taking ſome of which for a few Mornings, his Diſorder was removed. The Juice of ſweet Oranges, exhibited with Syrup of Violets, is excellent for procuring Sleep in Fevers. *Jo. Camerar. Hort. Med.* The Peel dried, reduced to a Powder, and drank in White-wine, corroborates the Stomach, helps Digeſtion, procures an Appetite, ſweetens a ſtinking Breath, and is ſerviceable in Swellings of the Belly, Colics, Pains which ſucceed Child-birth, Suppreſſions of Urine and the Colic. See *Ephem. N. C. Dec.* 3. *Ann.* 1. *Obſ.* 35. This Virtue is ſtill ſtronger in the diſtilled Oil, four or five Drops of which are to be taken in Wine. *Domin. Panarolus, Pent.* 2. *Obſ.* 8. ſays, that the Oil expreſſed from Orange-peel, proves a very expeditious Cure in Fevers. The Flowers preſerved with Sugar are an excellent Cordial, and eſteemed very good in burning and peſtilential Fevers. The Water diſtilled from the Flowers has a very fragrant Smell, and is good in malignant and virulent Fevers; for it promotes a plentiful Diaphoreſis, comforts the Heart, refreſhes the vital Spirits, gives Eaſe in the Colic, allays Pains of the Stomach, and kills Worms. It is alſo applied to the Pulſe with a View to comfort the Heart. It is elegantly prepared in *Italy*, where it is called *Napha* and *Angelica*. See *Renod. Lib.* 1. *de Mat. Med. Sect.* 6. *Cap.* 4. In *Spain* 'tis uſually given to Women in hard Labours. It is alſo uſed with Succeſs in Hyſteric Fits, but muſt be mixed with Muſk and Dragons-blood for anſwering that Intention. *R. Solenandr. Sect.* 5. *Conſil. Med.* 15. *L. River. Lib.* 15. *Prax. Med. Cap.* 6. & *Cent.* 1. *Obſ. Med.* 65. 94. The Water diſtilled from the Seed cures Pains ariſing from the Stone in the Kidneys. *Ferrar. Lib.* 4. *Heſper. Fol.* 478. The Leaves, by means of a chymical Preparation, yield an Oil which is excellent in Caſes where the Shin-bones are laid bare. The Seed reſiſts Poiſon, and kills Worms. The Leaves, if boil'd in Red-wine, and drank, put a Stop to the Catamenia.

We may here mention the Poma Sinenſia, the Mala Aurantia Chinenſia, or *China* Oranges, which are of late become well enough known, and are ſuperior to the others in Deliciouſneſs of Taſte, and bear the Name of the Country, from which they are imported to *Liſbon*, where they are now produced in conſiderable Quantities as well as in *Spain*. Their Juice is much better adapted to the Intentions of Phyſic, but muſt not be taken in too large Quantities, eſpecially by thoſe who have cold and weak Stomachs. In the Shops, they make of their Peel an Eſſence or Tincture, which is highly cordial and ſtomachic. *Barthol. Zorn. Botanolog.*

The Rind of the bitter Orange heats much.

The Juice of the ſweet Orange, immoderately taken, weakens the Stomach, and cauſes Wind. As for the Juice of the bitter Orange, it ſometimes incommodes the Stomach and Breaſt, by a little too rough pricking of thoſe Parts.

The Juice of the bitter Orange contains much Phlegm and eſſential Salt, and a little Oil.

The Rinds of the ſweet and bitter Oranges agree at all times, in all Sorts of Ages, to Perſons who have a weak Stomach, and thoſe of a phlegmatic and melancholy Conſtitution. As for the Juice of theſe Fruits it is very good in hot Weather for bilious Perſons, and thoſe whoſe Humours are too ſharp, and too much agitated.

REMARKS.

Oranges are brought from ſeveral Parts: The beſt and the moſt in Eſteem for a good Taſte, are thoſe which grow in hot Countries; not only becauſe the Soil of thoſe Places, having Store of exalted Sulphur and volatile Salts in it, communicates a great Quantity of the ſame to theſe Fruits, and gives them an agreeable Smell, but becauſe the Heat of the Sun there digeſts, and more completely ripens their Juice, and gives them a more delicious Taſte.

The Juice of the bitter Orange is ſharp, becauſe it contains much acid Salt in it, and becauſe this Salt is but little embaraſs'd with the ropy Parts; which is the Reaſon it communicates almoſt all its Acidity to the little nervous Fibres of the Tongue. As for the Juice of the ſweet Oranges, as it contains leſs Salt than that of the bitter one, and as this Salt is kept under by a great Quantity of oily Parts, it is eaſy to underſtood, that it can make but a ſlight Impreſſion on Parts it touches.

They prefer the Juice of the bitter Orange in Medicinal before the other, as was before obſerved, for cooling moiſtening, and mitigating Fevers; becauſe this Juice more of the Acid in it, and can more eaſily thicken the o thinned Liquors, allay their violent Motions, and keep do thoſe ſharp Humours, that throw them into an extraordin Fermentation. *I ſuppoſe, by the bitter Orange,* Lemery *m the ſour.*

Of the ORANGE-FLOWER.

You ought to chuſe ſuch as are white, fair, of an agree Smell, and freſh gathered.

They chear the Heart and Brain, promote the Me ſtrengthen the Stomach, and aſſiſt Digeſtion.

The immoderate Uſe of this hot Flower renders the Bile ſharp, and by that means may cauſe different Diſeaſes.

It contains much exalted Oil, volatile Salt, and Phlegm.

The Orange-flower agrees at all times with aged, phlegm and melancholy Perſons; as alſo with thoſe that have a w Stomach, and do not eaſily digeſt their Food.

REMARKS.

The Orange-flower is uſed in Food and Phyſic; they pre it whole, and, by diſtilling, extract from it a Liquor very pleaſant Smell, and much uſed in Cordial, Hyſteric, Cephalic Potions. Its pleaſant Smell proceeds from Sulphurs and Salts contained therein, which are elevated the Liquor, and mix therewith. The Orange-flower Digeſtion by its volatile Principles, which divide and att ate the groſs Parts of the Aliments. It alſo refreſhes Heart and Brain, and promotes the Menſes, becauſe the exalted Principles revive the Maſs of Blood, increaſe Quantity of the Spirits, and rarefy the viſcous Juices obſtruct the Courſe of the Blood. *Lemery on Foods.*

AVRARIC, Mercury.

AURATA, a Fiſh, called *The Gilt-head*, or *Piſcis* According to *Athenæus*, it was eſteemed very delicious Fo the Antients. It is called alſo *Orata*.

AUREA ALEXANDRINA, an Opiate or Antidote vented by *Alexander*. See ALEXANDER.

AURES, the Ears. See AURIS.

AUREUS, a pompous Appellation for many Medicinal poſitions, either on account of their Coſtlineſs, Efficacy, cauſe Gold enters their Compoſition.

AUREUS RAMUS, is the Art of making Gold.

AUREUS is alſo a Weight equal to a Dram and an *Caſtellus.*

AURICHALCUM, Braſs,

Is a Mixture of Copper and Lapis Calaminaris, which together in Fuſion by a very vehement Fire, in a Furnace for that Purpoſe.

The Diſcovery was made by the Alchymiſts, who, endea ing to turn Braſs into Gold, found the way to give it a Colour. The Calaminaris Stone embaraſſes the acrid the Metal to that Degree, that it makes no Impreſſion quors, as the Copper does. Beſides, as the Calaminaris coſts but little, ſo the yellow Braſs is cheaper than the *Lemery des Drogues.*

In making of Medicines great Care muſt be taken, th thing acid is put into a naked Braſs Veſſel, becauſe Acid ſolve Braſs, and that renders the Medicine emetic.

AURICOLLA, the Gue, or Cement of Gold. It ſeem to ſignify the ſame as CHRYSOCOLLA, which ſee.

It is mentioned in the *Turba Philoſophorum*. *Theatr.* *Vol.* 5.

AURICULÆ *Cordis*, the Auricles of the Heart. COR.

AURICULA *Judæ*, & *Fungi Sambuci*, Offic. *membranaceus auriculam referens*, *ſive Sambucinus*. C. B. Raii Hiſt. 1. 106. Synop. 18. *Fungus membranaceus* *culam referens*, Hiſt. Oxon. 3. 642. *Fungus Auriculæ* *coloris ex cineraceo nigricantis*, *pernicioſus*, *in Sambuci* *naſcens*, J. B. 3. 840. *Fungus Auriculæ Judæ*, *col* *cineraceo nigricantis*, *pernicioſus*. Chab. 588. *Fungus* *cinus*, *ſive Auricula Judæ*, Ger. Emac. 1481. *Fungus* *buci*, *vel Auricula Judæ*, Sterb. 256. Tab. 27. H. *Sambucinus*, Park. 1320. *Agaricus Auriculæ forma*, 441. Tourn. Inſt. 562. Boerh. Ind. A. 14. *Agaricum Auriculæ formâ*, Mich. Nov. Gen. 124. 1. *Peziza Auriculam referens*. Dill. Cat. 195. EAR. *Dale.*

AURICULÆ JUDÆ, or *Jews Ears*, are a ſort of or a Species of Agaric, which is found adhering to the of the Elder-tree. This is of the Figure, and oftenti Size, of a Man's Ear; but they are found larger and It is of a membranous, cartilaginous, and pliant Subſtan

Leather, of a blackiſh-grey Colour. It contains a great deal of Oil and volatile Salt.

It is very reſolutive, proper for Tumors, and for Inflammations of the Throat, and other Parts, being broken and applied thereto. It ſhould be uſed internally with Caution, for it is ſort of Poiſon. *Lemery des Drogues.*

It is directed to be boil'd in Milk, or macerated in Vinegar, n order to make a Gargle for the Throat, in a Quinſey: And ometimes it is infuſed in Water for the ſame Purpoſe, with ther Ingredients.

Dale ſays it is aſtringent.

AURICULA LEPORIS. See BUPLEURUM.

AURICULA MURIS, Mouſe-ear. See PILOSELLA.

AURICULA URSI, Offic. *Auricula Urſi flore luteo*, Ger. 640. Emac. 784. Raii Hiſt. 2. 1082. Elem. Bot. 100. ourn. Inſt. 120. Boerh. Ind. A. 200. J. B. 3. 490. Chab. 92. Rupp. Flor. Jen. 14. *Auricula Urſi flore flavo*, Park. arad. 239. *Auricula Urſi, Sanicula Alpina*, Mont. Ind. 37. *anicula Alpina lutea*, C. B. Pin. 242. Hiſt. Oxon. 2. 557. ELLOW BEARS-EARS. *Dale.*

This Herb grows in great abundance at or about *Utrecht*, in *tiria*, *Tyrole*, *Savoy*, and *Switzerland*, about the Middles, and the Tops, of large Mountains. It bears large thick green eaves upon its Stalks, at whoſe Tops there are Flowers of fferent Colours. The Inhabitants of *Utrecht* call it *Primula rata*, on account of its agreeable Smell. Tho' this Herb is t ordinarily kept in the Shops, it may nevertheleſs be rank'd ong the Vulneraries, and is of ſingular Service, both for internal and external Purpoſes. It abounds with a mild, temrate, and glutinous Juice, which, when expreſs'd, may be ply'd to old Wounds, with a great deal of Succeſs: When x'd with Ointments and Plaiſters, it is of great Service in ptures, *Jo. Camerar. Hort. Med. p.* 25. Four or ſix Spoon- of the Water, in which the Herb has been boil'd, taken ry Morning, cure Coughs and Ulcers of the Lungs. Such go a-hunting on the large Mountains, where 'tis to be found, its Root againſt Vertigoes. See *Conr. Geſner. de Lunar. rb. p. M.* 34. *Sennert. L.* 1. *Pract. p.* 2. *C.* 4. The Juice the Flowers removes Spots of the Face, and beautifies the n; and with the ſame Intention ſome diſtil a Water from it. *rthol. Zorn*, *Botanolog.*

URICULARIA, Ear-wort, Marlow, or *Cylonian* Plant. s a Species of Mint. See MENTHA.

URICULARIUS, belonging to the Ear. *Auricularius dicus* is a Phyſician for the Ears.

URIGA, a ſort of Bandage for the Sides, deſcribed by *len.*

URIGA alſo ſignifies the fourth Lobe of the Liver. *Caſtellus.*

URIGO, the Jaundice. See ICTERUS.

URIPIGMENTUM, Offic. Matth. 1367. Ind. Med. Worm. 28. Kentm. 17. Agricol. 592. *Auripigmentnm um*, Aldrov. Muſ. Metall. 353. *Arſenicum croceum Aurientum*, Charlt. Foſſ. 12. *Arſenicum flavum Auripigmentum*, nt. Exot. 13. ORPIMENT.

he Orpiment of the Shops, *Auripigmentum* in *Latin*, *ικὸν* of *Dioſcorides*, *ἀρσενικὸν* of *Galen*, *Narueth* of *Sera- Zarnick Arſar* of the *Arabians*, and *Orpiment* or *Orpin rench*, is an Arſenical Juice, in ſquamous or foliaceous es, like the *Lapis Specularis*, the *Squamæ*, or *Strata*, g eaſily ſeparable from each other.

rpiment is of three Kinds; one of a Gold Colour; the nd of a deeper Red, or Cinnabarine Colour, mix'd with ow; and the third greeniſh and yellowiſh, mix'd with a Proportion of Earth, and therefore the leaſt valuable. e three Kinds are found in the Veins of Gold, Silver, and er Mines; but we know not what was the other Kind of ment, mention'd by *Dioſcorides*.

rpiment is of an acrid Taſte, ſoluble in Oil, and inflam- by Fire, emitting a thin Flame with a great deal of e, ſmelling ſtrongly of Sulphur or Garlick. This Smoke, llected, turns to yellowiſh Flowers like Sulphur, and a red ood-colour'd Maſs remains behind; which, when cold, etes into a hard ſolid *Regulus*, like Cinnabar, called by Red Orpiment, or Realgar. If the Orpiment be kept in iming Veſſel for a long time on the Fire, the whole Maſs ed to the upper Part of the Veſſel, and there concretes beautiful, red, pellucid Subſtance like a Ruby, only a Quantity of Metallic Earth remaining at the Bottom. irſt Fumes, which come from this Regulus, will turn Cophite and brittle.

piment therefore muſt conſiſt of the ſame Parts as com- ulphur, with ſome Mineral Particles mix'd with them; s compoſed of an acid Salt, entangled in Particles of Mer- and of a bituminous Subſtance. Its corroſive Quality rom the acid *Spicula* ſtuck into the Particles of Mercury; has that Quality in a leſs degree than corroſive Sublimate, e of its bituminous Part. It is leſs inflammable than r, becauſe the Energy of the acid Salts contain'd in it ken'd by the Mineral Parts; and, from its corroſive Qua- is deſervedly reckon'd among Poiſons.

It was antiently uſed by Phyſicians to eat away fungous Fleſh, but is now laid aſide in that Intention, Chymiſtry having furniſhed us with much better Catheretics. It is uſed ſometimes by Barbers, with a Mixture of Quick-lime, as a Depilatory, to eradicate the Hairs of any Part of the Body; but if they let it lie on too long, it corrodes the Skin. Some Phyſicians recommend the internal Uſe of Orpiment, in Subſtance, in a purulent Phthiſis accompanied with Expectoration, and in Aſthmas. The Fumes of it may likewiſe be received at the Mouth in the ſame Intentions, and the *Chineſe* reckon it among the Purgative Medicines. However, I cannot think the inward Uſe of this Medicine in any reſpect allowable; for it is a ſtrong Poiſon, deſtructive to the Nerves, and accordingly is found by Experience to bring on very terrible Symptoms, ſuch as Spaſms in the Hands and Feet, Stupors and Contractions, cold Sweats, Palpitations of the Heart, Faintings, Thirſt, inward Burning, Vomiting, Belly-ach, Eroſions, violent Pains, and Death itſelf, according to the different Doſes of this Poiſon; and in the Bodies of ſuch as die in this manner, the Œſophagus, Stomach, and Inteſtines, are found to be inflamed, corroded, and perforated in ſeveral Places.

The Antidotes for Orpiment, and all other Arſenical Subſtances, are whatever is able to blunt the Acrimony of theſe corroſive Medicines; ſuch as Milk and Oil, drank in great Quantities, fat Broths, the Juice of Mallows or Marſhmallows, Decoctions of Flea-wort, and Linſeed, Marſhmallow-roots, and ſuch-like. Orpiment or Arſenic, worn about the Neck like an Amulet, cannot be ſo hurtful as ſome imagine; neither do we believe it of any Virtue in preſerving againſt the Plague, or peſtilential Diſeaſes.

Of the *Lixivium* of Orpiment and Quick-lime is made the Sympathetic Ink, by the Effluvia of which alone, Letters written with Vinegar of Lead become viſible; and the Painters uſe it for Gold Colours, from which Uſe its Name is derived. *Geoffroy.*

AURIPIGMENTUM RUBRUM, REALGAR, which ſee.

AURIS, the Ear.

Every one knows that the *Ears* are two in Number, that they are ſituated on the lateral Parts of the Head, and that they are the Organs of Hearing. Anatomiſts commonly divide or diſtinguiſh the *Ear* into *external* and *internal*. By the *external Ear*, they mean all that lies without the external Orifice of the Meatus Auditorius in the Os Temporis; and by the *internal Ear*, all that lies within the Cavities of that Bone, and alſo the Parts that bear any Relation thereto.

The greateſt Part of the *external Ear* conſiſts of a large Cartilage, very artificially framed, which is the Baſis of all the other Parts of which this Portion of the *Ear* is made up. The *internal Ear* conſiſts chiefly of ſeveral bony Pieces, partly form'd in the Subſtance of the Oſſa Temporum, and eſpecially in that Portion of it call'd Apophyſis Petroſa, and partly ſeparated from, but contain'd in a particular Cavity of that Bone.

The *external Ear*, taken all together, reſembles in ſome degree the Shell of a Muſcle, with its broad End turn'd upward, the ſmall End downward, the convex Side next the Head, and the concave Side outward. Two Portions are diſtinguiſh'd in the *external Ear*, taken all together, one large and ſolid, call'd in *Latin Pinna*, which is the ſuperior, and by much the greateſt Part; the other ſmall and ſoft, call'd the *Lobe*, which makes the lower Part. We may likewiſe conſider two Sides in the *outward Ear*, one turn'd obliquely forward, and irregularly concave; the other turn'd obliquely backward, and unequally convex; for all *Ears*, which have not been diſorder'd by binding the Head too tight in Childhood, are naturally bent forward.

The fore Side is divided into *Eminences* and *Cavities*. The *Eminences* are four in Number, call'd Helix, Anthelix, Tragus, and Antitragus. The Helix is the large folded Border, or Circumference of the great Portion of the *Ear*. The Anthelix is the large oblong Eminence, or Riſing, ſurrounded by the Helix. The Tragus is the ſmall anterior Protuberance below the anterior Extremity of the Helix, which, in an advanced Age, is cover'd with Hairs. The Antitragus is the poſterior Tubercle, below the inferior Extremity of the Anthelix.

The Cavities on the fore Side are four in Number, the Hollow of the Helix, the Depreſſion at the ſuperior Extremity of the Anthelix, call'd Foſſa Navicularis; the Concha, or great double Cavity, that lies under the Riſing, term'd Anthelix, the upper Bottom of which is diſtinguiſh'd from the lower by a Continuation of the Helix, in form of a tranſverſe Criſta; and laſtly, the Meatus of the *external Ear*, ſituated at the lower Part of the Bottom of the Concha.

The back Side of the *external Ear* ſhews only one conſiderable Eminence, which is a Portion of the convex Side of the Concha, the other Portion being hid by the Adheſion of the Ear to the Os Temporis. This Adheſion hinders us likewiſe from ſeeing the Hollow anſwering to the Criſta, by which the Cavity of the Concha is divided.

I have already ſaid, that the *external Ear* conſiſts chiefly of a Cartilage, which is the Baſis of all the other Parts. Theſe other Parts are Ligaments, Muſcles, Integuments, ſebaceous and ceruminous Glands, Arteries, Veins, and Nerves; but I do not reckon among them a large Gland, call'd, by the *Greeks*, Parotis, becauſe it lies very near the Ear.

The Cartilage of the *outward Ear* is nearly of the ſame Extent and Figure with the large ſolid Portion thereof, already mention'd; but it is not of the ſame Thickneſs, being cover'd by Integuments on both Sides. In the Lobe, or ſoft lower Portion of the *Ear*, this Cartilage is wanting. On the back Side, it ſhews all the Eminences and Cavities on the fore Side in an oppoſite Situation, with reſpect to each other, except the Fold of the great Circumference; and it conſiſts only of one Piece from that Circumference all the Way to the Meatus Externus, except at the two Extremities of the folded Part of the Helix, where there are two ſmall ſeparate Portions connected to the great Cartilage only by the Integuments.

The cartilaginous Portion of the external Meatus Auditorius does not make a complete Circle, but rather a ſhort Tube, in one Side of which there is a Break, and which terminates in an oblique Border, fixed to the Edge of the bony Canal by ſeveral ſmall Inequalities, as by a kind of Ingrailing; and from this Obliquity it is that the cartilaginous Border terminates downward, in a kind of Apex or Point. The lateral Break in this Cartilage is between the upper and back Part of its Circumference, and on each Side thereof the cartilaginous Edges are rounded. There are likewiſe two or three other ſmall Inciſures in this Circumference, which, in regard to the Meatus, repreſent obliquely tranſverſe Fiſſures. The anterior Fiſſure is in a manner quadrangular; neither are the intermediate Parts always oppoſite to each other, for the uppermoſt is a little further from the Os Temporis than the poſterior.

The *external Ear* is fix'd to the Cranium, not only by the cartilaginous Portion of the Meatus already mention'd, but alſo by Ligaments, which are two in Number, one anterior, the other poſterior. The anterior Ligament is fix'd by one Extremity to the Root of the Apophyſis Zygomatica of the Os Temporis, at the anterior, and a little toward the ſuperior, Part of the Meatus Oſſeus, cloſe to the Corner of the Glenoide Cavity; and by the other Extremity to the anterior and ſuperior Part of the cartilaginous Meatus.

The poſterior Ligament is fix'd by one End to the Root of the Maſtoide Apophyſis, and by the other to the poſterior Part of the Convexity of the Concha, ſo that it is oppoſite to the anterior Ligament. There is likewiſe a kind of ſuperior Ligament, which ſeems to be only a Continuation of the Aponeuroſis of the Frontal and Occipital Muſcles.

Of the Muſcles of the *external Ear*, ſome go between the Cartilages and Os Temporis, others are confin'd to the Cartilages alone. Both Kinds vary in different Subjects, and are ſometimes ſo very thin, as to look more like Ligaments than Muſcles. The Muſcles of the firſt Kind are generally three in Number, one ſuperior, one poſterior, and one anterior, and they are all very thin. The ſuperior Muſcle is fix'd in the Convexity of the Foſſa Navicularis, and of the ſuperior Portion of the Concha; from whence it runs up to the ſquamous Portion of the Os Temporis, expanding in a radiated manner, tho' not in the ſame Degrees, in all Subjects; and is inſerted principally in the Ligamentary Aponeuroſis, which covers the poſterior Portion of the Temporal Muſcle.

The anterior Muſcle is ſmall, more or leſs inverted, and like an Appendix to the ſuperior. It is fix'd by one Extremity about the Root of the Zygomatic Apophyſis, and by the other in the anterior Part of the Convexity of the Concha.

The poſterior Muſcle is almoſt tranſverſe, and of a conſiderable Breadth, being fix'd by one End to the poſterior Part of the Convexity of the Concha, and by the other in the Root of the Maſtoide Apophyſis. It covers the poſterior Ligament; but the Diviſion of it into ſeveral Portions, mention'd by ſome Author, ſeems to be merely artificial, that is, owing to Diſſection.

The ſmall Muſcles, which are confin'd to the Cartilages, are only ſmall Strata of Fibres, found on both Sides of the Cartilages. In many Subjects they are of ſo pale a Colour, as not to look at all like Muſcular Fibres. Of this Number are thoſe which *Valſalva* diſcover'd in the different Cavities on the back Side of the Cartilage, and thoſe found by *Santorini* on the Tragus, and along the convex Part of the anterior Portion of the Helix.

The Skin of the *external Ear* is, in general, a Continuation of that which covers the neighbouring Parts of the Temporal Region. The Skin on the fore Side of the Ear is accompanied by a very ſmall Quantity of cellular Subſtance; and therefore we find all the Eminences and Cavities of that Side diſtinctly mark'd upon it, as far as the Bottom of the external Meatus Auditorius. In what I have ſaid of the Skin, the Epidermis is likewiſe comprehended.

The back Side is cover'd by the Skin, continued from the fore Side; but as the Folds are there very cloſe, it only paſſes over them, except that Portion of the Concha which ſurrounds the Entry of the Meatus Auditorius, and which is join'd to th Os Temporis, by means of the cellular Subſtance. The Hol low of that common Fold, which lies between the Anthelix an Concha, does not appear on the back Side; for, as it is fill' with the cellular Subſtance, the Skin paſſes over it.

The Lobe of the Ear, or that ſoft Portion, which lies unde the Tragus, Antitragus, and Meatus Auditorius, is made up o nothing but Skin and cellular Subſtance. The Meatus Audi torius is partly bony, and partly cartilaginous: The bony Po tion is the longeſt, and forms the Bottom of the Canal: Th cartilaginous Portion is the ſhorteſt, and, in Adults, forms th external Opening, or Orifice of the Canal.

Theſe two Portions, join'd endwiſe to each other, form Canal of about three Quarters of an Inch in Length, of di ferent Wideneſs in its different Parts, and a little contorted. is lined on the Inſide by the Skin, and cellular Membrane, thr its whole Length; and thus theſe Integuments make up for t Breaks in the cartilaginous Portion, and form a kind of cut neous Tube in the other Portion. The cellular Membrane confounded with the Perichondrium and Perioſteum of t Meatus.

The Skin which covers both Sides of the Cartilage contai a great Number of ſmall Glands, which continually diſchar an oily whitiſh Humour, collected chiefly near the Adheſio of the Ear to the Head, and under the Fold of the Helix; a theſe Glands are of the ſebaceous Kind. The Skin which lin the Meatus Auditorius, contains another kind of Glands, of yellowiſh Colour, and which may be plainly ſeen on the conv Side of the cutaneous Tube.

Theſe Glands are diſpoſed in ſuch a manner as to leave re cular Spaces between them, and they penetrate a little way in the Subſtance of the Skin. They are call'd *Glandulæ Cerum noſæ*, becauſe they diſcharge that Matter which is named *Cer men*, or the Wax of the Ears. The inner Surface of the cu neous Tube is full of fine Hairs, between which lie the Orific of the ceruminous Glands. The firſt Place, in which we m with theſe Glands, is on that Part of the convex Side of t cutaneous Tube, which ſupplies the Breaks of the cartilagino Meatus.

The Arteries of the *external Ear* come anteriorly from Arteria Temporalis, and poſteriorly from the Occipitalis, whi is a Branch of the external Carotid. It is proper to obſe here, that the Occipital Artery communicates with the Ve bralis, and thereby with the internal Carotid. The Veins Branches of the Jugularis Externa. And the Occipital V communicates not only with the Vena Vertebralis, but mediately with the neighbouring lateral Sinus of the D Mater.

The Portio Dura of the Auditory Nerve, having paſs'd of the Cranium, thro' the Foramen Stylo-maſtoidæum, in manner that ſhall be afterwards deſcribed, gives off a Bra which runs up behind the Ear, to the back Side of which ſends ſeveral Filaments; and the Trunk of this Branch ſe likewiſe Filaments to the Meatus, and fore Side of the E The ſecond Vertebral Pair ſends alſo a Branch to the *Ear*, Ramifications of which communicate with thoſe of the o Branch from the Portio Dura.

All the bony Organ of Hearing may very naturally be divi into four general Parts:

1. The external Meatus Auditorius.
2. The Tympanum, or Barrel of the Ear.
3. The Labyrinth.
4. The internal Meatus Auditorius.

It may likewiſe be divided into immoveable or contai Parts, which take in all the four already mentioned; moveable or contain'd Parts, which are four little Bones lo in the Tympanum, call'd *Incus*, *Malleus*, *Stapes*, and *Os biculare*, or *Lenticulare*.

The external MEATUS AUDITORIUS.

The external Auditory Paſſage begins by the external A tory Hole, the Edge of which is rough and prominent; backwards, towards the Maſtoide Apophyſis, it appears much ſloped. The Paſſage itſelf is about half an Inch Length, running obliquely from behind forward, in a c Direction, and ſometimes winding a little in the Middle, a Screw. Its Cavity is almoſt oval, wider at the Entry at the Middle, after which it widens again by Degrees.

It terminates inwardly by an even circular Edge, lying Plane very much inclined, the upper Part of it being tu outward, and the lower Part inward; ſo that the whole C is longer on the lower Side than on the upper. The con Side of the circular Edge is grooved quite round.

In Children this bony Canal is wanting, as well as the ſtoide Apophyſis; and the inner circular Edge is a diſtinct R which, in an advanced Age, unites entirely, and becomes Piece with the reſt: It is termed the *Bony Circle* in Infa and, indeed, it is very eaſily ſeparated from all the Parts.

It ſhould ſeem therefore, that the whole bony Canal in Adults is only a Prolongation of the bony Circle in Children; ecauſe, even in a more advanced Age, the whole Canal may ithout much Difficulty be taken out. The circular Groove es between the Maſtoide Apophyſis and the articular Fiſſure or rack.

The FIGURE *and* SITUATION *of the* TYMPANUM.

The *Tympanum* or Barrel of the Ear is a Cavity irregularly miſpherical, the Bottom of it being turned inward, and the Mouth joined to the circular Groove already mentioned. Both minences and Cavities are obſervable in it.

EMINENCES.

The remarkable Eminences are three in Number: A large Tuberoſity lying in the very Bottom of the Barrel, a little to-ard the back Part; and a ſmall irregular Pyramid, ſituated out the Tuberoſity, and a little more backward; the Apex of is perforated by a ſmall Hole, and on one Side of the Baſis o ſmall bony Filaments are often found in a parallel Situation; d, indeed, I believe they are ſeldom wanting, though their nder Structure expoſes them to be often broken. In the third minence is a Cavity ſhaped like the Mouth of a Spoon, ſitu-ed at the upper, and a little towards the anterior Part of the ottom of the *Tympanum*. This Cavity is Part of a Half-nal, of which hereafter; and at a very ſmall Diſtance from Point, is a little bony Ridge, which goes from one Edge of to the other, but is ſometimes not entire.

CAVITIES.

The principal Cavities in the *Tympanum* are, the Opening the Maſtoide Cells or Sinuoſities, the Opening of the *Eu-chian Tube*, the bony Half-canal, the *Feneſtra Ovalis*, and *tunda*; and to theſe may be added the ſmall Hole in the Py-mid.

The Opening of the Maſtoide Cells is at the poſterior and per Part of the Edge of the Barrel. The Cells themſelves, ich end there, are dug in the Subſtance of the Maſtoide Pro-ſ, being very irregular, and full of Windings and Turnings.

The Opening of the *Euſtachian Tube* is at the anterior, and little toward the upper Part of the Edge of the Barrel. is Tube, in *France* generally term'd the *Aqueduct*, runs m the Tympanum towards the poſterior Openings of the ſal Foſſæ, and Arch of the Palate. The bony Portion reof, of which alone I here ſpeak, is dug in the Apophyſis troſa, along the Duct of the carotid Apophyſis; and when it es that, it is lengthened out by the ſpinal Apophyſis of the Sphenoides. Theſe two Cavities, the Maſtoide Cells, and Euſtachian Tube, are, in ſome meaſure, Prolongations of Tympanum, one anterior, the other poſterior.

The bony Half-canal, of which the Cavity reſembling the uth of a Spoon is the Extremity, lies immediately above the tachian Tube, towards the upper Side of the Apophyſis Pe-a, or rather in the very Subſtance of that upper Side. In a ural State, a ſmall Muſcle is lodged in it.

The *Feneſtra Ovalis* is a Hole of Communication between Tympanum and Labyrinth. It lies immediately above the beroſity, the upper Side of it being a little rounded, the er a little flatted; and one Extremity being turned forward, other backward. Towards the Labyrinth this Opening has ttle flat thin Border quite round it, which renders it nar-er at that Place than any-where elſe.

The *Feneſtra Rotunda* is ſomething leſs than the *Ovalis*, and ated in the lower, and a little towards the poſterior Part of large Tuberoſity; the Opening of it, which is the Orifice particular Duct in the Labyrinth, lying obliquely backward outward.

The Hole in the Apex of the Pyramid is the Orifice of a Ca-, which may be named the Sinus of this Pyramid.

The OSSICULA AUDITUS.

The *Tympanum* contains ſeveral little Bones, called the es of the Ear. They are generally four in Number, deno-ated from ſomething to which they are thought to bear a emblance, as the *Incus*, *Malleus*, *Stapes*, and *Os Orbicu-*, or *Lenticulare*.

INCUS.

The *Incus* or *Anvil* reſembles in ſome meaſure one of the an-r Grinding Teeth, with its Roots, at a great Diſtance each other; at leaſt it comes nearer to this than to the e of an Anvil. It may be divided into Body and Branches. Body is a large Subſtance; the Branches or Legs are two, long and one ſhort. The Body is turned forward, the Leg backward, and the long Leg downward.

The Body of the Incus is broader than it is thick. It has Eminences, and two Cavities between them, much in the manner as we ſee in the Crown of the firſt Grinders.

The ſhort Leg is thick at its Origin, and from thence de-ing gradually, it ends in a Point. It is ſituated horizontally, its Point being turned backward, and joined to the Edge of the Maſtoide Opening of the Tympanum.

The long Leg, view'd through the external auditory Paſſage, appears to be ſituated vertically; but if we look upon it either on the fore or back Side, we ſee it is inclined, the Extremity of it being turned much more inward than the Root or Origin. The Point of the Extremity is a little flatted, and bent inward like a Hook, and ſometimes a little hollowed like a kind of Ear-picker. By this we may diſtinguiſh the Incus of one Ear from that of the other, when out of their Places; for, turning the ſhort Leg backward, and the long Leg downward, if the Curvature of this long Leg be toward the Left Hand, the Bone belongs to the Right Ear; if towards the Right, it belongs to the Left Ear.

MALLEUS.

The *Malleus* or *Hammer* is a long Bone, with a large Head, a ſmall Neck, and two Apophyſes, one in the Neck, the other in the Handle.

The Top of the Head is conſiderably rounded, and from thence it contracts all the Way to the Neck. Both Head and Neck are in an inclined Situation; and the Eminences and Cavities in it anſwer to thoſe in the Body of the *Incus*.

The Handle is look'd upon as one of the Apophyſes of the *Malleus*; and, in that Caſe, it is the greateſt of the three. It forms an Angle with the Neck and Head, near which it is ſomething broad and flat, and decreaſes gradually toward its Extremity.

The Apophyſis of the Handle, termed by others the ſmall or ſhort Apophyſis of the Malleus, terminates the Angle already mentioned, being extended towards the Neck, and lying in a ſtrait Line with that Side or Border of the Handle which is next it.

The Apophyſis of the Neck, called alſo Apophyſis Gracilis, is in a natural State very long, but ſo ſlender withal, that it is very eaſily broken, eſpecially when dry, which is the Reaſon why the true Length of it was for a long time unknown. It ariſes from the Neck, and ſometimes appears much longer than it really is, by the Addition of a ſmall dry'd Tendon ſticking to it.

When the Malleus is in its true Situation, the Head and Neck are turned upwards and inwards; the Handle downwards, parallel to the long Leg of the *Incus*, but more forward; the Apophyſis of the Handle upwards and outward, near the ſuperior Portion of the Edge of the *Tympanum*, near the Centre of which is the Extremity of the Handle; and the Apophyſis Gracilis forward, reaching all the Way to the articular Fiſſure in the Os Temporis. It is eaſy, after what has been ſaid, to diſtinguiſh the Malleus of the Right Side from that of the Left.

STAPES.

The *Stapes* is a ſmall Bone, very well denominated from the Reſemblance it bears to a Stirrup. It is divided into the Head, Legs, and Baſis.

The Head is placed upon a ſhort flatted Neck, the Top of it being ſometimes flat, ſometimes a little hollow.

The two Legs, taken together, form an Arch like that of a Stirrup, in the concave Side of which is a Groove, which runs through their whole Length. One Leg is longer, more bent, and a little broader, than the other.

The Baſis reſembles that of a Stirrup, both in its oval Shape, and Union with the Legs, except that it is not perforated as the Stirrups now are, but ſolid, like thoſe of the Antients. Round its Circumference, next the Legs, is a little Border which makes that Side of the Baſis appear a little hollow. The other Side is pretty ſmooth; and one half of the Circumference is ſomething more curve than the other.

The Subject being in an exact Poſture, the *Stapes* is to be conſidered as lying on its Side, with the Head turned outward, near the Extremity of the Leg of the *Incus*; the Baſis, inward, being fixed in the *Feneſtra Ovalis*; the longeſt Leg, backward; the ſhorteſt, forward; and both in the ſame Plane. By this Situation it is eaſy to know the Stapes belonging to each Ear.

OS ORBICULARE.

The orbicular or lenticular Bone is the ſmalleſt Bone in the Body. It lies between the Head of the Stapes and Extremity of the long Leg of the *Incus*, being articulated with each of theſe. In dry Bones it is found very cloſely connected, ſometimes to the *Stapes*, ſometimes to the *Incus*; and might in that State be eaſily miſtaken for an Epiphyſis of either of theſe Bones.

LABYRINTH.

The *Labyrinth* is divided into three Parts, the anterior, middle, and poſterior. The middle Portion is termed *Veſtibulum*, the anterior *Cochlea*, and the poſterior the *Labyrinth*, in particular, which comprehend the three ſemicircular Canals.

In the true Situation and Direction of the *Apophyſis Petroſa*, the *Cochlea* lies forward and inward, towards the Extremity of the Apophyſis; the ſemicircular Canal backward and outward, toward the Baſis of the Apophyſis, and the Veſtibulum between the other two.

VESTIBULUM.

The *Veſtibulum* is an irregularly round Cavity, leſs than the *Tympanum*, and ſituated more inward, and a little more forward. Theſe two Cavities are, in a manner, ſet Back to Back, with a common Partition-wall between them, perforated near the Middle by the *Feneſtra Ovalis*, by which the Cavities communicate with one another.

The Cavity of the *Veſtibulum* is likewiſe perforated by ſeveral other Holes; on the Outſide, or towards the *Tympanum*, by the *Feneſtra Rotunda*, but this is commonly ſeen in dry Bones only; on the back Side, by the five Orifices of the ſemicircular Canals; on the lower Part of the fore Side, by two Holes which are the Entry of the *Cochlea*, but one of them is ſhut up in freſh Bones; and on the fore Side, towards the internal *Meatus Auditorius*, oppoſite to the *Feneſtra Ovalis*, by a great many very ſmall Holes for the Paſſage of the Nerves. On the upper Side there are only ſmall Pores.

SEMICIRCULAR CANALS.

The ſemicircular Canals are three in Number, one vertical and ſuperior, one vertical and poſterior, and one horizontal. The ſuperior vertical Canal is ſituated tranſverſly with reſpect to the Apophyſis Petroſa, the convex Side or Curvature of it being turned upward, and the Extremities downward; one inward, the other outward. The poſterior vertical Canal lies parallel to the Length of the Apophyſis, the Curvature being turned backward, and the Extremities forward, one upward, the other downward; and the ſuperior Extremity of this Canal meets and loſes itſelf in the internal Extremity of the former. The Curvature and Extremities of the horizontal Canal are almoſt on a Level, the Curvature lying obliquely backward, and the Extremities forward, ending under thoſe of the ſuperior vertical Canal, but a little nearer each other; and the inner being almoſt in the middle Space, between the Extremities of the poſterior vertical Canal.

The horizontal Canal is generally the leaſt of the three; the poſterior Vertical is often, and the ſuperior Vertical ſometimes, the greateſt; and ſometimes theſe two are equal. All the three Canals are larger than a Semicircle, forming nearly three Quadrants; they are broader at the Orifices, than in the Middle. Theſe Orifices open into the back Side of the *Veſtibulum*, as has been ſaid, being but five in Number, becauſe two of them are loſt in each other. So that in the poſterior Part of the *Veſtibulum*, two appear towards the Inſide, and three towards the Outſide.

In Children the Subſtance of theſe Canals is compact, while that which ſurrounds them is ſpongy, ſo that they may be eaſily ſeparated from the reſt of the Apophyſis Petroſa. In Adults, all the Parts of the Bone are ſo ſolid, that theſe Canals appear only like Paſſages dug in a Piece of Ivory. From this Deſcription it is eaſy to diſtinguiſh the Right *Labyrinth* from the Left.

COCHLEA.

The *Cochlea* is a ſort of ſpiral Shell, with two Ducts, form'd in the anterior Part of the Apophyſis Petroſa, in ſome meaſure reſembling the Shell of a Snail. The Parts to be diſtinguiſhed in it, in its true Situation, are the Baſis, the Apex, the ſpiral Lamina, or Half-ſeptum, by which its Cavity is divided into two Half-canals, the Spindle round which the *Cochlea* turns, and laſtly the Orifices and Union of the two Ducts.

The Baſis is turned directly inward, toward the internal Foramen Auditorium; the Apex, outward; and the Axis of the Spindle is nearly horizontal; but in all of them Allowance muſt be made for the Obliquity of the Os Petroſum, in which they lie.

The Baſis of the *Cochlea* is gently hollow'd; and towards the Middle, perforated by ſeveral ſmall Holes. The Spindle is a kind of ſhort Cone, with a very large Baſis, which is the Middle of the Baſis of the *Cochlea*. Through its whole Length runs a double ſpiral Groove, which, through a Microſcope, ſhews a great Number of Pores.

The *Cochlea* makes about two Turns and an half from the Baſis to the Apex; and the two Ducts, being ſtrictly united together through their whole Courſe, form an entire common Septum, which muſt not be confounded with the Half-ſeptum or ſpiral Lamina, as is often done. The firſt might be termed the common Septum; the other, the particular Septum, or Half-ſeptum.

Both of them are cloſely joined to the Spindle, being thicker there than in any other Place. The common Septum is complete, and ſeparates the Turns entirely from each other; whereas the Half-ſeptum in the Sceleton is only a ſpiral Lamina, the Breadth of which is terminated all round by a very thin Border lying in the middle Cavity of the *Cochlea*. In the natural State there is a membranous Half-ſeptum, which completes the P tition between the two Ducts.

The two Half-canals turn jointly about the Spindle, one b ing ſituated towards the Baſis of the *Cochlea*, the other towa the Apex; for which Reaſon I have always termed one of the internal, the other external, the Diviſion of them into the u per and lower Flight not being agreeable to the natural Sta but liable to convey a very falſe Idea thereof.

The Spiral or Volute of the *Cochlea* begins at the low Part of the *Veſtibulum*, runs from thence forward to the T then backward down to the Bottom, afterwards upward a forward, and ſo on from the Baſis, which is turned inwards, the Apex, which is turned outwards.

From this Deſcription it is eaſy to know to which Ear a *Cochlea* belongs, when we ſee it prepared. It likewiſe teac us, that in the Right *Cochlea* the Direction of the Turning the ſame as in Garden-ſnails, and almoſt all the other comm Shells; but in the Left *Cochlea* the Turnings are in a co trary Direction, as in one Kind of Shell, which is rarely m with.

The two Half-canals communicate fully at the Apex of *Cochlea*. Their ſeparate Openings are towards the Baſis, o of them being immediately into the lower Part of the fore S of the *Veſtibulum*, the other into the *Feneſtra Rotunda*. Th two Openings are ſeparated by a particular Turning, wh ſhall be explained.

FORAMEN AUDITORIUM INTERNUM.

The internal auditory Hole is the Backſide of the Apoph Petroſa, in ſome meaſure behind the *Veſtibulum* and Baſis of *Cochlea*. It is a kind of blind Hole, divided into two Foſſu one large, the other ſmall. The large one lies loweſt, ſerves for the Portio Mollis of the auditory Nerve, or ſeve Pair. The ſmall one is uppermoſt, and is the Opening o ſmall Duct, through which the Portio Dura of the ſame Ne paſſes.

The inferior Foſſula is full of little Holes, which, in the tural State, are filled with nervous Filaments of the Po Mollis, which go to the Spindle, to the ſemicircular Can and to thoſe of the *Cochlea*. It is this Foſſula which forms ſhallow Cavity at the Baſis of the Spindle of the *Cochlea*.

The Paſſage for the Portio Dura of the auditory Nerve behind the *Tympanum*; and its Orifice is the Stylomaſt Hole. *Fallopius* gave to this Duct the Name of *Aqued* from its Reſemblance to ſome Aqueducts in *Italy*. It be by the ſmall Foſſula, and pierces from within, outwards, upper Part of the Apophyſis Petroſa, making there an Angl Curvature. From thence it is inclined backward, behind ſmall Pyramid of the *Tympanum*, and runs down to the St maſtoide Hole, through which it goes out. It communic likewiſe by a ſmall Hole with the Barrel of the Ear.

In ſome Sculls this Aqueduct of *Fallopius* is open on the per Part of the Apophyſis Petroſa, a kind of Break appea in it, formed by a double Hole. It is at this Place th makes the Angle already mentioned. But commonly it is vered with a bony Lamina.

The other Parts of the Ear are principally the Memb Tympani, the Perioſteum of the Barrel, the Memb Maſtoidæa Interna, the Muſcles of the Oſſicula, the which complete the Formation of the Euſtachian Tube, Arteries, Veins, and Nerves. I find myſelf, however, u a Neceſſity of beginning by the Tuba Euſtachiana, for Reaſons: Firſt, becauſe the bony Parts of that Tube are of very ſmall Uſe for the Knowledge of its whole Structure Compoſition. And, ſecondly, becauſe we are obliged to tion it in deſcribing the Muſcles.

The *Euſtachian Tube*, otherwiſe called *Ductus Auris* *tinus*, and in *France* generally the *Aqueduct*: This, how muſt not be confounded with the Aquæductus Fallopii. It Canal or Duct which goes from the *Tympanum* to the poſt Openings of the Nares, or Naſal Foſſæ, and toward the of the Palate; it is dug in the Apophyſis Petroſa, along th rotid Canal; and it is lengthened out by the ſpinal Apophy the Os Sphenoidale.

In its natural State, this Duct reaches from the Cavity o Barrel to the Root or ſuperior Part of the internal Ala o Apophyſis Pterygoides; and through this whole Courſe made up of two Portions, one intirely bony, and the partly bony, partly cartilaginous, and partly membranous.

The bony Portion lies through its whole Length immed above the Fiſſure of the Glenoide, or articular Cavity of th Temporis, and terminates at the Meeting of the ſpinal phyſis of the Os Sphenoidale with the Apophyſis Petroſa o Os Temporis, that is, between that ſpinal Apophyſis a inferior Orifice of the carotid Canal.

The other or mixed Portion reaches in the ſame Dir from this Place to the internal Ala of the Apophyſis Pteryg or to the poſterior and outer Edge of the Nares. But, to more exact Idea of it, it will be proper to conſider it as d into four Parts, two ſuperior, and two inferior.

The two upper Parts or Quarters are bony ; and of theſe innermoſt is formed by the Side of the Apophyſis Petroſa, outermoſt by the Side of the Apophyſis Spinalis of the Os henoides, ſo that the upper Half of this Portion of the Tube bony. Of the two inferior Parts, the internal is cartilagi- us, and the external membranous ; ſo that the lower Half of is Portion of the Tube is partly cartilaginous next the Os henoidale, and partly membranous next the Apophyſis Pe- oſa.

The Euſtachian Tube, thus formed, is very narrow in the ony Part next the *Ear* ; the other Portion grows gradually ider, eſpecially near the poſterior Nares, where the inner car- aginous Side terminates by a prominent Edge, and the outer de joins that of the neighbouring Noſtril. The Cavity of the ube is lined by a Membrane like that of the internal Nares, which it appears to be a Continuation ; and, on the promi- nt Edge, this Membrane is conſiderably increaſed in Thick- ſs, repreſenting a kind of half Pad.

The Situation of the two Tubes is oblique, their poſterior xtremities at the *Ears* being at a greater Diſtance than the terior at the Nares, and the convex Sides of the prominent dges are turned toward each other. The Openings of the ubes are oval at this Place, as is likewiſe their whole Cavity, ecially that of the mixed Portion.

The Euſtachian Tube is furniſhed with three Muſcles, ac- rding to *Valſalva*, who diſcovered, that the *Pterygoſtaphyli-* , and the *Sphenopterygopalatinus*, do not properly belong the Uvula, but to this Tube. To theſe he adds a third, ich is the *Palatoſalpingæus*, ſince called by ſome Authors, *uſculus Tubæ Novus Valſalvæ*. It ariſes broad and tendinous m the Edge of all the lunated Part of the Os Palati, ſeveral its Fibres being ſpread upon the Membrane that covers the ramen Narium ; then growing into a ſmall thin Tendon, it reflected about the Hook-like Proceſs of the inner Ala of the oceſſus Pterygoides ; but ſoon turning into a narrow and thin ſhy Belly, it runs cloſe along the Inſide of the Muſculus Pte- oidæus Internus, and is inſerted carnous into all the mem- nous, fleſhy, and cartilaginous Part of the Tube.

Its Uſe is to dilate and keep open this Chanel, as *Valſalva* has moſt ingeniouſly taken Notice.

The *Membrana Tympani* is a thin tranſparent flattiſh Pellicle, Edge of which is round, and ſtrongly fixed in the orbicular oove, which divides the bony Meatus of the external *Ear* n the *Tympanum*, or Barrel. This Membrane is very much tched, or very tenſe, and yet not perfectly flat ; for, on the next the Meatus Externus, it has a ſmall Hollowneſs ich is pointed in the Middle ; and, on the Side next the *Tym- um*, it is gently convex, and alſo pointed in the Middle.

This Membrane is ſituated obliquely, the upper Part of its cumference being turned outward, and the lower Part in- rd, ſuitable to the Direction of the bony Groove already ntioned. It is made up of ſeveral very fine Laminæ, cloſely ted together. The external Lamina is, in ſome meaſure, a duction of the Skin and Cuticula of the external Meatus ; they may be pulled at the ſame time like the Finger of a ove. The internal Lamina is a Continuation of the Peri- um of the *Tympanum* ; and, when the Membrane has been macerated in Water, each of theſe Laminæ may be ſubdi- d into ſeveral others, which I have ſometimes made to ount in all to ſix. In very young Children, this Membrane overed on the Outſide by a thick mucilaginous Web.

he Depreſſion in the Middle of the *Membrana Tympani* auſed by the Adheſion of the little Bone called *Malleus*, the ndle of which is cloſely joined to the Inſide of the Mem- e, from the upper Part of the Circumference all the Way he Centre, to which the End of the Handle is fixed. This ndle ſeems to lie in a very fine membranous Duplicature, means of which it is tied to the *Membrana Tympani*, and ch ſerves it for a Perioſteum.

he Perioſteum of the *Tympanum*, or Barrel of the *Ear*, luces that of the ſmall Bones, and it may be made viſible means of Anatomical Injections, which diſcover capillary ſels very diſtinctly ramified on the Surface of the *Oſſicula*. likewiſe continued over the two *Feneſtræ*, and enters the *ſtachian Tube*, where it is loſt in the inner Membrane of Duct.

he Cellulæ Maſtoidææ are very irregular Cavities in the Sub- ce of the Maſtoide Apophyſis, which communicate with other, and have a common Opening towards the Inſide, a little above the poſterior Edge of the orbicular Groove. ſe Cells are lined by a fine Membrane, which is partly a tinuation of the Perioſteum of the *Tympanum*, and partly s to be of a glandular Structure, like a kind of Membrana itaria. The Maſtoide Opening is oppoſite to the ſmall ning of the *Euſtachian Tube*, but a little higher.

he Ligaments of the Officula come next in Order ; the is tied by a ſtrong ſhort Ligament fixed in the Point of ſhort Leg to the Edge of the Maſtoide Opening. Be- n the *Incus* and *Malleus* we find a ſmall thin Cartilage. *Malleus* is connected through the whole Length of its Handle, to the Inſide of the *Membrana Tympani*, in the manner already ſaid. I need only add here, that, by Help of a Microſcope, we diſcover round the Point of the Handle, in the Subſtance of the Membrane, a ſmall orbicular Plane, of a whitiſh Colour, a little inclined to red.

The *Malleus* has three Muſcles, one external, one anterior, and one internal ; and the *Stapes* has one Muſcle. The external or ſuperior Muſcle of the *Malleus*, attributed to *Caſſerius*, and mentioned by *Fabricius ab Aquapendente*, is a thin Faſciculus of fleſhy Fibres, lying along the upper Part of the bony *Meatus Auditorius*, between the Perioſteum and the other Integuments. The outer Part of it is pretty broad, and it contracts by Degrees as it advances towards the upper Part or Break of the orbicular Groove of the *Tympanum*, into which it enters by a ſmall Tendon, above the *Membrana Tympani*, and is inſerted in the Neck of the *Malleus*, near the ſmall Eminence, or ſhort Apophyſis, of the Handle. This Muſcle is ſometimes ſo pale as hardly to be diſtinguiſhed.

The anterior Muſcle of the *Malleus*, called by Mr. *Duverney* the *External*, is fleſhy, long, and thin. It runs along the Outſide of the *Euſtachian Tube*, to which it adheres very cloſely through its whole Length. Its anterior Extremity is fixed in that Side of the Tube juſt before the Sphenoidal Spine ; and the poſterior Extremity ends in a long thin Tendon, which runs in the Articular or Glenoide Fiſſure of the Os Temporis, thro' a ſmall oblique Notch, at which Fiſſure it enters the *Tympanum*, and is inſerted in the long thin Apophyſis of the *Malleus*. It is partly accompanied by a Nerve, which forms what is called the *Chorda Tympani*.

The internal Muſcle of the *Malleus* is very fleſhy and diſtinct. It lies along the Inſide of the *Euſtachian Tube*, partly on the cartilaginous, and partly on the bony Portion, being fixed by one Extremity in the Apophyſis Petroſa. Afterwards it runs along the Cavity of the bony Half-canal of the *Tympanum*, within which Cavity it is inveſted by a Portion of a membranous or ligamentary Vagina, which, being fixed to the Edges of the Half-canal, forms an entire Tube therewith ; and this Vagina muſt be cut open before we can ſee the Muſcle.

At the Extremities of this bony Half-canal, where we obſerve the Cavity ſhaped like the Mouth of a Spoon, this Muſcle ends in a Tendon, which is bent round the tranſverſe bony or ligamentary Ridge in the laſt-named Cavity, as over a Pulley, and is inſerted in the Neck of the *Malleus*, above the ſmall Apophyſis, advancing likewiſe as far as the Handle. The Extremities of the anterior and internal Muſcles ſometimes meet, and there they cover the mixed Portion of the *Euſtachian Tube*.

The Muſcle of the *Stapes* is ſhort and thick, and lies concealed within the ſmall bony Pyramid at the Bottom of the *Tympanum*. The Cavity which it fills, touches very nearly the bony Canal of the Portio Dura of the Auditory Nerve ; and it terminates in a ſmall Tendon, which goes out of the Cavity through the ſmall Hole in the Apex of the Pyramid. As it goes through the Hole, it turns forward, and is inſerted in the Neck of the *Stapes*, on the Side of the longeſt and moſt crooked Leg of that Bone.

The three Parts of the *Labyrinth*, that is, the *Veſtibulum*, *ſemicircular Canals*, and *Cochlea*, are lined by a fine Perioſteum, which is continued over all the Sides of their Cavities, and ſhuts the two *Feneſtræ* of the *Tympanum*.

In all the Subjects which I ever examined, I have found the ſemicircular Canals ſimply lined by a Perioſteum adhering to their inner Surfaces, without any particular membranous Bands. The two Half-canals of the *Cochlea* are lined in this manner : The Perioſteum of the two Sides of the bony Spiral Lamina advances beyond the Edge of that Lamina, and forms a membranous Duplicature, which extending to the oppoſite Side, completes the Spiral Septum.

This Septum ſeparates the two Half-canals from the Baſis to the Apex, but there it leaves a ſmall Opening, by which the ſmall Extremities of the Half-canals communicate with each other. The large Extremity of the external Half-canal ends by an oblique Turn, in the *Feneſtra Rotunda*, which is ſhut by a Continuation of the Perioſteum of that Canal. The large Extremity of the other Half-canal opens into the *Veſtibulum* ; and theſe two Extremities are entirely ſeparated by a Continuation of the Perioſteum.

All the Perioſteum of the internal *Ear*, eſpecially that of the *Oſſicula* and *Tympanum*, is in Children no more than a Mucilage ; and in them likewiſe the *Membrana Tympani* is thick, opake, and covered with a whitiſh ſlimy Matter.

Through the whole Extent of the Perioſteum of the *Internal Ear*, eſpecially on that of the *Oſſicula*, ſemicircular Canals, and Half-canals of the *Cochlea*, we diſcover a vaſt Number of Blood-veſſels, not only by Anatomical Injections, but in Inflammations, and even without the Help of a Microſcope ; for I have often ſhewn them to the naked Eye in the ſemicircular Canals, and Half-canals of the *Cochlea*. The Arteries come partly from the Internal Carotid, and partly from the Arteria Baſilaris, which is a Continuation of the Vertebralis, the ſmall capillary Ramifications of which may be obſerved to accompany the Auditory Nerve, through the Internal Foramen Auditorium.

The Portio Mollis of the Auditory Nerve ends by its Trunk at the great Foſſula of the Internal Auditory Hole, from whence the Filaments paſs through ſeveral ſmall Holes in the Baſis of the *Cochlea*, partly to the Perioſteum of the ſemicircular Canals, and partly to the Internal Perioſteum of the Half-canals of the *Cochlea*.

The Portio Dura, which I name *Nervus Sympatheticus Minor*, runs firſt of all into the ſmall Foſſula of the Foramen Auditorium Internum; then paſſes through the whole bony Duct, called *Aquæductus Fallopii*, and comes out again through the Stylomaſtoide Hole of the Os Temporis. In this Courſe it communicates with the Dura Mater on the upper or anterior Side of the Apophyſis Petroſa, at the Place where the bony Duct is interrupted.

Having reached behind the ſmall Pyramid in the Bottom of the *Tympanum*, this Nerve ſends a ſmall Filament to the Muſcle of the *Stapes*; and, a little before it goes out by the Stylomaſtoide Hole, it gives off another more conſiderable Filament, which enters the *Tympanum* from behind forward, paſſes between the long Leg of the *Incus*, and Handle of the *Malleus*, and afterwards runs croſs the whole Breadth of the *Tympanum* a little obliquely, and goes out at the ſame Place at which the Tendon of the anterior Muſcle of the *Malleus* enters.

This ſmall Nerve is generally called *Chorda Tympani*, becauſe, in its Paſſage through the *Tympanum*, it has been compared to the Cord of a Drum. Having left the Cavity of the *Internal Ear*, it advances toward one Side of the Baſis of the Tongue, where having joined the ſmall Nervus Lingualis, it is conſidered as a kind of Recurrent.

The *Portio Dura* paſſes through the ſmall Foſſula in the internal Auditory Hole into the winding Duct of the Apophyſis Petroſa, and goes out by the Foramen Stylomaſtoidæum, to the Face and other neighbouring Parts. As it paſſes through the winding Duct, or Aqueduct of *Fallopius*, it touches the Dura Mater at the ſmall Opening on the upper Side of the Apophyſis Petroſa, where it joins ſome Filaments from the fifth Pair.

It likewiſe gives off a Filament to the Muſcle of the *Stapes*, and, as it goes out, it gives or receives another Filament, which paſſes by the *Tympanum*, and joins the Lingual Branch of the inferior Maxillary Nerve.

I chuſe to call this Portion of the Auditory Nerve, *Nervus Sympatheticus Minor*; to the Deſcription of which I now proceed.

The Trunk of each Nerve of the *Portio Dura*, or of the *Sympathetici Minores*, having paſſed through the Ductus Petroſus Fallopii, and having communicated with the Dura Mater, as has been already ſaid, ſends off, at about the Sixth-part of an Inch from where it goes out at the Stylomaſtoide Hole, two Branches, one upward, the other downward.

The ſuperior Branch runs up chiefly to the poſterior Parts of the *External Ear*, to which it is diſtributed, commnicating as it paſſes behind the *Ear*, with a Branch of the Second Pair of the Cervical Nerves; and forward with a Branch of the Maxillaris Inferior.

The inferior Branch is ſpent on the three Muſculi Styloidæi, Digaſtricus, and on the ſuperior Extremity of the Sternomaſtoidæus, reaching in ſome Subjects as far as the Middle of that Muſcle. Inſtead of theſe two ſingle Branches, ſmall Ramifications go out ſometimes from the Trunk.

Afterwards the Trunk of the *Portio Dura* advancing forward, through the Parotid Gland, to which it gives ſeveral Filaments; ſome of theſe Filaments running from without inwards, and ſurrounding that Branch of the external Carotid Artery, which runs behind the *Ear*; ſometimes, though very ſeldom, the Trunk itſelf is ſplit to give Paſſage to the Artery.

This Trunk, having paſſed through the Parotid Gland, behind the Angle of the lower Jaw, is divided into two large Branches, one ſuperior, the other inferior.

The ſuperior Branch of the Portio Dura is the moſt conſiderable of the two; and, having run upwards for about the Third-part of an Inch, it divides into ſeven or eight Branches.

Theſe Branches are ſpread ſuperficially, and in an irregular radiated manner, on all the lateral Parts of the Face, from the Hair as low as the under Lip, between the Ear and Noſe, diſtributing a prodigious Number of cutaneous Nerves.

In ſome Subjects theſe Branches, at their firſt Separation, form a kind of *Plexus*, which reſembles a Gooſe's Foot.

The firſt, ſecond, and third Branches, are diſtributed to the anterior Parts of the *Ear*, on the lateral Parts of the Head, the Temporal and Frontal Muſcles, and the neighbouring Parts.

One of theſe Branches, and ſometimes the large ſuperior Branch, detaches inward behind the Condyle of the lower Jaw, and before the Temporal Vein, two or three Filaments, which communicate with the inferior Maxillary Nerve.

The fourth Branch goes to the Foramen Superciliare, or Supra-orbitarium, giving in its Paſſage ſeveral Filaments to th external lateral and ſuperior Parts of the Muſculus Orbicular Palpebrarum, and afterwards communicating with the Orbi tary Nerve, which goes out by the ſame Foramen.

The fifth Branch is diſtributed by ſmall Filaments on the l teral Part of the Cheek, and is partly loſt in ſome ſmall Hol at the Baſis or Root of the *Zygoma*, giving likewiſe ſome Fil ments to the external lower Part of the *Muſculus Orbicular* *Palpebrarum*.

The ſixth and ſeventh Branches, and likewiſe the eight when it is found, are ſpread on the whole Cheek as far as t Noſe.

One of theſe latter Branches paſſes under or behind the *M* *ſculus Zygomaticus*, to which it gives Filaments; and then p forating and giving Filaments to the middle lower Part of t Muſculus Orbicularis Palpebrarum, it goes to the inferior O bitary Hole in the Os Maxillare, and communicates with t *Nervus Maxillaris Superior*.

The laſt Branch communicates by ſome Filaments, with neighbouring Branch of the large inferior Ramification of Portio Dura.

This large inferior Branch, which is ſomething leſs than ſuperior, runs under the Angle of the lower Jaw, and is diſt buted by ſeveral Branches to all the inferior lateral Parts of Face, and to the neighbouring Parts of the Throat, where chiefly terminates by a vaſt Number of cutaneous Filaments.

The upper Branches of the large inferior Branch run up the *Muſculus Maſſeter* to the lower Part of the *Zygomatic* *Buccinator*, and other Muſcles of the Lips.

One of theſe ſuperior Branches communicates with one the inferior Ramifications of the upper Branch, and by the tervention thereof it communicates likewiſe, in ſome meaſu with the Suborbitary Branch of the Nervus Maxillaris Su rior, or that which goes out by the Foramen Suborbitarium.

The moſt conſiderable of all theſe Branches runs forw along the Baſis of the lower Jaw, ſending Filaments to Muſculus Cutaneus, and to the Muſcles of the under L which it perforates near the Skin, and there communicates w the *Nervus Maxillaris Inferior*.

The inferior Branches run under the lower Jaw, giving laments to the *Glandula Submaxillaris*, and are diſtributed the Throat on the *Muſculus Cutaneus*, interſecting the exte Jugular Vein. One or more of theſe Branches are obſe to run down to the Middle of the *Muſculus Sternomaſtoid* where it communicates with a Branch of the ſecond Verte Pair.

As *Winſlow* has not given the Uſes of the different Par the *Ear* already deſcribed, I ſhall ſupply this Defect from *Verney*.

We may juſtly conſider the external *Ear* as a kind of n ral Horn, the clean and ſmooth Cavity of which ſerves to lect Sounds, and conſequently render their Impreſſions on other Organs of Hearing ſtronger. This Opinion is confi by Experience; for thoſe who have the Misfortune to have *Ears* cut off, labour under ſo great a Difficulty of Hea that they are obliged to uſe Horns, or their Hands formed i kind of Tube, in order to ſupply this Defect. For the Reaſon alſo, ſome Animals, ſuch as Deer and Hares, fo ſake of hearing more diſtinctly, direct their *Ears* to that C ter, from which any Noiſe they hear, comes.

Some are of Opinion, that the direct Lines of *Sound*, inſinuating themſelves into the Sinuſes of the *Ear*, are ſeveral times reflected before they reach the *Concha*; and theſe Sinuſes, and repeated Reflexions, ſerve to augmen Impreſſion made upon the other Organs of Hearing, juſt a ſemicircular Vault, the Phonic Rays, reflected at equal A according to the Circumference of the Angle of the Vau laſt paſs from one Extremity to the other, by a great N both of ſtrong and faint Reflexions.

The Motion of the Muſcles of the external *Ear*, is a ter attended with a good deal of Obſcurity; but yet it probable, that the *Concha*, muſt, by their Action, be contracted or dilated, according to the Impetus or Fai of the tremulous Motions of the Air.

The Meatus of the *Ear*, by redoubling the Refle renders the Vibrations more briſk and lively; and the Ob of its Structure not only guards the *Membrana Tympani* the Injuries of the Air, but is alſo the Reaſon why the S of the *Meatus* itſelf is larger than it would otherwiſe b which means a greater Number of Reflexions are made a Circumſtance which evidently tends to render the ſubſ Impreſſion proportionably ſtronger.

That Species of Wax, or viſcid Subſtance, lodged in t terior and cartilaginous Part of the *Meatus*, by the called ῥύποι ἐν τοῖς ὠσὶ, by the antient *Latin* Phyſicians, *um Sordes*, and now commonly *Cerumen*, retains, and were, inviſcates, any extraneous Subſtances or Inſects, might poſſibly convey themſelves into the *Ear*, and i injure the *Membrana Tympani*. But though this Wax very noble and excellent Purpoſes, 'tis nevertheleſs,

Oc

Occaſions, productive of very conſiderable Inconveniences; for, unleſs the Ear was frequently cleanſed, this viſcid Sub- ance would be accumulated in too large a Quantity, become ſpiſſated by its long Continuance in the Ear, and at laſt hin- er the tremulous Motions of the Air from reaching the *Mem- rana Tympani.* Some time ago, when I made an Attempt to iſcover the Cauſe of a Deafneſs, under which a certain Man ad laboured for ſome Years before his Death, much about wo Lines from the *Membrana Tympani*, I found a ſoft thick ellicule, to the exterior Side of which a large Quantity of durated Sordes adhered; and I don't, in the leaſt, doubt, but is Species of Deafneſs occurs very often.

The cartilaginous Meatus, which is winding and variouſly terrupted in ſeveral Places, forms a certain Ridge, reſem- ing a ſmall Tongue, before the *Concha*, juſt at the Extremity the Cheek, and at the very Entrance of the Meatus. This idge hinders the Reflexions, made within the *Concha*, from ping out of its Cavity, and propels them more directly to more remote and internal Parts of the *Meatus*. 'Tis alſo bable, that this Ridge ſerves to cloſe up and ſtop the Ear on ich we lie, and conſequently hinder the Impreſſion of the r on its Parts; ſo that it may be ſaid to perform the ſame ice to the Ear, which the Eyelids, when ſhut, do to the es.

There are three nervous Branches ariſing from three different s of Nerves, diſtributed upon the cartilaginous *Meatus*; theſe Branches render that Part of ſo fine and exquiſite a ſation, that we inſtantly become ſenſible of the ſmall and t minute extraneous Body, inſinuating itſelf into the Cavity he Ear.

now come to conſider the *internal Ear*, the firſt Part of ch, that occurs, is the *Membrana Tympani*; and tho' we can- affirm, that this Membrane is abſolutely and indiſpenſably ſſary to Hearing, ſince deaf Perſons, upon taking the Handle ny muſical Inſtrument into their Mouths, are by that s, without the Aſſiſtance of this Membrane, enabled to the muſical Sounds; yet 'tis nevertheleſs certain, that the *brana Tympani* is of ſuch Importance to Hearing, that, if Animal has the Misfortune to have it perforated or torn, Hearing of that Animal cannot be long preſerv'd, but es gradually weaker and weaker, till 'tis at laſt quite loſt eſtroy'd.

is Membrane is both render'd tenſe and relax'd, by means ſe ſmall and minute Muſcles affix'd to the *Malleus*, which ated immediately behind this Membrane. The external le, by reſtoring it to the State and Condition of a *perfect* , relaxes it; but the internal Muſcle, ſituated on the e of the *Os Petroſum*, draws it inwards, and by that renders it more tenſe than it was in its natural State. is is perform'd in ſuch a manner, that in the Tenſion of *embrana Tympani* both Muſcles act at one and the ſame whereas its Relaxation is produced by the Action of the l Muſcle alone. The Reaſon of this Phænomenon is this: As the Inſertion of the external Muſcle is near ad of the *Malleus*, and the Inſertion of the other ſome- arther off, towards the Extremity of the *Manubrium*, the produced by the Action of the internal Muſcle is aug- by the Action of the external; for, by this means, theſe tions puſh inwards the Extremity of the *Manubrium* of *lleus*, to which the Tenſion of the *Membrana Tympani* rincipally to be aſcribed.

therefore certain, that theſe ſmall Muſcles act; nor is vident, that the *Membrana Tympani* is render'd tenſe by , and relax'd by the other, in the manner already men- But 'tis no eaſy Taſk to know, on what particular Oc- they act, or what determines them to put that Mem- into the various States and Conditions neceſſary for g the vaſt Variety of Impreſſions made by different nd Sounds.

affirm, that the *Will* determines and influences them n, this is not at all probable, ſince Noiſes, for the t, ſtrike our Ears before we are aware. I ſhould e be inclined to think, that the Objects themſelves, g to their reſpective Natures, determine theſe Muſcles r this Membrane tenſe, or relax it, as Exigencies re-

bſolutely neceſſary, that the *Membrana Tympani* ſhould, ent Occaſions, be differently diſpoſed, that thus it may ed for receiving the different tremulous Motions of the d, indeed, 'tis impoſſible it ſhould tranſmit theſe, ſuch ally are in themſelves, unleſs it was in ſome meaſure o their Natures, and accommodated itſelf, if I may to the Impreſſions made on different Occaſions, by Degrees of Tenſion, fit for repreſenting the various ſonorous Bodies. If, when two Lutes are laid upon you ſtrike a String in one with your Fingers, in order he correſponding String in the other, every one knows, re you can produce this Effect, the correſponding ſt be tuned to the ſame Key; or, as Muſicians expreſs e in Uniſon with the String firſt ſtruck, whether its Note be an Octave, a double Octave, a fifth, a fourth, or any other Note whatever; otherwiſe the Vibrations of the String which is ſtruck, will produce but ſlight, and ſcarce perceptible, tremulous Motions in the correſponding String of the other Lute.

Since, then, the Diverſity of Noiſes and Sounds depends upon the different Natures and Colliſions of ſonorous Bodies; ſince, for Inſtance, an acute Tone proceeds from a Body, whoſe Parts are ſo diſpoſed as to render them fit for producing only the moſt inſtantaneous Vibrations, which they forthwith convey to the ambient Air; ſince, on the contrary, a grave Tone is excited by the Colliſion of a Body which is only capable of ſlow and protracted Vibrations, it muſt of courſe follow, that the *Membrana Tympani* does, in its various Degrees of Tenſion and Relaxation, adapt itſelf to the ſeveral Natures and States of ſonorous Bodies, and aſſume, if I may ſo ſpeak, their reſpective Characters. For Inſtance, it is render'd tenſe for the Reception of acute Sounds, becauſe, in ſuch a State of Tenſion, it is ſuſceptible of quick and inſtantaneous tremulous Motions. 'Tis, on the contrary, relax'd for the Admiſſion and Conveyance of grave Sounds, becauſe, during ſuch a Relaxation, 'tis qualified and diſpoſed for the Reception of the more ſlow and languid Undulations of the Air. In ſhort, it is rendered tenſe and relax'd in a thouſand different Degrees, according to the various Natures of different Noiſes and Sounds: But I muſt confeſs, 'tis no eaſy Matter to comprehend the Manner in which all this is brought about; for theſe mechanical Motions are not ſubjected to our Senſes, and conſequently it muſt be very difficult, if not impoſſible, to explain their Natures, and the ſeveral Laws to which they are ſubjected.

The *Membrana Tympani*, then, receives the various tremulous Motions of the Air, and, when not diſorder'd, faithfully conveys them to the other Parts of the internal Ear. But it performs theſe Functions in conſequence of its being dry, thin, and diaphanous; and if its State is changed, with regard to any of theſe three Qualities, 'tis no Wonder, if the Hearing becomes of courſe proportionably duller.

'Tis pretty probable, that the Air lodged in the internal Ear, being put into a Commotion by the tremulous Motions of the *Membrana Tympani*, ſerves at leaſt in ſome meaſure to convey theſe Motions to the immediate Organ of Hearing: But 'tis by no means probable, that ſo ſmall a Quantity of agitated Air is able to put the *Os Petroſum*, or rather the Labyrinth contained in it, into a Commotion ſufficiently ſtrong for the Purpoſes of Hearing; ſo that we may, with greater Appearance of Truth, affirm, that the Agitations of the *Membrana Tympani* are communicated to the *Malleus*; that the *Malleus* conveys them to the *Incus*; and the *Incus* to the *Stapes*, whoſe Agitation at laſt puts the *Os Petroſum* and Labyrinth into a Commotion; juſt in the ſame manner as the intermediate Air between two Lutes, placed on the ſame Table, is not able ſufficiently to convey the tremulous Motion of the String of one of the Lutes to the correſponding String of the other; unleſs the String, which is ſtruck firſt, agitates the wooden Plates to which it is affix'd, theſe Plates the Table, the Table the Plates of the other Lute, and theſe Plates at laſt that particular String affix'd to them, which is in Uniſon with the String which was firſt ſtruck. Now, that this Effect is produced preciſely in the manner now ſpecified, is plain from this Circumſtance, that if either of the Lutes is held at never ſo little a Diſtance from the Table, the Experiment does not ſucceed.

The Nature, Mechanical Structure, and Articulation of theſe three ſmall Bones, ſeem very much to favour this Conjecture; for, in conſequence of their Hardneſs, Drineſs, and Smallneſs, they muſt be very eaſily put into a Commotion. The *Manubrium* of the *Malleus* is uninterruptedly affix'd to the *Membrana Tympani*, in its whole Length: Hence 'tis obvious, that this Membrane cannot be put into Commotions, without communicating its tremulous Motions to the *Manubrium*, and ſo on ſucceſſively to the other Bones, which are join'd by a mutual Articulation; and, as this Articulation is without the Intervention of Cartilages, it muſt of courſe facilitate the Communication of Motions from one to another.

'Tis no eaſy Matter to determine the preciſe Uſe of the *Muſculus Stapedis*. However, we may reaſonably conjecture, that by drawing the Baſis of the *Stapes*, which is placed immediately above the *Feneſtra Ovalis*, a little outwards, it renders the Pellicule, with which the ſuperior Part of this Baſis is cover'd, tenſe; and that, according as it renders it more or leſs tenſe, it gives it a proportionably greater or leſs Diſpoſition for receiving the tremulous Motions of the *Membrana Tympani*, in order to be convey'd to the *Veſtibulum* and *Labyrinth*.

We may farther add, that this Muſcle, by drawing the *Stapes*, which is otherwiſe pretty flexible, renders it in ſome meaſure tenſe, and keeps it in a firmer State, and conſequently diſpoſes it for the better Reception of the tremulous Motions of the *Malleus* and *Incus*.

On the Sides of the *Tympanum* are two *Meatuſes*, or Conveyances, one of which terminates in the Palate, but the other is continued to the Sinuſes of the *Apophyſis Maſtoides*. 'Tis not improbable, that the Air contained in the *Tympanum* retires into theſe two *Meatuſes*, when the *Membrana Tympani* is drawn inwards, and that it again returns into the *Tympanum*, when this Membrane is relax'd; otherwiſe the Motion of the *Membrana Tympani* might be obſtructed by the Reſiſtance and Elaſticity of the Air; and, indeed, one may reaſonably believe, that the Return of this Air into the *Tympanum* favours and aſſiſts the Reduction of that Membrane to its natural Situation.

The Conveyance from the Palate to the Ear ſupplies a Fund of Air neceſſary for renewing, at Intervals, that which is lodg'd in the *Tympanum*: But, that the Coldneſs of the external Air may not prove injurious to the Parts of the internal Ear, it undergoes all thoſe Modifications, which are neceſſary to render it ſuitable to the Parts to which it is to be convey'd, whilſt it aſcends thro' the Noſtrils, and during the Whole of its Paſſage to the *Tympanum*. Neither by this means does it loſe that Degree of Elaſticity, which renders it fit for the Purpoſes to which it was deſtin'd. For this Reaſon the Air which returns from the Lungs, and which is tainted with impure Vapours, cannot eaſily enter this *Meatus* or Conveyance, ſince its Orifice is ſo ſituated and diſpoſed in the Mouth, as rather to admit the Air drawn in by the Noſtrils, than that which returns from the Lungs. Almoſt every one believes, that ſome deaf People are, by means of this Conveyance, enabled to hear the Sounds produced by ſuch muſical Inſtruments as have Strings; and ſince their Deafneſs is owing to a Defect of the *Membrana Tympani*, as to the Performance of its Office, it is not to be wondered at, if the tremulous Motions of the external Air being communicated to the Tympanum by means of this Conveyance, theſe Perſons ſhould hear the Sounds of muſical Inſtruments: But in order to ſhew, that thoſe Commotions of the Air, contained in the Tympanum, which are produced by the Impulſe of the Air carried through the *Meatus* or Conveyance, are not ſufficient to enable deaf Perſons to hear the Sounds of any muſical Inſtruments, let it be obſerved, that theſe Perſons muſt lay hold of the Handle of the Inſtrument with their Teeth, otherwiſe they will not hear the Sound at all, or at leaſt not ſo diſtinctly. Hence we may infer, that the Teeth, being by this means put into a Commotion, communicate a tremulous Motion to the Jaw-bone, the Temporal Bones, and the ſmall Bones more immediately employ'd in the Offices of Hearing. and this ſeems to favour my Conjecture relating to the Uſe of theſe ſmall Bones; for People, who are by no means deaf, hear the Sounds of muſical Inſtruments in a ſtronger and more forcible manner, if, after having ſhut up their Ears, they lay hold of the Handle of the Inſtrument with their Teeth. There are alſo ſome deaf Perſons, who hear far better when the Voice is utter'd above the Crowns of their Heads: In theſe Perſons the whole Cranium is, by this means, put into a Commotion, which is ſucceſſively convey'd to the *Oſſa Petroſa*, and all the other Parts employ'd in Hearing.

The *Feneſtra Ovalis* is entirely block'd up by the Baſis of the *Stapes*. After this dry and ſmall Bone, one of whoſe Sides is covered with a Membrane, and whoſe Baſis is very ſlender, has received the tremulous Motions of the other two Bones, and of the Air contained in the *Tympanum*, it can eaſily communicate them to the *Veſtibulum*, and to the Air contain'd in it, and thence to the *Cochlea*, and the three ſemicircular Ducts.

Beſides the *Feneſtra Ovalis*, there is another called the *Feneſtra Rotunda*, which is ſhut up by a Membrane not unlike the *Membrana Tympani*. We may conjecture, that this *Feneſtra Rotunda* receives the tremulous Motions of the Air contained in the *Tympanum*, and conveys them to that included in the inferior Part of the *Cochlea*, in which the Air being ſtrongly compreſs'd, for want of an Exit, is excellently calculated for putting the *Lamina Spiralis* into Commotions; and thus the tremulous Motions of the Air are convey'd to the immediate Organ of Hearing itſelf, of which we come now to ſpeak.

This Organ, then, is comprehended under the general Name of *Labyrinth*, which, being included in the *Os Petroſum*, conſiſts of two principal Parts, the *Cochlea*, and the *Veſtibulum*, together with their three ſemicircular Ducts.

As for the *Cochlea*, no one can doubt of its being a conſtituent Part of the immediate Organ of Hearing, ſince this is ſufficiently proved by its Make and Structure; for, firſt, the *Spiral Lamina*, which is a principal Part of it, is hard, dry, ſlender, and eaſily broken, all which Conditions are abſolutely requiſite in Bodies ſuſceptible of tremulous Motions. Secondly, this *Lamina* does not lie within the ſemioval Spiral Canal; but is ſtretch'd out betwixt the *Spindle* to which it adheres, on one Side, and the ſlender Membrane which is join'd to the Surface of this Canal, to which it adheres, on the other; ſo that this Situation of the *Spiral Lamina* remarkably favours the Diſpoſition of Tendency it ought to have, to be eaſily and readily put into a Commotion.

Thirdly, the *Spiral Lamina*, by means of this Pellicule, divides the Whole of the Spiral Canal into two Orders, as it were, of Gradations, whoſe Conſtruction reſembles that of a winding Shell, which reſt upon the ſame Spindle, and of which the ſuperior does not at all communicate with the inferior Order. The *Feneſtra Rotunda* opens within the inferior Order, an has no Communication either with the ſuperior Order of Gra dations in this Canal, nor with the *Veſtibulum*: By this means therefore, the Air included in the inferior Order is both agitate by the tremulous Motions of the *Feneſtra Rotunda*, and by th Vibrations of the Air contained in the ſuperior Order of Gra dations of the ſemioval Canal; which is itſelf put into a Com motion, both by the tremulous Motions of the Air containe in the *Veſtibulum*, with which it communicates, and alſo by th vibratory Motions of the Air contain'd in the inferior Order Gradations in this Canal: And thus the undulatory Motio of the *Spiral Lamina* muſt be rendered more briſk and livel ſince it is agitated on both Sides.

Fourthly, the Spiral Figure of this *Lamina* ſeems greatly ſupport the Truth of the above-mentioned Circumſtances; fo whilſt it makes two Circumvolutions and an half round t Spindle, it, in ſeveral Parts, receives the vibratory Motions the Air; and this ſame curious Piece of Mechaniſm is obſerv in the Structure of the Tongue and Noſe.

Fifthly, when the large Branch of the ſoft Portion of Auditory Nerve arrives at the Baſis of the *Cochlea*, it is divid into a great Number of ſmaller Branches, which, paſſing th all the ſmall Meatuſes, with which the *Spindle* is perforated, diſtributed to the various Windings and Meanders of this *Spi* *Lamina*, where they loſe themſelves. In a Word, this *Lam* is not only calculated for receiving the vibratory Motions the Air, but its Structure alſo ought to be look'd upon a convincing Proof, that it is qualified and diſpoſed for acco modating itſelf to all their different Characters and Degree theſe Motions; for ſince it is broader at the Beginning of firſt Circumvolution, than at the Extremity of its laſt, ſince the Breadth of its other Parts are, in like manner, prop tionably diminiſhed, we may venture to affirm, that its bro Parts are only fit for the Reception of ſlow and languid Vi tions, which are productive of grave Tones, ſince they ma put into a Commotion without its other Parts undergoing Change; and, *vice verſa*, that, when its narrow Parts ſtruck, their Vibrations are briſk and lively, and conſeque produce acute Tones or Sounds; juſt in the ſame manner as broad Parts of a Steel-ſpring excite ſlow and languid Vibrat which are productive of grave Tones; whereas its na Parts excite more frequent and briſk Vibrations, and co quently are productive of acute Tones. In a Word, there according to the various Commotions of the *Spiral La* the Nerves, diſtributed thro' its Subſtance, receive the va Impreſſions of the Air, which exhibit and repreſent va Tones, or Modulations of Sound.

As for the *Veſtibulum*, and the *three ſemicircular Ducts*, ſome imagine, that they only ſerve to heighten and aug the Impreſſion of the tremulous Motion of the Air; and o that their Uſe conſiſts in diminiſhing and leſſening this Im ſion; yet the following Reaſons induce me to think, that are conſtituent Parts of the immediate Organ of Hearing.

Firſt, all Birds have only three Canals or Ducts, bende a ſemicircular Form; and a fourth, which is ſtrait, and one of its Extremities, but which, with the others, open the common Cavity, which ſerves inſtead of a *Veſtibul* them. Theſe three Ducts are alſo found in Fiſh; b *Cochlea* is neither found in Birds, nor in Fiſh, and yet hear. 'Tis therefore obvious, that theſe ſemicircular Cana be the immediate Organ of Hearing, both in the one and other. Why, then, ſhould not they be ſubſervient to th Uſes in Man, ſince, in all theſe three Species of Animals Structure is alike? Hence it follows, that theſe three ſe cular Ducts muſt, at leaſt, be a conſtituent Part of the diate Organ of Hearing; and that thus that Organ mu ſiſt of two eſſential Parts.

Secondly, nobody doubts, but that the ſoft Portion Auditory Nerve conveys the Impreſſions of Sounds to the but two Branches of this ſoft Portion enter the Cavity *Veſtibulum*, and are diffuſed and expanded into the Fi and Membranes, which conſtitute the internal Covering *ſemicircular Canals*: Hence I conclude, that this Part *Labyrinth* alſo conſtitutes a Part of the immediate O Hearing.

Thirdly, ſuch is the Mechaniſm and Structure of th *bulum*, and *ſemicircular Ducts*, that we may, up Grounds, ſuppoſe, that the Impreſſion of Sounds is au and heighten'd in their winding Meanders, and con better qualified for putting the Nerves, diſperſed in theſe into a Commotion.

But what I juſt now aſſerted of the *Spiral Lamin*, that it did not ſimply receive the Vibrations of the that all its Parts were not indiſcriminately adapted and modated to the ſame Tones or Sounds, holds alſo g regard to theſe *ſemicircular Ducts*. Each of theſe D Figure, reſembles two Trumpets, whoſe narrow E are joined together; for both Orifices of theſe Cana Cavity of the *Veſtibulum*, are found to diverge like Extremity of a Trumpet; and their middle Part, whi repreſented by the Place where the two Trumpets are join'd, proportionably narrower. Two of theſe Canals have one mon Opening within the *Veſtibulum*, and at the ſame time and their Extremities very wide, inCompariſon of the others: Experience proves, that the larger Circles, at the broad Ex- nity of a Trumpet, may be put into Commotions, at the e time that the leſſer Circles are ſubjected to no ſenſible ange or Commotions whatſoever; and alſo, that the Vibra- s of the larger Circles are ſlower, and more ſenſible, and t, in this Caſe, the Trumpet produces grave Sounds. On the ntrary, 'tis equally confirm'd by Experience, that when the er Circles of this wide Extremity of the Trumpet are put o Commotions, the larger in the mean time remaining with- t any ſenſible Motion, an acute Sound is produced by the umpet; becauſe the Vibrations of theſe ſmaller Circles are ker, and more frequent, than in the former Caſe. The ſame ds true with regard to the *ſemicircular Canals*; for their der Parts may be put into Commotions, whilſt the others main unmoved; at which time the Vibrations of theſe Parts l be ſlow, a Circumſtance neceſſarily productive of grave nds. On the other hand, when the narrower Parts of theſe nals happen to be put into a Commotion, whilſt the wider l more diverging remain unmoved, an acute Tone will neceſ- ily be form'd; becauſe the Vibrations of theſe narrower ts will be proportionably quicker. From what has been ſaid, may then juſtly conclude, that the *Cochlea*, and *ſemicircu- Ducts*, are common and immediate Organs, which not only eive the vibratory Motions of the Air in general, but alſo genuine Qualities and different Characteriſtics of Sounds, ording to the different Parts of theſe Organs, which happen be put into Commotions.

t may poſſibly be objected, that theſe ſemicircular Canals too ſolid, and adhere too ſtrongly to the reſt of the *Os Pe- ſum*, to be ſo eaſily moved in their various Parts, and in ſo ny different manners: But, beſides that a conſiderable Noiſe ſcarce be excited without the *Os Petroſum* being put into ommotion, when theſe Circles are prepared for the ſake of tomical Demonſtrations, 'tis obvious, that they are only ounded with a kind of ſpongious Subſtance. In the Heads, ed, of old People, the bony *Laminæ*, which cover theſe cles before and behind, are pretty hard; but that Subſtance ch fills up the Space round about theſe Circles, is of a more us Nature; for which Reaſon they are always ſufficiently and diſengaged, and eaſily ſuſceptible of Commotions and rations.

he mutual Sympathy and Connexion between Hearing Speech generally uſes to be accounted for by the Commu- tion of the ſoft Portion of the Auditory Nerve with thoſe nches of the fifth Pair of Nerves, which run off, and are ibuted to the Parts deſtin'd for the Formation and Modu- n of the Voice; for Anatomiſts think, that the Commo- of the Nerves of the Ear is propagated to the Nerves of the Pair; whence the Spirits which flow from the Brain into e Nerves, which are diſtributed to the Parts deſtin'd for the mation of the Voice, diſpoſe their Muſcles in ſuch a pecu- manner, as to form Sounds exactly correſponding and ſimi- to the Impreſſions made on the Brain by the Voice. For Reaſon 'tis ſaid, that Men and Birds can mutually incite other to ſing; and that thoſe who are deaf from their h, muſt of courſe be dumb too.

natomiſts are alſo of Opinion, that the Communication of ſecond Vertebral Pair with the external Ear, is the Reaſon upon hearing the leaſt Noiſe, we turn our Heads to the rter whence it comes; and why the Whole of the Body is ſed to various Motions, according as the Cauſes of the e are imagined to be hurtful or beneficial to itſelf: And theſe Nerves communicate with thoſe of the Lungs and rt, hence it is, that we become ſenſible of proportionable ations in our Pulſe and Reſpiration, according to the Di- y of Noiſes. But all are not agreed with regard to the ts of all theſe Communications.

DISEASES *of the* ORGAN *of* HEARING.

aving thus given an Account of the Structure, and ſeveral of the Organ of Hearing, it now remains, that I conſider everal Diſorders incident to the Ear: And in executing Part of my Deſign, I ſhall have a particular Regard to the ure of this Organ, that it may appear, how indiſpenſably ſary a Knowledge of the Parts is, in order to explain and nt for its Diſeaſes. Neither ſhall I follow the ſeveral Di- s of theſe Diſorders commonly propoſed by different Au- ; but, adhering to the Method I have hitherto obſerved, I firſt examine the Diſorders incident to the external Parts *Ear*; then I ſhall conſider thoſe which attack the *Mem- Tympani*, the *Tympanum*, and *Labyrinth*; after which I take a View of thoſe which affect the Auditory Nerve ; and, in the laſt place, ſhall explain and account for what ll a *Tinnitus Aurium*, ſince it is a common Symptom in all iſorders incident to theſe Parts; and whatever I advance e ſupported by the Authorities of good Writers, and the Diſcoveries which I myſelf have made on the ſeveral Occaſions, when I have had an Opportunity of diſſecting the Ear.

The Symptom which moſt commonly attacks the external Parts of the *Ear*, is a Species of Pain which the *Greeks* called *Otalgia*: This Symptom generally ſeizes the *Concha*, and the Whole of the *Meatus*, as far as the *Membrana Tympani*; and Experience affords us a certain, but melancholy Proof, that it is accompanied with Punction, Eroſion, Tenſion, Pulſation, and a Senſe of Weight.

Though 'tis not neceſſary on this Occaſion to explain the Nature of Pain in general, yet 'tis not amiſs to obſerve, that it ariſes from a Solution of Continuity in thoſe Particles, by whoſe Union animal Bodies are originally formed; for this Solution of Continuity throws the animal Spirits into preternatural and tumultuous Commotions; and in theſe two Circumſtances the very Nature and Eſſence of Pain conſiſt.

Upon this Hypotheſis 'tis obvious to every one, that whatever can occaſion a *Solution of Continuity* in the Particles of that Membrane which covers the *Meatus* of the Ear, and excite this irregular and tumultuous Motion of the animal Spirits, muſt of courſe prove the Cauſe of Pain. Thus Inflammations, extraneous Bodies falling into the *Meatus*, Worms, and, in a Word, whatever excites Pain in other Parts, are likewiſe capable of producing the ſame Effect in the Ear. The Antients, indeed, imagin'd, that Pains of the Ears might be produced without Inflammation, and without the Concurrence of what they called a conjunct Cauſe: Hence they accounted for theſe Pains from abſtract and immaterial Diſtemperatures, which, according to them, proceeded for the moſt part from an Exceſs either of Heat or Cold. But ſince theſe immaterial Diſtemperatures have only an Exiſtence in the Imagination, and not in the Nature of Things; and ſince the Cauſes exciting theſe violent Pains may be found in the Parts themſelves; I ſhall give my Sentiments on this Particular, in as conciſe a manner as I poſſibly can.

I find from Experience then, that the Wax lodged in the Ear is bitter and viſcid, and conſequently impregnated with acrid lixivial Salts, mixed with pinguous and oily Particles. Theſe Principles render its Qualities pretty much the ſame with thoſe aſcribed to the Bile, with which it agrees in many Particulars; ſo that if on any Occaſion theſe ſaline Juices ſhould become active and diſengaged, or, being exalted above their common Pitch, ſhould exerciſe their Spiculæ or Points more briſkly than in a natural State, 'tis evident they muſt create great Pain and Uneaſineſs in the *Meatus* of the Ear, on account of the exquiſite Senſibility of the Part. But this Effect is for the moſt part produced either by Heat or Cold; for Cold, by condenſing this Wax, and rendering it more viſcid, is the Cauſe of its becoming adheſive, and blocking up the excretory Ducts of the Glands, juſt as it happens in other neighbouring glandular Bodies, in which a like Action of the Air produces ſimilar Obſtructions. Hence it follows, that the ſaline Juices, having acquired a Motion, muſt diſtend and tumefy the Glands in which they are lodg'd; and that being rendered more acrid by their long Continuance, they muſt vellicate the tender Extremities of thoſe Nerves diſperſed thro' the Membrane of the *Meatus*: Hence ariſes a terrible Perturbation of the Spirits, and conſequently an acute and racking Pain of the Ear. External Heat, on the other hand, divides and colliquates the ſaline Juices of this Wax, and by ſo doing produces the ſame Effect. The ſame is obſerved in Pains proceeding from the Bile excited by an Exceſs of Heat or Cold in the Parts deſtined for Nutrition.

But this Wax is not the ſole and only Cauſe of theſe violent and racking Pains; for it often happens, that an acrid and ſaline Serum, diſcharged from the Glands of the Ear, excites a Pain in the *Meatus*; and this plainly appears in the Suppurations which happen in that Part; for when the Matter diſcharged is of a ſaline or acid Quality, it vellicates the Membrane of the *Meatus*, and excites that ungrateful and uneaſy Senſation which we call *Pain*.

As for the Difference of Pains in the Ears, I think they may be accounted for in this manner: When the Particles of Wax, or other Humours contained in the Glands, are become ſaline, acute, and rigid, and, by their tumultuous Agitation, put the Filaments of the *Meatus*, which is full of Nerves, into a Commotion, they excite a pricking Pain, which happens in all Inflammations, but more eſpecially in Perſons of dry and bilious Conſtitutions, whoſe Humours abound with acid and ſaline Juices of this Kind; as alſo in People of melancholic Habits, whoſe *Serum* is alſo of an acid and ſaline Nature. When theſe Salts become very acrid and corroſive, they produce, as it were a Senſe of Eroſion or Gnawing, which is principally obſerved in Ulcers of theſe Parts. When the Wax, whilſt as yet contain'd in the Glands, ferments either by itſelf, or in Conjunction with any other Subſtance, the Particles of the Membrane are extended and dilated, and hence ariſes a Senſe of Tenſion. And, laſtly, when the Glands are become turgid by the too great Quantity of their Contents, a Senſe of Weight is the Symptom of which the Patient complains. As for that Species of Pain, which is accompany'd with Pulſation, I am of Opinion, that the Meatus is never attack'd by it, except in Caſes where there is an Inflammation.

The Violence of this Pain has ſomething of a very ſingular and ſurpriſing Nature in it; for it ſcarce ever ſeizes the Patient without bringing along with it an acute Fever, which is attended with an Incapacity of Sleep, Deliriums, Convulſions, and Faintings; which Symptoms very often prove mortal, as appears from the Obſervations of many Authors. But that we may conceive more juſtly the Violence of this Pain, we are to obſerve,

Firſt, that the Membrane, which lines the *Meatus Auditorius*, is very ſlender, full of Nerves, and of the ſame delicate Texture with the nervous Coat of the Stomach and Inteſtines; and that it has not, like them, a villous Cruſt to guard and defend it againſt the Acrimony of the Humours.

Secondly, this Membrane is ſtored with innumerable Nerves, ariſing from the fifth Pair, the hard Portion of the Auditory Nerve, and the ſecond Vertebral Pair; ſo that this Membrane may juſtly be ſaid to contain more Nerves, *cæteris paribus*, than any other in the human Body.

Thirdly, 'tis certain, that thoſe Membranes which adhere to Bones, are poſſeſs'd of a far more exquiſite Power of Senſation than others; which may probably be owing to this, that being firmer, more tenſe, and adhering to the Bones, by means of all the minute Veſſels with which they ſupply them, 'tis impoſſible they ſhould be vellicated, without at the ſame time all their minute Filaments being put into a Commotion. Hence it is, that the *Perioſteum* and *Pericranium* are endow'd with ſo acute and exquiſite a Senſe of Pain; and perhaps, for the ſame Reaſon, violent and racking Head-achs are owing to the Adheſion of the *Dura Mater* to the ſuperior Part of the *Cranium*, as has been obſerved by ſome. This may eaſily be applied to the Membrane of the *Meatus Auditorius*, which is partly bony, and partly cartilaginous; and as that Part of the Membrane which lies upon the Cartilage, is not ſo tenſe as that which lies upon the Bones, hence it happens, that thoſe Pains which are felt in the Bottom of the Ear, and which have their Seat near the bony Part of the *Meatus*, are of all others the moſt ſevere and racking.

Fourthly, the Connexion of this Membrane with the neighbouring Parts, which are endowed with an exquiſite Power of Senſation, may alſo contribute very conſiderably to the Violence of this Pain; for this Membrane is extended as far as the *Membrana Tympani*, which communicates with the Membranes of the *Tympanum* and *Labyrinth*; and, by their means, with the *Dura Mater* itſelf. If we carefully conſider theſe Circumſtances, we have no Reaſon to be ſurpriſed, that the Pains of the *Meatus* ſhould prove ſo ſevere and torturing.

Though moſt of the Symptoms which accompany the Pains of the *Meatus*, may alſo occur in Pains of other Parts; yet as theſe Symptoms are moſt common, and moſt violent in it, I thought it might not be improper to account for them.

When the Pain proceeds from an Inflammation, 'tis no difficult Taſk to account for the Fever, and the Train of other ſubſequent Symptoms; but as I am thoroughly perſuaded, that the Violence of the Pain alone may produce theſe Symptoms, without either Inflammation or Tumor, I ſhall confine myſelf preciſely to this Suppoſition, and conſider the Subject in this Light.

I ſhall begin then with that acute Fever, which almoſt always accompanies a Pain of the Ear; and I believe it may be owing to this, that the Spirits being hurried into preternatural and tumultuous Agitations by the Violence of the Pain, augment the Motion of the Heart and Arteries: And hence proceed ſuch an elevated Pulſe, and an intenſe Heat, as are obſervable when the Mind is under the direct Influence of any lawleſs and exorbitant Paſſion, eſpecially that of Anger. But this accelerated Motion of the Heart and Blood could not produce a Fever, without inducing a Change on the Principles of the Blood itſelf. Now 'tis no great Difficulty to conceive, that when, by theſe ſtrong and vigorous Contractions of the Heart, the Parts of the Blood are more divided and broken, its moſt active Parts ſhould be then exalted, and its oily Part, whoſe accelerated Motion produces the febrile Heat, diſſolved. Beſides, the acrid and corroſive Juices of the Wax, and other Humours accumulated in the Ear, may again be mixed with the Maſs of Blood, and there produce a preternatural Fermentation, in which the very Eſſence of a Fever conſiſts. We ſhall be eaſily able to form a Judgment of the Nature of this Fever, if we conſider, that Fevers, in Catarrhs and Rheums, are no otherwiſe produced, than by the Commixture of the acrid Juices, which, ſeparating from the Maſs which conſtitutes and cheriſhes the Rheums, join themſelves to the Blood.

Though what Du Verney *ſays of the Diſtempers of the Ear merits Attention, I muſt appriſe the Reader, that a great deal of what he ſays with reſpect to Fevers, is not to be depended on, being mere Jargon.*

The Incapacity of Sleep depends upon the preternatural Agitation of the Spirits, which, being irritated by the Violence of the Pain, flow continually into the Parts, and do not perm them to ceaſe from performing their Functions.

The *Delirium* does not differ from the Incapacity of Sleep except that, in the former, the Spirits having acquired an irr gular Motion in the Brain, imprint, as it were, many Trac upon the Memory and Imagination at one and the ſame time Hence ariſes that ſurpriſing Confuſion of Ideas, which theſe Sp rits exhibit to the Mind.

Upon this Hypotheſis the Convulſions are alſo very eaſily ac counted for, and explained; for ſince the involuntary Con traction of the Muſcles depends upon the tumultuous Motions the Spirits, no more is requiſite, than that the ſaline Juices ſhoul ſtimulate the Nerves diſperſed in the Membrane of the *Meatu* in order to tranſmit this Stimulus or Irritation to all the Spirit by the Communication of the Nerves and Membranes; and th Irritation afterwards proves the Cauſe of Convulſions in t Muſcles. Beſides, it may happen, that theſe acrid Juices ſhoul return into the Maſs of Blood; and being carried to the Brai there irritate the Origins of the Nerves.

In order to conceive in what manner the *Lipothymia* Fainting is produced, let us only conſider, that whilſt the Sp rits flow with Rapidity, and in great Abundance, into the mu cular Fibres, which contract and ſhut the Orifices of the Hear they ſtop the Motion of the Blood; and that when this Con traction ceaſes, and the Blood again enters the Ventricles of t Heart, the Pulſe begins again to beat, and Warmth return The Uneaſineſs about the Heart, and the Oppreſſion of t Breaſt, which are felt in this Caſe, ſufficiently prove that t Fainting proceeds from the Cauſe now aſſigned; and inde this Uneaſineſs of the Heart may ſometimes continue ſo lon as to prove the immediate Cauſe of Death.

As an Inſtance of a violent Pain in the Ear accompanied wi the moſt formidable Symptoms, I ſhall only bring the four Obſervation, of the firſt Century, of *Fabricius Hildanus*, cauſe it ſeems to comprehend all the principal Symptoms whi occur in this Diſorder. “ Whilſt,” ſays he, “ a Girl of t
“ Years of Age was taking her Diverſion with her Companio
“ a Glaſs Bead, as large as a Pea, ſlipt into the Cavity of h
“ Left Ear. Her Mother, being appriſed of the Acciden
“ called a Surgeon to extract it; but his Attempts were in va
“ Then a ſecond, a third, and a fourth, were called at diff
“ ent times; but the Patient was ſo far from being relieved
“ any of them, that the Glaſs Globule was lodged ſtill dee
“ and deeper by their Attempts to extract it. Upon this
“ Mother deſpaired of the Poſſibility of diſlodging it; and t
“ ſhe was grieved for the Fate of her Daughter, who was rac
“ with uninterrupted Torments, yet ſhe reſolved to ſubmit
“ the Will of Heaven, and patiently wait for the Reſult
“ Nature's own Operation. Soon after, the Pain of the
“ was indeed allay'd; but all that Part of her Head, as far
“ the Longitudinal Suture, was exceſſively painful, both
“ the Night and Day-time, tho' her Pains were acute, or
“ Reverſe, according to the State and Conſtitution of the
“ Her Torments were moſt ſevere in moiſt and rainy Weath
“ ſuch as what we uſually have in the Winter and Autum
“ Beſides, her Left Arm was ſeized with a kind of Stup
“ which reached as far as her Thumb and fore Finger, and
“ fected her Loins, her Leg, and her Foot; and, in ſho
“ her whole Left Side languiſhed under theſe Stupors.
“ her Torpors afterwards aſſumed another Shape; and in
“ Night-time, and during cold and moiſt Weather, appeared
“ violent Pains of her Shoulder, Arm, and Leg. She was co
“ tinually afflicted with a dry Cough; and her monthly E
“ cuations, being in a great meaſure ſuppreſſed, flowed eit
“ very ſparingly, or only once in the Space of three Mont
“ After ſhe had groaned under this Load of Miſery for four
“ five Years, ſhe at laſt began to be now-and-then ſeized w
“ Epileptic Fits, and the Arm itſelf fell into an Atrophy.
“ Mother, ſtartled at the Appearance of ſuch formidable Sy
“ ptoms, employed ſeveral Phyſicians, Surgeons, and Em
“ rics; and as ſhe had no Pain in her Ear, (for it ſeems
“ Intenſeneſs of her other Pains had in a manner deſtroyed
“ ſhe only complained of the other Symptoms, neglecting
“ overlooking the original Cauſe of the Diſorder. But all t
“ Efforts for her were vain and fruitleſs; and the Sympto
“ were ſo far from being abated, that they were rather
“ mented. At laſt, in the Month of *November* 1595. ſhe
“ ply'd to me (*Hildanus*). I purged her ſeveral ti
“ anointed her Shoulder, her Arm, and the reſt of the P
“ affected, with hot and anodyne Oils; and, in ſhort,
“ ply'd every thing which to me ſeemed calculated for rem
“ ing her Diſorder; but, notwithſtanding all my Attemp
“ had as little Succeſs as thoſe who had gone before
“ When I ſaw, that her Diſorder would yield to no Medic
“ however proper, I began to deſpair of her Recovery;
“ was entirely ignorant of the Cauſe of her Diſorder, unle
“ might have poſſibly proceeded from a Catarrh. In the m
“ time, whilſt I was conſidering with myſelf what more
“ cacious Meaſures I ſhould take for her Relief, ſhe he
“ began to give me an Account of the Cauſe of her Diſor

“ tho

though ſhe was not ſenſible of its being ſo; for ſhe told me, that, about eight Years ago, a ſmall Glaſs Bead had ſlipt into her Ear, which could not afterwards be diſlodged. Upon hearing this Circumſtance, I began to ſuſpect, that it might poſſibly be the Cauſe of her ſubſequent Torments: And though ſhe was very averſe to an Operation, on account of the fruitleſs Attempts of the other Surgeons, when her Diſeaſe was recent, yet at laſt ſhe ſubmitted to undergo it; upon which I happily, and without any Violence, extracted the Bead, though it was lodged very deep, near the *Tympanum*, and ſtuck very firmly in the Sordes of her Ear. The Pains of her Head, and of the other Parts of her Body, ſoon after diſappeared, and next Night ſhe was a little better: Thus, by gently anointing the Parts with Oil of Worms, ſhe gradually recovered. Her Pains, her Stupors, her Epileptic Fits, and all her other Symptoms, diſappeared; her Arm alſo was reſtored to its natural State; and, by the peculiar Bleſſing of Heaven, ſhe has continued in perfect Health ever ſince."

Many things relating to this Obſervation of *Hildanus* might, this Occaſion, come under our Conſideration; but as I have ady explained the principal Symptoms with which the Pati- was afflicted, I ſhall only inſiſt on ſome of the moſt peculiar cumſtances of her Caſe. Pains then, and Convulſions, ed the Whole of her Left Side, and reached as far as her t. *Hildanus* accounted for this Symptom by ſaying, that hard Portion of the auditory Nerve was diſtributed through the Arm and Thigh; but ſince this Diſtribution is purely merical and imaginary, I ſhall endeavour to account for Symptom in a manner more conſonant and agreeable to the Structure and Conformation of theſe Parts. I ſay then, the Irritations and tumultuous Motions of the Spirits were, the Communication of the ſecond vertebral Pair, tranſmit- and conveyed to all the Nerves proceeding from the ſpinal rrow on that Side; which would not have happened, if the tation had been communicated to the Brain; for in this Caſe probable, that the Patient would have been afflicted with s and Convulſions in all the Parts of her Body. But on the poſition, that the ſpinal Marrow on her Left Side was af- d, we may eaſily conceive in what manner the Diſorder communicated to her Arm and Leg, ſince we very well w, that all the *vertebral Nerves* of that Side communicate each other by tranſverſe Branches, after they have gone of the *Foramina* of the *Vertebræ*.

ll the Symptoms were aggravated in the Night-time, and ainy Weather, on account of the Humidity of the Air, ch, as it rendered the Glands and Membranes of the Mea- tumid, was the Cauſe of their embracing the fatal Bead e cloſely, and hence the Irritation was augmented.

he Stupors might, in all Probability, ariſe from this, that irritated Spirits opened and dilated the Orifices of the ves to ſuch a Degree, that they not only gave Admiſſion to Spirits themſelves, but alſo to ſome groſs Subſtances, which, g crouded into their ſmall Ducts, produced a kind of Ob- tion, ſufficient to ſtop the Motion of the Spirits. A Cir- ſtance abundantly able to bring on a Stupor! Beſides, theſe s Subſtances, being rendered more acrid by their Continu- , muſt of courſe have augmented the Pains and Convulſi- And when theſe made their moſt violent Attacks on the nt's Arm, its Nerves muſt have been block'd up with ſuch dundance of this extraneous and noxious Matter, as to in- pt the Motions of the Spirits: Hence the Arm was ema- d and wither'd, as in a Palſy.

he Bead being at laſt extracted, the Irritations cauſed by it, conſequently the Pains and Convulſions, ceaſed; upon h the Spirits again reſuming their uſual Motions, diſſipated xtraneous and noxious Subſtances: Hence the Arm was red to its former Motion and Vigour.

now come to treat of the ſeveral Meaſures to be taken in Cure of Pains of the Ears; and theſe ought to vary, accord- to the different Cauſes which produce the reſpective Diſor- As for thoſe Pains of the Ears produced by Cold, they ſometimes cured only by removing the external Cauſes; in other Words, by defending the Ear from the Cold and ds, and applying to it every thing that can warm it, ſuch eaſy Wool, or hot Bread dipt in Spirit of Wine. But for moſt part the Pain does not yield to theſe firſt Applications, hich Caſe we muſt have recourſe to general Remedies. ſection is neceſſary, in order to prevent the Congeſtion of Matter pent up by the Cold: But Purgatives ought not to be ited, till the Pain is ſomewhat abated. Fomentations in ean time are uſed with Succeſs, or Injections of the Juice Decoction of Bawm, Hyſſop, Calamint, Origanum, and oram; to which may be added a few Drops of the Gall of , or of the Oil of bitter Almonds, Chamomile, Cloves, iſe; and ſome Phyſicians highly recommend the Practice opping the Ears with Cotton impregnated with Muſk. no difficult Matter to account for the Effects of theſe Me- s, ſince they are all impregnated with a highly penetrate- olatile Salt, which, by warming all the Parts, opens the Pores and Emunctories of the Glands; and promotes a Diſcharge of the peccant Matter pent up and detained by the Action of the Cold.

Pains of the Ears, proceeding from an Exceſs of Heat, are for the moſt part carried off by general Remedies, and eſpecially Veneſection, which is abſolutely neceſſary, in order to prevent the Fluxion and Inflammation which might otherwiſe ſeize the Parts affected. During the Uſe of theſe Remedies, we may very ſucceſsfully uſe Injections of Milk beaten up with the White of an Egg; and for this Purpoſe Womens Milk is far more proper than any other whatſoever. Injections may be alſo made of ſome emollient and cooling Decoctions, in which a proper Quantity of the Oil of ſweet Almonds has been diluted. The Oil of Eggs is alſo highly extoll'd in this Caſe, by *J. de Vigo*. We may alſo apply over the *Ear* ſome anodyne and emollient Cataplaſm; and, when the Pains are extremely violent and acute, we muſt have recourſe to Narcotics, which are not only to be mix'd with the topical Applications, but may alſo be exhibited internally. All theſe Remedies are ſo well known, and ſo univerſally us'd, that I ſhall not ſpend Time in accounting for their Effects.

When Pains of the *Ears* are produced by Defluxions of an acrid and ſaline Serum, we in that Caſe uſe the Water of *Carduus Benedictus*, in which Millepedes, Earth-worms, and Ants Eggs, have been boiled; to this Decoction we may alſo add a few Drops of the Oil of Box. As theſe Remedies abound in a volatile alcaline Salt, they deſtroy that Acidity of the ſerous Humours, which was the primary Cauſe of the Pain.

Another Diſorder to which the *Meatus Auditorius* is ſubject, is Inflammation, which is generally ſucceeded by Abſceſſes and Ulcers. This Inflammation is the Conſequence of Wounds or Contuſions in theſe Parts, and may even be produced by ſome Fevers, as well as a Pleuriſy, a Quinſey, and ſeveral other Diſorders of an inflammatory Nature. An Inflammation may happen in the *Meatus Auditorius* in two Manners: Firſt, by an Obſtruction of the Glands, which, by compreſſing the Veſſels, is the Cauſe of the Blood's ſtopping, and burſting the Veſſels, in which it is contain'd. Secondly, an Inflammation may be be produced in the *Meatus*, by the Wax acquiring ſuch a Degree of Acrimony, as to corrode the Veſſels, and by that means occaſion an Extravaſation of the Blood. However, this Inflammation, and the ſubſequent Abſceſs, have nothing peculiar in their Symptoms, except the Violence of the Pain, of which I have already ſpoken.

As for the Ulcers of the *Ears*, they are form'd in the ſame manner with Ulcers of the other Parts, either by the Breaking of an Abſceſs, or by the Acrimony of ſome Humour. I generally obſerve, that a very large Quantity of Matter is diſcharged from theſe Ulcers, and that they are not cur'd without a conſiderable deal of Difficulty, eſpecially when they happen in the bony Part of the *Meatus*. The great Quantity of diſcharg'd Matter is ſupply'd, not only by the ſuppurating Blood, but alſo by the Glands, which, being irritated by the Pus, furniſh their excretory Ducts with a large Quantity of Liquor. As to the Difficulty of curing theſe Ulcers, 'tis owing to this Circumſtance; that, being always moiſten'd by the Humours flowing from the Glands, 'tis impoſſible they ſhould be dry'd up, 'till that glandular Diſcharge be remov'd. Beſides, the Matter ſecreted from theſe Glands being of an acrid and ſaline Quality, muſt, of Conſequence, prevent their Reunion and Cicatrization. The ſame Symptom occurs in Ulcers of the Noſe, and ſalival Ducts. Ulcers form'd in the bony Part of the *Meatus* are with more Difficulty cured, than thoſe appearing in its cartilaginous Part; becauſe the bony Part of the Canal declines towards the *Membrana Tympani*, and has a conſiderable Depreſſure at the Place where it declines, which is the Reaſon that the Pus is with Difficulty convey'd out of it; whereas the cartilaginous Part of the *Meatus* declining towards the *Concha*, Pus, and other offenſive Subſtances, are eaſily diſcharged from it, and are not retain'd, as in the bony Part of the *Meatus*.

In old and ſordid Ulcers of the *Ears*, Worms of different Sizes are ſometimes diſcharg'd along with the Pus, as we may ſee in the Obſervations of *Foreſtus*, *Schenkius*, and in the *German Ephemerides*. I ſhall not here inquire, whether theſe Worms are produc'd by the Corruption of the Humours, or whether the Heat of theſe Ulcers only hatches the minute Eggs, which the numberleſs little Inſects floating in the Air may have depoſited on the Parts, ſince I ſhall afterwards have Occaſion to handle this Subject.

Beſides the Pus diſcharg'd from the *Ears*, when Ulcers are form'd in them, we obſerve, that the *Ears* almoſt of all Children diſcharge a great deal of Humidity, and that this Evacuation is very conducive to the Preſervation of their Health. For this Reaſon we ought to beware of ſtopping this Diſcharge, leſt the Children ſhould, by that imprudent Step, be thrown into convulſive or epileptic Fits. This Circumſtance has induced ſome People to believe, that not only this Liquor, but alſo the clear and fetid Serum flowing from the *Ears* of ſome Adults, and the Blood evacuated from them when the Head is wounded, proceeded from the Brain: But, 'tis certain, there are no apparent Ways, or Paſſages, by means of which any thing can be convey'd from the Brain to theſe Parts *; for in the *Os Petroſum* there is only one Hole, which is imperforated at that Extremity which lies next the *Ear*, and which is cloſely ſhut up by the auditory Nerves; ſo that we cannot reaſonably ſuppoſe, that any thing ſhould be convey'd from the Brain to the *Ear* in this manner. But, ſuppoſing the Blood and Serum lodg'd in the Baſis of the Cranium capable of corroding the Bottom of this Hole, and making a Paſſage to themſelves thro' it, yet ſtill they could only enter the *Veſtibulum* and *Cochlea*; and before they can paſs into the *Tympanum*, they muſt corrode the Membrane which ſhuts up the *Feneſtra Rotunda*, the Baſis of the *Stapes*, and the Membrane with which it is cover'd; and even after they ſhould happen to be lodg'd in the *Tympanum*, they would, without Doubt, be convey'd to the Mouth by means of the Euſtachian Tube, rather than corrode the *Membrana Tympani*, and diſcharge themſelves by the *Meatus Auditorius* †. Upon my Hypotheſis, I am involv'd in none of theſe Difficulties, and can eaſily account for theſe ſeemingly ſurpriſing Phenomena: For if a great deal of Serum is diſcharg'd from the Ears of Children, this is to be aſcribed, not only to the State and Condition of their Blood, which is aqueous and ſerous, but alſo to the Relaxation of the Glands of the *Ear*, which is alſo obſerv'd to happen to the Glands of the adjacent Parts: And if the Suppreſſion of this Evacuation ſhould throw Children into convulſive or epileptic Fits, this Phenomenon is alſo eaſily accounted for, ſince the ſuppreſſed Juices may reaſonably be ſuppos'd to become more acrid by their Continuance, and conſequently occaſion Irritations in the Membrane of the *Meatus*, and even enter the Maſs of Blood again, and thus diſcharge themſelves upon the Brain. As for thoſe whoſe *Ears* diſcharge a clear and fetid Serum, 'tis to be obſerv'd, that tho' the Glands of the *Ear*, when in their natural State, are only deſtin'd for the Secretion of the Wax, for the Purpoſes I have already mention'd; yet, in this Caſe, they may alſo ſerve as a proper and commodious Drain for the Evacuation of the peccant Humours; which is evidently obſerv'd to be the Caſe in all the conglomerate Glands. And as for the Blood diſcharg'd from the *Ears* in Caſes where the Head is wounded, 'tis ſufficiently known, that it proceeds from a Rupture of the Veſſels appointed for moiſtening the *Meatus*. 'Tis no hard Matter to conceive, how, by the violent Concuſſion of the Cranium, this Rupture ſhould be produc'd in theſe Parts, as well as in the Brain: And, laſtly, that the ſuppurated Matter, diſcharg'd from the *Ears*, has no manner of Communication with the Brain, is ſufficiently plain from the following Obſervations.

A certain Man of ſixty-five Years of Age, pretty corpulent, and of a ſanguine Conſtitution, had labour'd under a plentiful Suppuration of both his *Ears*, but eſpecially of the Right, for the Space of twenty-five Years, tho' in every other reſpect the State of his Health was very good. The Matter diſcharg'd was fetid, and conſiderably thick. And when this Evacuation was ſuppreſſed, he died of an Apoplexy within the Space of twenty-four Hours; upon which I laid open his Cranium, and, viewing the Parts of the Brain near the Os Petroſum, I found them perfectly ſound, and the Bone itſelf in its natural State; neither did I find any Collections of Serum in any Part whatever, except in the Ventricles and Meanders of the Brain itſelf. But theſe Collections of Serum differ'd very much from that Matter, which, during his Life, had been diſcharg'd from his *Ears*. I have alſo diſſected the *Ears* of ſeveral Children, in whom I have found the Tympanum filled with Pus; whilſt, at the ſame time, I could never find any Indiſpoſition or Diſorder, either in the Brain itſelf, or the Os Petroſum.

In curing Inflammations of the *Meatus Auditorius*, we muſt be guided by the ſame Indications which are followed in all Inflammations of the external Parts. The Fluxion of Humours to the Parts affected is to be ſtopp'd by Veneſections, and by anodyne Medicines, to which may be added Oil of Water-lilies, and the Juices of Lettice and Night-ſhade. But if the Inflammation continue, and tend to a Suppuration, we are then to apply maturating Medicines, ſuch as Cataplaſms of the Crum of Bread, or Cataplaſms made of boil'd Onions, Lily-roots, freſh Butter, and the Oil of Chamomi
and Melilot.

When the Abſceſs is open'd, we muſt uſe detergent I
jections, made of Barley-water and Honey of Roſes; and,
more powerful Medicines are neceſſary, we muſt have recour
to Decoctions of Agrimony, Birthwort, and other vulnera
Plants, in White-wine, to which we may add a proper Qua
tity of Honey of Roſes, or of Squills. If the Ulcer is ſord
and putrid, we are to uſe Tincture of Aloes, extracted with Spi
of Wine; if 'tis deep, the *Balſamum Viride Metenſe* is proper

When the Ulcer is deterg'd, it muſt be dry'd and cacatriz'
Decoctions of Plantain, Birthwort, and Galls, are excelle
for anſwering theſe Intentions; the Wine of Pomgranate
deſcribed by *J. de Vigo*, is alſo excellently calculated for t
Purpoſe. As theſe Medicines have nothing peculiar in the
and are uſed in Inflammations and Ulcers of all kinds, 'tis n
neceſſary I ſhould here account for their Effects, or explain t
Manner in which they operate: I ſhall only add, that, duri
the Time we uſe them, we ought not to neglect general Rem
dies, which are highly proper in all the various Stages of th
Diſorders. In order to kill the Worms, ſome People dr
bitter Liquors into the *Ear*, ſuch as the Juices of Wormwo
and the leſſer Centaury, Decoction of the bitter Gourd, o
few Drops of the Oil of bitter Almonds, or of Box. In t
Ephemerides Eruditorum, for the Year 1677, Spirit of Wi
is affirm'd to be a moſt efficacious Remedy againſt Worms
gender'd in the *Ear*; but of all the ſeveral Medicines reco
mended for this Purpoſe, thoſe which are ſomewhat thick, a
of an oily Nature, are the moſt efficacious, becauſe they block
the Bronchia of the Inſects, and ſuffocate them in a Moment.

As for the Diſcharges of ſerous Matter, which I have call'd Su
purations, ſince, for the moſt part, they are not accompani
with Pain, and cannot be ſuppreſſed without bringing on a Tr
of very dangerous Symptoms, they are not, for this Reaſon, to
raſhly and imprudently ſtopp'd: But, if at any time they ſho
prove painful, we are to have recourſe to the Medicines I
commended when I was treating of the Pain of theſe Parts.

A third Diſorder, to which the *Meatus Auditorius* is ſubje
is an Obſtruction, which is generally the Conſequence of I
flammations, Abſceſſes and Ulcers, which uſually ſwell th
Parts; but this Diſorder may be alſo produc'd by other Cau
Firſt, extraneous Bodies may ſlip into the *Meatus*, ſuch
Peaſe, Shot, or the Stones of ſome Fruits; and, when th
Bodies happen to be lodg'd pretty deep, they are not eaſily
tracted, becauſe they are lodg'd in the bony Part of the *Meat*
which is very oblique, and declining towards the *Tympan*
Beſides, they are in ſome meaſure detain'd by the Congeſtion
Wax and Sordes in that Part. Peaſe, and all other Seeds,
extracted with ſtill greater Difficulty, ſince they not o
diſtend themſelves in the *Meatus*, but may alſo happen to g
minate in it, as we may ſee in Inſtances given by *Fabricius H*
danus, and *Schenkius*. The moſt common and ordinary Ca
of the Obſtruction of the *Meatus* is a Congeſtion and Inſ
ſation of the Wax. In thoſe who neglect to cleanſe their *Ea*
this Wax is ſometimes ſo largely accumulated, and in Proceſs
Time ſo inſpiſſated, as entirely to block up the *Meatus*.
Men of cold and phlegmatic Conſtitutions, whoſe Juices
tough and viſcid, this Wax may ſometimes happen to be na
rally very thick. The Cold alſo of the external Air may co
tribute not a little to the Production of the ſame Effect. I
alſo probable, that this Wax may, on ſome Occaſions, aſſu
the Conſiſtence and Hardneſs of a Stone; in which Caſe
produces an incurable Deafneſs. The Truth of this ſeems to
ſufficiently prov'd by the near Reſemblance and Analogy
tween this Wax and the Bile, which frequently petrifies in
Gall-bladder: And this is farther confirm'd by the forty-fi
Obſervation of the firſt Volume of the Journals of *Bartholi*
who tells us, that, after his Wife had been long afflicted wi
Pain about one of her *Ears*, ſhe diſcharg'd ſmall Stones fr
the *Meatus Auditorius*, along with the Wax, after which
Pain ceas'd. However, 'tis certain that this Wax is o
found inſpiſſated like Plaſter, and in ſo large a Quantity,
entirely to block up both the bony and cartilaginous Parts of
Meatus; Inſtances of which I myſelf have ſeen in more t

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* *Johns a Mekeren*, a celebrated Surgeon in *Amſterdam*, in a Letter to *Barbet*, endeavours to ſhew the Manner in which Blood is conve
into the *Ears*, in Caſes where the Head is wounded, in theſe Words:

" As ſoon, ſays he, as I had obſerv'd a conſiderable Depreſſion in the ſuperior Part of the Cranium, I found a large Maſs of coagul
" Blood, a Part of which had been diſcharg'd thro' the *Ears*, and another Part of it had cloſed up the *Meatus Auditorius*; upon which I
" very deſirous of diſcovering by what Ways this Blood had deſcended into the *Meatus Auditorius*. Whilſt I was employ'd in this Reſea
" I happily found the Reaſon why, in this Place, the Pericranium covers the temporal Muſcles, but not the Bone lying under them. Upon
" I perceived the Truth of what *Tulpius* aſſerts, in his Anſwer to that Queſtion, *Whence comes that Blood which is often diſcharg'd by the Ea*
" *Wounds of the Head?* For I myſelf have found, as *Tulpius* aſſerted to me, that this Blood deſcended from the ſuperior Part of the Head,
" tween the Cranium and Pericranium, and ſo enter'd the Space between the *Os Parietale*, and the *Os Petroſum*; and that from thence it
" percolated, as it were, thro' a Sierce, into the *Meatus Auditorius*. In this Diſſection I found the *Os Petroſum* remov'd at a great Diſta
" from the *Os Parietale*; ſo that in the Place where they had receded from each other, the Traces of their Motion might be obſerv'd begi
" at the *Os Petroſum*, and ending in the *Os Parietale*; where a certain Symphyſis, indented in the *Os Jugale*, and internally callous, i
" ſerv'd to prevent the Attrition of the Parts, as in all other Articulations."

† It is obſervable, that many People have got a Trick of letting the Fume of Tobacco, taken in at the Mouth, paſs out of the *E*
Hence it is certain, that, in ſome Subjects at leaſt, Things may paſs from the internal to the external *Ear*, without a Rupture of the *M*
brana Tympani.

ten or twelve Subjects, during the Time I apply'd myſelf to the Diſſection of the *Ear*. I have alſo conſulted with ſeveral ſkilful Surgeons upon this Affair, who communicated to me more than thirty Obſervations, proving that this Species of Deafneſs is at once the moſt common, and the moſt eaſily cur'd. And indeed that celebrated Surgeon of *Mons*, who acquired ſuch a Reputation for his Dexterity at curing Deafneſs, undertook the Cure of no Species of Deafneſs but this; and, that he might the better diſcover the immediate Cauſe of the Diſorder, he turn'd the Patient's *Ear* to the Rays of the Sun, and, when he perceiv'd any Obſtruction in the *Meatus*, he made uſe of a certain Inſtrument, proper for cleanſing it; and by theſe ſimple Meaſures cur'd vaſt Numbers of deaf People.

Certain Membranes are alſo ſometimes form'd within the *Meatus*, which ſhut it up entirely, and produce a particular Species of Deafneſs. I have already ſaid, that upon inquiring into the Cauſes of a Deafneſs with which a certain Perſon had for a long time been afflicted, I found in his Right *Ear*, of which he was deaf, a pretty thick and lax Membrane, before which there was a very conſiderable Collection of Sordes, of the Conſiſtence of Plaſter, which was undoubtedly the Cauſe of his Deafneſs; for the *Membrana Tympani*, and all the other Parts of the *Ear*, were in their natural State and Condition.

The fungous and fleſhy Excreſcences, which ſometimes ſucceed Ulcers of the *Meatus*, or thoſe Excoriations accidentally made in cleanſing the *Ear* with too ſharp an Inſtrument, may alſo riſe to ſuch a Height, as entirely to cloſe it up.

There is another Species of Obſtruction incident to the *Meatus*, which happens when the adjacent Glands are tumefy'd, and drench'd with a ſuperfluous Serum, juſt as it happens in the ſpongious Membranes of the Noſe, which are ſometimes ſo tumefy'd nd diſtended, as to intercept all Paſſage of the external Air. This Species of Obſtruction is always accompany'd with a Re- xation of the *Membrana Tympani*; and for that very Reaſon roduces a Deafneſs, or at leaſt a Difficulty of Hearing, which remov'd by the Evacuation of this ſuperfluous Serum, either y the *Ear* itſelf, or by ſome other Conveyance, in the ſame anner as in other Catarrhs.

In the firſt Species of Obſtruction, the Whole of the Indica- ion conſiſts in extracting the extraneous Bodies. But, to ſuc- eed in this Attempt, we muſt carefully conſider, whether theſe traneous Subſtances are capable of becoming ſoft, ſuch as aſe; or whether they are hard and ſolid, ſuch as Shot, and e Stones of ſome Fruits: We muſt alſo diligently obſerve, hether they are lodg'd in the cartilaginous, or in the bony Part f the *Meatus*. In order to extract ſoft Bodies lodg'd in the rtilaginous Part of the *Meatus*, we muſt endeavour to break em; or the Ear-probe, or Spoon, is to be thruſt beyond em, which may ſometimes be eaſily done, in a pliant flexible rt, ſuch as the Cartilage of the *Ear* is; and thus they are to e extracted from the *Meatus*. This Method may alſo be us'd ith regard to hard Bodies lodg'd in the ſame Place, which may e extracted either with the Ear-probe, or the Terebra. As r Bodies lodg'd in the bony Part of the *Meatus*, they are with at Difficulty extracted, as we have already obſerv'd, eſpecially hen they fill the *Meatus* entirely up; for, in this Caſe, we y eaſily perceive, that neither the Ear-probe, nor the Te- bra, can be of great Service. In a Caſe of this Nature I erefore think, that an Inciſion may ſafely be made in the terior and ſuperior Part of the *Ear*, ſince there are no nſiderable Veſſels to forbid it, and ſince, in that Part, the ct is only cover'd with a glandular Skin. The Obliquity of e *Meatus* is, in ſome meaſure, ſhunn'd by this Method, and e may uſe the Trerebra which is apply'd for extracting Bullets. a Fruit-ſtone ſhould happen to be lodg'd in the bony Part of e *Meatus*, ſince by reaſon of its oval Figure it may be laid ld on by one of its Ends, we may in this Caſe make uſe n Inſtrument deſcrib'd by *Hildanus*, *Cent*. 1. *Obſervat*. 4. ich he calls a *Tenacula*, and which, properly ſpeaking, is no re than a double Ear-picker, or Spoon, made in form of a ir of Tongs; but for this Purpoſe the Branches of the Inſtru- ent muſt be very ſlender, and made of fine Steel. I need not, on s Occaſion, deſcribe all the minute Circumſtances of theſe Ope- ions, nor warn the Operator to lubricate and relax the *Mea-* with Oil of ſweet Almonds, ſince I take it for granted, that ſe Circumſtances are already well enough known.

n the ſecond Species of Obſtruction, produc'd by the Indu- ion of the Wax, this Subſtance muſt be broken, and cleans'd by means of Injections of warm Water, emollient De- ions, Hydromel, Lintſeed-oil mixed with a few Drops of Spirit of Wine, Oil of bitter Almonds, and Oil of ſweet foil. Some, for this Purpoſe, uſe mineral Waters; and this ntion is very ſucceſsfully anſwer'd by the Galls of all imals in general. Others prefer warm Water to all other ors whatever, and add a few Drops of Spirit of Wine to with a View to render it more penetrating.

he Wax is ſometimes diſengag'd and diſcharg'd within Days, and ſometimes not till after fifteen; which is an ent Reaſon, that we ought patiently to perſiſt in the Uſe of tions, till the deſir'd Effect be produc'd.

In the third Species of Obſtruction, in which there is commonly a Congeſtion of Wax before the preternaturally-form'd Membrane, we muſt firſt cleanſe the *Meatus* by means of the above-mention'd Injections, and afterwards perforate the Membrane itſelf; but, in this Operation, the Surgeon ought to take particular Care not to injure the *Membrana Tympani*.

In order to form a juſt Idea of the Method of Cure to be obſerv'd in the fourth Species of Obſtruction, which is produc'd by fungous and fleſhy Excreſcences, little more is requiſite almoſt, than to read the firſt Obſervation of the third Century of *Fabricius Hildanus*, where he gives us a Deſcription of a fungous and ſcirrhous Excreſcence, which appear'd in the *Meatus* after an Abſceſs. Before he attempted its Extirpation, he carefully prepar'd the Patient's Body for the Operation; after which he took as much of it off by the Ligature as he poſſibly could; but as the Root of the Excreſcence was pretty deep, and as his Inſtruments could not reach the Bottom of the *Meatus*, he was oblig'd to uſe ſome Cauſtics, which he apply'd by means of a ſmall Lamina of Wax, for fear of wounding the *Meatus*; which Method ſucceeded according to his Deſire. But, to illuſtrate ſtill farther the Method to be us'd in the Cure of Diſorders of this Nature, 'tis to be obſerv'd, that if the fleſhy Excreſcence is very large, and appears without the Entrance of the *Meatus*, we may in that Caſe cut it off, either with the Sciſſors, or the Biſtory; or as much of it as can be laid hold of, may be tied with a Thread; but I ſhould rather chooſe to cut it, becauſe by that means more of it is taken off, than by tying it. As we are afterwards oblig'd to ſtop the Blood, we for that Purpoſe uſe a ſmall Piece of Vitriol, fix'd in the End of a Quill, in the manner of a marking Pencil, that a ſmall Point of the Vitriol may only appear without the Extremity of the Quill, in order to touch only ſuch Parts as ſtand in need of it, and ſtop the Blood by inducing an Eſchar, which alſo carries off a ſmall Portion of the Carnoſity. In order to conſume the Remains of the Carnoſity, which are deep-lodged in the *Meatus*, as we muſt guard againſt wounding the Membrane by Cauſtics, of which the moſt common are Powder of Savin, burnt Alum, and red Precipitate, boiled with Wax and Turpentine, I would not make uſe of Laminæ of Wax; but I believe we may ſafely apply Cauſtics in the Form of an Ointment put upon the End of a Tent, and introduced into the *Meatus*, having firſt paſſed in a ſmall Leather Tube made in the Form of the Finger of a Glove, through which it would be no hard matter to puſh the Tent with the Cauſtic Ointment on its Extremity, without any Danger of hurting the Membrane of the *Meatus*. Inſtead of the Leather Tube, a ſmall one may be uſed, either of Braſs or Silver, and bended ſo as to anſwer the ſeveral Windings of the *Meatus*. After the Eſchar is formed, we muſt drop a little of the Oil of Eggs, or of Almonds, into the *Ear*, not only to eaſe and lubricate the *Meatus*, but alſo to procure a Separation of the Eſchar. Theſe Remedies muſt be repeated till the Whole of the Carnoſity is conſumed; after which, we may make Tents, and arm them with the *Unguentum Ægyptiacum*. Theſe Tents muſt be introduced and puſhed beyond the Tube, that the Ointment may be applied to the Remains of the ſuperfluous Fleſh adhering to the Surface of the *Meatus*, where the Carnoſity was, in order to prevent their ſprouting out again, and with a View to procure a laudable Suppuration; after which we muſt uſe detergent and lenitive Medicines in order to incarn and cicatrize the Ulcer, always remembering now-and-then to mix with them ſome Subſtance that has a Tendency to prevent the Regeneration of fungous Fleſh. A little Vitriol diſſolved in a ſufficient Quantity of ſome vulnerary and deterſive Decoction, to give it a ſmall Aſtringency, is very proper for this Purpoſe. This is to be injected into the *Ear*, and a little Lint ſoaked in the ſame Liquor introduced, which, when it can be eaſily done, proves of excellent Service, becauſe it compreſſes the Ulcer, and prevents the Generation of a new Fungus.

In the fifth Species of Obſtruction, which is cauſed by a Diſtenſion and Inflation of the Glands of the *Meatus*, we muſt preſcribe the ſame general Remedies as in all Rheums. The *Ear* is, in this Caſe, to be fumigated with the Vapour of Carduus Benedictus, or of the Decoctions of *Florentine* Orris, Marjoram, Carduus Benedictus, Wormwood, Calamint, Baum, and Aniſe-ſeeds. A Decoction of the bitter Gourd in Oil is very much commended for this Purpoſe. *Barbet* uſes a Decoction of Cloves in Red-wine, ſome Drops of which are to be conveyed into the *Meatus*, which he afterwards ſhuts up with a Clove. *Platerus* preſcribes a particular Water for this Purpoſe, the Efficacy of which he highly extols. *Mendererus* propoſes another Water, which has been corrected by *Zwelfer*, in his Notes on the *Pharmacopœia Auguſtana*; and *Hadrianus à Mynſicht* commends a certain compound Spirit of Wine, as very proper for anſwering this Intention. The expreſſed Juice of Marjoram alone is highly eſteemed, as alſo Hares Urine, either alone, or mixed with Spirit of Wine, or the Water of the common Aſh-tree, and the *Hungary* Water. It alſo affords ſome Relief, to cloſe up the *Ear* with Cotton impregnated with Muſk. Some People think the Membrane of the *Meatus*, and the *Membrana Tympani*, ſo delicate, and endowed with ſo exquiſite a Power of Senſation, that they will not admit of Injections of acrid and ſpirituous Liquors. In this Caſe, a few Drops of theſe Liquors are only to be poured upon hot Bread, which is to be held upon the *Ear*. Theſe Liquors are alſo with Succeſs held in the Patient's Mouth; for their ſpirituous Parts, being elevated, aſcend through the Euſtachian Tube to the Ear. For the ſame Reaſon, Maſticatories are uſed with Succeſs.

'Tis no hard Taſk to account for the Action and Operation of theſe Medicines; for, ſince they are of a ſubtile and penetrating Quality, they muſt of courſe open the Pores of the Glands, and promote the Diſcharge of the ſuperfluous Serum. To all theſe I ſhall ſubjoin an Obſervation communicated to me by that ſkilful Surgeon Mr. *Paſſerat*.

A young Gentleman about eleven or twelve Years of Age, about the Beginnings of the Spring and Autumn, uſed ſometimes to have the Glands of the *Meatus Auditorius* ſo diſtended and ſwelled, that they touched each other, and it was impoſſible to introduce any thing between them. At firſt Oil of Sweet Almonds was dropped into his Ear, in order to allay the Pain; then a Decoction of Barley and Agrimony was uſed, which is of a detergent and drying Quality. By this means the *Ear*, after having diſcharged an apparently purulent Humidity for three or four Days, at laſt returned to its natural State.

I now come to conſider the Diſorders incident to the *Membrana Tympani*, which are Relaxation, too violent Tenſion, Induration, and Rupture. The Relaxation is cauſed by a ſuperfluous Humour moiſtening this Membrane. This Symptom generally accompanies that Obſtruction of the *Meatus*, which is produced by a Diſtenſion of the Glands, of which I have ſpoken already; and it contributes very much to a Dulneſs of Hearing in thoſe Perſons who are ſubject to catarrhous Defluxions. 'Tis alſo for this very Reaſon, that Southerly Winds, Fogs, and rainy Weather, impair the Senſe of Hearing, as we find from daily Experience.

An extraordinary Tenſion of the *Membrana Tympani* produces a quite different Effect, by cauſing the leaſt Noiſes to become inſupportable. This Tenſion happens in violent Headachs, and in acute Fevers, becauſe the Tenſions and Irritations of the Membranes of the Brain communicate themſelves to all the neighbouring Membranes.

The Induration of the *Membrana Tympani* may proceed from its becoming too dry, which is ſometimes the Caſe with old People. Beſides, we know from numberleſs Obſervations, that the Membranes of the Body may not only become callous, but alſo oſſify. This I myſelf have particularly obſerved in the *Dura Mater*, and in the Coats of ſome Arteries, which I have often found oſſified. This ſhews us, that the *Membrana Tympani* may ſometimes become hard and cartilaginous, the Conſequence of which is an incurable Deafneſs.

Laſtly, the *Membrana Tympani* may be broken either by ſome external Cauſe, ſuch as an Ear-picker, for Inſtance, inadvertently puſhed too far, or by ſome ſtrong Effort, ſuch as is made when one ſhuts his Noſtril and Mouth, and afterwards lets go the retained Breath with Violence, which happened to one of my Acquaintance. This Action of the Air is obſerved in Sneezing, when we feel, that the Air, which ſuddenly aſcends through the Duct, drives the *Membrana Tympani* outwards, and occaſions a painful Tenſion. This may alſo happen in Quinſeys, and in Difficulties of Breathing, where the Bottom of the Mouth and Noſe are diſtended and inflated by any Defluxion of Humours, or an Inflammation; for when the Air, thruſt out of the Breaſt, cannot find a free Exit, it enters with ſuch Violence into the Duct which goes from the Palate to the *Ear*, that it is capable of burſting the *Membrana Tympani*. *Tulpius* gives us two very remarkable Inſtances of this in the thirty-fifth Obſervation of his firſt Book. It is not eaſy to explain how the *Membrana Tympani*, which is ſo ſtrongly inſerted, as it were, in a Groove, ſhould not be able to reſiſt the Impulſes of the Air. But if we conſider, that this Groove does not run quite round it, but ends at that Part which correſponds to the Entry of the *Meatus*, which penetrates into the Sinuſes of the Maſtoide Apophyſis; and that in that Part the *Membrana Tympani* only adheres ſimply to the Border of the bony Part of the *Meatus*; we ſhall eaſily perceive, that it may very readily be torn in this Place, and by that means afford a Paſſage for the Air to the external *Ear*.

By this we ſee how much *Tulpius* has been miſtaken, when he imagined, that the Duct which goes from the *Ear* to the Palate, not only ſerved to renew the Air in the *Tympanum*, but alſo, on ſome Occaſions, to afford a Paſſage for the Air returning from the Lungs in Expiration; which Opinion he endeavours to confirm by the Obſervation concerning the two Aſthmatic Caſes already mentioned, and by the Authority of *Alcmeon*, who, according to *Ariſtotle*, imagined that certain Goats breathed through their *Ears*. Beſides, the *Membrana Tympani* may be corroded by the Acrimony of the Pus retained in the *Tympanum*, or in the *Meatus Auditorius*, as is plain from Numbers of Inſtances brought by *Fabricius Hildanus*, *Schenkius*, and ſeveral others. But, in whatever manner the *Membrana Tympani* is broken, the Air is diſcharged from that *Ear*, when th Mouth and Noſtrils are ſhut, with ſuch Violence as to extinguiſh a Candle. In ſuch Caſes as theſe, the Senſe of Hearin remains for ſome time, but is gradually impaired, till at laſt i is quite loſt; from which we may infer, that the *Membran Tympani* is not abſolutely neceſſary for the Purpoſes of Hearing but that its principal Uſe conſiſts in tranſmitting its Vibration to the Air contained in the *Tympanum*, and to the ſmall Bone employed in hearing, and in defending the Parts againſt the Injuries of the external Air. When this Membrane is broken the external Air alone is indeed able to put the ſmall Bones and the immediate Organ of Hearing, into a Commotion, an thus excite the Senſation of Hearing; but ſince it deſtroys a the Parts of the internal *Ear* by Cold, or any Exceſs of i other Qualities, it at laſt deſtroys the Senſe of Hearing.

In Caſes where the *Membrana Tympani* is relaxed, we a to apply the ſame Remedies preſcribed in other catarrhous Di orders; but in Caſes where 'tis too tenſe, beſides the Remedie preſcribed in Diſeaſes produced by Tenſion, we are to fomen the *Ear* with Milk, Oil of Sweet Almonds, or any emollien Decoction. Both the Induration and Rupture of the *Membrana Tympani* are incurable.

As for the *Tympanum* and *Labyrinth*, as theſe Parts are bony and only covered with a ſingle Membrane, I can ſcarce allo myſelf to think, that they are ſubject to any other Diſorde than Caries of the Bones, and Inflammation of the Membrane Caries of the Bones ſometimes happens after thoſe Abſceſſ which open behind the *Ear*. In Caſes of this Kind, Fiſtulas hav been obſerved above the *Maſtoide Apophyſis*, which have penetrated its Sinuſes, and made the little Leaves, of which it compoſed, fall off in the Form of Scails. This Caries is a tended with a very nauſeous Smell, and very dreadful Sym ptoms; for the Caries ſometimes penetrates into the Tymp num by means of a Duct which leads to it, where, deſtroyin all the Parts included in it, it produces Deafneſs; but this rarely the Caſe, and I have never met with more than one two Inſtances of it. As for an Inflammation of the Membranes, when I applied myſelf to the Diſſection of the *Ear*, often found the *Tympanum*, the *Veſtibulum*, the ſemicirc lar Ducts, and *Cochlea*, ſtuffed with a thick Sanies, which mig have come from Abſceſſes of the Membranes which line th Parts. I don't doubt but Deafneſs is very often produced this Cauſe, as well as by a Congeſtion of any other Matter all theſe Cavities; and that ſo much the rather, becauſe th Matter cannot eaſily be diſcharged from the *Tympanum*, ſin its Cavity deſcends lower than the Opening of the Duct whi goes from the *Ear* to the Palate; and hence it happens, th theſe Humours cannot fall down into the Mouth, unleſs t Head be placed in a certain Situation. But, in order to ma their Way through the *Meatus Auditorius*, they muſt corro the *Membrana Tympani*, which they cannot do, till they ha acquired a very conſiderable Acrimony. We have alſo Reaſ to ſuſpect, that the Spiral Lamina may be corroded by the Ac mony of the Pus, and alſo become relaxed or callous, as w as the *Membrana Tympani*; but I will not poſitively aſſert, th this is the Caſe, ſince I have no Inſtances of the Fact to juſti the Aſſertion.

I cannot poſſibly recommend more efficacious Medicines curing a Caries of the Bones of the *Ear*, than thoſe preſcrib by that ſkilful Surgeon Mr. *Deymier*, from whom I had t Obſervation. He firſt of all dilated the *Ear* with a prepa Sponge, which made a conſiderable Opening, ſo that the M dicines could by that means be applied immediately to the cari Bone. Then he applied Lint ſoaked in *Imperial Water*, which a little Camphire had been diſſolved. But as that Medic incarn'd the lateral Parts of the Ulcer too ſoon, whilſt the C ries as yet remained, he had recourſe to the Powder of Euph bium, which produced very happy Effects. Slight and mom taneous burning Pains were indeed excited by it; but the A plication of a very ſmall Quantity of it anſwered the Inten by procuring an Exfoliation, and hindering the Fleſh fr ſprouting out afreſh. He alſo uſed the Tincture of Euph bium extracted with Spirit of Wine, adding to it ſome My and Aloes. The Caries being conſumed, and an Exfoliat made, he uſed the *Imperial Water* till the Cure was complet applying to the Part affected Lint, and the *Emplaſtrum Betonica*, to which a little of the Eſſence of Juniper, Clo and the Oil of Marigold, had been added.

In Inflammations of the *Tympanum* and *Labyrinth*, Top Applications are ſcarcely of any Service; and we muſt only internal and general Remedies, which are alſo attended ſmall Succeſs, becauſe the Abſceſſes open within the *Tympan* and the Cavities of the *Labyrinth*; whence, as I have alr obſerved, the peccant Matter cannot be diſcharged; ſo Humours accumulated in theſe Cavities produce an incur Deafneſs.

The Diſorders incident to the *Auditory Nerve* are Obſt tion and Compreſſion. When the whole Brain is overflowed drenched with a ſordid Serum, as in *Apoplexy* or *Palſy*, plain this Nerve muſt be obſtructed as well as the other Ne

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Beſides, the ſole Obſtruction of this Nerve, even when no other Fault is found in the other Organs of Hearing, may alſo produce Deafneſs, for the ſame Reaſon that an Obſtruction of the Optic Nerve occaſions a *Gutta Serena*. The Compreſſion of the *Auditory Nerve* produces the ſame Effect; and this Compreſſion may be owing to ſeveral Cauſes; the Blood, for Inſtance, or other Humours extravaſated; as alſo to Tumors, of which we have an Inſtance recorded in the fifty-third Obſervation of the ſecond Section of *Bonetus's Anatomia practica*, who informs us, that *Drelincourt* found in the Brain of a Man, who died of an Apoplexy, a *Steatoma* between the Cerebrum and Cerebellum, which at firſt produced Blindneſs, then Deafneſs, and, laſt of all, a Privation of all the Animal Functions.

'Tis eaſy to diſcover this Obſtruction or Compreſſion in the *Optic Nerve*, becauſe all the Parts are tranſparent and diaphanous; and, when we diſcover no Defect in them, we have Reaſon to ſuſpect an Obſtruction of the *Optic Nerve*. But the internal Parts of the *Ear* are not ſubjected to our Sight; for which Reaſon 'tis very difficult to diſcern whether the Fault is in the Organ of Hearing, or in the *Nerve*. But if a Drowſineſs or Palſy has preceded the Deafneſs, or if any of the reſt of the Senſes is alſo deſtroyed, we have Reaſon to believe, that the Brain, and the *Auditory Nerve*, are either obſtructed, or too ſtrongly compreſſed. In this Caſe we are to uſe the ſame Medicines preſcribed in a *Palſy*, as repeated Purges, Vomits, Cephalic Waters and Spirits, Sudorifics, Baths, Maſticatories, and Sternutatories. A Compreſſion of the *Auditory Nerve*, produced by a Tumor, is abſolutely incurable.

The Diſorders already explain'd either impair, or quite deſtroy, the Senſe of Hearing; but what we call a *Tinnitus*, is a Depravation of it; and this Depravation conſiſts in this, that the *Ear* perceives Sounds which have no Exiſtence, or, at leaſt, which are not produced by the Motion of the external Air; ſo that, being already filled with a certain Species of Sound, it cannot admit the Impreſſions of external Sounds, unleſs they are pretty ſtrong and violent.

The Antients imagined, that this Symptom was produced by the Motion and Agitation of the Air, which is lodged within the *Ear*: They alſo thought, that this Agitation was occaſioned by Flatulencies and Vapours being conveyed to the *Ear*; and that thoſe Vapours aroſe either from the whole Body, as in Fevers; or from ſome particular Part, ſuch as the Stomach or Brain; or from any pituitous Humours lodged in the Cavities of the *Ear*. They alſo attempted to account for all the ſeveral Differences of *Tinnituſes* from the Quality, Conſiſtence, and Motion of the Humours or Vapours collected within the Organs of Hearing. I ſhall not here make it my Buſineſs to point out the Weakneſs and Abſurdity of this Theory, ſince theſe will ſufficiently appear from the Account of a *Tinnitus*, which I am now to give. I ſhall only obſerve, that there is little Probability, that all theſe different Noiſes, which People believe they hear, ſhould be cauſed by ſomething which in reality ſtrikes the *Ear*, in order to produce the Sounds of Bells; for Inſtance, the Murmurs of Waters, and ſeveral other Noiſes, which People ſubject to a *Tinnitus* every Day ſeem to hear; and that 'tis probable, that moſt Part of theſe are falſe Noiſes, which may be produced in the *Ear* without either Wind or any other Matter ſtriking the Membranes externally, as I ſhall now ſhew.

As I apprehend then, a *Tinnitus* conſiſts in the Perception of a Sound which is not real, or, at leaſt, of a Sound which is within the *Ear*. In order to conceive how People may hear Sounds which do not really exiſt, we muſt obſerve, that as the Action of Hearing conſiſts in the Agitation of the immediate Organ appointed for that Purpoſe, it is ſufficient, that, in order to form a Sound, ſuch Agitation be produced, whether it be produced by the Air or not; for juſt as we conceive that Viſion, which depends on the Manner in which the Retina is agitated by the viſual Rays, may be performed without theſe Rays, when ſome other Cauſes produce the ſame Agitation, as happens when the Eyes ſee Sparkles in the Dark, upon receiving any Blow; ſo we may alſo affirm, that when any other Cauſe, beſides the agitated Air, produces in the Organ of Hearing, I mean within the Subſtance of the Membranes, this Agitation modified in the ſame manner as it ordinarily is by the Air, which conveys Sounds, the *Ear* appears to be ſtruck with a Sound, which is not more real, than the Sparkles in the other Caſe are real Light. But what renders this Compariſon ſufficiently juſt is, that, as theſe falſe Appearances of Light, which are not cauſed by external Objects, have nothing diſtinct and determinate, but only a ſimple Light, the circumſtantiate View of an Object demanding a Concurrence of more Circumſtances; ſo it happens, for the moſt part, that thoſe Noiſes of the *Ear*, of which we are now ſpeaking, are confuſed; for the Hummings and *Tinnitus*, which in this Symptom are the moſt diſtinct Noiſes, are ſtill very ſimple.

In order to determine preciſely what may be the Cauſe of this Agitation in the immediate Organ of Hearing, we need only examine the Diſorders in which a *Tinnitus* occurs, and theſe are Inflammations and Abſceſſes of the *Tympanum* and *Labyrinth*, and the Diſorders of the *Meatus Auditorius*. Inflammations of the *Tympanum* and *Labyrinth* neceſſarily produce Agitations in the *Spiral Lamina*, and in the *ſemicircular Ducts*; either by the Tenſion of the Membranes, or by the Vapours which tranſpire, and mix themſelves with the Air in the *Tympanum*; acrid Subſtances, Worms, extraneous Bodies, a Conſtriction of the *Meatus* ſucceeding a Diſtenſion of the Glands, and in general every thing which can cauſe, in the *Meatus Auditorius*, Pain, and the other Symptoms I have mentioned, agitate the Membrane of the *Meatus*, and the *Membrana Tympani*; and this Agitation is able to communicate itſelf to the immediate Organ of Hearing.

The ſecond Species of *Tinnitus* is, when one perceives a true Noiſe, but formed within the *Ear* itſelf. Thus we hear a humming Noiſe when we ſtop our *Ears*. This Noiſe is produced by the Friction of the Hand, or by the Compreſſion which influences the Skin and Cartilages, whoſe Parts, being put into a Commotion, may produce an Agitation there. The Elaſticity of the Air, and the Vapours which continually exhale from Bodies, may alſo contribute to this Effect, when thoſe flowing from the Hand, joined to thoſe proceeding from the Membrane of the *Meatus*, being pent up, ſtrike the Sides of this Cavity, and produce Agitations, which, though very ſmall, yet form a real Sound, which becomes ſenſible by reaſon of the Proximity and Continuity of the Parts, as alſo by means of the Reflexions which are made in this Cavity when blocked up.

Commotions of the Cranium, and Diſorders which contract the *Meatus*, may alſo produce theſe Species of *Tinnitus*, if we ſuppoſe, that all the Shocks the Cranium receives, are communicated to the immediate Organ of Hearing, by means of the Continuity alone of the Temporal Bone; but this ought to be reſtrained to the very Time in which the Agitation happens; for thoſe *Tinnituſes* which afflict the Patient afterwards, muſt be accounted for from a Diſorder of the Spirits, as we ſhall afterwards ſee. In like manner, the Diſtenſion of the internal Membrane of the *Meatus*, by rendering it narrower, may produce a like Effect with that of the Hand which ſhuts up the Ear. Beſides, it frequently happens, that People feel a Pulſation within the *Ear*, which makes them imagine, that they hear ſomething ſtriking; and this Pulſation is ſometimes ſo ſtrong, that other People may alſo hear it. A Gentlewoman of *Picardy* afforded me an Inſtance of this, who, upon the leaſt violent Exerciſe, feels ſo troubleſome a Pulſation in her *Ear*, that ſhe imagines a Pendulum to be tied to her Head; and this Pulſation is alſo heard by thoſe who come near her. Now this Pulſation is undoubtedly produced by a dilated Artery, becauſe it always keeps perfect Time with the Pulſation of the Heart; and this Perception of an interior Sound to me ſeems perfectly analogous to that Symptom obſerved in imperfect Cataracts. Perſons who labour under this Diſorder, ſee Motes and Flies dancing before the Objects they look at; and theſe Motes and Flies are no other than the thick and viſcid Particles beginning to be accumulated in the aqueous Humour, which by their Motion agitate the Retina, and neceſſarily produce a certain Senſation. But it may be objected, If theſe are true Sounds, and if the Organ of Hearing diſtinguiſhes them as they really are in themſelves, why ſhould they be ranked among the Species of *Tinnituſes*? I anſwer, That, in reality, theſe Sounds are perceived ſuch as they are; but the Senſe of Hearing is depraved, ſo far as it aſcribes theſe Noiſes to ſome external Object; juſt as thoſe in whom a Cataract begins to form itſelf, attribute the Motes and Flies to external Objects, and ſtretch out their Hands to catch them.

Beſides, I am of Opinion, that there may be a Perception of a falſe Noiſe, without any Fault in the Organs of Hearing; which happens when the Parts of the Brain where the Filaments of the Auditory Nerve terminate, are agitated in the ſame manner they uſe to be by Objects. What induces me to believe this, is my obſerving, that many Diſorders of the Brain, ſuch as Deliriums, Phrenſies, and Vertigos, are accompanied with a *Tinnitus*; and that thoſe who are ſubject to epileptic and fainting Fits, hear humming Noiſes, which are, as it were, the unwelcome Harbingers of the Paroxyſm. As in all theſe Diſorders there is an irregular and tumultuous Motion of the Spirits, it is much more eaſy to conceive, that the agitated Spirits may put the Extremities of the Auditory Nerve into Commotions, and by that means excite a Senſation of Noiſe, than to ſuppoſe any Fault or Defect in the Organs of Hearing. This Method of accounting for a *Tinnitus* to me appears ſufficiently ſatisfactory and juſt; and I think I may ſay, that as the Motion of the Spirits is very irregular and tumultuous in theſe Diſorders, ſo the Sounds and *Tinnitus* we hear, when labouring under them, muſt be very different from the Sounds we hear on other Occaſions. I ſhall undoubtedly be told, That this is an Error of the Imagination, and not an Affection of the *Ear*. I agree to it; for 'tis the very thing for which I contend. As 'tis thought we can never hear any thing without the *Ear* being ſtruck, we aſcribe all Sounds to that Organ. But 'tis a matter of Indifference, whether the Fibres of the Nerve be agitated

tated *in the Brain, or in the Ear,* ſince in both Caſes the ſame Senſation will be produced. This happens in a manner analagous to that in which a *Vertigo* is produced; in which 'tis obvious, that the circular Motion of the Spirits produces the ſame Effect as the Objects ſeen would do, if they were actually in a gyratory Motion; or as it happens to phrenetic Patients, who imagine, that they ſee Motes, which have no real Exiſtence; and this Symptom is only occaſioned by the Agitation of the *Optic Nerve* within the Brain. Thus as we aſcribe the Symptoms of Cataracts and Phrenſies to a depraved Imagination, we muſt alſo aſcribe to the ſame Origin thoſe *Tinnituſes*, which ſucceed the Diſorders of the *Ear*, which very often by no means depend on the Indiſpoſitions of the Organs of Hearing.

On this Hypotheſis we may eſtabliſh two Species of *Tinnituſes*, one of which is produced by the Diſorders of the Brain, and the other by thoſe of the *Ear*. Thoſe produced by the Diſorders of the *Ear*, as has been already ſaid, are either true or falſe; and, of theſe laſt, ſome are called *Tinnituſes*, ſome *humming Noiſes*, ſome *Tinglings*, and others *Murmurs*. And in general we may affirm, that dull and heavy Noiſes are produced by a languid Agitation, and ſharp tingling Noiſes by a briſk and lively Agitation, which is ſufficiently confirmed by the remote Cauſes of theſe Symptoms. Rheums, for Inſtance, and Suppurations, where the Membranes are relaxed, generally produce a heavy dull Noiſe; whereas Inflammations, and Pains of the *Ear*, where the Parts are generally tenſe and dry, produce *Tinnituſes*, and acute Sounds. We have Reaſon to believe, that all theſe Noiſes make the ſame Impreſſion on the *Spiral Lamina*, and *ſemicircular Ducts*, that acute and grave Sounds would do.

The Cure of a *Tinnitus*, in general, is to be managed according to the Diſeaſes of the Brain, or *Ear*, which have produced it. I add, that in *Tinnituſes*, or ſharp Noiſes, we muſt uſe almoſt the ſame Remedies as in acute Pains, and Tenſions of the *Membrana Tympani*; and that, in humming heavy Noiſes, we may uſe thoſe preſcribed againſt that Pain which is produced by Cold, and againſt a catarrhous Obſtruction; after which it will be no great Difficulty to chuſe the moſt proper, if we only have a due Regard to all the ſeveral Circumſtances, from which juſt Indications may be taken. *Du Verney.*

DISORDERS *of the* EARS. *From* CELSUS.

Next to the Eyes, Nature has aſſign'd the moſt uſeful Office of Life to the *Ears*: But Diſorders in theſe latter are the more dangerous; for the Diſeaſes of the Eyes are confin'd to the Parts affected, but Inflammations and Pains of the *Ears* precipitate the Patient ſometimes into Madneſs, and Death itſelf. Wherefore we ought to be more careful to apply a Remedy in the Beginning, in order to prevent a greater Danger.

As ſoon, therefore, as a Perſon feels a Pain in his *Ear*, let him betake himſelf to Abſtinence and Reſt. On the next Day, if the Diſorder be increaſed, his Head is to be ſhaved, and anointed with *Unguentum Irinum* hot, and then be cover'd. But a great Pain, with a Fever and Want of Sleep, requires alſo Phlebotomy. If this be, for ſome Reaſons, judged improper, the Belly is to be evacuated. Hot Cataplaſms of Fenugreek, Linſeed, or ſome other mealy Subſtance boiled in Mulſum, now-and-then changed, have a good Effect. Sponges alſo wrung out of hot Water, and apply'd at Intervals, are of Service. The Pain being mitigated, a Cerate made of *Unguentum Irinum*, or *Cyprinum*, is to be put round the Ear; ſometimes what is made of Oil of Roſes proves effectual. If the Vehemence of the Inflammation wholly deprives the Patient of Sleep, half the Quantity of bruiſed Poppy-heads is to be added to the Cataplaſm, and theſe are to be boil'd together in *Paſſum*, or *Mulſum*.

There ought alſo to be dropp'd into the *Ear* ſome Medicine, which is always to be warm'd, and is moſt conveniently inſtill'd by a *Strigil*: When the *Ear* is ſufficiently full, ſome fine Wool is to be put over it, to keep in the Liquor. So much is to be done in general.

Particular Medicines are, Roſe-water, the Juice of the Roots of Reeds, Oil in which Earth-worms have been boiled, Juice of bitter Almonds, or of Peach-kernels. Compound Remedies for mitigating the Pain and Inflammation, commonly uſed, are, Caſtor and Opium bruiſed together, in equal Quantities, and then mix'd with Paſſum; or equal Quantities of Opium, Saffron, and Myrrh, thus bruiſed together, and moiſten'd at Intervals with Inſtillations, ſometimes of Oil of Roſes, ſometimes of Paſſum, or the bitter Part of the *Egyptian* Bean, bruiſed and mix'd with Oil of Roſes; to which ſome add a little Myrrh, or Opium, or Frankincenſe, with Woman's Milk, or the Juice of bitter Almonds, with Oil of Roſes.

Of PUS, *and the ill Smell of the* EARS.

If the *Ears* have *Pus* in them, it will be proper to inſtil *Lycium* alone, or *Unguentum Irinum*, or the Juice of Leeks with Honey, or the Juice of Centaury with *Paſſum*, or the Juice of a Pomgranate warm'd in its Shell, with the Addition of a little Myrrh. The following alſo is a good Medicine:

Take of that ſort of Myrrh call'd *Stacte*, and Saffron, ea one Dram two Grains and a half; bitter Almonds, twent five; Honey, half a Quarter of a Pint: Pound them tog ther, and, when you uſe them, let them be warm'd the Shell of a Pomgranate.

Thoſe Medicines alſo which are good for an ulcerated Mout are effectual for Ulcers in the *Ears*; but if they are old, a abound with Sanies, or corrupt Matter, the following Remed invented by *Eraſiſtratus*, may very fitly be uſed: It conſi of

Pepper, Saffron, each one Dram two Grains and a hal Myrrh, Miſy boiled (*coctum*), each two Drams fi Grains; burnt Copper, two Drams five Grains: Bru them in Wine, and, when they are dry, add thereto Pint and a half of Paſſum, and boil them all together. is to be uſed with an Addition of Wine and Honey.

Menophilus's Remedy is alſo very effectual in this Caſe: conſiſts of

Long Pepper, one Dram two Grains and a half; Caſt two Drams five Grains; Myrrh, Saffron, Opium, *Syri* Nard, Frankincenſe, Malicorium, the Inſide of the *Eg tian* Bean, bitter Almonds, the beſt Honey, each fo Drams ten Grains. While you are bruiſing them, a thereto ſome of the ſtrongeſt Vinegar, till the Wh becomes of the Conſiſtence of *Paſſum*.

If there be much Pus, with an ill Smell,

Take of Verdegriſe, Frankincenſe, each two Drams f Grains; of Honey, one Sixth of a Pint; of Vinegar, o Third of a Pint: Boil them all together, and uſe th with an Addition of ſweet Wine. The Juice of Henba alſo is, of itſelf, very effectual in this Caſe.

A common and approved Remedy for all Diſorders of *Ears*, is the following, which was compoſed by *Aſclepiades*:

Take of Cinnamon, Caſſia, each one Dram two Grains a half; the Flowers of the round Juncus, Caſtor, wh and long Pepper, Amomum, Myrobalans, each two Scr ples; Male Frankincenſe, *Syrian* Nard, fat Myrrh, S fron, Spuma Nitri, each two Drams five Grains: Bru them firſt ſeparately, then mix them, and bruiſe th over again in Vinegar, and ſo put it by for Uſe. Wh you have Occaſion to uſe them, dilute them with Vi gar.

If the Ear run with Sanies, and there be a Tumor, it not be improper to ſyringe the *Ear* with mix'd Wine, afterwards to inſtil ſome auſtere Wine mix'd with Oil of Ro to which a little Spodium may be added; or inſtil Lycium w Milk, or the Juice of the *Herba Sanguinalis* with Roſe-wa or the Juice of a Pomgranate with a little Myrrh.

Of a SORDID ULCER *of the* EARS.

If the Ulcers be ſordid or foul, it is beſt to waſh them with Mulſum, and then uſe ſome or other of the Reme before preſcribed, mix'd with Honey. If Pus run the m the Head is to be ſhaved, and waſh'd with Plenty of hot W ter, which is alſo to be gargled: The Patient muſt walk he be tired, and be ſparing in his Diet. If a bloody Ma iſſue from the Ulcer, Lycium with Milk is to be infuſed i the *Ear*; or Water boiled with Roſes, and mix'd with Juice of the *Herba Sanguinalis*, or *Acacia*.

If Fleſh be grown over the Ulcers, and the ſame be of ill Smell, and Blood iſſues from it, it muſt be well waſh'd w warm Water; after which a Decoction of Frankincenſe, V degriſe, Vinegar, and Honey, or a Decoction of Verdegriſe Honey, is to be infuſed into the *Ear*; or Squama Æris, bea up with Sandarach, are to be inſtill'd into the ſame throug Pipe.

Of WORMS *in the* EARS.

Worms bred in the *Ears*, if they lie near enough, ar be drawn out with an Ear-probe; if they are too remote, are to deſtroy them with Medicines, and be careful to pre their future Breeding. White Hellebore, bruiſed in Vinega effectual to both theſe Purpoſes. The *Ear* alſo is to be ri with a Decoction of Horehound in Wine, which will cauſe dead Worms to ſlide towards the exterior Parts of the E when they may very eaſily be taken out.

For an OBSTRUCTION *in the* AUDITORY PASSAGE.

If the Auditory Paſſage be ſtuffed, and a thick Sanies within the Cavity, ſome of the beſt Honey is to be put into Ear: If this has but little Effect, you muſt add to half a Q ter of a Pint of Honey, two Drams five Grains of Verdegriſe, nd boil them together for Uſe. Iris, with Honey, is effectual for the ſame Purpoſe, or two Scruples of Honey and Roſe-water: Or,

Take of Galbanum, two Drams five Grains; Myrrh, Honey, and Bull's Gall, each two Drams five Grains; Wine enough to dilute the Myrrh.

For THICKNESS *of* HEARING.

If a Thickneſs of Hearing come upon a Perſon, which commonly happens after an inveterate Head-ach, the Ear is, firſt of all, to be examin'd; for either a Cruſt, ſuch as grows over Ulcers, or a Collection of Sordes, will appear in View. If here be a Cruſt, ſome hot Oil, or Honey and Verdegriſe, or uice of Leeks, or Mulſum with a little Nitre, muſt be pour'd nto the *Ear*: When the Cruſt is looſen'd, the *Ear* is to be nſed with warm Water, which may render the mollify'd and parated Matter more eaſy to be extracted by the Ear-probe. f there be Sordes, and thoſe of a ſoft Kind, they are to be xtracted with the ſame Probe; if they are hard, Vinegar with little Nitre is to be injected, and the mollify'd Matter is to e extracted, and the *Ear* cleanſed as before. If there remains Heavineſs of the Head, it is to be ſhaved, and rubb'd gently, t for a long time, and anointed with Oil of Iris, or of Bay, little Vinegar being mix'd with either of theſe Oils. Then e Patient is to walk for a long while together; and, after nction, the Head is to be gently fomented with warm Water. e Food muſt be very low, and Aliments of a middle Nature ly are to be taken, and Drink much diluted: Gargariſms are netimes to be uſed. Injections alſo are to be made into the r, of Caſtor with Vinegar, and Oil of Bay, and the Juice the Rinds of Radiſhes, or of wild Cucumbers, adding that Roſe-leaves bruiſed. The Juice of unripe Grapes, inſtill'd th Oil of Roſes, is good alſo againſt Deafneſs.

Of a NOISE *in the* EARS.

There is another Kind of Diſorder, when the *Ears* ſound thin themſelves; whence alſo it comes to paſs, that they are bled from receiving external Sounds. The Diſorder is hteſt, when it proceeds from a Cold; worſe, when it is cauſed a Diſeaſe, or an inveterate Head-ach; but worſt of all, when akes its Riſe from the Approach of ſome great Diſeaſe, and ecially the Epilepſy.

f the Diſtemper proceeds from a Cold, the *Ear* muſt be nſed; and the Patient muſt hold his Breath, till ſome Hu- ur froth out of his *Ears*. If a Diſeaſe, or Head-ach, be the uſe, the ſame Directions, as to Exerciſe, Friction, Perfu- , and Gargarization, are to be obſerved as in the preceding orders; and the Patient muſt keep to an extenuating Diet. e Juice of Radiſh, with Oil of Roſes, or with the Juice of d Cucumber-roots, or Caſtor in Vinegar and Oil of Bay, to be injected into the *Ear*. White Hellebore, bruiſed in egar, and afterwards infuſed in boil'd Honey, and made a Collyrium, is to be put into the *Ears*. If the Diſorder wing to none of theſe Cauſes, but terrifies the Patient with Expectation of ſomething worſe, Caſtor with Vinegar, or h Oil of Iris or Bay, is to be put into the Ear; or Caſtor, 'd with Oil of Bay, and Juice of bitter Almonds; or Myrrh Nitre, with Vinegar and Oil of Roſes. But in this Caſe there is more to be expected from a Regimen of Diet, in ch the ſame Advice is to be follow'd, only with greater ctneſs, as was given before; with this Addition, that as as the Ringing in the *Ears* continues, the Patient muſt lly abſtain from Wine.

the Noiſe be attended with an Inflammation, the *Ear* be abundantly mollify'd with Oil of Bays, or Oil of bit- Almonds, with which ſome mix Caſtor, or Myrrh.

How to extract Things fallen into the EARS.

hings ſometimes happen to fall into the *Ear*, ſuch as little les, or Animals. If a Flea be got into it, a little Wool is ſtuffed into the Cavity, into which the Animal may get, ſo be taken out. If the Flea does not follow, or it be her Animal, take a Probe wrapt in Wool, and, dipping it me very glutinous Reſin, particularly of Turpentine, in- ce it into the Ear, and turn it about; by which means you certainly take hold of the Creature, and ſo pull it out. If be any thing dead, it muſt be extracted with the Ear-probe, blunt Hook, a little bent. If theſe fail, it may be drawn with Reſin, in the ſame manner as the other. Sternutato- alſo are a convenient means to force it out, or *an Ear-* r *(Oriculario Clyſtere)*, the Water being forcibly impell'd the Ear.

Board alſo is ſometimes placed in ſuch a manner, as to be rted at each Extremity, and the Patient is bound upon this , with the affected *Ear* towards it, ſo as the *Ear* does not beyond the Board; then that Extremity of the Board, the Patient's Feet, is to be ſtruck with a Hammer, and what was in the *Ear* falls out by the Concuſſion. *Celſus*, *Lib.* 6. *Cap.* 7.

DISORDERS *of the External* EAR.

Sometimes there happens a Fracture of the Cartilage of the *Ear*, in which Caſe, before Pus is found, a conglutinating Medicine is to be apply'd; for it often prevents a Suppuration, and confirms the *Ear*. Now we ought not to be ignorant, with regard to the preſent Subject as well as the Noſe, that the Cartilage itſelf is not conglutinated, but the Fleſh about it increaſes, and the Place is conſolidated; therefore if the Skin be broken, with the Cartilage, it is ſow'd up on both Sides; but I now ſpeak of a Fracture where the Skin remains entire. In this Caſe, if Pus be already generated, the Skin muſt be open'd in another Part, and the Cartilage againſt it be cut out, making a Wound in Form of a Creſcent (*Lunata Plaga*); after which ſome gentle Styptic muſt be apply'd to ſtop the Blood, ſuch as Lycium dipt in Water. This done, let a Linen Cloth with a Plaiſter be laid on the Place, avoiding all fat Things; and behind the *Ear* let fine Wool be apply'd, ſufficient to fill the Vacuity between that and the Head. After this, the Wound is to be gently bound up, and on the third Day fomented with a Vapour-bath. Abſtinence is as neceſſary, in the Beginning, in this as well as other Caſes, till the Inflammation ceaſes. *Celſus*, *Lib.* 8. *Cap.* 6.

For a CONTUSION *of the* EARS.

Hippocrates adviſes to let it alone; but, ſince we are often compell'd by the Patients themſelves to do ſomething,

Take of Myrrh, Aloes, Frankincenſe, Acacia, of each an equal Quantity; and, mixing them with Vinegar, or the White of an Egg, anoint the Part. Or,

Take the Inſide of a hot Loaf, and bruiſe it in a Mortar with Honey, and ſo apply it. Or,

Take of Bitumen, Frankincenſe, Aloes, the Fleſh of Houſe-ſnails, *African* Bulbi, of each an equal Quantity; bruiſe them in Vinegar, and ſo uſe them.

If an Inflammation ariſe, apply a Cataplaſm of Seſamum, or Alica, boil'd in Vinegar. Let the Cataplaſms be but thin, and not bound on, or but very ſlightly; and put Wool, moiſten'd with Oil, into the Hollow of the *Ear*. *P. Æginet. Lib.* 3. *Cap.* 23.

WOUNDS *of the External* EAR.

Wounds of the *external Ear* are either to be united and conſolidated by means of agglutinating Plaiſters; or, in Caſes where the Cartilage is quite cut aſunder, by the Aſſiſtance of proper Suture, taking care at the ſame time to dreſs the Part affected with Lint, ſoak'd in ſome vulnerary Balſam, and to ſecure the Dreſſing by proper Bolſters and Bandage. In Wounds of the *Ear*, happening near the *Meatus Auditorius*, we are to take particular Care, that no Blood, or other Matter, be allow'd to enter it, ſince, by that means, the Membrane of the *Tympanum* could not fail to be injured. In order, then, to prevent this Inconvenience, we ought always, on Occaſions of this Nature, carefully to guard the internal *Ear* by means of Lint, or Cotton, put into it. *Heiſter. Inſtitut. Chirurg.*

Of an IMPERFORATION *of the* AUDITORY PASSAGE.

This Defect is from the Birth, the Paſſage of Hearing being ſtopp'd by a Membrane, which ſometimes appears on the Superficies, ſometimes is deeply ſeated. It may alſo happen after the Birth, from a preceding Ulceration of the Parts about the Paſſage, by which means Fleſh grows over it, and ſtops it up.

If the obſtructing Membrane be deeply ſituated, the Undertaking is difficult; we ought, however, to attempt the Cutting it by ſome ſmall Inſtrument: If it lie on the Superficies, we are to cut it with a ſharp Knife, and, if it be neceſſary, take it quite off. If Fleſh be grown over the Paſſage, it muſt alſo be taken off with the Knife that is made for cutting out a Pterygium or Polypus: Afterwards we take a Linen Tent, of a Size adapted to the Paſſage, and, moiſtening it with Water, roll it in Chalcitis powder'd, or ſome other Powder of that Kind, and thruſt it into the Cavity, in order to prevent the Growth of new Fleſh. If there be an Inflammation, we immediately withdraw it; if Blood iſſue from the Paſſage, we apply a Sponge dipp'd in cold Water, and uſe other proper Means. *P. Æginet. Lib.* 6. *Cap.* 23.

Some Children have the Misfortune to be brought into the World with the Auditory Paſſage cloſed up, and obſtructed by means of a certain preternatural Coat, which is ſometimes thicker, and ſometimes thinner; ſometimes diſcover'd as ſoon as they are born, and at other times not to be perceived, till, the Children growing up, a Privation of Speech too palpably betrays it; for Deafneſs, and an Incapacity of uttering articulate Sounds, are generally inſeparable Attendants upon each other. For this Reaſon, when we find, that a Child does not begin to ſpeak at the Age in which other Children uſually do, we are to take a very minute and careful Survey of his Tongue and Ears; for it frequently happens, that ſome Fault lies latent in the inner *Ear*, by means of which the natural Capacity of Hearing is prevented and deſtroy'd; and this Defect is removed with more or leſs Difficulty, in proportion as it is ſeated deep and remote in the *Ear*, or near its Entrance: For when the very Entrance of the Paſſage is cloſed up by means of a certain Coat, the Cure is ſoon brought about; but when this Coat lies deeper, the Cure is leſs certain, and more difficult; becauſe in the laſt-mention'd Caſe, in our Attempts to cut or remove the preternatural Coat, the Membrane of the *Tympanum*, which lies immediately behind it, is generally wounded along with it. In Caſes where a preternatural Membrane cloſes up the very Entrance of the Paſſage, 'tis proper to make a crucial Inciſion into it, and prevent its Reunion, by means of a Tent kept in it as long as the Circumſtances of the Caſe ſeem to require. By this Method the deaf Patient, if free from every other Defect, will, in all Probability, receive his Senſe of Hearing, together with its natural Conſequence, a Capacity of Speech. If, on the contrary, this ſuperfluous and preternatural Membrane ſhould happen to lie ſo deep, as to be contiguous to the Membrane of the *Tympanum*, the Cure, as I have already ſaid, is generally doubtful and uncertain. But becauſe, in this Caſe, little, or rather no Relief at all, is to be expected without an Operation, it ſeems far more adviſeable, on ſome Occaſions, to attempt a Cure, tho' it ſhould prove unſucceſsful, than to ſuffer the Patient to remain without any Aſſiſtance, and abandon him to Deſpair. And when the Operation is undertaken, this ſuperfluous and preternatural Coat is to be cut, either longitudinally or tranſverſly, as the Circumſtances of the Caſe require; but the Operator ought to have an exact and ſteady Hand, leſt with the Point of his Inciſion-knife he ſhould wound, or even quite pierce through, the Membrane of the *Tympanum*, which, in the Ears of Children, does not lie very deep.

Of EXTRANEOUS SUBSTANCES *in the* AUDITORY PASSAGE.

Not only ſmall Pebbles, but Glaſs, Beans, and Carob-ſtones, may fall into the Ears. As for Glaſs and Pebbles, they remain in their proper Bigneſs; but Beans, and Carob-ſtones, and other things of that Nature, by imbibing the natural Humidity of the Body, ſwell, and occaſion very great Pain.

Your only way then is, to take them out, either with the Ear-probe Hook, or Forceps, or to get them out by violent Concuſſion, placing the Ear upon a ſort of Circle. I have often extracted ſuch things, as well as Water fallen into the Ears, by Suction with a Reed, putting Wax about the End of the Reed next the Ear, in order to exclude the Air. For Pebbles, and ſuch Matters, I got them out by putting ſome Wool about a Probe; and after ſmearing it with Reſin of Turpentine, or ſome other glutinous Subſtance, gently introducing it into the Chanel of the Ear. If this Way does not ſucceed, give a Sternutatory, and ſtop the Mouth and Noſtrils; but if this alſo be ineffectual, we muſt have recourſe to Surgery, before an Inflammation or Convulſions come on, or the Caſe be dangerous.

Placing therefore the Patient upon the oppoſite Ear, we make a ſmall lunar Section at the Baſis of the Ear, behind the Part called the Lobe, and with the Hollow of the Probe take out the offenſive Matter; we then ſow up the Wound, and perfect the Cure with Vulneraries. *P. Æginet. Lib.* 6. *Cap.* 24.

In what Manner preternatural Subſtances lodged in the EARS, *and Things that have caſually fallen into them, are to be extracted.*

The Wax of the *Ear*, which was originally deſigned for excellent Purpoſes, is ſometimes preternaturally indurated; and ſometimes extraneous Subſtances, ſuch as a Pea, a Bean, a ſmall Stone, a Cherry-ſtone, an Animal of a ſmall Size, or other Things of a like Nature, fall accidentally into the Auditory Paſſage. Now two very important Reaſons concur to render a cautious and expeditious Extraction of ſuch Subſtances highly proper and neceſſary: The one is, that the Patient may be ſpeedily freed from thoſe Pains, which, in Caſes of this Nature, are ſometimes very violent: The other is, that he may not be deprived of his Senſe of Hearing.

Which of the above-mention'd Subſtances is lodged in the *Ear*, may be learn'd not only from the Relation of the Patient himſelf, but alſo by an Inſpection of the *Ear*, or by introducing proper Inſtruments, or Probes, for that Purpoſe. In Caſes where the Wax, being preternaturally indurated and dry'd, either renders the Hearing dull, or deſtroys it altogether, the moſt proper and efficacious Method which can be taken, is to drop a little of the Oil of Olives, or Almonds, or even a little warm Milk, into the affected *Ear*; ordering the Patient at the ſame time to recline his Head the oppoſite Way. A few Minutes after this, we muſt introduce a proper Ear-probe, a with it draw out the offending Matter by little and little. A if it ſhould happen, that the Wax is harder than to admit being ſoften'd, and extracted by taking theſe Meaſures on they are to be repeated in the ſame manner again and aga till ſuch time as the obſtructing Matter is entirely remov But if a ſmall Stone, or Cherry-ſtone, is lodged in the *E* the Paſſage ought carefully to be lubricated, by dropping a lit tepid Milk or Oil into it; after which a proper Ear-probe, ſuch a Forceps as is repreſented by Letter E in *Tab.* 22. is to introduced, and the offending Subſtance extracted with utmoſt Caution and Delicacy. If a Pea, a Bean, or any ot Subſtance of a like Nature, ſhould happen to be lodged in *Ear*, and become turgid, by means of the Humours and M ſture which ſurround it, our moſt expeditious Method of Reli if it can neither be extracted by the Probe nor Forceps, is introduce a very ſmall Knife, with which we muſt divide tumefied Body with all poſſible Caution, and then extract ſeveral Parts of it one after another.

Sometimes very ſmall Animals, or Inſects, are alſo lodged the Ear, and excite a very troubleſome Titillation or Itchi and ſometimes very acute Pains, by their Efforts to diſentan themſelves from the Wax in which they ſtick. In this Caſe, the Animal or Inſect can be diſcovered by the Eye, it is to forthwith extracted by the Probe or Forceps. But if it can poſſibly be ſeen, the moſt ſafe and commodious Method we take is, to drop ſome Oil of Almonds or Olives, or even ſo tepid Spirit of Wine, into the Patient's Ear; and to order to recline his Head to the oppoſite Side, that the Liquor may retained, till we think the Animal or Inſect is killed; for the above-mentioned Subſtances all Animalcules or Inſects w ever are very ſpeedily deſtroy'd. Then the Liquor dropt the Ear is to be diſcharged, and the Paſſage to be caref cleanſed, by means of a Probe armed with Lint or Cot Some Phyſicians in this Caſe order bitter Liquors, ſuch as Decoction of Wormwood, or of Colocynthis, to be drop into the Ear, becauſe theſe Subſtances alſo generally kill A malcules or Inſects. But in my Opinion Oils, and Spiri Wine, are, on theſe Occaſions, preferable to any other quors whatever, ſince ſome Species of Animalcules are ſo from being kill'd by bitter Subſtances, that they rather de in them, whereas no Species of Inſect can be found, to w Oils, and Spirit of Wine, do not prove mortal.

Of TUBERCLES *form'd in the* MEATUS AUDITORIU

'Tis no uncommon Thing for Tubercles, or certain creſcences of Fleſh, to ariſe in the auditory Paſſage, which only prove very uneaſy to the Patient, but alſo do a conſider Injury to the Senſe of Hearing. If this Diſorder is recent, Tubercles, or ſuperfluous Fleſh, may, for the moſt part deſtroy'd by the Uſe of corroding Medicines: But we muſ this Caſe, take care, that the deeper and more internal Part o Paſſage be ſufficiently guarded, and cloſ'd up with Lint or Cot leſt, in Conſequence of a Neglect of this kind, any Part of corroding Application ſhould reach the Membrane of the *panum*, and prove injurious to it: For which Reaſon it ſ generally moſt adviſeable to uſe a Knife, or the Sciſſars, for tirpating Tubercles of this kind, eſpecially when they do n deep and remote in the Paſſage. But when a Protuberanc this Nature lies more conceal'd, and at a greater Diſtance the external Orifice of the Paſſage, we muſt uſe ſmall Ho and a proper Forceps, for drawing it towards us, and then e pate it as effectually and ſafely as we poſſibly can; after w 'tis proper to apply the Lapis Infernalis, again and again, t remaining Roots of the Tubercle, 'till we have, by littl little, ſo thoroughly extirpated them, as to leave but ſmall bability of the Tubercle's riſing afreſh. If corroſive Medi do not anſwer the Intention, and if the Tubercle does n too deep and remote, a proper actual Cautery may ſometim us'd with Succeſs. And, laſtly, that Ligatures may be pro and commodiouſly us'd in the Extirpation and Cure of Tub of this kind, is abundantly plain, from the Caſes deſcrib'd illuſtrated with Figures in *Hildanus*, *Cent.* 3. *Obſ.* 1. a the *Chirurgia* of *Purmannus*, *p.* 280.

For the Method of burning the *Ear*, in order to cu Tooth-ach, ſee ODONTALGIA.

Of ACOUSTIC *Inſtruments, ſuch as are intended to aſſi* HEARING.

As the Sight is aſſiſted by Spectacles, or other Glaſſes triv'd for that Purpoſe, ſo the Hearing is ſometimes enliv and render'd quick, by means of proper Inſtruments, whi call *Acouſtics*. Tho' theſe are of very various Figures, a the moſt part bear ſome Reſemblance to a Trumpet; yet I generally found, that thoſe were moſt commodious, and be ſwer'd the End, which were like a kind of Pipe, a little ed, narrow at the Beginning, but diverging and growing like a Trumpet, at the other Extremity, ſuch as that ſented in Tab. 40. Fig. 2. Thoſe alſo deſcrib'd by *Nu*

Dec

Deckkers, and repreſented in Tab. 40. by Fig. 3. and 4. are highly recommended. The two firſt of theſe Inſtruments, repreſented by Fig. 2. and 3. are us'd, by introducing the ſlender Part, A, into the Ear, and holding them in that Poſition by the Handles, B. The third of theſe Inſtruments, exhibited in Tab. 40. Fig. 4. being very ſmall, and wreath'd up in form of a ſpiral Shell, is, by *Deckkers*, in *Exercitat. Practicis*, reommended as the moſt commodious of all others; becauſe, in conſequence of its Smallneſs, it may be ſo conceal'd under one's Hair, or a Wig, as ſcarce to be obſervable; whilſt the ſlender Part, repreſented by A, is introduc'd into the *Ear*, and the Chords repreſented by B B carried round the Ear, in order to ſecure it. But, after the moſt accurate Obſervation, I ave found, from Experience, that the two laſt-mention'd of heſe Inſtruments are not ſo contriv'd, as to anſwer the ntention ſo well as the firſt of theſe Inſtruments, repreſented y Fig. 2. which, beſides the Advantage of its Simplicity, I ave always found to be more uſeful, in Caſes of this Nature, han the other two. Some Years ago there was a public Reort, that one *Truchet*, a *French* Monk and Mathematician, ho, for the ſingular Excellence of his Genius, was created Member of the Royal Academy of *Paris*, had, in that City, ontriv'd a certain acouſtic Inſtrument, which was not only ſo mall as that it might be conceal'd within the *Ear*, without rojecting in the leaſt, but alſo ſo exquiſitely adapted to the Inention, as to prove ſurpriſingly beneficial to the Hearing. But hat ſort of Inſtrument this may be, or whether its Uſe is atended with ſuch uncommon Advantages, are Circumſtances of hich I have not yet got ſufficient Information; tho' I have ot only diligently inquir'd after theſe Particulars, of ſome *Ger*n Phyſicians of my Acquaintance, who reſided for ſome me at *Paris*, but alſo endeavour'd to get Satisfaction in this oint, by writing Letters to ſome Surgeons and Phyſicians of *aris*. It were, however, to be wiſh'd, that Men of a meanical Turn were more ſolicitous and induſtrious in contriving Inſtrument of this kind, ſince it could not fail to be of ſinlar Uſe and Advantage to Numbers of their Fellow-creatures. me Years ago *Reuſner*, a Phyſician of *Sileſia*, in *Ephem. Nat. r. Cent.* 5. *Obſ.* 6. recommended the Uſe of a certain Pipe, ade of gilded Silver, and about a Span in Length, in a Diffilty of Hearing, as alſo in Pains and ringing Noiſes of the *ars*. He order'd this Pipe to be introduc'd into the affected *ar*, twice or thrice every Day; and aſſerted, that, by Suction, e pernicious Air, which, he ſuppos'd, prov'd injurious to the *ar*, and excited the above-mention'd Diſorders, might be exuſted. But as 'tis very much to be doubted, whether this rnicious Air is the Cauſe of theſe Diſorders of the *Ears*, ſo ither have I been able to diſcover, why this Pipe ſhould be de of Silver, rather than any other Metal, why it ſhould be t, or what its particular Form or Size ſhould be, ſince he s not deſcrib'd it. In the mean time, 'till better and more mmodious Inſtruments for aſſiſting the Hearing are found t, I muſt, from my own Experience, recommend that ſimple trument, almoſt of the Shape of a Horn, made either of aſs or Silver, and repreſented by Fig. 2. as the moſt uſeful efficacious in Diſorders of this kind.

The Method of boring the LOBES *of the* EARS.

The Method of boring the Lobes of the Ears is thus: Firſt ll, the Place to be pierced, which ought to be the Middle the Lobe, is to be mark'd with Ink. Then, taking the Exmity of the Lobe in one Hand, and a common Steel Needle, a pretty large Size, in the other, you are to perforate the ddle of the Lobe, in the very Part mark'd. Then you are paſs thro' the Perforation a Thread, or round Piece of Lead, h as that repreſented Tab. 40. Fig. 7. This muſt be bended the Form of a Ring, which, for ſome ſucceeding Days, ſt be anointed twice or thrice a Day with Oil of Eggs, or John's-wort, and now-and-then gently mov'd backwards forwards, 'till the Lips of the Perforation are indurated, healed. But, in performing this Operation, 'tis adviſeto perforate a little higher than the Middle or inferior Parts the Lobe; leſt, by the Leaden Ear-rings, or Filaments, Extremity ſhould be dilacerated. But, for performing this ration with the greater Accuracy and Expedition, ſome of later Phyſicians have invented an Inſtrument for this very poſe, which is repreſented Tab. 40. Fig. 5. Between the Plates of this Machine, the *Ear* is plac'd, in ſuch a Poſi, that the Hole, B, ſhall exhibit to the View the Part of *Ear* mark'd for Perforation. Then the Ring, A, is to be n ſo far up, as to fix and ſecure the Lobe ſufficiently. n, by means of a Steel, a Golden, or a Silver Needle, r of the common Form, or, which is better, by one holat one of its Extremities, ſuch as that repreſented in Fig. 6. , the Lobe itſelf is ſo perforated, that the leaden Filament, ented by Fig. 7. which is inſerted within the hollow of the Needle, may be left in the Perforation by way ar-ring; which, as I have already ſaid, muſt be gently 'd backwards and forwards, till the Lips of the Pertion are heal'd. But, inſtead of this Needle, I think we may ſtill more commodiouſly uſe that repreſented by Fig. 8. which, at its obtuſe Extremity, is divided like a Larding-pin, that it may the better retain and tranſmit the Leaden Filament, which is to be introduc'd into the Diviſion, after half of the Needle is paſſed thro' the Lobe. But tho' Perforation of the *Ears* is generally perform'd, rather with a View to gratify the Fair Sex with the additional Ornaments of Ear-rings, than for any medicinal Purpoſes; yet, if we may believe *Riverius, Obſ. Medic.* 100. and ſome other Phyſicians, it is ſo noble and effectual a Remedy againſt ſome Diſorders, that none can poſſibly exceed it: For, ſays *Riverius*, if a triangular red-hot Needle is paſſed thro' the Lobe of the Ear; and if, as in a Seton, a Cord of Linen or Silk is introduc'd into the Perforation, in order to keep it open, by drawing it backwards and forwards; 'tis ſcarce credible what a large Quantity of noxious Humours ſhall be deriv'd to the Part, and diſcharg'd, or how ſucceſsfully the moſt terrible Diſorders of the Eyes, the Teeth, and even the Breaſt itſelf, may be cur'd, and the Danger of a Conſumption carry'd off by this means. So that 'tis no wonder if ſome of our modern Phyſicians, eſpecially ſuch as are employ'd in curing Diſorders of the Eyes, have begun by degrees to introduce the Perforation of the *Ears* into Practice. *M. A. Severinus* [*Lib. de Effic. Medic.*] alſo aſſerts, with *Paracelſus*, that this Operation is peculiarly advantageous in a beginning Deafneſs. *Heiſter. Inſtitut. Chirurg.*

Explication of the Figures *exhibited in* Tab. 19. *relative to the Organ of* HEARING. *From* Du Verney.

Fig. 1. Repreſents the temporal Bone as large again as it naturally is, with its ſquamoſe Parts cut off, and its long Canal as much abraded as is neceſſary to give a fair and open View of the *Membrana Tympani*.

A exhibits a fore Proſpect of the *Membrana Tympani* in its natural Situation.

B the Manubrium of the Malleus apply'd behind this Membrane.

C the long Branch of the Incus which appears thro' this Membrane, though 'tis ſituated at a ſmall Diſtance from it.

D the Head of the Malleus.

E the ſolid Part of the Incus, with its ſhort Branch.

F theſe diſcover'd by this Diſſection of the adjacent Parts.

G the bony Canal half abraded.

H the Maſtoide Apophyſis.

I the Styloide Apophyſis.

K the external Muſcle of the Malleus in its natural Situation.

L a prick'd Line denoting the ſlender Apophyſis of the *Malleus*, in which this Muſcle is inſerted.

Fig. 2. Exhibits a lateral Proſpect of the *Membrana Tympani*, that its Inclination may be the better obſerved.

Fig. 3. Exhibits the ſame Proſpect of the *Membrana Tympani* inſerted in the Extremity of the bony Canal. It alſo repreſents the Manner in which that Side of the bony Canal, which is neareſt the Face, lies diſtant at its lower Extremity from the *Membrana Tympani*, and how it inſenſibly approaches to it in proportion as it aſcends. A, A, A, that Side of the bony Canal which lies neareſt the Face.

Fig. 4. Exhibits a lateral View of the Incus and Stapes in their natural Situation.

A repreſents the ſolid Part of the Incus.

B its ſhort Branch, of which, in this Diſpoſition of the Parts, we have a fore Proſpect.

C its long Branch.

D the Head of the Stapes join'd to the long Branch of the Incus, by means of the fourth ſmall Bone.

Fig. 5. Repreſents the Roſtrum or Beak of the long Branch of the Incus, the fourth ſmall Bone, and the Head of the Stapes with its Cavity; but all four times as large as their natural Bulk.

A the Roſtrum of the long Branch of the Incus.

B the fourth ſmall Bone.

C the Head of the *Stapes* with its Cavity.

Fig. 6. Repreſents the *Stapes* five times as large as its natural Bulk.

A the Head of the *Stapes*.

B its Neck.

C C its Branches ſulcated.

D its Baſis.

E the Membrane of the *Stapes*.

Fig. 7. Repreſents the Baſis of the *Stapes* in the ſame Situation, in order to ſhew, that it is alſo ſulcated.

D the Baſis of the *Stapes*.

Fig. 8. Repreſents the *Stapes* with its Muſcle in their natural Situation.

A the *Stapes*.

B its Muſcle: But both as large again as their natural Bulk.

Fig. 9. Repreſents the ſmall Bones in the Situation, in which they are ſeen, when the Eye is apply'd to the Duct, which penetrates into the Maſtoide Apophyſis.

A the ſolid Part of the Incus.
B a fore View of its ſhort Branch.
C its long Branch.
D a poſterior View of the Manubrium of the Malleus.
E repreſents the ſuperior Part of the Stapes.

Fig. 10. Repreſents the ſmall Bones in their natural Situation, as they are ſeen on the oppoſite Side when the Eye is apply'd to the Duct which goes from the Ear to the Mouth.

A the Head of the Malleus, which conceals the ſolid Part of the Incus, and its ſhort Branch.
B the Manubrium of the Malleus.
C the long Branch of the Incus.
D a ſide View of the Stapes. In this Repreſentation of the ſmall Bones, a ſmall Rod is acroſs, in order to ſhew what is ſuperior, and what inferior, according to the various Views and Proſpects.

Fig. 11. Exhibits a poſterior View of the temporal Bone as much abraded as is neceſſary, to expoſe the *Membrana Tympani* to the Sight. Upon which Membrane are diſcover'd the *Malleus* and *Incus* in their poſterior and anterior Views, together with that ſmall nervous Branch call'd the *Chorda Tympani*, as alſo the Tendon of the external Muſcle of the Malleus, all in their natural Situation: As alſo the Cavity which receives the Head of the Malleus; and the ſolid Part of the Incus.

A a poſterior Proſpect of the ſquamoſe Part of the Temporal Bone.
B the Maſtoide Apophyſis exhibited in the ſame Situation.
C C the Os Petroſum abraded.
D the Membrana Tympani.
E the Malleus.
F the *Incus*, whoſe ſhort Branch lies upon the Entrance of the *Meatus*, which penetrates into the Sinuſes of the Maſtoide Apophyſis.
G the Foramen of the Auditory Nerve.
1. the Tendon of the external Muſcle of the Malleus.
2, 3. the *Chorda Tympani*.

Fig. 12. Repreſents the half of a Head, leſs by a third than the natural Bulk, with the whole ſuperior Part of the Cranium taken away, and the remaining Part cut perpendicularly thro' the Middle of the Noſe, that the Orifice of the Duct coming from the Ear to the Palate may be diſcover'd.

A A the Cavity of the Noſe, with its Laminæ.
B the Bottom of the Palate.
C the Orifice of the Duct coming from the Ear to the Palate.
1. its cartilaginous Side, which forms a Border reſembling a Creſcent.
D the Wind-pipe cut thro' the Middle.

Fig. 13. Repreſents the Temporal Bone as large again as its natural Bulk, and prepar'd in ſuch a manner as to expoſe to View the *Cochlea*, and the *ſemicircular Ducts*, in their natural Situation.

A the Arch of the Veſtibulum.
B the *Feneſtra Ovalis*, mark'd by a prick'd Line.
C the *Feneſtra Rotunda* open.
D the *Spiral Lamina*, mark'd by a prick'd Line, ſeparate from the ſpiral Canal which covers it; and from the Membrane by which it adheres to the Surface of that Canal.
1, 2, 3. the three ſemicircular Ducts in their natural Situation. 1. the Superior. 2. that in the Middle. 3. the Inferior. That in the Middle, and the Inferior, are open, in order to ſhew, that they are hollow.

Fig. 14. Repreſents the Covering of the *Cochlea* taken off, and view'd internally, in order to diſcover the *Spiral*, *Semioval Canal*.

N. B. This is alſo repreſented *Tab*. 9. *Fig*. 2.

Fig. 15. Repreſents the *Cochlea* ſeveral times larger than the natural Bulk, and view'd according to its Heighth. In order to view it in this Situation, the anterior Part of its Covering is only raiſed by a perpendicular Section, which ſhews in what manner the *Lamina* makes two Circumvolutions and an half round the Spindle; in what manner it adheres to the Surface of the Canal, which ſerves inſtead of a Vault to it; and laſtly, in what manner the Sides of this Canal, adhering to the Spindle, become as ſmall and ſlender as the *Lamina* itſelf.

A the inferior Portion of the *Veſtibulum*, which did not naturally belong to this Figure, but was left in order to ſhew in what manner the ſpiral Lamina comes out of its Cavity, and paſſes before the *Feneſtra Rotunda*.
B the Feneſtra Rotunda ſhut up by a Membrane as ſlender as the *Membrana Tympani*.
1, 2, 3. the two Turns and an half made by the *ſpiral Lamina* round the Spindle.
4, 5, 6. the two Turns and an half made by the ſpir Duct.

Fig. 16. Repreſents the ſpiral Lamina ſuſpended in the Ai and ſeveral times larger than its natural Bulk, together with th Membrane by which it adheres to the Surface of the Canal.

1, 2, 3. the *ſpiral Lamina* itſelf.
4, 5, 6. the Membrane which adheres to it, and which a pears to be ſeparated from it by an intermediate Line.

Fig. 17. Repreſents the Spindle ſeveral times larger than natural Bulk; upon which we may obſerve the Traces of t Circumvolutions of the *ſpiral Lamina*, and *ſpiral Duct*.

1, 2, 3. the Traces of the Circumvolutions of the *ſpir Lamina*, which are pierc'd with ſeveral ſmall Holes, which gi Paſſage to the Filaments of the auditory Nerve.
4, 5, 6. the Traces made by the Edges of the ſpiral Du

Fig. 18. Repreſents the *Cochlea* in an erect Poſition, wi one half cut off by a perpendicular Section, almoſt as in *Fig*. except that in this the Bone is more abraded. This Figure only deſigned for the Illuſtration and better underſtanding third Figure. It is ſufficient to obſerve, that in this the La na appears ſeparated from the Surface of the Duct, that the terior Part of this Duct may appear the more conſpicuou and that we may ſee more diſtinctly in what manner its Si are lengthen'd out in order to be join'd to the Spindle.

Fig. 19. Repreſents the *Veſtibulum* and the *three ſemicirc Ducts* open, in order to diſcover the Diſtribution of their Veſ

a the arterial Branch, which enters the *Veſtibulum*.
b a ſmall Branch of this Artery, which paſſes thro' the c mon Entrance of the *Veſtibulum*, and diſtributes itſelf to ſuperior and inferior *Ducts*.
c the Branch which diſtributes itſelf over the *middle Du*

Fig 20. Repreſents the Arteries of the *Cochlea*, *Veſtibu* and three *ſemicircular Ducts*.

A the *Feneſtra Rotunda*.
B the Aperture of the *Duct* affording a Paſſage for the ſels; this is at the Entry of the inferior Winding of the *chlea*. It appears, that one Part of theſe Veſſels is diſtri to all the *Cochlea*, and another to the *Veſtibulum*, and *ſemicircular Ducts*, which laſt are repreſented as ſuſpend the Air.

Fig. 21. Repreſents a Portion of the *Veſtibulum*, and the *ſemicircular Ducts*, ſuſpended in the Air, in order to ſhew natural Situation, and their Orifices.

A the inferior Portion of the *Veſtibulum*.
B the ſuperior *Duct*.
C the inferior.
D that in the Middle.
1. the Orifice of the ſuperior *ſemicircular Duct*.
2. the firſt Orifice of the middle Duct.
3. the Orifice of the inferior Duct.
4. the other Orifice of the middle Duct.
5. the common Orifice of the ſuperior and inferior D
6. the firſt Aperture, which affords a Paſſage to one Branches of the *ſoft Portion* of the *auditory Nerve*.
7. the ſecond Aperture, which affords a Paſſage to a Branch of the ſame *Nerve*.

Fig. 22. Repreſents the *Veſtibulum* in the ſame Situa in the former Figure, with the Nerves of the three *ſemic Ducts* ſuſpended in the Air.

a a Branch of a Nerve which enters the *Veſtibulum* Opening mark'd 6 in *Fig*. 21. It divides itſelf into Branches, of which the firſt enters the Orifice of the *ſemicircular Canal*, the ſecond the ſuperior Orifice of t *dle Canal*, and the third, which is the ſmalleſt, deſc enter the common Orifice.
b the Branch which enters the Opening mark'd 7 in and which is divided into two Branches, the inferior o enters the Orifice of the *inferior Duct*, and the other into the common Orifice, and unites itſelf to the third mark'd *a*. Theſe Nerves are here repreſented fo larger than their natural Size.

AURIS MARINA. A Shell-fiſh, very common Coaſts of *Guernſey* and *Normandy*, and thoſe of *Scotland* but one Shell which defends it from Injuries, and is the Shape of an Ear. It adheres to the Rocks like a

This Fiſh is not eaten raw, but the People of the where it is found uſually boil, and then fry it. T eſteemed to make a good Fricaſſee. It is, like all oth fiſh, an alcaleſcent Food. It is called the *Aurmar*. ſomewhat like the Burs of Veal, but not quite ſo tend Shell on the Margin is perforated with five or ſix ſma Holes; and on the Inſide reſembles Mother of Pearl.

AURISCALPIUM, from *Auris*, an Ear, and ſcratch. An Ear-picker, an Inſtrument to take Wa other extraneous Body, out of the Ears.

AURORA CONSURGENS. A whimſical Phraſe of the Alchymiſts, by which they would expreſs the Vegetation of their Gold.

AURUM, Offic. Fabr. 1. Schrod. 361. Worm. 114. Charlt. Foſſ. 45. Aldrov. Muſ. Metal. 37. Mer. Pin. 208. Schw. 367. Calc. Muſ. 436. Kentm. 58. *Aurum*, *Sol*, Mont. Exot. GOLD.

Gold, *Aurum* in *Latin*, χρυσὸς in *Greek*, *Sol* by the Chymiſts, is the moſt noble, moſt perfect, and heavieſt of all Metals; ductile, ſonorous, and of a reddiſh-yellow Colour. It is ſometimes found pure and unmixed in the Earth, in Rivers, and in the Clefts and Fiſſures of Stones, either in Duſt, or larger Pieces. The Ores from which *Gold* is extracted by Fire, are ſometimes a kind of Pyrites, of an aſh or purple Colour. It is often found with Orpiment, and is likewiſe ſometimes hid in the Mines of other Metals, eſpecially of Silver, from which it muſt be ſeparated by various Contrivances. There are many Rivers, among the Sands of which *Gold* is found in ſmall Grains, and there are large *Gold* Mines in *Norway*, *Hungary*, and *Guinea*; but the richeſt are in *Peru* and *Mexico*.

Gold is the heavieſt of all Metals, and of all known Bodies; but withal ſo ſoft and ductile, that it may be extended ſo as to have its Surface increaſed to 652,590 times. In all common Fires, it remains fixed; and, even when expoſed in the Focus of the greateſt Burning-glaſs, it ſuffers that Heat for a great while, before it begins to evaporate. It never contracts Ruſt, and is diſſoluble in Aqua Regia. It is capable of being penetrated by Mercury, and its Texture ſo far opened, as to be turned into a ſoft Amalgama. It may be calcin'd by common Sulphur, if ſet on Fire and flaming. When diſſolved by Aqua Regia, it may by Oil of Tartar per Deliquium, be precipitated into a blackiſh Powder, which being gently heated, either by Fire or by Attrition, flies off into the Air with a great Noiſe; whence it has the Name of *Aurum Fulminans*. The ſame Effect will happen by uſing Spirit of Sal Ammoniac, or any other urinous Spirit, inſtead of Oil of Tartar; butthen the Fulmination requires a greater Degree of Fire.

The Analyſis or Reſolution of this Metal has been hitherto attempted without any Succeſs. The Sulphur and Earth ſeem to be ſo ſtrictly united in it, as not to be ſeparable by the common Powers of Fire; and in the Focus of the greateſt Burning-glaſs, intire Parcels of it fly off, without any apparent Reſolution into its Principles.

The Uſe of *Gold* in Phyſic was unknown to the antient *Greeks*. The *Arabians* firſt talked of its Medicinal Virtues, and mixed it in their Compoſitions, being previouſly reduced to thin Leaves, upon a Perſuaſion, that it comforted the Heart, and exhilarated the Spirits; and that therefore it was proper in Palpitations of the Heart, and in Melancholies. The Chymiſts add farther, that a moſt powerful fixed Sulphur is contained in *Gold*, which, if it be mixed with the Blood, preſerves it from all Corruption, and reſtores and revivifies human Nature in the ſame manner as the Sun, the great Original of this Sulphur, enlivens all Nature. Many Authors are of a quite different Opinion, becauſe the Effects of *Gold* are found not to anſwer theſe great Pretenſions; and it may be reaſonably queſtion'd, whether *Gold* be at all uſeful in Phyſic. Leaf *Gold* is an Ingredient in the *Confectio Alkermis Regia*, the *Confectio de Hyacinthis*, *Pulvis Diamargaritæ Frigidus*, *Pulvis Lætificans*, and *Pulvis Pannonicus*, all of *Charas*. It is likewiſe uſed to gild Pills and Boluſes.

The Virtues of the Chymical Preparations of *Gold* are equally dubious, becauſe they ſeem to derive their Energy, not from the *Gold*, but from the Menſtrua, and other Subſtances mixed with it. Whence we may conclude, that the moſt valuable and moſt precious of all Metals is the moſt uſeleſs in Phyſic, except when conſider'd as an Antidote to Poverty.

The Tincture of *Gold*, or *Aurum Potabile*, made in this manner, is this:

> Take of pure *Gold*, half a Dram; of *Aqua Regia*, two Ounces: Make a Solution, and pour upon it of the limpid eſſential Oil of Roſemary, an Ounce. Shake the Mixture well, and the Spirit of Salt will ſubſide, deprived of its yellow Colour, which is retained in the Oil that ſwims at the Top. Separate this Oil from the Spirit by Inclination. Mix it with four or five Drams of Spirit of Wine highly rectify'd; digeſt them for a Month, and the Mixture will acquire a purple Colour. This Tincture is Diaphoretic and Sudorific, and is recommended in malignant Fevers. The Doſe is from three to fifteen Drops.

after all, this is not a genuine Tincture of *Gold*, being only the *Gold* divided into very ſmall Parts, by the Spiculæ of Aqua Regia, ſwimming in the Oil of Roſemary; nor do we know any radical Tincture of *Gold*, which may by evaporating the Oil, be reduced to a Powder, and by melting the Powder into *Gold*. The chief Virtues of this Tincture are owing to the Oil of Roſemary.

The *Aurum Fulminans* is eſteemed, not only for its fulminating Quality, but alſo for the Medicinal Virues attributed to it; and is prepared in this mannet:

> Take of Spirit of Nitre, an Ounce; diſſolve therein a Dram of Sal Ammoniac; throw into this Solution a Dram of *Gold* Duſt, and diſſolve it by a moderate Heat. Then pour into the Solution by Drops, Oil of Tartar per Deliquium, till the Ebullition ceaſes. The *Gold* will be precipitated like a yellow Mud. Then having poured off the Liquor by Inclination, waſh and edulcorate the Powder, and dry it in the Shade.

This Powder, even by a gentle Attrition, goes off with a violent Noiſe, and, taken inwardly, is thought to be Diaphoretic; but it may more truly be ſaid to relax the Inteſtines, as was obſerved by *Ludovicus* and *Koning*, who affirm, that this Preparation being given in Fevers, in which the Patient inclines to a Diarrhœa, promotes that Diſcharge, and, on that Account ſometimes proves fatal.

Laſtly, the Chymiſts tell us very wonderful Things about the Philoſophers Stone, or an univerſal Tincture; which being projected on the ignobler Metals, penetrates their Parts ſo intimately, without any viſible Shew, that they are in an Inſtant changed to a Metal, that has the Colour and Weight of *Gold*. They amuſe us likewiſe with an univerſal Medicine, which cures all Diſeaſes, and purges the Blood from all Diſorders by a kind of Irradiation; ſo that Life and Health may be preſerved for a very long Time, if not to Eternity. As I know nothing of this univerſal Medicine, I can ſay nothing about it. And for the Philoſophers Stone, the Materials from which it is to be prepared are hitherto undetermined, as well as the Method of preparing it, whatever impertinent, ignorant Pretenders may boaſt. By theſe Pretenſions, however, they have found the Secret, if not of making *Gold*, yet of getting *Gold* already made into their Hands, and for that Reaſon every prudent Man ought to beware of them. *Geoffroy*.

'Tis obvious to every one converſant in Matters of a phyſical Nature, that for a great while, eſpecially ſince Chymiſtry began to be cultivated and improved with Care and Accuracy, Remedies prepared of Gold have been in great Repute, as being of a comforting Quality to the Conſtitution, and accommodated to the Cure of almoſt all Diſeaſes; for the Antients imagined, that the Planets had a peculiar Connexion with, and Influence over, the Viſcera of the human Body, and, in like manner, over the ſeveral Metals lodg'd in the Bowels of the Earth. For this Reaſon they affixed the Names of the Planets to Metals; and as they obſerved, that the Sun diffuſed Warmth, Vigour, Life, and Fruitfulneſs, to all Animals and Vegetables on our Globe, they imagined that Gold was alſo capable of producing a like Effect. And this common Tradition, or rather Fiction, infatuated not only the Vulgar, but alſo the *Literati*, and more eſpecially the Phyſicians, to ſuch a Degree, that they firmly believed, that Medicines, duly prepared from Gold, were far ſuperior to all others, and operated like an univerſal Cordial and Comforter.

This miſtaken Notion of Gold being able to cure Diſeaſes, proceeded partly from an Ignorance of natural Philoſophy, and of the real Manner in which Medicines acted, and partly from the inſatiable Avarice of Practitioners; for when theſe ſo much extolled Preparations of Gold are brought to the Teſt in a chymical and rational Manner, it will be obvious, that they are ſo far from doing any Good, that they rather do Harm; for, firſt, Preparations of Gold, whether exhibited in Subſtance, or in the Form of Crocus, or in Powder, produce no manner of Effect, becauſe nothing in Nature is capable of diſſolving Gold beſides Aqua Regia. And as Metals cannot act upon Bodies, till they be firſt ſo effectually diſſolved, as to be able to enter their Pores; and ſince no Liquor or Menſtruum capable of producing this Effect is found within the Body; 'tis plain that Gold in Subſtance muſt remain intire and untouched, and conſequently can produce no manner of Effect upon the human Body.

Then again, when Gold is diſſolved, this can be done by no other means than Aqua Regia, or common Salt and Nitre. Theſe two laſt-mentioned Ingredients muſt be thoroughly boiled with Gold Leaves in a ſufficient Quantity of Water. But the Solution procured in both theſe manners aſſumes a ſeptic and corroſive Nature, though that obtained by the former Proceſs is more remarkably ſo, than that procured by the other; for as Mercury, Copper, and Silver, when diſſolved by Salts, or their Spirits, acquire ſo ſtrong and virulent a Nature, as by corroding the nervous Coats of the Stomach and Inteſtines to excite Gripes, Spaſms, Anxieties, Purging, and Vomiting; ſo the ſame Misfortune attends the Solution of Gold; a few Drops of which, exhibited in an aqueous Vehicle, I have often found to excite Gripes, Spaſms, and Anxieties of the Præcordia.

For this Reaſon I think it highly proper to give a Caution with regard to the wary and prudent Uſe of metallic Medicines, whether Gold or Silver, and to adviſe the Uſe of ſafer Remedies in their ſtead.

When many of the Chymiſts and Phyſicians obſerved, that when Gold was diſſolved with Salts, or acid corroſive Spirits, it was ſo far from reſtoring and recruiting Strength in an incomparable and uncommon manner, that it aſſumed a draſtic violent Quality, which was prejudicial and offenſive to the Conſtitution; they began to think, that Gold was to be *radically* diſſolved, and that by this means they ſhould obtain a highly promiſing, and as it were an univerſal Medicine. By *radical and intimate Solution* they mean no more than a Solution by which the conſtituent Particles of Gold are ſo thoroughly and effectually ſeparated and torn from their original Craſis, Union, and Texture, that the higheſt Attempts of Art ſhall never afterwards be able to reduce them to true Gold. For this Purpoſe they thought the common Menſtruums entirely inſufficient, and imagined that the Effect could only be brought about by ſome inſipid Menſtruum of ſo fine and ſubtle a Nature, as to enter its ſmalleſt Pores, and pervade its minuteſt Interſtices.

But without any Contempt for the Abettors of this Notion, I muſt, for the Honour of Truth, declare, that I think theſe Conceits of the Chymiſts partly pleaſing and deluſive Chimeras, and partly intereſted and mercenary Frauds, by means of which they hunt for Fame and Riches; for the Subtilty and intimate Connexion and Adheſion of the Particles of Gold are almoſt incomprehenſible, ſince one Grain of Gold diſſolved is capable of communicating a metallic Taſte, and a reddiſh Colour, to an incredible Quantity of Water. The Fluid then which muſt diſſolve the intimate Commixtion and Adheſion of theſe minute Particles, muſt neceſſarily conſiſt of the moſt ſubtile Parts, that it may penetrate into theſe inconceivably narrow Pores. Now 'tis very much, and at the ſame time very juſtly, to be doubted, whether there is in Nature a Subſtance from which ſuch a Menſtruum can be prepared. 'Tis true there is in Quickſilver a highly ſubtile inſipid Fluid, which penetrates the Pores of Gold, but it cannot deſtroy the Texture of the ſmalleſt Corpuſcle of that Metal; for, upon the Removal of the Mercury, the Gold is reſtored to its primitive Form and Nature.

And indeed I cannot help being ſurpriſed, why the happy Poſſeſſors of theſe wonderful *Arcana* do not talk of a radical Solution of ſome other Metal, ſuch as Silver, Mercury, or Copper, ſince their perfect Menſtruum ought to be capable of diſſolving all Metals, becauſe, being more ignoble than Gold, their Contexture is conſequently looſer, and the Coheſion of their Parts leſs; but what Chymiſt ever yet dared to ſubject a real Experiment to the Eyes or Judgments of the Intelligent, by means of which a radical Solution of Mercury or Lead might be obtained?

Then again, though it ſhould be granted, that there is in Nature, or that there may be prepared by Art, ſuch a Menſtruum as is capable of ſo thoroughly reducing Gold to its firſt Principles, that there is no more any Poſſibility of their being reduced to Gold, yet ſtill a Doubt remains, whether, when the Contexture and Adheſion of the Gold is thus diſſolved, it ſtill remains to be Gold, or whether it does not paſs into ſome other Subſtance of a quite different Nature from that Metal, ſince it is well known, that the Form and Eſſence of Bodies depend upon the Diſpoſition of their Pores, and the Coheſion of their Parts; and that all their Virtues and Operations flow from theſe, as from their original Source. Since then, upon their Hypotheſis, ſo ſalutary and analeptic Qualities are aſcribed to Gold, becauſe it is ſo agreeable to the Heart, and vital Spirits; and ſince, when the Texture of that Metal is deſtroy'd, it is no longer genuine Gold; we may from this juſtly infer, that the Virtues of a Medicine thus prepared are not to be aſcribed to Gold as Gold, but to another Mixture ariſing from the Diſſolution of that Metal; for which Reaſon, ſuch a Medicine cannot properly be called *Aurum Potabile*.

But ſtill it would be ſufficient for their Purpoſe, if it was abſolutely evident, that ſuch a Medicine could poſſibly be prepared from Gold; for 'tis to be obſerved, that no one has hitherto produced a fair and unexceptionable Example either of the Reality or Poſſibility of ſuch a Solution. I have often told theſe impudent Boaſters, that I abſolutely deny'd the Exiſtence of an inſipid Menſtruum, which, without producing a radical Solution, could ſo much as ſimply diſſolve the more ignoble Metals, much leſs Gold; and have offered to pay them an hundred Dollars, if, in my Preſence, they would exhibit an Experiment of this Kind, aſſuring them, at the ſame time, that I ſhould never deſire to be let into the Preparation of this mighty *Arcanum*; but I never could, nor ever ſhall, obtain this uncommon Favour at their Hands. 'Tis, however, a common Practice with theſe Artiſts to have recourſe to an ingenious and pleaſant Subterfuge, by confidently ſaying, if their *Aurum Potabile* is ſubjected to a chymical Examination, and no Traces of Gold are to be found in it, that the Metal is radically diſſolved, and conſequently can never by any Art be reduced to its primitive and natural State.

But as for my own Part, I ſhould not heſitate to prefer a Medicine, the Gold of which could be reduced to its former State, provided it had ſufficient Virtues to recommend it, be- fore a Medicine of leſs Efficacy, whoſe Gold could not be re ſtored to its priſtine Condition. I do not affirm, that all th Preparations ſold for *Aurum Potabile* are abſolutely good fo nothing, ſince they may have Virtues lodged in the Menſtrua and other Ingredients, of which they are compoſed; but tha they ſhould be ſold for univerſal Remedies, and at ſo high Price, are Circumſtances that muſt inſpire every Lover Truth, and Friend to Society, with juſt and reaſonable In dignation.

Theſe univerſal Medicines prepared of Gold are often a firmed to be compounded and made up in ſuch a manner, th they may ſafely be exhibited in any Diſeaſe whatever. This myſelf may poſſibly believe; but the grand Queſtion is, Wh ther it can be demonſtrated to ſkilful and knowing Phyſician that ſuch Preparations have any peculiar Efficacy above oth Medicines.

I very readily believe, that many employ Gold in prepari their univerſal Medicines; but becauſe they are ignorant of juſt and rational chymical Theory, they deceive themſelv whilſt they fooliſhly imagine, that the Efficacy of theſe Me cines depends upon the Gold; for the Whole of the Gold m eaſily be obtained by one who is perfectly acquainted with t Art of Reduction. But let no one find Fault with me for de vering my Sentiments with regard to theſe Medicines in ſo op and candid a manner.

I now come to examine that *cordial ſolar Tincture*, which prepared from Gold with the Oil of Cinnamon in the followi manner:

> Let a well ſaturated Solution of the pureſt Gold be in ſo measure inſpiſſated; then diſſolve one Dram of pure of Cinnamon in highly rectify'd Spirit of Wine, and one Part of the Solution of Gold be mixed with three P of this Solution in a ſmall Cucurbit placed in a Sand-h By this means theſe two Solutions are united into a k of reſinous Maſs, of a Colour reſembling that of Pit which, when diſſolved in highly rectified Spirit of W forms an Eſſence of a deep brown Colour, and of a gr ful, but ſomewhat bitteriſh and ſubaſtringent T which may be exhibited with Succeſs, when the Inten is to reſtore and confirm the Strength of the Patient.

But the Queſtion is, Whether the Virtues of this Medicine pend upon the Gold thus diſſolved? I abſolutely deny, that do; becauſe when this Tincture is allowed to ſtand for a c derable time, a blackiſh Powder ſubſides, which, when wa with Spirit of Wine, and dry'd, is by *Aqua Regia* ſpe again diſſolved into a yellow Liquor, which, when apply' the Skin, ſoon after tinges it with a purple Colour, juſt a Solution of Gold does.

The Reaſon of the Proceſs is plainly this: The *Aqua* concentrated in the Solution of the Gold, intimately unitin ſelf with the diluted Oil of Cinnamon, by means of an ext Heat, conſtitutes the reſinous Maſs, into which the Corp of the Gold by no means paſs. But this reſinous Subſt impregnated with the Oil of Cinnamon, is diſſolved in h rectified Spirit of Wine; and the Particles of the Gold, bei this means diſengaged from it, ſubſide to the Bottom Glaſs.

In like manner, that Tincture partakes very little Gold, which is commonly prepar'd of Sugar, ſufficiently rated with Leaf-gold, and afterwards calcin'd by a due D of Heat; for tho' the Acid of the Sugar may, by its At induce a certain Change upon the Gold, yet the Tinctur tracted in this Proceſs by the Spirit of Wine, is no mor an Extract of the Sugar gently burnt, juſt as it uſually h in preparing the Tincture of Coral. Nor is this eaſily-p Tincture to be entirely deprived of the Praiſes due to i the ſulphureous oily Principle, diſengaged and ſet at Lib the gentle Combuſtion of the Sugar, is capable of impa briſker Motion to the languid Maſs of Blood and Hu which is a Circumſtance of conſiderable Moment in D accompany'd with a Defect of Strength, and in Caſes wh hot Medicines are not proper: But, at the ſame time, t medy derives none of its Virtues from the Gold, the W which is eaſily obtain'd from the liquid Sugar.

Others, mixing Gold with Antimony and Salt of fuſe the Maſs, and, towards the End of the Fuſion, ad tain Quantity of Sugar. Upon this Mixture, reduced der, they pour tartariz'd Spirit of Wine, and ſo extract cture of a browniſh-red Colour, and a grateful Sm Taſte, which they believe to be the genuine Eſſence o 'Tis true, Gold is converted into a Powder, by being in this manner with an alcaline ſulphureous Salt; but, ſame time, little or none of it is receiv'd into the t Spirit of Wine. However, the Tincture obtain'd in t ceſs, which is partly the Tincture of Sugar, and partly Sulphur, can't be ſaid to be altogether uſeleſs.

I now come to inquire, whether there is a Poſſibility of pre- ring, from Gold, a Medicine which ſhall be poſſeſs'd of any gular and uncommon Efficacy. And, indeed, I am of Opi- on, that this may be done; for tho' Gold, conſider'd as a etal of a cloſe and firm Texture, and which acquires a cor- ſive Quality from Salts, ſeems to promiſe very little in the ure of Diſeaſes, it nevertheleſs has a peculiar Uſe, as yet own to few, when ſkilfully treated with Mercury, or with egulus of Antimony, which is of a mercurial Nature; for 'tis fficiently known, that the penetrating active Quality of Mer- ry puts the Lymph of a human Body into ſtrong Commo- ons. Nor are we ignorant of the active and violently emetic alities of the Regulus of Antimony; for theſe two Minerals, ing eaſily ſoluble by an Admixture of any Salt, in Conſe- ence of the Minuteneſs of their component Parts, penetrate ry far, eſpecially into the nervous and membranous Syſtems, here, producing violent Motions, they excite uncommon umults in the natural Functions; and, when judiciouſly uſed, e remarkably efficacious in obſtinate Chronical Diſorders.

Now, that Exceſs of Volatility, which, in Mercury and gulus of Antimony, proves ſo prejudicial to thoſe Parts of our dies which are deſtin'd for the Purpoſes of Senſation and otion, cannot be more properly corrected, ſubdued, and ba- ced, than by an intimate Mixture of Gold with theſe Mi- rals; for, by this means, the exceſſive Minuteneſs of the ts of Mercury, and Regulus of Antimony, is not only pre- ted by the more fixed Subſtance of the Gold, but their per- ious Solution on the Admixture of Salts is hindered in the dy; and becauſe Gold itſelf is nothing more than a very d Mercury, hence it happens, that by the Addition of a re volatile Mercury it is put in Motion, and a Medicine is duced, which, when exhibited in gentle Doſes, reſtores the uid Motions by mildly corroborating the Nervous Syſtem, Effect of the laſt Importance in many Diſeaſes both of the onical and acute Kind.

But the purer the Mercury is, and the more thoroughly it parated from its phlogiſtic and heterogeneous Subſtance by ous Amalgamations with Silver and the Regulus of Anti- y, by Triturations, Lotions, and Sublimations, the more y and quickly it admits of a Conjunction with Gold, and ds a highly valuable Medicine. Now 'tis a ſure Sign, that rcury is pure and animated, when few Parts, four or five Inſtance, to one of the Gold, are ſufficient for its Amalga- on, or Solution, and when the Mercury becomes warm its being mixed with the Gold.

hen, again, another excellent Medicine is prepared from d, by mixing two Parts of the Regulus of Antimony with Part of Gold in a proper Fire, and converting the Powder a purple-colour'd Calx in a Glaſs Phial, by means of a latory Fire. This Powder, when duly prepared, is, on unt of its diaphoretic Virtues, preferable to all the other Preparations whatever.

muſt, in the laſt Place, ſubjoin this Advice, that when le intend to prepare Medicines from Gold, they ought to Choice of the pureſt and moſt free from all Allay of Sil- nd Copper, with which, to uſe the chymical Term, it o be *aſſociated*; for 'tis abſolutely falſe, that the Gold of h the Ducats are coin'd is the pureſt, ſince in twenty-four of the Gold there is one of Silver and Copper. But ſince Copper paſſes into the Aqua Regia along with the Gold, nce we are well enough appriſed of the virulent Qualities of its minuteſt Particles, we may plainly perceive, that, ſequence of this, *Solar Preparations* muſt aſſume a hurt- d prejudicial Quality.

rum Fulminans, when prepared of impure Gold, as it only is, excites violent Gripes, and is not altogether free ſeptic Quality, eſpecially when it has not been waſh'd Rain-water; whereas no ſuch hurtful Effect is to be d from it, when prepared with the pureſt and moſt care- dulcorated Gold.

there is no better Method of purifying Gold than by Chymiſts call the *Fourth Treatment*, in which one Part of fuſed with three Parts of Silver, which when diſſolved a Fortis, the pure Portion of the Gold remains in the of the Veſſel. Then this Gold is to be diſſolved in Regia, till it is ſo thoroughly ſaturated with it, that it ive no more of the Gold; but the Aqua Regia ought to e beſt Kind, which is prepared by drawing Aqua Fortis mon Salt, or Sal Ammoniac. *Hoffmanni Obſ. Chym.*

re is a Method of making *Gold* potable, which is ſpeci- er the Article ÆTHER. One Drop of this is ſaid to be eat *Cordial*, inſomuch that, in ſome Parts of *Germany*, ngs little leſs than miraculous are reported of its reviving s; and I am well informed, it has been frequently ſold Country for a Ducat a Drop.

er gives a very great Character of a mercurial Medi- hich he calls *Aurum Horizontale*, which *Helmont* had n taken Notice of, not without great Encomiums. ſe whimſical Writers were poſſeſſed of ſuch a Medicine, as there is ſome Reaſon to believe they were, they deſerve very ill of Mankind for not giving the Proceſs more intelligibly, and for depriving the World of ſo valuable a Remedy.

Helmont, in ſome Parts of his Works, ſeems to inſinuate a Reaſon for his Conduct in this Particular, which, however, does not appear to be very ſatisfactory. He complains, that the Phyſicians, inſtead of giving him the Honour due to his Induſtry, loaded him with Reproaches, and perſecuted him with Virulence, ſo as to endeavour to have his book (*de Febribus*) prohibited. It is poſſible, that a Reſentment of ſuch Treatment might induce him to conceal, what it would have been much the Intereſt of his Enemies to have divulged.

Glauber's Account of the *Aurum Horizontale*, is thus:

Firſt, vulgar *Mercury*, by the Help of our ſecret *Salmiac*, may be ſo purified in the Space of one Day, as the Day following, by one only Abſtraction of the Water of *Saltaberis*, it may be coagulated into a red fixed Medicine. Which ſwift Mortification, Coagulation, or Fixation, was highly eſteemed by *Paracelſus* and *Helmont*. This *Mercury Paracelſus* inſignized with the Title of *Coralline Mercury*, and celebrated the ſame with this illuſtrious Phraſe, That, in the whole Nature of Things, there was not any Remedy more excellent for yielding Relief in the Gout and *French* Diſeaſe, adding that it recreates the Mind of the Artiſt, becauſe it hath Entrance into Gold, and with the ſame is converted into Gold, and ſo not a few impoveriſhed Chymiſts may again be ſtored with Riches. But, ſince the Death of this Philoſopher, you ſhall not find, that there hath been one or other of the Profeſſors of Chymiſtry unto this Day, who could prepare ſuch a red fixed *Mercury*. The Reaſon hereof is, becauſe none of the Sons of Art could comprehend the Water of *Saltaberis*, by which *Mercury* is to be brought to a fixed Redneſs; none, I ſay, until *Helmont*, that moſt learned Philoſopher of our Age, diſcovered himſelf, witneſſing that he alſo could prepare ſuch *Mercury*, which he inſignized with the Name of *Horizontal Gold*, affirming it would ſufficiently ſupply whatſoever the Phyſician and Surgeon ſhould need.

In like manner, that moſt expert Philoſopher *Nuyſemantius* wrote of ſuch a *Mercury*, teſtifying that two or three Grains of it only being taken in ſome Confortative, would purge out all Impurities from the human Body. Indeed *Helmont* expreſſes this in other Words, yet by them intimates, that it purgeth out all Filths from the Veins. Behold three famous Men, ſerving inſtead of the *Marpeſian Columns* of all *Hermetic* Philoſophy, and Medicine; for they have excellently written of this *Mercury*: Yet to the Inventions of theſe none of their Succeſſors have added any thing, but have been ſtill and quiet, ſhunning the Labour of preparing an Univerſal Medicine. Whoſoever is ſeized with a Deſire of ſuccouring the Miſery of the Sick, he will do better for publick Good, in uſing ſuch a fixed *Mercury*, rather for expelling the Cruelty of a tyrannical Gout, and the *French* Diſeaſe, than for Gold making, unleſs ſo far as he hath need to uſe the ſame for neceſſary Aliments. *Glauber*.

AUSTER, νότος, the South Wind, which is hot and moiſt, and very productive of Diſeaſes, according to *Hippocrates*, *Aphoriſm* 5. *Book* 3. For this *Galen*, *Com.* 2. *in Lib.* 1. *Epid.* *t.* 62. renders a Reaſon: "Becauſe, ſays he, the South Wind "cauſes a Diſſolution of Bodies, and a Fuſion of the Humours, "whereby they are ſubject to putrefy, eſpecially if this Wind "be attended with great Rains." The Diſpoſition of the Seaſon of the Year in which the South Wind moſt frequently blows, is called *Notia*, νότιος, *Auſtralis*, or *Auſtrina*, *Auſtral*.

AUSTERUS, in *Scribonius Largus*, *No.*188.

AUSTER, αὐστηρὸς, auſtere, a kind of Taſte, which, according to *Galen*, *Lib.* 1. *de Sim. Fac. Cap.* 37. belongs to an earthy, mixed with a tartareous ſaline Subſtance, having an aſtringent Quality, and differing from the *Acerbus*, tart, only in Intenſeneſs. The *Carteſians* ſuppoſe Auſtereneſs to conſiſt in having obtuſangular Particles, like a blunt Saw. Things of an auſtere Taſte are ſuppoſed by ſome, from their glutinous and tenacious Quality, which obſtruct the Courſe of the Fluids, to generate the Stone, though they are not without their good Effects.

AUSTROMANTIA, a pretending to foretel Events from a ſuperſtitious Obſervation of the Winds. *Rulandus*.

AUTARCIA, αὐτάρκεια, from αὐτὸς, himſelf, and ἀρκέω, to be ſufficient. Self-ſufficiency, Contentment with our own Condition; it is oppoſed to *Apleſtia*, Inſatiability. *Caſtellus*.

AUTETES, αὐτέτης, the ſame as AUTITES, which ſee.

AUTHADES, αὐθάδης, from αὐτὸς, himſelf. One who ſets a high Value upon himſelf, and deſpiſes others.

AUTHEMERON, αὐθήμερον, αὐθημερὸν, from αὐτὸς, the ſame, and ἡμέρα, a Day. The very ſame Day, *Hippocrates*, 4. *Aph. Book* 3. Hence a Medicine is called *Authemeron*, which gives Relief on the ſame Day it is taken. There are two Remedies of this Kind for Diſorders of the Spleen in *Galen de C. M. S. L. Lib.* 9. *Cap.* 2. and in *Aetius Tetrab.* 3. *Lib.* 2. there is a Phœnigmus Authemeros for a ſcirrhous Spleen.

AUTHIS, αὖθις, again. In *Hippocrates*, *Lib. Epid.* it ſignifies hereafter, as ὁ δὲ πυρετὸς αὖθις οὐκ ἐφίει, "the Fever "*afterwards* never left (her)."

AUTITES, αὐτίτης, is by ſome derived from αὐτὸς, the ſame, and ἔτος, a Year. Thus αὐτίτης οἶνος, is expounded in *Galen*'s Exegeſis on *Hippocrates*, by ὁ αὐτοετίτης, ὁ ἐκ τοῦ ἐνεστῶτος ἔτους, "Wine of this preſent Year." *Pollux* expounds αὐτίτης οἶνος, by ὁ ἐπιχώριος, "Wine of the ſame Country;" and *Suidas* by αὐθογενής, "the Product of the ſame Country." Others explain it by ὁ ἀμιγὴς καὶ ὁ χωρὶς παραχύματος, "un-"mixed, and without being diluted;" and *Erotian* by ἀπαράχυτος, "undiluted."

AUTOCINETOS, αὐτοκίνητος, from αὐτὸς, itſelf, and κινέω, to move; ſelf-moved; a Word by which *Galen* expounds αὐτόδρομος in *Hippocrates*.

AUTODROMOS, αὐτόδρομος, from αὐτὸς, and δρέμω, to run. See the preceding Word.

AUTOGENES, αὐτογενὴς, from αὐτὸς, itſelf, and γίνομαι, to be produced. An Epithet of the *Narciſſus* with a white Flower, becauſe its bulbous Root, before it is ſet under Earth, puts forth Leaves, ſo that the Plant in one Senſe ſeems to ſpring from itſelf. *Blancard.*

AUTOLITHOTOMOS, αὐτολιθότομος, from αὐτὸς, himſelf, λίθος, a Stone, and τέμνω, to cut. A Name beſtowed on one who had the extraordinary Dexterity to cut himſelf for the Stone. *Caſtellus.*

AUTOMATOS, αὐτόματος, ſpontaneous. Things are ſaid by *Hippocrates* to be done αὐτομάτως, which are owing to the Efforts of Nature rather than the Violence of the Diſeaſe, or the Aſſiſtance of the Phyſician, *Aph.* 2. *Lib.* 1. and *Lib.* περὶ χυμῶν. Thus again, *Aph.* 2. *Lib.* 4. αὐτόματα ἰόντα, ſignifies ſuch Things as paſs off naturally, or which Nature ſpontaneouſly diſcharges. Ἀπὸ ταὐτομάτου, *Aph.* 77. *Lib.* 4. ſignifies, according to *Galen*, ἐξαίφνης, "ſuddenly," or ἄνευ φανερᾶς αἰτίας, "without manifeſt Cauſe." Αὐτόματον, *Lib.* περὶ τέχνης, denotes any thing that is ſuppoſed to happen merely by Chance, and ſpontaneouſly. The ſame Word, in *Lib.* περὶ φυσῶν, is applied to a Flatus that paſſes off eaſily without being forced, and to the Air that inſinuates itſelf inſenſibly into the Veins. Αὐτόματοι χυλοὶ, in *Lib.* περὶ τροφῆς, "ſpontaneous Juices," are ſuch as we ſpontaneouſly, and for that very Purpoſe, provide for our Nutrition, and about which human Art and Induſtry are employ'd. So αὐτομάτως imports the ſame as ἑκουσίως, voluntarily, and of ſet Purpoſe; as ἑκούσια ἑλκώματα are ſpontaneous Ulcerations, which have ſome external Cauſe.

AUTOPHOSPHORUS, αὐτοφωσφόρος, the ſame as PHOSPHORUS, which ſee.

AUTOPSIA, αὐτοψία, from αὐτὸς, himſelf, and ὄπτομαι, to ſee; ocular Evidence. *Autopſia* was a Word formerly proper to the Empiric Sect, by which they meant the Memory of thoſe Things which they had often ſeen, and in the ſame Manner. This *Autopſia*, or the Obſervation and Memory of what every one ſees with his own Eyes, is alſo highly neceſſary in the Dogmatical or Rational Phyſic. *Gal. de Part. Art. Med. Cap.* 2.

AUTOPYROS, αὐτόπυρος. See ARTOS.

AUTOS, αὐτὸς.

Αὐτὸς ἑωυτοῦ γενέσθαι, in *Hippocrates*, *Lib.* 7. *Epid.* ſignifies to come to himſelf, or to his Senſes. Thus, in the ſame way of ſpeaking, ἐξ ἑωυτοῦ εἶναι is to be out of his Senſes; and ἐντὸς ὠυτοῦ εἶναι, in the ſame Book, is to be in his right Mind or Senſes.

Αὔτως, in *Galen*'s Exegeſis, is expounded by ματαίως, vainly, raſhly. *Heſychius* alſo expounds it by μάτην, in vain.

AUTOUR, a ſort of Bark, in Shape and Colour much reſembling Cinnamon, only a little thicker and paler; the Inſide is of the Colour of a broken Nutmeg, with a Multitude of Spangles. It is almoſt inſipid, and has no Smell at all. We have it from the *Levant*; and it is one of the Ingredients in the Carmine Dye. *Lemery des Drogues.*

AUTUMNUS, φθινόπωρον, ὀπώρη, the Autumn. The Diſeaſes particularly incident to this Seaſon are, Fevers of an anomalous Kind, Pain of the Spleen, Dropſy, a Conſumption, which the *Greeks* call φθίσις (Phthiſis), a Difficulty of Urine, which they call στραγγουρία (Strangury), that Diſeaſe of the ſmall Inteſtine, called by them εἰλεὸς (the Iliac Paſſion); beſides a Flux (*Levitas Inteſtinorum*), called λειεντερία (a Lientery), Sciaticas (*Coxæ Dolores*), and Epilepſies. This Seaſon is alſo liable to long and tedious Diſtempers, and proves mortal to thoſe who have lingered under Diſtempers during the preceding Summer. Some it deſtroys with new Diſeaſes, and involves others in very laſting ones, and particularly Quartans, which hold all the Winter. Nor is there any other Seaſon of the Year more ſubject to peſtilential Diſtempers of all ſorts, and of all Degrees of Malignity. *Celſus*, *Lib.* 2. *Cap.* 1.

The greateſt Danger is in Autumn, becauſe of the Variety of Weather; therefore never go abroad without (good warm) Garments and Shoes, eſpecially on a cold Day; nor ſleep in the open Air, at leaſt without being well covered. You are now allowed to eat ſomewhat plentifully, and to drink your Wi leſs diluted, but in ſmaller Quantities. Some think Appl hurtful, which are commonly eaten in immoderate Quantiti all the Day long, without leſſening that Proportion of mo ſolid Food; ſo that not the Apples, but the Sum of all tha eaten, taken together, does the Miſchief, in which, however, Apples are the leaſt concerned. But it is not proper to theſe more frequently than other Food; and, in ſhort, it neceſſary, when they come in Uſe, to diminiſh our Allowan of more ſolid Food. *Celſus*, *Lib.* 1. *Cap.* 3.

The Autumn being an unequal and diſorderly Seaſon, wh produces all Kinds of Diſeaſes, great Care is to be taken of Diet and way of Living, that no Error may be committed Concoction, the Uſe of Venery, or drinking cold Liquors, that Men ſhould be temperate in all things. To this End, are to avoid the Intemperature of the Air, which in the Mo ing is cold, and ſultry at Noon, and not fill ourſelves w Autumnal Fruits, which are prejudicial, not only on acco of the Plenty, but Malignity of the Humours and Flatulenc which they generate, ſince the beſt of them, which are and Grapes, breed Flatulencies, and corrupt the reſt of Aliment, except they be taken before other Food, in wh Caſe they have no ſuch ill Effects. As the Air grows col the Body is to be heated in proportion; and we are to ma in all things with an Eye to the Approach of Winter. A the Equinox, it will be convenient to make uſe of ſome cuating Medicine, that no ſuperfluous Humours may cr Diſturbance, and interrupt our Health, during the Wi *Oribaſ. Euporiſt. Lib.* 1. *Cap.* 10.

AUVER, pure, or ſoft Water. *Rulandus.*

AVULSUM, AVULSIO, ἀποσπαστὸς, ἀπόσπασμα. APOSPASMATA.

AUXESIS, αὔξησις, from αὐξάνω, to increaſe. The as AUGMENTUM, which ſee.

AUXILIUM, βοήθημα, βοήθεια, Aſſiſtance; in a medi Senſe, whatever aſſiſts Nature againſt a Diſeaſe; and ſo ſame as *Remedium*, or *Medicamentum*.

Celſus, in Anſwer to thoſe who ſaid, *Omne Auxilium ne rium eſſe increſcentibus Morbis*, *non cum jam per ſe finiu* "That Aſſiſtance was always neceſſary in the Growth of "tempers, but ſuperfluous in their Decline, when, if let "they would terminate of themſelves," aſſerts the Caſe otherwiſe; becauſe, ſays he, a Diſeaſe, which would of terminate, may yet be ſooner taken off by proper Aſſiſ which is neceſſary for two Reaſons: Firſt, that the Healt be re-eſtabliſhed as ſoon as poſſible; and next, that th mains of the Diſeaſe may not, on ſome ſlight Occaſion, aſperated. For a Diſeaſe may be leſs troubleſome than b and yet not quit the Patient, but hold faſt by Reliques, by Aſſiſtance may be diſcuſſed. *Celſus*, *Lib.* 2. *Cap.* 14.

In a quite deſperate Caſe, it would be a Piece of We to expoſe, by Trial, the moſt ſucceſsful Remedies to th proach of ignorant and unſkilful Pretenders. I know Phyſicians unacquainted with Method, who, thinking tate our Practice, have tried our Medicines upon Perſo were almoſt dead, and ſo rendered the ſeaſonable Uſe o ſuſpected and dreaded. *Aetius*, *Tet.* 2. *Serm.* 1. *Cap.* 78.

AUXYRIS, a corrupt Word for OSYRIS, Poets Ro which ſee.

AXEA COMMISSURA, τροχοειδής. A ſort of lation. See TROCHOIDES.

AXEDO, a Spell, in *Marcellus Empiricus*, *Cap.* render a Perſon impotent.

AXICULUS, a Roller or Cylinder. *Rulandus.*

AXILLA, μασχάλη, μασχαλίς. The Cavity under th called the *Armhole*, or *Armpit*.

AXILLARIS VENA, ἡ διὰ τῆς μασχάλης φερομέν the Vein that paſſes through the Armpit. *Galen.* T lary Vein. See VENA.

AXIOLOGOS, ἀξιόλογος, from ἄξιος, worthy, an a Word. Worthy of Notice. *Hippocrates*, in his *Coa notiones*, applies this to ἀπόστημα, Apoſtemation, wher ports, conſiderable, ſufficient for a Criſis.

AXIOMA, ἀξίωμα, an Axiom. This ſignifies a Pro which neither requires, nor admits of, Demonſtratio the Art of Phyſic has the Misfortune to have a gre Propoſitions laid down as Axioms relative to it, whic require, but, however, do not admit of, Demonſtratio

AXIOPISTIA, ἀξιοπιστία, from ἄξιος, worthy, a Faith, Confidence. It imports Authority.

AXIRNACH, ſuperfluous Fat, which ſometimes the Tunics of the upper Eye-lids; this frequently is Children. *Caſtellus* from *Albucaſis*.

AXIS, ἄξων, a Name given to a Tooth-like Emine ſecond Vertebra of the Neck. See VERTEBRÆ.

AXUNGIA, ἀξούγγιον, ἀξιούγγια, ὀξύγγιον, ſignifi old Hogs Lard, or, in general, old Lard, or Suet of Animal. See ADEPS.

AXUNGIA DE MUMIA, is Marrow.

AXUNGIA VITRI, is Sandiver, or Salt of Glaſs. A kind of Salt which ſeparates from the Metal of Glaſs whilſt in Fuſion. It is of an acrimonious and biting Taſte. The Farriers uſe it for clearing the Eyes of Horſes. It is alſo uſed for cleaning the Teeth; and is ſometimes applied to running Ulcers, a Herpes, or the Itch, by way of Deſiccative.

AXYRIS, the ſame as AUXYRIS, which ſee.

AYBORZAT, Galbanum. *Johnſon.*

AYCOPHOS, burnt Braſs. *Rulandus.*

AZAA. *Rulandus* explains this by *Magra*, *Terra rubea.* I ſuppoſe he means *Marga*, Marl. Red Marl.

AZAGOR, Verdigriſe. *Rulandus.*

AZAMAR, Vermilion, or Native Cinnabar. *Ruland.*

AZAMO. *Rulandus* explains this by *Color Indus*, but I cannot tell what he means, unleſs *black*; or a Mixture of Blue and Purple, which is the *Indicum* of *Pliny.*

AZANEC. The ſame Author explains this by

ARMONIACUS. I ſuppoſe he means the Salt.

AZANITÆ ACOPON, the Name of an Acopon or Ointment in *Paulus Ægineta.*

AZANITÆ CERATUM, the Name of a Cerate in *Oribaſius.*

AZARNET, Auripigmentum. *Rulandus.*

AZAROLUS. A Name for the *Meſpilus Aronia.* *Neapolitan* Medlar.

AZCI, Ink. *Rulandus.*

AZEC, green Ink. *Ibidem.*

AZEDARACH, *Pſeudoſycomorus*, Offic. Mont. Ind. 37. *zedarach*, Tourn. Inſt. 616. Elem. Bot. 489. Boerh. Ind. 2. 236. *Azedarach Avicennæ*, Park. Theat. 1442. *Aze-rach arbor Fraxini folio, flore cœruleo*, Raii Hiſt. 2. 1546. *daracheni arbor*, J. B. 1. 554. Chab. 44. *Arbor Fraxini lio, flore cœruleo*, C. B. Pin. 415. *Ziziphа candida*, Ger. 307. Emac. 1491. THE BEAD-TREE.

The Flowers of this Tree are ſaid, by ſome, to be erient and deobſtruent; but others ſay they are poiſon- s.

AZEDEGRIN, the Lapis Hæmatites. *Rulandus.*

AZEFF, Sciſſile Alum. *Ibidem.*

AZEG, Vitriol. *Ibidem.*

AZEGI, the ſame as ASAGI.

AZEM, or AZOM. *Rulandus* explains this by *Butyrum tum.*

AZEMASOR, Native Cinnabar. *Ibidem.*

AZENSALI, a ſort of black Stone found amongſt old. It ſignifies alſo a ſort of Moſs which grows on cks.

AZERNEC, the ſame as ALFATIDA, which ſee.

AZIMAR, Flos Æris, or Æs Uſtum. See ÆS.

AZIUS LAPIS. See ASSIUS LAPIS.

AZOB. *Rulandus* explains this by *Alumen Saccharinum.*

AZOCH, AZOCK, AZOTH. Barbarous Names given *Paracelſus* to the *Mercurius Philoſophorum*, that is, Quickr extracted from any metalline Body, which is the proper corporeal Mercury. In another Senſe, *Azoth*, in *Paracelſus*, ſignifies the univerſal Remedy prepared of Mercury, the Sun, and Moon, void of all ſpecific Differences, and endued with a moſt intenſe Efficacy, and a moſt general kind of central Virtue, including all other Remedies in itſelf, in the ſame manner as the *Subſtantia Prima*, or firſt Subſtance, includes all the reſt, excluding Accidents. This *Paracelſus* was reported to have carried about with him in the Pomel of his Sword. *Rulandus.*

AZOTH is alſo taken for the Liquor of ſublimed Mercury, (or Quickſilver mixed with Vitriol and Salt, and ſo ſublimed) which is alſo called *Aqua Permanens*, *Cryſtallus Philoſophorum*, *Luna Phyſica*, or by whatever other myſtical Name they pleaſe to give it. *Libavius.*

AZOTH is alſo the ſame as *Laton*, that is, Copper tinctur'd with a Gold Colour by its Mixture with Lapis Calaminaris, which is the ſame as Aurichalcum or Braſs. *Johnſon.*

AZRAGAR, Verdigriſe. *Rulandus.*

AZUB, Alum. *Ibidem.*

AZUBO. *Rulandus* explains this by *Vas Chymicum*: But I do not know whether he means ſome particular Chymical Veſſel, or a Chymical Veſſel in general.

AZUR, Red Coral. *Rulandus.*

AZURIUM, the Name of a Chymical Preparation deſcribed by *Albertus Magnus.* It conſiſts of two Parts of Mercury, one third of Sulphur, and one fourth of Sal Ammoniac; theſe are to be mixed together in a Mortar, and put into a Glaſs Veſſel, which is to be ſet over the Fire till a bluiſh Smoke ariſes; then it is to be taken from the Fire, the Glaſs is to be broken, and the Contents are to be powdered, which is the *Azurium.*

AZYGES, ἀζυγὲς. A Name for the *Os Sphenoides.*

AZYGOS, ἄζυγος, from α Negative, and ζυγὸς, a Pair. A Vein ſituated within the Thorax on the Right Side, having no Fellow on the Left, whence it is denominated *Azygos*, or *Vena ſine Pari.* See VENÆ.

AZYMAR, Native Cinnabar. Vermilion.

AZYMOS, ἄζυμος, from α Negative, and ζύμη, Ferment. It generally ſignifies unfermented Bread, ſuch as *Sea Biſcuit*, which, *Galen* very juſtly obſerves, is extremely unwholſome. Every one is ſenſible, that, by mixing Water with Flour, a viſcid and tenacious Paſte is form'd; and Sea-biſcuit, when moiſten'd in the Stomach, is very likely to form the ſame kind of viſcid Subſtance, unleſs the digeſtive Powers are exceſſively ſtrong. But Fermentation deſtroys this Viſcidity, and renders farinaceous Vegetables more eaſily digeſtible; but at the ſame time inclines the Subſtances fermented to Acidity. For this Reaſon unfermented Bread can only be proper, when the Stomach abounds with Acidities.

This Account of unfermented Bread I thought the more neceſſary; becauſe *Sea-biſcuit*, a very unwholſome Food, has of late been much in Uſe; and I find is, by ſome, very erroneouſly eſteem'd preferable to Bread which has been fermented with Leaven.

B.

in the Chymical Alphabet, ſignifies Mercury, according to *Raymond Lully.*

BABUZICARIUS, βαβυζικάριος, from βαβάζω, ak inarticulately. The Incubus, or Night-mare.

ACANON, βάκανον. This Word is uſed by *Trallian*, *aulus Ægineta*, and ſignifies the Seeds of Cabbage. There *Myrepſus*, C. 150. an Antidote which takes its Name *Bacanon*, and is ſaid to be a good Hepatic Medicine.

CAR. *Caſtellus*, from *Rulandus*, ſays, this is the ſame *dus*, a Weight.

CCA, that is, a Berry, is a round Fruit, for the moſt ft, and covered with a thin Skin, containing Seeds in a Subſtance; but if it be harder, and cover'd with a thicker it is call'd *Pomum*, that is, an Apple.

CCÆ are ſmall roundiſh Fruits, that grow ſcattering Trees and Shrubs, and in that are diſtinguiſh'd from *Acini*, are Berries hanging in Cluſters.

æ, in a more ſtrict Senſe, are uſed for a ſmaller thin-Fruit, of a ſoft Pulp and Fleſh, including moiſt Seeds in er Membrane. Hence,

CIFEROUS, (*Baccifer*, *Lat.* of *Bacca*, a Berry, and bear) is an Epithet added to the Names of any Trees, or Plants, that bear Berries, as Bryony, Dwarf Honeyſuckle, Lily of the Valley, Aſparagus, Butchers-broom, Nightſhade, Solomon's-ſeal, and many others. *Miller*'s *Dictionary.*

BACCÆ BERMUDENSES, *Pilulæ Saponariæ Anglorum.*

This Fruit, when freſh, is of a black Colour, inclining to Red, and ſomething tranſparent. As it grows old, it turns ſtill blacker. It contains a yellowiſh Kernel, the Taſte of which is diſagreeable. This Kernel, ſteep'd in Water, raiſes a Froth like Soap; and this Infuſion is uſed in *Chloroſes*, and in Obſtructions of the Liver. *Geoffroy.*

They are the Fruit of the ARBOR SAPONARIA.

BACCHARIS, Offic. *Monſpelienſium*, Ger. 647. Emac. 792. Raii Synop. 83. Parkinſon, 114. Dill. Cat. 149. *Conyza major*, Schw. 55. *Conyza major vulgaris*, C. B. 265. Raii Hiſt. 1. 292. Tourn. Inſt. 454. Boerh. Ind. A. 116. Buxb. 81. *Conyza major Matthioli, Baccharis quibuſdam*, J. B. 2. 1051. *Conyzæ majoris genus, Baccharis quibuſdam*, Chab. 327. *Eupatorium montanum Verbaſci folio, vulgarius Baccharis dictum*, Hiſt. Oxon. 3. 99. PLOWMAN's SPIKENARD.

Some call it *Baccar.*

Baccharis is a ſweet-ſcented ſhrubby Plant, of which they uſe to make Garlands. The Leaves are rough, and of a Size between thoſe of the Violet and Mullein. The Stalk is bent into Angles, and riſes to the Height of a Cubit, is ſomewhat rough, and not without Suckers. The Flowers are of a purple Colour, inclining to White, and have a fragrant Smell; and the Roots are like thoſe of black Hellebore, and ſmell like Cinnamon. It delights in a rough dry Soil.

The Root, boil'd in Water, is effectual in Convulſions, Ruptures, Falls, Difficulty of Breathing, old Coughs, and a Difficulty of Urine; it provokes the Menſes, and, given in Wine, is good againſt the Bites of venomous Creatures. One of the tender Roots, uſed as a Peſſary, brings away the Birth; and the Decoction thereof is of Service, by way of Inſeſſion, for Women in Child-bed. It is a very proper Ingredient in a *Diapaſm*, on account of its extraordinary Fragrancy. The Leaves, which have an Aſtringency, make a proper Cataplaſm for Pains of the Head, an Inflammation of the Eyes, a beginning *Ægilops*, an Inflammation of the Breaſts after Delivery, and an *Eryſipelas*: The very Smell of it provokes Sleep. *Dioſcorides, Lib.* 3. *Cap.* 51.

From a branch'd woody Root, ſhooting forth many Fibres, this Plant ſends out ſeveral round, ſoftiſh, hairy Stalks, three or four Foot high; the lower Leaves grow on long Foot-ſtalks, being about three or four Inches long, and about half as broad, hairy, indented about the Edges, and blunt-pointed; the Leaves which grow on the Stalks are narrower. The Stalks are pretty much divided toward the Top, bearing a great Number of naked yellowiſh Flowers in ſcaly *Calices*, which paſs away in Down; the Seed is long and ſlender; the Leaves and Flowers have a ſtrong pleaſant Smell. It grows in hilly chalky Places, and flowers in *July*.

Tho' this Plant is but rarely uſed, yet ſome account it a good Vulnerary, and uſeful in Bruiſes, Contuſions, Ruptures, and inward Wounds, Pains in the Side, and Difficulty of Breathing. *Miller's Bot. Off.*

We learn from *Ariſtophanes*, *Pliny*, and *Athenæus*, that a precious Ointment, much eſteem'd amongſt the Antients, was call'd βάκχαεις, probably from this Herb being a principal Ingredient in it. *Heſychius* ſays it was alſo call'd *Myrtle Ointment*, and *Lydian Ointment*; and *Galen* explains it a *Sort of Lydian Ointment*.

Hippocrates, in his Treatiſe *De Natura Muliebri*, deſcribes a Caſe, which ſeems to be an Abſceſs in the Uterus, and is much like the Caſe related by *La Motte*, *Obſervation* 429. wherein, as related by *Hippocrates*, a Hardneſs is perceived in the *Ilia*, and a Pain in the Bottom of the Belly. When this happens, he adviſes the Patient to lie on the Side leaſt affected, and to apply this Ointment (βάκχαειν) to the ſame Side, or what he calls *the White Oil*. He alſo takes Notice of the ſame Ointment in other Places of his Treatiſes on the Diſorders of Women.

BACCHICA. The ſame as *Hedera*, the Ivy. *Blancard.*

BACCHUS, Wine. It alſo ſignifies a ſort of Fiſh, the ſame as *Mugil*, the Mullet. *Caſtellus.*

BACCINIA, the ſame as VACCINIA, which ſee. *Blanc.*

BACHARIS, the ſame as *Baccharis*.

BACILLUM, a ſmall Stick, or any thing in the Shape of one. Thus a ſort of Troche, made of pectoral Ingredients, round and long, that is, in the Form of a ſmall Stick, are call'd *Bacilla*, or improperly *Bacilli*. Many Iron Inſtruments of the ſame Form, which are uſed in Chymiſtry, are alſo thus call'd.

The *Aves Cypriæ*, or perfum'd Candles, are from their Shape alſo call'd thus.

BACULUS. The ſame as *Bacillum*, and is more generally uſed to expreſs the ſame thing.

BADISIS, βάδισις. The Action of Walking.

BADITIS. A Name for the Nymphæa, or *Clava Herculis*, in *Marcellus Empiricus*; who ſays the Root of this, bruiſed, and eaten with Vinegar, for ten Days, by a Boy, makes him an Eunuch, without Exſciſſion.

BADUKKA. The proper Name for the *Capparis arboreſcens Indica*, *Flore tetrapetalo*.

The Juice of the Leaves, mix'd with the Fat of wild Boars, makes a Liniment for the Gout. A Decoction of the Leaves and Flowers affords a Liquor, which, drank, purges the Belly; and the Steam thereof, received into the Mouth, deterges Ulcers therein. The Fruit, taken in Milk, cauſes Impotence. *Raii Hiſt. Plant.*

BÆOS, βαιός, in *Hippocrates*, ſignifies few. Βαιὸν is an Epithet for a Malagma, in *Paulus Ægineta*, *Lib.* 7. *C.* 18.

BAGEDIA, a Pound of twelve Ounces. *Johnſon.*

BAHEI COYOLLI. This, in the Opinion of *Ray*, is the ſame as the *Arica*, or *Fauſel*.

BAHEL SCHULLI. An *Indian* Tree, call'd alſo *Geniſta ſpinoſa Indica verticillata*, *flore purpuro-cæruleo*.

It is a thorny Shrub, that grows in watry Places; but there is another Species of it, which grows in ſandy Ground, with Stalks and Leaves of a bright Green, and white Flowers, inclining ſomewhat to a Sky-blue.

The Decoction of the Root provokes Urine, and frees the Patient labouring under a Suppreſſion of the ſame; whence it cures the Dropſy, eſpecially if it be boil'd with the Oil of t *Ficus infernalis*. The Leaves, boil'd, and pickled in Vinega have the ſame Effects. They make a Powder of the Leav which, drank with the Oil expreſs'd from the Flowers of t *Ficus infernalis*, helps to diſcuſs a Tumor in the Pudenda of t Male Sex. *Ray. Hiſt. Plant.*

BAIAC, Ceruſs. *Rulandus.*

BALA, a Name for the *Muſa*, or *Muza Arbor*. *R* *Hiſt.*

BALÆNA, Offic. Recch. Hiſt. Mex. 568. *Balæna vul ris*, Aldrov. de Piſc. 688. Jonſ. de Piſc. 152. Charlt. Piſc. *Balæna vulgaris edentula, dorſo non pinnato*, Raii Synop. P 6. *Balæna major, laminas in ſuperiore maxilla habens, bipen fiſtula carens*, Sib. Phal. 27. *Balæna vulgo dicta ſive Muſc lus*, Rondel de Piſc. 1. 475. *Balæna vulgo dicta ſive My cetus Ariſtotelis*, *Muſculus Plinii*, Geſn. de Aquat. 114. *Cet* Schrod. THE WHALE.

The Fat of a Whale is ſaid, by *Schroder*, to be a good To for the Itch. The Oil is more uſed in Mechanics than Me cine. It is call'd *Train-oil*. *Pomet* gives the following Accou of the Whale.

The Whale is the largeſt of all Fiſh, and is to be found the Northern and North-weſt Seas. The *Sceleton* of one ſhewn at *Paris* in 1658, whoſe Skull was between ſixteen ſeventeen Foot long, weighing four thouſand ſix hund Pounds; the Jaws ten Foot wide, and fourteen Foot lo weighing eleven hundred Pounds each; the Fins, which l like Hands, weighing each ſix hundred Pounds; the Joint the Back, from the Head to the End of the Tail, forty- Foot long; the firſt Joints weighing fifty Pounds, and others leſs, according as they came nearer the End. I ſhall trouble myſelf to give an Account of all that relates to Animal, or the Manner of taking him, becauſe ſeveral Auth have treated of it; but I ſhall only ſay, that there are ſorts of Whales; the one is call'd *Cachalot*, which differs f that which is call'd the *Whale*, in that the Mouth of the *Cac lot* is furniſh'd with little flat Teeth, without a Beard Whiſkers; which is contrary to that which bears the Nam the *Whale*, which has nothing but Whiſkers. 'Tis from Fat or Lard of theſe Animals, that they draw *Whale-oil*, w is a very great Commodity, eſpecially in Times of Peace, reaſon of the great Uſe they have for it in *France*, as well burning as ſeveral other Uſes, wherein it is very neceſſary, ticularly for refining Sulphur, and preparing ſome ſorts of S for Leather. We have two ſorts of Whale-oil come to *P* the beſt of which is, that which we call *Huile de Grande B* which is, by the *French*, made of the Fat immediately af is taken from the *Whale*; whence the *French* Oils do not ſo ill as thoſe made in *Holland*, becauſe the *Dutch* do not m their Oils from the Fat ſo ſoon as it is drawn from the *W* but bring it into *Holland* to be melted: Wherefore we o to prefer the *French* Oils to thoſe of *Holland*, which are known, becauſe the *Dutch* are red and ſtinking, and ye clear. The great Quantities we have of Whale-oil from the Northern Sea, eſpecially *Greenland*, from whence *Hollanders* are ſupplied. *Pomet.*

The *Sperma Ceti* is, on all hands, agreed to be the Pro of another ſort of Whale, which is call'd

Cetus, Offic. *Cete admirabile aliud*, Cluſ. Exot. 131. *B na*, Mer. Pin. 190. *Balæna macrocephala, quæ binas ta pinnas laterales habet*, Sib. Phal. 12. *Balæna major, inf tantum maxilla dentata, macrocephala bipennis*, Raii S Piſc. 15. *Balæna*, Ejuſd. Icht. Tab. A. f. 3. *Cete*, 41. Jonſ. Tab. 42. *Trompa*, Park. Theat. 1607. *Sperma falſo dicta*, THE PARMASITTY WHALE. *Dale.*

It has been long diſputed what the *Sperma Ceti* is *Pomet's* Account of it is the moſt ſatisfactory I have met as to its Preparation, as he has ſeen it made, and done it ſelf.

The *Sperma Ceti* is the Brain of a ſort of *Whale* call'd B and, by the People of St. *John de Luz*, *Cachalot*. This mal is named, by ſome, the Male *Whale*, and, in *Latin*, It is about twenty-five Foot long, and twelve Foot high, of the Teeth weighing one Pound, which are very uſef ſeveral ſorts of Works. Theſe Creatures are very comm *Cape Finiſtre*, on the Coaſt of *Galicia*, and in *Norway* the Year 1688, there was one taken by a *Spaniſh* Ship th ried it to St. *Sebaſtian's*, from the Head of which were twenty-four Barrels of Brain, and from the Body nin Barrels of Fat. They ought then to be undeceived, believe, that *Sperma Ceti* is any thing elſe but the Brain *Cachalot*; and I can affirm this with Certainty, not only ſeen this prepar'd, but having prepar'd it myſelf.

This *Sperma Ceti* is uſually prepar'd at *Bayonne*, and *S de Luz*; and this Work is ſo rare in *France*, that there above two Perſons at the latter Place who know how to p it. Thoſe who prepare, take the Brain as aforeſaid, an it over a gentle Fire; then they caſt it into Moulds, lik wherein they refine Sugar; and after it is cool'd, and from the Oil, they take and melt it again, and proceed af ſame manner, till ſuch time as it be well purified, and very white; then with a Knife, made for the Purpoſe, they cut it into Scales or Flakes, juſt ſo as it appears when brought to us. As this Commodity is of ſome Conſequence, by reaſon of its Price, I muſt obſerve, that we ought to chuſe ſuch as is in fine white Flakes or Scales, that are clear and tranſparent, of a fiſhy Smell; and take care, that it be not augmented with white Wax, as it happens but too often, which is eaſy to diſtinguiſh, well from the Smell of the Wax, as becauſe it is very thin, and of a more unpoliſh'd White; for we have no Commodity which is ſo ſenſible of the Air as this, which is the Reaſon why it ought to be carefully kept in Glaſſes, or in Barrels, cloſe ſtopp'd from the Entrance of any Air, leſt it turn yellow. *Pomet.*

Pomet may poſſibly be right, as to the Proceſs generally uſed for making *Sperma Ceti*; but I have ſeen *Sperma Ceti* which has undergone no Treatment at all, except being put into Paper Bags, ſo that the Oil which adheres to it, may be abſorb'd. The true *Sperma Ceti* is very white, and in very ſmall Flakes, not much larger than the Cryſtals of Tartar: it diſſolves by rubbing upon the Hand into a ſort of Oil; and does not adhere to the Palate when chew'd, as the common ſort will; which makes me ſuſpect, that it is mix'd with ſome other Subſtance, perhaps Wax, by thoſe who make it for Sale. I can affirm with Certainty, that *Sperma Ceti* is neither the Oil, Brain, nor Sperm of the Whale, but a particular Subſtance found principally in the Head of the Fiſh; and flakes like boil'd Salmon, or Cod, when taken out. It is alſo found in other Parts of the Fiſh, but not in ſo large Quantities, or ſo good, as in the Head.

It is a noble Medicine in many Caſes, tho' principally uſed in Bruiſes, inward Hurts, and after Delivery. It is an excellent Balſamic in many Diſtempers of the Breaſt; and gently deterges and heals. In Coughs, from ſharp Rheums, Eroſions, and Ulcerations, it is very ſafe, pleaſant, and effectual; as alſo in Pleuriſies, and inward Impoſtumations. Where the Mucus of the Bowels has been abraded by Acrimony and Choler, as in Diarrhœas, and Dyſenteries, this is a very good Healer. In Ulcerations of the Kidneys, and bloody Urine, it is likewiſe a very ſuitable Medicine; and, by ſoftening and relaxing the Fibres, it contributes frequently to the Expulſion of Gravel, by enlarging the Paſſages. It is moſt conveniently made up into the Forms of Electuaries and Boles, with proper Conſerves, and Things of the like Kind: And in ſuch Forms, if it be ſkilfully mix'd, it gives them an agreeable Smoothneſs, and is not diſcoverable by the Patient. It is alſo very properly diſſolv'd in a Draught, by the Help of the Yolk of an Egg; or it is made into an Emulſion by the ſame Management. The uſual Doſe is about half a Dram.

It is emollient and healing, outwardly uſed; but its greateſt Uſe that way is in the Small-pox, melted with Oil of Almonds: With this the Puſtules are juſt kept moiſt, when they begin to harden; and it wonderfully prevents thoſe Scars they are apt to leave, by ſoftening, and healing them up ſmooth. Altho' this is but a modern Practice in this Diſtemper, yet *Schroder* takes notice of its Uſe in his Time, in ſmoothing and filling up the Fiſſures, or Cavities, made by Blotches and Scabs.

It is ſometimes uſed as a Coſmetic, both in Paints, and in Waſhes, to waſh the Hands with.

BALAM PULLI. A Name for the Tamarind-tree. *Raii Hiſt. Plant.*

BALANDA, and VALANIDA, are Names for the *Æſculus*, or Beech. *Blancard.*

BALANDINA, a factitious Stone mention'd by *Raymond Lully*. As I do not underſtand the Original, it would be ſomewhat difficult to tranſlate it. I ſhall therefore give it, as he has done, in *Latin*, in hopes, that thoſe whom it may concern may underſtand it better than myſelf.

BALANDINA *componitur ex argento vivo ferri, & eſt coloris albi valde, & reſplendet ratione ſulphuris decocta & converſa in naturam aquæ aereæ ignitæ reſpiciens naturam argenti vivi; & quia ſua natura eſt ex aere, ideo reſtringit ſanguinem. Recipe ergo de aqua aerea ferri, & imple mollem ceream poſt virtutem reſtrictivam acceptam, & indura illam in aqua terreſtri reſtrictiva ferri, & proſequere per informationes ſupradictas.*

BALANI, or GLANDES. A ſort of Shell-fiſh, ſo call'd from their Shape, which is like that of an Acorn: They are alſo call'd *Pollicipedes*. Of theſe there are many Sorts, which are found adhering to the Rocks on the Coaſts of *Spain*, *Brittany*, and *Normandy*.

As a Food, they are eſteem'd aperitive.

BALANOCASTANUM. The ſame as BULBOCASTANUM, which ſee.

BALANOS, βάλανϴ, properly ſignifies an Acorn; but *Hippocrates*, in his Treatiſe *De Affectionibus*, uſes it to expreſs an Oak. It is alſo made uſe of ſometimes, as in *Theophraſtus*, to ſignify any glandiferous Tree.

Hence, from the Similitude of Form, *Balanos* (βάλανϴ) is frequently uſed to expreſs Suppoſitories and Peſſaries.

Balanos alſo ſignifies the *Glans Penis*.

BALANUS MYREPSICA.

Ben, Balanus myrepſica, Offic. *Balanus myrepſica*, Ind. Med. 17. *Balanus myrepſica, Glans unguentaria, Nux Ben*, Mont. Exot. 9. Commel. Plant. Uſu. 83. *Balanus myrepſica, ſive Glans unguentaria.* The OILY ACORN. Ger. 1214. Emac. 1400. *Glans unguentaria*, C. B. Pin. 402. Raii Hiſt. 2. 1738. Jonſ. Dendr. 130. *Nux unguentaria*, J. B. 1. 317. Chab. 24. *Nux Ben, ſive Glans unguentaria*, Park. Theat. 238. *Balanus myrepſica, ſiliqua triangulari, ſemine minore alato*, Breyn. Prod. 2. 22. Commel. Flo. Mal. 50. *Nux Been Zeylanica, ſiliqua triangula, ſeminibus alatis*, Herm. Parad. Bat. Prod. 357. Cat. Hort. Lugd. Bat. 692. *Arbor exotica, Lentiſci folio*, C. B. Pin. 399. *Moringa*, Ferr. Flor. Cult. 385. Park. Theat. 1650. *Moringa Lentiſci folio, fructu magno anguloſo, in quo ſemine*, &c. J. B. 1. 435. Raii Hiſt. 2. 1745. Pluk. Almag. 253. *Katumurungha*, Herm. Muſ. Zeyl. 62. *Monringon*, Hort. Mal. 6. 19. Tab. 9. *Coatlis, quam alii Tlapalex-patli, &c. vocant*, Jonſ. Dendr. 291. Hern. 119. *Lignum nephriticum*, Rech. in not. ib. *Coatl. aliis Tlapalex-patli*, Laet. Ind. Occid. 227. *Lignum nephriticum*, Park. Theat. 1664. Ind. Med. 68. Mont. Exot. 8. Raii Hiſt. 2. 1804. *Lignum nephriticum cæruleo & flavo tingens*, J. B. 1. 492. Chab. 37. *Lignum peregrinum aquam cæruleam reddens*, C. B. Pin. 416. The BEN-NUT, NEPHRITIC WOOD.

According to *Dale*, the *Lignum nephriticum* is the Wood, and the *Balanus myrepſica* the Fruit of this Tree. See NEPHRITICUM LIGNUM.

Dioſcorides gives the following Account of the Virtues of the *Balanus Myrepſica*.

A Dram of the Powder, drank in Oxycras, conſumes the Spleen. It is apply'd to the ſame Part by way of Cataplaſm, being mixed with Meal of Darnel; and with Hydromel it makes a Cataplaſm for the Gout. Boil'd in Vinegar, it deterges the Pſora and Lepra; with Nitre, it cleanſes the Alphi, and black Ulcers; and in Urine, it clears the Face of Freckles, Spots, Sun-burns, and Pimples. Drank in Hydromel, it excites Vomiting, and looſens the Belly, but is very bad for the Stomach. The expreſſed Oil thereof, drank, works by Stool, but its Shell (φλοιὸς αὐτῆς) is more aſtringent. The Dregs that remain after Contuſion and Expreſſion, enter the Compoſition of Smegmas adapted for the Deterſion of Aſperities and Itchings. *Dioſcorides, Lib.* 4. *Cap.* 160.

The *Ben*, or *Balanus Myrepſica*, is a triangular Fruit of different Colours, of the Size of a Hazel-nut, being white or greyiſh, in which is found a white Almond, of a ſweet Taſte, diſagreeable enough.

Chuſe ſuch Kernels as are white, freſh, and the heavieſt you can get. They are of no other Uſe, that I know of, but to make Oil of, which has a great many good Qualities. The firſt is, that it has neither Taſte nor Smell, and never grows rancid, which makes it of great Uſe to the Perfumers and others, for preſerving the Scents of Flowers, as Jeſſamin, Oranges, Tuberoſe, and the like. With this Oil they make all their ſweet Eſſences, adding to the Flowers afore-named, as they fancy, Ambergriſe, Muſk, Civet, Benjamin, Storax, or Balſam of *Peru*. They grow in *Spain*, *Arabia*, *Ethiopia*, and *India*, where they come to Perfection, which they ſcarcely ever do in *Europe*.

The whole Nut is of a purging Quality, and the dry Preſſing, or Powder, after the Oil is taken out, of a cleanſing and drying Nature; the Shells or Huſks bind extremely; the Kernels bruiſed, and drank with a little Ale, purge the Body from groſs and thin Phlegm; the Oil, which is drawn out of the Nut, does the ſame, provokes Vomiting, and cleanſes the Stomach of much foul Matter gather'd therein; but the Nut itſelf, in its groſs Body, does much more trouble the Stomach, unleſs it be roaſted at the Fire: for then they loſe much of their emetic Quality, and only purge downwards; and they are given in Clyſters, with very good Effect, to cleanſe the Bowels, and cure the Colic. The Kernels, taken in Poſſet-drink to a Dram, mollify the Hardneſs of the Liver and Spleen. The Oil, beſides its excellent Uſe to the Perfumers, is employ'd by the Glovers and Skinners, to preſerve their Leather from Spots or Stains, or from ever growing mouldy, as thoſe perfumed with Oil of Almonds do. It more eaſily extracts, and longer retains, the Perfume of any thing infus'd in it, than any other Oil whatſoever. Being dropt into the Ears, it helps the Noiſe in them, and Deafneſs alſo. The Kernel, uſed with Vinegar and Nitre, is good againſt the Itch, Leproſy, running Sores, Scabs, Pimples, and other Deſedations of the Skin. Mix'd with Meal of Orobus, and apply'd Plaiſterwiſe to the Side, it helps the Spleen, and eaſes the Gout, and Nerves which are pain'd with Cramps, Spaſms, Colds, and Bruiſes. Mix'd with Honey, it diſſolves Nodes, Tophes, Knots, and hard Tumors. *Pomet.*

The Oil of the *Balanus Myrepſica*, is ſometimes called *Oleum Balaninum.*

This Fruit was termed *Glans Unguentaria*, becauſe it yields an Oil by Expreſſion, uſed by Perſumers in perfuming other

Oils, and never turns rancid. It is thought proper in the Itch, and ſome other cutaneous Diſeaſes, as being a good Detergent ; and is ſometimes mixed with Biſmuth and white Precipitate. Some ſay, that this Oil, mixed with a Hazel-nut, or Filbert, and taken in this manner, will purge upward and downward ; and it is certain, that the Fruit itſelf, made into an Emulſion, is purgative. *Geoffroy*.

There is another Species of *Ben*, which is much larger than the preceding. It is call'd by *Monardus*, in his Hiſtory of Drugs, *Ben magnum, ſeu Avellana purgatrix*, the great *Ben*, or purging *Filbert*. It grows in *America*, and is brought ſometimes from *St. Domingo*, but is very ſcarce.

It purges upwards and downwards. The *Indians* uſe it for the Wind-colic. The Doſe from half a Dram to a Dram. They weaken its Force by roaſting it. *Lemery de Drogues*.

BALASIUS. A Gem of a purple or roſy Colour. It is a ſort of Carbuncle. *Rulandus* relates ſome wonderful Effects of this precious Stone, which are not worth farther Notice, becauſe utterly fabulous.

BALATRO, according to *Blancard*, is the ſame as BAMBALIO, which ſee.

BALAUSTIA, Balauſtines. Theſe are the Flowers of the *Balauſtia*, Offic. Ger. 1262. Emac. 1450. *Balauſtia Hiſpanica*, J. B. 1. 82. Chab. 3. *Balauſtia flore pleno majore*, C. B. Pin. 438. *Balauſtium*, Mont. Ind. 37. Aldrov. Dendr. 579. *Malus Punica ſylveſtris major, ſive Balauſtium majus*, Park. Theat. 1511. Raii Hiſt. 2. 1463. *Balauſtium majus ſive Malus Punica ſylveſtris major*, Park. Parad. 430. *Punica flore pleno majore*, Tourn. Inſt. 636. Boerh. Ind. A. 2. 450. *Malus Punica pleniflora*, Jonſ. Dendr. 29. The BALAUSTINE-TREE.

The *Balauſtine* is the Flower of the wild Pomgranate, of which there are ſeveral Kinds ; for you meet with the white, the red, and the Roſe-colour'd. It is like the Cytinum (Flower) of the Garden Pomgranate, and the Juice thereof is extracted in the ſame manner as Hypociſtis.

It is of an aſtringent Quality, and effectual to the ſame Purpoſes as the Hypociſtis and the Cytinum. *Dioſcorides, Lib.* 1. *Cap.* 154.

There are two Sorts of *Balauſtines* ſold, the fine and the common : By the fine are meant the Huſks, together with their Flowers ; by the common, thoſe which have nothing but the Huſk. *Pomet*.

The *Balauſtines*, as well as the *Cytines*, are of an earthy Nature, very aſtringent, inſpiſſating, refrigerating, and drying ; whence they are very often uſed for all Kinds of Fluxes, as the Diarrhœa, Dyſentery, the Uterine Flux, and others ; and for ſtopping of Hæmorrhages from Wounds. *Dale* from *Schroder*.

BALBIS, βάλϐις, is explained by *Galen* in his *Exegeſis*, an oblong Cavity ; hence βαλϐιτῶδες, in *Hippocrates*, in his Treatiſe *de Articulis*, is ſpoken of the Cavity at the Extremity of the Humerus, to which the Ulna is articulated.

BALBUTIES. A Defect in the Speech. Properly that Sort of Stammering, where a Perſon ſometimes heſitates, and immediately after ſpeaks precipitately.

BALISTÆ OS. The ASTRAGALUS, which ſee.

BALITISTERA. *Rulandus* explains this by *Terra Rubea*.

BALLERUS. A ſmall River-fiſh taken Notice of by *Aldrovandus* and *Lemery*, which is uſed in Food, but has no Medicinal Virtues attributed to it.

BALLOTE.

Marrubium nigrum Ballote, Offic. *Marrubium nigrum*, STINKING HOREHOUND. Ger. 566. Emac. 701. Raii Hiſt. 1. 571. Mer. Pin. 75. *Marrubium nigrum, ſive Ballote*, J. B. 3. 318. Chab. 436. *Marrubium nigrum fœtidum Ballote dictum*, Park. Theat. 1230. *Marrubium nigrum fœtidum, Ballote Dioſcoridis*, C. B. Pin. 230. Hiſt. Oxon. 3. 377. *Marrubiaſtrum*, Rivin. Irr. Mon. *Ballote*, Tourn. Inſt. 185. Elem. Bot. 153. Raii Synop. 3. 244. Boerh. Ind. A. 175. Rupp. Flor. Jen. 183. Dill. Cat. Giſſ. 135. Buxb. 35. *Ballote, Marrubium nigrum fœtidum*, Merc. Bot. 1. 23. Phyt. Brit. 14. BLACK HOREHOUND.

Ballote, or black Horehound, ſhoots up from one Root in numerous, black, ſquare, and ſomewhat hairy Stalks. The Leaves are like thoſe of the common Horehound, but larger and rounder, black, and hairy, and ſet at Diſtances about the Stalk like thoſe of the Meliſſophyllum, for which Reaſon ſome give it that Name. The Flowers are white, and grow about the Stalk in Whorles.

A Cataplaſm of the Leaves, with Salt, is of Efficacy againſt the Bite of a Dog, and, dry'd over hot Cinders till they are wither'd, are good to repreſs a Condyloma ; and uſed with Honey, deterge foul Ulcers. *Dioſcorides, Lib.* 3. *Cap.* 117.

The black Horehound grows better, and more branched than the white, having ſquare, hairy Stalks, and larger, darker Leaves, which more reſemble thoſe of dead Nettle, but are ſomewhat ſofter in handling, of a ſtrong earthy Smell. The Flowers grow among the Leaves, in two Cluſters, on ea Side of the Stalk, towards the Fore-part of it ; each Cluſter a common Foot-ſtalk, and every Flower in a wide-mouth five-corner'd, large Calyx, of a red Colour, being galeat and labiated, appearing but little above the *Calyx*, in the Bo tom of which grow four ſmall oblong Seeds. The Root long, ſtringy, and ſpreading much. It grows by Path-way and in Hedges, and flowers in *July*.

The Leaves and Tops are uſed, tho' but ſeldom. Dr. *Bow* commends it as a ſingular Remedy againſt hyſteric and hyp chondriac Affections. *Miller's Bot. Off. p.* 285.

It contains a great deal of Oil half exalted, and eſſential a volatile Salt. *Lemery des Drogues*.

Its Leaves are bitter, ſtinking, and give no Tincture of R to the blue Paper, which makes us conjecture, that the natu Salt of the Earth is involved in it by a great deal of fetid O Mr. *Ray* recommends a ſtrong Decoction of it in hyſterical a hypochondriac Caſes. Make a Tea of equal Parts of wh *Horehound*, ſtinking *Horehound*, and Betony-leaves, and dri every Day three or four Cups of it, in order to prevent t Gout, or render its Attacks the leſs violent. *Martyn's Tou nefort*.

BALNEABILIS. An Epithet for ſuch Waters as are p per for Bathing.

BALNEA, Baths.

Theſe have in all Ages been uſed with a View to Clean neſs and Decency. Hence, probably their Medicinal Virtu were firſt diſcover'd. And it is remarkable, that frequent A lutions have been injoin'd as a Duty, by moſt Religions whi have been eſtabliſhed in the Eaſt. At this Day the Orient reproach the *Europeans* with Beaſtlineſs, on account of th neglecting to bathe ; and, it muſt be confeſſed, with too mu Reaſon.

Medea is ſaid to be the firſt who employ'd warm Baths wi a View to Health, and this gave Riſe to the Fable, that boil'd People alive.

Pelias, an old King of *Theſſaly*, having an Inclination try what Effects this new Medicine would have upon hi dy'd under the Experiment, which might add Credit to Fable.

Melampus bath'd the Daughters of *Prætus*, in order to cu them of Madneſs.

The *Lacedemonians* immers'd their Children in Wine, ſoon as ever they were born, tho' they were ſenſible, that would make them die of Epileptic Fits, in caſe they were a weak Conſtitution.

Thoſe Robbers in foreign Parts, which are called *Bohemia* a ſort of Banditti, not unlike our Gypſies, waſh their Ch dren, as ſoon as born, in the next Fountain, to try th Strength.

Virgil ſays the ſame of the antient *Latins*.

Durum a ſtirpe genus, natos ad flumina primum,
Deferimus, ſævoque gelu duramus & undis.

Aſclepiades recommended cold Baths. *Dion Caſſius, Lib.* informs us, that *Auguſtus* being extremely ill, and not able take Medicines, having an Averſion to them, *Antonius M* advis'd him to uſe cold Bathing, and to drink cold Wat This cur'd the Emperor ; and beſides other great Rewa from *Auguſtus* and the Senate, *Muſa* for this was allow'd wear a Gold Ring, a Privilege none before, enjoy'du n Men of the firſt Quality in *Rome*.

The ſame Privilege was alſo granted to all thoſe of his P feſſion ; and they were farther granted an Immunity from Taxes for ever.

But afterwards *Muſa* treating *Marcellus* in the ſame m ner, it coſt that young Prince his Life. And upon this A count *Muſa* was cenſur'd, as if *Livia* had bribed him to adv cold Bathing to this Prince improperly.

Thoſe who conſider what good Effects cold Baths may h upon People in Years, or ſuch whoſe Fibres are relaxed ; a on the contrary, of what ill Conſequence they may be, young People, whoſe Fibres are in full Elaſticity, will ea account for the different Effects of the cold Bath upon A *guſtus* and his Nephew.

Suetonius in Auguſto, Cap. 59. and 81. tells us, that Senate decreed *Antonius Muſa* a Statue of Braſs, and ſet it n to that of *Æſculapius*.

He ſays alſo, that *Auguſtus*, at his Return from his Exp tion to *Biſcay*, having a Diſorder in the Liver, conſequent a long Fluxion ; *Antonius Muſa* propos'd a hazardous Reme and quite contrary to thoſe that had been try'd, which wa change his warm Fomentations for cold ones.

Pliny ſays, that before the Time of *Muſa*, none but w Baths were made uſe of ; and that *Antonius Muſa* brought ones into Credit.

Horace informs us, that he was forbid going to *Baia*, *Antonius Muſa*, and order'd to waſh in cold Water, tho' the Middle of Winter ; and that the People of *Baiæ* complain'd of the Sick, who left them, and expos'd their Heads nd Stomachs to the cold Fountains at *Cluſium* and *Gabii*.

Antonius Muſa had a Brother, whoſe Name was *Euphorbus*, who was Phyſician to the ſecond *Juba*, according to *Pliny*, d ſhared with the former the Credit of the Invention of cold Baths. *Pliny*, however, is miſtaken when he tel's us, that *Antonius Muſa* and *Euphorbus* were the Inventors of cold Baths, becauſe they were recommended by *Aſclepiades*, who liv'd before them.

Pliny, *Lib.* 29. *Cap.* 1. gives an Account of a Phyſician of *Marſeilles*, whoſe Name was *Charmis*. He came to fix at *Rome*, in the Reign of *Nero*, and made a great Fortune. He ommended much cold Baths in the Middle of Winter.

Plutarch in his Sympoſiacs, *Lib.* 8. *Quæſt*. 9. gives us a ry diſadvantageous Idea of the *Roman* warm Baths. He ys, that nothing contributes ſo much to change the Body, d produce new Diſeaſes, as the Variety of Baths that were his Time made uſe of ; by which the Body is firſt ſoften'd e Iron by Heat, and then again harden'd by dipping into ld Water, like Steel. Any one, ſays he, who had liv'd few Years before us, if he was to look into our Baths, ould ſay,

Ἔνθα μὲν εἰς Ἀχέροντα Πυριφλεγέθων τε ῥέουσι

He adds, that their Anceſtors uſed mild Baths, inſomuch at *Alexander* the Great, when he had a Fever, ſlept in one ; d the Women amongſt the *Galatæ* eat with their Children hilſt they bath'd : But that in his Days, the Air that they ſpired in Breathing, was a Mixture of Moiſture and Fire ; ich ſuffer'd not one Particle of the Body to be at Reſt, but w'd all out of their proper Situations, till they extinguiſh'd mſelves, as it were flaming from the Bath.

Baths are properly enough diſtinguiſhed into *hot* and *cold* ; d both theſe differ extremely, according to the different grees of Heat and Coldneſs, and according to the various ntents of the Waters made uſe of.

Baths again are univerſal, that is, ſuch as the whole Body is mers'd in ; or particular, that is, ſuch as are apply'd to ſome ts, as *Semicupia*, *Pediluvia*, and ſome Sorts of Fomen- ons.

t is well known in natural Philoſophy, that Heat relaxes ; that Cold, on the contrary, contracts and braces the es it is apply'd to. This muſt neceſſarily render warm s very different from thoſe which are cold in their Ef-

e find a great deal in *Hippocrates*, with reſpect to the of Baths, both warm and cold ; and both as Preſervatives nſt, and Remedies for Diſtempers. But in his Treatiſe *Regimen in acute Diſeaſes*, he informs us, that *Convenien- for Bathing were to be met with in very few Houſes.* nce *Galen* infers, that Bathing was not ſo univerſal in the of *Hippocrates*, as afterwards.

he Uſes of Bathing in particular Diſtempers, according to *ocrates*, are ſpecify'd under their reſpective Articles ; mean his general Rules are, that the Patient who uſes this Re- ſhould remain without moving from his Place, that he not ſpeak, but allow thoſe who either bathe him, or Water on his Head, or rub him, to perform their ſeveral s : That Sponges ſhould be uſed in rubbing him, and not nſtrument called *Strigil :* That the Patient ſhould with Precaution guard againſt Cold : That the Bath ſhould not ed immediately after eating or drinking ; and that both were alſo to be abſtained from immediately after coming the Bath : That it ought to be conſidered, whether the nt uſed the Bath when in Health ; and if he did, whether aped Advantage, or ſuſtained any Injury by it : And, that the Bath ſhould not be uſed by People who are either luble, or too coſtive, in their Bellies, nor by Perſons who ot made a previous Diſcharge of their Excrements, nor by who are too weak, who have an Inclination to vomit, a a, or a Bleeding at the Noſe.

ording to *Hippocrates*, the Uſe of the Bath is to refreſh oiſten, to remove Wearineſs, to ſoften the Skin and to provoke Urine, to diſpel Heavineſs of the Head, render the Noſtrils and other open Ducts of the Body He allows two Baths a Day for ſuch Patients as have cuſtomed to bathing during their Health.

s gives the following Directions with reſpect to Bathing.

ng is uſeful on two Accounts ; for ſometimes, after the s gone, it makes way for Health, by enabling the Pa- uſe a more plentiful Diet, and richer Wines ; ſome- takes off the Fever itſelf. It is commonly adviſed, e outer Skin wants to be relaxed, the corrupt Humours ttracted from the inward Parts, and the Habit of the be changed.

The Antients were pretty cautious in the Uſe of Bathing, *Aſclepiades* more free ; nor indeed is it a thing to be dreaded, provided it be ſeaſonable, otherwiſe it is pernicious. If a Perſon get rid of a Fever, ſo as to be free for a whole Day, he may on the next, after the uſual Time of the Fit, ſafely venture to bathe. But if the Fever be periodical, ſo as to return the third or fourth Day, whenever it fails to make its uſual Viſit, Bathing may be ſafely uſed. While a Fever continues, if it be but gentle, and the Patient labour under an inveterate Diſorder of the Spleen, the Bath is a wholſome Medicine, with this Caution, however, that there be no Hardneſs or Swelling about the Præcordia, no Roughneſs of the Tongue, no Pain in the Head, or middle Parts of the Body, and that the Fever does not at the ſame time increaſe.

In periodical Fevers there are two Seaſons for Bathing ; one before the Shivering, the other after the Fever is gone ; but for thoſe who have been long moleſted with ſlow Intermittents, the proper Time is, when the Acceſs is entirely over, or, if that does not happen, at leaſt when it is mitigated, and the Body in as good a State as can be expected in that kind of Illneſs.

A weak Perſon, who is to go into the Bath, muſt be careful, that he takes no Cold before his Entrance. When he is there, let him ſtop a while, and examine whether he perceives any Stricture about his Temples, and whether any Sweat ariſes. If the former happens, and the other does not follow, Bathing that Day will be of no Service ; but the Patient is to be gently anointed all over, and ſo carry'd back, and Cold is by all means to be avoided, and Abſtinence is to be uſed. If there be no Alteration at the Temples, but a Sweat breaks out, firſt in thoſe Parts, and afterwards in other Places, the Mouth is to be fomented with hot Water, and he is then to ſit in the *Solium*. There he is alſo to mind whether his outer Skin ſhivers at the firſt Contact of the hot Water, which, though it can ſcarce happen where all things previous are right, is a certain Sign that Bathing will prove of no Effect.

A Perſon may know whether Unction ought to be perform'd before or after he goes into the hot Water, by conſidering his State of Health. But generally (except in particular Inſtances) after raiſing a Sweat, the Body is firſt to be gently and throughly anointed, and afterwards to be put into the hot Water. And here Regard alſo is to be had to the Strength ; for the Patient muſt not be ſuffered to fall into a fainting Fit through Exceſs of Heat, but the ſame is to be ſeaſonably moderated, and the Body to be carefully covered with Cloaths, for its Defence againſt cold Blaſts ; and there alſo the Patient is to ſweat before he takes any thing. *Celſus*, *Lib.* 2. *Cap.* 17.

The preceding Directions relate only to warm Baths.

Hoffman has collected ſeveral Particulars relative to the Uſes of Bathing, which are of too much Importance to be omitted.

The ſalutary Effects produced by the external Application of Water are no leſs conſpicuous, than the Advantages ariſing from its internal Uſe. As a Proof of this, we need only direct our Views to Baths, the principal Baſis and moſt material Ingredient of which is ſimple Water ; a Fluid, which, when pure, light, and without any adventitious Mixture, is poſſeſſed of highly medicinal and ſalutary Qualities. In all Ages, the more ſagacious and ſkilful Phyſicians ſeem to have been ſenſible of this. Accordingly *Hippocrates*, *Galen*, *Cœlius Aurelianus*, *Aretæus*, *Celſus*, and *Trallian*, inform us, that in their reſpective Times Baths of ſweet and pure Water were much uſed in the moſt violent internal Diſtempers, eſpecially in the moſt formidable Diſorders of the Head, ſuch as racking Pains and Madneſs, whether accompany'd with Melancholy and Dejectedneſs, or with Rage and Fury. The Antients uſed theſe Baths with uncommon Succeſs. And *Alexander Trallianus* [*Lib.* 1.] affirms, " That a Bath of pure and ſweet Water is of all other things " the beſt calculated for the Relief of the Melancholy ; but 'tis " neceſſary they ſhould remain in it for a conſiderable time, " even in the Summer."

Aretæus approves of this Practice, and orders melancholy Patients to go often into Waters that are naturally hot, and remain in them for a conſiderable time, ſubjoining this as a Reaſon, that in thoſe labouring under Melancholy the Muſcles are dry and tenſe ; and that a more proper Step cannot be taken to remove their Diſorder, than to render them lax and ſoft by Bathing.

Cœlius Aurelianus alſo warmly recommends the Uſe of natural Waters in maniacal Caſes.

And *Proſper Alpinus* [*de Medicina Ægyptiorum*] informs us, that many melancholy Patients were perfectly cured by the Uſe of moderately warm Baths.

In caſe of violent Pains ariſing from a Stone in the Kidneys, *Alexander Trallianus* and *Aretæus* highly recommend ſitting up to the Navel in warm Baths.

I myſelf alſo, from repeated Experience, can affirm, that in violent Diſorders of the Head, ſuch as Madneſs, Me'ancholy, preternatural Stupidity and Torpor of Mind, diſturbed Sleep, attended with frightful Dreams, Hemicrania, Vertigos, Dimneſs of Sight, violent Tooth-achs, racking Pains of the nervous

Parts, Cardialgias, Iliac Paſſions, Colics, and Pains ariſing from the Stone in the Kidneys, Baths of the *Toplitz Waters*, as alſo ſitting in pure Water moderately warm, have afforded inſtantaneous Relief, even during the Paroxyſm itſelf, and under the immediate Attack of the Symptoms; for ſo ſurpriſing is the Efficacy of Baths in alleviating Pain, and relaxing ſpaſmodic Strictures, that ſo long as the Patients remain in them, their Complaints ceaſe, and their racking Spaſms are not felt; but make a freſh Attack when they quit them. The Antients alſo, according to *Celſus*, and the *Egyptians*, according to *Alpinus*, uſed Baths no leſs frequently and ſucceſsfully in all Fevers, except peſtilential, whether of the continued or intermitting Kind, though they did not approve of them in the firſt Stages, and greateſt Vigour, but only in the Declenſion of the Diſeaſe. And I myſelf have more than once ſucceſsfully ordered emollient and nervous Baths to be uſed by old People labouring under Quartan Fevers, on their Days of Reſpite.

But Baths of pure and ſweet Water not only ſoften and relax the Fibres when rigid, tenſe, and conſtricted with Spaſms, and derive the Blood and Humours from the Head, and ſuperior Parts, to others that are leſs noble and delicate, but alſo wonderfully aſſiſt the Circulation of the Blood and Juices, and promote cutaneous Secretion; for by their Humidity they relax the Fibres and Pores of the Skin; and by their Warmth they expand the Blood, and augment the Dilatation, and conſequently the Contraction of the Heart and Arteries. Hence the Pulſe is rendered fuller and quicker, and the Circulation of the Juices accelerated, by which means the Blood becoming more thin and fluid, is quickly conveyed to the moſt remote Tubes of the Body, and to all the Parts of its Surface; and the Elimination of the moſt ſubtile and noxious Sordes is promoted; which End will be ſtill more effectually anſwered, if the Patient betake himſelf to Bed immediately after the Uſe of the Bath; becauſe the Matter to be eliminated by the Pores of the Skin is reſtrained and pent up by the Gravitation and Preſſure of the circumambient Water, ſo long as the Patient remains in the Bath. But when this Gravitation and Preſſure are removed, that is, when the Patient comes out of the Bath, has his Body dry'd, and goes to Bed, ſo great a Quantity of Serum is diſcharged from the opened and expanded Tubuli, that the whole Surface of the Body is ſometimes covered with a plentiful, but kindly Sweat.

Beſides, *Baths* and *Semicupiums* (Half-baths) have a peculiar Efficacy in augmenting the Virtues, and aſſiſting the Operations, of the more *generous Medicines*, as they are call'd, in the Cure of the moſt terrible Diſorders; for 'tis ſufficiently known, that the drinking acidulated or other wholſome Waters for the Cure of ſtubborn and chronical Diſorders is attended with much happier Conſequences, when Baths are uſed in Conjunction with them, than when they are drank without ſuch Aſſiſtance. Thus the Efficacy of the *Caroline Waters*, and thoſe of *Egra*, eſpecially in curing ſpaſmodic and hypochondriac Diſorders, and Perſons whoſe nervous Syſtems are weakened and impaired, appears more conſpicuous and ſurpriſing, if after drinking them the Patients go into the warm Baths of *Toplitz*, and uſe them in a due manner, and for a proper time; for theſe Waters are very light, ſubtile, and pure, as appears both from ſtatical Experiments, and from Evaporation, by which ſcarcely any thing of a ſolid Nature is left; ſo that by reaſon of their Subtilty and Purity, they wonderfully penetrate into the ſmalleſt Interſtices of the ſolid Parts and Fibres, which are tenſe and contracted; and by their relaxing and emollient Nature, reduce them to their natural State.

Baths are of ſingular Efficacy in the Cure of a virulent *Lues Venerea*, attended with its moſt formidable Symptoms, provided the Patients go almoſt daily into them, and from thence to Bed with a View to Sweat; but the Body muſt firſt be prepared by Veneſection, Laxatives, and ſuch Medicines as ſweeten the Blood, and proper Preparations of Mercury duly exhibited; whether with a View to promote Sweat, or excite a Flux of the Saliva. Decoctions alſo of the Roots and Woods recommended for purifying the Blood in cutaneous Diſorders, Pains, Exulcerations, and ſuch Diſtempers as draw their Origin from an exceſſive Acrimony of the Juices, produce much more ſpeedy and happy Effects, if Baths are uſed along with them. And indeed 'tis ſcarce credible what a large Quantity of thick Fat, and fetid Sordes, is extracted from the moſt minute Tubuli of the Skin by Baths, and left ſwimming in the Water. If we have a Mind to preſcribe the ſtronger Purgatives, or Subſtances of an acrid Nature, for exciting a Diſcharge of the Urine, theſe things are more ſafely exhibited after a previous Uſe of Baths. Though 'tis plain, that the Antients performed very wonderful Cures in obſtinate Diſorders, by means of white Hellebore; yet we find they never uſed that Remedy, 'till after the Patient had uſed the Bath; for by this means the Juices are not only rendered more fluid and moveable, and the excretory Ducts opened, that the peccant Matter may be eliminated with the greater Eaſe, but the Fibres alſo of the ſolid Parts are relaxed, and by that means the violent Spaſms, the Strictures, and all the other bad Effects produced by ſuch a draſtic and herculi Medicine are prevented. The Bath is alſo uſed in taking V mits, which, according to *Alpinus*, [*de Medicin. Meth.*] *Egyptians* uſed every Month as a Preſervative, but not exc in a Bath.

When Diſeaſes ariſing from Affections of the Uterus, from a Relaxation or Stricture of its Veſſels, are to be cur ſuch as the Fluor Albus, when Abortion is to be prevente when fleſhy Concretions, reſembling a Polypus, or Moles, frequent Cauſes of Abortions, are to be expell'd; or when Menſes, flowing irregularly, are to be reduced to their natu and ſtated Periods, I always preſcribe, and that with the deſi Succeſs, the frequent Uſe of Baths, in Conjunction with p per internal uterine Medicines, Emmenagogues, Balſamics, Purgatives. Preparations of Steel, eſpecially in a liquid Fo as alſo Infuſions of the Peruvian Bark, or Decoctions of i Wine, by their mild and balſamic Aſtringency, produce remarkable and happy Effects by corroborating and ſtrength ing the Tone of the Parts in Cachexies, in inveterate interm ting Fevers, and in that Species of the hypochondriac Affecti which draws its Origin from a Weakneſs of the periſtaltic M tion of the Inteſtines. But ſtill theſe Medicines will ope with more Safety and Succeſs, if during the Time they are the Body is duly exerciſed, or frequently ſoftened and rela by Bathing. The Facts I now mention are ſufficiently firmed by long Experience.

But for Baths of this Kind we are not to uſe Spring-wa nor ſuch as are hard, heavy, or impregnated with a calcar Earth; but muſt make Choice of thoſe that are light and tile, of which Kind is Rain-water and River-water, eſpec immediately after a Fall of Rain. Thoſe Waters are alſo t eſteem'd moſt proper for Bathing, which, in Waſhing, fo take Stains out of Linen Cloths; which, in the Preparatio Victuals, eaſily and thoroughly ſoften Roots and Pot-he which, upon Evaporation, leave little or no Matter behi and which, when pour'd hot upon Tea, or any other Subſt of a like Nature, quickly enter their Pores, and extract Virtues. But if ſuch cannot be had, thoſe we can com muſt be corrected, and render'd ſoft by Art; which is conveniently and effectually done by adding to them ſome vium, or *Venice* Soap, or by pouring into them a ſuffi Quantity of Milk, or by mixing with them a Decocti wheaten Bran, of the Flowers or Leaves of Chamomile, the Flowers and Roots of white Lilies. The Antients, pears from *Cœlius Aurelianus*, added Oils, and uſed Baths prepared, for alleviating Pains, and curing thoſe Suppreſſi Urine which proceed from ſpaſmodic Strictures of the Sphi Muſcles placed at the Orifice of the Bladder. And emo Baths made up in this manner are of ſingular Service for tating Delivery, eſpecially in Women with their firſt Chi ſuch as are a little advanced in Years, or of a dry Conſtitu if uſed in the laſt Months of Geſtation. In the *Tabes D* of Children, as alſo in the Rickets, theſe Baths are likew unſpeakable Service; for they open the obſtructed and ſtricted Ducts, and, by rendering the nutritious Juices fluid, occaſion by that means a freer and more equable bution of them to the ſeveral Parts of the Body.

Quite different are the Effects of thoſe natural Baths, by reaſon of the chalybeate Principle they contain, are from ſoftening and relaxing, that they rather brace harden the Pores of the Body. Chalybeate Waters, Kind, are now diſcover'd in a great many Parts of *Ger* but thoſe of the greateſt Note are, the Waters of *Freye* in the Marquiſate of *Brandenburgh*; thoſe of *Bebran* in *gen*; thoſe of *Radeberg*; thoſe of *Lauchſtade* in *Meiſſn*, ver'd by myſelf; and thoſe of *Eppag* and *Weiſſenburg* in *nia*. Tho' all theſe Fountains yield a light and ſubtile Wa by reaſon of that moſt fine and ſulphureous Crocus of which they depoſit after ſtanding ſome time, and by whi tinge, with a yellow Colour, Linen or Eggs thrown i Bath, are of a ſomewhat aſtringent Taſte; and may b ful Phyſician be preſcrib'd internally with Succeſs, in tho where chalybeate Preparations are proper. But their Uſe in Bathing is much more highly extoll'd, as being o lar Service to thoſe who have phlegmatic Conſtitutions, gious State of the Fibres, and ſmall full Veſſels. T alſo of Service in Caſes where, by reaſon of a too ſlow lation of the Blood, the Juices are inſpiſſated, becom and contract a ſcorbutic Impurity, whence ariſe La rheumatic Pains, Gouts, œdematous Tumors, Contractio alſo in Weakneſſes, and Refrigerations of the Joints; in al Caſes theſe corroborating Baths are highly ſerviceable, b of their ſubtile ſulphureous and chalybeate Principle, by they impart Strength and Elaſticity to the languid Pa brace up the relax'd and weaken'd Fibres.

And tho', ſuch is the Nature and Genius of theſe chalybeate Baths, that they ought only to be uſed wh and moderately warm, ſince, when too hot, they pr hurtful to the Body, throw the Blood into preternatu

excite Head-achs, and induce Languors of the Parts ;
en the Patient, immediately after a tepid Bath of this
in which the ſuperior Part of the Water is rather cold
t, is laid in Bed, he becomes warm, his Pulſe beats
and often a plentiful Sweat is diſcharged from all the
of his Body, by which his Strength is conſiderably in-
and the external Parts are corroborated.

e are alſo artificial Baths of a more gently corroborating
which are made of cephalic and nervous Powders,
in light and pure Water, and are of very ſingular Effica-
For preparing Baths of this Kind we principally make uſe
-leaves, the Herb Baum, Southernwood, Marjoram,
m, wild Thyme, Thyme, Roſemary, Hyſſop, Clary,
Mint, Catmint, Penyroyal, Feverfew, and Flowers of
Chamomile and Roſemary ; all which put into a Bag,
Addition of ſome Handfuls of common Salt and Pot-
to be gently boil'd in the Water. Waſhing the Body
edicated Waters of this Kind, in a Bathing-tub, pro-
very happy and ſalutary Effects in Paralytic Diſorders,
lity, and Weakneſs of the Joints ; and proves very ſer-
to weak, cachectic, and cold Conſtitutions ; and to
n, who, by the Violence of Diſtempers, have their
impair'd, their Nerves weaken'd, and the Tone of the
nts of their Joints in ſome meaſure deſtroy'd. They
leſs remarkably beneficial in all Diſorders of the Uterus,
'd by Abortion, difficult Births, or even Labours of
d: As alſo in Caſes where the Compages of the Uterus
'd with two luxuriant Humidity ; or where a white
umour, diſcharged from the Pudenda, occaſions Steri-
They alſo wonderfully promote the obſtructed Menſes ;
Hæmorrhoids in Men, when ſtopp'd.

e are alſo Baths of another Kind, call'd Vapour-Baths,
c Baths. In theſe the Vapours, whether hot and dry,
theſe exhaling from kindled Spirits of Wine ; or hot
t, ſuch as theſe ariſing from Herbs boil'd in Wine or
have immediate Acceſs, either to the whole Body, or
ſome particular Parts of it. Theſe warm Exhalations
ngular Efficacy in promoting Sweat, opening the ſub-
Ducts, ſoftening the harden'd Parts, relaxing ſuch as
and rigid, and diſſolving viſcid and tenacious Humours ;
the Horns and hardeſt Bones of Animals may be
and render'd pliable, by means of the warm Steams of
one, is a Fact known even to Cooks and Druggiſts.
Reaſon, Vapour-Baths are of ſingular Service in cold
, Anaſarcas, œdematous Tumors, Caſes where the
become paralytic, the Lues Venerea, and Swellings
ſticles: They are likewiſe very beneficial in repreſſing
either of the Uterus or Anus, and may be prepar'd of
Materials, according to the Nature and Genius of the
they are intended to relieve. In that terrible Species
mus, which generally accompanies a Dyſentery, the
Milk, in which Elder-flowers have been boil'd, afford
ous Relief. Vapour-Baths of this Kind are alſo uſe-
oking the Hæmorrhoidal Diſcharge, and even neceſ-
his Caſe, before the Application of Leeches ; and,
ey are excellently calculated for clearing the Mouths
rine Veins, when block'd up with a preternatural
ey are uſed with Succeſs in Caſes where the Menſes
entirely obſtructed, or diſcharged in too ſmall a

he moſt valuable and powerful Remedies produce the
and fatal Effects, when uſed unſkilfully, and with-
ſpection ; ſo the raſh and unwary Uſe of Baths is
ous than advantageous to the Patient. For this very
len lays down three Rules to be obſerved, with regard
: Firſt, That thoſe who are ſubject to Shivering,
o means uſe Baths. Secondly, That thoſe who have
Viſcera weak, or unſound, ſhould alſo avoid it.
, That ſuch as have their *Primæ Viæ* clogg'd and
with Humours, ſhould carefully avoid it. But the
ules, with regard to the Uſe of the Bath, are better
plicit: In caſe, then, of a *Plethora*, it is to be
d the Belly is to be render'd lax, before the warm
; leſt, by the Heat, Congeſtions of the Blood and
ould be produced in the Head and Breaſt, and
ſtain an irreparable Injury upon that Account.
ext Place, we are to be very careful, leſt, by the
at of the Bath, our Bodies be ſo overheated, and
il'd, as to diſcharge the Sweat too profuſely, and
a Quantity ; for this unwary Practice generally
intings, a Head-ach, Wearineſs of the whole Body,
ind, Dryneſs of the Mouth, and Thirſt, which
empts to remove by Draughts of any cold Liquor,
readily draw upon himſelf a Diſorder of a ſtill more
re.

proper Time for uſing the hot Bath is the Morn-
Body is refreſh'd with Sleep, the Concoctions
the Stomach empty ; eſpecially if proper Purgatives
viouſly uſed. It is alſo expedient, not to plunge
t once into the Bath, but to immerſe it gradually,
by firſt introducing the Legs, then the Thighs, then the Abdomen, as far as the *Scrobiculum Cordis*, augmenting at the ſame time, by little and little, the Heat of the Water. Nor are we to remain too long in hot Baths, eſpecially of the chalybeate Kind, leſt by that means our Strength ſhould be impair'd. After uſing the Bath, the Patient is to be laid in Bed, with a View to ſweat ; which Deſign may alſo be aſſiſted by proper Broths, Decoctions, or Infuſions. But in natural warm Baths, ſuch as thoſe of *Wolkenſtein* and *Wiſenbad* in *Meiſſne*, the Patient muſt often remain for ſome Hours, eſpecially when the Diſeaſe is of a violent and obſtinate Nature, ariſing from ſpaſmodic Conſtrictions of the nervous Parts, when the Mind ſuffers by means of Hypochondriacal or Hyſterical Diſorders, or when the Parts are conſtricted, in conſequence of an exceſſive Rigidity of the Ligaments and Nerves.

Thoſe who have tender Heads, who are afflicted with Catarrhs and Coryzas, who are ſubject to Aſthmas and Faintings, or who languiſh under ſlow Hectic Diſorders, ought to abſtain from all Baths, much more from Vapour-Baths, eſpecially when conſiſting of kindled Spirits of Wine ; for theſe throw the Blood into ſtrong Commotions, and prove very hurtful to thoſe of plethoric and cacochymic Habits ; and, as Experience teaches us, by being imprudently uſed, bring on Diſorders of the Head, Drowſineſs, Apoplexies, Epilepſies, Dimneſs of Sight, and Gutta Serenas. In like manner Baths are prejudicial to People after a ſharp Fit of Anger ; and I myſelf remember ſome Caſes of this Nature, where the Uſe of Baths has brought on Hectic Fevers, incurable Pains of the Parts, and even Palſies. And as the Colic often ariſes from the Blood ſtagnating within the Coats of the Inteſtines, whilſt it is endeavouring to find a Paſſage thro' the Veins of the Anus, and as a Plethora often attends the racking Pains excited by the Stone, we are therefore, in theſe Caſes, to beware of preſcribing ſuch warm Baths as theſe, which are not to be uſed till the Plethora, or too great Fulneſs of the Veſſels, is removed. *Hoffman.*

Warm Bathing is a very powerful Remedy in that terrible Diſeaſe the *Hydrophobia*, ariſing from the Bite of a mad Dog, and creating at once an inſatiable Thirſt, and an unaccountable Dread of Water. The only known Remedy, in this Caſe, is *Bathing*, which was uſed by the Antients with this very Intention. Thus *Celſus* informs us, "That with ſome, imme-
" diately after receiving the Bite, it was cuſtomary to plunge
" the Patient into a Bath, and ſweat him as long as his Strength
" would permit ; taking care at the ſame time to open the
" Wound, that the Poiſon might be the more freely diſcharg'd
" from it. Then they bathe the Part affected with a large
" Quantity of pure and unmix'd Wine, which is eſteem'd an
" Antidote againſt all Poiſons whatſoever."

A Phyſician of *Duderſtad*, ſome time ago, inform'd me, that a mad Wolf, ſallying out of the Woods, bit ſeveral Perſons, who died of the Bites they received : But at laſt, by the Advice and Perſuaſion of a common Countryman, ſome others, who had been bit, were prevail'd on to uſe a moderately *warm Bath*, after taking a Doſe of *Venice* Treacle, and the Fungus of the Dog-roſe, by the daily Repetition of which they were freed from Danger ; for, in this Caſe, *warm Bathing* becomes ſerviceable, by drawing the ſubtile Poiſon to the Surface of the Body, and procuring it a free and uninterrupted Exit, when 'tis brought thither. On this Occaſion a very conſiderable Difficulty may be ſtarted, which is, that with the ſame Intention the Antients uſed *cold Baths*, which, by bracing up the Pores, ſeem not only to prevent the Elimination of the Poiſon, but to repel it to the internal Parts. As for my own Share, I am of Opinion, that the *cold Bath* is not, in this Caſe, to be abſolutely condemn'd ; tho', at the ſame time, I look upon it as precarious, and not to be depended upon. However, if the Uſe of the cold Bath is ſucceeded by an intenſe Heat of the internal Parts, accompany'd with a quick Pulſe, and profuſe Sweats, which is often the Caſe, a conſiderable Benefit muſt be produced by it : But if, inſtead of theſe Conſequences, the Nerves ſhould be diſtended, and render'd rigid by the Cold, 'tis attended with imminent Danger. *Hoffman.*

There is a very ſingular Caſe related in *Miſc. Nat. Cur. Dec.* 2. *Ann.* 6. *Obſ.* 239.

A Woman frequently afflicted with an inſupportable Pain of her Loins, having in vain uſed a great Variety of Remedies for its Removal, at laſt found, that nothing was ſo effectual for procuring Eaſe as the *warm Bath* ; which having uſed for ſome time, ſhe began gradually to recover ; and every time ſhe came out of the *Bath*, a thick unctuous Subſtance was found ſwimming in the Water, and might have been ſeparated from it by means of a Spoon.

There is alſo another very remarkable Caſe to be found in the above-quoted Work :

A certain Man, terribly afflicted with Hypochondriac Diſorders, having for ſome time uſed a Sweet-water Bath, the Water at laſt began to aſſume a ſtrong and fetid Smell ; and a thick blackiſh Matter was obſerved to ſwim in it. In ſhort, the putrid Matter floating in the Bath, and the nauſeous Smell, and acrid Quality of the Water, increaſing gradually to ſuch a Degree, as to vellicate the Hands of the *Waiter*, there was a Neceſſity for a daily Supply of freſh Herbs, till the Patient was thoroughly recover'd. By the ſame means the learned *Volckhamer* cured a Widow Woman, whoſe Body every Day depoſited in the Water more than three Handfuls of a like fetid Subſtance. *Hoffman.*

Tho' in hot Countries the frequent Uſe of Baths is exceedingly proper, yet they ought to be leſs frequently, and more ſparingly, uſed in Climates where the Air is cold and moiſt. *Hoffman.*

Mr. *Lemery*, finding one of his Patients to have all the Symptoms of the Small-pox, and perceiving at the ſame time, that they made no Eruption, put him into a Bath of warm Water; which made them come out in great Abundance. His Intention was to remove the Dryneſs and Hardneſs of the Skin. There is ſomething very remarkable in this uncommon and bold Piece of Practice. *Hiſt. A.* 1711.

Mr. *Homberg* advances what, to ſome, may appear a Paradox, That the Rheumatiſm may be cured by a Bath of cold Water, more effectually than by the warm Bath, or by Sweating: In order to prove his Aſſertion, he reaſons in the following manner.

The Rheumatiſm is produced by an *acrid Serum*, become ſo ſubtile as to make its Way thro' the Coats of the Veins, from which conveying itſelf into the Muſcles, it ſtimulates their Fibres, and incommodes their Action.

In Conſequence of the great Subtility of this Serum, it diffuſes itſelf very far, and cannot be again abſorb'd by the Veins from which it was diſcharged.

The Diſorder it occaſions may be carried off either by procuring its total Diſcharge from the Body, or by forcing its Return into the Veſſels from which it originally came.

A ſufficient Heat will carry it quite out of the Body by Tranſpiration. A ſufficient Degree of Cold will, on the other hand, condenſe it, and diſpoſe it for entering again into the Veins. It is in this Caſe, perhaps, ſufficient, that the Cold prevent a freſh Diſcharge of Serum, ſince the former will neceſſarily be attenuated and diſſipated; whereas Heat, tho' it carry off the peccant Matter, yet diſpoſes the Veins to a freſh Diſcharge of the offending Serum. *Hiſt. A.* 1710.

Sir *John Floyer* recommends cold Baths in the following Diſtempers:

Abortion,
Agues,
Apoplexy,
Appetite loſt,
Aſthma,
Barrenneſs,
Biting of mad Dogs,
Bleeding at Noſe, or,
Bruiſes,
Cancers,
Catarrhs,
Corns,
Conſumptions in the Beginning,
Convulſions,
Coſtiveneſs,
Diabetes,
Dimneſs of Sight,
Deafneſs,
Weak Digeſtion,
Dropſies,
Eryſipelas, or Wild-fire,
All Fluxes by Sweat, Spitting,
Fluor Albus,
To prevent Gangrenes,
Gonorrhœa,
Green-ſickneſs,
Gravel,
Gout,
Giddineſs,
Head-ach,
Heart-burning,
Hectic Fevers,
Hickup,
Hoarſeneſs,
Jaundice,
Itch,
Inflammations,
Incontinence of Urine,
King's-evil,
Kidneys ſtopt, or inflamed,
Lethargy,
Leproſy,
Madneſs,
Melancholy,
Morphew,
Sore Mouth,
Fits of the Mother,
Nodes, or ſcirrhous Tumors,
Noiſe in the Ears,
Numbneſs in the Limbs,
Obeſity, or being over-fat,
Obſtructions of Urine, Stools and Menſes,
Ophthalmy, or ſore Eyes,
Palſy of the Tongue, Lip, or any Member,
Pains, Hyſteric or Rheumatic, or hot windy running Pains,
Palpitation of the Heart,
Againſt all Infections of the Plague,
Small-pox,
Piles,
Priapiſm,
Quartans,
Quinſies,
Redneſs of the Face,
Rickets,
Rheumatiſms,
Ruptures,
Sciatica,
Scald Head,
Scurvy,
Stone,
Stitches,
Strangury,
Swell'd Veins in the Leg,
Stiffneſs in the Limbs,
Tetters,
Tooth-ach,
Thirſt,
Thruſh,
Tympany,
Windineſs in any Part.

1. To bleed and purge, and uſe ſuch proper Diet and Medicines, both before and after Bathing, which a rational Phyſician knows to be ſuitable to the Diſeaſe, and the Conſti
tion of the Patient.
2. Not to bathe when hot and ſweating, but cool; not to
in the Bath above two or three Minutes, as the Patient
eaſily bear it; and to go in and out immediately, as on
firſt Bathing, after an Immerſion of the whole Body.
3. To uſe the cold Bath before Dinner, faſting; or elſe in
Afternoon, towards Four or Five o'Clock: 'Tis dangerou
go in after plentiful Drinking and Eating.
4. Continue to bathe nine or ten times, at leaſt two or t
times in a Week.
5. To uſe Sweating, with cold Bathing, in Palſies and
kets, and ſeveral Diſeaſes affecting the Nerves, with Ob
ctions.
6. In Windineſs, or Sizineſs of the Humours, or their F
lency, no Sweating is neceſſary; nor where Bathing is
for Preſervation of Health, or the invigorating of the A
Spirits.

That we may conceive a right Notion of the mecha
Action of Baths on the Body, I ſhall give Dr. *Wainwri*
Diſſertation on this Subject, as it is very diſtinct, and ha
Appearance of Truth to recommend it.

Sanctorius tells us, That Swimming in cold Water hi
Perſpiration: And,

That the Flux of the Belly is cured by promoting Per
tion, that is, by warm *Bathing*:

That Hypochondriacal Perſons are much eaſed, if
Bodies be render'd perſpirable by frequent *Bathing*: A

That Waſhing with cold Water heats robuſt Bodies,
refrigerates weak ones: And,

Warm *Bathing*, unleſs Crudities withſtand, helps Per
tion, and refrigerates the internal Bowels.

Bathing hath been often uſed with Succeſs in the Scab
Leproſy, Elephantiaſis, and moſt Defedations of the Skin
Variety of Pains, as Chronical Rheumatiſms, Gout, Sc
Lameneſs, from either too great Contraction or Relaxat
the Tendons.

I ſent a Gentlewoman to St. *Mongath*'s Well, wh
cured of an œdematous Tumor in her Ankle by *B*
which would not yield to any Method that had been u
Plaiſters, diſcuſſive Fomentations, with Sal Ammoniac d
in them, Tinctures of Myrrh and Camphire, Oil of
per Deliquium, laced Stockings, *&c.* She *bathed* her
Body once a Day, to give a general Contraction and Te
all the Veſſels, and promote a Diſſolution and better C
tion to all the Humours; but *bathed* her ſwell'd Leg
times every Day, and kept it not too long in the Wate
time, for fear of chilling it; ſo that the Vibrations of
bres being made ſtronger and quicker ſo often in a D
obſtructing Matter was removed, and the Veſſels ena
reſiſt the diſtending Power of freſh Humours.

I am perſuaded, that a prudent Management of th
Bath would be very powerful in the Relief of Cachec
Hydropic People, provided the Diſtempers be not too
vanced; and ſome dangerous Symptoms in a Conſump
the Lungs be ſound, would better be removed this w
any other: But this is not to be attempted, without the
of ſome judicious Phyſician. 'Tis a Specific in the R
Hæmorrhages, whether from the Noſe, Guts, or Ute
not only ſtopp'd by cold *Bathing*, but the Return pr
Nothing more certainly gives Eaſe, and effectually prom
paſſing of Stones in a Nephritic Fit, than warm *Bathin*
Baglivi tells us, that *Dolor Colicus fere ſemper miteſcit*
cupio, Colic Pains are almoſt always relieved in a *Semic*

Bathing will always act the Part of a Diuretic. An
ing over the Head in cold Water, eſpecially in Sea-wat
do more in the Cure of Melancholy, Madneſs, and par
of that occaſioned by the Bite of a mad Dog, than a
Medicine. There is nothing more adapted to the Cure
gidity, when owing to a former Exceſs of Venery,
cold *Bath*.

It will alſo contribute its Share to the Cure both of
Gonorrhœa, and *Fluor Albus*. 'Tis often ſucceſsful in
and they who uſe it much are very little affected
Change of Weather: And yet the Abuſe of Bathing is
judicial; for Bath-guides are generally of a pale and
Countenance, of a bloated Habit of Body, with ulcer
ſwell'd Legs, which often end in a Dropſy.

Tho' *Bathing* hath been uſed with Advantage in all
I have mention'd, yet there is ſcarce any of them all,
ſome Circumſtances, it would be prejudicial: So that,
the beſt Advantage we can by reading the Hiſtory of C
form'd by it, it is fit we ſhould inquire, what Alter
made by it in a human Body, that ſo we may know
Conditions to order it, and what not.

Our Bodies are preſs'd upon by a Weight of Air,
Mercury ſtands higheſt in the Barometer, equal t
Pounds Troy. Now, if this Weight be either conſide
creaſed or leſſen'd, as 'tis often upon the Change of

and the Influence of the Planets, it will certainly make a great Alteration in the Fluids of our Bodies. But this Preſſure is never ſo much augmented as when we bathe ourſelves: For Water, being above 800 times heavier than Air, muſt neceſſarily greatly increaſe the Preſſure: And a Body, ſunk 35 Feet in Water, ſuſtains double the Weight it does in the Air; and tho', when we are near the Top, the Preſſure upon our Bodies is mightily leſſen'd, yet 'tis much greater than in the open Air; ſo that all the Conſequents of a greater Preſſure will happen upon Bathing.

The tender Fibrillæ, of which the Skin is compoſed, being unequal in Strength and Tenſity, ſome of them will more reſiſt the Preſſure of the Water than others; from whence proceeds that Rugoſity of the Skin upon Bathing. 'Tis certain, that the Surface of the Body, and thoſe Parts adjoining to it, will be the moſt and firſt compreſs'd, and thoſe at the Centre the leaſt and lateſt; ſo that the Blood will be forced, in great Plenty, upon the Viſcera, where there is the leaſt Reſiſtance. For this Reaſon, it is never ſafe for thoſe to bathe who have weak or ulcerated Bowels; nor can they, without Danger of Life, or Swooning at leaſt, who have a very weak Pulſe, enter into a cold Bath. The fourth Aphoriſm is only accounted for this way, that is, *That cold Bathing heats robuſt Bodies, and refrigerates weak ones:* For the Contraction of the Heart, in robuſt Bodies, being ſtrong, makes the greater Conflict with the Reſiſtance it meets with, in promoting the Circulation of the Blood, in ſuch as enter the cold Bath, whereby the Blood is more broken, and the hot Particles ſet at Liberty. On the contrary, in thoſe who are weak, the Contraction of the Heart is but juſt able to continue the Blood in its Circulation, which will, by reaſon of the Reſiſtance it meets with, be ſlower than before; and therefore they will have a Senſe of Cold, or be refrigerated.

One that goes into a cold Bath, if he plunge not himſelf over Head, is ſubject to the Head-ach: The Reaſon of this is plain from what I have obſerved before; for there being the leaſt Reſiſtance to the circulating Blood in the Head, which is preſs'd upon only by the Weight of the Air, it will run in ſuch Plenty thither, as to diſtend the Veſſels beyond their uſual Tone, and thereby occaſion a Senſe of Pain. And why People are ſo chearful, briſk, and lively after Bathing, is not only becauſe the perſpirable Matter is thrown off more plentifully, (according to *Sanctorius*'s Obſervations, that is, *Melancholy is overcome by a free Perſpiration*; and *Chearfulneſs, without an evident Cauſe, proceeds from Perſpiration ſucceeding well*) but alſo from a Senſe of leſs Weight upon the Body. A Perſon two Feet under Water (as they often are who uſe Bathing) ſuſtains a Weight of Water, added to that of Air, (ſuppoſing ſtill the Area of his Skin to be equal to 15 ſquare Feet) equal to 2280 Pounds; for, 2, the Number of cubical Feet of Water, preſſing upon a Foot ſquare of the Skin × 76, the Number of Pounds in a cubical Foot of Water is = 152, × 15, the ſuppoſed Number of ſquare Feet on the Surface of the Body is = 2280 Pounds Troy.

So that the firſt and moſt obvious Conſequence of Bathing , by a greater Preſſure upon our Bodies, to ſtraiten the Veſſels, d thereby diſſolve the Humours, and make them fitter to paſs e Glands to be evacuated; as alſo to ſqueeze out any viſcid ſtructing Matter, that ſticks to the Sides of the Veſſels, and nder the Motion of the Fluids of our Bodies more free and ſy. In the next Place, they who enter into the Bath have e Quantity of their Blood mightily increaſed in the Brain and Viſcera, being forced thither, where there is the leaſt Reſiſtce; and the Quantity of ſeparated Matter in any Gland ing as the Quantity of Blood multiply'd into its Celerity, at e reſpective Glands, the Quantity of Animal Spirits, of Urine, Gall, Succus Pancreatis, &c. will be mightily increaſed, and y Impediment to the Secretion of theſe Fluids, will probably e removed, theſe Liquors flowing with a greater Celerity. So at,

1. If we would have the Blood diſſolved;
2. Or any viſcid Matter, adhering to the Sides of the Veſ, removed;
3. Or the Glands ſcour'd;
4. Or a greater Quantity of Spirits generated, and moved th greater Celerity thro' the Nerves;
5. Or would force the Urine;
6. Or remove Obſtructions in the Liver, Spleen, Pancreas, d Meſentery, if they be not grown too obſtinate (in which e 'tis dangerous); we ought to order Bathing.

t is for the firſt, ſecond, and third Reaſon, that it cures Itch, Leproſy, and Elephantiaſis: It is for the fourth Rea, together with the former, that it cures the Palſy, Melany, Madneſs, and the Bite of a mad Dog: It is for the fifth, it helps the Paſſage of Gravel: For the ſixth, join'd with other, that it helps Cachectic, Icteric, and Hydropic Peo, before the Diſtempers be too far advanced.

Theſe Ends, which are compaſſed by a greater Preſſure, are e effectually obtained by whatever increaſes the Weight the Water, or contracts the Fibres of our Bodies; it is the Salt in the Sea Water whereby its Weight is increaſed, that makes it more uſeful in the Cure of thoſe who are bit by a mad Dog; and the deeper you plunge them, the more effectual it will be, for a Reaſon that I have given before.

We know by Experience, that Cold contracts; and the more ſuddenly it is applied to our Bodies, the more violently it operates; but how much it contributes to the obtaining of the forementioned Ends, we cannot certainly know, having no Rule by which we may meaſure the Contraction cauſed by it.

But, that it is very conſiderable, we need not doubt, having ſo many Experiments to prove it. The Contraction of the Fibres is propagated throughout the whole Body, upon which ſcore all the Humours in the Body muſt be propelled with greater Force through the Veſſels in which they circulate; beſides that the Tenſity of the Fibres being greater, their Vibration will both be quicker and ſtronger, and that in proportion to their increaſed Tenſity; ſo that the Blood and Spirits will not only move more ſwiftly through the Canals, but alſo be extremely ground and broken; from whence all the Effects of more fluid Blood and Spirits, moving with greater Velocity, will neceſſarily enſue upon uſing the cold Bath. Theſe things which I have ſaid, compared with the Conſtitution of the Patient, to whom Bathing is preſcribed, will give you the Time he ought to ſtay in it, the Number of Times (with the Intervals between them) he ought to uſe it, the neceſſary Preparations for it, and what is to be done after it.

It is upon the Account of the contracting Power of the cold Bath principally, that it ſtops Hæmorrhages, Gonorrhœas, and the Fluor Albus, as alſo that it cures Venereal Impotency.

Where the peccant Matter hath been made more fluxil, either by Medicines, Diet, or a regular Uſe of the warm or temperate Bath, in chronical Rheumatiſms, Gout, Sciatica, Lameneſs, &c. the violent contracting Power of the cold Bath will often perfect the Cure. A nervous Atrophy, which *Baglivi* probably conjectures to be owing to an univerſal Relaxation of the Nerves, which terminate in the Skin, is as likely to yield to the cold Bath as any other Method, provided the Pores, by Contraction, were not ſhut up too ſuddenly; for it would then throw the detained Matter upon ſome other Glands, whereby an Evacuation more dangerous might ſucceed.

The next Property of the Bath, diſtinct from its Weight and Coldneſs, depends upon its being moiſt; and by this Quality of the Water, it ſoftens, relaxes, and makes pliable all the Parts of our Body, as ſufficiently appears by ſteeping any Part of an animal Body in Water; even the Horns and Hoofs of Beaſts will become ſoft and flexible, by a long Immerſion in Water, eſpecially if warm.

And that Water, as moiſt, hath a Property of relaxing, as 'tis proved by Experiment, ſo 'tis no way inconſiſtent with what I have ſaid of the Preſſure of Water in general, nor the contracting Force of the cold Bath in particular. The Preſſure of the Water is conſiſtent enough with relaxing and ſoftening of Bodies that are immerſed in it; for the Weight of the Water will enable it to inſinuate itſelf into the Pores of the immerſed Body, whereby it will become more ſoft and flexible; and yet, before it hath done this, will force together the Sides of any yielding Veſſel, ſuch as thoſe of a human Body are, and thereby preſs out their Contents with a Velocity proportionable to the Weight incumbent on them; ſo that, after the Humours have been put in violent Motion by the Preſſure of Bath Water, if the Perſon ſtay any conſiderable time in, he will have the ſolid Parts of his Body ſoftened, relaxed, and made flexible. This Hint is of great Uſe to determine the Time our Patients ought to ſtay in the Bath in ſome Diſtempers more than others.

Now I ſhall inquire how the contracting Power of Cold, and the relaxing Power of Moiſture, can agree in the ſame Subject. That they cannot act intenſely at the ſame time, but their Actions will deſtroy the Effect one of another, is evident to any who conſider, that contrary Qualities are inconſiſtent in the ſame Subject at the ſame time; but, as I obſerved in the laſt Section, Moiſture acts very ſlowly, and muſt be a long time in performing its Work, whereas Cold acts quickly, and on a ſudden, as we know by a Multitude of Experiments: Wherefore, though the cold Bath may contract at firſt, yet by ſtaying too long in it, it would relax; but there are none who are able to bear the Cold ſo long as to produce the latter Effect. The principal Reaſon why Cold ſo violently contracts the Membranes of our Bodies, is by making an ungrateful Senſation; for ſuch is the Frame and Conſtitution of the Animal Œconomy, that the Soul has a Power of contracting, or relaxing, the Membranes and Veſſels of the Body, ſo as beſt to ſerve the Purpoſes of Life; and though we know not how the Soul operates upon the Body, yet would it be the greateſt Folly to deny that which we daily experience to be true. We every Day obſerve, by the Command of our Wills, that the Members of our Bodies are moved a thouſand different ways; and 'tis as eaſy to imagine the Soul acts immediately upon the Nerves, and other ſolid Parts of the Body, as upon the Animal Spirits, being that Spirit can act as eaſily upon ſolid Matter, as that which is fluid,

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the Mode of its operating being altogether unknown to us. In a relaxed State the Body is weak, feeble and unactive, and in this Condition it is, in all the Paſſions which are attended with Pleaſure: On the contrary, whatever Paſſions of the Mind are attended with Pain, Grief, or any kind of Uneaſineſs, as Malice, Revenge, Fear, a Fright, or Surprize, put the whole Body into a contracted State, as appears by the Shrinking of the Veins, Sparkling of the Eyes, Contraction of the Pupil, Paleneſs of the Face, and eſpecially of the Lips; and this is none of the meaneſt Diſplays of infinite Wiſdom and Goodneſs, for the Preſervation of Man: For by this means he is ſtrongeſt when he has the moſt Occaſion for it, either in reſiſting Force when he thinks he can overcome it, or elſe in flying from it; in doing of which upon a Fright, ſome have exerted ſuch Agility of Body as is almoſt paſt Credit, were it not the common Obſervation of Mankind, how vigorous and active we are in ſuch Circumſtances. The Reaſon of this exceſſive Strength, when the Veſſels of the Body are contracted, is evident from Dr. *Cheyne*'s Propoſition about the Strength of Animals, that is, "That 'tis in a triplicate Proportion to the Quantity of Blood "running in the Veſſels." Now the Quantity of Blood is mightily increaſed, in the Proportion it bears to its Veſſels, when they are contracted, to what it is when relaxed; for 'tis the ſame thing to all Intents and Purpoſes, whether the Veſſels continue of the ſame Wideneſs, and the Quantity of Blood be increaſed, or the Quantity of Blood continue the ſame, and the Veſſels in which it runs be ſtraitened or contracted; ſo that we may expect the ſame Strength in an Animal whoſe Veſſels are contracted to half their Wideneſs, as we may from an Animal whoſe Veſſels are in their former Condition, and the Quantity of his Blood doubled; ſo that beſides the Advantages common to all Sorts of Bathing, there is this peculiar in the cold Bath, that it gives a violent and univerſal Contraction to all the Membranes and Veſſels of the Body, and there is nothing ſo ſurpriſing in the ſudden Cures it performs, but what is accountable for from this Cauſe.

But Water hath certainly a ſoftening, relaxing Property, when applied to our Bodies; and by means of this 'tis able to bring about great Alterations; and as the Preſſure of the Water is made more effectual by Cold, ſo is its relaxing Power by a moderate Warmth: For a gentle Heat always relaxes the Fibres of our Body, by being pleaſing and agreeable to the Senſe of Feeling: So that when we would have the Benefit of an univerſal Relaxation, we ought to go into the temperate Bath, ſuch as *Buxton*, being the moſt temperate of any that I know of in *England*. The firſt Advantage that many receive from the Uſe of this Bath, is an entire Refreſhment after Wearineſs with a Journey. 'Tis a common Cuſtom for Perſons wearied with Riding, as ſoon as they alight, to go into the Bath for a little time, by which means they become as lively and briſk as they were in the Morning; for Wearineſs being nothing but an overſtretching, or too great a Tenſity, of the Fibres, occaſioned by uſing them too long, or too violently, muſt, upon their being relaxed, go off again: 'Tis for the ſame Reaſon that Sleep takes off Wearineſs.

This univerſal Relaxation cauſed by Bathing will ſo widen the Pores, that a vaſt Quantity of perſpirable Matter will be carried off, more than at another time. 'Tis for this Reaſon, that ſome corpulent People have, in a Fortnight's time, loſt above two Stone Weight by uſing of this Bath; and all the Advantages of a free Perſpiration may be gained this way; tho' it be true, we are more obnoxious to catch Cold afterwards: Yet I think a cautious Uſe of the cold Bath after the hot, might not only prevent that Inconveniency, but, in many Caſes, render it much more beneficial. I have known that Bath I am ſpeaking of, to remove violent Pains in the Head, Back, and Joints. A Gentleman of my Acquaintance had a fixed Pain in his Breaſt for almoſt two Years, and was relieved by four or five times Bathing in this Bath. It helps a chronical Rheumatiſm, Gout, and the Colic, Lameneſs, Contraction of the Tendons, *&c.* and how all theſe are performed, is eaſily known by the foregoing Theory. But, all the Effects of warm Bathing are better brought about by the Water inſinuating itſelf into the Body through the Skin; for being mixed with the Blood, it dilutes and diſſolves the acid Salts in the Serum, by which they are better carried off through the proper Glands deſigned for their Evacuation: So that 'tis uſeful in all Diſtempers where too much Salt abounds, as the Scurvy, and moſt cutaneous Diſeaſes.

Though it be a generally received Notion, that Bath Water enters into the Body, and ſo mixes itſelf with the Blood, yet moſt believe it upon very indifferent Grounds, or having never examined the Reaſon of the Thing, nor conſidered the Objections againſt it. That Water hath a wonderful Power of inſinuating itſelf into any contiguous Body, appears from ſeveral Experiments. We ſee how Deal Boards will ſwell againſt rainy Weather; the watery Particles floating in the Air, by the Preſſure of the Air upon them, are forced into the ſlender Tubes of the Wood, where they meet with no Reſiſtance, the Particles of Air being too large to enter the ſame. It is certain, however true the contrary may appear to be, that the compounding Particles of Water are leſs than thoſe of Air, becauſe the former will paſs through ſeveral Bodies that the other will not. It will force itſelf through the Skins of Animals, even after they are dried, and converted into Leather. *Bellini* tried the Experiment upon the Skin of a Man's Head, which, after it was moderately dried, he ſuſpended with a Stone in it, to ſink it in the Water, and in a few Hours time the Water had forced its Paſſage through it. But nothing ſhews more the Force of Water to enter into contiguous Bodies than the following Experiment.

Faſten a Piece of Whip-cord, or a ſtrong Rope, of what Length you pleaſe, (but the longer, the more viſible will the Experiment be) to a Hook or Staple, and at the Bottom of the Cord hang any Weight, ſhort of what will break it, though never ſo great; you will find, that the Weight will riſe in moiſt Weather, and ſink lower in the dry: You may alſo raiſe the Weight by moiſtening the Sides of the Cord by a wet Sponge; by this means a few Particles of Water may overcome any finite Reſiſtance, if the Cord would bear it. Now, ſince there is but a little Quantity of Water, and that driven into the Sides of the Cord, with a Force no greater than the Weight of a Cylinder of Air incumbent upon the Water; therefore muſt the Water act by ſome Property whereby its Force is greatly augmented, and that can be no other than that of the *Cuneus*; and the Forces of Wedges are to one another reciprocally proportional to the Angles their Edges make; but in Spheres the greater or leſſer Degree of Curvity is to be conſidered as thei Angles, when Spheres are conſidered as Wedges, and the Degrees of Curvity in Spheres are reciprocally as their Radii. Now the Particles of Water, being ſo infinitely ſmall, leſs by much than thoſe of Air, muſt, when acting as Wedges, have thei Powers infinitely increaſed, ſo as to overcome any finite Reſiſtance: Now let the Reſiſtance the Water meets with, i entering into our Bodies, be what it will, yet 'tis hard to b lieve it is greater than what I have mentioned, which yet a lit tle Quantity of Water will overcome. The Experiments have taken Notice of were made upon the Skins of dead Me or Beaſts, which would have put the Matter beyond Diſput had they been made upon ſuch as were alive. The only Diffe ence then being, that, in the Living, Steams or Vapours a conſtantly raiſed into the Air, through the Pores of the Ski in inſenſible Perſpiration, which is not ſo in thoſe that a Dead, theſe Vapours, though raiſed with a conſiderab Force, are yet unable to withſtand the Impetus, with wh Water endeavours to inſinuate itſelf into contiguous Bodie being ſo great as I have explained. And though the Quanti of perſpirable Matter is very great in twenty-four Hou being five Eighths of the Meat and Drink a Man takes in Day; yet, if we compute the Quantity that perſpires from a Part of the Skin, in a given Time, we ſhall find it too lit by far to hinder the Entrance of Water into the Body, when go into a Bath. For Dr. *Pitcairn* hath demonſtrated, that t Matter of inſenſible Perſpiration in a Minute, is the 1200 P of the Place it comes from, that is, one Scruple of the Sk perſpires $\frac{1}{1200}$ Part of a Scruple in a Minute, and conſeque ly one Dram of the Skin perſpires $\frac{1}{1200}$ Part of a Dram in Minute. Now, ſuppoſe a ſquare Inch of the Skin weigh o Dram, then a ſquare Inch perſpires $\frac{1}{1200}$ Part of a Dram i Minute; but a ſquare Inch of the Skin is preſſed upon b Weight when we bathe, more than in the open Air, equal ninety-ſix Drams. For we may conclude, that our Bod taking one Part with another, are two Feet under Water when bathe ourſelves; ſo that every ſquare Inch of our Skin muſt b the Weight of twenty-four cubical Inches of Water equal inety-ſix Drams; for a cubical Inch of Water being four Dr $\frac{144}{1728}$, throwing away the Fraction, twenty-four cubical Inc muſt be ninety-ſix Drams. Now ſince only the $\frac{1}{1200}$ Part a Dram of Matter is perſpired through a ſquare Inch of Skin in a Minute, therefore is the Elevation of the perſpi Matter reſiſted by a Weight 115200 times greater than it for $1200 \times 96 = 115200$. How great then muſt be the lerity with which the perſpirable Matter moves, if we ima it able to raiſe a Body 115200 times heavier than itſelf? would it be, if the whole Quantity of perſpirable Matter, cuated in a Minute, was to exert its Force at once upon incumbent Weight of Water; but it is ſo far from doing that if the Exhalation of the Steams be not continual, Preſſure of the Water is, yet the Intervals betwixt the T they are propell'd from the Body are very ſhort; ſuppoſe of them in a Minute, being about the Number of Pulſes a healthful Man's Artery beats in the ſame time; then wi Quantity of Vapour, which exerts its Force at once the incumbent Water, be ſixty times leſs than what aſſigned; which being multiplied by $1200 = 72000$, the N ber of Parts into which a Dram of perſpirable Matter i vided, one Part only of which exerts its Force againſt ni ſix Drams of Water in a Second; ſo that the perſpirable ter that riſes, every Second muſt raiſe a Weight 691 times greater than itſelf, if it reſiſt the Entrance of the m nt Water; for ninety, the Number of Drams of Water, umbent upon an Inch ſquare on the Skin, multiplied by 2000, the Number of Parts into which a Dram of perſpira- Matter is divided, is = 6912000, the Difference between e Quantity of Matter perſpired in a Second, and the Quan- ty of Water by which its Motion is reſiſted.

I think by this time it ſufficiently appears, that the Bath ater will mix itſelf with the Humours of the Body; ſo that re is nothing ſo wonderful in Bathing, but what may be ac- unted for from ſome of theſe Properties of Water I have ntioned, without having recourſe to the Salts with which th Waters are impregnated, which yet may contribute their re in the Cure of ſome Diſtempers. What I have ſaid ut Bathing, as 'tis moſtly new, ſo are my Reaſons founded n known Experiments; and how juſt my Inferences from m are, I leave to the Judgment of my Reader (ſuppoſing n to have the neceſſary Qualifications, and a moderate At- ntion) to determine. *Wainwright.*

Dr. *Wainwright* has left me very little to ſay on the Subject Bathing. I ſhall only farther remark, with reſpect to cold thing, that as Cold contracts the Veſſels of the Body, the lids act with more Vigour upon the Fluids, which contributes the Attenuation of the latter; the Attrition betwixt the lids and Fluids is alſo increaſed, and thence a Perſon feels mſelf warm, when he comes out of a cold Bath. In Con- uence alſo of an increaſed Action of the Solids upon the uids, the Circulation is accelerated, and for this Reaſon all Secretions are increaſed, amongſt which are Sweat, Perſpi- ion, and Urine.

But in order to the Production of theſe ſalutary Effects, we ſt ſuppoſe a certain Degree of Elaſticity, or Power of Con- tion in the Animal Fibres; otherwiſe, the cold Water will igerate, and conſequently coagulate in ſome Degree the ces, without adding any new Force to the Solids, in order promote their Attenuation. Hence, in Caſes attended with rtain Degree of Relaxation and Debility, a cold Bath ſhould n to be certain Death.

I believe all Phyſicians, who attend any conſiderable Num- of Patients, frequently hear ſome of them complain of tic Pains about the Breaſt, which reſide in the Muſcles, gh I have ſometimes known them miſtaken ſo far as to be med internal, and conſider'd as proceeding from the Lungs; it is poſſible, that a Senſation of Weight on the Breaſt, a certain Difficulty of Breathing, tho' in a ſmall Degree, y have laid the Foundation for this Error. I take the Li- y of recommending, in theſe Caſes, from my own Expe- ce, the cold Bath, as the moſt effectual Remedy I am ac- inted with. It ſhould be uſed about every other Day, for w Weeks; and the Patient ſhould only juſt immerſe him- under Water, and immediately come out again, and repeat two or three times. When the Diſorder is removed, the edy ſhould be laid aſide. And indeed, in all Caſes, great e ſhould be taken not to make the cold Bath ſo habitual, as nder its continual Uſe abſolutely neceſſary. This Caution f equal Force with reſpect to all Remedies of Importance, ially Opium, and the Bark, by the incautious and unne- rily continued Uſe of which, many Conſtitutions have been rly deſtroyed.

ſtly, it has been remarked, that in Diſorders of the Lungs, re there is a Tendency to a Conſumption, cold Bathing is us, as it accelerates the Inflammation of the Tubercles ed in the Lungs, and the conſequent Suppuration.

illis, in his Treatiſe on a Phrenitis, gives a very remarkable of a Girl who was cur'd of this Diſtemper by Immerſion cold Water, which deſerves to be taken Notice of.

me time ago, ſays he, I was called to the Relief of a ro- and vigorous Servant Maid, who being ſeized with a Fever, e ſo furious and mad, that there was a Neceſſity for keep- er continually bound in Bed. I took a large Quantity of from her at two different times, rendered her Body e by repeated Clyſters, and preſcribed her ſuch other Re- s as are uſually exhibited in Caſes of a like Nature. I rdered, that ſhe ſhould have Juleps, Emulſions, and tic Draughts. But all theſe were of little or no Service r; for ſhe remain'd without Sleep, and very furious, for pace of ſeven or eight Days, crying and roaring inceſſant- ſome cold Liquor to drink; for which Reaſon ſhe was ed as much Water as ſhe pleaſed; but was neither ren- more calm, nor leſs thirſty, by that means. As it was mmer-time, I ordered her to be taken up in the Mid- the Night by Women, and carried to a Boat, where oaths being taken off, and the Cords, with which ſhe was , untied, ſhe was plunged in a deep River, having previ- tied a Rope about the Trunk of her Body, leſt ſhe ſhould to be drowned. But there was no Occaſion for this ient; for the Girl naturally ſwimmed with ſo much Dex- that a Man who is very expert in that Exerciſe, could ſcarce acted his Part better. About twenty or fifteen s after, ſhe was taken out of the Water, ſober and in ſes. Upon which, being laid in Bed, ſhe ſlept, fell into a plentiful Sweat, and was thoroughly recovered without the Uſe of any other Remedy whatever. This Cure ſucceeded ſo happily, and ſo ſuddenly, becauſe the Exceſſes of the vital and animal Heat, which were both highly increaſed at one and the ſame time, were removed by a Remedy proper for intenſe and burning Heats, that is, Humectation and Refrigeration by Water. *Willis de Delirio & Phrenitide.*

In Confirmation of the Truth of this Hiſtory, I muſt relate one which was told me by the late Sir *John Floyer*, and a Lady of Honour and Veracity, who was a more immediate Witneſs of the Fact than Sir *John*, though he attended the Woman, whoſe Caſe is the Subject of this Hiſtory.

Sir *John* was called to a Farmer's Wife at a Village about four Miles from *Lichfield*, who was ill of a Fever, attended with a Delirium, and an utter Privation of Sleep. It happened one Night, that the Patient lay for a little time pretty ſtill, and the Nurſe took that Opportunity of going ſoftly out of the Room for a few Minutes, upon ſome neceſſary Occaſion. When ſhe return'd, ſhe found all ſtill and quiet, and ſat down by the Bed-ſide for at leaſt a quarter of an Hour; but obſerving, that ſhe did not hear the Woman breathe, ſhe put back the Curtains, ſuſpecting ſhe was dead; but was much ſurpriſed to find ſhe was not in Bed. After ſearching the Room to no Purpoſe, ſhe alarmed the People in the Houſe, who, after ſome time, found the Woman in the Yard up to the Chin in Water, in the Well, which was, as is uſual in that Country, not much above five Feet deep, and near full of Water. The Woman was inſtantly taken out, and put to Bed, and immediately fell aſleep. Soon after, a profuſe Sweat broke out, which continued for many Hours. She awaked without any Delirium, and recovered without any farther Trouble.

The Chymiſts have applied the Word BALNEUM to ſeveral things relative to their Art. Thus the old Chymiſts mention a

BALNEUM ARENÆ, or Sand Heat, for the Purification of Mercury.

BALNEUM MARIÆ, or MARIS, as it is ſometimes written, imports the Heat of boiling Water. In this Encheireſis, the Veſſel containing the Ingredients to be diſtilled, digeſted, or acted upon, is put into a Veſſel of Water, which is made to boil, ſo that no greater a Heat than that of boiling Water, can be communicated to the Subſtance to be treated.

It is cuſtomary with the Chymiſts to give grand and ſounding Names to all the Inſtruments uſed, and Phenomena occurring, in their Art. Thus *Exploſion*, with the Vulgar, is, with them, *Fulmination*; and the Heat of boiling Water, is *The Bath of the Bleſſed Virgin Mary*.

BALNEUM SICCUM, or a dry Bath, is, when Sand, Aſhes, or Filings of Steel, are heated, and the Veſſel, containing the Subſtances to be acted upon, is placed therein.

BALNEUM VAPORIS, a Vapour Bath, imports the Heat of the Vapour, or Steam of Water.

As ſome Account of the *Bath* Waters may be expected from me under this Article, I ſhall give it in the Words of Dr. *Cheyne*, becauſe it is much the moſt diſtinct I have met with.

Of BATH WATERS.

The Learned have been divided, and much perplexed, about the Heat of *Bath* Waters. I have always endeavour'd to account to myſelf for it, from the common Experiment of mixing Filings of Steel, and Powder of Sulphur, working them into a Paſte with Water, and putting them into a Cellar, under a Cock, dropping Water ſlowly and regularly; the Paſte will ferment to ſuch a Degree, that the Water running from it ſhall be of the ſame Heat and Virtue with the *Bath* Waters, though not ſo pleaſant, nor ſo well fitted to human Bodies. This is a common Experiment, and theſe are the only natural Bodies known, which, meeting together, will produce Heat in Water, without artificial Fires. *Tournefort* ſays, "'Tis certain, " that Filings of Iron, ſteep'd in common Water, will grow " conſiderably warm, and much more ſo in Sea Water: And " if you mingle therewith ſome Sulphur powdered, you will " ſee this Mixture really burn." Sir *Iſaac Newton*, in his laſt Edition of his *Optics*, *p.* 354. ſays, " That even the groſs " Body of Sulphur powdered, and with an equal Weight of " Iron Filings, and a little Water made into a Paſte, acts up- " on the Iron; and in five or ſix Hours grows too hot to be " touched, and emits a Flame." That the Heat of the *Bath* Waters is owing to a Principle within themſelves, is evident, from their retaining it longer than any other Water, heated to the ſame Degree, will. Wherefore there can be no Neceſſity of having recourſe to Vulcanos, or ſubterraneous Fires, to account for this Appearance. There are no burning Mountains known in this our Northern Climate; and 'tis pretty hard to conceive, how Fires ſhould have burned ſo long under Ground without a Vent, or any other remarkable Sign. The Sulphur in the *Bath* Waters is evident to the Senſes, ſwimming in large Cluſters on the Tops of the Baths mixed with Earth, and ſome mineral Subſtances, where with the Guides commonly gild Silver; and is found an excellent Remedy in Scurvies, Leproſies, Ringworms, and other Foulneſs of the Skin. The Steel is manifeſted by the bluiſh Tincture given to the Water from the Pump, by an Infuſion of Nut-gall. It is true, this Tincture is neither ſo deep, nor is it to be had from the Water, in any ſhort time after it comes hot from the Pump, thereby to manifeſt any great Quantity of Steel in the Compoſition, ſuch as can have the full Proportion to the Experiment now mentioned. But, to ſet this in a clearer Light, let us put together theſe Conſiderations: Firſt, that upon Diſtillation of *Bath* Water, there remains little in the Bottom of the Glaſs but the common Calx, or Sea Salt, that is found in the Diſtillation of Spring Water, if we except ſome Sand or Earth, that is forced up by the Violence of the Pump; wherefore the *Bath* Waters not being impregnated with any Quantity of a ſaline Mixture, can retain nothing in their own proper Subſtance but the lighteſt Parts of the Steel and Sulphur. Secondly, that this Water is as fully impregnated with Sulphur, as it can bear. And that there muſt be a greater Proportion of Steel in *Bath* Water than is manifeſted to the Senſes, or diſcovered by any Experiment hitherto made, is evident from its healing Effects, which no known Medicine but Steel can bring about, or account for. None but thoſe who have ſeen it, can believe the wonderful Efficacy it has, in moſt chronical Caſes. What but Steel, in a few Weeks, can make the Blood, from a white bluiſh, or tallow Hue, reſiſting the Knife, like Glew, ſwimming in its Serum, like an Iſland amidſt the Ocean, look all of a Piece, of a ſcarlet Colour, and a due Proportion between its nouriſhing and its watery Parts? Nothing but Steel can make a pale aſh-coloured Countenance, hollow and deep Eyes, no Appetite, little Strength, and leſs Sleep, eat and drink, and ſleep, look gay and ſleek, like the beſt Health. Thouſands of ſuch Inſtances may be ſeen every Seaſon at theſe healthful Springs. Thirdly, the Effect of Sulphur in bridling the ſenſible Appearances and Operations of moſt active Medicines, is very well known. Inſtances of which, in natural Bodies, are Antimony, and Native Cinnabar; in artificial ones, Æthiops Mineral, and Cinnabar of Antimony; in all which the Mercury is ſo bridled up by the Sulphur, that none of their ſenſible Operations and Appearances are felt, while they produce the moſt wonderful Changes on Animal Bodies.

Since the *Bath* Waters derive their Heat from a Principle within themſelves; ſince no natural Body, but Sulphur and Iron, can produce ſuch a Degree of Heat, as is in them; ſince nothing but Steel can produce thoſe wonderful Cures on human Bodies, which *Bath* Waters do; ſince Sulphur will lock up and bridle the ſenſible Appearances and Effects of the moſt active Bodies, and yet not deſtroy their healthful and medicinal Virtues; it is plain, that *Bath* Waters muſt owe their Heat to a Mixture of ſteely and ſulphureous Particles, and their healthful Effects to a greater Proportion of Steel, than is ſenſible, or eaſily diſcoverable by any Experiment hitherto made, join'd to a light Sulphur, whoſe Virtues and Efficacy in all chronical Caſes we have already ſhewn. The Mountains which ſurround the Place, which every body now knows to be but the Neſts of Minerals, and the Receptacles of the Waters, which feed the Springs, (which Mountains are continued even to the Sea) confirm this Opinion.

All hot Waters ſeem chiefly to conſiſt of theſe two Principles, and to differ only as the Sulphur or Steel predominates in them. Where the Sulphur predominates, they are hotter, more nauſeous, and more purgative. Of the three hot *European* Waters of Note, the *Aix la Chapelle*, *Bourbon*, and *Bath*, the firſt abounds more eminently in Sulphur, which makes its Heat, Nauſeouſneſs, and purgative Faculty, ſo great, that few weak Stomachs can bear its Heat and Nauſeouſneſs, and fewer weak Conſtitutions the Violence of its Purging. The *Bourbon* are of a middle Ntaure between the *Aix la Chapelle* and the *Bath* Waters, and are leſs hot, nauſeous, and purgative, than the *Aix la Chapelle*, but more than the *Bath* Waters. The *Bath* partake leſs of the Sulphur, and more of the Steel, than either of theſe two, and are by far the moſt pleaſant, of a milky Taſte, never purge, except they be drank either too faſt, or in too great Quantities, and always mend the Appetite, and raiſe the Spirits. The weakeſt hot Waters are but of little Uſe, except in the loweſt Caſes, and hectic or conſumptive Conſtitutions; but, for Medicinal Uſes, the weaker hot Waters may be made pretty near equal to the ſtronger by Evaporation, as to the ſulphureous Principle; as the ſtronger may be brought down to the weaker by Dilution, as I have experienced, tho' Nature be always the wiſeſt and moſt perfect Operator. But neither the ſame Proportion of Steel, nor Sulphur, nor Heat, indifferently fit all Conſtitutions. Generally the Strength (that is, the Quantity of Steel and Sulphur) of the ſame hot Waters, is in proportion to their Heat; and therefore, to fit the ſame Waters to weaker Conſtitutions, they need only be drank proportionably cooler.

The *Bath* Waters having ſuch an Origin, and ſuch Qualities, muſt needs be an excellent Remedy in the Gout, and other chronical Caſes, for thoſe Reaſons: (1.) Becauſe of their Warmth, juſt ſuited to the Wants of Nature, and a little above the Heat of human Bodies, ſufficient to introduce a foreign Warmth and Motion to cold and decayed Bowels and Fluids whereby the natural Warmth, and ſlow Circulation, is increaſe and enlivened. (2.) This, with its agreeable Taſte, and milk Softneſs, makes it ſit ſo eaſily on the Stomach, and become excellent a Vehicle, to waſh into the Blood other proper an ſpecific Medicines without that Nauſeouſneſs, and Fret on th Spirits, which all other hot Waters, hitherto known, or tha Chillineſs and Damp, which all cold Mineral Waters giv whereby they are rendered uſeleſs or hurtful in ſome low an nervous Caſes. To theſe add, (3.) Their chalybeate Principl ſo peculiarly locked up in Sulphur, that the Patient reaps the Benefit, and healthful Effects, of the beſt Preparations this Medicine, (and what are not two ſuch powerful Medicine combined, able to effect?) without the nauſeous Taſte, an frequent Diſorders upon the Stomach, that every other way giving Steel produces. (4.) The Sulphur, united with the Stee makes it a natural kind of Soap, for cleanſing the Inſides Veſſels from the Foulneſs that cleaves to them, and for ope ing the Obſtructions of the ſmall Veſſels. But, (5.) Th which, together with the others, makes it ſpecific in the Gou is, its relaxing Quality, whereby it ſoftens and ſupples t rigid and ſtiff Fibres, ſo as the gouty Humours may paſs free by Perſpiration. Much more might be ſaid of this wonderf Remedy provided by the Hand of Nature, to relieve the M ſeries of human Life; but this the innumerable Crouds Cripples of all Sorts, and thoſe other Perſons made miſerab by chronical Diſtempers, ſent thence every Year, cured or lieved, do witneſs more convincingly, than either Philoſophy Rhetoric can.

It is capable of Demonſtration, that the Force, Preſſur and Weight of the *Bath* Waters in Bathing, are ſufficient counteract the Force of the Perſpiration ſome Millions of time and conſequently, that theſe Waters, relaxing the Fibres of the Veſſels, and ſoaking through the Scarf-ſkin, and even th the Coats of the ſmall Veſſels, are introduced into the ſmall Glands, and convey'd by the returning Veins into the M of the Blood, and, by the Force of the Circulation, aſſiſt opening Obſtructions through the whole Habit; and this counts for the wonderful Efficacy of Bathing in white Swellin Palſies, ſcorbutic Dryneſſes of the Skin, ſcrophulous Sores Tumors, nervous Waſtings of the Limbs, ſciatical Pains of Joints, cold Rheumatiſms, and Weakneſſes after the Go And this ſtill will be more evident, if the Doctrine of the traction of Animal Bodies on the incumbent Atmoſphere, l ly ſo much improv'd by Dr. *James Keil*, be ſuppoſed true. is many Years ſince I was informed by a Gentleman of gr Ingenuity, that having a good deal of Money on a Ho which was to run for the Plate at *New-market*, and the R dying not many Days before the Time appointed for the Cou he had undertaken to ride himſelf, and was obliged by Faſti Watching, and Exerciſe, to bring down his Body to Ho man's Weight; that after the Match was over, and he exa weighed at the Poſt, he had rode immediately home; and ha ing drank up a Pint of Chicken Broth only, which might we about a Pound, got to Bed, and ſlept twelve Hours; weighing again under the ſame Circumſtances as before, fo he had got in the Whole about three Pounds, if I remem right; whereby he concluded, that his exhauſted Body drawn in about two Pounds of the circumambient Air. more manifeſtly ſhews, how the *Bath* Waters, being and conſequently more active, may be drawn in, and get t the Pores of the Skin into the Blood-veſſels, and there co with what is drank down towards thoſe kindly Effects B ing commonly produces. And 'tis impoſſible to account thoſe copious and profuſe Sweats Perſons (if they lie lo Bed after Bathing) run into, but that their Bodies are with theſe Waters, like a ſoaked Sponge. But the Weak Low-ſpirited are never to be ſuffered to run into thoſe; w are prevented, by either not going into, or by being on ſhort time in Bed.

It is ſomewhat uncommon, that Bathing, which for m hundred Years has wrought ſuch Cures, as we have on Rec and ſingly maintain'd ſo long the Credit and Reputatio *Bath*, ſhould for this laſt Century (in which only drinking Waters has been in Uſe) have fallen into ſuch Diſgrace, it is very far from being now the chief thing People com *Bath* for. Before drinking the *Bath* Water came to b much uſed, fixed or wandering Pain, Stiffneſs, or Contrac on the Tendons, Lameneſs, or waſted Limbs, Palſies, or R matiſms, were the chief Diſtempers People came to *Bath* But now, ſince all other chronical Diſtempers whatſoeve relieved either by bathing or drinking, if People will bath differently, without Advice, without duly preparing their dies, and cleanſing the alimentary Paſſages, without an ſtinct Knowledge of their Caſe, their Strength, the prope ſon of Bathing, or the Time they ought to ſtay in at o there muſt neceſſarily happen (as there have happen'd) lucky Accidents, which tend to diſcourage and diſgrace ing in general. On the other hand, if thoſe who atten Bathing will undertake more than they can manage, or kind, at one time; ſome muſt neceſſarily be kept in longer than their Strength will ſuffer, or their Caſe requires. Theſe have been the Sources of the late Neglect and Contempt of Bathing. But I am well ſatisfy'd, was Bathing managed prudently and diſcreetly, there are but few chronical Caſes, in which it might not be uſeful, and in which it might not contribute with Drinking, and other proper Remedies, towards a Cure, or a Relief. If, on the one Side, we do but conſider of what Uſe and Reputation hot Bathing was amongſt the antient *Romans*, and to what extravagant Expences they ran to make their Baths convenient, or beautiful: If we conſider, that moſt chronical Diſtempers are attended with want of due Perſpiration, and are therefore generally of the cold and phlegmatic Kind, and are always produced by Obſtructions from ſizy Juices: On the other hand, if we reflect on what was hinted above, that the hot Water, in Bathing, was ſucked in, and attracted through the Skin, into the returning Veins, and was thereby put in a Capacity to aſſiſt with what is drank down, to waſh off Obſtructions of the ſmall Veſſels, to thin and dilute the Blood, and glandular Juices, to warm, enliven, actuate, and nouriſh, the waſted and decayed Parts: We ſhall readily conclude, that Bathing, prudently managed, may be extremely beneficial in moſt chronical Diſtempers. That Bathing therefore may be performed in the beſt manner poſſible, we muſt firſt diſtinguiſh thoſe Diſtempers which might ſuffer by it, from thoſe which will be benefited by it. And thoſe are chiefly of three Kinds: (1.) Thoſe Diſtempers which impair the rational Faculties, or affect the Head with Pain or Giddineſs. Becauſe hot Bathing might ſend Fumes or Vapours upwards, and ſo increaſe theſe Diſtempers; ſuch are hyſteric Diſorders, Convulſions, Epilepſies, and the like. While the Fit laſts, a Vertigo, or Headach, from a foul Stomach. (2.) Thoſe which any ways affect the Lungs, becauſe hot Bathing, increaſing the Velocity of the Blood, may occaſion a Pleuriſy, or Peripneumonia, or a Spitting of Blood in ſuch Caſes. (3.) Thoſe which are attended with Inflammations, moveable Tumors, or with flitting Pains, ſuch as the Gout, or an inflammatory Rheumatiſm; becauſe hot Bathing may increaſe the firſt, or tranſlate the latter. Theſe excepted, I know no chronical Caſe (but when in their laſt Extremities) which might not be benefited by moderate and diſcreet Bathing, which might ſcour the foul Tubes, open the obſtructed ones, increaſe the natural Heat, and encourage a due Perſpiration. I ſhall conclude with ſubjoining a general Rule, whereby to know, if, on Trial, Bathing agrees, and has not been continu'd too long in the Whole, or each ſingle Time; that is, if it neither ſink the Spirits, waſte the Strength, nor weaken the Appetite, then it is certainly beneficial; for hot Bathing being of the Claſs of Evacuants, if it carry nothing off but faulty Humours, it can produce none of the mentioned Effects; and if it evacuate theſe, it muſt needs be beneficial; and, on the contrary, if it ſpend the nouriſhing Juices, and carry off more than the Party can well ſpare, it muſt be hurtful.

It is obſervable, from *Guidot*'s Experiments on *Bath* Waters, That the Water, either expoſed to the common and open Air, cork'd up and ſeal'd in a Bottle, did, for a much longer e, retain its Virtue of tincturing a purpliſh Blue with Nutl in clear froſty Weather, than in heavy moiſt Weather; at is, it retain'd its chalybeate Principle much longer in froſty d clear Weather, than in warm and moiſt Weather. The Truth is, nobody could have been long at *Bath* but muſt have obſerved, that the Water ſucceeded better, quicken'd the Appee more, made the Digeſtions ſtronger, and raiſed the Spirits gher, in a clear, quick, dry Seaſon, than in moiſt, warm, avy Weather; and, in Fact, in ſuch a Seaſon as this firſt is, y ſurpaſs all the Methods of producing ſuch an Effect I have r ſeen. To which two Cauſes concur, the greater Quantity a ſubtile, active, chalybeate Principle preſerved in the Wa, and the greater Tightneſs and Firmneſs produced in the res by the cold, clean, dry Weather: But what I would iefly obſerve from the mention'd Experiments is, that the lybeate Principle is ſo fine, ſubtile, and active, that, in a few urs, nay Minutes, it will evaporate thro' a Cork, and ſeal'd ſs-bottle; and may retain, by the mere Action of the cumambient Air, its Nitre, and different Gravity, for ſome ſiderable Time: Which ſhews, how this ſo ſubtile and vola a chalybeate Medicine may be convey'd from the Stomach, n to the great and complicated Diſtance of the moſt minute rve, the moſt readily and quickly; which the elementary ater, thus actuated, reaches much ſooner than any artificial paration of Steel poſſibly can; and thereby becomes ſo adable a Medicine in relax'd Nerves, and nervous Diſtempers; hich the *Bath* Waters, actuated by this ſubtile, penetrating, powerful chalybeate Principle, concur inwardly in drinking n, and outwardly in Bathing, by their being drawn in thro' Skin, into the ſmall Veſſels, as may be ſeen in the precede Articles about Bathing. As to the ſmall Quantity of Steel introduced, it ſeems generally ſufficient for the real Wants Nature; but, in chronical Diſeaſes, may be eaſily ſupply'd arger Doſes of artificial Steel, when the other has prepared the way: And certainly, in giving both Steel and Bitters, 'tis ſafeſt, and moſt prudent, to begin low; and with ſmaller Doſes; and to riſe as the Pulſe and Strength riſes, and as Uſage has made ſmaller Doſes leſs effectual. I remember to have obſerv'd in ſome of the great and ſagacious Dr. *Radcliff*'s Bills, four or five Drops of *Mynſicht*'s Tincture of Steel, with a few Drops of Elixir Proprietatis, in a ſimple Water, preſcribed as a chalybeate Bitter, even to grown Perſons. This I freely own, in the Novitiate of my Obſervations, I thought very ſimple: I have had good Reaſon to condemn my raſh Judgment ſince, and to acknowledge it prudent and judicious to begin, in ſome low Caſes, with ſuch ſmall Doſes.

The other Difficulty is, how the ſame hot Water ſhould relax contracted Fibres, as in the Gout and Rheumatiſm, and yet contract and brace relax'd Fibres, as in the Palſy and waſted Limbs. That the Matter of Fact is ſo, is paſt all doubt, in theſe and many other Caſes of Contraction and Relaxation: But to clear up this, we need only to conſider what Contraction and Relaxation are. Since all the Fluids of the Body are contain'd in Veſſels, Contraction can ariſe from nothing but from the Blood, and other Fluids, (or whatever is the Cauſe of muſcular Motion) their being retain'd and obſtructed by their Sizineſs; or from ſome external Injury in the Subſtance of the Muſcle itſelf, whereby it becomes fuller and firmer, and ſo acts as upon its Office of Contraction. Relaxation, on the other hand, is an Obſtruction of the Nerves or Veſſels of the Fluids, before they arrive at the Muſcles, as is ſeen in Palſies, and the nervous Atrophy of the Limbs; ſo that, in both Caſes, Obſtructions are the Cauſe both of Contraction and Relaxation. Wherefore, whatever Medicine can diſſolve the Sizineſs of the Fluids, open the Obſtructions of the ſmall Veſſels, make the Perſpiration full and free, and brace the Fibres, will both contract Relaxations, and relax Contractions; and that theſe are ſome of the Effects of *Bath* Waters, has, I think, been made ſufficiently appear.

If it be inquired into, what other Caſes, beſides the Gout, *Bath* Waters may be uſeful in, the Anſwer will be obvious from the Account now laid down; that is, That they muſt be beneficial in all Caſes, where Steel or Sulphur is; that is, in almoſt all chronical Caſes whatſoever. In acute and inflammatory Caſes, in all Caſes attended with a ſtrong quick Pulſe, no mineral Water, nor chalybeate Medicine, can be proper; but in all other Caſes (excepting thoſe only attended with a Bleeding or Hæmorrhage) they are not only ſafe, but exceedingly beneficial: More particularly, their wonderful Efficacy has been often experienced in Cachexies, Scurvies; in the Stone, Rheumatiſm, and Jaundice; in Hypochondriacal and Hyſterical Affections; in Vapours and Melancholy; in Palſies, Epilepſies, and other Cephalic and Nervous Diſtempers; in Diſorders of the Stomach and Bowels; Obſtructions of the Liver and Gallbladder; in Green and Breeding Sickneſs; in Barrenneſs, and Weakneſs after Child-birth; in Obſtructions of the monthly Purgations, and all other peculiar Diſeaſes of the Sex. And truly, if a Perſon afflicted with a low, broken, or tender Conſtitution, ſuffering under the tedious Pains and Inquietudes of any of the lingering Diſtempers now mention'd, where the Viſcera or Bowels are yet ſound, would know the fitteſt Place in *Britain* to ſpend their Life-time with the greateſt Eaſe and Pleaſure; take all the Advantages of the Place together, the Agreeableneſs of the Waters to the Stomach, the Certainty of their procuring a good Appetite, when it fails; and the no leſs certain Conſequence thereupon, Freedom and Chearfulneſs of Spirits; the regular Way of Living; the Excellency of the Proviſions; the Warmneſs, Cleanneſs, and Neatneſs of the Houſing; the Conveniency of the free, freſh, and open Air of the neighbouring Downs for Exerciſe; the Eaſineſs of the Amuſements; and the Advantage of what Converſation one deſires; I ſay, taking all theſe Advantages together, I can affirm, from near twenty Years Experience, without Suſpicion of Flattery, or Fear of Contradiction, that *Bath* is the Place.

Some wiſe and frugal People think the mere Drinking of theſe Waters, for ſome Time, without taking any Medicine, either before or with them, may be ſufficient to remove any of the chronical Ails they are good for; but thoſe, if they are really ill in any other manner, except mere Loſs of Appetite, are generally convinced, upon Trial, at their own Expence, that they neither ought to begin a Courſe of the *Bath* Waters, without a previous Cleanſing of the Stomach and Bowels, leſt they waſh into the Blood thro' the Lacteals, by the perpetual Dilution of the *Bath* Waters, thoſe Impurities which conſtantly cleave to them; nor that they ought to expect a perfect Cure of a long-breeding and lingering Diſtemper, without the Aſſiſtance of thoſe other Medicines which are reckon'd ſpecific in the Caſe, and to which the *Bath* Waters are ſo pleaſant and ſo aſſiſtant a Vehicle: For it is but Prudence to bring all the Forces one can raiſe, againſt ſo potent and ſo formidable an Enemy as a chronical Diſtemper.

It is not poſſible to lay down a general Rule, about the Quantity of *Bath* Waters which it is convenient to drink daily, that being to be varied according to ſome Circumſtances of the

Patient, and the Nature of the Diſtemper. Strong, full, and large Bodies, bear more Water than tender, thin, and leſſer ones; the Younger more than the Elder; thoſe of ſtrong and firm, than thoſe of weak and relax'd Nerves; thoſe who labour under the Gravel and Rheumatiſm, than thoſe who are diſorder'd in the Alimentary Paſſages, or are ſubject to ſcorbutic or nervous Weakneſſes, and the like. But, in general, it were to be wiſh'd, that People, who come to *Bath* for their Healths, drank leſs daily than they commonly do, and allow'd more Time for a chronical Diſtemper. I think it may be ſafely advanced, that any Quantity greater than an *Engliſh* Quart in a Morning, drank in two Hours time, half a Pint every half Hour, is more than what is reaſonable: For, drinking in this Proportion all the reſt of the Day, at Meals, that is, in the Afternoon, and going to Bed, they muſt take down no leſs than five Pounds in about ſixteen Hours, *viz.* two Pounds in the Morning, a Pint and an half with Wine at Dinner, half a Pound in the Afternoon, and as much at Supper, and at going to Bed. This, every body muſt ſee, is fully ſufficient to anſwer all the Intentions of drinking mineral Waters. A greater Quantity than this will ſerve only to diſtend and relax the Alimentary Paſſages, to force its Way thro' the largeſt and moſt patent Tubes, and to propagate the Circulation through the Branches and Inoſculations of the larger Arteries and Veins, where the leaſt Foulneſs, and feweſt Obſtructions, can happen; ſo that it will ſcarce ever reach the fineſt Capillary Veſſels, in which alone the Danger lies. And the late ingenious and learned Dr. *James Keil* has made it evident, that the moſt expeditious way of altering the whole Maſs of the Blood, by mineral Waters, is by ſmall and frequent Draughts. In moſt Caſes a Pint in a Morning is ſufficient; and in low Conſtitutions, and Diſorders in the Alimentary Paſſages, tending to Vomiting and Purging, half a Pint is enough; and whatever Quantity is to be drank, 'tis always beſt to take it in ſmall Quantities, and at good Diſtances, provided it come within the Compaſs of the Morning. What is drank at Meals, tho' cold, yet being freſh, and not altogether drain'd of its Principles and Virtues, contributes near as much to the Cure, as that which is taken in the Morning. The Afternoon and Evening's Draughts are more arbitrary, and muſt depend upon the Obſervation of the Patient, as he finds them agreeable to his Stomach, and ſit eaſily or not: Where too great Quantities have not been ſwallow'd down in a Morning, they are very proper, provided they be in proportion to the Morning's Quantity, and never taken under four or five Hours after Dinner; and that at Night, not under two or three Hours after Supper; theſe times being the moſt proper to aſſiſt the Digeſtion, and carry off the Remains of the Food. But the Truth is, as nothing is more neceſſary in a Courſe of theſe Waters than ſetting out right at firſt; ſo nothing requires more the Experience and Judgment of a Phyſician, than the accommodating the previous Preparations, the Quantities to be drank, and the Medicines to be taken with them, to the Diſtemper, and the Conſtitution of the Patient; for, theſe once ſettled, the reſt generally goes on ſucceſsfully.

It is equally impoſſible to determine the moſt proper Seaſon for drinking *Bath* Waters, as it is to determine the moſt probable Seaſon for falling ill of a chronical Diſtemper: Generally ſpeaking, moſt chronical Diſeaſes rage Spring and Fall, and Cuſtom has made theſe Months Seaſons for the *Bath*; but the Waters are ever the ſame, no real Alteration having ever been obſerved in them from Times or Seaſons; tho' there may be ſome little Variation of their ſenſible Qualities, from the Variation of the Air and Weather. In the hotteſt Weather they are given off for a Month ſometimes, by thoſe that have drank them a long time before; but a great many, eſpecially thoſe of the tender Sort, and of cold Conſtitutions, feel the beſt Effects from them in that very Month: And with ſome they are beſt in the coldeſt Weather, ſupplying then the Inclemency of the Air by their kindly Warmth; and paſſing beſt, when the Fibres are wound up and ſhorten'd by the outward Cold, whereby the Circulation becomes briſker and ſtronger. So that Cuſtom and Conveniency, ariſing from outward Circumſtances, have made Seaſons for the *Bath*, more than the Nature of the Waters themſelves, or their Fitneſs to produce their benign Effects. The Length of Time People ought to drink the Waters is as little to be determin'd as the moſt proper Seaſon, or as the Duration of a chronical Diſtemper: If they are of the Nature of an alterative Medicine, (as they moſt certainly are) they are to be continued till they either diſagree, or the chronical Diſtemper ceaſes: And this laſt generally requires a Time in Proportion to the Inveteracy and Obſtinacy of the Diſeaſe: Hereditary Sharpneſſes require more Time than acquired ones; ſlighter Degrees of the ſame Caſe, leſs than more inveterate ones; nervous Diſtempers more than thoſe confin'd to the Blood. A Lady of a low, hyſteric, and weak Conſtitution, having aſk'd the famous Dr. *Sydenham*, (as ſhe told me) How long ſhe might ſafely take Steel; his Anſwer was, That ſhe might ſafely take it for thirty Years, and then begin again, if ſhe continued ill. The Queſtion might be as proper, if it had been aſk'd, How long time one might continue to eat an drink; for, in Lowneſs and Diſorder, if Remedies be neceſſary Nature will as ſafely admit them, as Hunger will ſafely admi of Food. I very well know, that Remedies, in chronica Diſtempers, muſt be changed, when they become familiar, an have no Effect; as the ſame kind of Food ought to be chang'd when it becomes nauſeous and diſguſtful. But then, this belong not to the Queſtion propoſed, which ſuppoſes the Waters hav not abated of their firſt Benefit and Relief, but rather increaſ in them, and do better; and, on this Suppoſition, there can b no doubt, that they may be ſafely continued till a perfect Cur is obtain'd, or they fail in their Relief. Some have drank then ſeveral Years with Advantage; and many cannot live, and b well, without them, as is evident from the conſtant Reſidin of ſeveral Families here for their Uſe. Whilſt the original Di order laſts in any Degree, and the Waters continue to reliev it, they may be uſed; but in all Caſes, and Events, it is ſafe and beſt to let *Well* alone.

It has been alleged, that the *Bath* Waters, drank too long diſpoſe People to Fevers, and inflammatory Diſtempers, b over-enriching, heating, and exalting the Blood: But this O jection lies equally againſt all generous Foods, and enlivenin Medicines. And, indeed, Temperance and Moderation, every thing neceſſary for the Support of Life, is beſt and ſafeſt And, as I juſt now ſaid, it is beſt always to let *Well* alone; b as long as a chronical Diſtemper is yet unconquer'd, and unr medied, there can be no Hazard of over-enriching the Blood the very Caſe ſuppoſing the quite contrary, *viz.* that there a remaining Sizineſs and Sharpneſs in the Blood and Juices: that, while the original Diſtemper continues, this Effect is n to be fear'd; and, when it is conquer'd, the Patient is very i diſcreet, that, out of mere Wantonneſs, would play with a Medicine whatever. But this is the Caſe of a very few, and, ever I have met with any ſuch, I have always religiouſly adviſ them to abſtain from Waters, and every thing elſe, that can call'd Medicinal; for this Reaſon, amongſt many others, th it made a very uſeful Remedy become leſs effectual, wh wanted, by being made more familiar. But the Truth moſt of the chronical Diſtempers, for the Cure of which *B* Waters are recommended, are of the colder Kind, wh the Blood is ſizy, poor, and diſpirited; and, whilſt any R mains of the Diſtemper laſt, over-enriching or exalting is lit to be fear'd; and when they happen, are eaſily remedied Bleeding, low Diet, and a few cooling Purges. *Cheyn Account of the Nature and Quality of* Bath *Waters.*

BALOIOS, Βαλοῖος, as *Galen* writes it; or Βάλεως, a occurs in the ſeventh Book of the Epidemics of *Hippocra* where it either ſignifies *a Man of Valœa*, a City of *Macedon* or is the Name of the Perſon whoſe Caſe is there related.

BALSAMATIO, Embalming.

BALSAMELÆON. The ſame as the *Balſamum e Mec* See BALSAMUM.

BALSAMELLA, according to *Blancard*, is the ſame *Balſamina*.

BALSAMICA, Balſamics; that is, Balſamic Medicin of which *Hoffman* gives the enſuing Account:

Balſamic Medicines are of a Nature ſomewhat hot and ac Under this Denomination come what we commonly call cep lic, nervous, apoplectic, and antiparalytic Medicines; as ſpirituous Cordials, and other Subſtances of ſimilar Nat and Qualities: But, of all the Medicines belonging to the *ſamic* Claſs, theſe are the moſt noted and efficacious, Al wood, together with its Reſin and Eſſence; yellow Sand with its Eſſence, reduced to a liquid Balſam; Ambergr Liquid Amber; Balm of Gilead; Amber; Benzoin; Sto with its Reſin; the Ladaniferous Shrub, with its Reſin; Balſams of *Peru* and *Tolu*; Balſam of Capivi; and that c the red *American* Balſam; the true *Peruvian* Bark; the b Coſtus; *Indian* Bark; Cinnamon; Cloves; Cardamoms; bebs; Mace; Nutmegs; Savory; Thyme; Rue; Moth Thyme; Lavender; our Origanum, and that of *Crete*; M joram; our own and *Turkiſh* Baum; *Roman* Chamomile; *rian* Herb Maſtich; Baſil; Southernwood; Spikenard; Cam hay; Bay and Myrtle-leaves; together with the genuine, grant, and unadulterated Oils diſtill'd from them. The c pound Balſamics are, the Apoplectic Balſam of *Crollius*; Balſamum Cellenſe; that of *Scherzerus*; and the liquid Ba of Life; Spirit of *Peruvian* Balſam, prepar'd in my man Spirit of Amber and Maſtich; the Apoplectic Water of *nertus*; the *Aqua Anhaltina*; the true Eſſence of Amber; volatile oily Spirits, impregnated with Oil of Cinnamon, M and Cedar.

Theſe Simples, and the Medicines prepared of them, means of their fine, ethereal, ſubtile, and volatile Oil, w is grateful and agreeable to the Conſtitution, act upon Fluids as well as the Solids of the human Body, diffuſe Virtues thro' all its Parts, ſupply the Blood and Hum with a ſeaſonable Reinforcement of ſulphureous, warm, ethereal Parts, increaſe their inteſtine Motions, and con genial Vigour to the vital Juices. They alſo abound in a tile, acrid, balſamic Salt, by means of which they augment the Force and Elaſticity of the Heart, Arteries, and muſcular Fibres, in conſequence of which, the Circulation of the Blood and Humours is promoted, the thick and viſcid Juices attenuated, Obſtructions are removed, and Perſpiration is preſerved entire, a Circumſtance of the laſt Importance in curing Diſeaſes.

In all Diſeaſes therefore of the Head, Nerves, Spinal Marrow, Stomach, and Heart, which, according to the Antients, proceeded from a cold Cauſe, or, in other Words, from inſpiſſated and condenſed Juices, or from the Tone of the nervous and muſcular Parts being deſtroy'd; ſuch as Apoplexies, Palſies, Numbneſs, and Torpor of the Senſes, Weakneſs of Memory, Difficulty of Hearing, Faintings, and exceſſive Weakneſs, theſe Medicines may be uſed both internally and externally with due Succeſs.

They are alſo of ſingular Service in thoſe Diſorders of the Stomach and Inteſtines, which proceed from their Tone being too much weaken'd, an Exceſs of acid and viſcid Crudities, or a deprav'd Digeſtion, ſuch as Inflations, Diarrheas, flatulent Colics, and Vomitings. Beſides, they have this peculiar Advantage, that they are exquiſitely ſuited and adapted to the Old and Infirm, to ſuch as have the Misfortune of lax Habits, or phlegmatic Conſtitutions.

They are alſo of ſingular Service, eſpecially as a Preſervative, when, in conſequence of a cold and moiſt Conſtitution of the Year, eſpecially in the Autumn and Winter Seaſons, and in the more Northerly Climates, moiſt Coughs, Diarrheas, pituitous Aſthmas, œdematous Tumors, Coryzas, Rheumatiſms, intermittent Fevers, and Diſorders ariſing from a ſcorbutic Impurity, either actually rage, or are apprehended.

But they are to be uſed cautiouſly, and in moderate Doſes, by young People, and Patients of choleric and delicate Conſtitutions, as alſo in Caſes where the Body abounds with Blood and Humours.

I myſelf, for more than twenty Years, have uſed a liquid Balſamic, commonly called the *Balſam of Life*, prepared of the moſt efficacious of the above-mentioned Ingredients, eſpecially the Oils genuine and unadulterated, which is a Medicine of ſo uncommon Efficacy, that the Perſon who knows how to uſe it right, both internally and externally, may reſt ſatiſfy'd without any other Corroboratives or Balſamics whatever. And, indeed, this delicious and efficacious Medicine is now univerſally celebrated, on account of its corroborating and reſtorative Qualities; but this, like all other valuable Medicines, has been counterfeited and ſold to the Credulous and Unwary for my genuine *Balſam of Life*; but the ſuppoſititious is never able either to anſwer the Intention, or ſupport the Character, of that Medicine. *Hoffman.*

See BALSAMUM.

See VITÆ BALSAMUM.

BALSAMINA.

There are two Plants which are called by this Name, the firſt of which is thus diſtinguiſhed:

Momordica Balſamina, Offic. *Momordica*, Schrod. 4. 105. *Momordica Officinarum*, Volck. Flor. Nor. 293. *Momordica* *lgo*, Hort. Lugd. Bat. 429. *Momordica vulgaris*, Tourn. ſt. 103. Elem. Bot. 87. Boerh. Ind. A. 2. 76. Rupp. or. Jen. 41. *Momordica, Balſamina, Cucumeraria, Pomum* *rabile*, Chab. 135. *Momordica Balſamina mas*, Ger. 290. mac. 362. Park. Theat. 714. *Momordica, Balſamina ro-* *difolia repens ſeu mas*, C. B. Pin. 306. Raii Hiſt. 1. 647. *lſamina Cucumerina Indica, folio integro, fructu variegato*, om. in Not. Hort. Mal. 8. 22. Flor. Mal. 52. *Balſa-* *na Cucumeraria*, J. B. 2. 251. *Cucumis puniceus Cordii*, ſt. Oxon. 2. 33. *Piperitis*, Tourn. Mat. Med. 357. *Ba-* *-mucca-Piri*, Hort. Mal. 8. 21. Tab. 2. *Cucumerina In-* *, folio integro, fructu variegato*, Chom. in Not. MALE ALSAM-APPLE.

It is cultivated in Gardens, and flowers in *Auguſt*.

The Fruit, which is the Part in Uſe, is of a refrigerating and ſomewhat drying Quality, a Vulnerary, and mitigates Pains, eſpecially of the Hæmorrhoids. Outwardly, it is good Wounds of the Nerves, Herniæ, and Combuſtion.

The Balſam which has been made for a long Time of the Fruit of this Plant dipt in Oil, and dry'd in the Sun, is of excellent Virtue in Wounds, Ulcers, eſpecially the Hæmorrhoids, Ulcers of the Matrix, and Ruptures.

The other *Balſamina* is thus diſtinguiſh'd:

Perſicaria ſiliquoſa, CODDED ARSMART. Offic. 361. Emac. 446. Raii Hiſt. 2. 1328. Merc. Bot. 2. Phyt. Brit. 90. Mer. Pin. 92. *Balſamina lutea, ſive* *i me tangere*, C. B. Pin. 306. Tourn. Inſt. 419. Elem. 332. Boerh. Ind. A. 320. Raii Synop. 3. 316. *Balſa-* *, Herba impatiens, ſeu Noli me tangere, Floris petalo luteo*, Oxon. 2. 282. *Noli me tangere*, J. B. 2. 908. Chab. *Mercurialis ſylveſtris, Noli me tangere dicta, ſive Perſi-* *a ſiliquoſa*, Park. Theat. 296. QUICK IN HAND, UCH ME NOT.

It is cultivated in Gardens, and the Herb is in Uſe, which is ſo forcible a Diuretic as to induce a Diabetes, and is thought to be of a pernicious and deleterious Quality.

BALSAMITA MAS, *Coſtus hortorum*, Offic. *Balſamita mas*, Ger. 523. Emac. 648. *Balſamita mas, ſive Coſtus hortorum major*, Park. Parad. 482. *Balſamita major*, Boerh. Ind. A. 125. Hiſt. Oxon. 3. 3. Act. Reg. Par. An. 1719. 280. *Coſtus hortorum major*, Park. 78. *Mentha hortenſis corymbifera*, C. B. 226. *Mentha corymbifera, ſive Coſtus hortenſis*, J. B. 3. 144. Raii Hiſt. 1. 363. *Mentha corymbifera Græca, Romana, Sarracenica, ſive Coſtus hortenſis*, Chab. 368. *Tanacetum foliis & odore Menthæ*, Herm. Cat. 697. Tourn. Inſt. 461. *Tanacetum hortenſe, Lepidii foliis ſerratis, Ageratum intenſe redolens*, Pluk. Almag. 361. *Tanacetum hortenſe, foliis & odore Menthæ*, Hort. Lugd. Bat. 697. *Ageratum latifolium ſerratum*, Hort. Monſp. 7. *Mentha Sarracenica*, Offic. Ger. COSTMARY.

The Roots of Coſtmary are hard, long, and ſtringy, creeping in the Ground; the lower Leaves are about as big as Garden Mint, of a paliſh or yellow-green Colour, ſtanding on long Foot-ſtalks, very neatly ſerrated about the Edges. The Stalks riſe to be more than a Foot high, having ſeveral the like, but ſmaller Leaves growing on them; they are divided into Branches toward the Top, each of which is terminated by a thin *Corymbus* or Umbel of naked, deep, yellow Flowers, having no *Petala* ſurrounding them, but ſet in ſcaly *Calyces*, being leſſer than the Flowers of Tanſy. The whole Plant has a ſoft, pleaſant Smell. It is planted in Gardens, and flowers in *July*.

The Leaves are chiefly uſed, being warm and drying, of Uſe to heat and ſtrengthen the Stomach, and to eaſe the Headach, ariſing from the Diſorders thereof, to expel Wind, and prevent ſour Belchings. It likewiſe opens Obſtructions of the Liver and Spleen, and is good for the Dropſy and Jaundice. Outwardly it is uſed in heating and warming Fomentations and Bathings, being good to comfort and ſtrengthen the Limbs. *Miller's Bot. Off.*

BALSAMUM, Balſam. Of this there are many Sorts, both natural and artificial.

Under the Diſtillation of Turpentine, *Boerhaave* gives an Analyſis of all the natural *Balſams*, as follows:

The VINEGAR, SPIRIT, *two Kinds of* OIL, ROSIN, *and* COLOPHONY, *from* TURPENTINE, *diſtilled by the* Retort.

1. Take a clean, new Glaſs Retort with a wide Neck, and cut it off ſhort, ſo that the Mouth may remain large and capacious, which is a principal Requiſite in this Operation; then heat pure native Turpentine in an earthen Veſſel, having a Lip to pour out at, by putting the Veſſel into ſcalding hot Water, till the Turpentine grows fluid like Water; then pour this melted Turpentine hot, in at the wide Mouth of the Retort, which is firſt to be ſtrongly heated to prevent its cracking as the Turpentine is poured in. Let two Thirds of the Retort be thus filled, and leave the other Third empty; then hold the Retort, ſo filled, with its Neck erect, till the Turpentine ſhall have run quite down the Neck into the Belly, if any of it happen to ſtick to the Neck in pouring; otherwiſe this groſs Turpentine would run down into the Receiver in the Diſtillation, and foul the Liquor that firſt comes over: Now place the Retort in a Sand Furnace, and lute on a clean Receiver.

2. Make a Fire that may heat the Sand to about one hundred Degrees, and carefully keep it at this Height, ſo long as it drives over any Liquor; by which means a thin, limpid Fluid, reſembling Water, will come over, and fall to the Bottom of the Receiver, whilſt another limpid, thin, and oily Liquor floats upon it. When nothing more riſes with this Degree of Fire, change the Receiver; the under Liquor will be found gratefully acid, ſaline, aqueous, miſcible with Water, refreſhing to the Stomach, ſpirituous, and excellently diuretic. It will make an Effervеſcence with Chalk, depoſit its Acidity therein, and afterwards diſtil from it in form of a pure Water: Whence we perceive, that the acid Salt and Water firſt come over in this Diſtillation. The other Liquor, which floats upon this, is a light, pure, thin, almoſt ſpirituous and inflammable Oil, thence called the *Ethereal Oil of Turpentine*, which is ſo penetrating as to vaniſh when rubbed upon the Body, paſs into the Blood, and ſoon communicate a violet Smell to the Urine; which is an evident Sign of the Power it has to paſs thro' all the Pores.

3. Let a proper Receiver be now applied, and a Heat, equal to that of boiling Water, be raiſed; this is done by pouring Water upon the Sand, and heating it with the Fire underneath, to two hundred and twelve Degrees, where it is to be kept, continually adding as much boiling Water as exhales away. The Matter remaining in

the Retort, after the firſt Operation, is left ſo thick as to appear conſiſtent in the Cold; but now melts again, crackles between whiles, and again affords an acid Water, like the former, that falls to the Bottom, and an Oil alſo, like the former, floating at the Top, but ſomewhat thicker, and a little yellowiſh: Both of them have nearly the ſame Virtues as mentioned above.

4. The Receiver being again changed, and the Fire gradually increaſed up to a ſtrong Degree of a Sand-heat, tho' with Caution in the raiſing it, there will come over an acid, ponderous, red Water, that runs ſeparate into the Bottom of the Receiver, and a thick, red, penetrating, tho' ſomewhat viſcous Oil floating on its Top; and it is remarkable, that this acid Water always continues to riſe with the Oil, and not the Water firſt by itſelf, and the Oil afterwards. What now remains in the Bottom, after this laſt Diſtillation, proves, when cold, exceedingly red, hard, and brittle.

5. I have urged this remaining Matter with Caution, and by ſlow Degrees, up to the ſtrnogeſt Heat that Sand, and a Fire of Suppreſſion, would afford; and have thus obtained red Oil, ſo thick and viſcous, as to reſemble Turpentine itſelf; but it was of a red Colour, and ſome red, acid, ponderous Water ſtill continued to riſe with it, leaving ſcarce any thing behind at the Bottom of the Retort.

6. There is the greateſt Caution required in this Diſtillation, to prevent the Glaſſes burſting or cracking, whereby a denſe, oily Fume would immediately eſcape, which readily takes Fire, and can ſcarce be extinguiſhed; whilſt the Fire is impetuouſly hurried into the Retort with a Flame that burſts the Veſſels to Pieces in a dangerous manner. Turpentine is otherwiſe commonly diſtilled into an acid Water, an ethereal Oil, or Spirit of Turpentine, after this manner: Fill one third of an Alembic with pure Rain-water, and add thereto half its Weight of good Turpentine; then fix on the Head, and uſe the Worm and Refrigeratory. Thus diſtilling with Care, and a Fire that makes the Matter gently boil, there comes over an acid Water, and a pure light Oil. If the Diſtillation be continued ſo long as this Oil continues to run, there remains behind a kind of Colophony in the Still: And if the Flowers of Lavender, Roſes, or other odoriferous Plants, be here put into the Still, the Oil will come over fragrant by this Operation. Therefore Turpentine is reſolvable into Water, a ſaline, acid Spirit, a volatile Oil, and a more fixed Colophony. It is here chiefly remarkable, that the Remainder proves ſo much the thicker, redder, harder, and more brittle, the more Water, Acid, or volatile Oil comes over; and that even this laſt fixed Matter itſelf at length liquifies, and becomes volatile with the utmoſt Violence of the Fire: And this acid Water, being well ſeparated and rectify'd from all its Oil, perhaps affords the beſt vegetable Acid hitherto known.

REMARKS.

1. Hence we learn under what Form native Oils reſide in Plants; for, firſt, the nutrimental Juice, drawn from the Earth, ſeems to be a ſomewhat tart and aqueous Liquor, which, when received, gradually depoſits its more unctuous Matter in certain Parts of the Plant; and this unctuous Matter afterwards uniting more of the ſame to itſelf, by Heat, Maturation, and the Aſſiſtance of the whole Powers of the Plant, it then appears in the Form of a fat Oil, which being driven outwards, and undergoing the ſame Changes in a greater Degree, at length conſtitutes a *Balſam*, containing a Water, a ſaline Acid, and unctuous Spirit, and different Kinds of Oil, all mixed together, yet ſeparable; and after the Separation of any particular Part, the *Balſam* conſtantly changes to a different Form. Hence appears the great Difference of native *Balſams* in Chirurgical and other Medicinal Uſes; whilſt they act in their own Subſtance, and ſo by means of all their Principles together, or only by means of certain, particular, ſeparated Parts. When uſed entire, and mixed with the Yolk of an Egg, Turpentine becomes ſomewhat more ſoluble, and an admirable Remedy for external Chirurgical Uſes; and, internally, it proves excellent in many Diſtempers, where it gives Signs of its extraordinary Virtue, by its penetrating Nature, and the violet Smell it communicates to the Urine. We have many *Balſams* of this Kind, not differing ſo much in Virtue, as in Price and Place of Growth; as the *Aſiatic*, *Egyptian*, *Hierechuntan*, *Judaic*, *Memphitic Balſams*, and *Balm of Gilead*; for theſe ſeveral Names at this Day denote the ſame thing; or a *white Balſam* in the Form of a liquid Turpentine, and of a citron Smell. The *American Balſams* are various, and proceed from different Trees; as the *Balſam of Capivi*, which is of extraordinary Virtues; the *Balſam of Peru*, *Tolu*, and liquid Amber.

The true Turpentine proceeds from the Turpentine-tre of *Chio*, the Fir, the Larch, and the Pine; but all theſe Kinds generally reſolve into the ſame Principles by Heat and Diſtillation, change alike with Time, and produce th ſame Effects.

2. We know, likewiſe, that all the Kinds we are hitherto acquainted with, contain an acid Water, or Spirit, which i volatile, preſervative, eſurine, and penetrating, of grea Medicinal Virtue and Fragrance: This Spirit eaſily exhales and leaves the *Balſam* deprived thereof, and therefore leſ excellent; whence theſe *Balſams* are not the better fo keeping.

3. The Oils which firſt come over are light, limpid, totall inflammable, extremely penetrating, bitter, and of great Uſ in Surgery, as being highly anodyne, reſolving, and healing when apply'd warm to the Membranes, Nerves, or Tendons, that are lacerated, pricked or cut, and an immediat and ſafe Styptic, apply'd to the wounded Veins or Arteri in large Hemorrhages, as at once defending the Nerve ſtopping Putrefaction, and incarning. In theſe Caſes ſhould be apply'd very hot to the Part; and kept thereo by a proper Pledget and Bandage. Its *balſamic* or embalming Virtue is extraordinary; for if the Bodies or Parts any Animals be for ſome time ſteeped in this Liquor, the taken out, and awhile ſuſpended in the Air, and afterwar dipped afreſh, they at length acquire a Caſe, under whi they may be long preſerved from Putrefaction: But the B dies plunged into this Oil, whilſt contained in Glaſſes, a preſerved perfectly uncorrupted. It has, however, this I convenience, that it gradually grows opake and thick. T Oil, being uſed hot externally, diſcuſſes cold, viſcid, a mucous Tumors, defends the Parts againſt Cold, relaxes a ſoftens them. When uſed internally, it alſo proves ape tive, heating, ſudorific, and diuretic, communicating quick Smell of Violets to the Urine: Whence it prov ſerviceable in the cold Fits of intermitting Fevers, and bei rubbed along the Back-bone, before the cold Fit is expect it will even cure Quartans. It muſt, however, be u with Caution, becauſe, if taken too largely, it affects Head, occaſioning Heat and Pain therein, and alſo pro violently diuretic, and occaſions an Effuſion of the Liq of the *Proſtate Glands*, and the *Semen*; and therefore, if u with Moderation, it excites Venery. Hence it came to recommended in the Cure of a Venereal Running, wh it often proves miſchievous, as being ſubject, when fre uſed, to inflame the Parts, and increaſe this Diſorder.

4. The thicker Oils that come over in this Diſtillation more *balſamic*, incarnative, and anodyne, more penetra ing and emollient; and are therefore uſed as Styptics, ſtead of the former thinner *Balſam*, in hotter and m inflammatory Conſtitutions; in other reſpects they ag with the former. But the laſt thick and viſcous Oil is admirable Incarnative, that heals almoſt without Suppurati and a moſt extraordinary Anodyne. This Oil alſo ma ſuch an Efferveſcence with *Glauber*'s ſtrong Spirit of Ni as often to take Flame.

5. What remains behind upon the Diſtillation of pure Turp tine with Water, or after the firſt Oil and Spirit are dr over, proves hard, brittle, tranſparent, and red in the C If this be gently melted, and any Inſect be dipped the and carefully taken out again, it will be ſurrounded w tranſparent Caſe like Amber, thro' which the Subject be commodiouſly view'd; and the Whole may be thus for a long time beautiful and unalter'd, provided the P be not obſcured, as it eaſily is, on account of the great tleneſs of this reſinous Cruſt. But the Colophony, re ing after the ſecond Diſtillation, is harder and redder, eaſily reducible to fine Powder, which has little Sm Taſte. This is that extremely uſeful Powder, whic ſo advantageouſly apply'd to the bare Bones, Perioſt Tendons, or Muſcles, in caſe they are either burnt, roded, bruiſed, cut, pricked, or lacerated; and affor excellent Remedy in ſerous Fluxes of the Joints, and rably procures a Cicatrix: In the ſame manner it down the fungous Excreſcencies of Ulcers; whence i pears, that Turpentine ſerves for many Chirurgical Pur But nothing is here more extraordinary than the ſucc ſpontaneous Inſpiſſation of the firſt exceeding thin O as to recover the Thickneſs of Turpentine again, and wards the Conſiſtence of a thicker *Balſam*, and at len a Roſin; tho' there is leſs Acid in theſe regenerated R than in the native.

6. Poſſibly, therefore, the native, acid, volatile Salt tained in this fat unctuous Subſtance, and in the is the ſame Spirit, which, in other eſſential Oils, tutes the aromatic Spirit; for it is ſo lodged in the Fat, as, together with the Water, to lie concealed the Form of one mixed Body: Whence natural *Balſ*

ged into Oils, upon loſing their Water, and their Ro- Again, Balſams are changed into Roſins upon loſing Water, Acid, and Oil; whence this happens ſponta- ouſly with Time in the open Air, whilſt the Action of Sun, by diſſipating the Acid, the Water, and the thin , at length, through various Degrees, brings it to a Ro- Whence Oils in the Spring are Roſins in the Winter, in Autumn afford a proper Covering to Trees, ſo as to fend them from Cold, Dryneſs, and Froſt.

This Experiment clearly ſhews, (1.) That the utmoſt Heat the Sun, long continued, may gradually inſpiſſate and ge liquid Oils, through various Degrees of Thickneſs, to that of Roſin or Colophony. (2.) That the Heat of ing Water has this Effect ſooner; and, by diſcharging Oil, leaves a Colophony behind in four or five Hours , whilſt the exhaling Fume proves an acid Water, and Spirit mixed among a large Quantity of Oil; the Colo- ony remaining hard behind. (3.) That this Colophony, urged by an Heat of two hundred and eighty Degrees, again reſolved into an acid Water, and a red, viſcous, pon- ous Oil, leaving an extremely hard, tranſparent Colo- y behind, of a Colour compounded of Red and Black, capable of enduring unaltered for Ages. But when itſelf comes again to be urged with the utmoſt Violence Fire of Suppreſſion, ſo as almoſt to melt the Glaſs, its ole Quantity is, by the ſole Force of the Fire, turned an oily liquid Subſtance, though ſomewhat viſcous, with- leaving any hard Colophony behind. (4.) Whence we both the changeable Nature of vegetable Oils, and ſurpriſing Variety of the Action of the Fire upon , which, with a certain Degree of Heat, inſpiſſates Oils, and brings them to an hard conſiſtent Maſs, would always remain the ſame; though a greater De- e of Fire again reduces it to a liquid Oil, which likewiſe ld long continue in this State; but, by a repeated Diſtil- on with a ſtrong Fire, it becomes totally liquid, and con- rably thin; whence it is certain, that many Bodies owe ir Hardneſs, and others their Fluidity, to the Fire. *Boer- e's Chymiſtry.*

very Word *Balſam* ſeems, in all Ages, to have had an of Excellence and Efficacy affixed to it, above any r Branch of the *Materia Medica*; for the antient Phy- ans, by this Word, meant any Species of Medicine, which werfully recommended itſelf by a grateful and delicious grance, and whoſe Uſe, both internal and external, was ſingular Efficacy in preventing Putrefaction, and reſiſting rruption. *Balſams*, 'tis true, were originally uſed for balming and preſerving the dead Bodies of thoſe, who, ing their Lives, had ſignalized themſelves by great and oic Deeds, or endeared themſelves to Mankind by the actice of the ſeveral Virtues. And when the thinking and gacious Part of Mankind obſerv'd, that the Bodies of the ad, were, by means of *Balſams*, enabled to defy the At- ks of Corruption, for an immenſe Series of Years, they gan to imagine, that their Virtues might extend to the ing, protract Life, and corroborate what they called the *lidum Innatum* fluctuating in the Blood. But however ntelligibly they may have talked upon this Point, yet 'tis tain, the Notion itſelf was juſt and well-founded, ſince we taught by Experience, that amongſt the vaſt Variety and in- e Store of Medicines, with which the Mineral, Animal, Vegetable Kingdoms ſupply Mankind, none are more pow- l, none more efficacious, than thoſe which come under the omination of *Balſams* and *Balſamics*. But as all *Balſams* not alike efficacious, nor equally adapted to Medicinal s, I ſhall only conſider thoſe *Balſamics* which ſeem beſt ulated to anſwer the Intentions of Medicine, whether ervative or Curative; and that I may execute the Deſign the greater Accuracy, and afford the inquiſitive Mind higher Satiſfaction, I ſhall ſpecify the Principles by which operate, enumerate their ſeveral Virtues, and give Di- ons with regard to their Uſes. But, for the ſake of Per- uity, it will not be improper to inquire into the Origin the Word *Balſam*, and aſcertain the preciſe and deter- ate Idea, which I myſelf affix to it.

hen the Inhabitants of *Paleſtine*, and the Coaſts of *Phœ-* , and perhaps their Neighbours the *Arabians* and *Egyp-* , were, according to the Accounts we have, the firſt who *Balſams*, common Senſe directs us to the Genius of the ntal Languages for the Origin of the Name. Whether it is a ſimple Word, which is moſt probable, and moſt nant with the Genius of the Eaſtern Language, deriv'd בשם *Boſem*, a Word peculiar to the *Hebrews*, for ſſing the moſt fragrant and delicious Subſtances, in h other Nations have probably inſerted an additional r, as in many other Inſtances they did; or whether others we maintain, that it is compounded of בעל שמן *l Schemen*, which ſignifies the Chief or Prince of Oils Spices; yet ſtill it amounts to the ſame, ſince by the rt of the Word, in both Caſes, 'tis plain, that only the beſt Spices, Oils, and Reſins, and ſuch as excell'd all others in their Virtues, the Fragrancy of their Small, and the Sweetneſs of their Taſte, were called *Balſams*. Neither ſhall I, in the Courſe of this Diſſertation, affix any other Idea to the Word *Balſam* or *Balſamic*, than that of a Medicine poſſeſſed of a ſulphureous, reſinous, and oily Principle, which at the ſame time muſt be fragrant and friendly to Nature, and by means of which it operates. Two things muſt therefore concur to characterize and conſtitute a *Balſam*: The firſt is, that the greater Part of the Subſtance ought to be inflammable, that is, either of an oleous, or reſinous Nature. The ſecond Circumſtance neceſſary to conſtitute a *Balſam*, is, that the Subſtance be of a grateful Smell, and pungent Taſte, that it may give Proof of its Efficacy, and of the Smallneſs and Minuteneſs of its Parts. So that, according to this Hypotheſis, all Sulphurs, and reſinous Subſtances, as alſo all inflammable Oils, though of the Conſiſtence of a *Balſam*, are yet to be excluded from the Claſs of genuine *Balſamics*, if they want that Fragrancy of Scent, and Delicioufneſs of Taſte, which are requiſite to conſtitute a *Balſam*. Thus Naphtha, or Rock Oil, *Jews* Pitch, Pitch, Reſin of the Pine, the Oils of Turpentine and Fir, ought by no means to be ranked among the Claſs of *Balſamics*, though they are inflammable penetrating Subſtances, excellent for the Purpoſes of embalming, and promiſe very ſalutary Effects, both when uſed internally and externally. Yet becauſe they abound in a too ſtrong, acrid, and penetrating Sulphur, which is not altogether friendly and agreeable to Nature, they are therefore leſs fit for reſtoring loſt Vigour, and recruiting impair'd Strength. Nor are Subſtances whoſe ſole Property is Fragrance of Smell, ſuch as Civet, Muſk, and the fragrant Flowers of Jeſſamin, Oranges, or the Hyacinthus Tuberoſus, to be properly eſteemed *Balſamics*, becauſe Fragrancy alone, which is owing to a fine and eaſily exhal'd Sulphur, is not ſufficient to conſtitute a *Balſam*; but 'tis neceſſary, that this fragrant Principle be blended and incorporated with a ſubtile acrid Oil, and an inflammable Reſin.

BALSAM *of* MECCHA.

'Tis therefore juſtly to be doubted, whether a true and genuine *Balſam* is to be found in the Animal Kingdom. Mean time the Vegetable Kingdom is richly ſtored with Medicines of this Claſs, of which the moſt antient, and that which firſt bore the Name of *Balſam*, is the *Opobalſam*, both *Arabic* and *Egyptian*. This was produced by a ſmall Tree growing in *Judea*, *Egypt*, and *Arabia*, the Whole of which was of a fragrant Smell; and when an Inciſion was made into its Bark, it yielded a reſinous Juice of a moſt grateful Odour, and of uncommon Virtues. The Antients called the Wood of this Tree *Xylobalſamum*, and its Fruit *Carpobalſamum*; but the Name *Opobalſamum* was appropriated to its Juice or Tears. Of this Tree, *Strabo* the Prince of antient Geographers gives us the following Account, *Lib.* 16. “There is a Field near *Jericho* in *Paleſtine*, in which there is a Nurſery of *Balſam-trees*. This Tree is a certain ſmall, odorous, aromatic, and fruticoſe Tree, not unlike the Cytiſus, or Turpentine-tree. When an Inciſion is made into its Bark, it yields a Juice reſembling viſcid and tenacious Milk, which, when received in Shells, coagulates. It wonderfully cures Headachs, recent Inflammations of the Eyes, and Heavineſſes; and what contributes much to the Value of this Medicine is, that it is found no-where elſe but here.” *Proſper Alpinus*, the moſt accurate Deſcriber of the *Egyptian* Plants, agrees with this Account, and in *Tract. de Plant. Ægypt.* writes thus: “The *Xylobalſam* is a ſmall Tree, which grows to the Height of the Cytiſus, bearing few Leaves, which reſemble thoſe of Rue, or thoſe of the Maſtich-tree, but which are always green. Its Branches are odorous, and ſo gummy, as to ſtick to the Fingers when handled. It bears ſmall white Flowers reſembling thoſe of the *Egyptian* Thorn, but very fragrant, from which ariſe yellow Seeds, contained in Huſks of a blackiſh red Colour, very fragrant, and containing within them a yellow Juice, which bears a near Reſemblance to Honey; and which affects the Tongue with a bitter, and ſomewhat acrid Taſte, and ſmells like *Opobalſamum*. Its Fruit, in Figure and Bulk, reſembles that of the Turpentine-tree.” 'Tis to be obſerv'd, that ſeveral Authors aſſert, that this Tree does not grow naturally in *Judea*, but was brought into it when a great many other Plants were tranſplanted from *Meccha*, a Town of *Arabia Felix*, into *Paleſtine*, whence they were convey'd into *Egypt* in the Days of *Mark Antony* and *Cleopatra*. Many are of Opinion, that there is now no ſuch thing as the true *Opobalſam*, and that the genuine Species, of old produced in *Egypt*, is not to be met with in any Part of the World; for that which is ſold for *Opobalſamum* in ſmall Boxes made of the Shells of Nuts, is, in their Opinion, compoſed of *Peruvian Balſam*, *Benzoin*, and *Storax*, as *Pomet*, in his Hiſtory of Drugs, informs us. But it ſeems pretty probable, that there is at this very Day ſuch a thing as true

Opobalſamum; for that brought from *Meccha*, which is called the *Balſam of Meccha*, and is deſcribed by a great many Authors, is of equal Efficacy with the *Opobalſamum*. It is a Liquor of an oleous Nature, as thick as Turpentine, of a penetrating and grateful Taſte and Smell. It is ſold at a very high Price, ſince half an Ounce of it cannot be purchaſed under two Imperials (about one Pound five Shillings). *Cluſius*, in *Exoticis*, is of the ſame Opinion with regard to the *Opobalſamum* being ſtill in the World; for in *Lib.* 10. *Sect.* 9. *de Balſamis*, he has theſe Words: "*Arabia Felix*, the Country which has in all "Ages, and now does produce *balſamic* Plants, affords true "and genuine *Opobalſamum*."

This *Balſam* was always had in ſo great Eſteem by the Antients, that they made it an Ingredient in their moſt noble Antidotes, which were ſold for double their Weight of Silver, according to *Theophraſtus*, *Pliny*, and *Dioſcorides*. This is eaſily accounted for, ſince the *Balſam-tree* being very ſmall, and not able to afford a great Quantity of the *Opobalſamum*, its Price muſt of courſe have run high. This alſo was the Reaſon why the *Opobalſamum* of the Antients, according to *Lobelius* in *Animadverſionibus*, was often vitiated with Cyprus Turpentine, or Oil of the Maſtich-tree. Since then the *Balſam* of *Meccha*, of all others the fineſt, is, without Doubt, the true *Opobalſamum* of the *Egyptians*, and exactly reſembles it in all its Qualities, its Uſe in Phyſic is for this very Reaſon to be highly commended; for of this, diſſolved and prepared with a ſpirituous Menſtruum, in which Amber is intimately mixed, very efficacious and elegant Medicines may be prepared for internal Uſe. *Hoffman*.

This precious Balſam-tree is thus diſtinguiſh'd:

BALSAMUM JUDAICUM, GILEADENSE, *è* MECHA *verum*, *& Opobalſamum*, *ſeu Oleum Balſami*, *ſive Balſamelæon*, Offic. *Balſamum Judaicum*, Ind. Med. 18. *Balſamum de Mecha Judaicum*, *Gileadenſe*, *Opobalſamum*, Commel. Plant. Uſu. 85. *Balſamum è Mecha*, *Balſamum verum*, Mont. Exot. 16. *Balſamum verum*, J. B. 1. 298. Chab. 24. Raii Hiſt. 2. 1755. *Balſamum genuinum antiquorum*, Park. Theat. 1528. *Balſamum ab Ægyptiis Baleſſan*, Alp. Ægypt. 60. *Balſamum*, Veſling. Obſ. 17. *Balſamum Alpini*, Ger. 1343. Emac. 1528. *Balſamum Syriacum*, *Rutæ folio*, C. B. Pin. 400.

THE TRUE BALSAM-TREE.

This is the thin or liquid Roſin of a ſmall Tree or Shrub, that grows about *Meccha* in *Arabia*, bearing ever-green pinnated Leaves, in Shape like thoſe of the *Lentiſcus* or Maſtich-tree, with an odd one at the End of the Stalk. It bears ſmall ſix-leaved whitiſh Flowers on the Top of the Stalk, which are followed by little roundiſh rugged Fruit, pointed at the End. This Fruit, which is the *Carpobalſamum*, and the Wood, which is the *Xylobalſamum*, are preſcribed in ſome old Compoſitions; but by reaſon they are not to be had in the Shops, other things are ſubſtituted in their Places.

This is a reſinous Liquor, which at firſt is of the Conſiſtence of ſweet Almonds, but by Age becomes like Turpentine, loſes much of its Smell, and grows ſometimes blackiſh. When freſh, it is of a very agreeable aromatic Smell, and of a Taſte like Citron-peel. The Plant, from which it flows, is called *Balſamum Syriacum*, *folio Rutæ*, C. B. P. *M. Lippi*, ſent by *Lewis* the XIVth Embaſſador to the Emperor of the *Abyſſines*, being in *Egypt*, was at great Pains to diſcover this Plant, and the ways of procuring the *Balſam* from it. The Subſtance of what he could find out is, that there are three ways of collecting it, and that there is ſome Difference in the Liquors collected each way. The firſt runs of itſelf from the Tree, the ſecond by Inciſions, and the third is got by boiling the Tops of the Trees. The *Balſam*, that riſes firſt after a gentle Decoction, is very good, and much eſteemed; but what is got afterwards, is the coarſeſt Sort, and of leaſt Value. The firſt kind of *Balſam* is ſent entirely to the Seraglio of the Grand Seignior; the other Sorts are ſuffered to be exported. This Balſam is not now to be found in *Judea*, which was its antient native Soil, and where it was very common before the Deſtruction of *Jeruſalem*; but ſoon after that, the *Jews* deſtroyed all their Trees, leſt the *Romans* ſhould make Advantage of them. At preſent, it is found near *Meccha*, and *Grand Cairo* in *Egypt*, from whence it is carried to *Conſtantinople*, where it is in great Eſteem. In *Aſia* it is given in the Quantity of two Scruples, as a Diaphoretic in malignant Fevers; and it is undoubtedly an excellent Medicine for deterging Ulcers in the Lungs, Kidneys, and Bladder, and even for diſſolving pulmonary Concretions. But the Uſe of it ought to be avoided in inflammatory Diſpoſitions of theſe Parts, even tho' ulcerated. It ought likewiſe never to be given when there is an Eryſipelas in any Part of the Body whatever. It is uſed with good Succeſs in Gonorrheas and the Fluor Albus, being given from ten to twelve Drops early in the Morning faſting, the Patient's Body having been well prepared, and the Running having continued ſome time. It is uſed externally in Wounds without Contuſion, as a Detergent.

The Ladies in *Aſia* uſe it as a Coſmetic, and eſpecially in the Seraglio of the Grand Seignior. In *France* the Ladies for-
merly prepared a kind of *Lac Virginale* with the yellow *Bal*
of *Meccha*, diſſolved in Spirit of Wine; but they were
tired of this Method, becauſe it leaves a Cruſt on the F
The true Manner of preparing this Coſmetic, is as follows:

> Take *Balſam of Meccha*, and Oil of ſweet Almonds, of
> equal Parts; mix them well together into a kind of
> *tritum*. On three Drams of this *Nutritum* in a Mat
> pour ſix or ſeven Ounces of Spirit of Wine, and l
> them in Digeſtion, till a ſufficient Tincture is extra
> Then ſeparate this Tincture from the Oil, and pour a
> an Ounce of it into eight Ounces of Bean-flower Wa
> or any other Water of the ſame kind.

This Mixture is a *Lac Virginale*, which will anſwer al
Intentions of a Coſmetic, without any Inconvenience.
Balſam of Meccha is an Ingredient in the Theriaca and
thridate. *Geoffroy*.

Though the *Balſam* of *Meccha* is by moſt Authors agre
be the ſame as the *Opobalſamum*, yet *Pomet* ſeems to
them ſomewhat different. This Author, ſpeaking of
Balſam of *Judea*, ſays, That the *Turks* have tranſp
ed the Trees which produce this *Balſam*, from *Judea*,
Gardens in *Grand Cairo*, where they are guarded by ſe
Janiſaries during the Time the *Balſam* flows. A Frie
mine, who has been at *Grand Cairo*, aſſured me, it was
poſſible to get a Sight of theſe Shrubs, except over the
that incloſe them, the Entrance being prohibited to
Chriſtians. And as to the *Balſam*, it is almoſt impoſſib
get any upon the Place, unleſs it is by means of ſome Emb
dor at the *Porte*, to whom the Grand Seignior has
a Preſent of it, or by the Janiſaries, who watch this pre
Balſam; by which we may underſtand, that what ſeveral C
pretend to ſell for true *Balſam*, is nothing but white *Balſa*
Peru, which they prepare with Spirit of Wine rectifie
with ſome Oils diſtilled.

But as it is met with ſometimes amongſt the Curioſit
People of Diſtinction, ſo in 1687. there happened to
Quantity amongſt thoſe of *Madame de Villeſavin*, amou
to about fourteen Ounces in two leaden Bottles, as it
from *Grand Cairo*, which was ſold to a Perſon who let m
it. We found it to be very hard, of a golden-yellow Co
and a Smell like that of a Lemon. But, ſince that, a F
of mine gave me one Ounce, which he brought himſelf
Grand Cairo, and was of a ſolid Conſiſtence, like that of
pentine of *Chio*, and of the Smell aboveſaid, which is th
Sign of its Goodneſs. *Pomet*.

I don't know, that I ever ſaw the true *Balſam* of *Judea*
than once. It anſwers exactly the above-mentioned Char
iſtics, and was brought from the Eaſt, on purpoſe for th
of the late Prince *George* of *Denmark*.

Every Druggiſt in *London* will ſell what is pretended
Opobalſamum; but by what has been ſaid it appears, how
elly both Phyſician and Patient are fruſtrated in their Exp
tions, when inſtead of this precious *Balſam*, one of a
different Kind is ſubſtituted in its Room.

Pomet, ſpeaking of the Balſam of *Meccha*, ſays, The
who go a Pilgrimage every Year to *Meccha*, bring from t
a certain dry white *Balſam*, in Figure reſembling
Copperas calcined, eſpecially when it is ſtale. The Perſo
made me a Preſent of about half an Ounce, aſſured
that he brought the ſame from *Meccha* liquid; and that
Coſmetic, it is equal to the *Balſam* of *Judea*. *Pomet*.

I cannot think this a ſufficient Reaſon for ſuppoſing th
ſam of *Meccha* different from that of *Judea*, contrary
Opinion of moſt Authors.

Dioſcorides gives the following Account of the true *Ba*

The *Balſam-tree* grows to the Bigneſs of the Lycoium,
cium, according to ſome) or Pyracantha, and has Leav
Rue, but much whiter, and far more an Evergre
grows in a certain Valley of *Judea* only, and in *Egypt*,
ing in reſpect of Roughneſs, Tallneſs, and Slenderneſs.
fine and capillaceous Part of the Shrub is called *The Ga*
[θεριςὸν], perhaps, becauſe its Slenderneſs renders it eaſy
gathered. What they call the *Opobalſamum*, is taken
Heat of the Dog-days, from Inciſions made in the Tree
Inſtruments, of the Figure of human Nails; but ſo little
that they collect no more than ſix or ſeven Choæ [ſee
or CHUS] yearly, which is ſold upon the Spot, for do
Weight in Silver.

The Juice of *Balſam* which is good, is new, ſmells
fully, is pure, not inclining to Sourneſs, is eaſily diluted,
aſtringent, and moderately biting upon the Tongue. It
terated ſeveral ways; ſome mix with it Ointments, as
Turpentine, the Cyprinum, Lentiſcinum, the Suſinu
laninum, and Metopium, (*See theſe in their proper*
Honey, and Cerate of Myrtle, or very liquid Cyprian
Fraud is eaſily diſcovered in the following manner.

The pure *Balm*, if dropped upon a woolen Garmen
be waſhed off without leaving the leaſt Stain or Mark;
adu

adulterated ſticks to the Place. The pure alſo, dropp'd into Milk, coagulates it, which the adulterated will not do. Again, the pure, if pour'd into Milk or Water, is inſtantly mix'd with it, and turns milky; but the adulterated ſwims on the Top, like Oil, contracting itſelf into a Roundneſs, or diffuſed abroad the Figure of a Star. Moreover, the pure *Balm* grows thick with Age, and loſes its Virtue. They are miſtaken who ima- gine, that pure *Balm*, when dropp'd into Water, firſt ſinks to the Bottom, and afterwards riſes to the Top, and freely dif- ſes itſelf.

The Wood call'd *Xylobalſamum* is known to be good by its Newneſs, its being in ſlender Branches, its red Colour, and Fragrancy, diffuſing its Odours in ſome meaſure like the *Opo- balſamum*. Chuſe ſuch Seed (ſince this alſo is neceſſary to be ſed) as is of a yellow Colour, plump, large, ponderous, of a ot biting Taſte, and ſmelling, in ſome moderate Degree, like *Opobalſamum*. The Seed is brought from *Petra*, and reſembles at of Hypericum, with which it is alſo adulterated; but you ay know the Hypericum-ſeed by its Exceſs in Bigneſs, its Vacuity, Want of Virtue, and a Taſte like Pepper.

The Juice is of extraordinary Virtue, as being of a very eating Quality, by which it deterges whatever darkens the Pupil of the Eye; and, uſed as a Peſſary, with Cerate of Roſes, res Refrigerations of the Uterus, provokes the Menſes, and pels the Birth and Secundines. In Shiverings, being uſed as n Ointment, it cauſes a Solution thereof; and deterges the Filth of Ulcers. Drank inwardly, it helps Digeſtion, and rovokes Urine; and is good for ſuch as are troubled with a Difficulty of Breathing. Taken in Milk, it helps thoſe who ve ſwallow'd Aconitum, or been bitten by Vipers. It is an gredient in Acopa, Malagmas, and Antidotes. Univerſally eaking, the Juice of the *Balſam-tree* has the greateſt Efficacy; xt to this the Seed, and the Wood leaſt of all. The Seed, ank, is good for the Pleuriſy, Peripneumony, Coughs, Scia- a, Epilepſy, Vertigo, Orthopnea, Gripes, Difficulty of Urine, and the Bites of Vipers, and other venomous Beaſts. is alſo well accommodated for Suffumigations, in Diſorders cident to the Female Sex; and the Decoction, uſed in Inſeſ- ns, opens the Uterus, and exhauſts its Humidities. The Wood has the ſame Virtues as the Fruit, only in a lower De- ee. Boil'd in Water, and drank, it helps Indigeſtion, the Gripes, the Bites of venomous Creatures, and Convulſions. It ſo provokes Urine, and, with dry'd Iris, is proper for Wounds the Head, and promotes the Exfoliation of Bones. It is ſo mix'd with Ointments for their Inſpiſſation. *Dioſcorides*, *ib.* 1. *Cap.* 18.

BALSAM *of* TOLU.

The *Balſam* of *Tolu* juſtly deſerves our next Conſideration, ce, in our own Days, 'tis by many uſed as a Succedaneum to *Opobalſamum*. It is brought from the Town of *Hiobi* or lu, in a Province of *New Spain*, ſituated between *Cartha-* and *Nombre de Dios*, and is yielded by a Tree reſembling Pine, according to *Ray* in his Hiſtory of Plants. It is of Colour of Gold, and ſmells like a Lemon, eſpecially if it is bb'd between the Palms of the Hands. It is dry, ſolid, and llucid. This *Balſam*, diſſolved in tartariz'd and highly recti- Spirit of Wine, affords an Eſſence, which is both grateful efficacious in ſeveral internal and external Diſorders.

The Tree which produces this *Balſam*, is thus diſtinguiſh'd.

BALSAMUM TOLUTANUM, Offic. *Balſamum Tolutanum*, is *Ceratiæ ſimilibus*, *quod candidum*, C. B. Pin. 401. Chom. 6. *Balſamum Tolutanum*, Mont. Ind. Exot. 12. Ind. Med. *Balſamum de Tolu*, Park. Theat. 1570. J. B. 1. 296. i Hiſt. 2. 1758. De Laet. Ind. Occid. 367. *Balſamum vinciæ Tolu*, *Balſamifera*, 4. Hern. 53. *Arbor Balſami- Tolutana*, Jonſ. Dendr. 308. THE BALSAM-TREE TOLU.

alſam of *Tolu* is brought to us in ſmall *Callibaſhes* from a Province in the *Weſt-Indies*. It is of a tough reſinous iſtence, growing dry and friable by Age, of a yellow- n Colour, of a moſt fragrant Smell, and an aromatic e. It is not certain from what Tree this is produced, ſome it is a ſmall Pine-tree, others a Tree reſembling the ob-tree.

This is an excellent pectoral *Balſam*, of great Service in Af- ons of the Lungs, as Coughs, Aſthmas, Conſumptions; and t makes it more valuable is, that it has no nauſeous oleagi- Taſte, as moſt other *Balſams* have. It makes an agree- Emulſion, with Sugar and the Yolk of an Egg. It is very ative, and good to ſtrengthen the *Veſiculæ ſeminales*, and p old Gleets and Strains in either Sex.

he only officinal Preparation of this *Balſam* is the *Syrupus amicus*. *Miller's Bot. Off.*

is good to deterge and conſolidate Wounds; it reſiſts a rene, ſtrengthens the Nerves; is good for a Rheumatiſm, Sciatica, being externally apply'd.

he Doſe is from one Drop to four Drops. *Lemery des ues.*

offroy adds, Being held in the Mouth, it has no Acrimony, ch it differs from all the reſt; and for that Reaſon it is preferr'd for internal Uſe; being given from ſix to eight Grains. *Geoffroy.*

The *Balſamic Syrup* is thus made:

> Take of *Balſam* of *Tolu*, two Ounces; and twelve Ounces of Spring-water, or any of the Pectoral Waters: Boil them together in a circulatory Veſſel, well luted, in a Sand-heat, for two or three Hours. When the ſtrain'd Liquor is cold, diſſolve in it twenty Ounces of fine Sugar, ſo as to make it into a Syrup, without any Heat.

This hath not been received by the College till the laſt Emendation of their Diſpenſatory, but is added by *Shipton* to their former, amongſt his *Additamenta*. The Manner of Boiling is very juſtly contrived to prevent any Loſs of the finer Parts by Exhalation, which it would ſuffer in an open Heat. *Quincy's Diſpenſatory.*

BALSAMUM PERUVIANUM.

The next I ſhall conſider, is that which is brought from *America*, and *New Spain* in *Mexico*, and is call'd *Peruvian* and *Indian Balſam*; the various Species and Differences of which are enumerated by *Pomet*, in his Hiſtory of Drugs. It is, however, commonly diſtinguiſh'd into two Sorts, the White, and the Black. The former is accounted the beſt, and is, by way of Eminence, call'd the *Balſam of Inciſion*; becauſe, according to *Monardus*, it flows ſpontaneouſly from a Tree of a large Size, upon making a ſlight Inciſion in it. It is limpid, of the Conſiſtence of Turpentine, of a fragrant Smell, and much ſcarcer and dearer than the black Sort; but we are to take care, that it is not adulterated with *Venice* Turpentince, and ſold for the genuine *Balſam*. The black Sort, of which great Quantities are imported to us, is, according to *Cluſius* in his *Comment. in Monardum*, prepar'd and extracted by boiling the Branches, Bark, and Leaves of the Tree. The genuine Sort is of a browniſh Colour, of a penetrating and fragrant Taſte and Smell: It is alſo fluid, and the Whole of it is quickly diſſolved in highly rectified Spirit of Wine. But it is to be lamented, that this very *Balſam* is, in our own Days, ſo commonly adulterated, in all Probability with liquid Storax, or perhaps with the Feces which remain after the Preparation of *Peruvian Balſam*, that it is ſcarce to be found genuine any more in the Shops. That which is adulterated, may be eaſily diſtinguiſh'd from the true and genuine Sort; for the former is thick and coagulated, wants the penetrating Smell and Taſte, and is with the greateſt Difficulty diſſolv'd in Spirit of Wine, but remains like a thick and oleous Magma. But of the true Sort very elegant Medicines are compoſed; for when it is diſſolved in highly rectified Spirit of Roſes, it affords an Eſſence of excellent Qualities. When one Part of this *Balſam* is intimately mix'd, in a Mortar, with an equal Weight of Salt of Tartar, and highly rectify'd Spirit of Roſes is pour'd upon it, upon being ſubjected to Diſtillation in a Sand-heat, it affords a fragrant and delicate Spirit, which is a Medicine of ſingular Efficacy, eſpecially if exhibited in a Solution of Amber or Muſk. This Medicine, uſed internally, reſtores loſt and impair'd Strength; and, being very friendly to the nervous Syſtem, it powerfully contributes to remove thoſe Diſorders which ariſe from its Weakneſs. An extemporaneous *balſamic* Syrup, of many and great Uſes, may be made, by mixing an Ounce of it with one Pound of Julap of Roſes. This Syrup is conveniently mix'd with ſtomachic and cephalic vinous Spirits: It alſo gives a grateful and agreeable Taſte to Potions and Mixtures. If *Peruvian Balſam* is diſtill'd with the Worm and Refrigeratory, it not only gives the Water a grateful Smell, like that of the *Balſam itſelf*, but alſo renders it nervous and diuretic. This Water, liberally drank, is of excellent Service in chronical Diſorders, ariſing from the Scurvy, and a Weakneſs of the Nerves. 'Tis curious to obſerve, that on the Top of this Water ſwims an ethereal and very ſweet Oil, which quickly incorporates with highly rectified Spirit of Wine.

The white *Peruvian Balſam* is thus diſtinguiſh'd.

Balſamum Peruvianum album, ſeu Styrax alba, Ind. Med. 18. *Huaconex vel Balſamifera*, 11. Hern. 52. *Balſamum album*, Park. Theat. 1570. *Balſamum Peruvianum album*, Geoff. Tract. 349. WHITE PERUVIAN BALSAM. *Dale.*

The black Balſam is thus diſtinguiſh'd.

Balſamum Peruanum, Offic. Ind. Med. 17. Mont. Exot. 12. *Balſamum Peruvianum nigrum*, Park. Theat. 1570. *Balſamum ex Peru*, J. B. 1. 294. *Hoitziloxitl ſeu Arbor Balſami Indici, ſive Balſamifera*, Hern. 1. 51. *Hoitziloxitl Mexicanorum*, Jonſ. Dendr. 309. *Balſamum Hutzochitl*, Laet. Ind. Occid. 224. *Caburiiba*, Marcg. 137. *Cabureiba Piſon*, (Ed. 1648.) 57. *Cabureiba ſive Balſamum Peruvianum*, Ejuſd. (Ed. 1657.) 119. THE NATURAL BALSAM-TREE. *Dale.*

This black *Balſam* of *Peru* is of a warming, ſtrengthening Nature, comforting the Brain, and nervous Syſtem; is uſeful in Aſthmas, the Colic, and Pains in the Stomach and Bowels.

Outwardly uſed, it ſtrengthens the Nerves, helps the Cramp, and all kinds of Convulſions, and Contractions of the Sinews, old Aches and Pains; and is very ſerviceable in Cuts, and green Wounds. *Miller*'s *Bot. Off.*

Pomet informs us, that the *Portugueſe* make an artificial *Balſam* of *Peru*, which they ſell to the *Dutch*.

Hoffman gives the following Proceſſes on the *Peruvian Balſam*.

That the *Balſam* imported from *Peru* in *America* is poſſeſs'd of very ſingular and efficacious Qualities, is ſufficiently obvious from its fragrant Smell, and aromatic Taſte. It was at firſt only uſed as an external Medicine; but, in Proceſs of Time, ſome Phyſicians and Chymiſts began to uſe it internally, ſometimes mixing it with Pills, at other times diſſolving it in highly rectified Spirit of Wine; and on other Occaſions incorporating it with Sugar, or any other Ingredients they thought moſt likely to anſwer their Intention.

But, as far more powerful and efficacious Remedies than theſe may be obtain'd from it, by the Aſſiſtance of Chymiſtry, I ſhall here give an Account of the Proceſſes I ſubjected it to.

Firſt, by diſtilling it with common Water, with the Worm, I obtain'd a highly fragrant Oil, of a reddiſh Colour, and entirely free from all Empyreuma; but 'tis to be obſerved, that half a Pound of the *Balſam* ſcarce afforded half an Ounce of this Oil, which diſſolves in highly rectified Spirit of Wine, of which it requires a large Quantity to procure its Solution. When diſſolved in highly rectified Spirit of Roſes, it is very properly mix'd with the Eſſences of Amber, Ambergriſe, and Aloes-wood, ſince by its means their *balſamic* and corroborative Virtues, in Diſeaſes ariſing from a Weakneſs of the nervous Syſtem, are conſiderably increaſed and improved.

Secondly, from *Peruvian Balſam* I prepar'd a moſt pure and delicate Spirit, in the following manner: I intimately mix'd two Parts of the *Balſam* with one Part of Salt of Tartar, by means of Trituration and Levigation, adding a ſufficient Quantity of the beſt Spirit of Roſes. Then I ſubjected the Whole to a regular Diſtillation from an Alembic, which was placed in moiſt Sand: Thus, by carefully keeping up the due Degrees of Fire, I drew off the Whole of the Liquor to Dryneſs. By this Proceſs I obtain'd a Spirit of a fragrant Smell, and grateful Taſte, but which was ſtill more valuable on account of its analeptic and corroborating Qualities. I alſo obſerved, that this Spirit was very efficacious in promoting a Diſcharge of Urine, a Circumſtance which renders it highly proper for preventing ſabulous and ſtony Concretions in the ſmall Tubes of the Kidneys. One Dram of this Spirit, mix'd with three Ounces of the Julap of Roſes, is immediately converted into a *balſamic* Syrup of ſingular Efficacy, and which is to be juſtly preferr'd to all other Syrups, on account of the delicate and grateful Taſte it communicates to Medicines.

Thirdly, I have, for ſeveral Years paſt, made very frequent Uſe of a volatile *balſamic* Spirit, prepar'd by an Affuſion of highly rectified Spirit of Wine, upon a Mixture of equal Parts of the volatile Salt of Ivory, Salt of Tartar, and *Peruvian Balſam*. This Spirit, on account of its diſcutient and diaphoretic Virtues, and its Efficacy in reſtoring Strength, and a due Tone, to the Parts, is uſed with uncommon Succeſs, in thoſe Diſorders incident to cold Conſtitutions, where 'tis proper to excite a briſker Motion in the Maſs of Blood and Humours, and augment Tranſpiration; and I do, with good Reaſon, affirm, that it is far preferable either to the Spirit of *Buſſius*, as 'tis call'd, or to the *balſamic* Spirit. *Hoffmanni Obſerv. Phyſicochym.*

The Manner of making artificial BALSAM *of* PERU.

Take fine Turpentine, white Frankincenſe, of each one Pound; Oil of Ben, Olibanum, Labdanum, Gum Elemi, of each ſix Ounces; Lavender-flowers and Nutmegs, of each four Ounces; Spikenard, Wood of Aloes, and Dragon's-blood, of each one Ounce and a half; the ſmall Valerian, Orrice, long Birthwort, Acorus verus, Mace, Benjamin, Storax, of each one Ounce; Zedoary, Galingals, Cloves, Cinnamon, Caſtor, and Maſtich, of each ſix Drams: Powder all the Drugs groſly; then melt the Turpentine, Frankincenſe, Gum Elemi, and Oil of Ben, over the Fire; and, when they are diſſolved, incorporate the Powders; and when they are made into a Paſte, put them into a Glaſs Retort, whereof one Part is empty; and, after it is well luted and dried, ſet it upon a Sand-furnace; and, when the Matter begins to heat, there will flow a clear Water, then an Oil of the Colour of Gold, at laſt a black *Balſam*, tending to Red, which ſome would have to be what we ſell by the Name of *Black Balſam* of *Peru*. The Water is proper to be taken inwardly, by thoſe who have the Falling-ſickneſs, Convulſions, Weakneſs of the Stomach, and to correct Wind. The Oil is good for the Palſy, Nerves that are wounded, Pains in the Joints, rubbing them with it hot. As to the *Balſam*, the ſame Virtues with that of *Peru* are attributed to it. *Pomet*.

Foreigners, who read the Advertiſements in our News-papers
may reaſonably be ſurpriſed at our Bills of Mortality; for ther
is ſcarcely a Diſtemper incident to human Nature, but, accord
ing to the Proprietors of advertiſed ſecret Remedies, may b
cured eaſily and effectually by ſome or other of their Medicines
which are always taken from ſome Medicinal Writer. Ther
are at leaſt ten different People in Town, who get a very hand
ſome Subſiſtence by ſelling a ſecret *Balſam*; which is the ſam
as, in many Families, goes by the Name of the *Jeſuit's Drop*
or *Frier's Balſam*. It is much celebrated in foreign Countri
by the Name of *Baume de Commandeur de Berne*; and is reall
an admirable Medicine.

Pomet gives the following Receipt for its Preparation, whic
is ſaid to be the beſt known.

BALSAMUM COMMENDATORIS, or *The* BALSAM *of th* *Commander of* BERNE.

Take dry *Balſam* of *Peru*, one Ounce; Storax in Tea
two Ounces; Benjamin in Tears, three Ounces; Alo
Succotrine, the beſt Myrrh, Olibanum in Tears, Roo
of *Bohemian* Angelica, Flowers of St. John's-wort,
each half an Ounce; Spirit of Wine, one Quart: Be
all together, and put them into a Bottle well ſtopp'
which hang in the Sun during the Dog-days; at the E
of which Time the Whole muſt be paſs'd thro' a Lin
Cloth, and uſed for the Purpoſes under ſpecified:

Firſt, all Gun-ſhot Wounds, and ſuch as are made w
ſharp Inſtruments, if they are not mortal, are cured in t
Space of eight Days, by the Application of this *Balſam*, eith
with a Feather, Cotton, or by way of Injection, provided
Wound has been firſt of all dreſs'd with it, and no other Me
cines have been uſed; for when the Wound is at firſt dreſs'd w
it, no Pus will afterwards be form'd; whereas the Generation
Pus is always the Effect of Dreſſing with the ordinary Medicin
There is no Occaſion either for Tents or Plaiſters when
Balſam is apply'd, eſpecially at the firſt Dreſſings. Upon
firſt Application to the Wound, it creates an intolerable Pa
but that ſoon goes off, and is no more felt. This *Balſam* i
admirable a Remedy for the Colic, that if four or five Drop
it are intimately mix'd with a Glaſs of Wine, and drank,
Patient's Indiſpoſition is ſoon after removed. It is alſo a ſo
reign Remedy for the Gout, when apply'd to the Part affe
with a Feather or Cotton. In a Tooth-ach it is of ſing
Service, when Cotton, ſoak'd in it, is apply'd to the To
affected. All ſorts of Ulcers, as alſo Cancers and Chanc
are cured by it. It is effectual againſt the Bites of venom
Animals, thoſe of mad Dogs not excepted. It prevents Pitt
by the Small-pox, if the Puſtules are anointed with it as ſoo
they appear on the Face; for it dries them before Pus is for
in them, upon which Circumſtance the Pitting depends.
proves an excellent Remedy for the Hæmorrhoids, if they
rubb'd with it when the Patient goes to Bed. It is excel
for Defluxions and Bruiſes, if the Parts affected are anoi
with it. Five or ſix Drops of it, exhibited internally, in
or five Spoonfuls of Broth, prove an excellent Remedy for
Purple Fever. It is alſo good for ſore Eyes, when put
them with a Feather. It is alſo excellent for Pains of the
mach; in which Caſe, if the Patient is feveriſh, he muſt
it in Broth; and if not, in Wine. It cleanſes the Stom
and procures an Appetite. It muſt never be warm'd, bu
ways be apply'd cold, and it becomes dry as ſoon as it is ap
to the Part affected. Five or ſix Drops of it, taken in W
or Broth, are very proper for provoking the Menſes, whe
fective; and giving a Check to them, when too luxu
When we pour out any Quantity of this *Balſam*, we muſ
the Phial immediately after, to prevent its Evaporatio
any Wound has been previouſly dreſs'd with other Med
it muſt be waſh'd with warm Wine before the Applica
this *Balſam*, which will cure it effectually, tho' not ſo ſ
as if the *Balſam* had been uſed at firſt. It cures Fiſtulas,
ever old, and in whatever Parts of the Body. Five or ſix D
of it, exhibited in white Wine, or in three or four Spoonf
Broth, are an excellent Remedy for Fluxes and Hæmor
It is good for the Pricking of Horſes, when ſhoed: By p
a Drop or two into the Hole from which the Nail is draw
is cured immediately.

BALSAM OF CAPIVI.

I now come to take a View of the *Balſam of Capivi*, o
paiba, which has univerſally acquired ſo uncommon a Re
tion. It is produced in *Brazil*, and brought to us in E
Veſſels by the Way of *Portugal* from *Rio de Janeiro*, *Pe*
bouc, and *St. Vincent*. It is of a whitiſh-yellow Colour,
a fluid, reſinous, and *balſamic* Conſiſtence, like *Venice*
pentine. It is of an acrid and ſomewhat bitter Taſte, and
from a Tree of a moderate Size, upon making an Inciſio
its Bark. *Ray* calls this Tree the *Arbor balſamifera Bra*
fructu monoſpermo. Two Sorts of this *Balſam* are bro
us, one of which is a limpid Liquor, which flows from
Trees in a Province of *America*, called *Copaiba*, when th
pe

perforated or pierced to the Pith; and this Sort is of a fragrant and very grateful Smell, and of a Taſte ſomewhat acrid. The other Species is thicker, and of the Conſiſtence of Turpentine. But this Difference depends on the different Times of gathering it; for that which flows out immediately after the Inciſion made in the Tree, is very clear, white, and of a reſinous Smell. But that which follows it is of a Colour approaching nearer to that of Gold, and of a thicker Conſiſtence; for which Reaſon it was firſt called a *Balſam:* And this laſt-mentioned Sort is what I ſaid was brought to us in great Plenty from *Portugal* in Earthen Veſſels, but the other Species is thinner and ſcarcer.

The Limpid is moſt highly eſteemed, and thought beſt, both for internal and external Uſes. When diſſolved with Tincture of Tartar, it is ſucceſsfully exhibited internally for a Fluor Albus, Gonorrhœa, and Diſorders of the Kidneys and Bladder. Externally it is a fine Liniment, and much uſed for conſolidating Wounds and Ulcers, and corroborating the nervous Parts, which have been weakened by the Shock of ſome Diſeaſe. Its Virtues principally depend upon the large Quantity of Oil it contains, as is obvious from the following Experiment:

I took one Pound of the beſt Sort of the *Balſam of Capivi*, and pouring four Meaſures of Water upon it in a Still with a Worm, and with a proper Degree of Fire, drew off ſix Ounces of an Oil of a pretty penetrating Taſte, and pleaſant Smell, of a greeniſh Colour, and a pretty good Conſiſtence. As I never knew an Inſtance of this *Balſam*'s being ſubjected to Diſtillation before, I could not help being ſurpriſed at the large Quantity of ſubtile and ethereal Oil it contained, eſpecially ſince from the black Sort of the *Peruvian Balſam* a very ſmall Quantity of Oil was obtained, when it was ſubjected to Diſtillation by the Worm; which is a pretty palpable Proof, that this *Balſam of Capivi* is of a very warming Nature. After the Diſtillation was at an End, there was a reſinous thick Maſs left in the Bottom of the *Still*, which, when put upon live Coals, diffuſed a pretty grateful Odour; and I am of Opinion, that it would be a very proper Ingredient in ſuch Plaiſters as are deſigned for corroborating the nervous Parts. Though the *Balſam* itſelf is poſſeſſed of very ſignal Virtues, yet I diſcovered ſtill more exalted and efficacious Qualities in this diſtilled Oil:, I mixed ſome of it with a double Quantity of human Fat, which, when apply'd by way of Liniment, wonderfully ſtrengthen'd paralytic Parts, and ſuch as were deprived of their Tone, Senſibility, and Motion.

Nor is it leſs beneficial and ſerviceable, when apply'd to Parts ich are weakened, and become unfit for Motion, in Conſence of gouty Pains. From it alſo excellent vulnerary and toral *Balſams* may be prepared for internal Uſe, by mixing it h well-prepared Oil of St. John's-wort, Sperma Ceti, and Oil the Yolks of Eggs, adding a few Drops of the Oil of Saſſafrasd, Mace, and Fennel. When the *Balſam* is thus prepared, to be exhibited either in an Emulſion, or in Aſſes or Goats lk. I don't in the leaſt doubt, but if this *Balſam* was judiuly uſed, Patients who labour under Impoſtumations of Lungs, and Ulcerations of the Kidneys, Bladder, and Proe, might receive very ſenſible Relief from it.

This Oil is very ſpeedily diſſolved in pure Spirit of Wine, but Parts of it are required to one of the Oil, that the Solution be the more throughly made. If inſtead of the Spirit of e Tincture of Tartar or acrid Antimony is uſed, and Spi- Nitri dulcis added, a Medicine is produced which ſtrongly okes Urine, and is of ſingular Efficacy in Rheumatic Diſrs and Cachexies. An Elæoſaccharum of a *balſamic* Na-, and a more grateful Taſte, may be prepared from it, ch, when taken in *Spaniſh* or *Hungarian* Wine, is an excel- Remedy in Caſes where the Stomach has loſt its Tone, in hs which rend the Breaſt, and when the Inteſtines are too relaxed or diſtended with Flatulencies; it is alſo of ſinguervice in paralytic Diſorders.

must not on this Occaſion forget another Uſe of this *Bal-* As I found that it abounded ſo much with a fragrant I made the following Experiment with it:

poured half a Pound of it upon Lavender-flowers, as alſo upon Roſemary, by which means I obtained a large Quantity of Oil, which in Flavour and Taſte differed very little from the pureſt Oils extracted from theſe Subſtances.

nce 'tis ſufficiently plain, that this *Balſam* may be more odiouſly uſed than Turpentine, for increaſing the Quanf ethereal Oils in Diſtillation: Yet I do not advance this a View to perſuade any one to follow this Practice. *Hoff- Obſerv. Chym.*

e Tree producing the *Balſam of Capivi* is thus diſtind:

ivus, Offic. Pharmacopol. *Balſamum Copaiba*, Ind, 18. *Balſamum de Gopaiba*, Mont. Exot. 12. *Copaiba*, (Ed. 1648.) 56. (Ed. 1658.) 118. Jonſ. Dendr. 309. Raii Hiſt. 2. 1759. *Arbor Balſamifera Braſilienſis, fructu monoſpermo*, Ejuſd. *Copaiba Braſilienſibus*, Marcg. 130. *Balſamum album*, Park. Theat. 1570. *Balſamum certarum quarundam plantarum, quas Copaibas vocant*, J. B. 1. 306. *Balſamum Copaiba*, Geoff. Tract. 348. THE WHITE AMERICAN BALSAM-TREE. *Dale.*

When this *Balſam* is new, it is of the ſame Colour and Conſiſtence with Oil of ſweet Almonds, and ſmells like the *Calambour* Wood, but the Taſte is a little acrid and bitter.

Fuller ſays, That when given in the Quantity of two Drams, it purges very well, and gives a very bitter Taſte to the Urine. A Liniment may be made with two Parts of Spirit of Wine, and one Part of this *Balſam*, very proper to be uſed in Rheumatiſms and Palſies. *Geoffroy.*

Pomet *gives the following Account of* Baume Nouveau, NEW BALSAM.

The *New Balſam* in Colour and Shape is very like that of *Tolu*, but of a much leſs agreeable Smell. This *Balſam* is made after the ſame manner as the Oil of Bays, from a little red Fruit, that grows in Cluſters upon a kind of Tree, the Leaves whereof are very large and broad, green above, and greeniſh underneath, which grows in the *Weſt-Indies*, eſpecially in the Iſland of *St. Domingo*. This *Balſam* is ſo very ſcarce in *France*, that there is very rarely any of it to be ſeen. *Pomet.*

Among the ſeveral Simples of the *balſamic* Kind, we may juſtly reckon *liquid Amber*. It drops from a Tree of *Mexico*, called the *Arbor Styracifera*, upon an Inciſion being made into its Bark. It is an oleus, reſinous, and pinguous Liquor, of the Conſiſtence of *Venice* Turpentine, of a reddiſh-yellow Colour, of an acrid, aromatic, and oleous Taſte, approaching pretty much to that of *Storax Calamita*. Its Eſſence, extracted with Tincture of Tartar, or tartarated Spirit of Wine, ſtrengthens the Head, and nervous Syſtem. There is alſo diſtill'd from it with Water, by the Worm, a thin and fragrant Oil, which is of ſingular Efficacy both for internal and external Uſes. See AMBRA.

Having taken a View of the liquid *Balſams*, with which Nature has bountifully ſupply'd us, I come in the next Place to conſider thoſe which are of a more dry and ſolid Nature, ſuch as the reſinous fragrant Gums, impregnated with an agreeable Oil: Of theſe the principal are Benzoin, pure Storax Calamita, Ladanum, Myrrh, and Maſtich. Theſe are produced by making an Inciſion in the Bark of *Balſam-bearing* Trees, which are always green, at the hotteſt Seaſon. From theſe Trees a tenacious Liquor drops, which becomes gradually more ſolid, as its humid Parts are exhaled by the Heat of the Sun; for which Reaſon theſe reſinous Gums are juſtly called dry *Balſams*, becauſe in all Points they agree with *Balſams*; for their whole Subſtance is inflammable, they have a fragrant Smell, they are of a penetrating Taſte, they are diſſolved, though not totally, in highly rectified Spirit of Wine, and yield an Oil, when ſubjected to Diſtillation.

And, firſt, as to the *Benzoin*, it is produced by a Tree of *Sumatra*, called the *Arbor Benzoifera*. The pureſt Sort of it is white, and in highly rectify'd Spirit of Wine is diſſolved into an Eſſence, which, when poured into Roſe-water, makes a very elegant coſmetic Milk. This Gum, by an eaſy Sublimation in a Pot, is raiſed in Flowers. If it is boiled in Water, and the Decoction inſpiſſated, beautiful ſhining Flowers fall to the Bottom, which are not only of great Service internally for promoteing Expectoration in *Aſthmas*, and removing Obſtructions of the Lungs by their ſubtile acrid Quality, but alſo by ſtimulating the Noſtrils they excite Sneezing. Beſides, *Benzoin* is the principal and moſt important Ingredient in the beſt and moſt efficacious Fumigations; and when duly mixed with an Extract of Benzoin, with the Addition of ſome odoriferous Oils, and a little Civet, it makes that *Spaniſh* Maſs which is ſo much eſteemed for the Delicacy and Fineneſs of its Smoke. See BENZOINUM.

Styrax, or, as 'tis more frequently written in *Latin*, *Storax*, is of the ſame Nature and Qualities with Benzoin. It is found in *India*, and, according to *Lobelius*, in ſome Parts of *France*. It flows from a Tree which has Leaves like thoſe of the Quince-tree, and a Trunk like that of the Birch, in the Form of Icicles, from which Circumſtance *Lobelius* thinks that it received the Name of Styrax, though his Opinion does not ſeem to be ſufficiently authorized. The pureſt Reſin is called the Tears of the Styrax. It is very odorous, and divided into Grains and Lumps. It is alſo called *Calamita*, the Reaſon of which Name *Strabo* gives in his twelfth Book, which is, becauſe it flow'd from a Tree excavated and hollow'd like a Reed. The impure Sort is a Magma of a reddiſh Colour, in which there is often an Intermixture of Straws and Leaves; and this Sort of it ſeems to be obtained, by boiling the ſeveral Parts of the Tree, eſpecially its Branches, Bark, and Roots. We uſe to obtain the Reſin from this Storax two ways, either by Expreſſion, after having macerated it ſufficiently with a little Wine; or by means of highly rectified Spirit of Wine. See STORAX.

Maſtich is a Reſin of a pale-yellow Colour, pellucid, of a reſinous aromatic Taſte, and of a highly fragrant Smell. It flows from an Inciſion made in the Bark of the Berry-bearing Maſtich-tree, of which there is great Plenty in the Iſland of *Chios*. That produced in *Chios* is the beſt; for that with which *France* ſupplies us is coarſer and leſs pure. We have prepar'd a Spirit of ſingular Efficacy, by diſtilling rectified Spirit of Wine from two Parts of Maſtich intimately mixed with one Part of Salt of Tartar. By this Proceſs a moſt fragrant Spirit is obtained, which is of great Service in corroborating the Stomach and nervous Syſtem, and in exciting a Diſcharge of the Urine; for the Salt of Tartar proves an excellent Key, if I may ſo ſpeak, to reſinous Subſtances; ſince by its means their ſubtile volatile Oils are ſeparated and diſentangled from their viſcid earthy Particles, and left at full Liberty to exert their Qualities. See MASTICHE.

Ladanum is alſo a reſinous *balſamic* Concretion, wrapt up in a ſpiral Form, of a ſomewhat bitter Taſte, and of a grateful fragrant Smell, eſpecially when 'tis ſet on Fire. In *Spain* and *Crete* the Inhabitants gather this Gum from the Leaves of the true Ladaniferous Shrub. There are many ſmall Grains of Sand mixed with it, becauſe the Trees producing it grow in ſandy Soils. With Spirit of Wine a moſt pure Reſin is extracted from it, which either in a liquid or ſolid Form is of ſingular Efficacy in ſtrengthening the Nerves; and I myſelf have often had Experience of its Virtues in ſevere and obſtinate Head-achs. See LADANUM.

Gum Elemi comes next under our Conſideration, which is reſinous, lucid, of a whitiſh-yellow Colour, ductile like Wax, of an aromatic Taſte, and fragrant Smell. It flows from Inciſions made in the Bark of the Myrobalan-tree, produced in the Iſland of *Ceylon*, the Inhabitants of which Place kindle it in their Lamps, and uſe it by way of Lanthorn. From this Gum, with Water by the Worm, a very penetrating Oil, which is of ſingular Service, both internally and externally uſed, in Gonorrhœas, Wounds, and Ulcers, is diſtill'd. See ELEMI.

To the dry *Balſams* belongs alſo *Myrrh*, eſpecially the purer Sort, which is intermixed with pale Spots, and is of an acrid aromatic Taſte, and of a fragrant Smell. It drops from a Berry-bearing Tree called *Pola*, which grows in the Deſarts of *Arabia*. This is beſt and moſt properly given in Subſtance, mix'd with Sugar-candy, for removing all Putrefaction, eſpecially of the Lungs. It is alſo an Ingredient in the moſt valuable Compoſitions, ſuch as the Elixir Proprietatis, the Pilulæ Ruffi, the Pilulæ Avicennæ, all the pompous Antidotes of the Antients, and in ſhort in Pills almoſt of every Kind. It is better to uſe it in Subſtance internally, than by way of Eſſence; becauſe theſe are of a hot Nature, and generally put the Blood into too violent Commotions; but it is more temperate in Subſtance, by reaſon of ſome mucilaginous and gummy Parts mixed with it. Its Eſſence externally uſed is of conſiderable Service in the Cure of putrid Ulcers. See MYRRHA.

Having taken a View of the *balſamic* Gums and Reſins, it now remains, that I direct my View to thoſe Woods which are impregnated with a *balſamic* Principle. Among theſe, the firſt Place has univerſally been aſſigned to Aloes-wood, otherwiſe called Xyloaloes, the Whole of which is reſinous, of an aromatic and bitter Taſte, and of a fragrant grateful Smell, eſpecially when reduced to Powder. It is the interior Subſtance of an *Indian* Tree, called *Calambach*. Its Reſin is extracted with highly rectified Spirit of Wine, and formed either into cephalic Pills or Powders. And its reſinous Eſſence, which is of the ſame Efficacy, when mixed with Tincture of Mars, conſtitutes a *balſamic* Tincture of Mars, whoſe Efficacy in removing Weakneſs of the Viſcera in hypochondriac Diſorders is highly eſteemed. Beſides, I formerly have prepared, by Diſtillation with the Worm, a Water of the Shavings of Aloes-wood, upon which a fragrant Oil floated, which, by being expoſed to the Cold, was converted into a white Coagulum like Camphire. This Coagulum, diſſolved in highly rectify'd Spirit of Wine, afforded an Eſſence of ſingular Virtues in ſtrengthening the Brain, and repairing the Weakneſs of the Nerves. See AGALLOCHUM.

The *Lignum Rhodium* deſerves to be next conſidered. Its Root is reſinous, and of an aromatic Taſte, and a fragrant roſy Smell. It grows in the *Canary-Iſlands*, and, when ſubjected to Diſtillation, yields a very fragrant Oil, the Uſe of which is highly extolled among the ſcented *Balſams*. Nor is it to be deny'd, that the Eſſence of the Root of the *Lignum Rhodium*, as alſo a Decoction of it in Water, are, by reaſon of their *balſamic* Reſin, of ſingular Efficacy in Diſorders of the Lymph, and Diſeaſes ariſing from them, in a Lues Venerea itſelf, and a remote and deep-ſeated Corruption of the Humours. See RHODIUM and ASPALATHUS.

The next in Order is the yellow Sanders, which abounds with a fragrant Reſin: This is plain, from the Spirit of Wine drawn off this Wood, which ſmells almoſt like Amber. And if the Extract is made with rectified Spirit of Wine, and the Eſſence drawn off by a gentle Heat, a moſt fragrant oily Liquor remains, of the Conſiſtence of *Peruvian Balſam*. A Decoction of this Wood is highly to be valued on account of its penetrating Reſi See SANTALUM.

Of the *balſamic* Barks, the principal are the Bark of the Saſſ fras-wood, Peruvian-bark, Winter's-bark, that of Caſcarill and the true Coſtus. They are endow'd with a reſinous, *ba ſamic*, and ſubaſtringent Principle, which is not only diſcover from their penetrating Taſte and Smell, but alſo from the high penetrating Oil which theſe Barks yield upon being diſtill with Water.

In the Northern Countries the Juniper-tree is truly of t *balſamic* Kind; for not only its Wood and Leaves, but eſpec ally its Berries, abound with a ſubtile penetrating Oil, whic they yield in great Quantities, when ſubjected to Diſtillation the Worm; and this Oil, when pure and unadulterated, is excellent Strengthener of the Nerves, and powerfully promot a Diſcharge of the Urine, as moſt other *Balſams* do. There alſo a Decoction prepared of the Wood itſelf, which is of ſing lar Uſe in the Cure of the Scurvy. But beſides the Simples ready mentioned of a fragrant Smell, and penetrating Taſt with which Nature has bountifully furniſhed us, Oils alſo the ſame Qualities ought to be ranked among *Balſamics*, or *Ba ſams*: For what elſe are ſubtile ethereal Oils, than liquid Reſin or liquid *Balſams?* For the principal Element, which is t Source of the fragrant Smell, the penetrating Taſte, and hea ing Quality, by which all *Balſams*, whether liquid or ſolid, a is no other than a ſubtile volatile Oil, which being tak away, the Subſtances in which it was lodg'd become effete a uſeleſs.

For this Reaſon it may be aſſerted for Truth, that all th Aromatics which in Diſtillation yield a fragrant and penetrati Oil, ſuch as Cinnamon, Cloves, Nutmegs, Mace, Cardamon Cubebs, Lemon and Orange-peels, are juſtly to be rank among the principal of the *Balſamics*; for this very Rea *Valerius Cordus*, in his Diſpenſatory, orders Oil of Cloves to uſed as a Succedaneum to the *Opobalſamum*, in all the An dotes in which it is ordered for an Ingredient. “There “not,” ſays he, “in our Days, *Opobalſamum*, *Carpobal* “*mum*, and *Xylobalſamum*, to be found, which come up “the true Deſcriptions given us of them. But as we “taught by Experience, that the Oil of Cinnamon and Clo “diſtill'd in our manner, of which the Antients were ignora “are equal in their Virtues to the *true Balſam*; for this R “ſon we have, in our *Theriaca*, ſubſtituted the Oil of Clo “inſtead of the *Opobalſamum*. It would not be improper “ſubſtitute, inſtead of *Carpobalſamum*, Cubebs or Cloves, “Cardamoms, and Aloes-wood, inſtead of the *Xylobalſamum*

Theſe aromatic Oils, then, are ſubtile ſpirituous *Balſams*, o uncommon Virtues and Efficacy, that the other oriental *Balſ* can ſcarce be expected to come up to them; for theſe prod their Effects only by a ſubtile Oil: Neither is it difficult to duce theſe very penetrating and liquid Oils, either to the C ſiſtence of a *Balſam*, or to the Form of a Reſin, provid concentrated acid Spirit, ſuch as Oil of Vitriol, be duly mi with them.

In our own Country there are alſo ſpirituous *Balſams* of Kind, which, both on account of their Virtues and Fragran render it a dubious Point, whether they are not of equal V with the oriental *Balſams*, and aromatic Oils. And theſe *ſams* produced in our own Country are Oils diſtill'd from matic Herbs, of a fragrant Smell, and penetrating Taſte. principal Herbs of this Kind are Roſemary, Lavender, com Spike, Marjoram, common and *Turkiſh* Bawm, Baſil, Mo of Thyme, *Roman* Chamomile, and all the Species of M Water-mint, Coſtmary, Field and Mountain Calamint, c Mint, that Origanum commonly call'd the wild Marjo Theſe Herbs, when duly diſtill'd, yield very fragrant and cacious Oils. But as theſe Oils are rarely to be met with in the Shops, but are adulterated in their Diſtillation with pentine, it happens, that they do not diſcover that Effica which the genuine Sort are poſſeſſed, in corroborating the T of the Nerves, and of the other ſolid Parts. They are conveniently uſed when diſſolved and reduced to Eſſences; *Quercetan*, in the End of his *Pharmacopœia Reſtituta*, theſe remarkable Words concerning them: “In *Germa* “Expedient is lately found for reducing the penetrating “into pure and grateful Eſſences, which preſerve the Co “Smells, and Taſtes, of the particular Oils, without “other Mixture than the *celeſtial Manna* well purified, “extracts the Virtues of theſe Oils, and by its Admi “proves an excellent Corrector to them.” There Doubt but the Menſtruum, ſo highly commended by this thor, is highly rectify'd Spirit of Wine, prepared accordi Art, for a thorough Diſſolution of theſe Oils.

From what has been ſaid, I think it plainly appears, the Vegetable Kingdom ſupplies us with the nobleſt and efficacious *Balſams*, which, when ſkilfully uſed, are of lar Service in curing Diſeaſes, and preſerving Life and H Neither is it, in the laſt Place, to be forgot, that the Plants and Trees, produced by the bountiful Parent human Race, for their Comfort and Preſervation, are

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guiſhed, as it were, by an external Mark or Characteriſtic, expreſſive of their latent and inherent Efficacy againſt Corrup- tion, and conſequently of their *balſamic* Nature; and this Characteriſtic is, that almoſt all of them flouriſh perpetually; and are what we call Ever-greens. We are alſo on this Oc- caſion to inquire, whether Heaven, who in all her Meaſures conſults the Intereſt of Mankind, has not hid *Balſams* for the Preſervation of the human Species under the Earth, and in the Bottom of the Sea. If then we diligently inquire into the Na- tures of the Bodies lodged there, we ſhall find two dry *Bal- ſams* hid under the Earth, and diffus'd thro' the Seas; which ſeem to vie with the other *Balſams* procur'd from the Vege- table Kingdom. Theſe are *Ambergriſe*, which in the Eaſtern Countries is very fine, and had in great Eſteem; and the *Am- ber* produced in Northern Climates. Both of them furniſh us with *balſamic* Medicines, which produce very inſtantaneous and ſpeedy Effects. As for Ambergriſe, it is a moſt fragrant, reſinous Subſtance, the Whole of which is diſſolved in a parti- cular Menſtruum, and reduced to a valuable Eſſence, which is free from all Precipitation or Coagulation of the Ambergriſe. It powerfully reſtores loſt Strength, is of a refreſhing Nature, and by its grateful Exhalations mitigates Pains, and procures ſound and uninterrupted Sleep. It is alſo wonderfully agreeable when mixed with ſpirituous Waters, or Waters impregnated with Sugar. But the *Amber*, which abounds with a ſubtile, fragrant Oil, cloſely ſheath'd up in its viſcid earthy Parts, with Difficulty yields its Oil, when diſtill'd with Water; but requires a ſtrong Fire immediately apply'd to it, to which it at laſt yields, and affords a large Quantity of an empyreumatic Oil, which, when rectify'd, and ſufficiently depurated, may ne- vertheleſs be uſed with great Succeſs in Phyſic. But I know a Method of extracting from Amber a fragrant Oil, without de- ſtroying the Texture of the *Amber*. This Oil is procur'd by eating it with well-calcin'd Salt of Tartar, adding highly ectify'd Spirit of Wine, and ſubjecting the Whole to Diſtilla- ion: Thus a very fragrant Spirit is obtain'd, which is of great ervice in Weakneſs of the Nerves. If we again pour this pirit upon pure *Amber*, mixed with Salt of Tartar, an Eſſence uch more fragrant, and more penetrating, than the common ſſence, riſes on the Top.

Theſe then are the natural *Balſams* known to us, which e certainly fine Preſervatives of Life and Health; and from hich a ſkilful Phyſician may, by a judicious Mixture of other ubſtances prepare the beſt and moſt efficacious Medicines. or this very Reaſon we find the beſt of the *Greek* and *Arabian* hyſicians, mixed their moſt valuable Antidotes with theſe ils, as we ſee in the Diſpenſatory of *Valerius Cordus*, the *armacopœa Auguſtana*, the *Pharmacopœa Schrœderi*, and in veral other Books of a like Nature; and generally almoſt all e above-mentioned *balſamic* Species are made Ingredients in e *Theriaca Andromachi*, and the Mithridate. *Meſue* alſo, d *Nicolaus*, made much Uſe of theſe Species, eſpecially as ordials, as appears from *Meſue*'s Deſcription of Cloves. See the Diſpenſary of *Val. Cordus*, the *Species Diambræ*; the *ecies Cinnamomi* of *Meſue*, the *Species Diaxyloaloes*; the *Aurea Alexandrina* of *Nicolaus*, and the *Species Diacaſtorei*, the ſame Author.

Beſides, theſe *balſamic* Species were with Succeſs join'd by Antients to laxative and purgative Medicines; for they ought, that the violent Strength of Purgatives was unfriendly Nature, and ſtood in need of a Corrector, which might ngthen and corroborate her. For which Reaſon the *Ele- ry* of *Meſue*, (ſee *Cordus*) the *Diaſena* of *Nicolaus*, *Hiera Picra*, the *Hiera Simplex* of *Galen*, the *Pil. de ra Compoſita* of *Nicolaus*; the *Pil. Hieræ Picræ Rhaſis*; *Pil. Aleophanginæ* of *Cordus*, and the *Pil. Lucis majores*, e in their Compoſition a very conſiderable Quantity of the matic, *balſamic* Species. And, not to diſſemble, theſe lax- e and purgative Compoſitions of the Antients, provided y had a ſmaller Quantity of the purgative Ingredients, which y down as a general Caution, but eſpecially of the Aloes, far ſuperior to ours in point of Efficacy. And ſome of the noted Pills invented by later Authors, ſuch as the *Pil. de ino Cratonis*, the *Pil. Catholicæ Poterii*, and the *Pil. erianæ*, which are now ſo much eſteemed and corrected arious manners, would never have gain'd that Reputation now have, unleſs in them a moderate Doſe of the purga- Ingredients, eſpecially of the Aloes, was incorporated with *mic* Gums, and Extracts of Vegetables.

he *balſamic* Species are alſo excellent Correctors to Me- of a ſtupifying and narcotic Quality. For this Reaſon nd, that the Antients always mixed them with Opiates; uſe they imagined, that by their means the cold Qualities Opium, and other Narcotics, were deſtroy'd; and the s, when laid aſleep by them, rouſed and render'd active; undoubtedly the *Pil. de Cynogloſſa* could not be ſo ſafely unleſs the Root of the Hounds-tongue, the Seeds of the e Henbane, and the Extract of Opium, were mixed with h, Olibanum, and Reſin of Storax. Nor would the *de Styrace* be ſo effectual in diſlodging acrid Humours in Coughs and Catarrhs, unleſs they had at the ſame time in their Compoſition *Olibanum*, Reſin of *Storax*, Myrrh, and Amber. The *Pil. Wildeganſii* are by having in their Compoſition a Mixture of the Oil of Cloves, Myrrh, and Aloes, eſteemed far more ſafe than any other Preparations of Opium. The *Ladanum* of *Sydenham*, which is much uſed, not only in *England*, but in other Countries of *Europe*, is not a little corrected by the Addition of theſe aromatic Subſtances, Cinnamon, Nutmegs, Cloves, and Spaniſh Wine. The *Elixir Proprietatis*, invented by *Paracelſus*, and the *Pil. Ruffi*, and *Pil. Avicennæ*, prepared of the ſame *Species*, have retained their Reputation for a great while; becauſe by the Addition of Myrrh, which is of a *balſamic* Nature, and Saffron, the cathartic Violence of the Aloes is much corrected and ſubdued. In the mean time it were to be wiſhed, that all theſe Preparations of the Antients, in which Aloes is an Ingredient, contained a ſmaller Quantity of it; ſince by their ſulphureous and volatile Acrimony, they put the Maſs of Blood and Humours into too ſtrong Commotions; and in hot Conſtitutions often do more Hurt than Good. Beſides, the *Womens Waters*, and *Elixirs of Life*, as they are called, the *Balſama Embryonum*, the ſpirituous apoplectic Waters, the apoplectic Spirits and *Balſams*, and the hot cephalic Waters, which are made up of the beſt *Balſamics*, Aromatics, and cephalic Herbs, which abound with a ſubtile, *balſamic* Oil, do from thence principally derive their Virtue in reſtoring Strength, and corroborating the Tone of the Viſcera and Stomach. But, ſince the Antients Compoſitions of Medicines, on account of their Ignorance of a juſt Phyſical Theory, are, for the moſt part, improper and trifling, becauſe they were not only unacquainted with the true Cauſes of Diſeaſes, but alſo with the Manners in which Medicines operate; hence it is undoubtedly certain, that Medicine being in our Days placed in a fairer and more rational Light, better and more proper Forms of Medicines may be compoſed. Since then *balſamic* Medicines are, as it were, univerſal Strengtheners of Nature, and ſince in every Diſeaſe there is a Neceſſity for comforting Medicines, it will be both profitable and entertaining, on this Occaſion, to give ſome Examples of the Uſe of *Balſamics*.

Firſt, then, *Balſamics* are very properly mixed with evacuating Medicines, not only in order to correct their draſtic Qualities, but that the Force of Nature may be aſſiſted in performing the ſeveral Excretions, and that Strength, which Evacuants generally impair, may be preſerved. For this Reaſon they are very properly mixed with Emetics. Thus I uſe a *balſamic* Emetic Aqua Vitæ, which Patients not only take with Pleaſure, but which produces the deſired Effect; for it operates quickly and eaſily, without doing the leaſt Injury to the Appetite and Stomach. But the following may be uſed as a Succedaneum to it, which conſiſts of ſpirituous Mint-water, and Cinnamon-water diſtill'd with Wine, of each half an Ounce; to which two Grains of emetic Tartar, and one Dram of the *balſamic* Syrup, are to be added. This makes a very agreeable Potion to be taken at one Doſe.

If any one intends to uſe evacuating Pills, which ſhall at the ſame time be poſſeſſed of a corroborating and *balſamic* Quality, he may uſe the following Form.

Take of the Extracts of roſated Aloes, Carduus Benedictus, and Wormwood, each one Dram; of the Extracts of Rhubarb, Ladanum, and Aloes Wood; and of the Powders of Benzoin, of the beſt Myrrh, and of the Bark of Caſcarilla; and of *Peruvian Balſam* and Nitre, each half a Dram. Let theſe be mixed up into a Maſs for Pills, of which one Scruple is ſufficient for a Doſe.

If they are required more acrid, let an Addition be made, either of the *Extractum Panchymagogum* of *Crollius*, or of the Reſin of Jalup, intimately mix'd with Mercurius Dulcis. When the Nature of the Diſeaſe calls for a purgative Infuſion join'd to *Balſamics*, the following is a proper Form.

Take of the fibrous Roots of black Hellebore, of the beſt Rhubarb, and of Zedoary-root, each half an Ounce; of the Troches of Agaric, Cinnamon, Cloves, of the Barks of Saſſafras and Caſcarilla, of Lemon and Orange-peel, each two Drams. To theſe add two Ounces of Currants, and of crude Tartar, and Salt of Tartar, each three Drams. When all theſe are ſufficiently mix'd, and beat ſmall, let one Dram of the Spirit of Sal Ammoniac be ſprinkled upon them. Then let three Pounds of Wine be poured upon the Whole.

If the Patient labours under hypochondriacal Diſorders, Filings of Steel may, with great Advantage, be added in this Formula. *Balſamics* may alſo be very properly mixed with Sudorifics. For this Reaſon the depurated volatile Salt of Hartſhorn, diſtill'd with ſuch an Eſſence of Amber as I have above deſcribed, is of excellent Service in promoting Perſpiration, and provoking Sweat; for hence a moſt penetrating Spirit is produced, which is ſtill meliorated by an Addition of *Peruvian Balſam*. This is ſo valuable a Medicine, that ſcarce any

Sudorific is equal to it. Fifty Drops may be given for a Doſe; but we may venture to go farther, if Circumſtances require it.

If any one intends to boil the *balſamic* reſinous Woods, and procure their Virtues in a liquid Form, let him uſe the following Method.

> Take of the Shavings of the Woods of Sanders, Roſe-wood, Juniper, Saſſafras, and Lignum Vitæ, and of the Root of Sarſaparilla each one Ounce; of the Roots of Burnet and Angelica, of Cinnamon, Cloves, and Shavings of Aloes Wood, each two Drams; Mix theſe ſufficiently together, and boil them in a cloſe ſtopp'd Veſſel.

Many chronical Diſeaſes require a plentiful Diſcharge of Urine; for anſwering which Intention, the following Medicine is of all others moſt proper.

> Mix equal Quantities of the Spirit of Maſtich, the Spirit of *Peruvian Balſam*, acrid Tincture of Antimony, and Spiritus Nitri Dulcis. Of this Mixture, half a Dram may be exhibited with ſingular Advantage.

In Diſorders of the Head and Nerves, it is ſometimes proper to irritate the Noſtrils, in order to extract the Mucus, and excite Sneezing. This Intention is excellently anſwer'd by the following Form.

> Take of the Powder of Marjoram, and Baſil, each one Dram; of true Marum, and Shavings of Aloes Wood, each half a Dram; Flowers of Benzoin, twelve Grains; Eſſence of Amber, ten Drops; Oil of Cloves, four Drops. Mix all together.

It ſometimes happens, that in the Cure of Diſeaſes we are to have a regard to the Patient's Strength; becauſe nothing is more dangerous, or inconſiſtent with Health, than that the Strength ſhould be too much impair'd. For this Purpoſe Analeptics are to be uſed, of which the beſt may be prepared in the following manner.

> Mix in equal Quantities the Spirit of *Peruvian Balſam*, and the Eſſences of Amber and Muſk, prepared with the ſtrongeſt Spirit of Roſes, adding a ſmall Quantity of the Oils of Cinnamon, of Cedar, Bergamot, Turkiſh Bawm, or other Oils of a like Nature.

The Reputation of the *volatile oleous Salts* is very great; and their Efficacy, when judiciouſly uſed, very ſingular. If you deſire to communicate a *balſamic* Quality to them, it may be done in the following manner.

> Mix of the Tincture of Tartar, and of the vinous Spirit of Sal Ammoniac, each an Ounce; add of the Oils of Cedar, Mint, Mace, and Cloves, each ten Drops.

This Medicine is of ſingular Efficacy in ſtrengthening the Stomach, and reſtoring the Tone of the Inteſtines. The ſtomachic Elixir, which that ſkilful Practitioner *Michaelis* at *Leipſic* ſo frequently uſed, was entirely compoſed of *balſamic* Ingredients. For the ſame Reaſon *Balſamics* enter the Compoſition of my *balſamic Elixir*, a Deſcription of which is to be found in *p.* 186. and 882. of my Annotations on *Poterius*; ſince the Publication of which Book it has been received into ſeveral of the Shops of *Germany*. See ELIXIR, and VITÆ BALSAMUM.

It is ſufficiently known how effectual *balſamic* Medicines are in curing the Diſorders of the Glands, and removing thoſe Diſorders which ariſe from their too great Laxity, a Defluxion of Humours upon them, or too copious a Diſcharge of their Contents; for which Reaſon the following Medicines are of ſingular Service in a Gonorrhea and Fluor albus.

> Take of the acrid Tincture of Antimony, of the Eſſences of the *Balſams* of *Meccha*, *Capivi*, *Peru*, and of the Woods, each half an Ounce. Mix all together, and add one Grain of Camphire.

But I muſt here give a Caution, that neither this Elixir, nor any other Medicines of a like Nature, are to be uſed till the Body has been ſufficiently prepared by neceſſary Evacuations. If a Medicine is deſired in a more ſolid Form, let Pills be prepared in the following Manner.

> Take of the *Balſams* of *Capivi* and *Tolu*, of Amber, Maſtich, Olibanum, Japan Earth, Terra Sigillata, Diaphoretic Antimony, and prepared Coral, each one Dram; Oil of Saſſafras, ten Drops.

When theſe are duly mixed, let them be made into Pills with the *balſamic* Syrup. Theſe Pills are ſurpriſingly efficacious in Gonorrheas.

Balſamics are alſo excellent Pectorals, becauſe they remove Obſtructions of the Lungs, promote Expectoration, and wonderfully ſtrengthen the pulmonary Veſicles. For anſwering thi Intention, the following Formula may be preſcribed.

> Take of Benzoin, Myrrh, *Peruvian Balſam*, Saffron, Nutmegs, Tincture of Tartar, Gum Ammoniac, each tw Drams; Oils of Aniſe, Mace, and Fennel, each te Drops; Spirit of Sal Ammoniac may alſo be added a pleaſure.

Nor is it improper to make up *Balſamics* in the Form o Pills, with other Ingredients, againſt an Aſthma. For the Uſ of ſuch as labour under that Diſeaſe. Let the following Formula be an Example of this Kind.

> Take of Gum Ammoniac, the beſt Myrrh, Benzoin, Saffron, *Peruvian Balſam*, and Extract of Elecampane, eac half a Dram: Add of Powder of Millepedes, and depurated Nitre, each one Scruple.

If any one intends to relieve the Pains ariſing from the Ston in the Kidneys or Bladder, he may expect conſiderable Succeſs from *Balſamics*; and for that Purpoſe may exhibit on Dram of the following Powder either in Almond-milk, or i Broth.

> Take of the Flower of Club-moſs, and Seeds of Gromwel of Peach-kernels, of Liquorice-powder, Crabs-eyes, Amber, and Maſtich, each one Dram. Let them be ſprinkle with a few Drops of the Oils of Saſſafras, Mace, and Juniper.

When the Menſes are diſorderly, either in point of Defe or Exceſs; or when frequent Abortions, or Sterility cut o the Proſpect of a hopeful Progeny, the relaxed Tone of t Uterus muſt in theſe Caſes be corroborated, that Nature m be render'd ſufficient for overcoming and eliminating wha ever is noxious, and providing a proper Receptacle for cheriſ ing and bringing to Perfection the Fœtus. This Intentio will, in my Opinion, be excellently anſwer'd by the followi Formula.

> Take of the Herbs Bawm, Coſtmary, Paul's Beton Peny-royal, Yarrow, Roſemary-flowers, Lavender, a Sage, each an Handful; add of Lemon and Orang peel, of the beſt Myrrh and Juniper-berries, each t Drams. Let all theſe be macerated in a proper Quanti of Water, or rather Wine, which ſeems to anſwer t Intention better.

The Phyſician is to judge whether the Patient's Caſe c for the Addition of a Laxative, of which Claſs Rhubarb, a the Leaves of Sena, are the moſt proper.

It now remains, that I ſay ſomething concerning the vul rary *Balſams*, ſince theſe are of incomparable and extenſ Uſe in Wounds of the Inteſtines, and when any of the e ternal Parts are corrupted or deſtroy'd. But I ſhall commu cate to my Reader one, which is of all others the moſt eff cious both for internal and external Purpoſes, and which I p fer to the celebrated Engliſh *Balſam*, which takes its Na from *Locatellus*. It is prepared thus:

> Take of the Eſſences of Myrrh, Amber, Gum Elemi, Sanders, *Balſam* of *Peru* and *Tolu*, each one Ounce; the Oils of St. John's-wort, Yarrow-tops, and Ba mina Mas. From theſe intimately mix'd, we draw the Spirit with a gentle Fire, and what remains we for the Purpoſes, and in the Manner, above ſpecified.

We alſo prepare a vulnerary Eſſence to be uſed externally cleanſing and incarning Wounds. It is made

> Of equal Quantities of the Eſſences of Yarrow, St. Joh wort, Myrrh, Amber, Maſtich, Gum Elemi, *Peru* *Balſam*, and Flowers of Roſes, mix'd together; we ſo times alſo add Honey, which proves an Ingredient of c ſiderable Efficacy.

In how great Eſteem compound *Balſams* were antiently both for internal and external Uſes, appears plainly from C *radus Geſner's Theſaurus de Remediis Secretis*, which pro many excellent *balſamic* Compoſitions, prepar'd of Aroma Reſins, and Gums, of a fragrant Smell, which were hi eſteem'd by the Antients. From that Book it plainly ap that the Time when Chymiſtry began to flouriſh, and be gently cultivated, thoſe *Balſams* were principally in Uſe, were procured by Diſtillation from the nobleſt Ingredients which rectify'd Spirit of Wine and Turpentine were mix ſhall only give one Example of this Kind from *Lully*; tho' the Compoſition wants the Turpentine, yet the the Ingredients are incomparably excellent. It is as follow

Take of Cloves, Nutmegs, Ginger, Zedoary, Galangals, Pepper, Juniper-berries, Lemon-peel, Sage, Baſil, Roſemary, Marjoram, round-leaved Mint, Bay-berries, Penyroyal, Gentian, Calamint, Elder and Roſe-flowers, Biſhops-weed, Spikenard, Aloes-wood, Cubebs, Cardamoms, Cinnamon, Sweet-flag, Stœchas, Germander, Bawm, Maſtich, Hepatic Aloes, Seeds and Flowers of Dill, and Seeds of Mugwort, each an Ounce; all theſe are to be put into three times their Weight of five or ſix times diſtill'd Spirit of Wine, and to be diſtill'd by a ſlow Heat, upon which they yield a pure and precious Water, ſome of the ſurpriſing Effects of which are ſaid to be theſe following.

If it is pour'd into a recent Wound, there is no Occaſion any other Medicine, ſince it will heal it in the Space of a ural Day and an half, at fartheſt, provided it is not mortal. Malignant, old, putrid, and fungous Ulcers, if waſh'd with s Water, are heal'd in a few Days. If the Eye is inflam'd, has a Speck on it, theſe Diſorders are cured in a few Days by pping a little of it into the Eye affected. In Pains, without Ulcer, ariſing from Blows or Falls, let the Part affected be ented with a ſmall Quantity of it, and the Pain will be moved in the Space of three Hours. Its internal Uſe was ſo ighly eſteem'd, that the following ſurpriſing Accounts are en of it: It reſtores Youth to old Men; it recovers Patients hen at the Point of Death, and given over by the Phyſicians: a few Drops of it are drank every Day for a Year, with Boe Flower-water, the Patient ſhall at the Year's-end ſeem to e his Fleſh, Blood, and, in a Word, his whole Body, rew'd. In the above-mentioned Book there are many *Balſams* cellently compoſed, but we are to obſerve, that almoſt all of m have Turpentine for an Ingredient, which affords an Oil mewhat ungrateful to Nature, becauſe by its too great Heat gitates the Blood, and puts it into preternatural Commons; for which Reaſon I am of Opinion, that the Turpene is to be left out of all the *Balſams* and ſpirituous Waters of e Antients.

ſhall here briefly make mention of my own liquid ſpirituous *ſam of Life*, which, on account of its ſurpriſing and efficaus Qualities, has in many Places acquired an uncommon Retion. The Efficacy of this Compoſition conſiſts in a Soluof the pureſt Oils, and unadulterated *Balſams*, mixed in a Proportion; and this Purity of the Ingredients is the Reaſon this *Balſam* is poſſeſs'd of ſuch uncommon Efficacy, as is ely to be met with in any other Medicine whatever. See e BALSAMUM.

now come, in the laſt Place, to deliver my Sentiments cerning the Virtues and Efficacy of what we call *balſamic* dicines. I affirm, then, that theſe are truly univerſal, and tenſive Uſe in Phyſic; and that their Virtues are as great oſe of any other Claſs of Medicines whatever, ſince they uited to all Conſtitutions, eaſily incorporated with all other edies, and exquiſitely calculated for ſubduing and removing ſt all Diſeaſes. *Balſamics* have this peculiar to themſelves, d other Medicines, that they are friendly to the human itution, and conſpire, as it were, and contract an Affinity, it. Of this we may eaſily be convinced, by obſerving, ſpeedily Strength, impair'd by chronical Diſorders, old or any other Accident, is reſtor'd by the timely and ſeale Uſe of *Balſamics*. For this Reaſon no Medicines are ſo al in Faintings, from whatever Cauſe, as *Balſamics*; and, Word, they wonderfully recruit, reſtore, and preſerve hich is the original Source of Life, and imparts Strength, on, and Tone, to the Heart, Arteries, and Nerves, whewe call it Principle, Spirit, Soul, or Nature; for they to be transform'd into the Nature and Genius of that and wonderful Subſtance, which is the Director and of Motion to all our Members; for, in a Syncope, they denly reſtore Motion to the oppreſs'd Heart, purely by Smell, that we cannot enough admire their Efficacy; for the Nature of all Subſtances which abound with a peneand fragrant Oil, that, when uſed either internally or ally, they ſingularly cheriſh and preſerve the Strength of nſtitutions. On the contrary, every thing that is putrid, and the Reverſe of fragrant, is highly prejudicial to th, and the vital Motions, which it ſoon oppreſſes and s; for every Degree of Putrefaction is highly prejudicial , and when it either begins, or is increaſed, in a human the Strength and vital Motions forthwith fail, and are d, as we evidently ſee in Plagues, malignant Fevers, and ations of the internal Parts. For this Reaſon, Remepar'd of *Balſamics* are juſtly ſtyled the *Balſams*, the , and the Spirits of Life, ſince they have ſuch a direct ediate Influence upon it.

then *Balſamics* convey Motion, Strength, and Tone, Parts of the Body, we may eaſily ſee, that theſe Memuſt be ſingularly efficacious in thoſe Diſorders and tions, where the Strength and vital Motions are imr where the Viſcera and other Parts are too much relax'd and deprived of their due and proper Tone. For this Reaſon, they will never fruſtrate the Expectation of the Phyſician, who prudently exhibits them in Weakneſſes of the Brain and Nerves, Imbecillity of the Memory and Senſes, a Palſy of the Members, a Privation of Voice, a Hemiplexy, Inappetencies, Loathings of the Food, Vomitings, Diarrhœas, and Gripings of the Belly; in Caſes where Flatulencies prove uneaſy, in Languors of the whole Body, in Faintings, and in all cold catarrhous Defluxions; in Coughs that are too moiſt, a Coryza, a Fluor Albus, a Gonorrhœa, a moiſt Aſthma; and, in a Word, in all Caſes where the Parts are to be ſtrengthen'd. Then again, as the beſt and moſt valuable *Balſamics* convey Strength and Energy to the ſolid Parts of our Bodies, eſpecially to the Heart and muſcular Fibres, which move and impel our Fluids; hence it follows, that they are the ſureſt and moſt efficacious Preſervatives againſt all Kinds of Diſeaſes, as will ſufficiently appear from the following Conſiderations. As long as the Blood and Humours are quickly and uninterruptedly carried thro' the Ducts and Veſſels of the whole Body, and what is ſuperfluous and recrementitious carried off thro' proper Strainers and Emunctories, ſo long the whole Body, and each particular Part of it, are in a State of Health, and duly perform their reſpective Functions: But as ſoon as this Motion is either diſturb'd or interrupted, in the whole Body, or any of its Parts; or when the neceſſary Secretions are not duly made, a ſure Foundation is, by theſe very Means, laid for Diſeaſes. Now nothing is of more Efficacy for preſerving the vital Circulation of the Humours, and carrying on the neceſſary Buſineſs of Perſpiration, than thoſe Subſtances which ſtrengthen and corroborate the Heart, that principal Part of the Body, with their *balſamic* Qualities. But our noble *Balſamics* are particularly and ſingularly uſeful, as Preſervatives againſt putrid Diſeaſes, and ſuch as are juſtly formidable, on account of their contagious and malignant Natures. For this Reaſon they are uſed, as Preſervatives, with uncommon Succeſs, when epidemical Diſorders rage. They are alſo very properly join'd with Alexipharmics in the above-mention'd Diſorders, becauſe they reſiſt Putrefaction, recruit the Strength, and promote a due Circulation of the Humours: And ſince they ſo powerfully guard againſt Putrefaction, which is ſo prejudicial to Life, they are, for this Reaſon, very properly and ſucceſsfully uſed in the Venereal Diſeaſe, which is truly of a putrid Kind; and in thoſe Scurvies which are the Reſult of an impure Air, and unwholſome Aliments; for the Decoctions, Elixirs, and Eſſences of the Woods, derive their Virtues and Efficacy from the *balſamic* Qualities of the Ingredients: Beſides, *Balſamics*, eſpecially of the fragrant Kind, have this ſingular Advantage attending them, that they becalm the exorbitant Motions of our Fluids, and allay Pain. For this Reaſon, in violent Head-achs, Tooth-achs, and Pains of the Ears, they often afford great Relief, even when only externally apply'd. Neither is it to be forgotten, that *Balſamics* prove excellent Correctors to all the more violent and draſtic Medicines, eſpecially Evacuants and Anodynes; for they remarkably qualify their Virtues by their corroborating Qualities. For this Reaſon, *Balſamics* are very happily join'd with almoſt all evacuant and anodyne Medicines. From all theſe Conſiderations it appears, how proper and efficacious *Balſamics* are, for the Cure of a large Number of Diſeaſes.

But as nothing is, in every reſpect, perfect and complete, as there is no Medicine, however valuable in itſelf, but what produces bad Conſequences, when imprudently exhibited, there is no doubt to be made, but this is alſo the Caſe with *Balſamics*; for when there is in the Body too large a Quantity of hot and fervid Blood, when its Motion is too much accelerated, and the Pulſe quick and vehement, Nature has, in theſe Caſes, more need of a Check than a Stimulus; for which Reaſon we muſt neither attempt to excite nor augment the Motions of the Fluids. Beſides, fragrant Subſtances have this Diſadvantage attending them, that when the Brain, in conſequence of ſome Weakneſs, with Difficulty tranſmits the Blood, and the Veſſels of the Head are become turgid with Humours, they occaſion a greater Derivation of Humours to it; and ſometimes increaſe the Pains, Torpors, Vertigoes, and Oppreſſions of the Senſes. I muſt here add, that Phyſicians have not as yet ſufficiently diſcover'd the Virtues and Efficacy of *Balſamics* in the Practice of Medicine; ſince they are far more powerful and efficacious than is commonly believed. The ſpirituous *Balſams*, which are commonly ſold, and which ought to be made of the pureſt ethereal aromatic and cephalic Oils, are, for the moſt part, ſophiſticated and adulterated; ſo that Phyſicians have no Reaſon to be ſurpriſed, if they do not produce the Effects they would do, if they were pure and genuine. I muſt, in the laſt place, obſerve, that Phyſicians are very faulty in drowning, as it were, *Balſamics* in ſpirituous Liquors; ſince they almoſt always either mix them with Spirit of Wine, or join them with it by Diſtillation; by which means the Virtues of the *Balſamic* are infringed, and it aſſumes a violently hot Nature. The more, then, their genuine Natures are retain'd, the more efficacious and uſeful they are. *Hoffman.*

Beſides the Balſams already mention'd, ſome others, which are very ſcarce, and rarely to be met with, are mention'd by Writers on the *Materia Medica*. Amongſt theſe, is the

BALSAMUM IPECUEBÆ, which is drawn from the *Becuiba Nux*; and, in *Braſil*, is much eſteem'd in rheumatic and paralytic Caſes. *Geoffroy*.

The *Index Medicamentorum* alſo takes Notice of a *Balſam* call'd BALSAMUM THOMÆUM; and of another call'd BALSAMUM VIRIDE, or OLEUM MARIÆ.

There has, of late, been imported from *New England* an excellent liquid *Balſam*, which, by its Fragrance, and whole Appearance, ſhould not be inferior to many of thoſe above deſcribed. I don't know, that it has yet obtain'd any particular Name. This has been frequently ſold to the Apothecaries for the true *Opobalſamum*.

A Mineral BALSAM *in* ALSATIA.

In the Valley call'd *Liberthal*, near *Geeſbach*, (an antient Mine-work in *Alſatia*) there runs out of a Cavern a foul, pinguous, oily Liquor, which affords an excellent *Balſam*, by taking a Quantity of it, and putting it in an Earthen Pot well luted, that no Steam may exhale; and then with a gentle Fire at firſt, but a ſtronger afterwards, boiling it for three Hours together; in which Space it will boil in a fourth Part, and an Earthen Matter, like Pitch, will ſettle itſelf at the Bottom; but on the Top thereof, when cold, there will ſwim a pinguous Subſtance, like Linſeed-oil, limpid and ſomewhat yellowiſh, which is to be decanted from the thick Sediment, and then gently diſtill'd in an Alembic in a Sand-heat; by which means there will come over two differing Liquors, one phlegmatic, the other oily, which latter, ſwimming on the Phlegm, is to be ſever'd from it. The Phlegm is uſed as an excellent Reſiſter and Curer of all the Putrefactions of the Lungs and Liver; and it heals all foul Wounds and Ulcers. The oily Part, being diluted with double its Quantity of diſtill'd Vinegar, and brought three times over the Helm, yields a rare *Balſam* againſt all inward and outward Corruptions, ſtinking Ulcers, hereditary Scurfs and Scabs. 'Tis alſo much uſed againſt Apoplexies, Palſies, Conſumptions, Giddineſſes, and Head-achs. Inwardly they take it, with Succory-water, againſt all Corruptions of the Lungs. It is a kind of *Petroleum*, and contains no other mineral Juice but that of Sulphur, which ſeems to be thus diſtill'd by Nature under Ground; the Diſtillation of an Oil out of Sulphur, by Art, not being ſo eaſy to perform. *Philoſophical Tranſactions*.

A Mineral BALSAM *in* ITALY.

In the Territory of *Pergamo*, *Sig. M. Ant. Caſtagna*, upon the Confines of his Juriſdiction, lighted accidentally upon a not ordinary ſweet *balſamic* Scent; which directed him to a rocky Hill, where he found the Stones harbour'd that Fragrancy, which was ſo ſtrong, and, by Trials, found ſo friendly to the Uterus, that, being applied, they did, in a very ſhort time, cure it of any Evil 'tis ſubject to. Encouraged hereby, he made his Workmen dig into the very Bowels of the Hill, where he diſcover'd Holes in ſome Stones, as if excavated by Art, of a greeniſh Colour, in which he found, as diſtill'd by Nature, and kept in Veſſels, that Liquor and *Balſam* which proved the Source of that Scent, which was limpid, and of a white Colour, like the White of an Egg, but ſomewhat oleaginous, floating upon all ſorts of Liquors like Oil. Beſides, he met in the ſame Cavities ſome ſmall Grains concreted of the ſame Liquor, reſembling that which they call white Amber, which, being chymically diſtill'd, had the ſame Odour with the *Balſam*. *Phil. Tranſ.*

BALSAMUM DE CHILI.

I have more than once, in this Work, mention'd the *Balſam* of *Chili*, particularly in Quotations from *Muſgrave* and *Hoffman*. The Importance of theſe Authors renders it neceſſary to inquire what this *Balſam* is, or rather whether there is any ſuch thing. Upon the beſt Information I can get, then, it appears, that there is no ſuch thing known either in *England* or *Spain*; from whence we may reaſonably conclude, that all the other Parts of *Europe* are Strangers to it. The only Author I have met with, who affirms its Exiſtence, is *Salmon*, who, in his *Polygraphice*, recommends it as a ſort of univerſal Panacea.

There is, ſays he, lately brought from *Chili*, a Province in *America*, a moſt excellent natural *Balſam*, differing (but not much) from thoſe of *Peru* and *Tolu*, but no ways inferior in Virtues and Excellency, as the ſeveral Experiments lately made of it, by ſeveral learned Phyſicians, in the curing of Diſeaſes, have given evident Demonſtration.

It is a Remedy that no Man under the Sun can compoſe, being a natural *Balſam*, diſtilling from a Tree in *Chili*, bearing a Leaf ſomething differing from an Olive-leaf. It is, without doubt, the moſt precious of all natural *Balſams*, by reaſon of its great Virtues, and admirable Odour, excelling all others, even the moſt fragrant.

The Merchant that has brought it over, has only entruſted
to be ſold with Mr. *Thomas Paſſenger*, at the *Three Bibles*
London-bridge, where it may always be had in any Quantit
ready put up in Glaſſes, ſeal'd with the *Balſam-tree*, Pri
twenty-four Shillings the Pound, or eighteen Pence
Ounce. *Salmon*.

Upon the ſtricteſt Inquiry, I have the ſtrongeſt Reaſons
believe all this to be utterly falſe; for I am well inform'd, th
this *Balſam* is factitious, and that it was made in the Perſo
Houſe who ſold it, by his Cook-maid. *Salmon* therefore
deceived; or elſe, for particular Reaſons relative to his o
Intereſt, impoſed this Falſhood on the World; a thing not
uſual in theſe Days, wherein the noble Art of Medicine is p
ſtituted to the meaneſt Ends.

When we deſign to extract a large Quantity of *Balſam*
any Kind, we, for that Purpoſe, make Choice of the ſm
Branches of ſuch Trees as yield it, when they are moſt fi
with Sap; for at that time they yield more than at oth
Then we ſoak and boil them in Water, to occaſion a Separat
of the moſt fluid of the reſinous Parts, which we gather off
Surface of the Water. This is the Method of preparing ſo
liquid *Balſams*: And this ſame Courſe might alſo be taken
extracting the Reſin from our Firs and Pines, if Inciſion
not ſufficient for that Purpoſe. *Geoffroy, Mem. A.* 1721.

BALSAMUM ALBUM.

What the Chymiſts call by this Name is equal Parts of Vi
gar of Lead, evaporated to the Conſiſtence of Honey, an
Oil of Roſes. This is in ſome Reputation, amongſt the S
geons, as a Drier.

BALSAMUM ANODYNUM BATÆI: Bates's *Anodyne Balſa*

Take of *Caſtile* Soap, an Ounce; of Opium, half an Ou
of Camphire, ſix Drams; of Saffron, a Dram; an
rectified Spirit of Wine, eighteen Ounces: Digeſt t
together for ten Days; then ſtrain off the *Balſam*.

This is much like a Preſcription of *Horſtius*, which he g
by the Name of *Balſamum Antipodagricum*. It is a moſt e
lent Medicine, not only for procuring Eaſe in the moſt rac
Extremities of Pains, but for aſſiſting likewiſe in the Diſch
of ſuch Humours as occaſion thoſe Pains. In nervous Coli
is of great Service; and it cleanſes all the Viſcera, and gla
lar Parts. It is good even in the Jaundice, and ſuch Di
pers of the Urinary Paſſages as proceed from Obſtructio
Gravel, or ſlimy Humours. But its greateſt Excellence
allaying the Tortures of the Gout, promoting the Tranſ
tion of the peccant irritating Matter, and carrying off the
inſomuch that, with a few proper Helps, this Diſtemp
hardly ſo obſtinate in any Perſon whatſoever, but he may
with great Relief, if not a thorough Riddance from it. In
ly it may be given from twenty Drops to fifty at a Doſe;
being outwardly applied to the pain'd Part, it does mighty
vice, a Rag being dipp'd in it, and laid thereon. *Q*
Diſpenſatory.

Bateman's *Pectoral Drops* are imitated from this.
the only Difference to be, that *Bateman*'s *Drops* have
Proportion of the Spirit, and conſequently, being not ſo f
may be given in larger Doſes; and that they have an Ad
made to them of Aniſeeds.

BALSAMUM ANODYNUM, VULGO GUIDONIS: *An*
Balſam, commonly call'd *Guido*'s *Balſam*.

Take of Hepatic Aloes, Gum Ammoniac, Bdellium, C
na, Caſtor, Galbanum, Labdanum, Myrrh, *Bal*
Peru, Olibanum, Amber, Tacamahac, and ſolid S
each half an Ounce: Reduce the Ingredients, cap
it, to Powder; then add the full Weight of them
Venice Turpentine: Put the Whole into a Retort, w
they may fill but two Thirds, and diſtil it according
Rules of Art; obſerving dexterouſly to ſeparate t
Oil, or *Balſam*, from the Liquor that floats above

If the Diſtillation be perform'd in an Alembic, with t
dition of four times the whole Quantity of Spring-wat
Balſam will be obtain'd free from any empyreumatical I
ſion. *Edinburgh Diſpenſatory*.

BALSAMUM SIVE SPIRITUS EMBRYONUM.

Take three Capons without the Fat, beat and cu
ſmall; add of Dates, one Pound; Raiſins of the S
Pound and an half; Baum, four Handfuls; A
Marjoram, and Chervil, each three Handfuls;
ſeeds, half an Ounce; Fennel, Angelica, and
peel, each three Ounces; Citron-peel, Piony-r
Borrage, each four Ounces; Angelica, one O
an half; Saffron, five Drams; Conſerve of the
of Borrage, Clove-gilly-flowers, and Marjoram,
Ounces; *Spaniſh* Wine, thirty-two Pounds:
Dryneſs. With this Water, together with one

the Spirit of Clary, Black-cherry and Baum-water, each three Pounds; Borrage-water, four Pounds; blanch'd Almonds, one Pound and a half; make an Emulſion: To which add, of the Conſerve of Piony-flowers, ſix Ounces; of Borrage, and Clove-gilly-flowers, each four Ounces; Flowers of Violets, Cowſlips, *ſingle Clove-gilly-flowers*; red Roſe-flowers, and Marygold-flowers, each four Handfuls; Aloes-wood, three Drams; yellow Saunders, two Drams and an half; Cinnamon, eight Ounces; Aromaticum Roſatum, one Ounce: Diſtil according to Art.

This Medicine is given with great Succeſs to Women who e ſuffer'd frequent Abortions; as alſo to Women big with ild, when they languiſh in conſequence of a ſudden Fright, from any external Cauſe. In theſe it alſo cures Lipothymies, ntings, and Inflations of the Belly; ſtrengthens the Fœtus, n weakly; corroborates the Ligaments of the Uterus; pre- s the Epilepſy; and aſſiſts Sanguification. The Doſe two, ee, or more Spoonfuls, as the Circumſtances of the Caſe uires. *Pharmacopœa Bateana*.

ALSAMUM GENEVIEVÆ, *or* Genevieve's *internal and external Balſam*.

Take three Pounds of Oil of Olives; of Roſe-water, one Gallon; of new Wax, half a Pound; of *Venice* Turpentine, one Pound; and of the Powder of red Saunders, two Ounces. Boil the Whole in a new Earthen Veſſel, with three Gallons of red Wine. After it has boil'd for half an Hour take the Veſſel off the Fire, and allow it to cool; then ſeparate the Balſam from the Wine, and the Powders which remain at the Bottom of the Veſſel.

his Balſam is uſed for Wounds of all Kinds, whether they trate into the Cavities of the Body or not; for gangrenous rs, Rheumatiſms, all Pains, even thoſe which are inter- ſuch as the Pleuriſy, the Colic, and Head-ach. The nt is to anoint the Part affected with ſome of it warmed, take two Drams of it internally. It is alſo uſed againſt all s of malignant Fevers, and the Bites of poiſonous Ani-

hen Wounds happen to penetrate into the Cavities of the , ſome of this Ointment muſt be ſyringed into them; and of it muſt be exhibited internally in Veal, Capon, or any Broth; or even in vulnerary Waters or Ptiſans.

t what effectually proves the Efficacy of this Balſam, and , probably, firſt procured it that uncommon Eſteem in it is now univerſally held, is a Cure related by Mr. rney the younger, in the Memoirs of the Royal Academy ences in *Paris* for 1702. which, on account of the un- on Circumſtances attending it, we ſhall here inſert.

St. Thomas's Eve, in the Year 1701. a Man of forty ty-two Years of Age, and of a good Conſtitution, hap- to receive a Wound with a Sword in the inferior and al Part of the Middle of his Right Arm. The Wound liquely upwards into the Muſcles for about four or five s Breadth. The Blood flowed from the Orifice with un- on Impetuoſity, which ſoon brought the Patient to a very and feeble State. In this Condition he was carried to the urgeon that could poſſibly be found; the Artery, in the time, being ſecured with a Compreſs, and pretty tight Li- apply'd above his Elbow. But the Patient, recovering ength a little, was conveyed to his own Houſe, where the of the Wound being opened, Lint drenched in aſtrin- iquors was conveyed to its very Bottom; then the Ori- s carefully covered up, and the Dreſſings ſecured by Bandage. The Patient had ſome Blood taken from nd was reduced to weak Broths and Ptiſan. The Wound t dreſſed till forty-eight Hours after, when all the Dreſ- ere removed to the very Pledget, with a View to moiſten and the Bandages, which were again applied with the are they had been in the firſt Dreſſing. This Method moſt without any Variation, perſiſted in till the Eve of *Genevieve*; at which time the Blood flowed in great from the Wound. For this Reaſon, a ſmall Inciſion de afreſh, and the Wound dreſſed almoſt in the ſame as at firſt; though at the ſame time the Patient per- that the fore Part of his Arm had changed its Colour, without any concomitant Pain; his Fever was of the ed and burning Kind; and his Inquietude and Want very great. At laſt, on *Saint Genevieve*'s Day, we hat not only the fore Part of the Arm was gangrened, the Putrefaction had ſpread itſelf to the internal Part rm. The Patient, and thoſe who were preſent, being ith Terror at this Diſcovery, demanded a Conſulta- nd for that Purpoſe made Choice of three Surgeons, ccuſtomed to inſpect Caſes of a dangerous Nature. amining the Patient, and taking a careful View of his , they found not only the fore Part of the Arm entire- erous, but alſo its internal Part in the ſame Condition the Arm-pit. The Bone, in the mean time, was laid bare by the Putrefaction for about three or four Fingers Breadth from the Arm-pit. The Progreſs of the Mortification, the Fever accompanied with Oppreſſion, the livid Colour of the Patient's Complexion, his ſmall and tremulous Pulſe, were Circumſtances, which determined us to wait till we ſhould ſee in which manner Nature herſelf would operate; and, in the mean time, to uſe both internally and externally ſuch Medicines as could either ſupport his Strength, or procure his Eaſe.

The ſame Day, however, a Woman of the Name of *Genevieve* preſented herſelf, and offered to cure the Patient; upon which, the two Surgeons, who were treating him, committed him to her Care. Accordingly, *Genevieve* began her Cure by rubbing the whole Arm, and particularly the fore Arm, whether cadaverous or not, with the above-mentioned *Balſam*. Then ſhe wrapt the Whole up in Cloths, which ſhe ſecured with Pins till Night, when ſhe dreſſed the Patient again in the ſame manner.. In the mean time ſhe ordered him nouriſhing Food, and rich Wine. Twenty-four Hours after theſe Meaſures were taken, a Suppuration began to appear. *Genevieve*, in the mean time, continued to dreſs the Patient in the ſame manner; the Wound aſſumed a more and more beautiful Appearance after each Dreſſing, and the mortified Fleſh ſeparated eaſily, and adhered to the Cloths, or ſoft coarſe Paper, which ſhe often uſed for Dreſſings. It was propoſed to *Genevieve* to have the mortified Part of the fore Arm ſeparated at the Joint, not only becauſe of its ſtrong and diſagreeable Smell, but becauſe it was already almoſt ſeparated by the Mortification; but ſhe refuſed to comply with the Propoſal, and ſaid, It was not neceſſary to take any Meaſures at all with regard to it, ſince her Remedy would ſufficiently anſwer all the Intentions they could poſſibly propoſe by ſuch a Step.

At laſt all the fore Part of the Arm was entirely ſeparated at the Joint from the Arm itſelf, ſix Weeks after *Genevieve* undertook the Cure; after which, ſhe continued to apply her Ointment to the uncovered Bone, and all the reſt of the Arm, without having any manner of regard to the Filth which came from between the Bone and the Fleſh, or to any other Circumſtance whatever. The Conſequences however of her Conduct were ſufficiently happy; for about a Month after the Separation of the fore Part of the Arm, the Part of the Bone which had by that means been laid bare, exfoliated, and was entirely ſeparated from the Remainder of the ſound Bone. Before this Separation happened, we were at a Loſs to conjecture what would be the Fate of this large Portion of Bone, and of the Shreds of Fleſh and Skin remaining on the back Part of the Arm; we alſo dreaded an Hæmorrhage: However, none of theſe Suſpicions diſconcerted *Genevieve* in her Meaſures; ſhe continued her ordinary Dreſſings, the Conſequence of which was, that the remaining Fibres poured forth a nouriſhing Juice, and lengthened themſelves ſo as to cover the Extremity of the Bone, and form a very natural and beautiful Stump.

All this was tranſacted, and the Cure completed, in the Space of four Months, without the Patient's being ſo much as once attacked with a Fever, or any other Diſorder. He was twice purged during the Courſe of the Cure, and at preſent enjoys a perfect State of Health.

REFLECTIONS.

We have Reaſon to believe, that the Mortification was occaſioned by the manner of Dreſſing the Patient at firſt; for, beſides the too tight Ligature on the Wound itſelf, there was alſo a Compreſs ſtrongly applied, all along the Artery as far as the Arm-pit; ſo that the nutritive Juice was intercepted from the fore Arm, and the Parts were compreſſed by the Bandage. This Inconveniency may be ſhunned by tying the wounded Veſſel, when 'tis poſſible, by uſing the Bandage for the Aneuryſm, which is a ſort of Truſs, or by applying to the Orifice of the Veſſel a Piece of a particular Species of Match uſed in *Germany*, and made of Hemp, or that Species of Muſhroom called *Lycoperdon*, either boiled or not boiled; but when the two laſt-mentioned Remedies are uſed, we muſt take care to ſecure them till they adhere to the wounded Veſſel, and then dreſs with unripp'd Match, or abſorbent and balſamic Powders, remembering in both Caſes to preſerve the Circulation in the Part affected.

The great Hæmorrhage, four liberal Veneſections, and a very ſtrict Regimen, had not only exhauſted, but impoveriſhed the Maſs of the Patient's Blood; ſo that being deſtitute of its unctuous and chylous Parts, it could neither recruit itſelf, nor ſupply a proper Matter for invigorating the wounded Part. Theſe Circumſtances contributed, at once, to bring on the Fever, and augment the Mortification; ſince the Indiſpoſition remain'd unallay'd and uncorrected by proper Means. Accordingly, as ſoon as the Patient began to live upon nouriſhing Aliments, his State of Health became better, the Progreſs of the Mortification ſtopped, and the unmortified State of the Parts began to diſcover itſelf by a Diſcharge of Matter, which ſeparated between the ſound and mortified Parts. We have Reaſon to ſuſpect, that the Veſſels had been in a manner cauterized, and blocked up by corroſive Juices, juſt as they would have been by the Application of common Cauſtics, or Ligatures; ſince the Artery did not diſcharge its Contents in the time of the Suppuration, though no Applications were uſed to prevent it; though it was ſo near its Trunk, and though the Patient lived upon nouriſhing Aliments, and rich Wine. The agreeable and inſenſible Manner in which the Suppuration, and conſequent Separation of the mortified from the ſound Parts was carried on, afforded Time for the Artery to repair and fortify itſelf; from which we may learn, that 'tis always improper to haſten the Separation of an Eſchar, or too ſoon remove Ligatures from the Veſſels to which they have been applied. On the contrary, we ought to uſe ſuch Medicines as are capable of abſorbing the Humidity of the Parts, that thus the Ligature or Eſchar may remain the longer, and by that means afford an Opportunity to the Fleſh and Veſſels to ſprout out, to unite themſelves, and make a joint Reſiſtance to the Impulſe of the Blood.

We are by this Caſe alſo taught, that moſt of the Meaſures ordinarily taken to bring on the Exfoliation of Bones, either in Whole or in Part, are often uſeleſs, if not hurtful; ſince that is properly the Work of Nature. The great Secret in this Caſe conſiſts in preſerving the natural Heat of the Part, and in augmenting it when it is too faint and languid; both of which are often done with little Trouble, and in a ſhort time, as appears by the foregoing Caſe, where both were eaſily effected notwithſtanding the bad State of the Arm, and the ſmall Quantity of Fleſh, that remained on it. On this Occaſion, for Inſtance, the Rugine, the Trepan, and the Application of Cauſtics, had been entirely uſeleſs; and even though the Bone had been ſawed off upon the Separation of the mortified Fleſh, the Patient would not have been the ſooner cured by that Step; on the contrary, the Exfoliation would have been evidently retarded, and the Elongation and Sprouting out of the Fibres entirely prevented.

I have ſeen ſome Surgeons wait in vain for the Exfoliation of ſome Part of a Bone, for ſeven or eight Months, and even for a whole Year, notwithſtanding the Uſe of dry Lint, Spirits of Wine, Cauſtics, and the Rugine; whilſt others, who followed a different Courſe, happily produced the deſired Effect in a much ſhorter Time.

Balsamum Lucatelli: *Lucatellus's Balſam.*

Take of the beſt yellow Wax, one Pound; melt it over a moderate Heat, in a like Quantity of *Canary*: Then add of the beſt Oil of Olives, and *Venice* Turpentine, waſh'd to a Whiteneſs in Roſe-water, each one Pound and a half. Boil them by a gentle Fire, till the Wine is evaporated; then removing it off, ſift in of red Saunders in fine Powder, two Ounces; ſtirring the Whole about continually, till it is quite cold, that it may become a *Balſam.*

This is but a modern Preſcription, ſo that the College had it not at firſt. It is uſed however very much in the preſent Practice, both for internal and external Uſes. *Quincy's London Diſpenſat.*

This was very unſkilfully directed; for the melting the Wax in *Canary* can anſwer no End, unleſs to ſuch whoſe Opinions of a Medicine are in proportion to the Trouble of making it; nor does the Waſhing the Turpentine with Roſe-water avail any thing. If therefore the Materials are all good in their Kind, as ſoon as the Wax and Turpentine are melted, let the Saunders be ſtirred in without any boiling at all. But even this way, which the Shops are obliged to comply with, becauſe the Phyſician would not elſe know what he preſcribes, the Saunders is a very injudicious Ingredient; for it cannot anſwer any End as a *Balſamic*, neither in internal nor external Uſe; and if it be put in for the Colour-ſake only, this might much better be done by boiling Dragon's-blood for ſome time in the Oil, with a ſufficient Quantity of Water to keep it from burning; for with that it might be brought up to any Degree of Colour, and to a much more elegant Red than the Saunders will give. And when the Oil is tinged, ſtrain it off, mix the Wax and Turpentine with it, and all is finiſhed; and this way it is made in ſome of our Hoſpitals. By this means the Medicine is not clogged with Duſt to give it a Colour, and is therefore much better for all the Purpoſes it ſeems originally deſigned for. This Compoſition ſtands recommended for an internal Vulnerary, and is preſcribed in ſuch Coughs as give Suſpicion of Tubercles and Ulcerations in the Lungs; and alſo in all internal Decays from the like Cauſes, whether the Seat be in the Breaſt, or any other Part. It is given likewiſe upon accidental Bruiſes, and inward Bleeding. Externally it is uſed to deterge and incarnate green Wounds and Ulcers, that are not of too long Standing; but in the latter Intentions, the Saunders is a vaſt Prejudice to it, and helps to foul a Wound more than to cleanſe and heal it. Inwardly it is given from one Dram to two Drams at a time, either mixed with a little Sugar, or pleaſant Conſerve. *Quincy's Diſpenſat.*

The Edinburgh *Diſpenſatory gives this Preparation different fr*
that of the College.

Take of the beſt Oil of Olives, a Pint and an half; of *C*
nary Wine, a Pint; of Dragon's-blood reduced to Po
der, an Ounce; boil them together over a gentle Fire,
the Wine is conſumed; then add of yellow Wax,
Pound; of *Venice* Turpentine, a Pound and an half;
of Balſam of *Peru*, two Ounces: Mix them togeth
by boiling them a little; but add not the Balſam of *P*
before the Veſſel is removed from the Fire.

The ſubſtituting Dragon's-blood for red Saunders alters
Medicine conſiderably for the better, as it improves its Colo
and adds to its *balſamic* Virtues; both which Ends are very
differently anſwered by the Saunders. But if the Colour w
to be primarily regarded, nothing gives a more beautiful
to Oil that Alkanet-roots, infuſed warm therein.

Balsamum Polychrestum: *A Balſam of many Virtu*

Take two Pints and an half of Spirit of Wine, infuſe i
with a gentle Heat, and after ſtirring it, twelve Oun
of Gum Guaicum; and laſtly, add one Spoonful of *Pe*
vian Balſam; ſo that the Whole may mix together i
a Balſam.

This is but a very modern Preſcription, and lately receiv'd
the College; but here it differs from their former Edition,
rejecting the Sarſaparilla, and increaſing the Gum Guaiacu
which is certainly much to the Advantage of the Medic
becauſe its Virtue wholly conſiſts in the two Ingredients
retained, the Sarſaparilla affording nothing to the main In
tion, which is greatly to warm the Nerves, and refreſh
Spirits.

This is an efficacious Remedy for many good Purpoſes;
particularly to warm and defend the Nerves from thoſe Defl
ons which prejudice their Motions; and when they prove
ſaline tartarous kind, make the Gout in the Joints. To
ſerve againſt this laſt-named Diſtemper, there is not a be
Medicine, conſidering the Conveniencies of making and ta
it. It will likewiſe anſwer all the Ends that are aimed at
the Wood Diet-drinks; it dries up, or diſſipates by inſen
Tranſpiration, all ſuperfluous Moiſtures, is good in all V
real and ſcrophulous Caſes, and very certainly wears off an
Gleet, where the Virulence has been previouſly removed.
will change an aqueous Vehicle milky, but may convenie
enough be given in any Liquor, and it is uſually taken
ten to thirty Drops, two or three times a Day. It is ſo
what ſtrange, that this Medicine is almoſt neglected in a r
lar Practice, and yet made a great deal of, both as to P
and Reputation, by Empirics, with ſome of whom it has
pretended a Family Secret, as the *Elixir Salutis*, that is, *D*
Elixir, and ſome others, which are firſt ſtolen from ſome
ſical Writers. *Quincy's Diſpenſat.*

Balsamum contra Rheumatismum: Or, *Bal*
againſt the Rheumatiſm.

Take of Roſin, and of *Burgundy* Pitch, each half a Po
Shoe-makers Wax, two Ounces; yellow Wax,
Ounces; *Venice* Turpentine, two Ounces; new
Lard without Salt, and freſh Butter, each a Pound;
ſence of Roſemary, three or four Spoonfuls: Mix,
make a Balſam according to Art.

This Balſam was communicated to Mr. *Duverne*
younger, as a great Secret, under the Title of *A Balſa*
Rheumatiſms, Gun-ſhot Wounds, Ulcers with Caries, and oth

Before uſing it, the Wound, or Ulcer, muſt be waſhed
warm Wine; then the Balſam muſt be warmed in a
and ſome of it muſt be poured into the Wound or Ulcer a
as the Patient can bear it; then put coarſe ſoft Paper ov
and wrap it up with a linen Cloth. *Memoire de l'Acad*
1702.

Balsamum Samaritanum: *The Samaritan Balſa*

Take equal Parts of Wine and Oil, and boil them ti
Wine is conſumed. This takes its Name from the
Samaritan of the Scriptures, and is eſteemed for cle
and healing Wounds.

Balsamum Sulphuris Anisatum: *Balſam of Su*
with Oil of Aniſeed.

This is prepared in the ſame manner, with Oil of Aniſee
the Balſamum Sulphuris Terebinthinatum is with
Turpentine.

Balsamum Sulphuris Crassum: *Thick Balſam of Sulphur.*

Take of Linſeed Oil, or Oil of Olives, a Pound; of Flowers of Sulphur, four Ounces; and boil them together over a ſoft Fire to the Conſiſtence of a Balſam; keeping the Matter continually ſtirring. *Edinburgh Diſpenſatory.*

Balsamum Terebinthinæ: *Balſam of Turpentine.*

Take of the beſt Reſin, and Sand, each equal Quantities; mix them together, ſo that they may be diſtilled in a ſlow Sand-heat; firſt the Phlegm, then the Oil, and laſtly, upon raiſing the Fire, and changing the Receiver, the Balſam will come over.

The Sand is of no other Effect than to divide the Reſin, and acilitate its Riſing in the Retort. *Quincy's London Diſpenſa-* ry.

Balsamum Viride: *The Green Balſam.*

Take of Linſeed Oil, half a Pint; of Gum Elemi, two Ounces; of Verdegriſe in Powder, two Drams; mix and boil them together over a gentle Heat, ſo as to make them into an Ointment, *S. A.*

This is a very modern Contrivance, and is much uſed by our urgeons in ſome particular Dreſſings. *Quincy's London Diſ- nſatory.*

The *Edinburgh* Diſpenſatory directs this ſomewhat different, follows:

Take of Linſeed Oil, and Oil of Turpentine, each a Pound; Of Verdegriſe reduced to Powder, three Drams; and boil them together, keeping the Mixture ſtirring, ſo as to diſſolve the Verdegriſe.

Balsamum Viride Detersivum: *The Green deterſive Balſam.*

Take of Linſeed Oil, and Oil of Turpentine, each one Pound; of Gum Elemi, Oil of Bays, and the beſt Turpentine, each four Ounces; Powder of Verdegriſe, one Ounce; mix and melt all together over a gentle Heat, continually ſtirring all the while, ſo as to make them into a Balſam, *S. A.*

This is ſaid to be greatly valued in the preſent Practice ongſt our Surgeons as a Detergent. *Quincy's London Diſp.*

Balsamum Viride Metensium: Seu Dominæ Foeuillet.

Take of the expreſſed Oils of Linſeed, and Olives of each one Pound; Oil of Bays, one Ounce; of *Venice* Turpentine, two Ounces; melt them upon a very gentle Fire, and when they are cold, mix with them diſtill'd Oil of Juniper-berries, half an Ounce; Verdegriſe, three Drams; Succotrine Aloes, two Drams; white Vitriol, a Dram and an half; Oil of Cloves, one Dram; make a Balſam, *S. A.*

REMARKS.

he Vitriol, the Aloes, and Verdegriſe, muſt be powder'd ſeparately very fine; and the Turpentine, Oil of Olives, of Linſeed, and Bays, muſt be mix'd together over a gentle Fire; when the Mixture is half cold, incorporate exactly the Powders, ſtirring the Matter ſome time with a Spatula; after wards add the diſtilled Oils of Juniper-berries and Cloves, making them all into a Balſam, which muſt be kept in a Veſſel well ſtopped.

s proper to cleanſe Wounds and Ulcers, to incarn and cicatrize them; for the Bites of venomous Animals, they heat it, and put it into Wounds with the Feather of a Quill, or a Pledget of Lint, and apply upon it the *Styptic Plaiſter of Crollius.*

his Balſam was firſt invented by Monſieur *Duclos*, a Phyſician at *Metz*: Madame *Fœuillet* uſed it at *Paris*, and had it called by her Name. *Lemery's Phar. Univerſ.*

alsamum Viride Vulnerarium: *The Green Vulnerary Balſam.*

Take of Linſeed Oil, one Pound and an half; Turpentine, twelve Ounces; of the Leaves of Adders-tongue, gathered in the Month of *May*, ſix Handfuls; mix, and infuſe theſe warm together; then boil them till the Leaves are criſp. Preſs out the Oil, and add to it of Gum Elemi, four Ounces; of Oil of Bays newly extracted, two Ounces; of the beſt Turpentine, one Ounce; of the Flowers of Verdegriſe, two Drams. Let them all melt over a gentle Fire, continually ſtirring them about to facilitate their Mixture; then ſtrain again, and let the Whole cool into a Balſam. *Quincy's London Diſpenſat.*

There are many Sorts of artificial Balſams of Sulphur, which have acquired great Reputation in Medicine. The Methods of preparing them are as follows:

Balsam *of* Sulphur *with expreſſed* Oils.

To a Quantity of any expreſſed vegetable Oil, contained in a glazed Veſſel, ſet over the Fire, add a fourth Part of the Flowers of Sulphur, as ſoon as the Oil is ſufficiently hot to diſſolve the Sulphur, which will now fall to the Bottom of the Oil, like a highly red ſhining Liquor, and they will remain with this Degree of Heat, for a long time, unmixed; but the Fire being gradually increaſed, though with Care, to prevent the Matter from taking Flame, at length, when the Oil begins to fume, it will intimately mix with the Sulphur, and the Whole become opake, and form a new and entire Body of the two. If more Sulphur be added, this alſo may be eaſily diſſolved, by bringing the Oil to fume, and almoſt to boil; and thus, at length, a conſiderable Quantity of Sulphur may be diſſolved in a ſmall Proportion of Oil, ſo as perfectly to loſe its former Nature of Sulphur.

REMARKS.

This is the famous Balſam of Sulphur of *Helmont*, *Rulandus*, and *Boyle*, who very highly commend it for heating, mollifying, and reſolving, when uſed externally; and internally againſt Putrefactions, and Suppurations of the Kidneys and Lungs eſpecially, declaring they have thus found a ſecret, but effectual Remedy for Conſumptions of the Lungs; but I judge, that by its acrimonious, indigeſtible, and hot unctuous Part, it offends the weak Lungs, the Stomach and Viſcera, of languid Perſons, ſpoils the Appetite, increaſes Thirſt, and parches the Body, already too much dried by the Diſtemper. And this I ſpeak not raſhly, but upon Experience and Conſideration; and therefore adviſe it to be ſparingly and cautiouſly uſed, with a careful Obſervance of the Effect: Certainly it is not without a burning Rancidneſs, as being found, when externally uſed, ſucceſsfully to cure pale, cold, watery, mucous, ſanious, running Ulcers. Perhaps it was hence ſomewhat too haſtily concluded to have the ſame Effects when uſed internally; for thus it raiſes and continues a Fever. The Chymical Uſe of the Experiment ſhews, that Sulphur, which remains untouched in *Alcohol*, the moſt ſubtile of Oils, expeditiouſly, and almoſt totally, diſſolves in a very thick and ſluggiſh Oil, ſtrongly heated by the Fire; which evidently ſhews, with regard to the Hiſtory of Menſtruums, that an extreme Degree of Subtilty and Penetrability does not here perform what may ſpeedily be effected by a ſluggiſh and viſcous Matter. But this is not all: Chymiſts often wonder that many Foſſils, which remain untouched by the ſharpeſt acid Liquors, ſhould yet be ſucceſsfully reſolved by a mild and indolent Oil. Sulphur does not yield to any acid Menſtruum; for there is no known Acid ſtronger than that already contained in the Sulphur, whence others cannot act upon it; but Sulphur is diſſolved by Oil: As often, therefore, as a foſſil Glebe, when boiled in Oil, affords ſuch a ſulphureous Balſam, the Oil muſt act upon the ſulphureous Part of the Matter, unleſs we except Lead, whoſe metallic Part diſſolves into a Balſam with Oil.

Balsam *of* Sulphur *with* Turpentine.

Put an Ounce of the Flowers of Sulphur into a tall Bolthead; pour thereon ſix times the Weight of the ethereal Oil of Turpentine; let them boil for an Hour; the Sulphur will firſt melt at the Bottom, and part of it will be diſſolved in the Oil that floats above it, with a crackling Noiſe, till at length the whole Sulphur will appear diſſolved in the Oil. Let all cool, and a large Proportion of the Sulphur will appear concreted into yellow Spiculæ at the Bottom, the *Balſam* remaining at the Top; ſo that the Sulphur ſeems precipitated by a true Cryſtallization in this *Balſam*. Pour off the clear Liquor entirely, from the golden ſulphureous Cryſtals, into a clean Veſſel apart; add freſh Oil of Turpentine to the Remainder; boil as before, and all the Sulphur will be diſſolved into a *Balſam*; but when ſuffered to cool, it again ſhoots into ſulphureous Cryſtals. Again, pour on more Oil, and continue thus, till all the Sulphur is perfectly diſſolved; whereby it will appear, that one Part of Sulphur requires about ſixteen of this Oil to diſſolve it entirely. Keep all the *Balſams*, thus prepared, under the Title of Balſam of Sulphur with Turpentine. This Operation requires the utmoſt Care, as being attended with Danger; for if the Mouth of the Veſſel was ſtopped, the boiling Matter would burſt the Glaſs with greater Violence than has been hitherto obſerved in any other Experiment.

REMARKS.

Hence we ſee, that a thin, penetrating, ſharp, diſtil'd Oil, cannot eaſily diſſolve the Sulphur, though a mild, groſs, and indolent Oil ſo eaſily does it, as we ſaw in the preceding Proceſs; whence it ſhould ſeem, that the more ſubtile the Oils are, the more unfit to diſſolve Sulphur, as appears remarkably in *Alcohol*. It appears alſo, that Sulphur diſſolves in diſtil'd Oils, as Salt diſſolves in Water, till the Water is ſaturated; but afterwards is thrown off into Cryſtals. The exploſive Force of this *Balſam* of Sulphur is the moſt violent of any that is known. This *Balſam* conſiſts of the Oil of Sulphur, the Oil of Turpentine, the perfect Acid of Sulphur, like that made by the Bell, and a fixed Earth. This *Balſam* is an extemporaneous anodyne Remedy in Pains of the Nerves, and an excellent Medicine in ſanious, ſinuous, weeping, watery, and fiſtulous Ulcers. Internally taken, it is heating, diuretic, and ſudorific. It is recommended for cleanſing and healing internal Ulcers; it is hence too highly commended for a Conſumption, Ulcers of the Kidneys, and for expelling and diſſolving the Stone; but the cautious Phyſician will recommend only the gentle Medicines, and be afraid of thoſe that operate violently. It is certain, that the Urine is ſoon impregnated with a violet Smell, upon taking a little of this *Balſam*; and hence alſo the Tinctures of Foſſils, extracted by Art, with diſtil'd Oils, are ſafely received for the Tinctures of Metals. This is call'd the *terebinthinated Balſam* of Sulphur; and as other diſtil'd Oils may be thus mixed with Sulphur, the *Balſams*, ſo prepared, receive their Names from the diſtil'd Oil employed, which gives them their prevailing Odour. Hence the *Balſamum Sulphuris aniſatum*, *ſuccinatum*, and *juniperinum*.

The Balſam of Sulphur with Turpentine is generally directed to be made with common Oil of Turpentine, and not with the æthereal Oil, in the manner following:

Take Flowers of Sulphur, four Ounces; and Oil of Turpentine, one Pound: Place the Mixture in a Sand-furnace; ſtop the Matraſs looſely with another Glaſs; apply a ſmall Fire for one Hour; then increaſe it till the Oil boils gently, in which Degree keep it three or four Hours; then let it cool, and pour off the impregnated Oil from that which is not diſſolved.

This is an excellent Medicine for all Diſeaſes of the Breaſt, and likewiſe for Ulcerations and Obſtructions of the Urinary Paſſages; but 'tis nauſeous to take at firſt, becauſe of an Empyreuma, which wears off with long keeping. Its Doſe is from ſix to fifteen or twenty Drops, upon fine powder'd Sugar, which is the beſt way to take it, becauſe it will not well mix with any Liquor. After the ſame manner is a Balſam made with any other Oils, as Aniſeeds, which is much uſed in the ſame Doſe, or any other the Phyſician may direct; but Care muſt always be taken, leſt it boil over, becauſe it immediately takes and burns ſo fiercely, as to endanger a Houſe. The Veſſel ought therefore to be large enough to be two Thirds at leaſt empty, to give it room to riſe without running over. *Quincy's Diſpenſatory.*

The following extraordinary Caſe, related by *Hoffman*, may ſerve as a Caution to thoſe who make Balſam of Sulphur with Turpentine.

Conſidering how univerſally Chymiſtry is cultivated, few I believe are ignorant of the ſurpriſing Effects produced by Gunpowder, and the *Pulvis fulminans*, as it is call'd, which is made up of three Parts of Nitre, two Parts of the Salt of Tartar, and one Part of common Sulphur; and alſo by the *Aurum fulminans.* But it may poſſibly appear ſomewhat ſtrange and uncommon, that a diſtil'd Oil, eſpecially Oil of Turpentine, and in which common Sulphur has been diſſolv'd, ſhould, when ſhut up in a Glaſs, and expoſed to a ſtrong Fire, exert itſelf with a Degree of Exploſion, at leaſt equal, if not ſuperior, to that of Gunpowder. However, in Confirmation of the Truth of this, I ſhall here give an Account of a memorable Accident which happened on the 7th of *November* 1698. at *Zellerfeldt* in *Germany*, to the great Surprize and Aſtoniſhment of the Inhabitants.

A certain Apothecary putting ſome *Balſam* of Sulphur, with Oil of Turpentine, into a pretty ſtrong Glaſs Retort, committed it to a Sand-heat; and the Mouth of the Receiver being ſtrongly ſhut up, he apply'd a very briſk and intenſe Fire. Soon after ſuch a violent Noiſe was heard, as made the People who were in the Houſe imagine, that a Hurricane had ariſen of ſo boiſterous and dangerous a Nature, as to threaten the immediate Ruin and Downfal of the Houſe. A certain Apothecary's Apprentice ſtanding by the Mortar in the Area not far from the Laboratory, was ſuddenly daſh'd againſt the Wall; and another, who was ſtanding within the Gate of the Area, being, as it were, thunderſtruck, dropp'd down upon the Ground. But, upon his Recovery, he perceiv'd a very fetid and ſtrongly ſulphureous Smell; and ſuſpecting from this Circumſtance, that the Havock and Confuſion produced was owing to a incautious and injudicious Management of Sulphur, he ra with all the Haſte he could, along with a Neighbour wh came to diſcover the Cauſe of ſo uncommon a Noiſe, int the Laboratory, where they found one half of the Retor remaining in the Sand, and the other half, together wit the Neck, forcibly driven a great Way into the Area, throug the Kitchen-windows, which it had broken and ſhatter'd very terribly.

Nor were theſe the only Effects produced by this impetuou Exploſion; for it broke the Door of a Cellar, and forcibly drove it, and ſome Pots and Diſhes, out of the Kitchen into th Area. It alſo broke another Door which communicated between the above-mentioned Cellar and the Laboratory, an tore a very ſtrong Lock off it; and as from the ſame Cella there was an Aſcent by a winding Stair-caſe, built in a manne reſembling a ſpiral Shell, to another Apartment, it alſo brok open the Door of that, and threw a Cheſt of Drawers, i which there were ſome *Dutch* Veſſels for holding Confections upon the Floor. In the ſame Apartment it alſo lifted ſome Veſſels of the ſame Kind from amidſt others, and daſh'd them o the Floor, and drove both the Windows into the Area. Beſides it ſhattered the Windows by the Door which opened to th Street; and in a ſmaller Apartment it broke the Flooring, an threw down the Door, together with the Door-caſe, Lock and Hinges; the Windows of this Apartment were alſo ſhatter'd. It alſo threw open the Door of the Apartment wher the diſtil'd Waters were kept; and another Door which communicated with the Laboratory, with great Force and Violence. In the Laboratory itſelf it only broke the Glaſſes of th Windows, and looſen'd their Caſes; without carrying the along with it.

The People in the Neighbourhood affirm'd, that at the ver Inſtant the Noiſe was heard, a large Quantity of thick Smoa aſcended from the Chimney; that the Noiſe was equal to th produced by the Diſcharge of Cannons; and that the exploſiv Force reach'd all the ſeveral Quarters of the Town, and ſhak almoſt every Houſe in the ſame manner an Earthquake uſed do.

This ſurpriſing Accident, the incredible Effects of which ſaw with my own Eyes, clearly diſcovers the Genius, Natur and irreſiſtible Force of Lightning and Thunder; and co vinces us, that their piercing and violently concuſſive Force d pends upon the ſtrong Percuſſion of the Air, whilſt it is imp tuouſly agitated and thruſt from its Place by means of an ign ous, expanſive, and highly elaſtic Principle; ſo that a who Column of Air of a conſiderable Weight produces various a wonderful Effects on Objects that are expoſed to it, eſpecia if they are of a hard and reſiſting Nature, by bruiſing, brea ing, and agitating them; for in reality the ſurpriſing exploſi Force of Gunpowder, when kindled, is not to be aſcribed Nitre or Sulphur, as the material Cauſe, but rather to the C lumn of Air impetuouſly driven from its Place by the viole rarefactive and expanſive Motion of the Air: Hence we ſe that Effects of the ſame Kind with thoſe produced by Thund and Lightning may, without the Concurrence of Nitre, produced by a ſulphureous Subſtance cloſe ſhut up and i flam'd.

Nor is it to be doubted, but the tremulous and concuſſi Motions of the Earth, commonly called *Earthquakes*, f quently draw their Origins from ſuch a ſulphureous Subſtan being reſolved and kindled in ſubterranean Caverns, where ſometimes found in great Plenty; for 'tis moſt certain, that nitrous Salt, which is produced only by the Air, can be inge der'd and form'd in the Bowels of the Earth.

Beſides, this Experiment furniſhes us with ſome very uſe Cautions; and in a particular manner teaches us, that all flammable Subſtances, Oils and Spirits not excepted, eſpecia when cloſe ſhut up in Veſſels, ought to be managed cautiou and with a due Degree of Fire, leſt by the Violence of their ploſive Force they ſhould deſtroy People, or throw do Houſes; for we know, that a few Years ago ſome Chym in *Leipſic* were convinc'd of this to their Loſs, whilſt in diſ ling rectified Spirit of Wine, in a Copper Still, by the Ap cation of too ſtrong a Fire, the Veſſels were burſt, and the rit broke out in a Flame.

For the Illuſtration of this Experiment we may alſo bring memorable Obſervation publiſh'd by *Mauchardus* in the G *man Ephemerides*. A Cooper put ſome Meaſures of dephleg ated Spirit of Wine into a Caſk, which held thirteen Firk in order to take away the Taſte of the new Wood; and, bu ing Sulphur upon it, he ignorantly ſhut up all the Holes of Veſſel; upon which ſuch an Exploſion was made, that the P ple of the Neighbourhood imagined an Earthquake had pen'd. By means of this Exploſion the whole poſterior En the Caſk, though three Inches thick, was not only broke two Parts, in the tranſverſe Direction of the Boards, but driven to a Wall at the Diſtance of four Feet from it with Violence, that its Fragments were bruiſed and daſhed in Pie its exterior End remained entire in the Groove ; and at the time the Bar which was deſigned to render it the firmer, driven away with ſuch Violence, that the Iron Nails which it were driven as forcibly into ſome Boards lying near it, a large Hammer had been uſed for that Purpoſe. *Hoff- Obſerv. Phyſico-chymic.*

LSAMUM SULPHURIS MARTIS, or *Balſam of Sulphur with Iron.*

Take clean Filings of Iron, or broken Needles, one Pound : Put them into a Cucurbit, with five Pounds of Spirit of Salt. Let it ſtand in a digeſtive Heat five or ſix Days, in which time the Iron will be almoſt diſſolved. Filtre, and remove it into a Glaſs Retort. Place it in the Furnace, with a great deal of Sand about it. Apply Fire of the firſt Degree for one Hour, augment it to the ſecond, which continue till no more Drops fall ; then change the Receiver, and increaſe the Fire to the third Degree for one Hour, and ſo paſs on to the Extremity of the fourth, and there keep it four or five Hours, in which Time red Flowers will aſcend into the Neck of the Retort, and ſome yellow Spirit come into the Receiver. Let all cool, and remove the Veſſel. In the Receiver there will be about four Ounces of a yellow Spirit ; and if the Proceſs be regular, about the ſame Quantity of foliated red Flowers in the Neck of the Retort. Take of the Flowers, three Ounces ; of the yellow Spirit, one Ounce : Put them into a Matraſs, and pour eight Ounces of Oil of Turpentine upon them. Let them digeſt upon warm Sand for twenty-four Hours ; then augment the Fire, ſo as to make the Matter ſimmer for two Hours. Let all cool, and ſeparate it carefully from the Fœces, for Uſe.

This Medicine is by ſome affirmed to be one of the beſt Vul- ries in the World, both internally and externally. It is in all Diſtempers of the Breaſt and Lungs, againſt Gravel, Ulcers of the Reins. It alſo cicatrizes and heals Ulcers, wardly apply'd ; but the Shops are too great Strangers to this edy, and it is hardly ever preſcribed, but very well deſerves ce in Practice. Its Doſe is from ten to fifty or ſixty Drops. *y's Diſpenſatory.*

ORIFEROUS BALSAMS *artificially prepared from diſtilled Oils, Wax, and Pomatum.*

Take an Ounce of perfectly pure Pomatum ; melt it in a China-veſſel over a gentle Fire ; then gradually add a Dram of white Wax, fine ſhaved ; and after the two are well mixed, remove the Veſſel ; and when they begin to thicken, drop in a Dram of eſſential Oil, keeping the Whole conſtantly ſtirring, that it may perfectly mix ; after which ſet the containing Veſſel in cold Water, where growing immediately cold, it may keep in the Oil and Spirit. When the *Balſam* is thoroughly cold, directly put it up into Boxes of Lead or Pewter ; which being cloſe ſtopp'd, it may thus be preſerved perfect for Years. Inſtead of Pomatum and Wax, the expreſs'd Oil of Nutmeg may be here uſed, after it has been waſh'd ſo long in Water as to become white, taſteleſs, inodorous, and pure ; for this is the common way of preparing theſe *Balſams*. If they are deſired of a grateful Colour, this may be eaſily given them by the Addition of a little Pigment. Thus, for Inſtance, a Scruple of Cochineal, reduced to fine Powder, will tinge an Ounce of the *Balſam* of an agreeable Purple ; or the ſame Quantity of the inſpiſſated Juice of Buckthorn of a Green ; a little native Cinnabar, ground fine, will turn it of a Scarlet ; fine Turmeric, of a Yellow ; or a little Smalt, of a Blue. Any of theſe Pigments, therefore, may be uſed at Pleaſure ; provided they have no ungrateful Odour, or pernicious Property.

REMARKS.

ſe *Balſams* are prepared in the way of rich Perfumes, in order to raiſe the languid Spirits, the nobleſt Oils, er ſeparate, or artificially mix'd, ſhould be uſed therein ; the principal of this Kind, are thoſe of Baum, Calamus omaticus, Cinnamon, Cedar, Citron, Cloves, Jeſſamin, ender, white Lilies, Marjoram, Mace, Nutmegs, Ori- um, Oranges, both thoſe of *China* and *Seville*, Roſes, odium, yellow Saunders : To which we add *Balſam* of u, and *Balm* of *Gilead*, theſe two being ſpontaneouſly rant, without Diſtillation. *Boerhaave's Chymiſtry.*

LSAMUM PHILOSOPHORUM is the *Aurum Potabile* of ymiſts.

ould be almoſt endleſs to ſpecify all the artificial *Bal-* which have been contrived by *Diſpenſatory Writers.* in his *Pharmacopée Univerſelle*, has ſeventy-three dif- Sorts, ſome of theſe above-ſpecify'd included ; beſides many others in foreign Diſpenſatories. *Lemery*'s are as follows :

. I.

Balſamum Album, Leon. Fioraventi. This is very different from the *Balſamum Album* taken Notice of above.
Balſamum Abſinthiacum, ſeu Stomachichum, Mynſichti.
Balſamum ad Nervorum puncturas, de La Framboiſiere.
Balſamum Angelicæ, Sennerti.
Balſamum Angelicæ reformatum.
Balſamum Anodynum vel Podagricum, Batei.
Balſamum Antipodagricum, Philip. Mulleri.
Balſamum Apoplecticum.
Balſamum Apoplecticum reformatum.
Balſamum Apoplecticum, Etmulleri.
Balſamum Arcæi.
Balſamum Aromaticum, Mynſichti.
Balſamum aut Unguentum Sympatheticum, Batei.
Balſamum Balſaminæ.
Balſamum Bezoardicum.
Balſamum Cephalicum, Angeli Salæ.
Balſamum Cephalicum Italicum.
Balſamum Chriſti Paracelſi.
Balſamum Chriſti Paracelſi reformatum.
Balſamum Cordiale, Angeli Salæ.
Balſamum Cordiale, Sennerti.
Balſamum Dolorem levans.
Balſamum Equitis Sancti Victoris.
Balſamum Galbanetum, uterinum, Sennerti.
Balſamum Guidonis.
Balſamum Heurnii.
Balſamum Hiſpanicum.
Balſamum Hollerii.
Balſamum Hypnoticum, Mynſichti.
Balſamum Hyſtericum, Lud. Penicher.
Balſamum Jacomo de Pinto.
Balſamum Italicum.
Balſamum Joſephi Balſame, Equitis Sanctæ Crucis.
Balſamum Loimicum Hemiſianum.
Balſamum Lucatelli.
Balſamum Magiſtrale, Batei.
Balſamum Medicorum Florentiæ.
Balſamum Mirabile, Fulleri.
Balſamum Mirabile, Renodei.
Balſamum Mumiæ, Laz. Riverii.
Balſamum Nephriticum, Fulleri.
Balſamum Nervale.
Balſamum Palmeum.
Balſamum Paralyticum, Mynſichti.
Balſamum Paralyticum, Batei.
Balſamum Polychreſtum.
Balſamum Polychreſtum, Jacobi Le Mort.
Balſamum Puerorum Dentientium.
Balſamum Samaritanum.
Balſamum Sanguinem ſiſtens.
Balſamum Sarcoticum.
Balſamum Saturni.
Balſamum ſeu Oleum Benedictum, Apparitii.
Balſamum ſeu Oleum tranquillum, Abbatis Rouſſeau.
Balſamum Solimani.
Balſamum Spaſmaticum, Mynſichti.
Balſamum Spinale, Batei.
Balſamum Stypticum, Mynſichti.
Balſamum Sulphuris Aniſatum.
Balſamum Sulphuris Antimonii.
Balſamum Sulphuris Compoſitum.
Balſamum Sulphuris Rulandi.
Balſamum Sulphuris Rulandi, reformatum.
Balſamum Sulphuris ſimplex ſeu terebinthinatum.
Balſamum vel Butyrum ſuccini, Batei.
Balſamum Venereum, Mynſichti.
Balſamum Uterinum aliud.
Balſamum Vulgare.
Balſamum Vulnerarium, Fallopii.
Balſamum Vulnerarium, Mindereri.
Balſamum Zibethæ, Mynſichti.

BALUX. A Name for the Sand of ſome Rivers, which is mix'd with Gold.

BAMBALIO. A Man that ſtammers, or liſps.

BAMBAX, or BOMBAX. Cotton.

BAMBU. The ARUNDO TABAXIFERA, which ſee.

BAMIA. The ſame as ALCEA INDICA, which ſee.

BAMMA. The ſame as *Embamma*.

BAN. The Name of an *Egyptian* Plant, call'd alſo CALAF, which ſee.

BANANA, Offic. Raii Hiſt. 2. 1375. *Muſa caudice maculato, fructu recto rotundo breviore odorato*, Cat. Jam. 192. Sloan. Hiſt. 2. 147. *Ficoides, ſeu ficus Indica, longiſſimo latiſſimoque folio, caule maculato, fructu minore*, H. Beaum. 21. Boerh. Ind. A. 2. 171. *Muſa fructu cucumerino breviori*, Plum. Nov. Gen. 24. *Senoriæ*, Jonſ. D. 143. *Pacoeira*, Piſ. (Ed. 1658.) 154.

Bacoba, Ejuſd. (Ed. 1648.) 76. *Pacoeira Luſitanis*, Marcg. 137. THE BANANA-TREE.

The Virtues aſcribed to the Fruit of this Tree, are, to nouriſh much, to excite Urine, and provoke to Venery. It grows in *America*.

BANANIERA. A Name for the *Ficus Indica*.

BANAUSIA, βαναυσία. An illiberal or mechanical Art. *Hippocrates*, in his Treatiſe περὶ εὐσχημοσύνης, uſes this Word, where it ſeems to mean diſhonourable Artifice, or low Craft, inconſiſtent with the Character of a Phyſician, or a Gentleman; and only practiſed by Quacks and Pretenders, with a View of concealing their Ignorance.

BANDURA *Congalenſium Gentianæ Indicæ ſpecies*, P. Amman. *Planta mirabilis deſtillatoria*, Grimmii.

It is like Gentian in Seeds and Seed-veſſels; but is, beſides, remarkably conſpicuous for a foliaceous Sheath, or Follicle, repreſenting a Penis, which is ſometimes much above a Foot in Length, and much thicker than a Man's Arm: It hangs by a Leaf, and is half full of a ſweet potable Liquor.

To this Deſcription *Grimmius* adds, in the *German Ephemerides*, that the Root attracts the Moiſture of the Earth, which, by the Benefit of the Sun's Rays aſcending into the Plant, flows down, by the Stalks and Fibres of the Leaves, into this natural Veſſel, as into a Reſervoir, till it is exhauſted for Man's neceſſary Uſe. Theſe Receptacles, till they come to full Maturity, are cloſed up at the Top with a fine Cover, which ſometimes falls abroad at the Preſſure of the Fingers, and yields the Poſſeſſion of this ſweet, limpid, lovely, cool, and comfortable Liquor; and about ſix or eight of theſe Receptacles are ſufficient to quench a Man's Thirſt, with all the Pleaſure imaginable.

The Medicinal Virtues are as follows: The Root is of an aſtringent Quality; the Herb is cooling and moiſtening; and the expreſs'd Juice may be of Service, with ſome proper diſtill'd Liquor, internally, in burning Fevers; and externally in Inflammations, Eryſipelas, and the like.

It grows not far from *Columbo*, in moiſt and ſhady Woods. *Raii Hiſt. Plant.*

BANGUE, Offic. Park. 1624. Garz. ab Hort. 233. C. à Coſta, 290. Raii Hiſt. 1. 159. *Bangue Cannabi ſimile*, J. B. 3. 440. *Cannabis Indica trifoliata, ſive Bangue Indorum*, Pluk. Almag. 80. Phytog. 273. *Cannabis peregrina, gemmis fructuum longioribus, Bangue dicta*, Hiſt. Oxon. 3. 433. *Cannabi ſimilis exotica*, C. B. 330. Com. Flor. Mal. 68. *Althææ alia ſpecies, foliis Cannabinis, à Garzia ab Horto Bangue dicta*, Herm. Hort. L. Bat. 26. *Kalengi Cansjava*, H. M. Tom. 10. 119. Tab. 60. *Tſyeru-Cansjava*, Ejuſd. 121. Tab. 61. BANGUE. *Dale.*

Acoſta, who has deſcrib'd it, ſays, it is almoſt like Hemp, has a ſquare Stalk five Palms high, of a watry green Colour, hard to break, but not ſo hollow as the hempen Stalk; but the Rind of it is as eaſy to be drawn into Threads as that of the other. The Leaves are like thoſe of Hemp, green above, and cover'd with a Down underneath, and have an earthy and inſipid Taſte.

The *Indians*, ſays *Acoſta*, eat the Seed and Leaves, to increaſe their Vigour in Love-affairs, and to excite an Appetite to their Food. The Nobles, and chief military Officers, when they are diſpoſed to forget their Toil, and to ſleep in perfect Eaſe and Security, take of the Powder of the Seed and Leaves as much as they think ſufficient, and thereto add an Areca, or green *Indian* Hazel-nut, and as much Opium as they think fit, and eat them all together with Sugar. If they deſire to be entertain'd with Variety of Scenes, and Images of Things, in their Sleep, they add ſome of the choiceſt Camphire, Cloves, Nutmegs, and Mace. If they have a mind to be merry, witty, and to indulge their Amours, they add Ambergriſe and Muſk, and make them all into an Electuary with Sugar. It is by many affirm'd, that the Seed and Leaves are very effectual in promoting Luſt; whence, ſays *J. Bauhine*, it appears, that this Herb has no Affinity with Hemp, tho' it be very much like it; ſince Hemp, according to *Dioſcorides*, is of an hot and dry Nature, and extinguiſhes amorous Deſires and Motives.

Ray, from whom this Account is taken, ſays, he learned from Sir *Hans Sloane*, that it is a different Plant from Hemp.

It grows in *Indoſtan*, and other Parts of the *Eaſt-Indies*, where it is principally in Uſe.

BANILIA. The ſame as VANILIA, which ſee.

BANISTERA, *Houſt.*

This was ſo call'd from a famous Botaniſt, who loſt his Life in the Search of Plants in *Virginia*. We have no *Engliſh* Name for this Plant.

The Characters are;

It hath a papilionaceous Flower, which is ſucceeded by one naked Seed, whoſe outer Membrane is extended into a winged Leaf, after the manner of the Maple-ſeed.

Miller mentions five Species of this Plant.

Theſe Plants are all of them Natives in the warmeſt Parts of *America*, where they grow in the Woods, and twiſt themſelves round the Trunks of other Trees or Plants which grow near them; ſome of them grow four or five Feet high, and others will riſe to the Height of ten, twelve, or fourteen but muſt be ſupported by other Plants, for they do not erect.

The firſt, ſecond, and third Sorts grow plentifully i Woods in *Jamaica*; but the other two Sorts were collect the late Dr. *William Houſtoun* at *Carthagena*, in the *S* *Weſt-Indies*. Theſe Plants were call'd Maples, by Sir *Sloane* and Father *Plumier*, from the Reſemblance which Seeds have to thoſe of the Maple; but the Flower differi remarkably from that of the Maple, the late Dr. *Hou* with good Reaſon, ſeparated it from that Genus, and ga Name of *Baniſtera* to them. *Miller's Dictionary, Vol.*

BAOBAB, or rather BAHOBAB. An *African* Frui which *Proſper Alpinus* gives the following Account: *Ba* ſays he, is a Fruit as large as a Lemon; it reſembles a G and contains black hard Seeds, whoſe Extremities incline were, to the Form of a Demi-arch. Its Subſtance alſo r bles that of the Gourd, which, when newly pull'd, is red, and of a pretty grateful acid Taſte. This Fruit, newly taken from the Tree, is very grateful to the Taſte in thoſe Parts of *Ethiopia* which are ſcorch'd with inſuppo Heat, the richer Sort of the Inhabitants correct it acid with Sugar. It is a great Cooler, and a very effic Quencher of Thirſt. I am alſo inform'd, that in *Ethiop* uſed againſt all hot Diſorders, and againſt all putrid Fe but more eſpecially thoſe of the peſtilential Kind. They various Ways of uſing it in theſe Intentions; for they eat its Pulp with Sugar, or drink its expreſs'd Juice with S or take a proper Doſe of a Syrup prepar'd from it. At G *Cairo* alſo, where the Fruit cannot be had freſh, they u Pulp, reduced to a Powder, which is like an Earth of a r Colour, and has an aſtringent acid Taſte, not unlike th *Lemnian* Earth. This Powder is alſo very much uſed by againſt peſtilential Fevers, Spittings of Blood, Lienteries, ſenteries, and the Hepatic Flux; as alſo for ſtopping im rate Fluxes of the Menſes. Some for theſe Diſorders pre a Dram of this Earth, reduced to a fine Powder, and dif in Plantain-water. Others exhibit it in Decoctions, and in Infuſions. I myſelf ſaw one of the Trees, which bea Fruit, in a certain Nurſery; and it very much reſembl Orange-tree, both with regard to its Leaves, its Bul Shape. *Proſper Alpinus de Plantis Ægypti.*

There is a ſort of Stone alſo, which, from its Reſemb to this Fruit, is call'd BAOBAB LAPIDEUM.

BAPTISECULA. A Name for the CYANUS MIN

BAPTISTERIUM. A Font, or Bath, to waſh in.

BAPTUS. A bituminous ſoft Foſſil, of an agreeable S mention'd by *Agricola*.

BARA. *Joſephus*, in the third Chapter of his ſe Book concerning the Wars of the *Jews* with the *Romans*, us a very fabulous and romantic Account of this Plant, following Words: "On the North Side, ſays he, of tha
"ley which encompaſſes *Macheron*, at the Place call'd
"there is a Plant bearing the ſame Name, which reſem
"Flame. Towards the Evening it emits reſplendent
"and retires when any Attempts are made to lay hold
"The only Means of preventing its Eſcape, is, to thro
"Urine, or the menſtrual Blood, of Women upon it.
"cannot touch it without dying, unleſs he has ſome
"Root of the ſame Plant in his Hand. But there is ſti
"other Method diſcover'd of gathering it without Da
"They dig all around it, till only a ſmall Part of its Ro
"mains fix'd in the Earth; to this they tie a Dog, which,
"making an Effort to follow the Perſon who tied him
"tears up the Plant, and dies immediately; and thus, by
"his own Life, ſaves, as it were, that of his Maſter.
"this the Plant may be ſafely handled; and has a part
"Virtue of removing from People all Dread of the Da
"they may be afterwards expoſed to in gathering it: For
"mons, which are nothing elſe but the Souls of the W
"which enter into living Men, and which would undou
"kill them, if proper Remedies were not uſed, are diſpo
"and thrown out, as ſoon as this Plant is applied to the
"rable Patients."

BARACH PANIS. *Rulandus* explains this by *N* *Salis.*

BARAS. In *M. A. Severinus*, ſignifies the ſame a PHUS, or LENCE.

BARATHRA, βάραθρα. The *Memphitical* Caves, o *ronean* Pits, as they are call'd by *Strabo*, go by this Name

BARBA. The Beard, a Part ſo well known, that it re no Deſcription.

BARBA HIRCI. See TRAGOPOGON.

BARBA JOVIS.

The *Barba Jovis* of *Caſpar Bauhine*, the *Jovis Barb* *chre lucens* of *John Bauhine*, the *Jovis Barba frutex* of *P* *ſon*, is the Silver Buſh. *Raii Hiſt. Plant.*

I don't find any Medicinal Virtues attributed to it.

The *Barba Jovis Plinii forte Geſnero*, is the *Coggyg* Species of Sumach. *Parkinſon.*

The *Barba Jovis Plinii* ſome take to be the *Oleaſter Germanicus. Parkinſon.*

The *Sempervivum majus* is alſo call'd by this Name. *Raii Hiſt. Plant.*

BARBAREA, Offic. Ger. 188. Emac. 243. Raii Hiſt. 1. 809. J. B. 2. 868. Mer. Pin. 14. *Barbarea, Pſeudo-bunias*, Merc. Bot. 1. 23. Phyt. Brit. 14. *Barbarea, Carperitaria*, Chab. 278. *Barbarea flore ſimplici*, Park. Theat. 819. *Eruca lutea latifolia, ſive Barbarea*, C. B. Pin. 98. Raii Synop. 3. 297. *Eruca latifolia lutea, ſeu Barbarea major & minor*, Hiſt. Oxon. 2. 230. *Naſturtium Hybernum*, Thal. 80. *Siſymbrium Erucæ folio, flore luteo*, Elem. Bot. 192. Tourn. Inſt. 226. Boerh. Ind. A. 2. 15. Dill. Cat. Giſſ. 64. Rupp. Flor. Jen. 63. Buxb. 305. WINTER-CRESSES. *Dale.*

It is a Species of Siſymbrium, which ſends forth many Leaves to the Height of a Foot and a half, ſpreading, hollow, bearing Leaves leſs than thoſe of Radiſh, and having ſome Reſemblance to thoſe of Creſſes, of a blackiſh-green Colour, and ſhining: The Flowers are little, yellow, each conſiſting of four Leaves, diſpoſed in the Form of a Croſs; they are ſucceeded by little Pods, which are long, round, and tender, containing reddiſh Seed: The Root is oblong, moderately large, of a ſharp Taſte; it grows in the Fields, and is cultivated in the Kitchen-gardens for Sallad. It contains a great deal of eſſential Salt and Oil.

It is deterſive and vulnerary; it excites Urine; it is very good for the Scurvy, for the Diſeaſes of the Spleen, and for the nephritic Colic. It is uſed externally and internally. *Lemery des Drogues.*

This Herb grows ſpontaneouſly in moiſt and ſandy Places, upon old Walls, in Croſs-ways, Meadows, and on the Banks of Rivulets. It has the ſame Virtues and Qualities with the Creſſes. It is good for the Spleen, and cures the Scurvy, and Wounds. It is ſometimes uſed all alone, and ſometimes mix'd with other Herbs. Its Leaves, bruiſed, and infuſed with Wine and Sugar, re excellent for the Scurvy. The expreſs'd Juice of the Herb ures a Defluxion of fetid and ſcorbutic Humours in the Mouth, leedings and Looſeneſs of the Teeth, and Excreſcences of e Mouth, if the Gums are rubb'd with it. It is of a drying uality, and cures impure and fetid Wounds, when mix'd with ther vulnerary Ointments. The Herb, boil'd in Wine or ilk, cures Sciatic Pains, if Lint is ſoak'd in it, and apply'd ot to the Part affected. Of it, together with tepid Water of nripe Oranges, an excellent Medicine is prepar'd, againſt the out of the Feet and Knees, or Sciatic Pains. *Chabr.*

The Seed provokes Urine, and expels the Stone; and may ſo be uſed in Sinapiſms and Veſicatories. *Barthol. Zorn, tanolog.*

BARBARUM. An Epithet for a Plaiſter for green Wounds, *Scribonius Largus.*

BARBOTA, the Barbut. A ſmall River-fiſh, with a ry large Head. It is generally about ſix Inches long, or ore.

In the Choice of this Fiſh, take that which is well-fed, ten- r, delicious, and agreeable to the Taſte. It yields pretty d Nouriſhment, and is eaſy enough of Digeſtion.

This Fiſh is a little too ſoft and viſcous. The Row, as well that of the Eel-powt, is not to be eaten; for it will work h upwards and downwards.

It contains much Oil, Phlegm, and volatile Salt.

It agrees, at all times, with young People of a hot and bili- Conſtitution.

REMARKS.

is a ſmall River-fiſh, well known to Fiſhermen, that lives pon Mud and Slime; Several nice Palates there are, who o not much eſteem it, becauſe, they allege, it taſtes of the Ordure with which 'tis fed.

Liver is well-taſted, and very large, in Compariſon to the igneſs of the reſt of its Body. Some Authors aſſure us, here is no other but this Part of the Fiſh, that is good to be aten. *Lemery on Foods.*

his Fiſh is very rare in *England*; but is ſometimes found e River which runs by *Tamworth* in *Warwickſhire.*

ARBUS, Offic. Aldrov. de Piſc. 597. Charlt. de Piſc. 37. nſt. Ichth. 29. Geſn. de Aquat. 123. Raii Ichth. 259. l. Synop. Piſc. 121. Rondel. de Piſc. 2. 194. Salv. de t. 86. *Barba & Barbus*, Mer. Pin. 189. *Barbo,* d. 5. 325. *Myſtus fluviatilis, Barbus*, Bellon. de Aquat. THE BARBEL. *Dale.*

e ſmall Barbels are to be preferr'd before the large, becauſe are eaſier of Digeſtion. They ſhould be alſo taken in running Waters. There are two Sorts of them, one of h is bearded, and the other not.

is Fiſh is very nouriſhing, and even proves ſolid and durable ood enough. It is alſo look'd upon to be good for the s, Piles, and Stinging of venomous Creatures. They alſo nd, that it allays Venereal Inclinations: But I am not cer- that all theſe Virtues, which are attributed to it, are nded upon ſolid Experiments.

This Fiſh is a little hard, and not eaſily digeſted; and a certain Author ſays, that the Wine wherein it hath been ſteep'd and boil'd, makes Men and Women barren.

It contains much Phlegm, Oil, and Salt, that is almoſt all volatile.

It agrees, at all times, with young bilious People, thoſe who have a good Stomach, and are uſed to much Exerciſe of Body.

REMARKS.

Barbel is a Fiſh of an oblong Form, and middle-ſized, and beſet with large and tender Scales. It was antiently conſecrated to *Diana*. It breeds three times a Year. It is by ſome call'd *Trigla*, according to this Verſe:

Accipiunt Triglæ terno cognomina partu.

This Fiſh is a little hard to be digeſted, by reaſon of ſome groſs Juices contain'd therein: In the mean time, theſe ſame Juices make it very nouriſhing, and good durable Food. It has a good Taſte; and the old *Romans* eſteem'd it very much, which made them put it amongſt thoſe that went at an exceſſive Price, as ſeveral faithful and true Hiſtorians have aſſured us. The Liver is that Part of the Fiſh that is moſt eſteem'd for the Goodneſs of its Taſte, and the Head next. But *Galen* ſpeaks ſlightly both of the one and the other, not only upon the account of the Taſte, but alſo Health. *Lemery on Foods.*

The Spawn of the Barbel, at ſome Seaſons of the Year, is a moſt violent Vomit and Purge.

BARDADIA. A Pound, *Libra. Rulandus.*

BARDANA MAJOR, *Lappa*, Offic. *Bardana major*, Ger. 665. Emac. 809. Raii Hiſt. 1. 332. Synop. 88. Schw. 27. *Bardana vulgaris major*, Park. 1222. *Lappa major, Arcium Dioſcorides*, C. B. 198. Hiſt. Oxon. 3. 146. Tourn. Inſt. 450. Boerh. Ind. A. 146. Dill. Cat. 168. Buxb. 179. *Perſonata ſive Lappa major aut Bardana*, J. B. 3. 570. *Perſonata, Lappa major, Bardana*, Chab. 514. BURDOCK. *Dale.*

The Root of the great Burdock runs down deep into the Earth, pretty large and thick; of a blackiſh Colour on the Outſide, and white within, from which ſpring many large Leaves cover'd with a hoary Whiteneſs underneath, and green above; of a roundiſh Shape, yet pointed at the End, and hollow'd in, next the Foot-ſtalk, indented about the Edges, and many times ſo large as to cover the Head and Face from the Sun. The Stalks are large and thick, full of a whitiſh Pith, ſomewhat downy, and often of a purpliſh Colour; they are divided into many Branches, on which grow ſmaller Leaves, and on their Tops a great Number of ſcaly Heads or Burs, the End of every Scale terminating in a hooked Point, by which it ſticks very tenaciouſly to Garments. From the Middle of theſe Heads ariſe hollow fiſtular Flowers of a purple Colour, and they are ſucceeded by oblong, flattiſh, and angular brown Seed. This Plant grows every-where by the Way-ſides; and flowers in *June* and *July*. The Roots, Leaves, and Seeds, are uſed.

The Roots are ſudorific and alexipharmic, and good in malignant Fevers, and are therefore put in Quantity into the *Aqua Theriacalis*. They are likewiſe uſeful againſt the Gout, and Pains in the Limbs. The Leaves, boil'd in Milk, and apply'd as a Cataplaſm, are good for the ſame Diſtemper. They are likewiſe good for Burns and Inflammations, and are one of the Ingredients of the *Unguentum Populneum*. The common People frequently apply them to the Feet and Wriſts in Fevers. The Seed, powder'd, and given in white Wine, is good to provoke Urine, and help Fits of the Stone. *Miller's Bot. Off.*

BARDANA ARCTIUM, Offic. *Lappa major montana, capitulis tomentoſis, ſeu Arctium*, C. B. 198. Tourn. Inſt. 450. Boerh. Ind. A. 146. Dill. Cat. 162. Buxb. 174. Hiſt. Oxon. 3. 147. *Bardana major altera*, Ger. Emac. 810. Raii Hiſt. 1. 332. *Bardana major, lanuginoſis capitulis*, Park. 1222. *Bardana montana*, Schw. 28. *Perſonata ſeu Lappa altera, cum capitulis villoſis*, Chab. 514. *Perſonata altera, cum capitulis villoſis*, J. B. 3. 571. *Perſonata montana, capitulis magis tomentoſis*, Raii Synop. 88. WOOLLY-HEADED BURDOCK.

It grows in ruinous Places, and by the Sides of Paths; and flowers in *July*.

The Root and Seed are uſed in Medicine, and agree in Virtues with the former. The Root, with the Seed, boil'd in Wine, mitigates the Tooth-ach, if the Decoction be held in the Mouth; and the ſame is uſed to foment Burns and Chilblains. It is drank in Wine for the Sciatica and Strangury. *Dale.*

BARDANA, Offic. *Bardana minor*, Ger. 664. Emac. 809. Schrod. 4. 25. Schw. 28. *Lappa minor, Xanthium Dioſcoridis*, C. B. 198. *Xanthium*, Elem. Bot. 348. Tourn. Inſt. 439. Boerh. Ind. A. 2. 103. *Xanthium, ſive Lappa minor*, J. B. 3. 572. Raii Hiſt. 165. Synop. 55. Chab. 514.

514. Hiſt. Oxon. 3. 604. Park. 1223. Buxb. 342. *Marrallumetæ Malab.* Act. Philoſoph. Lond. No. 224. p. 318.
LOUSE-BUR. *Dale.*

This is a much ſmaller and lower Plant than the common Burdock, having uſually but one Stalk, and that not very much branched, growing ſomewhat more than a Foot high, a little downy, round, and full of black Specks; having its Leaves growing on long Foot-ſtalks, which are in Shape like thoſe of Marſhmallows, but broader, and not ſo long, waved about the Edges of a yellow-green Colour, ſomewhat rough on both Sides. The Flowers grow towards the Top, of a greeniſh Colour, and ſtaminous. The Seeds do not ſucceed the Flowers, but come forth among the Leaves; being long and roundiſh, full of large hooked Spines, divided into two Parts, each holding one long Seed. The Root is ſmall, fibrous, and periſhing, after it has ripened the Seed. It grows but in few Places in *England*, and that only in a rich and fat Soil; particularly, it is found on the ſmall Common near *Dulwich*, and gives its ripe Seed in *September*.

It is but very ſeldom that this Plant is uſed, tho' ſome commend it againſt ſcrophulous Tumors, the Juice being taken inwardly, and the Leaves apply'd to the Swellings. *Matthiolus* extols it much, as an Herb of great Service againſt the Leproſy. *Millar Bot. Off.*

BARLERIA.

This Name was given to this Genus of Plants, by Father *Plumier*, in Honour of *Jacobus Barelier* of *Paris*, who was a famous Botaniſt. We have no *Engliſh* Name for it; but the Inhabitants of the Iſland of *Jamaica* call it *Snap-dragon*.

The Characters are;

It hath a perſonated Flower, conſiſting of one Leaf, whoſe upper Lip or Creſt is erect, but the under is divided into three Parts; from whoſe Empalement riſes the Pointal in the hinder Part of the Flower, which afterwards becomes a quadrangular, oblong, membranaceous Fruit, with one Capſule, in which are lodged flat roundiſh Seeds.

Miller enumerates two Species of this Plant.

I don't know, that any Medicinal Virtues are attributed to it.

BARNA. *Johnſon* explains this by *Vas Vitreatum*. I ſuppoſe he means a glaz'd Veſſel.

BARNABUS. *Rulandus* explains this, if it may be call'd explaining, by *Barnaas. Sal Petræ Urinarium; Urina Salis Petræ; Acetum acerrimum.*

BARNACLES. Theſe are Birds very common in the North of *England* and *Scotland*, remarkable for being the Subject of an extravagant Fable, gravely related by *Gerard*, which is, that they are produced from the Shell of a Fruit, which, falling into the Sea, opens and lets out the young Barnacle.

The Barnacle is a very rank, and highly alcaleſcent Food, and eſteem'd by ſome as a great Dainty.

I don't know whether it is the ſame as the *Vulpanſer*, or different. See VULPANSER.

BAROMETRUM, a Barometer. An Inſtrument for meaſuring the Gravity of the Air.

BARONES. Small Worms, called alſo *Nepones* by *Johannes Anglicus.*

BAROS, βάρος. Properly, Gravity. *Hippocrates* frequently uſes this Word, to expreſs an uneaſy Senſation of Weight or Gravity in any particular Part.

Βαρὺς ſignifies vehement, violent, acute, or heavy, in Medicinal Writers.

BARURAC, Glaſs. *Rulandus.*

BARYECOIA, βαρυηκοΐα, from βαρὺς, dull, heavy, and ἀκέω, hear. Dulneſs of Hearing.

BARYOCOCCALON. A Name for the *Stramonium*, Thorn-apple, which ſee. *Blancard.*

BARYPHONIA, from βαρὺς, dull, heavy, and φωνὴ, the Voice. Difficulty of Speaking. *Blancard.*

BARYPICRON. A Name for the *Abſinthium Latifolium. Blancard.*

BASAAL. The Name of an *Indian* Tree, which grows in ſandy Places, eſpecially near *Cochin*. It flowers, and produces Fruit, once a Year, from the firſt Year of its Bearing to the fifteenth.

A Decoction of the tender Leaves in Water, with an Addition of Ginger, is uſed as a Gargariſm in Affections of the Fauces. The Berries fry'd in Butter are made into an Ointment, with which they anoint the Forehead and Temples of thoſe who are affected with a Phrenſy, and with very good Effect, as they ſay. The Kernels of the ſame kill Worms. *Ray, Hiſt. Plant.* 1570.

BASALTES. A rough Stone, of the Colour, and almoſt the Hardneſs, of Iron, which renders it difficult to be cut.

BASANISMOS, βασανισμὸς, from βάσανος, a Touchſtone. It ſignifies the Inveſtigation, Examination, or Trial of a thing.

BASCANON, βάσκανον, Faſcination.

BASELLA. Climbing Nightſhade, from *Malabar*.

The Characters are;

It hath an annual Root: The Stalks are climbing, and of a purple Colour: The Leaves are round, thick, ſucculent, and of a dark-green Colour. From the Foot-ſtalk of the Leaves are produced Spikes of Flowers, which are Male and Female, in different Parts of the Spike: The Female Flowers are ſucceeded by flat Berries, in each of which is contained one hard Seed.

Miller enumerates three Species of this Plant. There is no Medicinal Virtue attributed to this Plant, that I know of.

BASIATIO. The ſame as AMPLEXATIO, which ſee.

BASILAREOS. A Name for the *Os Cuneiforme.*

BASILEION, βασίλειον. An Epithet for a Collyrium, deſcribed by *Ætius.*

BASILICA VENA. The Baſilic Vein in the Arm. See VENA.

BASILICON. An Epithet for an Ointment, or Cerate, deſcribed in *Ætius Tetrabiblos*, 4. *Serm.* 3. *Cap.* 21. very little different from that of the College. *Quincy* is therefore miſtaken, when he attributes the Invention of it to *Meſue.* It is thus prepared as directed by the College:

> Take of yellow Wax, fat Reſin, and Pitch, of each one Pound and a half; of Oil, nine Ounces. Mix them together into an Ointment by melting, *S. A.*

It hath been continued the ſame thro' all the officinal Diſpenſatories, eſpecially thoſe of our College, and is much uſed to incarn Wounds; tho' of late our Surgeons begin to ſubſtitute, for ſuch Intentions, Dreſſings that are not ſo liable to produce Fungoſities, one of which is the following.

UNGUENTUM BASILICON FLAVUM; *The Yellow Royal Ointment.*

> Take of yellow Wax, and Reſin of the Pine-tree, of each three Pounds; of *Straſburg* Turpentine, twelve Ounces of Linſeed Oil, three Pounds ſix Ounces. Melt them over a ſlow Fire, and then put in three Pounds of *Burgundy* Pitch, and let them all melt together into a Ointment, *S. A.*

This was never before in any officinal Diſpenſatory; and hath the Reputation of a very eminent Perſon for its Author It ſeems, if any Regard was had in its Contrivance to Ex ample, to have chiefly followed the *Unguentum Aureum* *Meſue*; but this is a much neater Compoſition than that tho' both pretty nearly agree in Intention. *Nicolaus* hath, in deed, a Preſcription under the Title of *Unguentum Baſilic* *Citrinum*, which the *Auguſtan* Diſpenſatory hath tranſcribed but that is a very injudicious Medley of Ingredients of differe Virtues, notwithſtanding *Zwelfer* takes a mighty deal Pains, in his Animadverſions, to direct the manner of co pounding it. All the *London* Diſpenſatories, before the l have likewiſe retained from *Meſue* an *Unguentum Baſilicon m* *jus*; but it is a moſt perplexed Mixture, and never uſed, a therefore very juſtly omitted here. *Quincy*'s *Diſpenſatory.*

Baſilicon is alſo an Epithet for a great many Compoſitio to be found in the antient Medicinal Writers. It ſigni *Royal.*

BASILICUM.

Ocimum Baſilicum, Offic. *Ocimum medium citratum*, G 547. Emac. 673. *Ocimum vulgatius*, C. B. Pin. 226. R Hiſt. 1. 547. Tourn. Inſt. 204. Boerh. Ind. A. 170. Ru Flor. Jen. 178. *Ocimum medium vulgatius & nigrum*, J. 3. 247. Chab. 419. *Ocimum vulgare majus*, Park. Th 18. *Baſilicum, ſeu Ocimum, medium vulgatius*, Hiſt. Ox 406. COMMON BASIL.

The Baſilicon of *Hippocrates* is, by moſt Interpreters, thou to be the *Ammi*, Biſhops-weed. But what now goes by Name, is a different Plant.

This is a tender Plant, growing about a Foot high, branc from the Bottom, having two ſucculent, roundiſh-poi Leaves, ſet oppoſite at a Joint on pretty long Foot-ſtalks Shape like thoſe of Pellitory of the Wall, but larger; l or nothing indented about the Edges; the Stalks are f ſquare, ſomewhat heavy, not very full of Leaves, having their Tops thin verticillated Spikes of white galeated and ated Flowers, having two ſmall, round, green Leaves ſe der each Whorle of Flowers, The Calyx is large and containing four, ſmall, round, black Seeds. The Roo ſmall, fibrous, and periſhing with the firſt Froſts. The L and Tops have a pleaſant fragrant Smell, eſpecially when g rubbed. It is ſown in Gardens, and flowers in *July* *Auguſt.*

Baſil, tho' it has a fragrant, and to moſt a pleaſant Sme but little uſed in Phyſic. The Antients condemned the in Uſe of it, as hurtful to the Sight. *Schroder* ſays, it cle the Lungs of Phlegm, and provokes the Menſes. It is a gredient in the *Aqua Bryoniæ Compoſita*, or hyſteric W *Miller's Bot. Off.*

Hoffman ſays, that the Chymical Oil of Baſil is extremely fragrant, and friendly to the Head and Nerves.

BASILIDION. The Name of a Cerate deſcrib'd by *Galen*, and recommended for the Itch.

BASILIS. The Name of a liquid Collyrium mention'd hy *Galen.*

BASILISCUS, the Baſiliſk. A very poiſonous Serpent, which is the Subject of many extravagant Fables. A Bird alſo is fabled to be produced from the Egg of a Cock, which is the moſt poiſonous thing in Nature.

In Chymiſtry, the Philoſophical Sublimate Mercury is call'd *Baſiliſcus.* And a Stone goes by this Name, which ſome Chymiſts have boaſted would kill Mercury, and congeal it into Silver, without Fire. The Philoſopher's Stone is alſo called by this Name. *Paracelſus* names the Venereal Diſeaſe *Baſiliſcus.*

BASIOGLOSSUS. One of the Heads of that Muſcle of the Tongue called CERATOGLOSSUS, which ſee.

BASIS, βάσις, from βαίνω, to go. The Support of any thing, upon which it ſtands, or rather goes, according to the original Import. Thus *Hippocrates* calls the Sole, or Bottom of the Foot, the *Baſis of the Foot*, in his Treatiſe *de Articulis.* The ſuperior Part of the Heart is, however, called its *Baſis*, to diſtinguiſh it from the Apex, or ſmall Point.

The *Baſis* of a Compound Medicine, is that Ingredient which enters it in the largeſt Quantity; or ſometimes, which is of the greateſt Importance.

BASIUM, a Kiſs. I don't know, that this Word belongs ore properly to Medicine, than to any other Science; but is ſometimes mentioned as a ready way of taking Infection in l contagious Diſtempers; eſpecially in Venereal Diſorders, hen an Ulcer reſides in or near the Lips, of which there are me Inſtances.

Figuratively it ſignifies an extemporaneous Tincture of *Mars* d *Venus*, that, is of Steel and Copper, invented by *Cloſſeus.* *ſtellus.*

BATEMAN's PECTORAL DROPS. See BALSA-UM ANODYNUM.

BASSI COLICA. The Name of a Medicine in *Scribo-s Largus*, compounded of Aromatics and Honey. *Mar-lus Empiricus* mentions it. It is taken notice of alſo by *ius* and *Actuarius.*

BASURA. *Rulandus* explains this by *Semen.*

BATHMIS, βαθμὶς, a Seat. Baſis, or Foundation. It is d by *Hippocrates* and *Galen* to expreſs a Sinus or Cavity of one, which receives the Protuberance of another at the ts; particularly thoſe at the Articulation of the Humerus l Ulna.

ATHRON, βάθρον, or βάθεον, as it is written in *Hippo-s's* Treatiſe *de Flatibus.* The Seat, or Support. Thus, he Treatiſe juſt quoted, it is ſaid, that the Air is the *Sup-* of the *Moon.*

Bathron alſo ſignifies the *Scamnum Hippocratis*, an Inſtru-t invented for the Extenſion of fractur'd Limbs. The geons have laid it aſide at preſent, and make uſe of more modious Inſtruments. The Curious may ſee a Deſcription in *Oribaſius de Machinamentis, Cap.* 29. *Scultetus* alſo ribes it.

ATHYPICRON. A Name for the *Abſinthium latifo-* *Blancard.*

ATHYS. A Sort of Cheeſe which People of Diſtinction *ome* uſed to eat. *Galen* ſays it is the beſt Sort of Cheeſe; is, that, of all Sorts of Cheeſe, it is the beſt Aliment. *De nt. Facultat. Lib.* 3. *Cap.* 17.

TIA. A Retort.

TINON MORON. The Raſpberry. *Blancard.*

TIS, βατὶς. The *Crithmum* is thus called, and alſo *Ba-*

tis is alſo the *Thornback.* See RAIA.

ppocrates makes mention of this Fiſh, and directs the ue as a Peſſary to be uſed in a Redundance of the

TITURA. The ſame as BATTITURA, which ſee.

TOS, βάτος, a Bramble, or Briar.

TRACHIOIDES. This is, according to *Blancard*, a s of *Geranium*, reſembling the *Ranunculus.*

TRACHITES. A Sort of Stone, which takes its Name άτραχος, a Frog, as the *Bufonites* does from the Toad. f no Uſe, that I know of.

TRACHIUM. A Name for the RANUNCULUS, ſee.

TRACHUS, βάτραχος, is an inflammatory Tumor, riſes under the Tongue, eſpecially in Children. *P.* . *Lib.* 3. *Cap.* 26.

a Tumor of the Parts under the Tongue, eſpecially of ins. *Aetius, Tetrab.* 2. *Serm.* 4. *Cap.* 37. See RA-

TTATAS HISPANICA.

tas, Offic. C. B. Pin. 91. J. B. 2. 790. *Batatas eregrina, Indica Camotes, Amotes, & Aies etiam dicta* . I. *Cluſii*, Chab. 259. *Battatas occidentalis Indiæ*, Park. Theat. 1383. *Battatas Hiſpanorum*, Parad. 517. *Convolvulus Indicus Batatas dictus*, Raii Hiſt. 1. 728. Pluk. Almag. 114. *Convolvulus Indicus, radice tuberoſâ eduli, cortice rubro, Batatas dictus*, Parad. Bat. Prod. 325. *Indicus Orientalis Inhamæ, ſeu Batatas, Siſarum Peruvianorum, ſeu Battata Hiſpanorum*, Hiſt. Oxon. 2. 11. *Battata radice tuberoſâ eſculentâ, Spinachiæ folio, flore albo, fundo purpureo, ſemine poſt ſingulos flores ſingulo*, Cat. Jamaic. 53. Hiſt. 1. 150. *Siſarum Peruvianum, ſive Battatas Hiſpanorum*, Ger. Emac. 925. *Jetica, vulgò Batata*, Piſ. 93. *Jetica Braſilienſibus*, Marcg. 16. *Kappa-kelengu*, Hort. Mal. 7. 95. SPANISH POTATOES.

They are uſed either boil'd or roaſted under the Aſhes. They are of a fine Taſte, and by ſome preferred to our Turneps. If they are taken new, and bruiſed, and macerated with a little Water, they ferment of their own Accord, and produce a Drink uſed by the Inhabitants of *Braſil.*

They grow ſpontaneouſly in *Newfoundland*, and the neighbouring Iſlands; whence they were firſt brought into *Spain*, and thence into other Countries of *Europe*, *Raii Hiſt. Plant.*

BATTATA VIRGINIANA, Offic. Park. Theat. 1383. *Battata Virginiana, ſive Virginianorum, & Pappus*, Ger. 781. Emac. 927. *Papas Americanum*, J. B. 3. 621. *Papas Americanum Pycnocomum, Opanank Inſulæ Virginiæ radix Chunno*, Chab. 523. *Papas ſeu Battatas Virginianum*, Park. Parad. 517. *Solanum tuberoſum eſculentum*, C. B. Pin. 167. Prod. 89. Raii Hiſt. 1. 675. Synop. 3. 265. Hiſt. Oxon. 3. 522. Tourn. Inſt. 149. Elem. Bot. 124. Boerh. Ind. A. 2. 67. Rupp. Flor. Jen. 37. Buxb. 306. VIRGINIA, COMMONLY CALLED IRISH POTATOES, Dale.

In *Virginia* it grows ſpontaneouſly, but with us is cultivated in Gardens. It flowers in the Months of *June* and *July.* Its Root is only in Uſe; and that too in the Kitchen, but never in the Shops. It ſeems to agree, as to its Qualities, with the *Spaniſh* Potatoes, but is ſomewhat narcotic. *Dale.*

You are to chuſe thoſe which are large, plump, tender, reddiſh without, and white within, and of a good Taſte, like that of an Artichoke.

They nouriſh the Body, moiſten much, and allay the ſharp Humours of the Breaſt; but yet produce groſs Humours, and cauſe Wind.

They contain a little Salt, but much Oil and Phlegm.

They agree at all times with young bilious People, and thoſe in general, whoſe Humours are very ſharp, and much agitated.

REMARKS.

Potatoes are by ſome called Earth Pears; becauſe they grow in the Earth to the Branches of the Root that bears them. They were brought originally from the Country of *Tapinambour*, in *India*, and they are now much uſed for Food.

They are nouriſhing enough, and allay the ſharp Humours of the Breaſt by their oily and balſamic Principles, which are apt to unite to thoſe Parts that want recruiting, and to embaraſs the ſharp, Salts that vellicate the Breaſt. They produce groſs Humours, and Wind, becauſe they contain a viſcous and thick Juice. *Lemery on Foods.*

Potatoes are extremely emollient, and conſequently good to prevent and cure Diſorders proceeding from, or attended with, a Rigidity or Stricture of the Fibres. Hence it is a very proper Food for thoſe who uſe much Exerciſe.

BATTATA CANADENSIS, Offic. *Battatas de Canada*, Park. 1383. Parad. 516. *Flos ſolis pyramidalis, parvo flore, tuberoſâ radice, Heliotropium Indicum quorundam*, Ger. Emac. 753. Raii Hiſt. 1. 335. *Flos ſolis tuberoſus Indicus, ſive Adenes Canadenſis*, Griſl. Virid. Luſitan. *Corona ſolis, parvo flore, tuberoſâ radice*, Elem. Bot. 391. Tourn. Inſt. 489. Boerh. Ind. A. 102. *Helianthemum Indicum tuberoſum*, C. B. 277. *Helenium Indicum tuberoſum*, H. R. P. 85. *Chryſanthemum Indicum, radice tuberoſâ*, Herm. Hort. Lugd. Bat. 142. Pluk. Almag. 99. *Chryſanthemum perenne majus, foliis integris, Americanum tuberoſum*, Hiſt. Oxon. 3. 23. *Chryſanthemum Canadenſe ſtrumoſum*, Florent. Schw. Cat. Leyd. 22. *Flos ſolis Farneſianus, ſive Aſter Peruanus tuberoſus*, Col. Ecyh. 2. 11. *Flos ſolis tuberoſus, ſeu Flos Farneſianus*, Aldin. 91. JERUSALEM ARTICHOKE, Dale.

It is cultivated in Gardens, and only applied to culinary Uſes.

BATTITURA. The Squamæ or Scales of Metals, which fly off, whilſt under the Hammer.

BATCIA. According to *Blancard*, a Name for the *Paſtinaca Sylveſtris.*

BAUDA. A Veſſel for Diſtillation. *Rulandus.*

BAUHINIA. Mountain Ebony. *Vulgò.*

This Plant was ſo named by Father *Plumier*, in Honour of the two famous Botaniſts, *John* and *Caſpar Bauhine.*

The Characters are;

It hath a polypetalous anomalous Flower, conſiſting of five or more Leaves, which are diſpoſed on one Side; from the

Flower-cup ariſes the incurved Pointal, accompanied with ſeveral Stamina of the ſame Form, which afterward becomes a Pod incloſing Kidney-ſhap'd Seeds.

Miller enumerates ſeven Species of this Plant.

BAUL, Urine. *Rulandus.*

BAURAC. The *Arabic* Word for Nitre; or for any Salt. *Rulandus.* Hence Borax took its Name.

BAXANA. An *Indian* Plant thus diſtinguiſh'd.

Baxana Arbor venenata, J. B. *Arbor fructu venenato, Radice venenorum antidoto*, C. B.

Near *Ormuz* in *Queionne*, a deſart Iſland, there is a Tree call'd *Baxana*, the ſmalleſt Quantity of whoſe Fruit ſuffocates the Perſon who taſtes it. The ſame Effect is alſo produced by remaining a Quarter of an Hour under its Shade. But, ſince the Root, Leaves, and Fruit of this Tree, which is call'd *Rarbuxit*, are, in other Countries, Antidotes againſt all kinds of Poiſons, theſe Circumſtances to me appear improbable. *Raii Hiſt. Plant.*

BDALSIS, βδάλσις, from βδάλλω, to ſuck, or milk. Suction, or Milking.

BDELLA, βδέλλα. A Horſe leech. *Hippocrates*, in his ſecond Book of *Prorrhetics*, ſeems to mention the βδέλλα, as a Cauſe of Bleeding at the Fauces. As it is not very eaſy to conceive how this Animal ſhould get to that Part, ſome have thought that βδέλλα, in this Place, ſignifies a varicoſe Vein, as it does in *Dioſcorides*. But *Galen* contradicts this, and ſays it really means a Horſe-leech, which may accidentally get thither.

Leeches, when ſwallow'd, are eſteem'd of bad Conſequence: Therefore *Celſus* adviſes to drink, by way of Antidote, Vinegar with Salt, *L.* 5. *C.* 27.

We know that a Leech has been ſwallow'd, when the Mouth of the Stomach has a Senſation of being ſuck'd and bitten. Sometimes alſo, when the Leech fixes on the Throat, the Patient, in Spitting, brings up a florid Blood. Brine, the Succus Cyrenaicus, the Leaves of Silphium or Beets, with Vinegar, or Snow diſſolved in *Poſca*, (a Mixture of Water and Vinegar) are proper for diſlodging and bringing them away. The Patient muſt alſo uſe Gargariſms of Water and Nitre, or Vinegar and Vitriol. Leeches, which fix on the inner Side of the Throat, may be diſlodged by ordering the Patient to ſit up to the Neck in warm Water, and hold cold Water in his Mouth; for they will come out forthwith in Queſt of a cold Liquor, to which they have been accuſtom'd. Some preſcribe Bugs (κόρεις) for thoſe who have ſwallow'd Leeches; but, ſays *Galen*, I never had Occaſion for preſcribing them, ſince I found Garlick effectual in theſe Caſes. *Paul. Ægineta*, *L.* 5. *C.* 36.

I don't know, whether *Paulus* means, by κόρεις, Bugs, *Cimices*, as *Cornarius* has tranſlated it; or a ſort of *Hypericum*, call'd by *Dioſcorides* κόρις. See HIRUDO.

BDELLERUM, according to *Johnſon*, alſo ſignifies a Horſe-leech.

BDELLIUM, Offic. Park. Theat. 1571. C. B. Pin. 503. J. B. 1. 317. Chab. 73. Mont. Exot. 11. *Bdellium omnium auctorum*, Raii Hiſt. 2. 1844. *Bdellium gummi*, Ind. Med. 18. GUM BDELLIUM. *Dale.*

Bdellium is by ſome call'd *Madelcon*, by others *Bolchus*. It is the Tear of a *Saracenian* Tree.

The Marks of its Goodneſs are, a bitter Taſte, Tranſparency, a Reſemblance of Bull's-glue, a Fatneſs of the innermoſt Parts, and an Eaſineſs to be ſoften'd; its being free from Chips and Dirt; with a Fragrancy in Suffumigations, like the *Unguis odoratus*.

There is another kind of *Bdellium*, which is of a black Colour, and dirty, in large Grains, made up into Maſſes: This is imported from *India*. There is alſo a dry, reſinous, leaden-colour'd Sort, which comes from *Petra*, and is next to the beſt in Efficacy.

It is adulterated with a Mixture of Gum; but what is thus vitiated has not that Bitterneſs of Taſte, nor Fragrancy in Suffumigations, which belongs to the pure and genuine.

It is of a heating, mollifying Virtue, diſcuſſes Hardneſſes, Tumors about the Throat, and an Hydrocele, if it be diluted with faſting Spittle. Uſed in a Peſſary, or by way of Suffumigation, it relaxes the Veſſels of the Uterus, and brings away the Birth, and all manner of Humidities. Being drank, it breaks the Stone, and provokes Urine: It is given with Succeſs in a Cough, and to thoſe who are bitten by venomous Creatures. It is good alſo in Ruptures, Convulſions, Pleuriſies, and erratic Flatulencies; and is an Ingredient in Malagmas that are compoſed againſt Hardneſſes, and Nodoſities of the Nerves. They bruiſe it, and work it up with Wine, or warm Water. *Dioſcorides*, *Lib.* 1. *Cap.* 80.

The *Arabians* call *Bdellium Mokel*, not *Molechil*, as the Tranſlator of *Serapion*, whom all follow, reads it. Every one knows, that it is a ſweet-ſcented Gum of an *Arabian* or *Indian* Tree. The *Arabians* had another *Mockel*, which was the Fruit of a kind of Palm-tree. *Serapio* treats of both Sorts in two diſtinct Chapters. *Avicenna* comprehends them both in one Chapter, tho' they agree in nothing but the Name; but for
Diſtinction-ſake they call'd one *the Mokel of Mecca*, and th
other *the Mockel of Judea*.

Braſſavolus, whom almoſt all follow, is miſtaken when h
writes, that the *Bdellium* of the Antients was divided by *Avi*
cenna into the *Judean* and *Arabian*; for *Avicenna* diſtinguiſh
the *Judean Bdellium*, which is a Gum, from the *Meccan*
which is the Fruit of a Tree; but he makes two Kinds of t
Judean Bdellium, the *Sclavian* and the *Arabian*; therefore t
Epithet of *Judean* was common to both ſorts of Gums,
order to diſtinguiſh them from the Fruit of that Name. Th
many *Indian* and *Arabian* Simples were, by the Antients, call
Syrian; becauſe they were exported out of *Arabia* and *Ind*
into *Syria*. *Marcellus Empiricus* ſays, of the exotic and ar
matic Simples uſed in Medicine,

Adde & Aromaticas Species quas mittit Eous,
Vel quæ Judaicis fragrant bene condita Capſis.

" Add aromatic Simples ſent from the *Eaſt*, or ſuch as p
" ſerve their Fragrancy in *Judean* Boxes;" *Judean*, that
Syrian, for in the *Greek* Geographers alſo Συρία Παλαισ
(*Syria Palæſtina*) means *Judea*. The ſame Species were cal
Indian, from the Place where they grow; and *Syrian* or
dean from the Markets or Shops where they were ſold;
that the *Judean Bdellium* was the ſame with the *Syrian*,
which there were two Kinds, the *Indian* and *Arabian*. Ho
ever, *Avicenna* ſeems to be of Opinion, that the *Judean B*
lium was different from the *Arabian* and *Sclavian*; for he wri
that there was the *Sclavian Bdellium*, and the *Arabian*, beſ
the *Judean*. By a like Miſtake, *Dioſcorides* made the *Syr*
Nard, which is the ſame with the *Indian*, a different Th
He ſeems alſo to make three Kinds of *Bdellium*, and his
count of them is pretty confuſed. He ſays it is the Tear
Saracenian Tree, that is, an *Arabian* Tree, pellucid, and
the Colour of Bull's-glue. He then adds, that there w
dirty and black Kind, made up in Lumps, which was bro
from *India*. Laſtly, he ſubjoins, that there was a dry, reſin
blackiſh [ὑποπέλιον] Sort brought from *Petra*. Perhaps, b
Judean, *Avicenna* meant the *Petræan*, as *Pliny* ſometimes
ders Πετραῖον by *Judæum*, and mentions *Petræa Judæa*;
Stephanus makes *Petra*, which gave Name to *Arabia Petr*
City of the *Third Palæſtina*, which, it is certain, was *Ju*
Avicenna, in another Place, mentions a *Bdellium* of an
colour, which may probably be the ſame with the *Petræ*
Dioſcorides, which he calls ὑποπέλιον, *hypopelium*; for th
dian is black, but the *Arabian* of the Colour of a Man's
or like tranſparent Wax.

All the *Greek* Authors, ſince *Dioſcorides*, knew no
than two Kinds of *Bdellium*, which are, as they call them
Σκυθικὸν ϗ Ἀραβικὸν, " the *Scythian* and *Arabian*;" ſo
Galen, *Aetius*, *P. Ægineta*, and others. As to the *Sc*
they give the very ſame Account of it, which *Dioſcorides*
of the *Indian*; ſo that it is plain, that their Σκυθικὸν wa
ſame with *Dioſcorides*'s Ἰνδικόν. By Σκυθικὸν, muſt be u
ſtood what is brought out of *Indo-ſcythia*, or *Southern Sc*
at the Mouth of the *Indus*. The Author of the *Periplus* w
that *Bdellium* is brought from thoſe Parts.

Since *Avicenna* and *Serapio* make a Difference betwe
Bdellium Judaicum (of which one Sort is the *Arabian*) a
Bdellium Meccenſe, which they will have to be the Frui
Tree; and as every one knows, that *Mecca* is in *Arab*
appears, that there are two Kinds of *Arabian Bdellium*,
Gum, and the other the Fruit of a Tree. And *Avicenn*
ſelf, in the ſame Chapter, takes Notice alſo of a *B*
Meccenſe, which was the ſame with the *Judaicum*, a
not the Fruit of a Tree; and this probably was the
that which *Dioſcorides* ſays was brought from *Petra*;
the general Opinion, that the modern *Mecca* was the *P*
the Antients. It was formerly a very noted Emporium
dian and *Arabian* Commodities, which were brought
from *Albus Vicus*, a Port of the *Arabian* Gulph. And
the *Indian Bdellium* was the ſame as that which *Dioſcori*
came from *Petra*; at leaſt, it is certain, that the *Greek*
follow'd *Dioſcorides*, underſtood him in that Senſe, maki
two Kinds of *Bdellium*, the *Arabian*, and the *Indian*,
they call the *Scythian*. The firſt, then, in Goodneſs,
Arabian; and of an inferior Sort was the *Indian*, wh
brought from *Petra*, an Emporium of *Arabia*. How
cannot deny but the Words of *Dioſcorides* may be un
of three Kinds of *Bdellium*. *Pliny* reckons more, as th
lonian, the *Median*, and the *Bactrian*.

As to the Word βδέλλιον, *Bdellium*, it comes from
brew בדלח *Bedolach*; for βδέλλιον is the Diminut
βδέλλα the Primitive. *Damocrates*, in the Author of
riplus, calls it βδέλλην. *Marcellus Empiricus*,

—— *Crocon atque Bedellam.*

I am not ignorant, that moſt of the *Jewiſh* Interp
pound the *Arabian Bedolach* by a Pearl; but ſome of the
underſtood by it a Spice, and the Matter itſelf plainly
For of this *Bedolach* the *Greeks* coin'd their μαδαλκός, o
χὸς, to ſignify *Bdellium*; for μ and β are often chang

another. Nor is it to be wonder'd, that two Words of different Sounds, but ſignifying the ſame Thing, ſhould have the ſame Original, as that βδέλλα and μέδαλχος ſhould both come from *Bedolach*. For, after the ſame manner, out of one *Hebrew* Word אהלות *Ahaloth*, ſome made ἀγάλλαχον (*Agallochum*); others from the ſame Word, contracted into *Aloth*, made ἀλόη (*Aloe*). The Country of *Havilach* חוילה, or *Chavila*, *Geneſis* 2. 11. where the *Bedolach* grows, may as well be taken for *India* as *Arabia*. All the Characters there given belong alſo to *India*; for *India* too exports Gold and the Onyx-ſtone. There is frequent Mention made of the ὀνυχίνη λιθία in the Author of the *Periplus*, which Stone is brought out of *India*. The Ἐυιλαῖοι (*Euilæi*), a People of *India*, are not far diſtant from this Country of *Havila*; they are ſo call'd by *Epiphanius*. The antient *Periegeſis*, or *Itinerary*, of the World, takes Notice of Ἐυιλῖται (*Euilitæ*). *India* then produces *Bdellium*, that is, *Bedolach*. But the Characters belong to *Arabia* in a more eminent Degree; there are the People Χαυλόται (*Chaulotæ*), or the Χαυλοταῖοι (*Chaulotæi*), of *Eratoſthenes*; there is alſo the pureſt Gold. The fineſt *Bdellium* is that of *Arabia*, which is tranſparent, and of the Colour of Wax. "Bedella "is a Tree in *India* and *Arabia*, the Tear of which is beſt in "*Arabia*, being light, fat, and like Wax throughout; but the "*Indian* is dirty, black, and in bigger *Lumps*." *Iſidorus*. *Avicenna* ſays the *Arabian Bdellium* is red, of which the Antients ſay nothing; but perhaps he only means a Wax-colour. Βδέλλιον τὸ Ἀραβικὸν διαυγές τε ϗ ξανθόν· "The *Arabian* "*Bdellium* is tranſparent and yellow." *Aetius*, *Lib*. 3.

From what has been ſaid, it appears, that the *Bdellium* of the Antients was that ſort of Gum which the *Portugueſe* now call *Gum-Anime*. It is the Tear of a Tree, whitiſh, reſinous, tranſparent, inclining to the Colour of Frankincenſe, which, broken, appears of a Wax-colour, in Grains like Frankincenſe, but bigger: The Oriental, or *Indian*, is ἁδρόβωλον (*Hadrobolum*) in great Lumps. *Salmaſius de Homonym. Hyl. Iatric. Cap*. 109.

This is a Gum of a reddiſh-brown Colour, deeper than Myrrh, and of a tougher and more tenacious Conſiſtence; and is difficultly diſſolved in any Liquor, coming neareſt to Myrrh in Scent, but not ſo pleaſant; of a bitteriſh hot Taſte. What comes from *Turky* and *India*, is by much the beſt. There is another Sort, which comes from *Guiney*, that is whiter, in large round Drops, of little Scent; but this is leſs eſteem'd. We are quite Strangers to the Tree which produces this Gum. The beſt Accounts which we have, is, that it is a thorny Tree, with Leaves like thoſe of the Oak.

This Gum is of an heating and drying Nature, helpful againſt Coughs and Impoſtumations of the Lungs, provokes Urine and the Catamenia, expels the Birth and After-birth. Outwardly it is uſed in diſſolving and diſcuſſing Plaiſters. *Miller*'s *Bot. Off.*

Geoffroy ſays, that both Sorts undoubtedly come from *Abyſ*- *ia*.

Some eſteem the *Bdellium* of the Antients to be the *Gum* *nime* of the Moderns.

Pliny, *H. N. L*. 12. *c*. 9. ſays, that this Tree is prickly, ack, and as high as the Olive-tree; and that it bears Leaves hich are evergreen, and very like thoſe of the Oak. The ſt Sort of this Gum is pure, yellowiſh, of a bitter Taſte, and ry agreeable Smell; it is tranſparent when broken. It is fat, mbuſtible, ſoon catches Fire, and is eaſily melted. That which black and impure is good for nothing. *See Joh. Jac. Wecker. tid. Spec. L*. 1. *Sect*. 17. *Galen* gives it the Epithets *Ara*- n and *Scythian*; *Pliny* that of *Bactrian*, *L*. 6. *C*. 16. & *L*. *Celſus* alſo, *L*. 7. *C*. 4. gives it the Epithet *Bactrian*, her from the Country of *Bactria*, or from the River *Ba*- *tium*, not far from *Judea*. Some are of Opinion, that *Bdel*- *m* and *Myrrh* are produced by one and the ſame Tree, and t there is no Difference between theſe two Drugs. *Monardes* of Opinion, that it is the true *Anime*. *See Matthiol. Comment. L*. 1. *Dioſcor*. *C*. 70. *Ruel*. *L*. 1. *C*. 57. *Ol. Worm. Mu*- *m*, *L*. 2. *C*. 15. & 23. *Joh. Dan. Mylii Antidotar. Med.* *mic. reform. L*. 2. *C*. 9. *Georg. à Turre de Hiſt. Plant.* 1. *C*. 81. *Paul. Amman. Manuduct. ad Mater. Med. p*. 128. *llium* is of a hot, comforting, ſweetening, abſorbent, diſ- ſing, and opening Nature. When uſed internally, it cleanſes Breaſt of acrid Matter, allays Coughs, purges the Kidneys, cleanſes Ulcers of the Lungs, provokes Urine, and expels Stone and Gravel, *Galen*. *S*. 6. *de Simpl. Med. fac*. ſtops the moderate Flux of the Menſes and the Hemorrhoids, tho' 'tis rarely uſed internally. Externally, it ſoftens, diſcuſſes, maturates all Kinds of Swellings and Apoſtems, cures nt Wounds, and injured Arteries. In the Shops it is made ngredient in many ſoftening and diſcuſſing Plaiſters and tments: It is alſo in the *Mithridate*, the *Emplaſt. de Me*- , *Meſ. Empl. Apoſtolicon*, *Nicol. Alexandrin. Emplaſt. Cero*- , *Nicol. Empl. Stictic Croll. Emplaſt. Diaphoret. Mynſ.* *Ceratum Ammoniatum Foreſt*. the *Ceratum Matricale*, or *Galbano Auguſt*. the *Unguent. Apoſtolorum Avicenn. Barthol.* *Botanolog*.

BDELLOS, βδέλλος. The Smell of a Lamp juſt extinguiſh'd. It ſignifies alſo a Diſcharge of Wind by the Anus. Hence,

BDELYGMIA, βδελυγμίη, or βδελυγμία, or βδελύειν. A horrid, diſagreeable, and fetid Smell, ſufficient to induce a Nauſea; or, as it is uſually expreſs'd, to turn the Stomach; ſuch as that of ſome Ulcers, or Excrement.

BECABUNGA. A Name for the ANAGALLIS AQUATICA, Brook-lime, which ſee.

BECHICA, βηχικὰ, from βὴξ, a Cough. All Medicines which are deſign'd to relieve Coughs, are call'd by this Name. It is particularly appropriated to ſeveral ſorts of Troches, to be found in the Compilers of Diſpenſatories, and ſignifies the ſame as *Pectoral*.

TROCHISCI BECHICI ALBI: *The white Pectoral Lozenges.*

From the College.

Take of fine Sugar, one Pound; of white Sugar-candy, half a Pound; of *Florentine* Orrice-root, half an Ounce; of Liquorice-root, ſix Drams; of Starch, one Ounce and an half; and make them into ſmall Lozenges, with a ſufficient Quantity of the Mucilage of Gum Tragacanth, made in Roſe-water. On Occaſion may be added Ambergriſe and Muſk, four Grains of the firſt, and three of the latter.

Theſe are in all the old *Diſpenſatories* in the ſame manner, without Alteration. They are pretty much uſed for Coughs, and Defluxions of Rheum. Some add to them Ambergriſe and Muſk, which makes them ſerviceable to ſweeten the Breath. But they are of no great Efficacy to any Purpoſe, and may be taken at Pleaſure.

This is directed very little different in the *Edinburgh Diſpenſatory*.

White PECTORAL LOZENGES.

From Quincy.

Take of the Four greater cold Seeds, huſk'd, of each one Ounce and an half; white Poppy-ſeeds, and Pine-nuts, of each one Dram; Orrice and Starch, in fine Powder, of each three Ounces; fine Sugar, ſeventeen Ounces: Beat the Seeds into a Paſte; then put to it the Powders, and make all into a due Conſiſtence, with a Mucilage of Gum Tragacanth and Roſe-water, to cut out into Lozenges.

This is a much better Compoſition than that under the ſame Name in the *College Diſpenſatory*; and if ſweet Almonds were in the room of the Pine-nuts, it would be yet more grateful. This is from the *Pharmacopœa Regia* of *Zwelfer*, who likewiſe makes a red Lozenge, by adding to this two Ounces of Bole; which, with the Whole, is very good againſt the Heartburn, and is the ſame, if not a better Remedy, in that Caſe, than ſome which are frequently advertiſed in public Places with great Encomiums.

TROCHISCI BECHICI NIGRI: *The black Pectoral Lozenges.*

From the College.

Take of the Juice of Liquorice, and of white Sugar, of each ten Drams; of Gum Tragacanth, and ſweet Almonds, blanch'd, of each ſix Drams; and make them into Lozenges, with a ſufficient Quantity of the Mucilage of Quince-ſeeds, made with Roſe-water, *S. A.*

In the *Auguſtan Diſpenſatory* this is clogg'd with many other Ingredients; but the firſt of the College hath it exactly as here, and there aſcribes it to *Rhazes* for its Author. The *Auguſtan* Collection hath alſo many other Compoſitions of the ſame Form and Intention; but they have not Reputation enough to continue them down to the preſent Practice. Theſe are much more effectual than the former, to ſtop Coughs from tickling Rheums, but not quite ſo grateful to take. Some powder the Tragacanth, but that is very tireſome, and will not make up ſo ſmooth, as if it be gradually open'd with Roſe-water, enough to beat up with the Almonds into a Paſte, and afterwards with the other Ingredients.

The *Edinburgh Diſpenſatory* directs this different from the preceding.

Take of the Juice of Liquorice, two Ounces; Balſam of *Tolu*, and Storax Calamita, each a Dram; white Sugar, half a Pound; Mucilage of Gum Dragon, made with Hyſſop-water, ſuch a Proportion as will, with the requiſite Art, make the Whole into Lozenges.

Quincy directs a Troche with the ſame Title, the Preparation of which is as follows:

Take of the Four greater cold Seeds, huſk'd, of each two Ounces; white Poppy-ſeeds, one Ounce; pour upon theſe, in a Marble Mortar, a ſufficient Quantity of Juice of Liquorice, diluted to the Conſiſtence of a Syrup with Roſe-water, to make them into a ſoft Pulp; which drive thro' a Sieve with more Pulp of Liquorice, four or five Ounces; and to them put ſtrain'd Storax, one Ounce; Powder of Orrice, three Ounces; of Aniſe and Fennel-ſeeds, of each one Ounce; fine Loaf-ſugar, two Pounds and an half; and make all into a Paſte.

This is likewiſe from *Zwelſer*, and greatly exceeds that of our College. It is an excellent good Pectoral Lozenge, and uſeful in all Coughs whatſoever, to be taken at Diſcretion.

BECHION, a Name for the *Tuſſilago*, Coltsfoot, becauſe it has the Reputation of being good for Coughs.

BECIOIS, βηκίοις, or βηκείοις, is explain'd by *Galen* προβατίοις, Sheep.

BECUIBA NUX.

This Nut is as large as a Nutmeg, and of a brown Colour. It conſiſts of an oily Kernel, incloſed in a woody brittle Huſk. A *Balſam* is drawn from it, very much eſteemed in Rheumatic and Paralytic Caſes. It is brought from *Braſil*. *Geoffroy*.

BEDEGUA. Amongſt the *Arabians*, this was the Name for a Species of Thiſtle. *Raii Hiſt. Plant.* *Blancard* ſays it was the SPINA ALBA.

BEDEGUAR. The ſpongy Excreſcences of the *Roſa Sylveſtris* are thus called by ſome Writers on the *Materia Medica*. The Aſhes of theſe, burnt, are ſaid to be effectual in the Gravel and Dyſury; and to incline the Perſon, who lies upon them, to ſleep. *Raii Hiſt. Plant. Dale.*

BEENEL, an evergreen Shrub, which grows in *Malabar*.

A Liniment is prepared of the Root of this, boiled in Oil of *Seſamum*, which is ſaid to be good for Head-achs, and effectual in removing inveterate Pains in the Limbs.

BEESHA, a Species of the *Bambu*, which grows in *Malabar*. A Decoction of this is uſed in Obſtructions of the Menſes; as alſo in Eroſions of the Gums, and Tooth-ach, by way of Gargariſm.

BEGMA, βήγμα, from βὴξ, a Cough, in *Hippocrates* ſignifies both a Cough, and the Spit brought up by it.

BEGUILL, a Fruit about the Size of an Apple, with a rough and knotty Rind, incloſing a Pulp like the Strawberry. *Raii Hiſt. Plant.*

BEHEM.

The Root *Behem*, as it is delivered to us by the *Arabians*, has been the Occaſion of no ſmall Miſtake on account of its Homonymy, or paſſing under the ſame Appellation with the Hermodactyl. *Been* and *Ben* are erroneouſly made to be homonymous with the *Balanus Myrepſica*. The Name of this Root in *Arabic* is *Behem*, and *Albehem*. The *Greeks* pronounce it πεχὲμ *(Bechem)*, becauſe they expreſs the *Arabic*, *he*, by χῖ, as ταμαρχένδι for *Tamarhendi*. Hence, in *Charito*, and other Phyſicians of later Ages, we read of the πεχὲμ λευκὸν and ἐρυθρὸν, "the white and the red *Bechem*," which muſt be underſtood of this *Arabian Behem*, which is of two Kinds, white and red. Therefore *Avicenna*, where he treats of them, expreſſes the Name, in the Title, in the Dual Number, *Behemen*, and compriſes them both under the following Deſcription; that they are ligneous Pieces of dry'd Roots, ſhrunk and ſhrivell'd up, and are of two Kinds, the white and the red. The later *Greeks* make alſo two Kinds of *Hermodactyls*, the white and the red; and, for the moſt part, they uſe the Term *Hermodactyl* for the *Arabian Behem*, tho' what the *Arabians* call *Hermodactyl* be quite another Thing. *Myrepſus*, in his *Antidote* διὰ μαργαριτῶν *Galeni*, has it thus in the *Greek* Copy, as *Fuchſius* aſſures us: Μπεὲμ ἄλβε ῥέμπιε τὰ ἐπιλεγόμενα δίμαι Ἑρμοδάκτυλα μακρά. In the King's Manuſcript we found written, on that Place, Ἁρμοδάκτυλα λευκὰ ϗ ἐρυθρά. That antient Copy always reads Ἁρμοδάκτυλον for Ἑρμοδάκτυλον. In an antient *Græco-Arabic* Lexicon, we read Μπυσαίταν ϗ μάκας τὸ Ἑρμοδάκτυλον, where μπυσαίταν is written for βυσαίδαν, which is the *Arabic Buzidan*, or *Buzaidan*; and, as we are inform'd by *Avicenna*, a ligneous *Indian* Drug, endued with the ſame Virtues as both the Kinds of the *Behem*. This Wood, he ſays, uſes to be adulterated with another Kind call'd *Alhaba Barbarie*. This is a Root brought out of *Africa*, which Country was call'd by the *Arabians Barbaria*, and is ſo named at this Day. *Avicenna*, in the Chapter where he treats particularly of this *Chabe Alberberi*, that is, the *Barbarian* or *African Chabe*, ſays, it was ſomething which was like *Hermodactyli*, brought from *Africa*, and by which *Hermodactyls* are adulterated. So that the *Buzidan* and the *Hermodactyls* were both adulterated by this *African* Root *Chabe*, and the *Buzidan* had the ſame Virtues as the *Behem*. There was no great Difference, then, between the *Hermodactyl* and the Roots of *Behem*, ſince one and the ſame Thing adulterates *Hermodactyl* and *Buzidan*, which is like *Behem*. It is no Wonder then, that the later *Greeks* uſed the Name of *Hermodactyl*, inſtead of *Behem*.

The *Arabic* Word for *Hermodactyls* is *Alſurengian*, the Meaning of which we are to inquire into. *Surengian* is not properly the ſame as the *Greek* Ἑρμοδάκτυλον but this latter is the Flower of that Plant which the *Arabians* call *Surengian*. For this we have the Authority of *Avicenna*, who calls it *Aſaba Hermes*, that is, the Fingers of *Mercury*, which plainly anſwers to the *Greek* Word Ἑρμοδάκτυλον. He ſays it is the Flower of the *Surengian*, and has the ſame Virtues; therefore the *Hermodactyl* is the Flower, and the *Surengian* the Plant. The ſame Author ſays, that the *Surengian* is the Root of a Plant, which bears white and citron-colour'd Flowers.

P. Ægineta is the firſt of the *Greeks*, as far as I know, who mentions Ἑρμοδάκτυλον, and only ſays of it, that it was of peculiar Efficacy in Pains of the Joints, while the Humour is afloat. By Ἑρμοδάκτυλον, he means that Kind of *Ephemeron* which is not poiſonous, of which *Dioſcorides* alſo writes, that it diſcuſſes Swellings; and the *Arabians* ſay, that it mitigates the Pains of the Gout, if the Parts be anointed with it. This is their white *Hermodactyl*, which they alſo call *Surengian*; but they beſtow'd this Name on two Plants, and were deceived by the Homonymy. One of them was a deadly Herb of *Colchos*, of the bulbous Kind, call'd by the *Greeks* ἐφήμερον, becauſe i was ſo quickly mortal as to kill within a Day's Space. Bu there was another Herb of that Name, which was alſo call'd the *Iris Sylveſtris*, which was not at all hurtful: This, perhaps, is what the *Greeks* alſo call'd Ἑρμοδάκτυλον, for it had one long Root of the Thickneſs of a Finger; for which Reaſon they ſeem to have call'd it Ἑρμοῦ δάκτυλον, "the Finger of *Mercury*," which Name agrees better with the Root than th Flower. So *Aſaba Safra*, another Root, from its Colour and Shape reſembling a Finger, is by the *Arabians* call'd *Yellow Fingers*. It is certain, that the ſame Effects are aſcrib'd by *Paulu* to the *Hermodactyl*, as are attributed by *Avicenna* to th *Surengian* which is not poiſonous, which are, that it is uſeful in Pains of the Joints, when the Humour is afloat.

The *Greeks* then knew but one Kind of *Hermodactyls*, whic was the harmleſs *Ephemeron*, call'd ἶρις ἀγρία, "the wild Iris;" and had a long Root of the Thickneſs and Likeneſs of a Finge and on that Account deſerved its Name; but the other round an bulbous-rooted *Ephemeron* had nothing to merit that Appellation yet the *Arabians* call'd both theſe *Ephemera* by the Name *Surengian*. An antient *Arabian* Herbaliſt renders the τὸ Κολχ κὸν of *Dioſcorides*, which is the deadly *Ephemerum*, by *Sure gian*: The other *Ephemeron*, which immediately follows *Dioſcorides*, he makes to be another Species of *Surengian*. they divided this Kind into two Species, the white and the re the red was the *Colchian*, or noxious *Ephemeron*, which had t Bark of its Root of a red Colour. *Avicenna* calls it the bla and red *Surengian*, and ſays it was poiſonous; he ſo calls becauſe its Fruit was black, inclining to red. *Dioſcoride* ſpeaking of the *Colchian*, καρπὸν ἔχοντα πυῤῥὸν ἐν τῷ μέλα ῥίζαν φλοιὸν ἔχουσαν ἐγκιῤῥὸν, "having its Fruit black, i "climing to red, and the Bark of its Root of a red Colour Thus it is read in a very good and antient Copy; and it is fu ther confirm'd by *Neophytus*. In the common Editions th Epithets are apply'd to the Root, not the Fruit, φλοιὸν ἔχ ἐγκιῤῥὸν ἐν τῷ μέλανι, "having a black Bark, inclining to re Wherefore this is not properly the red Hermodactyl; for t Name only belongs to the *Ephemeron* with a long Root of Thickneſs of a Finger. This is commonly call'd the wh Hermodactyl, and is the only Plant on which *P. Ægineta* ſtows the Name of Hermodactyl. *Avicenna*, who ſays that *Digitus Mercurii* was the Flower of the *Surengian*, is to be derſtood of both Species; and hence the Inhabitants of *Bar* or *Africa* call'd the Root of both *Ephemerons Hermodactyl*. Th is another Error in *Avicenna*, in making the *Surengian* the R of a Plant, that bears a white and citron-colour'd Flower; both *Ephemerons* have a white Flower. He miſunderſtood Words of *Dioſcorides*, where, ſpeaking of the *Colchian* Spec he ſays, ἀνίησιν ἄνθος λευκὸν, ὅμοιον κρόκου ἄνθει, "it produc "white Flower, reſembling that of Saffron." He took t in a Senſe as if they had run thus, ἄνθος λευκὸν, ϗ ὅμοιον κ ἄνθει, "a white Flower, and like that of Saffron," or Saffron-colour; but the Author intends it of a Likeneſ Shape, not in Colour. The Flower of the *Colchian Ephe* is ſhap'd like that of Saffron, but white. *Pliny* makes Flower of the other *Ephemeron* to be blue inſtead of white; muſt you think, that he had any Authority for what he The good Man was impoſed upon by his own Ears, which preſented to him κυάνεον ἄνθος for χιόνεον, "blue Flower," "Snow-white," as he hearken'd to his Amanuenſis, who u read to him. He has been miſtaken in Hundreds of other P from the like Occaſion.

The Herb *Pentaphyllum* was alſo call'd Ἑρμοδάκτυλος. Author of the Synonyma of *Dioſcorides*, Προφῆται ἴβεως οἱ δὲ πτερὸν ἴβεως, οἱ δὲ Ἑρμοδάκτυλον, "the Prophets c "the Claw of the Ibis, others the Wing of the Ibis, o "Hermodactyl." The ſpurious *Apuleius*, in his Herbal, u the Chapter of *Pentaphyllum*, has the ſame Expreſſions in L *Prophetæ*, &c. They alſo call'd it ἀνθρωπόχειρα, "Man's-h and Ἑρμοῦ βοτάνην, "the Herb of *Mercury*," as I found the Lexicon of *Harpocration*. This alſo is good for Pains i Joints, and for the Sciatica. And perhaps *Paulus* is to be u

od as ſpeaking of this Hermodactyl: That he did not mean
e Ephemeron is probable, becauſe he reckons it ſeparately,
d alſo the *Colchian* Species. *Serapion*, however, takes the
μοδάκτυλον of *Paulus* for the other *Ephemeron*, which is not
e deadly Sort. To this they attribute a Virtue of curing
ains in the Joints, which muſt be underſtood of the harmleſs
Ephemeron, not of the poiſonous. For *Abix*, in this Author,
s his Opinion, that the beſt of the two Hermodactyls was
t which had the Outſide, as well as Inſide, of its Root of a
ite Colour; for the black and red were pernicious. He
ns the *Colchian*, of which he ſeems to make two Sorts, the
ck and the red, tho' there be but one, which is of a black in-
ing to red. *Abix*, in *Serapion*, adds, that they are miſtaken
o think the *Lagias agreſtis* is brought from *Africa*; ſo the
ranſlator renders it; but for *Lagia* we are certainly to read
abia, which is the *Caaba* or *Chabe* of *Avicenna*; which, he ſays,
ike the Hermodactyl, and is uſed to adulterate it. The *Ara-*
n Interpreters obſerve, that this *Chabe* is like a ſmall Radiſh,
d is by ſome placed among the Species of Hermodactyls, and
alſo call'd by the *Arabians Buzeidan*. But theſe Plants differ
ly as to their native Soil; this latter is from *India*, the other
m *Barbaria*, that is, *Africa*. The *Arabian Labia*, and the
ermodactyl, or black *Ephemeron*, are ſo near akin in Shape and
ffects, that ſame have taken them for the ſame Plant; ſome
o adulterated one Species with the other, that is, the Hermo-
ctyl with the *Labia*.

The *Arabians* attribute to this *Caaba* a Virtue of augmenting
e Body in Bulk; and the Women uſe it for that Purpoſe,
d to give themſelves a portly Figure. The *Behem* has the ſame
operty, as *Avicenna* aſſures us: This is call'd by the later
eeks Ἑρμοδάκτυλον. Whenever we meet with Hermodactyl
theſe Authors ſimply mention'd, we are to underſtand it of
e *Pentaphyllum*, or of one of the two Species of *Ephemeron*;
t whenever we find in *Myrepſus* and others Ἑρμοδάκτυλος
κὸς ϗ ἐρυθρὸς, "the white and red Hermodactyl," we are
take them for the white and red *Behem*. *Myrepſus* common-
mixes them with Cardiacs, for comforting the Heart, and
engthening a weak Body, and for curing the Palpitation of the
art; for which Purpoſe both Sorts of the *Ben* are endued
h a ſingular Virtue, according to *Avicenna*, and other *Arabian*
thors.

Since the red and white Hermodactyls are both Ingredients in
ſame compound Medicine, that they cannot be the ſame
h the red and white Hermodactyl of the *Arabians*, may very
l be inferred from theſe laſt being accounted of different Pro-
ties, ſo as to be unqualify'd for entering the ſame Compo-
n; and the red Hermodactyl, which is the Κολχικὸν, is ac-
nted rank Poiſon both by *Greeks* and *Latins*, and has no
e in Medicine, except it be in the way of killing; upon
ch Account therefore it can have no Place at all in Medi-
, which rather provides a Remedy againſt noxious things,
n uſes them as a Remedy. It is ſaid, that a Decoction of
Leaves of Hermodactyls in Water, being drank, mitigates
s in the Joints, which muſt be underſtood of the white Her-
actyl or *Ephemeron*, which has no deleterious Quality. In
repſus there is an Ἀντίδοτος δι' Ἑρμοδακτύλου for the Gout in
Feet and Joints, which can be underſtood of no other than
e Hermodactyl with the long Root. Therefore *Braſſavo-*
s in an Error, when, following *Meſue*, he ſays, that the
d Hermodactyl is of more Efficacy towards theſe Inten-
, for which he would have them underſtood to be effectual,
is, for Affections of the Joints; for the round Hermo-
yl, which is the Colchian, does not agree with the Joints,
cannot be taken inwardly for the Joints, without being
icious. By the round Hermodactyl we are certainly to un-
and the Colchian with the round and bulbous Root; for the
r with the long Root may be called the Ἑρμοδάκτυλον μακρὸν,
e long Hermodactyl."

pon the Whole, the Hermodactyls of the *Greeks* are differ-
rom thoſe of the *Arabians*. Theſe call the Flower of the
Surengian, the Fingers of Mercury, by which Name they
both Species of *Ephemeron*. And the *Greeks* beſtow the
e of Ἑρμοδάκτυλον λευκὸν ϗ ἐρυθρὸν, "the white and red
ermodactyl," on what the *Arabians* call the white and red
m. They alſo call the *Buzidan* of the *Arabians*, which is
the white Behem, by the Name of Hermodactyl. They
ave it to be a Species of Satyrion, and ſo *Serapion* expounds
The vulgar Appellation for it is *Satyrium Baſilicum*, but
ops call it *Palma Chriſti*. Very learned Phyſicians main-
that the *Buzidan* of the *Arabians* is the ſame as *Avicenna*'s
n-fingers. *Braſſavolus*, who is followed by *Fuchſius*, ſays,
Avicenna treated of the *Buzidan*, which he corruptly call'd
idan, under the Title of Citron-fingers. But there are
Chapters in *Avicenna* of the Buzidan, and the Citron-fin-
and they are quite different things. This Author indeed
o give the different Appellation of the ſame thing in diſtinct
ters, but then he always gives Notice of it. The Citron-
s, or *Aſaba ſafra*, are ſhaped, as he ſays himſelf, like the
of the Hand. He calls it *alcaf*, which is the ſame as the
כף, *Chaph*, and properly ſignifies the Palm, or hollow
Part of the Hand, from the Verb כפף, which is to bend or incurvate. Hence *Cochleare* alſo comes to ſignify both a concave Inſtrument, and the Sole of the Foot. An old *Latino-Arabic* Lexicon interprets it by *Pugillum*, and *Alapa*, becauſe it is given with the flat Hand; whence comes *depalmare*, κολαφίζειν, "to ſtrike with the flat Hand." This Root is commonly called *Palma Chriſti*, from the ſame Likeneſs. *Avicenna* ſpeaks of the Citron-finger as a common Root; but the Buzidan, he ſays, is brought from *India*. The Citron-fingers ſhew this Colour by their Name; but the Buzidan is white. *Serapion* ſays it is like the white *Behem*, that it was alſo white itſelf, and an *Indian* Drug. Therefore the *Buzidan* can never ſeem to be the ſame with the Citron-fingers. Nor is *Julius Scaliger* nearer the Truth in ſaying, that it is the ſame with what the *French* Painters call Terramenta, which is the Curcuma (Turmeric) of the Shops, and therefore different from the Citron-fingers. *Salmaſ. de Homonym. Hyl. Iatrices, Cap.* 116.

The Sorts of *Behen* commonly known are the following:

Behen album, Geoff. Tractat. 286. *Behen album Rauwolfii*, J. B. 3. 37. *Been album Rauwolfii, folio lapathi, flore luteo, & radice longa flexili*, Chab. 448. *Behmen aliud*, Park. Theat. 1572. *Jacea Syriaca ſpinoſa, folio laciniato, flore luteo*, Rauwolf. Itin. Ed. Angl. 231. *Jacea Orientalis patula, carthami facie, flore luteo magno*, Tourn. Cor. 32. Raii Hiſt. 3. App. 104. *Serratulæ affinis capitulo ſquamoſo luteo, ut & flore*, C. B. Pin. 235. *Raphonticoides lutea, foliis inferioribus diſſectis, cæteris carthami*, Vaill. Mem. Acad. Scienc. Anno 1718. 1. 229. WHITE BEAN OF THE ANTIENTS.

Authors diſtinguiſh two Sorts of *Been*, white and red, but both are different from the *Arabian Ben*, which is the *Glans Unguentaria, Offic.*

White *Been* is a Root, which *Rauwolfius* found at the Foot of Mount *Libanus*, and which *Tournefort* brought from the *Leſſer Aſia*. The Plant to which it belongs is named *Jacea Orientalis, carthami facie*, J. R. H. according to *Vaillant*. It is cordial, antiſpaſmodic, and good to kill Worms. *Geoff.*

Behen album, Offic. Ger. 550. Emac. 679. Mer. Pin. 14. *Behen album Monſpelianum & Officinarum*, Merc. Bot. 1. 23. Phyt. Brit. 14. *Been album Officinarum*, J. B. 3. 356. *Lychnis ſylveſtris, quæ Been album vulgo*, C. B. Pin. 205. Raii Hiſt. 2. 998. Synop. 3. 337. Tourn. Inſt. 335. Elem. Bot. 281. Buxb. 201. Dill. Cat. Giſſ. 110. Boerh. Ind. A. 211. *Lychnis ſylveſtris perennis, quæ Been album vulgo*, Hiſt. Oxon. 2. 535. *Papaver ſpumeum vulg.* Herm. Cat. Hort. Lugd. Bat. 387. *Papaver ſpumeum, ſive Ben album vulgo*, Park. Theat. 263. *Muſcipula pratenſis veſicaria*, Rupp. Flor. Jen. 100. SPATLING-POPPY, or WHITE BEN.

This Plant has a long, thick, whitiſh, woody Root, not much branched, from which ſpring ſeveral ſmooth, weak Stalks, about two Feet high, with pretty large Joints, at each of which grow two Leaves oppoſite to each other, without Foot-ſtalks, two or three Inches long, and about an Inch broad, ſharp-pointed at the End, of a glaucous or bluiſh-green Colour, ſmooth, and without any Indentures about the Edges. The Flowers grow on the Tops of long Foot-ſtalks, ſeveral together, of five ſmall white Leaves apiece, ſtanding in a looſe, ſwell'd, round Huſk or Bladder, of a greeniſh-white Colour, with ſeveral fine darker Veins: This incloſes the roundiſh Calyx, in which are contained ſmall brown Seeds. This is an Herb, which is frequently to be met with in Meadows and Corn-fields, and flowers in Summer.

The Roots only are uſed; and, as to their Qualities, they are accounted Cordial, Cephalic, Alexipharmic, and a Provocative to Venery. It is but ſeldom uſed. *Miller's Bot. Off.*

Behen rubrum limonium & Behen rubrum, Offic. *Limonium*, Ger. 332. Emac. 411. Raii Hiſt. 1. 395. Synop. 3. 201. Chab. 508. *Limonium majus vulgatius*, Park. 1234. *Limonium maritimum majus*, C. B. 192. Hiſt. Oxon. 3. 600. Boerh. Ind. A. 76. Tourn. Inſt. 342. *Limonium majus multis, aliis Behen rubrum*, J. B. 3. 876. SEA-LAVENDER. *Dale.*

Red *Been* is imported in round Slices. Some believe it belongs to a Species of *Limonium*, or Sea-lavender; but its Origin is not certainly known. It is ſuppoſed to have the ſame Virtues as the white Been of the Antients, and moreover to be aſtringent. *Geoff.*

The Root of the red Behen, or Sea-lavender, is pretty thick and long, and runs deep into the Earth, moſtly ſingle, with ſeveral Fibres at the End, of a browniſh Colour on the Outſide, and reddiſh within, from which ariſe many large, firm, thick, green Leaves, growing on long, broadiſh Foot-ſtalks, roundiſh at the End, and ſomething reſembling the Leaves of the Lemon-tree, whence it takes its Name. The Stalks ariſe to be about a Foot high, bare of Leaves, divided towards the Top into ſeveral Branches, on which grow long Spikes of ſmall, purpliſh, red Flowers, of five Leaves each, growing ſomewhat like Lavender, in greeniſh Huſks, each including one long Seed.

It grows every-where in the Salt-marſhes, as below *Greenhith*, and about *Graveſend*, in great Plenty; and flowers in *July* and *Auguſt*.

The Root and Seed is reſtringent, binding, and of Service in a Diarrhœa, Dyſentery, againſt the too great Abundance of the Menſes, and the Fluor Albus.

Though neither this nor the Spatling Poppy can be certainly proved to be the true Behens of the *Arabians*, the Deſcriptions they give of them being ſo lame and imperfect; yet they are allowed by the beſt Authors to come near them in Virtue, and to be proper Succedanea for them. What the Druggiſts ſell for the white *Beben* are whitiſh ſlender Roots, leſs than thoſe of wild Parſnip. What they call the Red, are round tranſverſe Slices of a Root of a reddiſh-brown Colour, in Shape like Jalap; but what either of them are, is hard to determine. They are of very little Uſe now-a-days, being not put into any Compoſition of the Diſpenſatory. *Miller's Bot. Off.*

BEID-EL-OSSAR, or BEID-EL-SSAR, an *Egyptian* Plant deſcribed by *Proſper Alpinus* and *Veſlingius*, which grows near *Alexandria* at a Place called *Matthария*, upon a Branch of the *Nile* called *Calig*. This Plant abounds with a milky Juice, which flows from the Leaves when cut, and is uſed in prepareing Skins for Leather, in order to make the Hair ſtrip off; for which Purpoſe the Skins are macerated in it. If taken internally, this Milk cauſes a violent, and ſometimes fatal Dyſentery; it is, however, uſed externally with very good Effect in the Itch, and cutaneous Foulneſſes. The Leaves bruiſed, both raw, or boiled in Water, are apply'd ſucceſsfully to cold Tumors, and Parts in Pain.

The Fruit is incloſed in a Down or ſort of Cotton, ſofter than Silk, which is uſed for making Beds, or Cuſhions; and for Tinder.

Bees delight much in this Plant, and get from it excellent Honey.

BELEMNITES, *Lapis Lyncis*. *Belemnites*, Offic. Geoff. Prælect. 70. *Lapis Lyncis*, Schrod. 353. Geſn. de Lap. 92. *Belemnites*, Worm. 70. Charlt. Foſſ. 29. Mer. Pin. 211. Aldrov. Muſ. Metall. 618. Schw. 369. *Belemnites Lapis, ſeu Dactylus Idæus*, Boet. 476. De Laet. 150. *Belemnites parvus*, Kentm. 34. THUNDER-BOLTS.

It is ſometimes written Belenites.

The *Belemnites* is a round oblong Stone, ending in an obtuſe Point, ſometimes of a white, ſometimes of a gold, and ſometimes of a dark Colour. Some of theſe Stones are ſolid, others hollow, and it is diſtinguiſhed by Lines drawn from the Axis to the Circumference. It is commonly about an Inch in Length and Thickneſs, though ſome have been found as large as a Man's Arm, and in every one of them there is a Fiſſure or Slit running through its whole Length. The Name *Belemnites* comes from a *Greek* Word, which ſignifies the Point of an Arrow; *Dactylus Idæus*, from its reſembling a Finger in Shape, and its being found in Mount *Ida*, in the Iſland of *Crete*; but it is dug up likewiſe in the *Alps*, and many other Places of *France* and *Germany*. It is without Ground taken for the *Lapis Lyncurius* of the Antients, ſince it is evident, that by that Word *Dioſcorides* underſtood Amber, which he tells us was by ſome taken to be the concreted and indurated Urine of the *Lynx*. The *Germans* ſay, that this Stone is good againſt the Night-mare, and the Stone in the Kidneys. It is given in Powder, from half a Dram to a Dram, in any convenient Liquor. *Geoffroy*.

BELEMNOIDES, BELENOIDES, or BELOIDES PROCESSUS. A Name for the Proceſſus Styloides. The Proceſs alſo, at the lower Part of the Ulna, from which ſome Ligaments ariſe, which connect this Bone to the Wriſt, is called by theſe Names.

BELESON. Balſam. *Rulandus*.

BELI *ſeu Serifole Bengalenſium*. The Name by which *J. Bauhine* calls the COVALAM, which ſee. It is a tall Fruit-true not unlike the Quince.

BELILLA, *ſive Frutex Indicus baccifer, fructu oblongo polyſpermo*. An *Indian* Berry-bearing Shrub. A Decoction of the Root is ſucceſsfully given for refrigerating the Liver, and purging off pituitous Humours. The ſame bruiſed with Water, make a good Embrocation for Pains in any Part of the Body; and apply'd to the Eyes, remove Redneſs and Inflammations. The Root alſo digeſted and boil'd in Oil is ſucceſsfully drank by Children for Puſtules in their Mouths; and a Decoction of the Bark in Oil ſerves for the ſame good Purpoſe. The Vapour of the Decoction of the Leaves eaſes external Pains. The Juices of the Leaves and Fruit put together into the Eyes, remove Specks and Films. *Raii Hiſt. Plant.*

BELLADONNA. A Plant thus diſtinguiſhed.

Solanum lethale, Offic. Ger. 269. Emac. 340. Raii Hiſt. 1. 679. Park. Theat. 346. Mer. Pin. 114. *Solanum melanoceraſus*, C. B. Bin. 166. *Solanum maniacum*, Chab. 523. *Solanum maniacum multis, ſeu Belladonna*, J. B. 3. 611. *Solanum furioſum, luridè purpureo flore calathoide, Melanoceraſus*, Pluk. Almag. 352. *Solanum ſomniferum*, Merc. Bot. 1. 70. Phyt. Brit. 115. *Solano congener flore campanulato vulgatius, latioribus foliis*, Hiſt. Oxon. 3. 532. *Belladonna*, Cluſ. Pan. 504. Elem. Bot. 68. Raii Synop. 3. 265. Dill.
Cat. Giſſ. 143. *Belladonna majoribus foliis & florib*
Tourn. Inſt. 77. Boerh. Ind. A. 2. 69. Rupp. Flor. Jen. 2
DEADLY NIGHTSHADE. *Dale*.

This is the largeſt of all the Nightſhades, having many thi
long, ſpreading Roots, that ſhoot forth many tall, angu
Stalks, to a Man's Height, or more, beſet with dull gr
Leaves, in Shape like common Nightſhade, but much larg
The Flowers are ſet on among the Leaves, growing ſingly
long Foot-ſtalks, and are large, hollow, and Bell-faſhion
divided into ſix Segments at the Ends, of a duſky-bro
greeniſh Colour on the Outſide, and purpliſh within, wh
are ſucceeded by large, round, ſhining, black Berries as big
Cherries, ſet on a browniſh Calyx, and containing a purp
juicy Pulp of a nauſeous ſweet Taſte, full of ſmall flat See
It grows in ſeveral Parts of *England*, but not very frequent
It is to be found in a Ditch at the End of *Goſwell-ſtreet*,
the Road to *Iſlington*; in *Cuckſtone*, near *Rocheſter* in *Kent*,
the Yards and Backſides are over-run with it. *Miller's Bot. O*

The Fruits of this Plant taken internally are very dangero
as appears by ſeveral Hiſtories which occur among Bota
Writers. The Painters in Miniature macerate it, and obtai
fine Green from it. The Leaves of *Belladonna* are great Swe
eners and Reſolvents; they are applied to the Piles and Canc
Some boil them with Whey, or make uſe of their Juice.
Ray confirms theſe Uſes of it, eſpecially in carcinomatous
cers and Indurations of the Breaſts. *Martyn's Tournefort.*

In the Month of *Auguſt* ſome Children of *Grandvaux*, a V
lage four Leagues from *Paris*, having got into an uncultiva
Garden, they eat of the Fruit of deadly Nightſhade, or *M*
noceraſon. Some time after they had a violent Fever, w
Convulſions, and terrible Palpitations at the Heart, they kn
nobody about them, and intirely loſt their Underſtanding.
little Boy of four Years of Age died the Day after. They fo
three Wounds in his Stomach, with the Berries of the Nig
ſhade bruiſed, and the Seeds ſticking in the Wounds;
Heart livid, and no Water in the Pericardium. Mr. *Bou*
communicated this to the Academy. *Hiſt. de l'Acad. Roy.*
Scienc. A. 1703.

Our own Country will furniſh us with many Inſtances of
ſame Kind from eating by Miſtake the Berries or Leaves of
Plant. I know a Gentleman, who had a Tenant, and
Wife, his Father-in-law, and Children, driven out of t
Senſes for ſome time, by eating Herbs boiled with Bacon in
Spring, amongſt which were the young Shoots of the *Bellad*
A Hound alſo who eat the Broth had the ſame Fate, but they
recovered in a few Days.

The Plant takes the Name of *Belladonna* from the Uſe w
the *Italian* Ladies apply it to; for of the Juice, or diſtil'd W
ter, they make a ſort of Coſmetic, with which they waſh t
Faces, in order to take away a too florid Colour.

Notwithſtanding the deleterious Effects of this Plant, ſo
have ventured to give an Infuſion of it in Wine, as a Rem
for a Dyſentery. And others have given a very ſmall Quan
of the Juice boiled up with Sugar to a Syrup, as a Narco
But this Practice is rather empirical than rational, and, at b
very hazardous.

As to the Cure of Diſorder from taking this Plant, *Ger*
relates a Story of three Children at *Wiſbich*, in the Iſle of
who eat of the Berries; two of theſe dy'd, and the third
vomited plentifully, by drinking copiouſly of Honey and W
ter, and recovered.

Ray, from *Hæchſtetterus*, relates a Hiſtory of a Mendic
Frier at *Rome*, who drank an Infuſion of this Nightſhade
Wine; the Conſequence of which was, that he loſt his Sen
but was brought to himſelf by drinking a Glaſs of Vinegar.

BELLARIA. Sweet Cakes, Tarts, or any ſort of C
fectionary Ware uſed for Deſſerts.

BELLERICÆ. An Epithet for a particular Species of
robalani. See MYROBALANI.

BELVEDERE. The *Italian* Name for the *Scopa*
Buſhy, or Beſom-toadflax.

BELLICULUS, or BELLIRICUS MARINUS. A
cies of Shell-fiſh like the Periwinkle.

BELLIS MAJOR, Offic. J. B. 3. 114. Chab. 362.
509. Emac. 634. Schw. 28. Raii Hiſt. 1. 350. Synop.
Bellis major vulgaris ſive ſylveſtris, Park. 528. *Bellis ſy*
ſtris caule folioſo major, C. B. 261. *Bellis polyclonos ſylve*
major, caule folioſo, Hiſt. Oxon. 3. 28. *Leucanthemum vulg*
Elem. Bot. 393. Tourn. Inſt. 492. Boerh. Ind. A. 107.
Cat. 82. *Bellidioides vulgaris*, Act. Reg. Par. An. 1
281. OX-EYE DAISY. *Dale*.

The Leaves of this Daiſy are long and round at the End,
rated about the Edges, growing narrower towards the R
and ending in long broad Foot-ſtalks: The Stalks uſe to
Foot or more in Height, ſtriated and cloathed with ſmaller
narrower Leaves, having large Flowers growing on their
compoſed of ſeveral broad white Petala, ſet about a broad
low Thrum, made up of a Number of hollow Flowers th
cloſe together. The Root is ſmall, ſlender, and creeping.

rows in Paſture-grounds, and in the Borders of Fields; and lowers in *June*.

The Flowers of this Daiſy are chiefly uſed, and commonly go under the Name of Ox-eye; they are of a balſamic Nature, nd are accounted good for all Diſorders of the Breaſt and Lungs, as Coughs, Shortneſs of Breath, Pleuriſy, Conſumption, and Waſting of the Fleſh. They are helpful againſt nward Bruiſes and Wounds, and Ruptures, and are often put n Apozems and Decoctions for the aforeſaid Purpoſes. *Miller's Bot. Off.*

ELLIS MINOR, *Symphytum minimum*, *Conſolida minima*, Offic. *Bellis ſylveſtris minor*, C. B. 261. Act. Reg. Par. An. 1720. 278. Raii Hiſt. 1. 349. Synop. 91. Tourn. Inſt. 491. Elem. Bot. 392. Dill. Cat. 46. Boerh. Ind. A. 108. *Bellis minor ſylveſtris ſimplex*, Park 531. *Bellis minor ſylveſtris*, Ger. 510. Emac. 636. *Bellis minor ſylveſtris ſpontanea*, J. B. 3. 111. Chab. 361. *Bellis minor pratenſis ſeu vulgaris*, Hiſt. Oxon. 3. 31. COMMON DAISY. *Dale*.

The Root of the common Daiſy is a thick Bunch of Fibres; he Leaves grow in a Circle cloſe to the Ground, being thick nd fleſhy, and are long and narrow at the Bottom, ending road and round, not much bigger than a Silver Penny, with ery few Indentings about the Edges: The Flowers ſpring immediately from the Roots, upon ſlender Stalks three or four nches high, bearing one ſmall ſingle Flower at the End, made of Border of white Petala, or Leaves, ſet about a yellow Thrum; metimes the Border is edg'd with a reddiſh Colour, and red nderneath. The Seed is whitiſh, ſlender, and flat. Daiſies grow ery-where in the Fields and Meadows, and flower in *April* d *May*.

The Leaves, and ſometimes the Roots, are uſed, and are ckon'd among the traumatic and vulnerary Plants, being ed in Wound-drinks, and are accounted good to diſſolve conea'd and coagulated Blood, to help the Pleuriſy and Peripneuony. In the King's-evil, the Decoction given inwardly, a Cataplaſm of the Leaves applied outwardly, are eſteem'd ſome extraordinary Remedies. *Miller's Bot. Off.*

Its Leaves are acrid, glutinous, and give hardly any Tincture red to the blue Paper, which ſhews that its Salt is not very erent from that which is natural in the Earth; that is, comed of Sal Ammoniac, Nitre, and marine Salt, involved in a at deal of Sulphur and Earth, which thicken the Sap of the ſies, and render it viſcous. This Plant, taken in a Ptiſan or ract, diſſolves the Blood which is thicken'd by too cold an , as it often happens in Inflammations of the Lungs; it takes y Obſtructions, facilitates the Circulation of the Blood, and ores the Fibres to their natural Elaſticity; for which Reaſon thought to be very vulnerary. *Ruellius* affirms, that a Caſm, made with Daiſies and Mugwort, diſſolves ſcrophulous mors, and thoſe wherein there is an Inflammation, and s Eaſe to thoſe who are troubled with the Gout or Palſy. *tyn's Tournefort.*

here are ſeveral other Plants which go by the Name of s. Thus the *Aphyllantes Anguillaræ*, or *Globularia*, is d *Bellis cærulea Monſpeliaca*. See Globularia.

ELLOCULUS. A Sort of precious Stone reſembling an , and from hence ſuperſtitiouſly ſaid to be good in Diſorders of.

ELLON. A Diſtemper very common in *Derbyſhire*, and Countries where they ſmelt Lead-ore, to which Beaſts, ven Poultry, as well as Men, are ſubject; and, for this n, a certain Space round the Smelting-houſes is called *-ground*, where it is dangerous for any Animal to feed.

s Diſorder is attended with Languors, Weakneſs, into- Pains, and Senſation of Gripings in the Belly, and gene- Coſtiveneſs; and very frequently proves fatal.

e Method of Cure which has been found moſt ſucceſsful s Diſtemper, is, to give Cremor, or Cryſtals of Tartar, ll Doſes, and to repeat them frequently, for Example, two e times a Day.

uſt not omit remarking, that I have twice met with Dif- much reſembling this, from the taking *Saccharum Sa-* as a Remedy for the Fluor Albus; for which Reaſon I pon it as a very dangerous Medicine. See Plumbum.

LONIA. This Plant was ſo named by Father *Plumier*, our of the famous *Petrus Bellonius*, who has left many Tracts on Natural Hiſtory.

Characters are;

th a wheel-ſhap'd Flower, conſiſting of one Leaf, and at the Top into ſeveral Parts; from whoſe Cup ariſes tal, fix'd in the Middle of the Flower like a Nail: The cup afterward becomes a hard oval pointed Fruit, in re contained many ſmall Seeds.

ave but one Species of this Plant; that is, the *Bellonia , folio meliſſæ aſpero*. Plum. Nov. Gen. SHRUBBY NIA, WITH A ROUGH BALM-LEAF.

e is no Medicinal Virtue attributed to this Plant, that of. *Miller's Dictionary.*

MUSCUS. See Abelmuscus.

ONE, Βελόνη. A Needle. See Acus.

BELONOIDES. See Belemnoides.

BELOERE. An *Indian* evergreen Plant. The Leaves powder'd purge with too much Violence. The Seeds bruis'd, and taken warm, purge more moderately. *Raii Hiſt. Plant.*

BELOS. Βέλος. An Arrow, or Dart. This Word only belongs to Medicine, as it is a Cauſe of Wounds.

BELULCUM. From Βέλος, an Arrow, and ἕλκω, to draw. An Inſtrument for the Extraction of Darts or Arrows, of which many are deſcrib'd by chirurgical Writers.

BELUTTA TSJAMPACAM. The Name of a very large Tree, which grows in *Malabar*.

The Root bruis'd with freſh Ginger, and taken internally, powerfully excites Sweat. The Bark alſo taken, or powder'd, and ſprinkled on a Wound made by the Bite of a Serpent, cures it. Cataplaſms are made of the Leaves, boil'd in new Milk, with an Addition of Palm-oil, which, applied to the Top of the Head, are ſaid to diſcuſs viſcid and pituitous Humours collected in the Brain, to attenuate them, and to diſcharge them by the Noſe. A Decoction of the Leaves, drank, attenuates viſcid Phlegm, and, by this means, cures a Cough. The Fruit, when freſh, boil'd in Honey, looſen the Belly; but, when dry, are aſtringent. From theſe alſo an Oil is expreſs'd, which agreeably removes Pains of the Limbs, if they are anointed with it. *Raii Hiſt. Plant.*

BELZOINUM, the ſame as Benzoinum, which ſee.

BEN. The Balanus Myrepsica, which ſee. See alſo Behem.

BENATH. The *Arabic* Name for ſmall Puſtules, which riſe in the Night after ſweating.

BENEDICTUS, Bleſſed. A pompous Epithet given to ſome Plants; as the Carduus Benedictus, and the *Herba Benedicta*, which is the ſame as the *Caryophyllata*, Avens.

It is alſo given to many Compoſitions. Thus the emetic Infuſion of Crocus Metallorum is call'd ſometimes *Aqua Benedicta*; and, amongſt the Alchymiſts, the Philoſophers-ſtone goes by the ſame Name, as well as by that of *Lapis Benedictus*: But *Mynſicht* gives the Name of *Aqua Benedicta* to a Water diſtil'd from the *Serpyllum*. *Bates* gives two Waters, each under the Name of *Aqua Benedicta*, the firſt of which only differs from the *Aqua Calcis*, in the Proportion of the Water to the Lime. As thus:

Aqua Benedicta Batei.

> Take Quick-lime, one Pound; and pour upon it eight Pounds of boiling Water; after ſome time ſettling, pour it off by Inclination, and filtre for Uſe.

This ſtands commended for an extraordinary Medicine in many Caſes of Obſtinacy; and, if it be drank, three or four Ounces, three or four times a Day, is ſaid to cure red pimpled Faces, Struums, Dyſenteries, the Fluor Albus, rheumatic Pains, and the Diabetes. It is certainly a powerful Drier, and very proper to uſe in Decoctions of the Woods, and all Ingredients of that Intention; but tho' the making of it is eaſy enough, yet, here in *London*, it may be had at any time from the Sugar-baker's, by the Name of Lime-water, as it happens to be wanted, becauſe they uſe it much in refining their Sugars. This is alſo much prais'd for cleanſing and drying up old foul Ulcers, both by its internal Uſe, and waſhing them frequently with it.

Aqua Benedicta Composita Batei.

> Take of freſh Liquorice, an Ounce; Saſſafras-bark, half an Ounce; ſton'd Raiſins, ſix Ounces; Nutmegs, ſix Drams; of the preceding *Aqua Benedicta*, ſix Pints. Infuſe cold for two Days, and ſtrain off the Liquor.

The Virtues are the ſame as thoſe of the *Aqua Benedicta* preceding, but of more Efficacy in ſome Caſes.

Benedicta Laxativa: *The* Bleſſed Laxative, *from the College.*

> Take of choice Turpeth, ten Drams; of Diagrydium, the Bark of Spurge-root prepar'd, and Hermodactyls, of each five Drams; the Seeds of Aniſe and Fennel, of each half an Ounce; of Sal Gem, one Ounce; of clarify'd Honey, three times the Quantity of the reſt, ſo as to make into an Electuary.

This is originally taken from *Nicolaus*, both by the College, into their firſt Diſpenſatory, and by the Auguſtan, with very little Variation; and it hath ſo continu'd down to the preſent Reformation of our College, who have now rejected many needleſs Spices and Carminatives, which were crouded into it under the Notion of Correctors, here being a Sufficiency retain'd for ſuch Purpoſes. *Zwelfer* ſays, that ſome have order'd double the Quantity of the Spurge-root; but thinks, that, as it ſtands here, it is enough; and that even that requires a due Preparation, which is, by infuſing it three Days in very ſharp Vinegar,

gar, and then drying it. It is, however, ſo wholly neglected by the preſent Practice, that it is never made in the Shops. *Quincy's Diſpenſatory.*

BENEOLENTIA. Sweets, or ſweet-ſmelling Medicines.

BENGI-EIRI. A Species of evergreen *Indian* Ricinus is thus call'd, which grows in *Malabar*.

The Leaves powder'd, and ſprinkled upon Ulcers, deſtroy luxuriant and fungous Fleſh ; of the Leaves alſo, bruiſed, and mix'd with Cows Dung, and ſew'd together in a Bag, a very good Topic is made for any Parts affected with Convulſions. *Raii Hiſt. Plant.*

BENIGNUS. Mild, gentle. It is apply'd to Diſeaſes which are not virulent, and to Medicines which operate gently.

BENINGANIO. A Fruit which grows in the Bay of *St. Auguſtine*, of the Size of a Lemon, red without, and which is very grateful to the Stomach. *Raii Hiſt. Plant.*

BENZOINUM.

Benzoin, *Benzoinum*, Offic. *Benzoin*, Comm. Plant. Uſual. 87. Park. Theat. 1572. Boerh. Ind. A. 2. 259. *Benzoin*, *Aſa dulcis*, Mont. Exot. 11. *Belzoinum Officinarum*, Jonſ. Dendr. 355. C. B. Pin. 503. Raii Hiſt. 2. 1845. *Benjovinum*, Chab. 74. *Benjoinum*, *cujus arbor folio citri*, J. B. 1. 328. *Arbor Benzoini Grimmi*, Ephem. Germ. A. 11. 376. f. 31. *Arbor Benzoinifera*, Breyn. Prod. 2. 16. *Arbor Virginiana piſaminis folio baccata*, *Benzoinum redolens*, Pluk. Almag. 42. Phytog. Tab. 139. f. 3. & 4. *Arbor Virginiana*, *citriæ vel limoniæ folio*, *Benzoinum fundens*, Hortus Amſtel. 1. 187. f. 97. *Benjui Garziæ*, Cluſ. Exot. 155. THE BENJAMIN-TREE. *Dale.*

This is called *Aſa dulcis*, *Aſa odorata*, *Belzoë*, *Benzoë*, *Gummi Benzoë*, *Benzoinum*, and *Belzoinum*. It is a Gum of an agreeable and fragrant Smell, produced in the *Eaſt Indies* by a large and high Tree, which bears long Leaves, like thoſe of the Citron and Lemon-tree, though ſomewhat ſmaller, and not ſo green ; they are alſo whitiſh on one Side. This Tree is called by *Herm. Nic. Grim. in Ephem. N. C. Dec.* 2. *An.* 1. *Obſ.* 152. *Arbor Benzoini.* By *Jac. Breynio in Prodrom. Benzoinifera.* By *Garzia*, *Benivifera* ; and by *Chabræus*, *Benivi Arbor*. Some take it for the *Cyrenaic Laſerpitium*, or ferulacious Juice, formerly found very good in the Country of the *Cyrenians* ; hence 'tis called *Liquor Sirenaicus*, or *Cyrenaicus*. *Jac. Bontius* ſays, it is produced in great Plenty in *Zeilon*, *Sumatra*, *Siam*, *Cambodia*, *Java*, and *Malacca* ; but the beſt Sort comes from *Boninas* and *Bairos*. It is imported to us quite dry. Some write, that it is compoſed of ſeveral Pieces of different Colours. The beſt is hard, ſolid, ſhining and tranſparent, has white Spots in it, and is of an agreeable Flavour. It is by ſome called *Amygdaloides*, on account of its white Spots, which reſemble a blanch'd Almond. See *Ol. Worm. Muſ. C.* 34. *Joh. Dan. Horſt. Pharmac. Part.* 1. *L.* 6. *C.* 260. *Eraſm. Franciſcus.* The Brown and Black, though of an agreeable Smell, are yet far from being ſo good as the other Sort, on account of ſome Impurities, with which they are mixed. It is of a warming, drying, diſcuſſing, diſſolving, and purifying Nature ; reſiſts Putrefaction, is good againſt Diſorders of the Breaſt and Lungs, and cures Oppreſſion of the *Thorax*. It is very rarely uſed internally ; but yet the Flowers, the Magiſtery and Tincture prepared from it in the Apothecaries Shops, are of ſingular Service in Coughs, Oppreſſions of the Breaſt, Ulcers of the Lungs. In Obſtructions of the Menſes, the Flowers taken in a poach'd Egg are of ſingular Service. *Amatus Luſitanus*, with theſe Flowers, and Flowers of Sulphur, happily cured an inveterate Cough, *Cent.* 6. *Cur.* 90. *Jo. Beguinus*, in his *Tyrocin. Chym. L.* 2. *C.* 28. aſſerts, that they are good for Aſthmas, and all Diſorders of the Lungs. The Commentator on the ſame Chapter commends them in inveterate Phthiſes and Aſthmas. *Fabr. Bartolet. L.* 5. *de Dyſpn. C.* 1. ſays a great deal concerning it in Diſorders of the Breaſt, and Defects in Reſpiration, and calls it the Balſam of the Lungs. But *Marcus Banzer* endeavours to demonſtrate the contrary, *Controverſ. Medico-miſcellan. Dec.* 4. *Theſ.* 7. and aſſerts, that its Flowers are hurtful in a Phthiſis, and other Diſorders of the Lungs. The Flowers have a more diſagreeable Taſte than the Gum itſelf. Externally it is uſed in all fragrant Compoſitions ; for it proves cordial by its agreeable Smell, fortifies the Senſes ; by its Steam, dries up the cold Humours of the *Cerebellum*, diſſipates Defluxions, and cures Tooth-achs. However, in burning the Benzoin, we ought to take particular Care not to ſwallow a great deal of the Smoke, becauſe it not only affects very quickly the Cerebellum, but alſo acts with ſuch Force upon the Breaſt and Lungs, that 'tis ready to deſtroy Reſpiration. There is alſo a Coſmetic Tincture made of Benzoin, in this manner :

> Take of Benzoin, and Storax Calamita, each an Ounce : After reducing them to a Powder, and putting them into a Phial, pour upon them four or ſix Ounces of rectified Spirit of Wine ; put it in a warm Place, and let it remain in it, ſhaking it now-and-then till the Tincture is extracted ; then filtrate it through Paper ; put ſome of it into Roſe-water, Water of the Flowers of Beans, or any ſuc
> Water

It ſuddenly turns the Water into which it is put to milky Colour ; for which Reaſon 'tis called *Lac Virginis*, o Virgin-milk. With this the Face is to be waſhed. It carries off all Spots, and renders the Skin white, clear and pure It carries off Blotches contracted by the *Lues Venerea*, *P. Am-man. Manuduct. ad Mater. Med. p.* 122. It alſo remove Tooth-achs, if applied on a little Cotton. See alſo *Collect Chym. Leydenſ. C.* 94. and 95. and *Chem. Rational.* P. T *C.* 1. *Artic.* 10. As alſo the *Diſpenſat. Brandenburg. p.* 17 Its odoriferous Oil alſo purifies and heals the Skin, if diluted i Spirit of Wine, or the White of an Egg, *Barth. Zor Botanolog.*

Benzoin is a reſinous, inflammable Subſtance, ſometimes a reddiſh, ſometimes of a pale Colour, and generally very fou When it is cover'd with white Spots, it is call'd *Benzoinu Amygdaloides*. It is of an agreeable Taſte, a little acrid, and much uſed in Perfumes. It is not certain, that this Juice w known to the Antients. It is brought from the *Philippi Iſlands*, from *Siam* and *Sumatra*. *M. Grimm* has deſcrib'd t Tree which produces it, and the Manner of preparing it, the *Ephemerides Naturæ Curioſorum*, *An.* 1. *Dec.* 2. It is ve proper in Aſthmas, to attenuate the Phlegm which oppreſſ the Lungs, and in Ulcers of that Part ; but the Flowers of Be jamin are preferr'd for internal Uſe. *Geoffroy.*

It is the reſinous Gum of a Tree which grows in the *Ea Indies* ; the beſt in *Siam*, taken from young Trees of five ſix Years Growth, whoſe Bark they cut right down in ſeve Places in the upper Part of the Tree, from whence this Gu flows out ; which, at firſt, is ſoft and glutinous, hardening time. The Tree bears large Citron-like Leaves, but of a pa Green, and whitiſh underneath : The Fruit is about the B neſs of a Nutmeg, ſomewhat flattiſh, cover'd with a Bark l the outer Shell of a Walnut, but ſomewhat downy on the O ſide. *Miller's Bot. Off.*

The Druggiſts generally keep two Kinds of Benzoin, tha Tears, as 'tis call'd, and another Sort. The true Benzo which was imported into *France* by the People in the Emba dor of *Siam*'s Retinue, was, externally, of a yellowiſh-g Colour ; but white internally, with ſmall, clear, white and Veins diſtributed thro' it : It was friable, and without Taſte, but of a very agreeable and highly aromatic Smell. differ'd very much from that Benzoin in Tears which is co monly ſold, which is a clear and tranſparent Maſs, of a red Colour, and mix'd with whitiſh Tears, reſembling Almo for which Reaſon 'tis call'd *Amygdaloide Benzoin*.

This laſt-mention'd Species ought to be choſen with Q ties as much approaching to the former as poſſible ; and it ou above all things, to be pure, and free from Dregs, a Prop with which 'tis very rarely to be found.

The other Sort of Benzoin is the moſt common of all, very often counterfeited by a Fuſion of ſeveral Gums toge The beſt of this Kind is pure, of an agreeable Smell, very r ous, and intermix'd with a great many whitiſh Tears : which is black, and without any Smell, is abſolutely t rejected. *Savary.*

Preparations of BENZOIN, *or* BENJAMIN.

TINCTURE *of* BENJAMIN.

> Let Benjamin, which ſpontaneouſly flows from its Tr Plenty, be ground to Powder, and boil'd in a Glaſs ſel, with Spirit of Wine once rectified, without an ther Preparation ; and thus it reſolves into a red and f ſcented Liquor, which, being decanted clear, and Spirit pour'd to the Remainder, and boil'd there nearly the whole Body of the Benjamin is thus diſſ except a little ſhaggy Matter. But if the Alcohol perfect, and boil'd in this manner with the Benjami Tincture becomes the richer. They are both of odoriferous, and of a warm, bitteriſh, and ba Taſte.

REMARKS.

> Hence it appears, that an unctuous Reſin may be perfect totally diſſolved in Alcohol, ſo as therewith to appear Form of a conſiderably homogeneous and thin Liquor tle whereof being pour'd to a large Proportion of O Mixture immediately turns white, opake, and milky, call'd *Virgin's Milk* ; becauſe, if the Face be waſh'd with, it becomes roſy and ſoft, and cover'd with ſhining Skin, if ſuffer'd to dry ſpontaneouſly. Th ture, therefore, is eſteem'd an innocent Coſmetic ; an mix'd with Waſh-balls, renders them of an agreeable This Reſin of Benjamin is wonderfully volatile, with Degree of Heat, and ſpontaneouſly diſſolves in Alcoh out Alcali. *Boerhaave's Chymiſtry.*

This is ſomewhat different from that quoted from Z

TINCTURE *of* BENJAMIN. *From* Quincy.

Powder four Ounces of ſelect Benjamin; put it into a Matraſs, and add to it tartariz'd Spirit of Wine, one Pound. Fit the Matraſs to a Cucurbit; lute the Joint, and ſet it in a warm Sand for three or four Days, now-and-then ſhaking it about. In that time there will be made a fine Tincture, which decant, and keep for Uſe.

This is good in Aſthmas, and other Diſtempers of the Lungs, given from twenty to ſixty or ſeventy Drops, in any convenient Vehicle. But it is moſt uſed externally, to ſmooth the Skin, and take Spots off the Face: One Dram of it, put into four Ounces of clean Water, turns it white, and is call'd *Virgin's Milk.* To this Tincture may be added, of Storax, one Ounce; and Balſam of *Peru*, one Dram; which will render not only the Scent more grateful, and make a deeper Tinge in the Spirit, but be alſo better for inward Uſe.

These three Tinctures only differ as to the Ingredients added to the Spirit, with the Benjamin.

FLORES BENZOINI: *Flowers of Benjamin.*

Put into a ſubliming Pot two or three Ounces of Benjamin, in groſs Powder; ſet on its Cover, without luting; keep it in the ſecond Degree of Fire in Sand, or immediately over a ſmall Fire of Charcoal. The Flowers will preſently begin to riſe into the Cover, which, once in an Hour, or an Hour and an half, muſt be taken off, and wiped out, upon a clean Sheet of Paper, with a Feather. There ought to be two Covers to one Bottom in Readineſs, that one may be clapp'd on as ſoon as the other is off. When the Flowers begin to riſe yellow, take the melted Benjamin out of the Pot with a Spoon, and put into it more powder'd Benjamin, as at the firſt; and ſo proceed until there are as many Flowers as deſired.

In this Operation Care muſt be taken, that the Fire be not o ſtrong, becauſe it will throw up ſome Oil, and diſcolour the Flowers. Theſe are a wonderful Pectoral, and particularly in Aſthmas; for they greatly attenuate, and open viſcous Ob- ructions, and cleanſe the Bronchia. They are convenient moſt in any Form, and give a very grateful Scent to any Compoſition. Their Doſe is from three to ten or twelve rains.

OLEUM & SPIRITUS BENZOINI: *Oil and Spirit of Benjamin.*

Take of the black melted Benjamin, which remains after the Sublimation of the Flowers, one Pound; put it into a Retort, which place in a Sand-furnace; cover it well with Sand, lute on its Receiver, and make a Fire of the firſt Degree for one Hour; then increaſe to the ſecond, and there will come over ſome Oil and Spirit, with ſome diſcolour'd Flowers: Augment the Fire to the third Degree, and at laſt to the fourth, till no Fumes appear, and there will be a blackiſh Oil, with an acid Spirit; and the Neck of the Retort will be fill'd with the diſcolour'd Flowers, which may be taken out, and put upon a clean brown Paper, to ſuck up the Oil.

Theſe Flowers, tho' not ſo beautiful, are as good for Uſe as former; and tho' the Oil, Spirit, and Flowers, acquire for preſent an empyreumatical Scent, in ſix or eight Months t will wear off, and they become very fragrant.

After the ſame manner may be made the Oil, Spirit, and owers, or volatile Salt, of any Balſams; as that of *Tolu*, *Peru*, d the like. The Spirit is diuretic, but not very pleaſant, by ſon of its Empyreuma. The Oil is accounted a good Vul- ary, both in external and internal Application; and for in- rd Uſe, if two or three Ounces of it be put into a Cucurbit, ich is capable of holding a Gallon of Liquor, and to it five ſix Pounds of Water are added, and the Whole is ſet in a d-furnace, luting on its Head and Receiver, with a gradual e, till the Water is ready to boil, the ſpirituous Part of the will come over with the Water, of a fine Amber-colour, a fragrant Scent; which is an admirable internal Medicine, owerful Diuretic, and by ſome reckon'd a Specific againſt Stone and Gravel in the Kidneys and Bladder. Its Doſe is n five to fifteen Drops, in a little refin'd Sugar. *Quincy's penſatory.*

ER. The Name of a Tree which grows in many Parts of *Eaſt-Indies.* It bears a Fruit like the Jujeb.

ERBELICE. A Name in *Nicolaus Myrepſus* for the *lago*, Coltsfoot.

ERBERI, βερβερὶ, according to *Athenæus*, the Name of Shell in which Pearls are found.

ERBERIS, *Oxyacantha Galen.* Offic. *Berbaris*, Park. at. 561. Mer. Pin. 15. Chab. 50. *Berberis, vel Oxyacan-* Ind. Med. 20. *Berberis Creſpinus*, Mont. Ind. 38. *Berberis dumetorum*, C. P. Pin. 454. Raii Hiſt. 2. 1605. Synop. 3. 465. Tourn. Inſt. 614. Elem. Bot. 487. Boerh. Ind. A. 2. 233. Jonſ. Dendr. 219. Dill. Cat. Giſſ. 66. Buxb. 36. *Berbaris vulgo, quæ & Oxyacantha putata*, J. B. 1. 52. *Spina acida, ſive Oxyacantha*, Ger. 1144. Emac. 1325. *Oxyacantha Galeni*, Merc. Bot. 1. 56. Phyt. Brit. 86. THE BARBERRY, or PIPPERIDGE-BUSH.

The Barberry Tree, or rather Buſh, for it never grows to any great Bigneſs, has the outward Bark of a whitiſh or aſh Colour, and under that another of a deep Yellow: The Branches are long and brittle, full of ſharp Thorns at the Setting-on of the Leaves, which are of a roundiſh or oval Form, neatly denticulated or notched about the Edges, of a ſouriſh Taſte. The Flowers grow among the Leaves, in long Bunches of ſix Leaves apiece, of a yellow Colour, which are follow'd by round cylindrical Berries of a red Colour, and full of a ſour Pulp, each having two long hard Seeds included. They grow wild in ſeveral Places, and are frequently planted in Gardens. They flower in *April* and *May*, and the Berries are ripe in *September*. The inner Bark and the Berries, with the Seed, are uſed.

The inner Bark is opening and attenuating, and is accounted a Specific againſt the Yellow-jaundice, taken either in an Infuſion or Decoction. The Fruit is very cooling and reſtringent, and good to moiſten the Mouth, and quench Thirſt, in burning Fevers. The Conſerve is ſerviceable againſt all kind of Looſeneſs and Fluxes, and likewiſe of Uſe in the Jaundice.

The Seed is likewiſe binding and reſtringent, tho' it is but ſeldom uſed.

The only Officinal Preparation from this Tree is the Conſerve of the Fruit. *Miller's Bot. Off.*

Its Root is yellow, very bitter, and gives but a faint red Colour to the blue Paper: The Juice gives it as lively a Red as Alum. This Plant, being analyſed, yields a great deal of acid Liquor, a little urinous Spirit, and a good deal of Oil and Earth. The Fruit is chiefly in Uſe; it aſſwages too great a Fermentation of the Humours, eſpecially when cauſed by Bile. *Tragus* affirms, that a Wine made of the Juice of its Berries will ſtop a Diarrhœa, Dyſentery, and the Whites. The Infuſion of them is given to drink. There is a Confection, a Syrup, a Jelly, and a Rob, made of them, which are uſed in cooling Julaps. *Simon Paulli* ſhews the Manner of making the eſſential Salt, which he calls the *Tartar of Barberries:*

> Take, ſays he, two Pounds of the Juice of *Barberries*, and two Ounces of Lemon-juice; evaporate them very gently over the Fire, ſtrain them, and ſet them to cryſtallize in a Cellar: Theſe Cryſtals are very cooling.

In the Heat of Urine, and internal Inflammations, they diſſolve Nitre in the Juice of Barberries, to make it cryſtallize. The Bark of the Root is aſtringent and deterſive. *Martyn's Tournefort.*

BERDIRAMON. A Name in *Nicolaus Myrepſus* for the *Jarus*, *Dracontium majus*, *Biſtorta major*, or *Serpentaria major*, which are all the ſame Plant.

BEREAS. *Rulandus* explains this by *Rotundum.*

BEREDRIAS. The Name of an Ointment deſcribed by *Aetius*, *Tetrabib.* 4. *Serm.* 4. *C.* 113.

BERENI SECUM, ſignifies *Artemiſia*, Mugwort. *Caſtellus.*

BERENICIUM. A Species of Nitre in *Galen* and *Actuarius.*

BERETINUS FRUCTUS. A Fruit found in the *Malacca Iſlands* by the Sailors, in Sir *Francis Drake's* Expedition round the World.

BERGAMOTE. A certain fragrant and cordial Eſſence is call'd by this Name, as alſo *Eſſentia de Cedra.* It is extracted from a kind of Lemon in *Italy*, call'd *Bergamote*; which, they ſay, owes its Original to an *Italian*, who took a Fancy to graft a Branch of a Lemon-tree upon the Stock of a *Bergamote* Pear-tree, whence the Lemons produced from this Union participate of both the Nature of the Citron-tree and the Pear-tree. The Inventor kept this Diſcovery ſecret for a long time, and enrich'd himſelf by it.

To extract the *Eſſentia de Cedra*, they cut the yellow or external Rind of the Lemon into ſmall Bits, and immediately break them, one after another, by ſqueezing them into a Glaſs Veſſel, in the ſame manner as you ſqueeze Orange-peel, when you have a mind to perfume a Glaſs of Wine: But this Veſſel muſt have a narrow Mouth, ſo as not to admit more than the Ends of the two Fingers which ſqueeze the Rind; and even this Opening muſt be cloſed, as much as poſſible, after the Ends of the Fingers are enter'd within it, with ſome wet Parchment, in order to prevent what we labour to obtain from evaporating. It is proper, that the Veſſel ſhould be belly'd, and that its Capacity below ſhould be far more extenſive than its Neck, that the eſſential Part of the Rind, which was expreſs'd by the Fingers, may have Space enough to diſperſe itſelf, and to circulate as it comes off, and to reſolve itſelf into a Liquor. This Liquor is an ethereal Oil, very ſubtile, and of a charming Smell; but there muſt be a vaſt Number of theſe little Bits of *Bergamote* Lemon-peel cut up, in order to obtain a ſmall Quantity of Eſſence.

The *Eſſentia de Cedra*, being prepar'd without the Help of Fire, in manner aforeſaid, has a much more agreeable Smell, and participates of the Quality in a much greater Degree, than the Eſſence which might be extracted from the Rind of the Bergamote Lemon by a Separation, after the manner of other Eſſences.

It is a Cardiac, Stomachic, Cephalic, and is qualify'd to reſiſt the Malignity of the Humours. The Doſe is from one Drop to ſix. *Lemery des Drogues.*

BERIBERII. A kind of Palſy, common in ſome Parts of the *Eaſt-Indies*. The Name, in the Language of the Country, ſignifies a Sheep, and was given by the Natives to this Diſtemper, as *Bontius* thinks, becauſe the Patients, in throwing out their Knees, and lifting up their Legs, ſeem to imitate Sheep in their Walk. It is, ſays he, a kind of Palſy, or rather Trembling, in which there is a Depravation of the Motion and Senſation of the Hands, Feet, and ſometimes of the Body, accompanied with a Trembling.

The principal Cauſe of this Diſorder is a groſs and viſcous pituitous Humour, which, in the Night-ſeaſon, eſpecially in rainy Weather, which holds without Intermiſſion from the Beginning of *November* to the Beginning of *May*, falls upon the Nerves, while Perſons, being fatigued with the Heat of the Day, throw aſide their Cloaths, and lie without any Covering ; by which means the phlegmatic Humour, which was before generated principally in the Brain, very eaſily ſeizes upon the Nerves ; for the Nights in theſe Countries, compar'd with the hot Days, may be ſaid to be cold. In this Caſe, the Joints are lengthen'd, the pituitous Matter inſinuating itſelf between the Junctures, ſo as to relax the Nerves and Ligaments. Tho' this Diſeaſe, for the moſt part, comes on gradually, and by ſlow Advances ; yet ſometimes it ſeizes a Perſon on a ſudden ; as when, after being fatigued with Heat, he immediately takes a very plentiful Draught of the Liquor of the *Indian* Palm-tree. Thus we have ſometimes ſeen, in our own Country, in the Seaſon of the Dog-days, when Perſons have been heated with Running, or any other vehement Motion, that a Draught of Beer, or Whey and Curds, greedily ſwallow'd, has thrown them into the utmoſt Danger of their Lives, and even proved fatal.

To proceed, the Symptoms of this Diſorder are manifeſt to Sight ; for there is a ſpontaneous Laſſitude of the whole Body ; the Motion and Senſation, eſpecially of the Hands and Feet, are depraved ; and the ſame Kind of throbbing Titillation is felt in them, as is felt in the Fingers and Toes in a cold Country, and in the Winter-ſeaſon, only the Pain is not ſo great. Sometimes the Voice is ſo obſtructed, that the Sick can hardly ſpeak articulately. This happen'd to myſelf under this Diſorder ; for my Voice was ſo low for a whole Month, that thoſe who ſat cloſe to me could ſcarcely underſtand what I ſaid. Beſides theſe Symptoms, there ſometimes happen many others, all which, however, ſeem to owe their Riſe to a cold and tenacious Humour ; but let it ſuffice, that I have mention'd the principal.

Let us now betake ourſelves to the Cure, which is uſually very tedious, becauſe the cold and viſcid Humour is not eaſily and quickly diſcuſſed : However, it is not mortal in its own Nature, except it falls upon the Muſcles of the Breaſt and Thorax, and ſo ſtops the Paſſage of the Breath and Voice. Above all things, you muſt avoid, if by any Means poſſible, Confinement to your Bed ; but beſtir yourſelf, as much as Strength will allow, either in Walking or Riding, or any other Kind of vigorous Exerciſe : Running, indeed, is more than you can perform. Strong and ſmarting Frictions are alſo highly neceſſary, at which your *Bengal* Men-ſervants, and *Malacca* Women, are very dexterous ; for our *European* Servants are as much unaccuſtomed to this Exerciſe as to Bathing, which is frequently uſed here. They prepare Fomentations and Inſeſſions of a noble Herb called *Lagondi*, which has a Leaf like the *Perſicaria*, and is of a ſweet and aromatic Smell. This Plant, I am well aſſured, not only does the Service of Chamomile and Melilot, but excels them, at leaſt, in my Opinion, in its diſcuſſive and reſolving Virtues. The Hands and Feet are alſo to be anointed with the Oils of Cloves and Mace, but mix'd with Oil of Roſes ; for they are too cauſtic, and very eaſily corrode the Skin, if uſed alone. Beſides theſe Medicines, we have a noble kind of *Naphta*, brought from *Sumatra*, which lies over-againſt the Kingdom of *Java*, and in Sight of the ſame. This Drug the *Indians* call *Minjac Tannah*, which ſignifies the Oil of the Earth ; becauſe it breaks out of the Earth in the ſame manner as the *Naphta*, which we know, and call *Petroleum* ; or burſts out of the Rock, and runs into the ſubjacent Rivers. This Oil is ſo highly valued by the Barbarians, that the King of *Achin*, who is the moſt powerful Prince in that Iſland, has forbidden its Exportation under Pain of Death ; ſo that the Inhabitants bring it off by Stealth from the Land, in the Dead of the Night, to ours, and the *Engliſh* Ships that happen to be near their Shores. This Oil, rubbed o the Parts affected, relieves the Patient in a miraculous manne It is alſo of a ſtrong, but not a nauſeous Smell.

But ſince this Diſeaſe belongs to the chronic Kind, no Medicines are ſo effectual againſt it as Decoctions of the Root China, Sarſaparilla, and Lignum Guaiacum, which, by the gentle and friendly Heat, diſcuſs thoſe cold and thick Humour and evacuate them by Sweat and Urine. We muſt, howeve now-and-then interpoſe ſome gentle Cathartic. The beſt this Kind is what we here prepare of an Extract of Aloe and what is commonly called *Gutta Cambodia*, corruptly name by us *Gutta Gamba*.

Phlebotomy is not allowed in this Caſe ; for it is not *Plethora*, but a Cacochymia, that is in Fault ; and who is ignorant as not to know, that the Blood is the Fountain of Hea and the Treaſure of Life ?

The Reliques of this Diſeaſe are conveniently diſcuſſed b Venice Treacle, Mithridate, *&c.* and by Sudorifics, Diuretic and ſuch Medicines as ſtrengthen the Nerves. Seaſonable Exerciſe will aſſiſt Nature to overcome the other troubleſome Attendants on this Diſorder. *Bontius de Medicina Indorum.*

BERILLISTICA. A kind of pretended Magic Art, employed in obſerving preternatural Viſions in Glaſs Mirroir which are called BERILLI. *Rulandus.*

BERMUDIANA. This Plant takes its Name from t *Bermudas* Iſlands, from whence the Seeds of the firſt Speci were brought.

The Characters are ;

It hath lily Flowers, compoſed of ſix Petals, whoſe Empalement becomes a triangular Fruit, which opens in thr Parts, and is divided into three Cells, which are filled wi round Seeds.

There are two Species of this Plant. *Miller's Dict.*

BERNA, or BIRMINA. Theſe *Rulandus* explains by V *Vitreatum*, a glazed Veſſel.

BERNARDIA. This was ſo named by the late Dr. *William Houſtoun*, in Honour of Dr. *Bernard de Jeſſieu*, Demonſtrator of Plants in the Royal Garden at *Paris*.

The Characters are ;

It is Male and Female in different Plants ; the Male Pla produce ſmall Katkins, which, when ripe, fall off ; the Fem Plants have a coccous petalous Flowers, which are ſucceeded tricoccous Fruits, reſembling thoſe of the Ricinus.

There are four Species of this Plant.

I know of no medicinal Virtues attributed to this Pla *Miller's Dictionary.*

BERRIONIS. Colophony, Gum Juniper, or Verni *Rulandus.*

BERS. A ſort of Electuary which the *Egyptians* make of out of Gaiety, in order to raiſe a temporary Delirium ; which they probably take the ſame monſtrous Satisfaction the *Europeans* do in getting drunk. The Compoſition is thus

> Take of white Pepper, and of the Seeds of white Henba each twenty Drams ; Opium, ten Drams ; Indian Na Euphorbium, and Pellitory of Spain, each one Dra and Saffron, five Drams. Reduce all theſe Ingredients t fine Powder in a Marble Mortar, and make into an El tuary, with three Parts of pure Honey.

This Electuary is not to be uſed till it has ſtood ſix Mont It ſeems to differ very little from the Philonium Romanum, which *Avicenna* has given us the Receipt ; and the *Egypti* find it from Experience to be poſſeſſed of the ſame Vir and Efficacy. *Proſp. Alpin.*

BERULA, Offic. Chom. 539. *Sium*, Rivin. Irr. P Dill. Cat. Giſſ. 142. *Sium erectum umbellatum, ſive Paſti aquatica*, Raii Hiſt. 1. 444. Merc. Bot. 1. 69. Phyt. B 114. *Sium ſive Apium paluſtre, foliis oblongis*, C. B. P 154. Raii Synop. 3. 211. Rupp. Flor. Jen. 230. Tou Inſt. 308. Elem. Bot. 258. Boerh. Ind. A. 55. Buxb. *Sion ſive Apium paluſtre, foliis oblongis*, Bot. Monſp. 243. *umbelliferum*, J. B. 3. 172. Chab. 173. *Sium medium*, E 174. & J. B. 173. *Sium minus alterum*, Park. Theat. 12 *Sium majus anguſtifolium*, Ger. Emac. 256. *Sium ere foliis ſerratis*, D. Doody. *Naſturtium aquaticum*, Ger. 200. UPRIGHT WATER PARSNIP.

It grows for the moſt part in moiſt and wet Places, flowers in the Month of *June*. Its Leaves are only now in It is eſteemed an Antiſcorbutic, and like the *Sium*, or W Parſnip, diſſolves and evacuates the Stone, provokes Urine the Menſes, expels the Fœtus, and, if mixed with Food, Service in the Cure of Dyſenteries. *Dale.*

BERYLLUS, Offic. Boet. 214. Calc. Muſ. 221. M Exot. 14. De Laet. 44. Aldrov. Muſ. Metal. 952. K 47. *Berillus ſive Beryllus*, Charlt. Foſſ. 40. THE RYL. *Dale.*

This is a precious ſhining and tranſparent Stone, the Co of which is commonly a Sea-green ; but there are ſome of Colour of Oil, or of Garlick, or Pale, or Yellow, or of the lour of Gold : They call this laſt *Chryſoberillus* ; that is to ſay, gilded Beryl. This Stone is found in the Mines in the *Indies*, in the Iſland of *Zeilon*.

It is good to ſtop Fluxes and Hæmorrhages, being bruiſed and given inwardly ; but it is ſeldom uſed in Medicine. *Lemery des Drogues*.

BERYTION, Βηρύτιον. The Name of a Collyrium deſcribed by *Galen*, and recommended by him for Inflammations of the Eyes. It is alſo the Name of a Paſtil, taken Notice of by the ſame Author, as good in Dyſenteries.

BES. A Weight. It is Two Thirds of an Integer ; generally of a Pound. Eight Ounces.

BESACHAR. A Fungus, or Sponge. *Rulandus*.

BESASA. Βησασᾶ. The *Ruta Sylveſtris*, wild Rue.

BESLERIA. This Plant was named after *Baſilius Beſler*, an Apothecary at *Nuremberg*, who was the Author of a Book, intituled, *Hortus Eyſtetenſis*.

The Characters are ;

It hath a Flower conſiſting of one Leaf, which is tubulous, and of an anomalous or perſonated Figure, having two Lips ; from whoſe Cup ariſes the Pointal, which is fixed like a Nail in the hinder Part of the Flower, which afterward becomes a ſoft, fleſhy, oval-ſhap'd Fruit, in which are many ſmall Seeds.

There are four Species of this Plant.

I know of no medicinal Virtues attributed to this Plant. *Miller's Dictionary*.

BESONNA. *Rulandus* explains this by *Muſcarum Fungus*; ſuppoſe he means a Sponge, which is the Nidus of ſome Sort of Flies.

BESSANEM. This, in *Avicenna*, ſignifies a Redneſs of e external Parts, reſembling that which precedes the Leproſy. It occupies the Face and Extremities. This ſhould em to be what we call Chilblains.

BESTIA. Any ſort of Beaſt.

BESTO. A Name, in *Oribaſius*, for the *Saxifraga*, Saxifrage.

BETA. Beet. A well-known Plant.

There are two Species of Beets, of which the black Beet, and ecially its Root, boiled with Lentils, is a powerful Binder ; t the white Sort keeps the Belly in a right Temper ; but h of them are of bad Juice, on account of their Nitroſity ; which Quality, however, their Juice, with Honey, infuſed o the Noſtrils, purges the Head, and helps Pains in the rs. The Decoction of the Roots and Leaves detergeth Scurf Nits, and mitigates Chilblains, which are fomented thereh. The crude Leaves are applied by way of Cataplaſm to Alphi, which ought firſt to be rubb'd with Nitre ; they ſerve as a Cataplaſm for an Alopecia, after the Place has n ſcrap'd, and for ſpreading Ulcers. Being boil'd, they Eruptions of Pimples, (ἐξανθήματα) Burns, and Eryſipelas. *ſcorides, Lib. 2. Cap.* 149.

here is another Sort of Beet call'd *Beta Sylveſtris*, or the Beet ; of which *Dioſcorides* treats under the Appellation *Limonium*.

ETA ALBA, Offic. Ger. Emac. 318. Raii Hiſt. 1. 204. , Chab. 302. *Beta alba vel palleſcens, quæ Sicula & Cicla inarum*, Hiſt. Oxon. 2. 596. Boerh. Ind. A. 2. 94. *Beta unis alba*, Park. Parad. 489. Ger. 251. *Beta candida*, . 2. 961. *Beta alba vel palleſcens, quæ Cicla Officinarum*, B. 118. Tourn. Inſt. 502. WHITE BEET. *Dale*.

he Root of this Plant is large and thick, growing deep in Ground, ſhooting out pretty large Leaves ſtanding on long -ſtalks, pretty broad, and roundiſh pointed, and ſomewhat pled, of a flaſhy and inſipid Taſte. The Stalks are thick and angular, growing to be two Foot high or branch'd and beſet with the like Leaves, but ſmaller. Flowers grow in Cluſters, of a green Colour, ſmall and . The Seed is hard and prickly. This is uſually planted ardens; though we have a Species of Beet which grows n ſeveral Places by the Sea-ſide.

ets are more uſed as a Pot-herb, and to eat with Salt-meat, phyſically. They looſen the Belly, and attemperate hot ic Humours. The Juice of the Roots is ſometimes uſed Errhine, being ſnuff'd up the Noſe to clear the Head of m and mucous Humours, and by that means to help old achs.

Beet is one of the Five emollient Herbs. *Miller's ff.*

TA RUBRA, Offic. Ger. 251. Emac. 318. Raii Hiſt. 4. Chab. 302. J. B. 2. 961. *Beta rubra vulgaris*, 118. Hiſt. Oxon. 2. 596. Tourn. Inſt. 502. *Beta is rubra*, Park. Parad. 489. RED BEET. *Dale*.

grows in all reſpects like the former, except that it is at leſs, and the Leaves ſtrait; and the whole Plant, Leaves, and eſpecially the Root, is of a deep-red or Colour. It grows with the former. Its Virtues and e ſame.

Root is more frequently employ'd to garniſh Diſhes, any medicinal Uſes. *Miller's Bot. Off.*

BETLE, Offic. *Betle ſive Betre*, Ger. 1357. Emac. 1541. *Betre, Betle, Betele, ſive Bethle*, Park. Theat. 1615. *Betre ſive Tembul*, C. B. Pin. 410. Jonſ. Dendr. 172. C. Com. Flo. Mal. 60. *Betle ſive Betelle*, J. B. 1. 437. Chab. 33. *Betele*, Bont. 91. *Beetla, Codi*, Hort. Mal. 7. 29. Tab. 15. *Piper longum, foliorum nervis decurrentibus tenuioribus & mollioribus, Betle dictum*, Hiſt. Oxon. 3. 603. *Bulatwæla*, Herm. Muſ. Zeyl. 34. BETLE.

This is a Plant of the ſcandent Kind, much celebrated in the *Eaſt-Indies*. The Leaves are principally in Uſe, which are eſteemed beſt when fully ripe, and of a yellowiſh Colour ; they are ſpoiled by being much handled when they are newly pulled from the Plant.

In the *Malacca* Iſlands, the *Betle* bears a kind of Fruit wreathed in the Form of a Lizard's Tail, which the Inhabitants of theſe Iſlands eat on account of its agreeable and grateful Taſte. *Bontius* informs us, that it bears a Fruit reſembling the white oblong Pepper, or rather the Tail of a Dormouſe. This Fruit is, by the Inhabitants of the *Malacca* Iſlands, called *Sirii Boa*, and is had in much higher Eſteem than the Leaves of the *Betle*. It is planted like Vines, and Props and Supports are erected for it to creep along. Some, for the ſake of greater Profit, make it cling to the Trees which bear the Arcea, or *Indian* Nut, and thus form a beautiful Shade. It grows in all the Provinces of the *Indies* on the Sea Coaſts, but not in midland Places, or ſuch as lie remote from the Sea, unleſs it has been tranſplanted to them.

Moſt of the antient Botaniſts confound the *Betle* with the Malabathrum, or *Indian* Leaf ; but they are quite different Plants, ſince, according to *Garcias*, the latter is a ſtrait Tree, whereas the former is of the ſcandent Kind, and ſtands in need of Supporters.

In the Morning, the Afternoon, the Evening, and the Night-time, the *Indians* chew the *Betle*, and carry it continually about in their Hands ; but they do not uſe it alone upon account of its Bitterneſs, but wrap up the *Indian* Nut, and a little Lime, in the Leaf of the *Betle*, which they affirm to be a Mixture of a very grateful Taſte. Others mix *Lycium* with the *Betle*. The Rich and Opulent uſe it with Camphire of *Borneo*, and ſome others with Aloes-wood, Muſk, and Ambergriſe. When thus prepar'd, it has ſo agreeable a Taſte, and renders the Breath ſo ſweet and fragrant, that the more wealthy of the Inhabitants chew it almoſt continually ; and alſo others according to their Circumſtances ; tho' ſome chew the Arcea with Cinnamon or Cloves. Theſe are the Circumſtances, of which *Garcias* gives us an Account ; but other Authors, who have travell'd themſelves thro' the *Indies*, inform us, that both the rich and poor *Indians* conſtantly chew the *Arcea* alone, broken and wrapp'd up, with a little Lime, in the Leaves of the *Betle*, which ſends forth ſo fragrant a Smell, as to fill the whole Room. Upon ſpitting out the firſt Juice, which ſome retain, it appears bloody, which Colour it receives from the *Arcea*, and not from the *Betle*. Then they take ſucceſſively more Leaves, prepar'd in the ſame manner. Unleſs the *Indians* us'd this Practice, their Breaths would have a diſagreeable Smell. *Bontius* aſſerts, that the Leaves of the *Betle*, us'd without the above-mentioned Subſtances, which is frequently done, corrode the Teeth, and ſometimes make them drop out. In the *Indies* I myſelf have known young Men, not exceeding twenty-five Years of Age, entirely deprived of their Teeth, by a frequent Uſe of the Leaves of the *Betle*.

When they take their Leave of any one, 'tis cuſtomary to make him a Preſent of a ſilken Purſe full of thoſe Leaves thus prepar'd ; and no one allows his Friend to part from him without a *Betle*, which, with them, is the Sign of taking Leave.

When they make their Addreſſes to the Great and Opulent, they uſe to chew the *Betle*, in order to give them an agreeable Breath ; for, with them, not to have a perfum'd Breath, is an unpardonable Tranſgreſſion of the Laws of Decorum and good Manners ; and when People of a low Condition are oblig'd to converſe with the Great and Opulent, they put their Hands on their Mouths, leſt, perhaps, a Guſt of their diſagreeable Breath ſhould prove offenſive to the Noſtrils of their Betters. When their Women have Buſineſs of a certain kind to tranſact with Men, they chew the *Betle* previouſly, imagining that it is an Incitement to Wantonneſs : Hence, when they pay their Viſits, and mutual Compliments, they always have the *Betle* in their Hands ; and it is every-where preſented with the greateſt Demonſtrations of Benevolence, along with Arcea and Lime, in a wooden Veſſel kept on purpoſe. They chew it principally after Dinner, in order to prevent Uneaſineſs at their Stomachs.

They ſometimes uſe to abſtain from it, when performing the funeral Rites of their near Relations, and on certain Days ſet apart for faſting.

It ſtrengthens the Gums, corroborates the Heart and Stomach, diſcuſſes Flatulences, and purges the Stomach and Brain ; if chew'd in the Morning, immediately after Breakfaſt, it renders the Breath agreeable, but blackens the Teeth, and, according to *Bontius*, not only corrodes, but makes them fall out.

The *Portugueſe* Women imitate the *Indians* in this Particular, and are ſo exceſſively fond of chewing the *Betle*, that they think they cannot live without it. *Raii Hiſtor. Plantar.*

BETONICA, Offic. Ger. 557. Emac. 714. Raii Hiſt. 1. 550. Synop. 3. 238. Mer. Pin. 15. Rivin. Irr. Mon. Dill. Cat. Giſſ. 126. *Betonica vulgaris*, Merc. Bot. 1. 23. Phyt. Brit. 15. *Betonica purpurea*, C. B. Pin. 235. Tourn. Inſt. 202. Elem. Bot. 172. Boerh. Ind. A. 154. Rupp. Flor. Jen. 136. Buxb. 37. *Betonica vulgaris purpurea*, J. B. 3. 301. *Betonica vulgatior, flore purpureo*, Park. Theat. 614. *Betonica ſive Vetonica*, Chab. 431. WOOD BETONY. *Dale.*

The Root of *Betony* is pretty thick at the Head, whence it ſends out a great Number of ſmall Fibres, of an unpleaſant nauſeous Taſte. The Leaves grow on pretty long Foot-ſtalks, ſomewhat wrinkled, rough and hairy, full of Veins, broader at Bottom than at the End, which is blunt-pointed; they are roundly indented about the Edges. The Stalk is four-ſquare, about a Foot or more high, with very few Joints; at each of which ſtand two Leaves, one oppoſite to the other, on ſhort Foot-ſtalks. The Flowers grow in Spikes on the Tops of the Stalks, *verticillatim*, or whorle-faſhion, two ſmall Leaves being placed under each Whorle: they are of a red purpliſh Colour, of one ſingle Flower, having a round *Galea*, and a *Labella* divided into three Parts, each growing in a rough five-pointed Calyx, in which, after the Flowers are paſt, grow four ſmall Seeds.

Betony grows in Woods and Thickets, and by Hedge-ſides, and flowers in *May* and *June*. The Leaves and Flowers are uſed.

Betony is a good cephalic, hepatic, and vulnerary Plant, of ſo great Eſteem among the Antients, that *Antonius Muſa*, Phyſician to *Auguſtus Cæſar*, wrote a whole Treatiſe concerning it. It is very good in Pains of the Head, Convulſions, and nervine Affections. The dried Leaves, cut and mix'd with Tobacco, are frequently ſmoak'd for the Head-ach, Vertigo, and ſore Eyes. Mix'd with Wood-ſage and Ground-pine, it makes a good Diet-drink for the Gout and rheumatic Pains. The freſh Leaves, bruis'd, are good for green Wounds, and to draw out Splinters.

The only officinal Preparation from this Herb is the *Emplaſtrum de Betonica. Miller's Bot. Off.*

The Leaves of this Plant have an herby Taſte, are a little ſaltiſh and aromatic, and give no Tincture of red to the blue Paper. The Flowers and Roots, which are very bitter, ſtain it very little. The *Betony* is full of Sulphur, mix'd with a little oily, volatile Salt and Earth.

By the chymical Analyſis it affords a great deal of Oil, a little Earth, and fix'd Salt; no concreted volatile Salt, but a little urinous Spirit.

The *Betony* is vulnerary, aperitive, diuretic, ſweetening, good for the Diſeaſes of the Brain and lower Belly; a Tea of the Leaves is good for the Vapours, Sciatica, Gout, Pains in the Head, Jaundice, and Palſy: The Ptiſan of its Leaves, a cold Infuſion of them in Water, the Conſerve of its Flowers, the Syrup of the Flowers and Leaves, and the Juice and Extract of theſe Parts, have the ſame Virtues: They promote Expectoration, and bring away purulent Matter; they conſolidate internal Ulcers, and remove Obſtructions in the Bowels: A Sneezing Powder is made of the Leaves, and a vulnerary and cephalic Plaiſter is prepar'd with the Juice: The Roots have not the ſame Effect, but they purge both upwards and downwards. *Martyn's Tournefort.*

A Decoction of Herniaria and *Betony* is commended for the Stone in the Kidneys and Bladder. Others adviſe a Decoction of *Betony* to ſtop a Flux of the Lochia after the Birth. The Surgeons mix it in their cephalic Cataplaſms. They make a Plaiſter of the Leaves for Wounds, eſpecially thoſe of the Head. *Boerhaave.*

In the old Diſpenſatory of the College, a Conſerve of the Flowers of *Betony* was directed, which is omitted in the preſent. Some Authors, however, have a very great Opinion of it.

EMPLASTRUM DE BETONICA: *Betony Plaiſter.*

Take of green *Betony*, Pimpinel, Agrimony, Sage, Penny-royal, Yarrow, the leſſer Centaury, and Clary, each ſix Ounces; of Frankincenſe and Maſtich, each two Drams; of Orrice and round Birthwort, each ſix Drams; of Wax and Turpentine, each eight Ounces; of Reſin of the Pine-tree, ſix Ounces; of Gum-elemi, and Oil of Firr, each two Ounces; of White-wine, three Pounds. Let the Herbs be well bruis'd in a Mortar, and ſtand in Maceration for a Week with the White-wine, and then ſtirred about and boil'd: When the Wine is preſſed out, ſtrain'd, and boil'd to the Conſumption of a third Part, put to it the Oil of Firr, then the melted Wax, afterwards the Reſin and Gums, and laſt of all the Turpentine. When theſe have had a gentle Boil, and been taken from the Fire, and near cooled, ſift in it the Orrice and Birthwort in fine Powder, and ſtir them briſkly together, ſo as to make int into a Plaiſter, *S. A.*

This hath paſſed thro' all the Reviſes of our College wit little or no Alteration, but is not in any other officinal Diſpen ſatory that I have met with. It requires a good deal of Car and Trouble in the Compoſition; yet, as it is ſometimes me with in Preſcription, moſt of the Shops are at the Pains to kee it by them.

BETONICA AQUATICA. See SCROPHULARIA.

BETONICA PAULI. See VERONICA MAS.

Betula, Offic. C. B. Pin. 427. J. B. 1. 148. Raii Hiſt. 1410. Synop. 3. 443. Chab. 60. Ger. 1295. Emac. 147 Park. Theat. 1408. Tourn. Inſt. 588. Elem. Bot. 460. Boer Ind. A. 2. 182. Dill. Cat. Giſſ. 42. Rupp. Flor. Jen. 26 Buxb. 38. Merc. Bot. 1. 23. Phyt. Brit. 15. Mer. Pin. 1 Jonſ. Dendr. 33. THE BIRCH-TREE. *Dale.*

BETULA.

This Tree grows to be tall and large, cover'd on the Outſi with a whitiſh Bark, which it ſheds yearly. It has a great Nu ber of ſlender, tough, red Twigs, or ſmall Branches, cloath with ſmall, roundiſh, green Leaves, indented about the Edge theſe are preceded by little ſcaly round Cones, which cont the Seed. It grows in Woods in divers Parts of the Land.

The Leaves of the Birch-tree are accounted good for Dropſy, as alſo for the Itch, uſed both inwardly and outward The Liquor that flows out of this Tree, bored with an Au in the Spring, is accounted to be very good for the Stone Gravel, and againſt bloody Urine, and the Strangury. T Wood makes good Fire-wood, and, next to Juniper, is prefe to burn in Times of Peſtilence, and contagious Diſtemp *Miller's Bot. Off.*

The Bark of the Birch-tree is very fine. *Tragus* ſays, he has ſeen, in a Library at *Coire* in *Switzerland*, Verſes w ten upon it; they uſe it to this Day to make Ropes for We They affirm, that the Liquor which comes out of the Trun this Tree, after it has been pierced with an Augre in the Spri is very aperitive, deterſive, and coſmetic; they aſcribe the Virtues to its depurated Juice, and diſtill'd Water. *Mart Tournefort.*

BETULUS. A Tree; call'd alſo OSTRYS, which ſe

BEX. Βὴξ, a Cough, is nothing elſe but a vehement E tion, in which a great Quantity of Breath, being hurry'd with vaſt Swiftneſs, attracts and puſhes forward, by its Impe ſity, whatever obſtructs its Paſſage; and, if it be too wea expel the offenſive Matter at the firſt Diſcharge, it fails n renew its Effort even once and again. For the moſt part, i tains its End; that is, whenever the Breath paſſes with a Current, and the obſtructing Matter is diſpos'd for Expul as when it is neither of a watery nor viſcous Subſtance. *De Sympt. Cauſis, Lib. 2. Cap. 4.*

The End of a Cough is to cleanſe the Paſſage of the B *Idem, in 6. Hipp. de Morb. vulg. Com. 5.* See TUSSIS.

BEXUGO. This is the Root of the *Clematitis Peru* of *Caſp. Bauhine.* It is purgative, taken in the Quantity Dram. The *Indians* prefer it to *Mechoacan.*

BEYA, in the alchymiſtical Jargon, is the *Aqua Mer lis*, Mercurial Water, which is Wife to the *Gabrien*, or *Su Philoſophorum*, Sulphur of the Philoſophers.

BEZOAR. *Avenzoar* is the firſt who mentions *Bez* us'd by way of Medicine, or gives its Hiſtory. He ſays, is beſt which is found in the Eaſt, near the Eyes of Stags. that which has gone under that Name in theſe latter Cen is, according to the beſt Accounts, always found in th mach, or rather Omaſum, of the Cervicapra.

This is originally a *Perſian* Word, namely, *Badzeb Bazcher*, which, in that Language, ſignifies no more th Subſtance intended to prevent the fatal Effects of Poiſon the *Perſians* us'd the Word in the ſame Senſe in wh *Greeks* us'd the Word *Antidote*, whether that Antidote ſimple or a compound Medicine. But the Word came wards to be peculiarly appropriated to that Species of which, by a Corruption of the *Perſian* Word, we n *Bezoar.* Some *Arabian* Authors have aſſerted, that this was only to be found in Mines; and others, that it w met with in the Heads of certain Serpents: But the mo cious Authors of that Nation have given an Account, has ſince been confirm'd by the Relations of ſeveral Tr which is, that this Stone is found in the Corners of th of ſuch Stags as have eat Serpents; where, growing g bigger, by the Formation of one Cruſt above another, acquires ſuch a Weight, as to drop off of its own accord, found in the ſandy Grounds of *China* and *Tobout* or *T* applied to Wounds, occaſion'd by the Bites of venom mals, it extracts the Poiſon lodg'd in them; for, as comes into Contact with a Wound of this kind, it a it of its own accord; and, after having abſorb'd as the Poiſon as it can contain, it diſcharges its venomous C in the Water in which it is immerſed. After which it apply'd afreſh to the Wound, to which it adheres 'till it has produc'd its deſign'd Effect, and brought about a thorough Cure. *Herbelot Bibliotheque Orientale.*

Mr. *Herbelot* ſeems to give too much Credit to this Oriental Account of the Production and Virtues of *Bezoar*, which is fabulous.

Bezoar is nothing elſe but a Stone form'd by the Gall of ſeveral Species of Animals, found in the *Eaſt* and *Weſt-Indies*, ſuch as Goats, Hogs, Apes, *&c.* The Virtues of the *Bezoar* conſiſt in the volatile alcaline Salts of which 'tis compos'd, ſince 'tis, in reality, nothing but the Bile of theſe Animals. 'Tis by means of theſe volatile alcaline Salts that it deſtroys Acids, and promotes Tranſpiration. We have no Occaſion to go far in queſt of *Bezoar* Stones, ſince all Stones, form'd by the Gall of any Animal whatever, are ſuch, tho' their Activity and Virtues differ according to the different Animals from which they are taken, and the different Climates in which theſe Animals live. The *Bezoar* Stone is alſo ſometimes found in other Parts of theſe Animals beſides the Gall-bladder. *Hiſt. de l'Acad. A.* 1703.

There are ſeveral Medicines us'd in the Practice of Phyſic, with regard to the Origin and true Account of which, we *Europeans* are ſtill pretty much in the Dark: They ſometimes paſs thro' ſo many different Hands before they arrive at ours, that tis no eaſy Taſk to form a true Judgment of their Natures and Compoſitions.

Merchants, who deal in Commodities of this kind, very often know no more than the Name of the Medicines, and are more intent upon making Profit by their Sale, than enriching their Minds with a Knowledge of their Origin and Qualities. Travellers, on the other hand, have not always an Opportunity of procuring the Evidence of their Senſes, in Caſes of this Nature; they often rely on the Relations of others, with regard to Things they themſelves have not ſeen. In Matters therefore of this kind, an accurate and minute Examination of any Subſtance is ſometimes of more Uſe and Importance, than a great many Accounts and Relations concerning it. This Conſideration induc'd me to undertake a very careful Examination of the ſeveral Subſtances call'd *Bezoar*, a Name given to a particular Species of Stones found in the Bodies of certain Animals. Some affirm, that the Name *Bezoar* comes originally from the *Perſian* Word *zar* or *Pazan*, which ſignifies Dung or Dirt; others maintain, that it is deriv'd from the *Hebrew* or *Chaldean* Word *Belu- ar*, which means a Medicine againſt Poiſons.

The firſt Stones known under the Name of *Bezoar* were imported from the Eaſtern Nations; but, ſince the Diſcovery of *rica*, we have had ſome brought to us, which reſembling the former both in the Conformation of their Parts, and their medicinal Virtues, have been alſo call'd *Bezoars*, only with this difference, that what comes from the *Levant* is call'd *Oriental Bezoar*, and what is imported from *America* receives the Name of *Occidental Bezoar*. There are alſo other ſtony Concretions taken from Animals, which are diſpos'd in *Strata*, and have been call'd *Bezoars*; but theſe have been diſtinguiſh'd by the Names of the particular Animals from which they happen to be taken; ſuch, for Inſtance, are the *Bezoar* of the Ape, and that of the *Cayman*. Some, taking the Word *Bezoar* for a general Name, ſignifying any Medicine againſt Poiſon, have apply'd it, without Diſtinction, to every Subſtance of that Nature: So that the Name *Bezoar* has been affix'd to chymical Preparations, ſuch as the *Mineral* and *Jovial Bezoars*: With others, a Powder of the Heart and Liver of Vipers has been call'd *Bezoar*. The Name *Bezoar*, or rather the Epithet *Bezoardic*, has alſo been beſtowed upon ſome Powders, or artificial Stones, in which the *Bezoar* is an Ingredient; ſuch as the *Counteſs of Kent's Powder*, and the *Goa Stone*.

Some People, obſerving that *Bezoar* was diſpos'd in *Strata*, have given the ſame Name, and aſcrib'd the ſame medicinal Qualities, to a Stone reſembling it in the Conformation of its Parts, and which is found in ſeveral Parts of the Earth in *Ame- Bezoars* of this kind are to be found in *Italy*, in *Sicily*, and even in ſeveral Parts of *France*, but eſpecially in *Languedoc*.

Theſe are, in general, the ſeveral Subſtances known under the Name of *Bezoar*; but, ſtrictly ſpeaking, *Bezoar is a Subſtance of a ſtony Nature, extracted from ſome Animal, compos'd of ſeveral Strata or Layers, like thoſe of Onions, and which poſſeſſes a certain Quality, by means of which it reſiſts Poiſons.* The two principal Species of this Medicine are, as we have already ſaid, the *Oriental* and the *Occidental Bezoars*. We have not as yet, arriv'd at an abſolute Certainty what particular Animals produce theſe two different Species, becauſe, 'tis poſſible People may have ſaid concerning both, what was only true of one of the Species: Only this much we know in general, that this Stone is form'd in the Stomach of a certain wild Goat, which brouſes upon aromatic Plants. If we may give Credit to *nier*, there are ſeveral of theſe Stones to be found in one and the ſame Animal, the Truth of which, he ſays, we diſcover by the Touch. Theſe Stones are of different Forms and Sizes: Some of them are of the Form of a Kidney, or *French* Bean; others are round, oblong, and of an irregular Figure. Each Stone of this kind is compos'd of ſeveral Laminæ, form'd of a greeniſh or olive-colour'd Subſtance, diverſify'd with white Streaks, which run thro' the whole Body of the Stone. Theſe *Laminæ* adhere ſo cloſely to one another, that, upon breaking the Stone, we may obſerve ſeveral Layers of different Thickneſſes, and even ſometimes of different Colours. There are alſo found Laminæ, which, upon breaking theſe Stones, diſengage, and ſeparate themſelves very regularly from each other; which they alſo do when a conſiderable Degree of Heat is apply'd to them. The Subſtance which poſſeſſes the Middle or Centre of theſe *Bezoars*, is uſually hard, gravelly, and pretty ſmooth. The *Bezoardic* Layers, which cover this Subſtance, are eaſily broken between the Teeth, to which they adhere like a gently glutinous Subſtance, and tinge the Saliva a little.

Upon burning ſome of theſe Layers, I found that they were eaſily inflammable, and contain'd a volatile Salt and an Oil. The Matter which remain'd after their being burn'd, reſembled the *Caput Mortuum* which remains in the Retort after the Diſtillation of animal Subſtances. Theſe Stones are ſmooth on their Surfaces, but ſometimes, on certain Parts, are rough and unpoliſh'd, like Shagreen. They are pretty tender, and, if apply'd with a conſiderable Degree of Force to Paper, rubb'd over with Chalk, White-lead, or Lime, they wear away, and tinge the Paper, thus prepared, with a yellow, greeniſh, or olive Colour, leaving ſome Part of their Subſtance upon the Chalk, White-lead, or Lime. I ſteep'd two of theſe Stones in cold Liquor, the one in Water, the other in Spirit of Wine, for twelve Hours, without any apparent Change or Alteration being produced in them. I left the ſame Stone in the Water for ſome Days, during which Time there was ſo very ſmall a Quantity of Matter ſeparated from it, as only render'd the Water gently turbid; the Water and Spirit of Wine had nevertheleſs penetrated both the Stones.

Among the great Number of *Bezoar* Stones I have broken for the ſake of Examination, I have found many, in the Middles of which, agreeably to the Accounts of ſome Authors, there were Straws, Hairs, Marcaſſites, Flints, and gravelly Concretions, as much compacted, and as hard, as the Stones themſelves. In ſome of them I have alſo found Talc, Wood, Stones almoſt reſembling thoſe of Cherries, Stones of Myrabalans, and Fragments of the Stones of other Fruits. In ſome I have alſo found a Sort of Caſſia-nuts and Kidney-beans, included in a Coat or Membrane, the external Surface of which was indurated by the Matter of which the *Bezoar* is form'd, and in which the proper Membrane was ſhrivell'd up, and become dry. In others I have found the firſt Covering waſted; and the entire Stones, upon being ſtruck, ſounded like Eagle-ſtones. I have endeavour'd to prick one of theſe Stones with a red-hot Needle, in order to diſcover whether it was genuine or not; but the Needle did not prick them, and only left a browniſh Mark where it touch'd them; which Method ſome Authors have propoſed as the moſt effectual for diſtinguiſhing the good from the counterfeit, aſſuring us at the ſame time, that thoſe in which the Kidney-beans were found, are counterfeited by the Inhabitants of the ſeveral Countries from which this Commodity is imported.

Theſe Authors, therefore, adviſe us to make Choice of the *Bezoar* Stones which are of a moderate Bulk, of a browniſh Colour, and which communicate a yellow Colour to Quick-lime, a greeniſh one to Chalk, and which cannot be diſſolv'd in Water. If prick'd with a hot Iron, no Bubbles ought to ariſe round the Iron, which is a Proof, that it is not adulterated with any Roſins. The Laminæ alſo muſt be fine, and diſpos'd in Strata. The beſt Species of theſe Stones are taken from Animals that feed on large Mountains, ſuch as thoſe of *Perſia*. After all, it appears to me a hard Taſk to counterfeit *Bezoar*; and any one who has been in the leaſt converſant in this Commodity, may by his Sight only, as well as by the other Marks I have laid down, diſcover the Impoſture; for, if it was counterfeited with Plaſter, or any other Subſtance of a ſimilar Nature, it would neither undergo a Change by means of Fire nor Water, nor convey its Colour to Lime, nor, in a word, would it be able to ſtand all the ſeveral Methods of Proof for diſtinguiſhing the genuine from the counterfeit.

Nor is it credible, that, in order to counterfeit it, People ſhould be at the Pains to ſeek for all thoſe different Materials, which ſerve as a Ground-work for the Laminæ, or Beds of which 'tis compos'd; ſince, without ſo much Ceremony, they have only Occaſion to begin it upon a ſmall Ball of the ſame Matter, which, in all Probability, is not very ſcarce.

I am of Opinion, that the Subſtances included in the *Bezoar* Stones diſcover to us the preciſe Manner in which they are form'd, as *Tavernier* obſerves, who ſays, that theſe Stones are form'd around the ſmall Buds or Tops of the Branches of a certain Plant. Thoſe Buds of *Tavernier* may poſſibly be the ſame with the Kidney-beans mention'd by *Morand*, and which I myſelf have obſerved. Theſe ſolid and indigeſtible Bodies, remaining in the Stomachs of theſe Animals, irritate their Glands; and the thick Lymph which theſe Glands diſcharge, together with the Menſtruum of the Stomach, which is impregnated with the Juice of the aromatic Plants, upon which they feed, form thoſe regular, ſmooth, and beautiful Layers, which Art would in vain attempt to imitate; and I have even obſerv'd, that whatever Subſtance was lodg'd in the Centre of theſe Stones, the Strata were ſo fine, and ſo well diſpos'd, that the external Figures of the Stones bear a Reſemblance to that of the Subſtance lodged within them.

If, for Example, a Piece of Straw be the Ground-work, the Stone form'd upon it will be long; if it is a Piece of Flint, the Stone will preſerve the ſame Figure; and, if a Kidney-bean, we may obſerve externally the Radicle, and the Line which ſeparates the two Lobes of the Bean. In ſhort, from the Form and Weight of theſe Stones, we are enabled to judge effectually of the particular Subſtances on which they are form'd. Thus, as in a Commodity ſo precious as *Bezoar*, we are not allowed to break each Stone, we muſt thereſore truſt to the Touch and Sight, after having try'd our Experiments upon ſome of the moſt ſuſpicious ones. By the Sight we are enabled at once to form a Judgment of the Colour, which ought to be neither too pale nor too deep. Secondly, we are to judge of it from the Fineneſs of the Grain, and the Texture being ſo ſmooth and cloſe, that the ſeveral Laminæ are not eaſily ſeparated from each other. We muſt alſo take care to chooſe thoſe which are of a regular Figure; that, for Inſtance, of a Kidney, a Bird's-egg, or ſome other ſimilar Form. By the Touch we may alſo judge of the Subſtance included in the *Bezoar*, ſince the Weight or Lightneſs will determine that Point very well. If, for Inſtance, the Stone is heavy, the Ground-work, or Subſtance on which it is form'd, will be a Portion of Flint, poſſeſſing the greater Part of the Stone. If, on the other hand, the Stone is light, it will either be hollow internally, or include only ſome light Subſtance, ſuch as a Collection of Hairs, or ſome of the vegetable Subſtances I have already mentioned. The Stones which ſound upon being ſtruck, probably have, for their Groundwork, ſome Fruit, which, either becoming dry, ſhrinks up into a ſmaller Bulk than it at firſt had, or elſe is putrefied, and reduc'd to a Powder which ſome Authors eſteem very much.

I have obſerv'd alſo, that when the *Bezoar* Stones are of the Shape and Form of a Kidney, feel light, and yield a Sound, a Kidney-bean is ordinarily the Subſtance on which they are form'd. There are others of theſe Stones which are alſo light, of a round and ſomewhat flat Figure. Theſe, upon Trial, I found contain'd a round and flat Fruit, almoſt of the Figure of a Caſſia-nut. Beſides, tho' theſe Bezoars ſhould include hard Stones of Fruit, (Inſtances of which have been met with) or even Portions of Wood, yet ſtill their Lightneſs renders them preferable, provided the *Bezoardic* Matter bears the other Proofs, to thoſe form'd upon Flints, and which are much more heavy.

For anſwering its common Intentions in Phyſic, the Method of preparing *Bezoar* is, to reduce it to a fine Powder, whether with a View to be taken in Subſtance, or to ſerve as an Ingredient in ſome other Compoſitions; provided we remember to pulverize only the *Bezoardic* Part, and to ſeparate all adventitious Subſtances, eſpecially Flints, and other Things which have none of the Qualities of *Bezoar*, and which are lodg'd in them.

The Sentiments of People are ſtrangely divided with regard to the Animals which produce the *Oriental* and *Occidental Bezoars*: But it appears, that the *Oriental Bezoar*, which is brought to us from *Egypt* and *Perſia*, the *Eaſt-Indies* and *China*, is produc'd by a Species of wild Goat, which the *Perſians* call *Pazan*, and which is larger than ordinary, ſwift as a Deer, and has Horns reclining on its Back; for which Reaſon *Cluſius* calls it *Capricerva*, and which is thus diſtinguiſh'd:

Capra ſive Gazella Bezoardica Orientalis, Offic. *Gazella Indica, cornibus rectis longiſſimis nigris, prope Caput tantum annulatis*, Raii Synop. A. 79. *Capricerva Orientalis, è quâ Lapis Bezoar Orientalis*, Schrod. 5. 277. *Caper ſive Hircus Bezoarticus*, Aldrov. de Quad. Biſul. 755. *Capra ſive Hircus Bezoarticus vel potius Pazabarticus*, Jonſ. de Quad. 56. *Hircus Bezoarticus*, Charlt. Exer. 11. THE BEZOAR GOAT.

That Species of *Bezoar* which is imported from *America*, is produc'd by a Goat, which differs little or none at all from the former, except with regard to its Horns. It is thus diſtinguiſh'd:

Cervus minor Americanus Bezoarticus, Offic. *Capricerva Occidentalis*, Schrod. 5. 278. *Maxama ſeu Cervus*, Hern. 324. *Caguacu-ete*, Marcg. 235. *Caguacu-apara*, Ejuſd. *Sive mas & fæmina*, Raii Synop. A. 90. Piſ. (edit 1658) 98. THE LESSER AMERICAN DEER.

Pomet deſcribes the *Oriental Bezoar* Goat thus, from M. *du Renou*: It is a very active Animal, ſays he, that ſkips from Rock to Rock, at his Eaſe, and is very fierce, ſo that when he is cloſely purſued, he ſometimes kills the *Indian* Hunters. The Hoof, or Claws of his Feet, are divided neither more or leſs than the Goat's; the Legs are pretty thick, the Tail ſhort and turn'd up; the Body hairy, as that of the He-goat, but ſhorter, and of an Aſh-colour, inclining to Red, or rather of the Colour of the Hind's Belly; the Head is ſhap'd like the Goat, and arm'd with two black Horns, jagged at the lower Part, and turn'd backwards.

The great Variety of Opinions advanc'd by different Authors, with regard to the Name and Shape of this Animal, induce me to believe, that there are ſeveral Species of Animals in which theſe Stones are found, and that each Author has deſcrib'd the particular Species which he has had an Opportunity of ſeeing. This Reaſon may alſo account for the different Colours of *Bezoar*.

The *Occidental Bezoar* is eaſily known from its being of a paler Colour: It is ſometimes of a Greyiſh-white, and is form'd on Subſtances of the ſame kind with the Oriental. Its Lamin are alſo ſometimes thicker and ſtriated according to their Thickneſs.

The foſſile *Bezoars* are Species of Stones, form'd by Strat or Beds, and in Figure reſemble the animal *Bezoar*. They are ordinarily of a grey-whitiſh Colour: Their *Strata* are prett minute; they have no Smell; and are uſed in the ſame Diſorders for which the other *Bezoars* are thought proper. *America* ſupplies us with large Quantities of theſe *Bezoars*, an they are alſo to be found in *Italy*, and ſeveral Parts of *France* Mineral *Bezoar* is thus diſtinguiſh'd:

BEZOAR MINERALE, *Terra Sicula*; *Bezoardicum Minerale*, Mont. Ind. Exot. 14. *Bezoar Minerale*, Aldrov Muſ. Metall. 805. *Lapis Bezoar Minerale Siculus*, Bocc. Obſ Ed. Ital. 379. *Lapis Bezahan Siculus albus, Orientali fragilior*, Cup. Hort. Cath. Supp. 1. 246. *Lapis Bezoar foſſili* Geoff. Prælect. 69. De Laet. de Lap. 114. *Belzuar Mineralis Siciliana*, Bocc. Muſ. di Fiſica 55. MINERAL BEZOAR or SICILIAN EARTH.

There are ſome other Subſtances, which, from the Manner their Production, are called *Bezoar*. Thus there are the

BEZOAR GERMANICUM. *German* Bezoar. S ÆGAGROPILA.

BEZOAR HYSTRICINUM. See HYSTRIX.

BEZOAR MICROCOSMI, is the human Calculus.

BEZOAR SIMIÆ. See SIMIA.

Thoſe who have written upon Bezoars, and amongſt othe *Caſpar Bauhine*, have comprehended under that Name a gre many Subſtances which have not the leaſt Affinity to Bezoa which muſt undoubtedly introduce Diſorder and Confuſion in natural Hiſtory. If then we were to range into a proper O der all the Subſtances which can come properly under the Den mination of *Bezoar*, I think we might very properly redu them to five Claſſes.

The firſt of which ſhould contain the true *Bezoars*, whi are the Oriental and Occidental.

The ſecond ſhould comprehend all Stones extracted fro Animals, which approach to the Bezoar in the Conformation their Parts, or their Qualities; ſuch as the Bezoar of the A that of the Cayman, and even the various Species of Pearls a Crabs-eyes.

In the third Claſs ſhould be ranked the ſeveral Species of f ſile Bezoars.

In the fourth ſhould be placed thoſe Subſtances which ſhaped like Bezoar, without having its Virtues; ſuch as Stones found in the human Bladder, Kidneys, and Gall-bl der; as alſo thoſe that are found in the Gall-bladders of Ox or other Animals.

In the fifth and laſt Claſs ſhould be ranged the *Ægagrop* which are a Species of Balls of different Figures, and very li formed by a Collection of Hairs and Fibres of Plants, which Animals, in whoſe Stomachs they were lodg'd could not di Theſe Fibres and Hairs are at laſt ſo interwoven with one other, as to form one Body, which reſembles a Ball of Felt that employed in making coarſe Hats. Some of theſe are fo covered with a very fine Cruſt of Bezoar. They are ordin found in the firſt Ventricle of all ruminating Animals, or in Stomach of ſuch as do not ruminate; ſuch are the Stones fo in the wild Porcupine, and other Balls of Hair found in G Oxen, Cows, and other Animals. *Mem. de l'Acad. R.* 17

In a ſubſequent Memoir Mr. *Geoffroy*, continuing the Su of *Bezoar*, proceeds thus:

I have already obſerved, that there was almoſt always kind of Subſtance, round which the bezoardic Strata are fo and diſpoſed; and this Circumſtance has to me appeared a M that theſe Stones were not counterfeited, ſince any one would attempt to counterfeit them, would not, in all P bility, be at the Pains of collecting ſo great a Variety of M rials as are generally found in thoſe Subſtances, which ar Baſes or Ground-works of different Bezoar-ſtones.

The foſſile *Bezoar* is alſo form'd in the ſame manner. *cone* has in them obſerved Fruit-ſtones of various Sorts; Gravel-ſtones, Wood, Metal, Coal, and other Subſtanc examined ſome of thoſe commonly called *Priapolites*, whi found in *Languedoc*; and I had one of this Kind given Mr. *Bon*, in the Heart of which there was a Piece of crystal.

Among the ſeveral Subſtances found in the animal Bezoar-ſtones, I have obſerved one, which, to me, appeared very like the Caſſia-nut, or a Tamarind-ſtone, though ſmaller: However, I have ſince found, that it might poſſibly be the Seed of a certain Pod, which I had not then ſeen, and which reſembles the Seed of the Pod produced by the true *Egyptian* Acacia, which grows in *Egypt*, in *Arabia*, and in ſeveral other Places. This Pod is imported to us from *Senegal*, and is three Inches or three Inches and an half long, and nine or ten Lines in Circumference. It is compoſed of two Membranes, one external, and another internal. The external Membrane is very tender, of a browniſh Colour, and adheres to the internal one, which is cartilaginous, and very ſlender. The Subſtance which unites them is of a gummy Nature, of a yellowiſh tranſparent Colour, melts in the Mouth, and is of a very bitter Taſte. In the longeſt of theſe Pods I have found eight Seeds, ſeparated from each other by a ſort of Coat, which unites the two Sides of the internal Membrane. Every Cavity of theſe Pods contains a flat Seed, reſembling that of a Lupin, ſometimes exactly circular, and ſometimes a little compreſſed by the Coats joining the two Membranes of the Pods, which are more contracted in the Middle than towards the Extremities; ſo that the Seeds in the Middle of the Pod are a little compreſſed, and thoſe at its Extremities perfectly round.

What made me ſuſpect, that theſe Seeds were the ſame I had obſerved in the Hearts of the Bezoar, which are round, and a little flat, is, that in both I have found the ſame Marks, and among others a whitiſh circular Line drawn on every Surface of each Seed, reſembling that found on the Subſtance included in the Bezoar. I put ſome of theſe Seeds into Water, where they ſwell'd almoſt in the ſame manner they were found to do in the Stomach of the Animal, when they were beginning to have the Bezoardic Matter form'd upon them. The Tincture I extracted from theſe Seeds was of a red Colour, a very bitter Taſte, and, upon the Addition of a little Vitriol, became black. In the Countries where theſe Pods and Seeds are produced, the Inhabitants uſe them for tanning Leather. From a Decoction of them in Water, there is a Juice extracted, which, when inſpiſſated, is imported to us under the Name of the Juice of *Acacia*. Some alſo aſſert, that what we call the Gum Arabic, or Gum Senegal, flows from this Tree. Is there then any Probability, that the Perſons who are ſaid to counterfeit the Bezoar, ſhould be at the Pains, among other things, to ſeek for the Fruit of the *Acacia* as the Stamina or Ground-works of their Compoſitions? Or is it not more probable, that this Fruit, and ſome others uſed for the Paſturage of Cattle, by their aſtringent Qualities, produce an Inſpiſſation of the Juices in the Stomachs of thoſe Animals, which feed moſt commonly on them, and that in Conſequence of this Inſpiſſation the Bezoar-ſtones are form'd?

This then is the Manner in which theſe Stones are form'd in the Stomachs of the ſeveral Animals which produce them. Several of them may be found in the Stomach of one and the ſame Animal; and *Tavernier* tells us expreſly, that ſix of theſe Goats, which he received as a Preſent, had among them all ſeventeen *Bezoars*, which might have been felt and number'd by touching their Stomachs externally; and that this Circumſtance augmented the Price of the Animals, in proportion to the Number of Stones diſcover'd. This Account agrees intirely with that given by *Cluſius* of the Animal which produces the Occidental *Bezoar*. He ſays, that a Friend of his at *Peru*, who firſt diſcover'd the Occidental Bezoar, having a Mind to know how theſe Stones were formed in the Bodies of thoſe Animals, diſſected one of them, in whoſe Stomach he found a kind of Cyſtis, in which theſe Stones were ranged and diſpoſed in the ſame manner with the Buttons of a Coat.

This Account given by theſe two Authors is directly oppoſite to that given by *Pomet*, who aſſerts, that there is only one Bezoar found in the Stomach of each Animal. He aſſures us, at the ſame time, that he would not dare to contradict the Authors who have written on this Subject, if he had not had in his Cuſtody a Piece ſufficient to juſtify his Opinion. It will not be improper to inquire a little more minutely into this Fact, ſince nobody, ſo far as I know, has as yet animadverted publickly on this Error of *Pomet's*, with regard to his pretended Coat of the animal *Bezoar*, which he affirms to be one of the greateſt Curioſities the Virtuoſi of *France* have ſeen for a long time. In that Part of his Treatiſe of Drugs which relates to Animals, he gives the following Account of it. "This Coat," ſays he, "is as large as a Gooſe's Egg, cover'd over externally with a rough, ſhort, and yellowiſh-coloured Hair. Upon cutting it, the firſt thing that occurs, is a thin brown Shell, which ſerves as a Cover to another white Stone, as hard as a Bone, in which the Stone called *Bezoar* is contained."

Now this extraordinary Coat in which the *Bezoar* is wrapt up, and which he pretends to have diſcover'd, is by no means a Part of the Animal which produces the *Bezoar*, but an exotic Fruit, in which either *Pomet* himſelf, or ſome wanton Impoſtor, by whom he has allowed himſelf to be deceiv'd, has dexterouſly fitted the *Bezoar*. 'Tis only a Year ſince I detected this Piece of Fraud; for when I was examining this Curioſity of the late Mr. *Pomet's*, along with Mr. *Vaillant*, and Mr. *De Juſſieu*, we perceived that this pretended Coat could not poſſibly be a Part of any Animal, but rather ſome little known Fruit; which Conjecture was afterwards confirmed by Mr. *Vaillant*, who, happening to have ſome Fruit of the ſame Kind, found no Difficulty to make of their Coats *Bezoars* exactly like that ſo much valued by *Pomet*. This Fruit is produced by a ſort of Palm-tree, deſcribed by *John Bauhine* under the Name of *Palma Cuciofera*. This Fruit is alſo deſcribed by *Theophraſtus*, and the Tree itſelf grows in *Egypt*, *Nubia*, and *Ethiopia*. *Cordus* calls it the *Nux Indica minor*, and has given the ſame Deſcription of it which *Pomet* has given of the Coat of the *Bezoar*. *Pomet* has omitted only one Particularity of this Deſcription, which is the Skin which covers the Whole of the Fruit, and is of a yellow tawny Colour. The Fruit itſelf has a Pedicle divided into ſix Parts, three of which are large, and three ſmall. Theſe Circumſtances were ſufficient to deceive Mr. *Pomet*, and others with him; but a careful Detection of Frauds of this Kind muſt contribute conſiderably to the Perfection of natural Hiſtory. *Memoires de l'Acad. Royale de Sciences*, *A.* 1712.

Mr. *Geoffroy* the younger exhibited to the Academy a *Bezoar* of a very ſingular Kind. It is a Stone irregularly round, three Inches and three Lines in its greateſt Length, and two Inches and an half where it is ſhorteſt. It weighs only five Ounces, and is of a greeniſh-yellow Colour. It was found in the Gall-bladder of a Land-tortoiſe in the Iſland of *Bourbon*. Mr. *De Juſſieu* has one of the ſame Sort, but more flat, an Inch thick, and as large as the Palm of a Perſon's Hand. They are both diſpoſed in Strata like all other *Bezoars*. From this we ſee, that ſtony Concretions may be formed in all the Cavities of the Bodies of every Species of Animals. *Hiſt. de l'Acad. Roy. de Scienc.*

Schroder ſays, that *Bezoars* are alexipharmic, and Promoters of Sweat; that they are good in Epilepſies, Palpitations of the Heart, Jaundice, Dyſenteries, Stone, and Obſtructions of the Menſes; as alſo that they cure Melancholy, and forward Delivery; and in theſe important Intentions he aſſigns the Doſe from three Grains to twelve. But we have no Inſtances from Experience to ſupport any ſuch Practice. They have neither Smell nor Taſte; and upon taking into the Stomach, give no Senſation, nor produce the leaſt perceivable Effect, which is Ground enough to ſuſpect them good for nothing; although our Phyſicians preſcribe them in much larger Doſes than what *Schroder* mentions, and others have ventur'd half a Dram or a Dram at a time. The Shops uſe it only in the *Pulvis è Chelis compoſitus*, commonly called Gaſcoign's Powder, which, tho' it is a dear Medicine, ſeems to be of no Virtue as an Alexipharmic; yet as it has often been join'd in Preſcription with ſome Alexipharmics of Efficacy, it has the Credit, amongſt the Ignorant, of doing what it never had any Share in. *Quincy.*

Many Circumſtances contribute to render the medicinal Virtues of *Bezoar* precarious, and not eaſy to be determin'd; as the Uncertainty of procuring that which is genuine, it being much adulterated, as is ſaid, even in the *Indies*, not to mention the large Quantities that are made in *Europe* in Imitation of the true. Again, the exceſſive Price it generally bears, makes it inconvenient to exhibit it in a great Number of Caſes, and that in ſufficient Quantities, and thoſe long enough continu'd, to determine, whether the Virtues attributed to it are real or imaginary; and, without this Teſt, it is not poſſible to reaſon accurately and concluſively with reſpect to the Efficacy of any one Simple, tho' the Manner of its Production, and the Analyſis, are both taken into Conſideration; neither does the Taſte give us any ſurer Information, notwithſtanding the above-quoted Remark of *Quincy*.

As to my own private Opinion, it is of no great Importance in the Caſe before us, becauſe I have very ſeldom directed it, and conſequently am not a Judge of its real Effects: But I am informed, from Phyſicians who have induſtriouſly attempted to make the proper Experiments, that it has no ſort of medicinal Virtues, that they could perceive, which might give it the Preference to the Teſtaceous Powders. I cannot, however, forbear thinking, that if we had the genuine *Bezoar* Stone, we ſhould find it endow'd with greater medicinal Virtues, than at preſent we have any Reaſon to believe it poſſeſſed of.

That Species of *Bezoar* call'd by the *Dutch Pedro de Porco*, and by the *Portugueſe*, who firſt imported it into *Europe*, *Pedro de Vaſſar*, is found in the Gall-bladders of certain wild Boars in the *Indies*. It is not much larger than a Filbert of a moderate Size, which it reſembles pretty much in Shape, tho' 'tis more irregular. It is not always of one and the ſame Colour, tho' generally it approaches to that of *Toulon* Soap, which is a Greeniſh-white. Its Surface is as it were poliſh'd, and ſmooth to the Touch.

When any of theſe *Bezoars* are imported to *Amſterdam*, (the Number of which brought home in the richeſt loaded *Eaſt-India* Ships rarely exceeds five or ſix) they are purchaſed at three or four hundred Livres each, and ſometimes more; not by the Merchants, with a View to profit, but by the more opulent

Burghers, either for Preſents to Perſons of Diſtinction, or in order to be preſerv'd as a Treaſure in their Families, and handed down by way of an Entail to their Poſterity.

'Tis incredible what ſurpriſing Virtues the *Indians* aſcribe to this *Bezoar*, which is by them called *Maſtica de Soho*. The Inhabitants of the Kingdom of *Malaca*, where 'tis moſt commonly found, alſo eſteem it more than the Oriental *Bezoar*, not ſo much becauſe they believe it the beſt Preſervative in the World againſt all ſorts of Poiſons, as becauſe it is a ſovereign Cure for the *Mordoxi*, a Species of Diſeaſe to which they are ſubject, and which in that Part of *Aſia* is no leſs dangerous and fatal than the Plague is in *Egypt*.

The *Indians* alſo affirm, that this Species of *Bezoar* is an excellent Remedy in all malignant Fevers, the Small-pox, and moſt Diſorders under which Women not with Child may happen to labour. Experience has alſo convinc'd them, that it cauſes Abortion when uſed by Women with Child.

The Method of uſing this *Bezoar* is to infuſe it in a Glaſs of Water or Wine, till it has communicated a ſlight, though not a diſagreeable Bitterneſs to the Liquor, which is to be drank in a Morning faſting, and on all other Occaſions, when preſſing Circumſtances call for it.

In order to facilitate the Infuſion, and preſerve ſo precious a Stone, moſt People who have it, ſet it in a round Box of Gold perforated in ſeveral Parts, to which a ſmall Chain of the ſame Metal is fix'd, in order to ſuſpend it in the Liquor when they uſe it.

The *Bezoars* taken from the Porcupines and Apes do not differ from thoſe taken from the wild Boar, except in this Circumſtance, that they come from different Animals; unleſs with Mr. *Tavernier* we aſſert, that theſe two Stones, which he calls *Malaca* Stones, are not found in the Gall-bladder of the Porcupine and Ape, but in the Heads of both theſe Animals; and that they are *Bezoars* ſo much eſteemed by the Inhabitants of *Malaca*, that they never allow any of them to be carried out of their Territories, except ſuch as they intend for Preſents to Ambaſſadors, or ſome of the more potent *Indian* Kings.

Some aſſure us, that the *Bezoar* of *Siam*, ſo much eſteemed for its excellent Qualities, is a Stone taken from the Ape; and that it is found in *Siam* as well as in *Malaca*, in which laſt Country alone Travellers affirm'd it to be found, till Mr. *Chaumont* went to *Siam* in 1686. in Quality of Embaſſador from the Court of *France*.

There are ſeveral compound Subſtances, which are call'd *Bezoars*, or *Bezoartics*, the principal of which are the following.

BEZOAR ANIMALE *is thus prepared.*

Take of Hartſhorn calcin'd to its greateſt Whiteneſs, and reduced to Powder, four Ounces: Levigate it on a Marble till it become very fine, pouring to it, Drop by Drop, a Quantity of the Spirit of Vitriol, ſufficient to form a Paſte, out of which form ſmall Balls, which are to be dry'd immediately.

The Liver and Heart of Vipers pulveris'd is called alſo ANIMAL BEZOAR.

This Medicine is an Alexipharmic, a Sudorific, and a Deſtroyer of Worms. It ſtops Fluxes, quenches Thirſt, and is an excellent Medicine for Children.

BEZOARTICUM JOVIALE *is thus prepared.*

Take of the Regulus of Antimony fus'd in a Crucible, three Ounces; to which add two Ounces of *Engliſh* Tin fus'd in the ſame manner, that a Regulus may again be produced; then levigate the Whole, and mix with it ſix Ounces of ſublimate Mercury, and diſtil with a Retort. Fix the Butter diſtil'd from it, with Spirit of Nitre, by three Diſtillations. Then calcine; and when ignited, extinguiſh it in Spirit of Wine, and dry it. Thus a greyiſh Powder is produced.

This Medicine is a ſtrong Diaphoretic, and is of ſingular Efficacy in Diſorders of the Womb, and a great many other Diſtempers incident to Women; as alſo in Fevers, the Plague, and Scurvy. Its Doſe is from three to five Grains.

BEZOARTICUM LUNARE

Is prepared of Silver diſſolved in Spirit of Nitre, and Butter of Antimony, by proceeding in the ſame manner as in the Preparation of the *Bezoar Joviale*.

This Medicine is a Specific in Epilepſies, Convulſions, Megrims, and Apoplexies. It is Anodyne, Sudorific, and of ſingular Efficacy in curing the Eryſipelas. Its Doſe is from ſix to twelve Grains.

BEZOARTICUM MARTIALE

Is prepared of the Crocus of *Mars* diſſolved with Butter of Antimony, fixing it as above directed in the *Bezoar Joviale*: Or,

It is made by diſſolving one Ounce of the Filings of Steel i a ſufficient Quantity of *Aqua Regia*, pouring to it, b little and little, eight Ounces of Butter of Antimony, an proceeding with Spirit of Nitre.

This Medicine powerfully ſtops hepatic and other Fluxes and ſtrengthens the Viſcera. Its Doſe is half a Scruple.

BEZOARTICUM MINERALE: *Bezoar Mineral.*

Take of the Butter of Antimony, three Ounces; drop upo it ſlowly as much Spirit of Nitre; draw that off again in Sand-heat; which pour back again, with the Addition another Ounce of the ſame; which draw again, and repeat that Operation three or four times. Let the remaining Matter be powdered, and calcined for an Hour in Crucible; then edulcorate by waſhing, and burn upon three or four times Spirit of Wine.

This ſeems to have been originally the Contrivance of *Cro lius*; tho' *Quercetan*, *Sennertus*, *Hartman*, and many oth practical Writers, give ſeveral Proceſſes for its Preparation; doth alſo *Schroder* give one not much different from this. hath been much controverted by ſome, whether this is a me curial or an antimonial Medicine; but it is not of Conſequen enough to require any Notice of the ſeveral Opinions thereupo This Medicine is however of Efficacy and Uſe enough to tem ſome Chymiſts, and ſuch-like Artificers, who keep Medici Warehouſes, to ſophiſticate it; for to make it genuine w coſt double (beſides the Trouble and Danger of noxious Steam of what thoſe Impoſtors frequently ſell it for. Their commo Adulteration is with half or two Thirds of the *Flores Salis A moniaci*.

The Fumes of the firſt mixing are very noxious, and therefo to be carefully avoided. Its Operation is by Sweat, though will alſo ſometimes purge. It is much more efficacious than t Antimonium Diaphoreticum, and it will eradicate even Lepr ſies, and the moſt obſtinate Caſes of that Kind, if rightly m naged. Some account it a Reſiſter of Poiſons, and commend in peſtilential Diſtempers. Its Doſe is from ten Grains to hal Dram. Some calcine it in a Crucible, after it is taken out the Retort. Others think it better to let that Part of the Spi of Nitre it holds, remain with it; but its Operation is certai milder for ſuch Management.

Lute not on the Receiver, till the Violence of the Fumes over, leſt when the Fire augments its Motion, it break the R tort and Receiver. Do not exceed the third Degree of Fi nor let it ſtand long after the Spirit of Nitre is drawn off, prevent diſcolouring the Medicine. The Spirit of Nitre bei now impregnated with common Salt which was in the Butyru is become an Aqua Regia, and will diſſolve Gold, and is call *Spiritus Nitri Bezoarticus*. *Quincy*.

BEZOARTICUM MERCURIALE.

This is made by extracting a Tincture from the Glaſs m with *Mercurius Vitæ*, with Butter of Antimony, and f ing it with Spirit of Nitre.

It is ſaid to be an excellent Medicine in Venereal D orders.

BEZOARTICUM SATURNI.

This is prepared by extracting a Tincture from the G of Lead, (which may be obtained from Red-lead and Fli with unrectify'd Butter of Antimony, and fixing it cording to Art with Spirit of Nitre.

This Medicine is Anti-hyſteric, and of great Service in D orders of the Spleen. Its Doſe is ſix Grains.

BEZOARTICUM SOLARE

Is prepar'd of Plates of Gold diſſolv'd in *Spiritus Nitri zoarticus*, by pouring this Solution by little and little on Butter of Antimony, and proceeding as above.

This Medicine is an excellent Sudorific; and of Uſe in *Lues Venerea*, the Plague, the Gout, the Dropſy, Fevers, Obſtructions of the Spleen. Its Doſe is from three to Grains.

BEZOARTICUM VENERIS

Is prepar'd, by extracting the Tincture from the Filing Copper, with rectified Butter of Antimony, and f it according to Art, with Spirit of Nitre.

This Medicine is, by ſome, exhibited in Leproſies and eaſes of the Head and Brain. Its Doſe is ſix Grains. Ext ly it is of Uſe in old Ulcers, Fiſtulas, and Impetigos, i with ſome proper Ointment. *Pharmacop. Batean.*

SPIRITUS NITRI BEZOARTICUS is made by diſtilling Spirit of Nitre and Butter of Antimony together, in a Retort. See Bezoardicum Minerale.

BEZOARTICUM. Bezoartic, that is, poſſeſſed of the Virtues of *Bezoar*. *Alexipharmic.*

BHACTA. *Johnſon* explains this, *Terra Rubea.*

BIA, βία. Force, Violence. Hence βιαίως, violently, forcibly. μετὰ βίας ſometimes imports, ſcarcely, not without Difficulty. *Galen.*

BIARGHETNUSIM. Ceruſs. *Rulandus.*

BIBINELLA, or BIPENULLA. The ſame as *Pimpernella*, which ſee. *Blancard.* *Ray* ſays, it is the *Plantago anguſtifolia ſerrata* of *Cluſius* and *Parkinſon.*

BIBITORIUS MUSCULUS. The Adductor Oculi is ſometimes called by this Name.

BICAUDALIS MUSCULUS. The *Triceps Auris* has ſometimes been thus called; and alſo *Tricaudalis*, and *Intricatus. Caſtellus.*

BICEPS. The Name of ſeveral Muſcles, one of which is called,

Biceps internus Humeri, to diſtinguiſh it from the *Biceps externus*, otherwiſe called *Gemellus.* See Gemellus. It is more frequently called ſimply *Biceps Humeri*, without the Epithet of *internus.*

The *Biceps Humeri* hath two Heads or Beginnings: The firſt or outmoſt ariſes with a long round Tendon, from the upper Part of the Brink of the Acetabulum Scapulæ, and runs under the Ligament of the Articulation, in a Sulcus or Chanel, on the Head of the Shoulder Bone, wherein it is incloſed by a proper Ligament. In its Deſcent it begins to grow fleſhy, as it marches under the Termination of the Pectoral Muſcle, where dilating itſelf into a large fleſhy Body, it joins with its other Head or Beginning. The latter ariſes with a ſomewhat broad, flat, and long Tendon, at the Extremity of the Proceſſus Caracoides Scapulæ; in its Deſcent it ſtrictly adheres to the Coracobrachialis (wherefore ſome Authors, not rightly deſcribing that Muſcle amongſt thoſe of the Arm, have miſtaken it for a fleſhy Beginning of this). But when parting from it, both theſe Heads compoſe a large fleſhy Belly, which becoming tendinous, near the Cubit, is commonly ſaid to be inſerted by a ſtrong, round Tendon, to the Tubercle at the upper Head of the Radius. But we have obſerved this Tendon to be double, the external of which, being thin, paſſes obliquely over the *Muſculus Pronator Radii Teres*, and, Membrane-like, expanding itſelf, joins with the *Membrana Communis Muſculorum*, which embraces all the external Muſcles of the Carpus and Fingers.

When this Muſcle acts, the Cubit is bended.

The double tendinous Termination of this Muſcle (tho' not taken Notice of by any Author that we know) is very evident, and was obſerved firſt by us, ſome few Years ſince, diſſecting theſe Muſcles, in Company with our very good Friend, that moſt indefatigable and curious Botaniſt Mr. *Samuel Doody.* It appears immediately under the Skin, and Membrana Adipoſa of the Cubit.

As for the Uſe of this external Tendon, which we call *Faſcia Tendinoſa*, it ſeems deſigned, not only for the more advantageous Elevation, or Bending of the Cubit, which it more eaſily moves, by how much the more it recedes from the Centre of its Motion or Fulcimen, at the lower Part of the Arm-bone, and approaching to its other Extreme; but likewiſe ſtrictly including all the external Muſcles, whether belonging to the Radius, Carpus, or Fingers, it thereby corroborates them in performing thoſe ſtrenuous Actions they are neceſſarily employed in. This latter uſe was firſt ſuggeſted to us, by obſerving thoſe artificial Bandages made of Leather, which ſome laborious Mechanics make uſe of, by adapting them to the belly'd Part of the Muſcles of the Cubit, amongſt which Turners, and eſpecially thoſe that uſe the Raſp in making Frames for Cane Chairs, (as they are commonly called) a double Screw, are frequently obliged to this Artifice.

In Phlebotomy, the Ductus of theſe external tendinous Fibres ought to be reſpected, by directing the Lancet according their Length, to avoid too great a Diviſion of them, which frequently the Occaſion of thoſe ill Symptoms that remain that ſo commonly practiſed Operation by bold Blood-letters.

An extraordinary Caſe relating to this Muſcle once happened in our Practice. A Woman, three Days before ſhe conſulted us, had (as ſhe ſuſpected) diſlocated her Shoulder, by wringing of Linen Cloths after Waſhing, (which commonly done to expreſs the Water) adding, that in uſing her Arm in the Action, ſhe ſenſibly felt ſomething (as ſhe thought) ſlip out of its Place on her Shoulder. After examining the Part, we were well ſatisfied, that there was no Luxation: But obſerving a Depreſſure on the external Part of the *Deltoide* Muſcle, and finding the two inferior Tendons of this Biceps rigid, and the Cubit thereby denied its due Extenſion, we ſuſpected that the external tendinous Beginning (before taken Notice of) was ſlipt out of its Chanel in the Os Humeri; but finding the Part at that time ſomewhat inflamed, ſhe having not long before made uſe of it, we adviſed her to an emollient Application, and to give it Reſt till the next Morning; at which time we found our Conjecture true, and, by turning the whole Arm to and fro, it readily ſlipt into its Place, ſhe recovering the Uſe of the Part immediately.

Biceps Femoris.

The *Biceps Femoris* has two Heads, the ſuperior and the longeſt of which ariſes with a round Tendon from the Protuberance of the Iſchium, in its Deſcent becomes large and fleſhy, and, in above half its Progreſs, leſſens itſelf again, where it is joined with its other Head, having a broad, partly tendinous, and partly fleſhy Beginning from the Linea Aſpera of the Os Femoris, immediately below the Termination of the *Glutæus Maximus*; it being thus united, grows tendinous, as it marches in a Chanel on the external Appendix of the Os Femoris, becoming perfectly tendinous at its Implantation into the ſuperior Epiphyſis of the Fibula.

Beſides the Office commonly aſſigned to this Muſcle in bending the Tibia, together with the *Sartorius* and *Membranoſus*; it is likewiſe employed in turning the Leg together with the Foot and Toes outwards, when we ſit with the Knees bended. *Cowper*'s *Myotomia Reformata.*

BICHICHIÆ. An Epithet of certain Pectoral, or rather Troches, deſcrib'd by *Rhazes*, conſiſting of the Juice of Liquorice, Sugar, Starch, Gum Tragacanth, and blanch'd Almonds. *Caſtellus.*

BICONGIUS. Two Gallons. It contains twelve *Sextarii. Caſtellus.*

BICORNE OS. A Name for the *Os Hyoides.* See Hyoides.

BICORNIS MUSCULUS. A Name for the *Extenſor Carpi Radialis.*

BICUCULLATA *Canadenſe radice tuberoſa ſquamata.* This is a Name given by Mr. *Marchant* to the *Fumaria tuberoſa inſipida Cornuti*, of which *Marchant* makes a new Genus of Plants, becauſe it differs from the other *Fumariæ*, principally with reſpect to the Structure of the Flower. *Mem. de l'Academ. Roy.* 1733.

BIDENS, Offic. *Bidens*, *Verbaſina*, Mont. 38. *Bidens*, *foliis tripartito diviſis*, Tourn. Inſt. 462. Elem. Bot. 367. Herb. Par. 60. Boerh. Ind. A. 122. Buxb. 39. *Verbeſina*, Dill. Cat. 166. *Verbeſina ſive Cannabina aquatica*, *flore minus pulchro*, *elatior ac magis frequens*, J. B. 2. 1073. *Cannabina aquatica*, *folio tripartito diviſo*, C. B. 321. *Eupatorium aquaticum fœmina*, Ger. Emac. 711. Raii Hiſt. 1. 360. Synop. 93. *Eupatorium aquaticum alterum*, Park. 596. *Chryſanthemum Cannabinum Bidens*, *folio quinquepartito*, *ſive vulgare*, Hiſt. Oxon. 3. 17. *Chryſanthemum aquaticum*, *folio tripartito diviſo*, Herm. Flor. 2. 47. *Ceratocephalus vulgaris tripteris & pentapteris folio*, Act. Reg. Par. A. 1720. p. 327. WATERHEMP AGRIMONY. It grows in watery Places, and flowers in *Auguſt.* The Herb is in Uſe. It is hepatic and vulnerary. *Dale.*

BIFIDUS. Forked. *Spina Bifida* is a Name apply'd in the *Acta Eruditorum*, to certain Tumors at the Spinal Proceſſes of the Vertebræ of the Back, in new-born Children. *Caſtellus.*

BIFOLIUM, Offic. *Bifolium ſylveſtre vulgare.* ORDINARY WOOD BIFOIL, or TWAYBLADE. Park. Theat. 504. *Bifolium majus vulgare*, Hiſt. Oxon. 3. 489. *Bifolium majus*, *ſeu Ophris major quibuſdam*, J. B. 3. 533. Raii Hiſt. 2. 1232. Synop. 3. 385. *Bifolium vulgare ſylveſtre*, *ſive Ophris.* Mer. Pin. 15. *Ophris*, Chab. 506. Merc. Bot. 1. 54. Phyt. Brit. 82. *Ophris bifolia*, C. B. Pin. 87. Tourn. Inſt. 437. Elem. Bot. 346. Boerh. Ind. A. 2. 153. Ger. 326. Emac. 403. Buxb. 239. Dill. Cat. Giſſ. 75. *Ophrys ſive Ophris*, Rupp. Flor. Jen. 238. *Orchis bifolia*, *herbaceo flore*, *major*, Herm. Cat. Hort. Lugd. Bat. 461. TWAYBLADE.

This Herb has a ſlender Root, with many Fibres; from which ſprings a round Stalk a Foot high, or ſomewhat more, ſingle, and not branched; about the middle of which grow two large oval Leaves, full of Nerves, ſomewhat pointed, and in Shape like the broad Plantain, on very ſhort Foot-ſtalks. The Flowers grow in Spikes at the Top, like an Orchis, of a dull-green Colour, having no Spurs or Heels, and of a roundiſh Figure. It grows in Woods and Thickets, and in moiſt Meadows, particularly in *Batterſea* Meadow, near the *Thames*, and flowers in *June.*

Twayblade is aſtringent and agglutinating, good to conſolidate Ruptures, and heal Wounds, tho' it is but ſeldom uſed. *Miller*'s *Bot. Offic.*

BIFURCATUS. The ſame as *Bifidus*, forked.

BIGNONIA.

Mr. *Tournefort* called this Plant *Bignonia*, in Memory of the Abbé *Bignon*, Librarian to *Lewis* XIV. King of *France*, he being a great Encourager of Learning. *The Trumpet Flower, or Scarlet Jeſſamine.*

The Characters are;

It hath a tubulous Flower, conſiſting of one Leaf, which opens at the Top like two Lips: Theſe Flowers are ſucceeded by Pods, which are divided into two Cells, and contain ſeveral wing'd Seeds.

There are eleven Species of this Plant.

I don't know of any Medicinal Virtues attributed to it. *Miller's Dictionary.*

BIHAI.

This is the *American* Name of a Plant.

The Characters are;

It hath a tubulous Flower, conſiſting of one Leaf, ſhaped almoſt like a Lily, and cut into two Parts; the Pointal and Stamina are included in two Leaves. The Pointal afterwards becomes a fleſhy three corner'd Fruit, containing three hard rough Seeds. To theſe Notes ſhould be added, many Flowers contained in a common Covering.

There are two Species of this Plant.

I don't know of any Medicinal Virtues attributed to it. *Miller's Dictionary.*

BILADEN. Steel, or rather Iron; for Steel in Medicine ſignifies Iron. *Rulandus.*

BILIMBI. The Name of a ſmall Tree about eight or ten Foot high, call'd by *Bontius Billing-bing*, and by *European* Botaniſts *Malus Indica, fructu pentagono.*

It is commonly cultivated in Gardens in *Malabar*, and bears Flowers and Fruit all the Year round, being fruitful from the firſt Year of its planting to the fifteenth, and longer.

The Juice of the Root, drank, allays a feveriſh Heat. A Cataplaſm is made of the bruiſed Leaves, with an Infuſion of Rice, which powerfully mollifies and reſolves all Sorts of Tumors. The Leaves, boiled or macerated in an Infuſion of Rice, make an excellent vulnerary Decoction. The Juice expreſſed from the Fruit cures Itchings, Impetigo, Pſora, and other like cutaneous Affections, if Linen Cloths be wetted therein, and now-and-then applied. The ſame drank with burnt Arrack cures the Gripes, and ſtops a Diarrhœa. Of the bruiſed Leaves, with the Juice of the Flowers of the Palm-tree, is prepared a Cataplaſm, which cures all Kinds of Inflammations. Of the dry'd Fruits, and the bruiſed Leaves of Betel, they make a Powder, which drank in burnt Arrack promotes Delivery, and expels the dead Fœtus and Secundines.

The ripe Fruits are eaten for their Deliciouſneſs, but the unripe are preſerved with Sugar, or in Pickle and Vinegar.

Bontius alſo tells us, that he uſed to make a Syrup of the Juice thereof, which he preſcrib'd in a hot Diſtemperature of the Liver, and an inflammatory State of the Blood. We make uſe of the ſame, he ſays, in a Decoction with Rice undecorticated, which we call *Pada*, as an excellent Medicine in burning and continual Fevers; for it very much contributes to the quenching of Thirſt, and checks the Efferveſcence of the Bile.

There is another Species of this Tree, which is called *Nebipouli*, or *Bilimbi altera minor*, H. M.

Of this there are two Kinds, or rather Sexes, one of which, tho' it flowers, never bears any Fruit, and is called by the peculiar Name of *Ala-pouli*.

It grows every-where in *Malabar*, and in many other Parts.

The Root of this Tree bruiſed with the Seeds of Muſtard and Cumin, and taken, excites Vomiting, and looſens the Belly; but if it be uſed with the Fruit *Tomara-tonga*, it reſtrains an immoderate Flux of the Belly, and cures a Dyſpnœa. A Decoction of the Leaves in common Water excites Sweat, and expels the Small-pox. The ſame with *Malabarian* Saffron, which the Natives call *Manja Cavas*, makes a Bath, which is of great Efficacy in all Pains of the Limbs. The Fruit is highly refrigerant, and therefore extremely proper to allay a violent Thirſt in a continual Fever. *Raii Hiſt. Plant.*

BILIS. The Bile or Gall.

Few Subjects have been more copiouſly treated of than the Bile, both by the Antient and Modern Writers in Medicine; and it muſt be confeſſed, that very few ſo much deſerve it, or are of equal Importance. I ſhall therefore endeavour to give a general Idea of the Notions entertain'd by the Antients, concerning the different Species of Bile; more with a View of rendering their Writings eaſily intelligible, than of explaining the true Nature of this Fluid, the Generation and Uſes of which muſt be learned from the Moderns, who have with greater Accuracy, and more intelligibly, treated this Subject.

Bilis, χολὴ, in *Hippocrates*, when put abſolutely, and without an Epithet, ſignifies pale or yellow Bile, as *Galen* in many Places aſſures us; as in his Com. 3. on the Book *De Rat. Vict. in Morb. acut.* εἰθισαι γὰρ τοῖς ἰατροῖς χολὴν μὲν ἁπλῶς ὀνομάζειν τὴν ὠχρὰν τε ϗ ξανθὴν, τὴν μέλαιναν δὲ χολὴν ὅλον τοῦτο λέγειν ὐχ ἁπλῶς χολήν· "Physicians uſually call pale or yel-"low Bile, ſimply Bile; but black Bile they expreſs in ſo "many Words, not ſimply, or by the Name of Bile only." And *Com.* 4. ὅτι δ' ὅταν, &c. "We ſaid before, that Bile ſim-"ply ſaid, ſignifies *bitter Bile.*" And in his Comment on the thirty-ſecond Aphoriſm of the Seventh Book, τὸ δὲ χολῶδες, &c. "Bile is always the Cauſe of acute Diſeaſes; for, as we "ſaid, by this Name the antient Phyſicians uſually called "bitter bilious Humour, and they never expreſs the melan-"choly Humour withourt an Epithet, not calling it ſimply "*Bile*, as they do *yellow Bile*, but *black Bile*." Again in hi firſt Comment on the Book *de Natura Humana*, ὐ μόνον ἰατρῶ ἔθος, &c. "It is cuſtomary not only for Phyſicians, bu "with all the *Greeks*, to ſay *Bile*, without any Addition "when they intend to ſignify *pale*, *or yellow Bile*, for bot "theſe Epithets are apply'd to one kind of Humour, differin "in reſpect of Moiſture and Dryneſs; but all the othe "Biles are expreſſed with ſome Addition, as by *æruginous*, "*black*, *red*, *porraceous*." And in another Paſſage of th ſame Comment, he ſays, it was uſual for the *Greeks* to ca *yellow Bile*, ſimply *Bile*, but never intended black Bile without mentioning its Epithet. The ſame Author, in his Book preternatural Tumors, ſays, "A Cuſtom has obtained, "know not how, among us Phyſicians, when we ſay *Bi* "ſimply, or the bilious Humour, we are underſtood to mea "the pale or bitter Bile, not the acid and black Sort, whic "we never mention without an Addition, connecting it wi "its Colour." Once more, and very fully, in his fif Comment on the ſixth of the Epidemics, where he enumerates the various Species of Bile, χλωρὰς ὂυν γλώττας εἰρηκ &c. "He (*Hippocrates*) ſays *pale Tongues*, according to t "vulgar Way of ſpeaking, as when we ſay, that we ſa "ſome look *pale*, whoſe Colour has been alter'd to a mo "bilious Hue, or to that of *pale* Bile. For this we expr "ſimply by the Term *Bile*, not as we do the other Kind "with an Addition of Epithets, as *black*, *æruginous*, *r* "*yellow*, or *vitelline*. Now the yellow Bile is next to "pale, and almoſt of the ſame Kind; and the pale Bile "commonly expreſs without its Epithet, as when we ſay, "Man vomited Bile; but the yellow Bile is but ſeldom "preſſed abſolutely, for we immediately ſubjoin its Epith "ſaying, the Man vomited yellow Bile, or pure Bile. "neither Phyſician, nor any of the Vulgar, did ever exp "æruginous or black Bile without an Addition; nor yet "glaſtine, (bluiſh) porraceous, or vitelline. Theſe Na "are given by ſome Phyſicians to the different ſorts of B "and are taken from their Colours; ſo alſo they call by "Name of red Bile, the Serum of the Blood; but the vi "line is the yellow Bile incraſſated, as the pale Bile is "ſame diluted with a watry Subſtance." This *pale* B *Hippocrates* in the Place above referr'd to, which is *Aph.* *Sect.* 5. *lib.* 6. *Epid.* ſays, "Is generated of Fat," τὸ δὲ χολῶ ἐκ πίονος.

The Terms χολῶδες, and χολώδη alſo, in *Hippocra* ſimply uſed imply pale or yellow Bile, as *Galen* writes in fourth Comment on the ſixth Book of the Epidemics, λέλ δ' ἤδη πολλάκις, &c. "We have often obſerved, that "he (*Hippocrates*) ſays ſimply *bilious* (χολώδη), he int "pale or yellow Bile, ſince to other kinds of Bile he at "butes their ſeveral Colours; thus we find in him, "æruginous, and reddiſh, and black, and dark-colour'd "are vomited." Again, *Com.* 2. *in lib.* 3. *Epid.* " "probable, ſays he, that ſhe voided pure bilious M "(χολώδη), that is, either yellow or red; for it is uſual "him, as well as other Phyſicians, to expreſs the black "æruginous, with an Addition of their proper Colour. "alſo commonly ſay, ſuch a one voided bilious Matter, m "ing yellow Bile; for we do not call æruginous, or b "Excrements, or thoſe of any other Colour ſimply *bi* "but with an Addition of their proper Colour. And "Cuſtom has univerſally prevailed, becauſe pale and ye "Bile are every Day voided both by Stool and Vomit, "only by ſick Perſons, but by thoſe in Health, but ſe "any other ſorts of Bile, and never but by ſuch as la "under ſome morbous Affections." So alſo χολὴ ξα called by *Hippocrates*, *Lib.* περὶ ἀρχ. ἰητρ. πικρότης, that is, Bitt or a bitter ſort of Humour; and all Fevers are ſaid to from Bile, *Lib.* 4. *de Morb.* and *Lib.* 2. *de Nat. Huma* in *Aph.* 42. *lib.* 7. in which he comprehends all putrid Fe

Χολὴ is alſo pretty often ſimply uſed by *Hippocrates*, to a Flux of Bile; and, in *Lib. de Loc. in Hom.* for any De in general, which ariſes from a thin Humour lodged Part, and by its Nature eaſily diſturb'd, and put in M and he often uſes the Word in this Senſe throughout the as, for Inſtance: Ὡς τὰ πολλὰ ἔμπυοι γίνονται ὅταν ῥεῦμα αὐτὸ ὥσπερ ἐν τῇσι χολῇσιν γίνηται, ἀλλὰ τῇσι μὲν χο ἀπορρεῖ· "An Empyema, for the moſt part, happens "Rheum falls upon the Part, as is the Caſe in bilious "xions, which carry with them Plenty of Matter."

BILIS ATRA, χολὴ μέλαινα. Black Bile, or Mel is almoſt conſtantly mention'd with its Epithet, and has fold Origin; one from the thicker, and, as it were, Part of the Blood, and this is properly call'd the me Humour: Its other Origin is from yellow Bile, too mu ted and heated. This appears to be *Galen*'s Opinion, in any Places of his Works; as in his ſixth Comment on the th Book of the *Epidemics*, and on *Aphoriſm* the twenty-firſt of the third Book; and his Comment on the Book *de Rat. Vict.* in *Morb. acut.* And in his Comment on the fifty-third *Aphoriſm* of the ſixth Book, he ſays, μεμνῆσθαι γὰρ χρὴ τῶν περὶ τῆς μελαί- ης χολῆς ἐν ἄλλοις διωρισμένων, ὡς, &c. "The Reader ought to call to mind my Definitions concerning black Bile in other Places of my Works, how that one Sort proceeds from yellow Bile, too much torrefy'd [ὑπεροπτηθείσης]; and this is the worſt of all. Another Sort ariſes from the Mud, if I may ſo ſay, and Dregs of the Blood: This, indeed, is of a thicker Subſtance than the former, but is far leſs malignant in Quality. We told you alſo, that the Bile, which is a ſort of Lees of the Blood, ought not, as yet, in Accuracy of Speech, to be call'd black Bile, but a melancholy Humour; but, by an Abuſe of Names, we ſometimes call it black Bile, becauſe, if it be not evacuated in a little time, it will be really ſuch." *Foeſius.*

ολὴ μέλαινα, black Bile, in the common Acceptation, ſigni- s any thick and black Humour, whether it be the muddy rt of the Blood, or Blood aduſt, or Bile torrefy'd beyond aſure, or however generated. But this Appellation properly ongs to a Humour render'd, by Aduſtion, preternaturally rdacious, acid, harſh, ſplendid, corroding, and malignant, ich, pour'd on the Ground, bubbles up, and raiſes the rth, after the manner of Ferment or Vinegar; is the Cauſe incurable Ulcers; and is ſo nauſeous, that neither Fly, nor uſe, nor any other Animal, will taſte it. It is generated Ways; firſt, and principally, from a black and feculent mour, which is beyond meaſure putrid and aduſt; the r Kind is from yellow Bile, vehemently aduſt, and is by the more malignant Sort, as yellow Bile itſelf is more ma- ant than the melancholy Humour or Dregs of the Blood. etimes it proceeds, by Aduſtion, from vitelline Bile: Such Alteration in the Bile is produced by a preternatural Heat Putrefaction, by which it acquires an Acrimony, and is er'd like Aſhes; juſt as the Lees of Wine, which are cold dry before they are burnt, but afterwards become ſo hot as rn the Fleſh, and produce a Colliquation and Putrefaction in. *Galen* has told us, that he never obſerved an Excre- of this kind of Bile without pernicious Conſequences. Such χολὴ, ſtrictly ſpeaking, is manifeſtly diſtinct, ἀπὸ τοῦ γχολικοῦ χυμοῦ ἢ μέλανος, "from the melancholy or black umour." For this latter is reckon'd among the Elements e Body, and contributes, together with the Blood with h it is mix'd, to the Generation and Nutrition of the Ani- having nothing of an acrimonious or corroding Quality; eing, as I may ſay, the Mud or Sediment of the Blood, ers to the Lees of thick Wines. This Humour the Spleen s to itſelf, purging it from the Liver and Blood, and ap- iates it, when alter'd, to its own Nouriſhment, expelling eliques, with other excrementitious Juices, into the Sto- , in order for Evacuation. The Excretion of this black our, whether by Stool or Vomit, is often healthful, ſigni- that the Body is in a right Temperament, and that vigor- ature, being oppreſs'd with too great a Plenty, finds a to eaſe itſelf of its Burden: But if it be retain'd too n the Body, without being evacuated by ſome ſenſible or Paſſage, it oppreſſes and debilitates the Liver, undergoes tion and Putrefaction, is render'd aduſt by ſome febrile mation, and perfectly becomes that black Bile before n of.

μέλαινα alſo, in *Athenæus*, paſſes under the Appellation ὸς ξυστικὸς, "the corroding Humour;" ſo it is call'd by one *Trapeborethor*; and *Galen* aſſures us, that ſome that Name, where, ſpeaking of black Bile, he ſays, οὐδὲν ἴδιον τῷ τοιούτῳ χυμῷ, πλὴν εἴπου τινὲς ἢ ξυστικὸν ἢ λήκασιν αὐτὸν "This kind of Humour has no peculiar e, except that there are ſome who have call'd it the ding or vinegar-like Humour."

alſo ſignifies τὸ χοληδόχον ἀγγεῖον, "the Veſſel con- ng the Bile," *Pollux*, *Lib.* 2. and is ſometimes uſed for k Liquor of the Cuttle-fiſh.

, *Fel*, χολὴ, is that Humour in the human Body, which guiſhed by its Heat and Dryneſs. This is two-fold; one which is call'd ſimply *Bile*, χολή· the other tranſ- the Bounds of Nature. The natural Bile, which is with the Blood, contributes towards nouriſhing the Body: yellow or paliſh Colour, of a bitter Taſte, thin Con- like the Flower of Wine, and of a heating and drying The Subſtance of this Humour is contain'd, at firſt, Meat and Drink; which being concocted, the well- Part of the Bile is converted, together with the Blood, iſhment for the Body; but what is excrementitious eceptacle in the Gall-bladder. For as from new Wine, der Fermentation and Changing, two Kinds of excre- us Subſtances are ſeparated by virtue of its Heat during ation, one lighter and more airy, which they call the the other heavier, and of a more earthy Quality, which they call the Lees; ſo from the Food are produced yellow Bile, of a thin Conſiſtence; and black Bile, which is of a more denſe and groſs Contexture. But all the natural Bile, that is in us, does not proceed from the Aliments; for the Heat of the Liver and Veins, if a little exalted above the common Standard, ſometimes converts the thinner Part of the pure Blood into yellow Bile. For as Choler proceeds from a weak Heat, Blood from a moderate Heat, ſo, from an immoderate Degree of the ſame, is Bile generated, which is endued with the Qualities above-mention'd, and ſo familiar to our Nature, as to be accounted among the Elements of our Body. But the Bile, which is above or below the natural Standard, is no longer call'd ſimply Bile, but has an Epithet denoting its bad Quality; and there are a Multitude of theſe vicious Biles, as the Exceſs of Heat, and other Qualities, will admit of a great Latitude; but almoſt all the Differences, taken Notice of by Phyſicians, borrow their Name from their Colour or Conſiſtence. Thus,

Ἐρυθρὰ, the Red. This is either an acrimonious and mordacious Serum of the Blood, or comes very near, in Conſiſtence, to a thin Blood; but becauſe it does not concrete, like Blood, after Effuſion, it is call'd *Bile*.

Ἰσατώδης, the Glaſtine; or what, by its Colour, reſembles that of *Glaſtum*, *Woad*; but is indeed darker, and neareſt the Colour of Cabbage. This Bile is extremely acrimonious, hot, and pungent, and next to black Bile in Conſiſtence, Colour, and Efficacy. It is the moſt malignant among all the kinds of Bile, and is generated in the Stomach, or adjacent Parts, by a very vehement and burning Heat.

Ἰώδης, the Æruginous, or what is of the Colour of Verdegriſe, that is, green. It is acrimonious, hot, and pungent to a great Degree, and next to the Ἰσατώδης, but not yet arrived to that Height of Malignity. It is generated in the Stomach, or in the Liver affected with a Phlegmon.

Κυανὴ ἢ κυανίζουσα, the Azure or Sky-colour'd. This ſeems to be the ſame with the Iſatodes; for the Iſatis, or Glaſtum, is of this Colour.

Λεκιθώδης, the Vitelline; that is, in Colour and Conſiſtence, reſembling the Yolk of a raw Egg. This Kind is of a groſs Subſtance, and of a high yellow Colour. It comes of yellow Bile, too much concocted, and dried by an immoderate Heat, and, for that Reaſon, afterwards condenſing. It nearly holds the middle Place between the natural Bile, and what is arrived at the higheſt Degree of Malignity. It is generated in the Veſſels, as *Galen* writes in his Book *de atra Bile*, tho' it is often voided both by Stool and Vomit.

Ξανθὴ, the Yellow. This comes neareſt to the natural Bile, which ought to be a Medium between the pale Bile and the yellow.

Ὀρφνώδης, the Dark, or Obſcure. This Epithet is uſed by *Galen*, in his fourth Comment on the ſixth Book of the *Epidemics*. He ſeems to mean by it τὴν κυανῆν καὶ τὴν ἰσατώδη.

Πρασοειδὴς ἢ πρασώδης, the Porraceous. This is often generated in the Stomach, from indigeſted Food; and ſometimes from a Diſeaſe, or preternatural Heat, in the Veins, whence it is convey'd into the Stomach and Inteſtines. But it is not produced by a vehement Heat, like the ἰώδης; for tho' both Sorts are green, the ἰώδης, on account of a more vehement Heat, is more acrimonious, mordacious, and of a thicker Conſiſtence; which Qualities belong to the πρασώδης, but in a much inferior Degree. *Galen*, in his third Book *de Aliment. Facult.* writes, that, in ſevere Diſtempers, all ſorts of *Bile* are voided, except the porraceous; but that the yellow, and the pale, and the porraceous alſo, are often voided, both upward and downward, by Perſons in Health; which is a Proof, that the porraceous differs from the æruginous, as to Exceſs of Heat.

Πυῤῥὰ, which proceeds from a leſs intenſe Degree of Heat than the yellow. This Colour is a Medium between a pale and a yellow; therefore this and the yellow Bile have their Names often confounded, on account of the Nearneſs of their Colours, as *Galen* tells us, *Lib.* 1. *de Criſibus*, *C.* 12.

Ὑγρὰ, the Liquid; that is, diluted with Serum, or ſome other Humour.

Ὑδατώδης, the Watery. This is the ſame as the ὑγρά.

Ὑπέρυθρος, Reddiſh, conſiſting of the Serum of Blood, or the thinner Part of it, mix'd with another Subſtance of a different Colour from Blood.

Φαιὰ, Brown. The ſame with the ὀρφνώδης and κυανῆ.

Χλωρὰ, Green or Pale; for τὸ χλωρὸν ſignifies both, as *Galen*, in many Places, has obſerved; but what is properly green, has a Tincture of the Pale and Yellow.

Ὠχρὰ, the Pale. This is the moſt moderate of all the Kinds, and leaſt hot. It is bitter and pungent, and generated within the Veins of a Body in its natural State. It is of a humid Quality, and but little inclining to the Yellow, becauſe it is mix'd with ſome thin pituitous or aqueous excrementitious Humour. This Sort is more frequently underſtood by the ſimple Name of Bile, than the Yellow, as implying a leſs Exceſs of Heat, which is always contrary to Nature. *Gorræus.*

The natural Heat is diffuſed thro' all Parts of the Body for the ſake of Concoction; and there is, in all Parts, a Generation and Separation of Humours, but by different Ways, and ſuch as are proper to each Part. Thus the Fleſh creates and ſeparates Sweat; the Eye, Tears; the Joints and Noſtrils, Mucus; the Ears, Ear-wax. Therefore, if the natural Heat be incapacitated to perform its ſeveral Functions, it becomes acrimonious and fiery, and all the Humidities are changed into Bile; for Things become bitter, and infected with Bile, by means of the Heat. If this Indigeſtion happens in the Blood, it turns bilious, and diſperſes the Infection, with its Nutriment, into all Parts; for which Reaſon its Effects are univerſal, and Bile is every-where viſible.

One Species of Bile is of a yellow Colour, ſubtile, tranſparent, and of a finer Sort than what inclines to livid or black: What is of a deeper Colour, like that of Saffron, or the Yolk of an Egg, is accounted of the ſame Kind.

A ſecond Species of Bile is of a darker Colour, reſembling that of a Leek or Woad, black.

Between theſe are an infinite Variety of Colours, which depend upon the Heat and Humours. The Viſcera alſo are a Cauſe of this Diverſity, as the Liver, if the Bile be yellow; the Spleen, if it be livid. *Aretæus, περὶ αἰτ. ϗ σημ. χρον. παθ. Lib.* 1. *Cap.* 15.

If an Inflammation proceeds from an Influx of Bile, the Intention is commonly directed to the Evacuation of the peccant Matter, both by Vomit and Stool. For this End, ſome Cholagogues are to be preſcribed which work both Ways, ſuch as the Thlaſpi; for an Acetabulum of this Plant, which is the greateſt Doſe, evacuates Bile both upwards and downwards. Alſo Medicines prepared with Scammony work upon and purge yellow Bile. We muſt, therefore, not make the leaſt Scruple to adminiſter a Purge, and repeat the ſame, if need be; for the Diſeaſe immediately ſubmits to Evacuants. If the Patient, for ſome Reaſon or other, be either unwilling or unable to take a Purge, it will be proper to apply ſuch Things to the Navel as will work upon and evacuate the Belly; or, to produce the ſame Effect by means of Suppoſitories, let a Clyſter alſo be given, and Cataplaſms apply'd, conſiſting of the Meal of Barley and Beans, with recent and unſalted Swine's Fat, and the fine Flour of Chamomile, and Water. But theſe Things are to be applied laſt of all; for, in the Beginning to the Height of the Diſtemper, we are to make uſe of Remedies compoſed of Houſeleek, freſh Roſes, Perdicium, Alkanet, Sanguinaria, Pellitory of the Wall, Sideritis, Purſlain, ſharp-pointed Dock, Atriplex, Nightſhade, Plantain, Henbane, Water-lentils, and Seagreen, Blites, Lettuce, Succory, Garden-mallow, Raſpings of Gourds, Navelwort, Violets, and Rinds of Pomgranates. Every one of theſe, applied with Bread of the Meal of Polenta, removes the Pain; but eſpecially the Seed of Fleawort, macerated in boiling-hot Water, and, after it is reduced to a Mucilage, applied by way of Cataplaſm. An Ointment of Litharge is alſo very proper to repreſs the Influx of Blood; ſo alſo are Apples, applied with Crums of Bread, and ſuch-like Things. Cerates compoſed of Wax, Chamomile, and Oil of Roſes, with the Juice of one or other of the before-mention'd Refrigerants, and the White of an Egg, and Water, with a little Vinegar, are of Service. Cerate of Oil of Roſes, with a ſufficient Quantity of the Juice of Beet, is an excellent Medicine. I have ſeen a Perſon labouring under this Diſorder, who found wonderful Relief by putting his Feet into cold Water, and keeping them there awhile. Another I have ſeen, who made uſe of the Fleſh of Oyſters, with Litharge, Leaves of Henbane, and old Oil, carefully pounded together; and by Anointings, and Applications, made of the ſame, was very well reſtor'd. In want of Oyſters, we may uſe River Shell-fiſh. Theſe Remedies are ſufficient, if the Inflammation and Heat are but moderate; but if they are exceſſive, we muſt manage the Cure as for an Eryſipelas; that is, with the Leaves of Hemlock, Poppy, Mandrake, and Henbane, and Narcotics compoſed of Opium, and ſuch-like Things. But, in the Uſe of theſe Medicines, our Intention is only to allay the immoderate Heat, which is often accompliſh'd in an Hour; after which the ſtupefactive Medicine muſt be removed, and a Cataplaſm of Bean-meal, Fat, and Water, be applied. For if thoſe vehement Refrigerants continue longer on the Part, they induce a Stupor, and a Deadneſs or Dulneſs of Senſation: Wherefore when we are obliged, under acute Pains, to have recourſe to Narcotics, we take care afterwards to revive and cheriſh the Parts by heating Medicines. *Aetius, Tetrab.* 3. *Serm.* 4. *Cap.* 28.

The Bile is the hotteſt of all the Humours of an Animal, but differs in Degrees of Heat, according to its Colour; for the yellow Bile is hotter than the pale, and the æruginous than the yellow. It varies alſo in different Animals; ſo the Bile, or Gall, of a Swine is the weakeſt of all, and even cures Ulcers in the Ears, without ſhewing any pungent Quality. The Bile of a Sheep is more acrimonious than the Swine's; and the Goat's, than that of the Sheep. The Bile of a Bull is ſtronger than the foregoing, but weaker than that of the Hyena, which is yet ſurpaſs'd by thoſe of the Callionymus and Scorpion Fiſh, which help Cataracts, Dimneſs of Sight, and an Albugo. The ſame Virtue belongs to the Bile of the Sea-tortoiſe; and the Bile of the wild Goat is ſaid to be good in a Nyctalops.

The Bile of volatile Animals is more acrimonious and dryin than that of Quadrupeds; and among them the Bile of Cock and Partridges is accounted the beſt: Thoſe of the Hawk an Eagle have more of a kind of Acrimony, and are corroſive their Colour is æruginous, and ſometimes black. *P. Ægineta Lib.* 7. *Cap.* 3.

Yellow Bile is a bitter and yellow Excrement; porraceou Bile is acrimonious and greeniſh; æruginous, or rather viole colour'd (*ἰώδης*) Bile is highly pure and unmix'd; black Bi is the thick Sediment of Blood: Some call black Blood by th Appellation of black Bile. *Ruffus Epheſius, Lib.* 1. *Ca* 36.

I now proceed to the modern Accounts of the Bile.

It is a juſt Obſervation made by *Hippocrates, That we a diſorder'd and render'd ſick, by means of thoſe very Things whi are immediately neceſſary to Life and Health.* What we c the Non-naturals, afford a palpable, but melancholy Proof the Truth of this Aſſertion; for as Air, Meat and Drink, M tion, Sleep and Reſt, are abſolutely neceſſary for the Purpo of Life, ſo 'tis no leſs certain, that any Fault or Imperfecti in theſe Things produce Diſorders in themſelves the moſt t rible, and to the human Conſtitution the moſt fatal. T holds true, not only with regard to Things extraneous to t Conſtitution, but alſo with reſpect to thoſe internal Subſtan which are immediately conducive to the Support of Life, a the Preſervation of Health, ſuch as the Blood, the Lymph, a the Animal Spirits; for, as the Perfection of the vital Functi depends upon the due State and Temperament, the juſt Co mixture, and Degree of Motion of theſe Subſtances; ſo more immediate and direct Cauſes of Diſeaſes muſt be deri from the Defects they labour under, and their ſeveral Deg of Receſs from a natural State. There are alſo other Fluid the Body, which, tho' not ſo immediately, are yet ſo abſolu ly neceſſary to Health, that their becoming faulty or pecc muſt conſiderably deſtroy it, and lay an unavoidable Foun tion for Diſeaſes. Inſtead of all other Inſtances of this Kin ſhall, at preſent, confine myſelf to the *Bile*; the Uſeful and Neceſſity of which Liquor, for the Preſervation of and Health, are ſufficiently known to every one who is quainted with the rational and ſolid Principles of Phyſic. being found in every the moſt minute Animal is a ſuffic Proof of this; for there is not a Poſſibility of finding, in whole Extent of Nature, a ſingle Inſect deſtitute of a bi Humour. And, indeed, when we come to explain our S ments on this Subject, we muſt acknowledge, that the lodged in the Bodies of Animals is a real and genuine Medic wiſely elaborated by unerring Nature, for preventing Diſe deſtroying their Cauſes, and correcting the Faults and Diſo of the Conſtitution; and that, by means of its incompa Virtue and Energy, Animals are kept alive, and preſerv an eaſy and comfortable State of Health, as I ſhall, in Sequel, ſhew more fully. Since, then, the *Bile* is ſo highly ful and efficacious in maintaining a State of Health in the by proving, as it were, a natural and univerſal Medicin muſt of courſe follow, that when this Liquor is either f with regard to its Quantity, or depraved by a Receſs fro due *Temperament* and *Craſis*, a ſure and unavoidable Found for Diſeaſes muſt be laid: Since then many, and theſe, too midable Diſorders draw their Origins from ſome Fault o Bile, the principal Virtue and Energy of the Medicines, ploy'd in curing them, ought to conſiſt in correcting th quor when peccant in Quality, generating it when def or evacuating it when too abundant in Quantity; for Bile, when in its due State, is juſtly to be accounted a tru genuine Medicine to the Body, ſo we muſt readily grant the moſt important of all other Medicines are ſuch as are lated for reducing this Liquor to a natural and temperate and that the principal Buſineſs of a Phyſician conſiſts in ing and applying ſuch Remedies with Judgment. I ſhall fore make it my Buſineſs, at preſent, to conſider the *Bi* only in its natural State as an univerſal Medicine to the but alſo in its preternatural and depraved State, as the and Origin of many Diſorders.

'Tis well known to Anatomiſts and Phyſicians, that th cipal, if not the only, Office of the Liver is, by the a certain beautiful Mechaniſm, to filtrate and ſtrain tha ſaline, and ſulphureous Humour, call'd the *Bile*, fr Blood, thro' the Trunk of the *Vena Porta*, the Hepatic and its glandulous Kernels.

It muſt be own'd, Anatomiſts are not agreed amo ſelves whence the Gall-bladder, adhering to the Liver, ply'd with the *Bile* it receives; for ſome of them are of that the *Tunica Glanduloſa* ſeparates it from the Blood thither by the Cyſtic Arteries; others again maintain, are ſome very minute Ducts inſerted in the Bottom of bladder, by means of which the *Bile* is convey'd to it; other Claſs of Anatomiſts venture to affirm, that ther tain Cyſti-hepatic Ducts, by means of which the *Bil* diately convey'd to this Receptacle. But, what Jud ought to form concerning theſe different Opinions, arn from the following Experiment, made by *Bohnius* and me others. Upon opening a Dog, the whole Bile was expreſs'd om the Gall-bladder, and the Cyſtic Duct tied; but the Sub- ct remaining alive for ſome time after, they expected to find me more Bile in the Gall-bladder, notwithſtanding the Liga- ure on the Cyſtic Duct, and tho' all Communication was cut f between the Gall-bladder and the *Porus Hepaticus.* But y were diſappointed; for, inſtead of *Bile*, they found only a le grumous Blood. Hence the more accurate Anatomiſts ſtly maintain, that the *Bile* lodged in the Gall-bladder is vey'd to it from the common Hepatic Duct itſelf: For the Communication between theſe Ducts is highly obvious, ſince, y blowing into the *Ductus Cholodochus*, both the Gall-bladder d *Ductus Hepaticus* are inflated. On the other hand, by in- ducing a Pipe, and blowing into the Hepatic Biliary Duct, e *Hepatic Duct* itſelf, the *Cyſtis*, and the *Ductus Cholodochus*, e diſtended. In Man alſo, and in other Animals, the *Hepa-* c and *Cyſtic Ducts*, uniting, form together one common Canal. ow if we conſider the Situation of the Gall-bladder, its Bot- m is placed in a low declining Part; but its Neck, and the ary Ducts, are ſituated higher: Hence 'tis probable, that hen the *Bile* deſcends ſlowly thro' the *Porus Cholodochus*, by aſon of its oblique Inſertion among the Coats of the *Duode-* m, eſpecially if that Inteſtine happens to be empty, it falls k into the Gall-bladder, which is placed below, eſpecially it is not very full; where it remains, till, either by the Com- eſſion of the Inteſtines, or the proper Contraction of the Gall- dder itſelf, it is again expreſs'd. In an Ox this appears very inly, ſince the Hepatic Duct ſo opens into the Neck of the ll-bladder, which is pretty tendinous and nervous, that the e can as eaſily deſcend into the Gall-bladder, as it can be t off to the *Duodenum*, thro' the common Duct. In the e Subject a pretty ſurpriſing Circumſtance occurs; for a ain ſmall Papilla is obſervable, almoſt in the Middle of the erior Membrane of the Gall-bladder, and is prominent almoſt he ſame manner as the Extremity of the *Ductus Communis* ears to be in the *Inteſtinum Duodenum.* This ſmall Papilla ms to be the Orifice of the Duct, which paſſes between the mbranes of the Gall-bladder; and the Protuberance performs Office of a Valve, by preventing the diſcharged *Bile* from ning the ſame Way it went out.

t the *Bile* in the Gall-bladder differs very conſiderably that in the Liver; for the former is thicker, more acrid, e bitter, and of a deeper Colour, than the latter, which is e fluid, more diluted, and leſs bitter. But by what Means, for what Purpoſes, the *Bile* contain'd in the Gall-bladder rgoes ſuch a Change, ſeems to be a Matter of ſuch Import- , as to deſerve an accurate and careful Diſquiſition; and our Inquiry into this Particular may be the more diſtinct, l premiſe a few Things concerning the Structure of the l-bladder. We obſerve, then, that the Gall-bladder is made f ſeveral Membranes, the innermoſt of which, almoſt in y reſpect, reſembles the *Tunica Villoſa* of the *Duodenum:* is Membrane there are alſo various Furrows and Ducts, Valves appropriated to them; but no Glands are to be ver'd. The Membrane which lies next to this is of a ſpon- vaſcular Contexture, made up, as it were, of various Pel- s, in which ſmall Bubbles of Air are lodged. 'Tis not to ubted, but this Membrane affords an Origin to a large ber of Lymphatic Veſſels; tho', at the ſame time, very many oſe, found in the Cyſtis, are diſtributed in it immediately the Liver. The third Coat is muſcular or fibrous; but ither obſerve a nervous nor a tendinous Coat, either at ottom of the Gall-bladder, or in its Cavity; however, nly its Neck, but alſo the *Hepatic* and *Cyſtic Ducts*, are up of a pretty ſtrong tendinous and nervous Coat. The al Coat is furniſh'd from the *Peritonæum*; and between d the muſcular Coat, arterial and venous Ducts are ſeen ted. The Neck of the Bladder is very narrow; and ircumſtance is very conſpicuous in the Gall-bladder of an ut no Valve can be obſerved in it; however, *Bauhine* *igelius* have, in human Subjects, diſcover'd a ſemilunar extended in the Form of a ſpiral Shell, and render'd with many Furrows. I muſt own, I could never find Valve in human Bodies; but I have evidently diſcover'd rrowneſs of the Paſſage, which is not rectilinear, but ong in ſo oblique and winding a manner, as to reſiſt a when introduced into it: And this Narrowneſs ſeems to o other Uſe, than to prevent the Return of the thicker hen once diſcharged from it into the Gall-bladder; but nner and more diluted Hepatic *Bile* finds a commodious thro' it.

interior Coat of the Bladder being villous, like that of *denum*, performs the Office of a Strainer, by ſecerning and watery Part of the *Bile*, and pouring it into the tic Veſſels; for it is not to be deny'd, that the Veſſels y in the Gall-bladder itſelf, but alſo thoſe diſtributed t, contain a Lymph of a bitteriſh Taſte. Beſides, 'tis con- y many Obſervations, that, in a preternatural State, a antity of thin *Bile* has ouſed thro' the Pores of the Coats of the Gall-bladder: But becauſe this interior Coat ſeparates the thinner Part of the *Bile*, what remains of courſe acquires a thicker Conſiſtence, and a more bitter Taſte. Beſides, the Bladder, by reaſon of its carnoſe Tunicle, and conſiderable Nerves, is poſſeſs'd both of a Power of Senſation and Motion; but more eſpecially its Biliary Ducts, which are furniſh'd with a pretty ſtrong and nervous Coat; for which Reaſon very terrible Pains and Spaſms may ſometimes happen in them. As *Vieuſſens* has juſtly obſerved, from the ſemilunar Hepatic Plexus of the Right Intercoſtal Nerve, there ariſe ſix Fibres; the three inferior and ſmaller of which are diſtributed to the *Vaſa Cholodocha* of the *Gall-bladder*, to the *Pylorus*, the *Duodenum*, and the *Pancreas*, in order to give them a due Tone and Conſtriction. Hence alſo the great Conſent between theſe Parts is to be accounted for; and it is not to be doubted, but that the *Bile* deſcends into the Inteſtines by means of its Weight, and is alſo aſſiſted in ſo doing by the proper Motion of the Ducts. Beſides, we ought carefullly to advert to the Inſertion of the *Ductus Cholodochus*, which creeps along, almoſt for an Inch, between the exterior and interior Coats of the *Duodenum*, and at laſt opens with a round Orifice into its Cavity.

But before I treat of the remarkable Uſe, and abſolute Neceſſity, of the *Bile*, or conſider the ſeveral Faults and Imperfections to which it is ſubject, I judge it highly expedient to premiſe ſuch Things concerning its Nature and Qualities, as we learn from Experiments made upon it, that we may be the better able to form a Judgment of the various Phenomena and Diſorders produced by it. Firſt of all, then, let us have recourſe to the Evidence of our Senſes; ſince, from the Taſte and Smell of any Subſtance, we are in ſome meaſure enabled to judge concerning the Nature of thoſe Principles, of which it is made up and compoſed. It holds, then, univerſally true, that the *Bile* of every Animal is ſo intenſely bitter, that a very ſmall Drop of it communicates its Bitterneſs to half an Ounce of Water, when put into it. Now 'tis univerſally acknowledged, by the more knowing and ſkilful Part of the Chymiſts, that Bitterneſs of Taſte proceeds from an intimate Commixture of a ſomewhat earthy Sulphur with a Salt; but what the Nature and Genius of this Salt may be, I ſhall now inquire. According to our Conceptions, and indeed according to the Reſult of Experiments, an Acid, intimately joined with an earthy, alcaline, and ſulphureous Subſtance, forms a bitter Mixture. Thus the ſulphureous and acid Spirit of Vitriol, coagulated with Salt of Tartar, or fix'd Nitre, produces a neutral Salt of a bitteriſh Taſte, as in vitriolated Tartar, and the Arcanum Duplicatum; tho' very ſulphureous Wine-vinegar, pour'd upon prepar'd Corral and Crabs-eyes, afford a neutral Salt, which is ſtill ſomewhat more bitter. Beſides, 'tis confirm'd by Chymical Experiments, that the bittereſt Subſtances, ſuch as Aloes, bitter Gourd, and Wormwood, loſe much of their Pungency of Taſte by an Admixture of alcaline Salts; which is no weak Proof, that an Acid contributes not a little to the Production of that Bitterneſs of Taſte which is found in the *Bile* of Animals; ſince, when that *Acid* is deſtroy'd, the *Bile* becomes inſipid and taſteleſs. It is alſo confirm'd by Experience, that bitter Vegetables, by Incineration, yield a larger Quantity of Salt than any others; but 'tis certain, that a fix'd alcaline Salt is generated or produced by an intimate Combination of an acid Sulphur with Earth.

Beſides, the penetrating and permanent Taſte of the *Bile*, when applied to the Tongue, is a Circumſtance which ſufficiently proves its remarkably active Nature; for every Subſtance which penetrates, and diffuſes itſelf upon, the Organs of Taſte, is of a ſubtile Quality. Among other Circumſtances, which prove its highly penetrating Force, it is none of the leaſt conſiderable, that when a few Drops of it are pour'd upon the Coat of the Stomach, or any of the Inteſtines, a deep-yellow Colour, not to be obliterated or waſh'd off by any Art, is forthwith induced on the Part to which it is applied. Its penetrating Qualities are ſufficiently known to Hatters, who, in order to give a deeper and more laſting Colour to their Hats, mix it with Subſtances of a black and inky Colour. Its Saffron-colour may alſo be eaſily accounted for, from the highly ſubtile and active Sulphur it contains, if the Chymical Axiom is right, that *real yellow or red Colours are produced by Sulphur*. But Chymical Diſtillations, and Mixtures of *Bile* with other Subſtances, diſcover its Elements, or component Parts, far more effectually than any thing elſe. Thus twelve Ounces of the *Gall* of an Ox yield eleven Ounces of Phlegm, intirely void of all Taſte: From the remaining Ounce there was afterwards drawn a Spirit of an ungrateful and empyreumatic Smell, which ſpeedily produced an Effervеſcence with Spirit of Nitre, and tinged Syrup of Violets green, as a Proof of its alcaline Nature: It alſo yielded ſomething like an Oil, partaking of the Nature and Effects of the above-mention'd Spirit. The earthy *Caput Mortuum*, which remain'd in the Retort, and weigh'd two Drams and an half, by Incineration, yielded one Dram of a manifeſtly fix'd alcaline Salt: From this Experiment 'tis obvious, that there is a very great Quantity of Water in the *Bile*; which is alſo plain from this, that it may be reduced to an Extract; for two Ounces of

Ox's Gall, inſpiſſated in a gentle Heat, yield not more than one Dram of thick Extract. Beſides, by the Aſſiſtance of a proper ſtatical Inſtrument, four Ounces of *Bile* are found to weigh ſcarce two Drams more than an equal Quantity of pure diſtil'd Water. If the Extract of Ox's *Bile* is mix'd with an equal Portion of Salt of Tartar, and again diſtil'd in a Glaſs Retort by means of a Sand-heat, then an urinous and manifeſtly alcaline Spirit is yielded, which raiſes a violent Ebullition, with any Acid; it alſo turns the Solution of Sublimate to a milky, and the Syrup of Clove-gillyflowers to a greeniſh Colour, which all volatile urinous Salts generally do. But the Reaſon why an Addition of the Salt of Tartar produces a more alcaline, volatile, and urinous Spirit, ſeems to be this: Calcin'd alcaline Salts make a very cloſe and ſtrong Attack on the Texture of oleous Subſtances, and, by deſtroying their acid Parts, volatilize and alcalize their Sulphur more highly. Something of a like Nature is obſerved to happen in diſtilling Soot, Amber, and Tartar, which, when diſtil'd alone, yield an oleous acid Spirit; but if, before Diſtillation, they are mix'd with a fixed Salt, the Spirit obtain'd is highly urinous and oily.

I now come to conſider the Mixtures of *Bile* with other Subſtances, the Uſe of which, in diſcovering the Virtues and component Parts of Bodies, is very great. It is, therefore, confirm'd by Experience and Obſervation, that *Bile* produces an Efferveſcence with no Acid, except our fuming Spirit of Nitre. This Phenomenon ſeems to run counter to common Experience, ſince the *Bile* is thought to be of an alcaline Nature: Nor does the Gall of an Ox produce an Ebullition, with highly concentrated Oil of Vitriol, nor immediately aſſume a greeniſh Colour, as many imagine; but Perturbation, Coagulation, and Precipitation, are rather the Reſults of their being mix'd. But it is remarkable, that Spirit of Salt renders *Bile* thicker than Spirit of Nitre and Vitriol; and that it is not at all coagulated by Spirit of Nitre. When concentrated Spirit of Sal Ammoniac, prepar'd with quick Lime, is mix'd with *Bile*, its Colour is exalted, it becomes more ſaturated, and the Mixture remains diaphanous. The ſame Phenomena are produced, when the Experiment is made with Oil of Tartar per Deliquium. But we muſt here obſerve, that an Admixture of Alcalis very much impairs and diminiſhes the Bitterneſs of its Taſte. When *Bile* is mix'd with the Syrup of Clove-gillyflowers or Violets, the Mixture does not become green, but aſſumes ſuch a Colour as is uſually produced by a Mixture of a yellow and a red Subſtance. Highly rectified Spirit of Wine alſo renders *Bile* turbid, and it loſes its Tranſparency when mix'd with it; but a very ſmall Quantity of the *Bile* is precipitated in it, and the Spirit becomes highly bitter. On the contrary, a very ſmall Quantity of *Saccharum Saturni*, ſprinkled in *Bile*, produces a very thick Coagulum in it. But inſpiſſated *Bile*, upon pouring Oil of Vitriol into it, did not produce an Efferveſcence, but loſt its blackiſh Colour, and became gradually livid; the Mixture, in the mean time, was of a highly diſagreeable Smell. Our fuming Spirit of Nitre, mix'd with Extract of *Bile*, produced a very ſtrong Efferveſcence, accompanied with a great deal of Froth, Heat, and a reddiſh Smoke; but the Extract was diſſolved into a Mucus, which, by means of Oil of Vitriol, was reduced to a Coagulum of a more pitchy Colour: Almoſt the whole Extract was diſſolved in Spirit of Wine; as alſo in Water. The Extract of *Bile* dried, and expoſed to a Flame, melted; nor did it immediately take Fire, for it did not burn till its humid Parts were evaporated: It diffuſed the Smell of a fetid volatile Salt; and the Aſhes left were impregnated with a large Quantity of alcaline Salt, as was obvious from their Taſte.

To the Experiments already mention'd, I ſhall add the following Obſervations. The *Bile* newly taken from the Gall-bladder of an Ox, is diaphanous, and pretty fluid; but when it is expoſed to the open Air for ſome Hours, its Tranſparency is diminiſh'd, it becomes thicker, changes its Smell, and in Proceſs of Time grows fetid; for 'tis ſcarce credible how eaſily, and how ſoon, the *Bile* contracts an abominable Fetor, even much ſooner than the Blood itſelf; which is a Proof, that as all the other Fluids of Animals, ſo the *Bile* conſiſts of Parts, whoſe Union and Commixture the Heat of the Air alone is ſufficient to disjoin and ſeparate. It muſt alſo be obſerved, that the Serum of Blood or Lymph, held over a gentle Heat in a Spoon, is converted to a gelatinous Maſs; which Experiment is in vain tried upon *Bile*, which is leſs coagulated by Heat, becauſe the nutritive Lymph is none of its component Parts. As for the Uſes made of *Bile* by Trades-people, it is moſt generally employ'd by Scourers, for taking greaſy Stains out of Cloaths; and by Painters, for heightening their Colours, and cleaning Pictures; for which laſt Purpoſe it is very good. Beſides, Ox's Gall proves an excellent ſtimulating Ingredient in a Clyſter; and, by ſome, the Galls of other Animals are preſcrib'd with Succeſs, in Epilepſies, Quartan Fevers, hard Labours, and Hyſteric Fits.

Theſe, then, are the Experiments which I made with the *Bile* of an Ox. However, I do not deny but the *Biles* of other Animals are, in ſome meaſure, different from it; and that even the *Bile* of one and the ſame Animal is not, at all times, of t ſame Nature and Qualities. I could not ſubject any conſide able Quantity of human *Bile* to Diſtillation, becauſe I had not; but I am of Opinion, that its Difference from the *Bile* an Ox conſiſts in this, that it is ſomewhat thicker; by whi means it happens, that by pouring Aqua-fortis into it, or Spi of Vitriol, and applying a briſk Heat, an Efferveſcence is pr duced, and the Mixture becomes green: Hence alſo it happen that it is quickly coagulated by rectified Spirit of Wine. Hen it is not to be doubted, but that the human *Bile* is of a more active Nature, and more richly ſaturated with a ſaline a ſulphureous Principle, than the *Bile* of other Animals: I m here obſerve in general, that the hotter Animals are, their B is proportionably of a more active Nature, and *vice verſa*.

The above-enumerated Experiments ſufficiently prove to that the *Bile* is not of a pure alcaline Nature; hence it d not produce an Efferveſcence, but with the ſtrongeſt Aci Now every pure Alcali, whether earthy or ſaline, ſpeed cauſes an Ebullition with every the moſt weak and gentle Ac Hence we learn, that the *Bile* is of an oleous and ſulphure Nature, for which Reaſon it burns; but it is not purely ſ phureous, otherwiſe, when mix'd with Spirit of Nitre, or fuming Spirit of Nitre, it would excite a tumultuous Efferv cence; for ſuch is the Nature of ſubtile Oils, that, wh mix'd with theſe Spirits, they produce an Ebullition; ſo th the *Bile* ſeems rather to be a very temperate Liquor, made of oleous, earthy, aqueous, ſaline, and volatile Particles. A to explain myſelf in a few Words, the bitter *bilious* Juice all Animals, in its Commixture and Craſis, almoſt reſemb the Juices of bitter Herbs, eſpecially that of the leſſer Centau the Extract of which is not much different from inſpiſſa *Bile*; for the Juices of all theſe bitter Plants are made up Sulphur, and an earthy alcaline Salt. As to theſe Plants, ought alſo to conſider, that their Juices, when depurated diſtil'd in the ſame manner with the *Bile*, when mix'd w acid, alcaline, and ſpirituous Menſtruums, cauſe Phenom ſo much like thoſe produced by the *Bile*, that we have all Reaſon in the World to believe, that the conſtituent Part theſe Simples, as to their Mixture, Craſis, and Virtues, are ſame with thoſe of the *Bile*: Hence the Reaſon is obvi why the Extracts and Eſſences of bitter Plants are ſo ſingul and ſurpriſingly efficacious in augmenting the Quantity of *Bile*, when it is defective; and in correcting it, when its Q lity is depraved; two Circumſtances which contribute not a tle both to the Prevention and Cure of Diſeaſes.

Having thus taken a View of the Nature and Qualiti the *Bile*, it now remains, that we inquire into the partic Manner in which it is generated and elaborated in the B First of all, then, I muſt obſerve, that the *Bile* does not exiſt i Blood, under the ſame Form, and in the ſame State, in whi appears in its Receptacles, which are the *Porus Hepaticus* *Gall-bladder*; for neither the Blood nor Serum are bi nor, in a natural State, are they yellow; but the Serum beco ſo by an Admixture of *Bile*. For which Reaſon it is plain, the Materials, of which it is compoſed, are only lodged i Blood; which does not at all appear improbable, when we ſider, that large Quantities of Sulphur, Earth, Salt, Phle and Mucus, of all which the *Bile* is compoſed, are found i Blood. Now 'tis known from Chymico-mechanical Ex ments, that the Qualities, Properties, Taſtes, and Smel Bodies, depend entirely upon the Mixture, Union, Poſi Craſis, and Texture of their various Parts; which when cha or deſtroy'd, a proportionable Change is induced on the T Smell, Conſiſtence, and Virtues of the Body. For this R a peculiar Mixture of the pinguious, ſaline, earthy, and aq Parts of the Blood, ſeparated from the Blood and Serum means of their inteſtine Motion, conſtitutes and makes u *Bile*. But to me it ſeems ſomewhat improbable, that the ſhould conſiſt immediately of the chylous Parts of the Bloo thoſe which are moſt ſlightly united with it; but I am of nion, that all theſe Parts being reſolved and ſeparated fro Blood, by means of its inteſtine Motion are afterwards u and form the *Bile*. Hence we plainly ſee, that a large Q tity of *Bile* muſt neceſſarily be generated in People whoſe is agitated with a ſtrong and violent inteſtine Motion: He happens, that young Men of choleric Habits, who enure t ſelves to Exerciſe, and live upon hot Foods, abound with whereas old Men, Children, the Phlegmatic, the Idle, an Lazy, have an aqueous, thin, and unactive *Bile*. Bur continued, and tertian Fevers, afford us a ſignal Proof of ſince, in them, too great a Quantity of *Bile* is produced b violent inteſtine Motion, which diſſolves the Contexture o Blood; for it is ſurpriſing to obſerve, what large Quanti *Bile* are daily diſcharged, in the above-mentioned Fever Urine, Stool, and Vomit; for which Reaſon the An imagin'd, that the *Bile* thus diſcharged was the prod Cauſe of the Fever, whereas it is rather its Effect. Inſtance, we obſerve, that the more violent and laſt tertian Fever is, the Excrements are proportionably mo ous: Nor does Nature ceaſe to generate new *Bile*, even he Paroxyſm of the Fever ; but this Fever is removed, or rather opp'd and ſuppreſs'd for a while, by the Uſe of that celebrated Medicine the *Peruvian* Bark ; for by uſing it a ſhort time the ery Colour of the Urine is removed, it becomes thin and aque- s, and the Excrements aſſume their natural Colour ; but, as on as the Fever returns, all theſe Symptoms return with it. From what has been ſaid it is ſufficiently plain, that the Blood elf may, by a too hot inteſtine Motion, be reſolved into *Bile*, d other, excrementitious Liquors. The Truth of this is alſo onfirm'd to us by hectic and latent Fevers, where the Blood elf is, by a continual and exceſſively violent inteſtine Motion, t laſt conſumed, and converted into *Bile* and Excrements. Among the few who have adverted to this Circumſtance, none ve been more explicit than *Hildanus*, who (in *Select. Medic.*) s theſe Words:

“ 'Tis ſomething wonderful and ſurpriſing, that, on ſome “ Occaſions, large Quantities of *Bile* ſhould be evacuated, and “ yet the Gall-bladder not be found empty after the Death of the “ Patients ; 'tis not, in conſequence of this, to be doubted, “ but that the Blood is, by an inflammatory Heat, parch'd and “ converted into *Bile*.” We farther obſerve, that the more e abſtain from Food, and the more Exerciſe we uſe, a pro- ortionably larger Quantity of *Bile* is generated ; whereas an active Life, and high Feeding, prevent and hinder its Ge- eration.

Having taken a View of the Origin of the *Bile*, and its ge- erating Cauſe, I ſhall now inquire in what manner the Par- icles, forcibly ſeparated from the Blood by its inteſtine Mo- ion, are united into *Bile* ; which Phenomenon I deduce from e ſlow and languid Progreſs of the Blood thro' the Liver: But, r the better Illuſtration of this Point, I ſhall aſſume the fol- wing mechanical Axioms.

1ſt. Subſtances capable of being mix'd, the more they are gitated, and the more quickly they are moved, the more their articles are divided and broken.

2d. The more minute the Parts are render'd by Motion, the ore cloſely are they united, and the more difficultly are they parated from the reſt ; becauſe large Bodies, by being divided, ve the Sum of their Surfaces increas'd, and, in proportion to e Smallneſs of the Parts into which they are reſolv'd, that orce, with which one Fluid endeavours to recede from another, diminiſh'd. Hence it follows, that the homogeneous Particles uſt unite, come together, and more eaſily ſeparate themſelves om a Mixture of heterogeneous Parts, when their Motion is miniſh'd or deſtroy'd, as we evidently ſee in extravaſated ood, in which, upon a Ceſſation of its Motion, the Serum ſeparated from the Craſſamentum. Since, then, we know m Anatomical Obſervations, that the Circulation of the ood is ſloweſt in the Liver, becauſe it is convey'd to it by the ena Portæ, which has no Pulſation, and is introduc'd into e ſmalleſt Ramifications diſperſed thro' the Parenchyma of e Liver, in which it does the Office of Arteries ; and ſince *Impetus* of Motion is wanting ; the Blood muſt move ſlowly ot only in this Organ, but alſo proportionably ſo in all the iſcera, which have Veſſels diſtributed to them from the Vena ortæ. Hence the Reaſon is obvious, why the Liver, the leen, the Pancreas, the Meſentery, and Inteſtines, are, for e moſt part, the Seats of the moſt violent chronical Diſorders ; ce, in theſe Parts, Obſtructions, Indurations, Stagnations of ood, Inflammations, and Corruptions, may very readily ppen. For which Reaſon, ſince in this Vein the Blood is prived of its ſweet and chylous Parts ; its groſs, ſulphureous, d ſaline Particles, as it were, parched with Heat, together with mucilaginous and lymphatic Parts, moving ſlowly, unite, e collected and ſecreted ; by which new Union and Mixture, a w State, Craſis, Taſte, and Colour, reſult. But 'tis not to e doubted, but that the new-generated *Bile* is ſucceſſively more milated to that in the Cyſtis and Biliary Ducts, that it may ve a kind of Ferment ; for as the Blood, by its inteſtine Motion, ps the Tranſmutation of the new Chyle into Blood ; and as inegar converts Wine pour'd to it into Vinegar ; ſo the *Bile*, on the Approach of the like Juice from the Blood, eaſily mmunicates its own Form and Texture to it.

Having thus conſider'd the Nature of the *Bile*, and inquir'd o the particular Manner in which it is generated, I now me to ſhew, that the *Bile* is a noble and uſeful Medicine to ery Species of Animals. This I ſhall endeavour to prove by e following Arguments. Firſt, then, there is not in Nature Animal deſtitute of this Liquor ; for 'tis found not only in adrupeds and Birds, but alſo in the moſt inconſiderable and minutive Inſects ; and tho' ſome Animals want a Gall-bladder, t they by no means want a Liver and Ducts conveying the le from it either to the Stomach or Inteſtines. Secondly, e Neceſſity of the *Bile* in Animals appears from this, that e and unerring Nature has appointed ſo large an Organ, and ich takes up ſo conſiderable a Space in the Abdomen, for no er End but to ſecrete and diſtribute it ; now 'tis certain, t no Animal whatever wants this Organ. Thirdly, among er Things of an Anatomical Nature, 'tis worth while to ob- ve, that, in moſt of the more noble Animals, the *Bile* is convey'd by a double Way, or Duct, from the Liver to the Duodenum ; for, beſides the Hepatic Duct, which conveys the *Bile* immediately from the Liver, there is alſo a *Cyſtic Duct* ; and theſe, for the moſt part, join, and coaleſce into one common Duct, which is call'd the *Ductus Cholodochus*. If we reflect rightly upon this ſurpriſing Contrivance, we muſt have our Minds fill'd with the moſt noble and elevated Ideas of its Author ; for, ſince this Liquor is abſolutely neceſſary to the Life of every Animal, if one of theſe Ducts ſhould happen to be obſtructed, ſo long as the other remains pervious, this balſamic Liquor may be carried to its deſtin'd Parts ; or if, on any Occaſion, it ſhould be elaborated in too great a Quantity, it is, by this means, ſtor'd up for future Uſe, as it were, in a Repoſitory. Fourthly, the Uſe of the *Bile* appears from this, that, in all Animals, it enters the firſt Inteſtine or Duodenum, very near the Stomach, and is there pour'd upon the Maſs of Aliments. If then it had been an excrementitious Liquor, or hurtful to the Conſtitution, the all-wiſe Author of our Nature would have rather thruſt it directly into the Inteſtinum Colon, or Rectum, that it might not, by its Sordes, contaminate and corrupt the Chyle, which is the Food and Nouriſhment of the Blood, and of the whole Body. In the laſt Place, its ſingular Uſe, and abſolute Neceſſity, are ſufficiently demonſtrated, by its being generated in ſuch a large Quantity ; ſince, according to ſome, and eſpecially *Borelli*, there is a Pound of this Liquor produc'd every Day in the larger and more bulky Animals.

Tho' the above-mention'd Arguments are founded only upon probable Conjectures ; they are, nevertheleſs, ſufficient for proving the Uſefulneſs of the *Bile*. But that I may be a little more clear and explicit upon this Point, I lay it down as a Maxim not to be conteſted, that Life, and much more Health, depends upon a conſtant and uninterrupted, a due and equable Circulation of the Blood and Humours thro' the whole Body. This Motion of the Blood is juſtly dignify'd with the Epithet *Vital* ; for it preſerves the Body from Putrefaction, renders it ſound and durable, and nouriſhes or repairs that latent and inconceivable Principle, by means of which the Union and Correſpondence between the Soul and Body are maintain'd. So long then as this Circulation of the Humours is free and uninterrupted, we are ſaid to enjoy Life and Health ; but as ſoon as it begins to be impair'd, various Indiſpoſitions, Pains, Depravations of the Actions of the Body, Putrefaction, and, at laſt, Death, happen. Now, in order to maintain and keep up this Circulation, 'tis abſolutely neceſſary, that the Blood ſhould be in ſuch a State of Fluidity, as to be able to move freely thro' the ſmalleſt and moſt minute Ducts of the Body. 'Tis alſo requiſite, that the component heterogeneous Particles of the Blood ſhould be intimately mix'd and united, ſince this very Circumſtance conſtitutes its Craſis and Texture. Now, 'tis confirm'd by Experience, that nothing is more prejudicial and injurious to the Texture of the Blood, than tenacious, viſcid, and acid Subſtances ; for theſe are deſtructive of Fluidity, are not eaſily put into an inteſtine Motion, and cannot be intimately mix'd with other Fluids. Now 'tis obvious, that we eat various Subſtances which abound with an acid, a viſcid, and tenacious Principle, from which a thick, viſcid, and immiſcible Blood and Chyle muſt be produc'd. Beſides, 'tis neceſſary for Life, not only that the Blood ſhould be in a State fit for Circulation, but alſo that proper Motion ſhould be uſed ; for Motion is eſſential to Life and Health. 'Tis plain that thoſe Fibres of our Bodies, which are deſtin'd for the Purpoſes of Motion and Contraction, perform their reſpective Offices better and ſooner, when extraneous Bodies in Motion act upon them by their penetrating and active Qualities ; for we obſerve, that only the penetrating Smell of Wine, ſpirituous Liquors, and volatile Salts, ſoon raiſe the faint and languid Motions of the whole Body. Nature has alſo need of ſuch a natural Mover, to give due Motion and Impulſe to the ſolid Parts, without which the Circulation could not be carried on, nor Life and Health preſerv'd.

I now come to conſider, by what means the *Bile* is the natural and univerſal Medicine of our Bodies ; and how it comes to paſs, that it affords all the Supplies neceſſary to the Fluidity and Motion of the Blood, by which Diſeaſes and Death are prevented. I have already ſhew'd, that the *Bile* is a Liquor of a very active and penetrating Quality, ſince it is compos'd of ſulphureous oily Parts, mix'd with volatile and fix'd Salts ; and, at the ſame time, of a very temperate Nature, by reaſon of the Admixture of aqueous and earthy Parts. This Liquor, partly by its penetrating Quality, and partly by its Texture, incides, temperates, and corrects the viſcid, thick, and acid Matter, which comes from the Stomach ; and, which is a Circumſtance of the greateſt Importance, it contributes very much to render the Chyle, and conſequently the Blood, volatile, mild, and ſpirituous. Now 'tis not to be doubted, but that, not only in the Stomach, but alſo in the ſmall Inteſtines, the Aliments undergo an intimate Solution and Fermentation, whereby their Adheſion and Texture are intimately diſſolv'd and deſtroy'd ; as the Change induc'd upon their Taſte, Smell, and Conſiſtence, ſufficiently proves. Now 'tis known, that ſpirituous and active

Liquors, added to Subſtances during their Fermentation, intimately diſſolve theſe Subſtances by an inteſtine Motion, and add an excellent ſpirituous Quality to them. The ſame happens, when the *Bile* is pour'd upon the Aliments when under Fermentation; for, by this means, the acid and viſcid Principles are not only corrected and ſubdued, but the chylous Maſs itſelf is render'd gently ſpirituous, ſubtile, temperate, and of a ſweetiſh Taſte. But that the *Bile* undergoes a Fermentation in the Inteſtines, we may gather from its entirely laying aſide its Bitterneſs; for the fermentative inteſtine Motion intimately diſſolves, and fully inverts the Union, Craſis, and Texture of the Parts on which its Taſte and Quality depend. Thus the *Bile* prepares the Chyle in the *Primæ Viæ*, and renders it fit and diſpoſed for performing the vital Circulation, and conveying Nouriſhment to the whole Body; and without this Humour, the Chyle remains thick, crude, unſubdu'd, and unfit for progreſſive Motion; and when 'tis convey'd, in ſuch a Condition, into the Maſs of Blood, it muſt lay an effectual and ſure Foundation for Diſorders and Indiſpoſitions. *I have been obliged to preſerve the Word* FERMENTATION, *in order to give the Meaning of* Hoffman; *but muſt confeſs, that it conveys to me no ſatisfactory Idea, and gives me no Information.*

A Chyle thus ſeaſon'd with a ſpirituous Balſam, when it reaches the Blood, is intimately mix'd with it; for the more ſubtile and fine the Parts of Fluids are, the more eaſily they admit of an intimate Mixture; and, on the contrary, the thicker Fluids are, the more eaſily they recede from the other heterogeneous Particles. The Chyle, alſo, being impregnated with a certain ſtimulating Salt, proves an excellent Quickener of the Tone and Impulſe of the moving Fibres of the whole Body; by this means the Circulation of the Humours, which remains active ſo long as the Fibres are in a due State of Vigour, becomes quicker and more free. For this Reaſon the *Bile* was by the Antients, and ſtill is by the Moderns, juſtly ſtyl'd the Balſam of the Body; not becauſe by its balſamic Quality it prevented a Diſpoſition to Putrefaction, but becauſe it contributed much to a free and quick Circulation of the Blood; for this Circulation is, if I may ſo ſpeak, the beſt Balſam to the Body, in which there can be no Corruption ſo long as it remains entire; for the perpetual progreſſive Motion of the Body, together with its Fluidity and ſpirituous Nature, reſiſts the Tendency to Putrefaction; beſides, by means of this circular Motion, many recrementitious and ſuperfluous Parts, which are ſtrongly inclin'd to Corruption, are evacuated, and carried off by the proper Emunctories.

There is ſtill another very conſiderable and important Uſe of the *Bile* in the *Primæ Viæ*; for it proves a due and proper Stimulus to the Inteſtines, by means of which they are excited to their due periſtaltic Motion, which is highly neceſſary both for preſſing the Chyle into the lacteal Veſſels, and continuing the Propulſion of the Feces. 'Tis certain that a due Tone of the Inteſtines, which conſiſts in their proper *Syſtole* and *Diaſtole*, contributes very much to the Secretion and Expulſion of what is uſeleſs and recrementitious; for if the Excrements are not duly and regularly diſcharg'd, the Blood and Lymph muſt, by that means, not only be render'd highly impure, but alſo a ſtrong Diſpoſition to ſpaſmodic Diſorders is brought on. The *Bile* then, in its due and natural State, when pour'd into the Maſs of Chyle, promotes the Diſcharge of the Excrements, partly by its irritating Acrimony, and partly by the elaſtic ſpirituous Quality it beſtows on the Chyle.

Tho' I have already ſufficiently prov'd, that the *Bile* is an excellent and uſeful Medicine, which preſerves the Body from Diſorders, and happily prevents the Tendencies and Diſpoſitions to them; yet the uncommon Efficacy, and ſingular Virtue, of bitter Medicines, both in guarding againſt, and removing many Diſtempers, is a ſtrong additional Proof of the Aſſertion. I have already obſerv'd, how great an Harmony and Affinity, in point of Mixture and Craſis, there is between the *Bile*, and the Extracts and Juices of bitter Herbs, eſpecially of the leſſer Centaury: Now daily Experience convinces us, that no Medicines are more ſafe and efficacious, either for preſervative or curative Intentions, than thoſe which come under the Denomination of *Bitters*. Elixir Proprietatis, and Aloes itſelf, reduc'd to a proper Form, with bitteriſh Extracts, and an Addition of the balſamic Gums, as alſo the Eſſences and Extracts of Wormwood, the leſſer Centaury, Fumitory, and Gentian, are Medicines ſo ſafe and univerſal, both for guarding againſt, and curing, almoſt all chronical Diſorders, that Medicine would be very imperfect and defective without them. Many Remedies might be diſcarded from Phyſic, without its ſuſtaining any conſiderable Loſs; but Bitters are abſolutely neceſſary to its Perfection; for by theſe more happy Effects are in reality produc'd, than by volatile, ſpirituous, oleous, fix'd and earthy Salts; ſince they are more agreeable to the Conſtitution, more temperate in their Qualities, and correct and amend what is peccant in a more gentle and gradual manner; provided the Uſe of them is perſiſted in for a conſiderable Time. In ſhort, Bitters muſt, in the very Nature of the Thing, be excellent and efficacious Remedies, ſince they perform the ſame friendly Offices with the *Bile*, which they generate and augment, when deficient Quantity, and correct, when deprav'd and vitiated in Qu lity. Nor, indeed, can we be deceiv'd with regard to t Propriety of Bitters, ſince provident and unerring Nature el borates and prepares a bitter Liquor in the Body, which prov a mighty Preſervative to it.

I now come to reſolve this Queſtion, *Whether the Bile ci culates?* The firſt who advanc'd this Opinion was *Borelli*, his Book *de Motu Animalium*; where he ſuppoſes, that t *Bile* being a highly uſeful Humour to our Bodies, ſome Ounc of it are every Hour convey'd from the *Biliary* Ducts to the I teſtines; that ſuch a Store of it could not be generated fro the Blood; that the greateſt Part of it was thence again pour into the Blood, by means of the meſeraic Veins, which, like many Leeches, ſucking out the bilious Humour, convey it ba again to the Liver, thro' the *Vena Portæ*; and that many the active Particles of the *Bile*, being mix'd with the Chyle, we thence convey'd into the Blood, where they furniſhed ne Matter for the *Bile*. This Opinion was ſome time ago broach at *Leyden*, in a formal Diſſertation on the Circulation of t *Bile*. The Author of this Diſſertation thinks, that, in t Space of twenty-four Hours, at leaſt ſix Ounces of *Bile* we pour'd into the Duodenum, which he proves by an Experime made on a Dog; and he is of Opinion, that ſuch a large Qua tity of *Bile* can by no means be generated in the Liver, unle we ſuppoſe a Circulation of it. But in Man, he ſuppoſ that a whole Pound of *Bile* is ſecreted every Day. In Confirm ation of this, he draws an Argument from the meſeraic Vein which are ſo large, that they are not only deſtin'd for conveyin the Blood, but another Humour alſo. He afterwards endeavou to prove the ſame Fact from the Feces of an Embryo, whic he takes to be *Bile* ſtagnated in the Inteſtines. But, becauſe th does not anſwer the Quantity of *Bile* which daily flows in the Inteſtine, he is of Opinion, that it again enters t Pores of the meſeraic Veins: Theſe he thinks moſt proper f this Purpoſe, becauſe, by blowing thro' a Pipe introduc'd in the meſeraic Veins, the Air enters the Inteſtines; and that, feather'd Animals, which are deſtitute of lacteal Veſſels, t Chyle is carry'd thro' the Veins of the *Meſentery*.

But ſeveral Circumſtances hinder us from believing theſe A ſertions; for, in the firſt Place, it is not as yet proved by a concluſive and ſatisfactory Argument, that ſo large a Quanti of *Bile* is ſecreted in Man: But tho' we ſhould grant, that the really was, yet I am of Opinion, that the large Quantity of S rum produc'd by ſo much Aliment, is ſufficient to generate i for, ſince an uninterrupted Heat and Motion act upon the A ments, they muſt neceſſarily be reſolv'd into ſaline and exc mentitious Parts, of various kinds. For, tho' our Alime ſhould be ſwallow'd down inſipid, and without Salt, there w be, nevertheleſs, daily a large Accumulation of ſulphure Salts, conſpicuous in the *Bile* and Urine; and the Quantity theſe Salts is owing to the inteſtine Commotion of the Blo alone. Since, then, the Urine contains ſo large a Quantity Salt, Sulphur, Fat, and Mucus, as we daily ſee excern'd, a ſince it is furniſh'd from the Blood, and not immediately fro the Aliments, I ſee no Reaſon why the *Bile* ſhould not, in li manner, receive a ſufficient Supply from the Blood; ſo th there is no Neceſſity for its circulatory Motion: Nor, in Em bryos, is the *Bile* generated in ſo large a Quantity, becauſe t inteſtine Motion of their Fluids is very temperate, and alrea freed, as it were, from the bilious Sordes in the Viſcera of th Mothers. Nor does the Largeneſs of the meſeraic Veins a any Force to this Opinion; for the Veins of the whole Bod are always larger than the Arteries; and when the Blood, carry thro' the Branches of the Liver, does not paſs ſo expeditiou thro' the Ramifications of the *Vena Portæ*, it muſt be accum lated too largely there, and diſtend the Veſſels. Beſides, it c be proved by no Experiment, that, in Man, the meſera Veins receive any humid Subſtance from the Inteſtines; and cannot perceive why the *Bile* ſhould not, in like manner, ent the Pores of the lacteal Veſſels, as being more patent: mu leſs can it be ſuppos'd, that the *Bile*, being mix'd with the ch lous Juice, ſhould afterwards be ſpecifically ſeparated by t meſeraic Veins, without an Admixture of the Chyle. Beſid the *Bile* itſelf, mix'd in the Inteſtines, is in the ſmall ones, its Fermentation, and intimate Solution, evidently chang'd, Craſis diſſolv'd, its Bitterneſs laid aſide, and, in ſhort, it ce to be real *Bile*. 'Tis not, however, to be deny'd, that t ſulphureous and ſpirituous Parts of the *Bile*, being reſolv'd b Fermentation, again paſs into the Blood, but not under t Form of *Bile*. Nor do I deny, that when too much *Bil* pour'd into the Duodenum, when the Stomach and Inteſtin are empty, as it ſometimes happens in preternatural Caſes, Part of it may be actually received into the lacteal Veins. If be granted, that this may happen upon taking too large a Qua tity of bitter Medicines, I ſee no Reaſon why it ſhould not ha pen, when too much *Bile* is accumulated.

Since I have already ſhewn the Neceſſity, and great Uſef neſs, of the *Bile*, and prov'd that it is an univerſal and nat Medicine to the Conſtitution, it evidently appears, that, wh

th

is Liquor is faulty either in Quantity, Quality, or an undue Degree of Motion, our Bodies muſt ſuſtain very conſiderable nconveniencies, not only by having the Diſpoſitions and Tendencies to Diſorders, but the Diſorders themſelves, actually rought upon us. I muſt firſt then conſider, whether too rge a Quantity of *Bile* of a good Quality, and due Tempement, can prove diſadvantageous and hurtful to the Body? To this I anſwer, that in Countries like ours, where the Air is eaſe, where the Inhabitants drink Malt Liquor, and where e Waters are not thin and ſubtile, a too large Quantity of od and laudable *Bile* cannot readily be generated. Yet I not deny, but when People in the Vigour of their Youth dulge themſelves wantonly in the Uſe of Wine, Aromatics, d ſweet Aliments in the Summer Seaſon, too large a Quany of *Bile* deſcending to the Inteſtines, and again mixing th the Blood, may do very conſiderable Injuries; eſpecially ſolid Aliments are ſparingly uſed: For 'tis ſufficiently known, at the beſt active Medicines do Harm, if taken in too large Quantity, which alſo holds with reſpect to Bitters: Thus ſo too large a Quantity of *Bile* gives too hot an Intemperies the Blood, and diſpoſes to Hemorrhages, diſorderly and rbitant Paſſions, Inflammations, Vomitings, Diarrheas, d Conſumptions. But it is more frequently faulty with rerd to its Deficiency, or the Smallneſs of its Quantity, to hich old Age, Childhood, a ſerous and phlegmatic Conſtitution, o liberal an Uſe of Opiates and refrigerating Medicines, frequent Veneſection, reiterated Purgations, and Loſs of Strength the Shocks of ſome long Diſeaſe, contribute not a little. A efect of the *Bile*, as *Helmont* has well obſerv'd, diſpoſes to chexies, Dropſies, hypochondriacal Diſorders, and very ter- le chronical Diſtempers. *Fernelius in Pathol.* very judici- ly obſerves, "That many have died, in whom, when laid open, no other Cauſe of Death could be diſcover'd, except that the Gall-bladder was entirely deſtitute of *Bile*." And *bius* in his *Fundament. Phyſiolog.* informs us, that in the dies of three Children, who died of Conſumptions, there re not the leaſt Remains of *Bile* to be obſerv'd. In the th *Obſervation of Dec.* 2. *of the Miſcellanea Naturæ Cur.* ſhewn, that the Perſon who by frequent Vomitings of le drains his Body of that Fluid, muſt neceſſarily die.

A due Supply of Bile is greatly wanting in the Inteſtines, hen the Orifice of the *Ductus Cholodochus* is either block'd by a Stone, or contracted by Spaſms. This Diſorder lays Foundation for ſeveral very terrible Symptoms, and gene- lly ends in a Jaundice; for when the Bile is not allow'd a age to the Inteſtines, and its Generation in the Liver is carried on, it muſt of Neceſſity flow impetuouſly, not y to the Gall-bladder, which it wonderfully diſtends, but o to the biliary Ducts, and Glands of the Liver, where, by e too great Diſtenſion and Aperture of the Pores, it paſſes o' the lymphatic Veſſels into the Blood, and tinges the hole Maſs of Serum with that yellow and diſagreeable Co- r, which appears all over the Surface of the Body. But t, in this Caſe, a large Quantity of *Bile* flows from the Li- r into the Blood, we may conclude from this, that the ine diſcharg'd is thick, reſembles *Bile* in its Colour, and ges Linen with a ſaffron Colour. Coſtiveneſs is alſo a ncomitant of the Jaundice, and white Feces are diſcharg'd th Gripes and Flatulencies; there is a heavy Pain in the ht Hypochondrium, and ſometimes a very acute and violent , a Vomiting, Nauſea, Loſs of Appetite, and Cardialgia, cially if a Stone be lodged in the Ducts, or if the *Bile* be ravaſated; for I have already obſerv'd, that the biliary Ducts very ſenſible and nervous. If then theſe Ducts ſhould be much diſtended or vellicated, either by a Stone, or ſtag- ing *Bile*; the Stomach, the Oeſophagus, and the Duode- m, are at the ſame time drawn into Conſent with them, e Circumſtances concur to prove, that the biliary Duct, and Aperture into the Duodenum, may be contracted; and that this very means a Jaundice, which however is eaſily carried is generated. In hypochondriac and hyſteric Patients, as in thoſe who labour under a violent Colic, or a ſevere of Anger, we often find a yellow Colour diſperſed over all Body, accompanied with a heavy Pain in the Pit of Stomach, towards the right Hypochondrium, and where Duodenum, the Pylorus, and theſe Ducts, lie; for the ice being either cloſed up by Flatulences, or contracted by ms, the *Bile* regurgitates to the Blood. Antiſpaſmodic minative Medicines, and ſuch as correct the Acrimony of Humours, are of all others beſt calculated for the Re- al of this Diſorder. Hence, according to the Experiments *Sylvius*, Saffron, Opiates, Milk, and Emulſions of Hemp- d, are of ſingular Service in this Caſe; but hot Sudorifics, alſo ſtimulating and operient Medicines, are leſs proper. ning bilious Fevers, and tertian Fevers, whether of the tinued or intermitting Kind, are alſo frequently accompad with a Jaundice, which draws its Origin from no other ce, than either a Conſtriction or Obſtruction of the bili- Ducts, which lead to the Duodenum. In burning Fevers Inflammation of the Duodenum, and of that Part of the Pancreas which adheres to it, as alſo of the Pylorus, often happens, eſpecially when the Fever is brought on by the Suppreſſion of violent Grief, or the drinking of cold Liquors. Hence it is not to be doubted, but the Ducts being compreſſed by means of the Inflammation, Tumor, Pain, and Spaſms of this Part, prevent the Afflux of the *Bile* to the Duodenum. Beſides, 'tis known from Experience, that Poiſons ſwallow'd, and the Bites of Vipers, or of mad Dogs, are frequently follow'd by the Jaundice; the Reaſon of which Phenomenon ſeems to be no other than the violent Spaſms and Inflammation in the Stomach, and ſmall Inteſtines, which at the ſame time ſhut up the Paſſages of the *Bile* to the Inteſtines.

When there is a violent Obſtruction of the biliary Ducts, the Gall-bladder is on that Occaſion ſurpriſingly diſtended by too large an Influx of the *Bile*. Then, by reaſon of the Stagnation and Reſt, the more thick and mucous Parts of the *Bile* are ſeparated, collected, and lay a Foundation for a bilious Concretion. Beſides, the thinner and more acrid Parts of the *Bile* ouſe thro' the dilated Pores of the Gall-bladder, and excite Gripes, Cardialgias, Vomitings, violent Conſtrictions of the Stomach and Inteſtines, and Convulſions. Inſtances of this may be read in *the forty-ſeventh Obſervation of the firſt Century of* Stalpart Vander Wiel. That the *Bile* may ouſe from the Gall-bladder, is confirm'd by *Tulpius*, where he brings an Inſtance of a pregnant Woman, in whoſe Body when laid open, beſides an Abſceſs of the Meſentery broken during Labour, the Colon was found to float ſo freely in yellow Bile, that it might have been taken out by Spoonfuls. Something of a like Nature, *D. Melch. Fribe Ephem. Nat. Curioſ. German. Dec. an.* 3. *Obſ.* 100. relates concerning a Coachman who died of a continual burning Fever, in whoſe Body, when laid open, he ſays he obſerved, that from the Gall-bladder as yet entire, and larger than a Pigeon's Egg, the thinner Part of the *Bile* had ous'd, and ſo drench'd and corroded the Parts below, above, and on every Side of it, tinging them of a ſaffron Colour, for two or three Inches all around, that it was plain the Parts bedew'd and ting'd with it had become manifeſtly putrid; and that, beſides the Subſtance of the Liver, it had corroded and render'd putrid a great Part of the Hypochondrium, the Gall-bladder remaining, at the ſame time, evidently ſound and unaffected.

Beſides, the *Bile* is highly diſturbed in its Motion, either when the Gall-bladder is filled with a Mucus, or when a Stone is lodg'd in its Neck; for in theſe Caſes it cannot receive the hepatic *Bile*, which, of courſe, muſt flow into the Duodenum in a larger Quantity than it ought; and is by no means neceſſary, if the Stomach is empty: And if it is full, this *Bile* is by no means ſufficient; but a Supply of thicker and better ſaturated *Bile* from the Gall-bladder is neceſſary for the Purpoſes of Chylification, and for exalting the *Chyle*. And ſuch a Defect of *Bile*, at the Time of Meals, generates many acid and viſcid Crudities, which diſpoſe to Gripes, Conſtrictions of the Belly, Cachexies, and Dropſies. I remember there was ſome time ago a Sword-cutler laid open at *Jena*, who, for twenty Years before his Death, had been afflicted with violent Gripes, a Cardialgia, and Senſe of Heat about the Pit of his Stomach. His Gall-bladder was of an uncommon Structure, and ſo large and long, that three thouſand ſix hundred and forty-ſix Grains of *Bile* coagulated partly in the Form of Peas, and partly in that of Shot, were found in it. Caſes of this Nature are very frequently accompanied with Pains of the right Hypochondrium, Vomitings, Jaundice, Colics, Hyſteric and Spaſmodic Diſorders. And that a Dropſy frequently enſues ſuch a Repletion of the Gall-bladder with a Stone, is confirm'd by *Cnoefelius, M. N. C. Dec.* 1. *an.* 3. *Obſ.* 260. *Georgius Francus* alſo, *Dec.* 2. *an.* 6. *Obſ.* 194. from the Obſervation of another Phyſician, gives the Caſe of a certain Soldier, who died of a Dropſy in his Breaſt, in whoſe Gall-bladder, upon opening him, there was a Stone found, which weigh'd half an Ounce and half a Dram. The Patient, during his Indiſpoſition, complain'd of ſo violent a Pain in the Region of his Liver, that he could neither ſtand upright, nor walk, but was oblig'd till his Death to ſit in his Bed in a crooked or bending Poſture.

It ſometimes alſo happens, that the *Bile* is irregularly, preternaturally, and in too large a Quantity, thrown out of the Ducts of the Liver into the Inteſtine; upon which Occaſion, eſpecially if it offends in Quality at the ſame time, it creates many Diſorders, and produces very terrible Symptoms. This Caſe principally happens after a ſevere Fit of Anger; for then the muſcular Fibres of the Gall-bladder, and biliary Ducts, being violently convulſed, not only a Bitterneſs in the Mouth, Nauſea, and Loſs of Appetite, and Cardialgias, but alſo Vomitings or Gripes, and a bilious Diarrhea, are excited. On this Occaſion we are to obſerve, that where the *Bile* is immediately diſcharg'd, the Caſe is void of Danger. But if the Anger has been ſuppreſſed and reſtrained, it often happens, that the agitated *Bile*, remaining in the Cavities of the Inteſtines, is not diſcharg'd, but reaches the Maſs of Blood, and generally excites

cites Fevers, violent Convulſions, Spaſms and Pains. But, in this Caſe, the greateſt Injury is done to the Conſtitution, when hot Sudorifics, or volatile ſpirituous Subſtances, are uſed, ſince by this means the impure *Bile* is plentifully convey'd to the Maſs of Blood, and nervous Parts, and excites the moſt dangerous Symptoms. Concerning this, *Hippocrates* has left us a beautiful Paſſage in his Book *De Veteri Medicina*. "When, ſays he, a certain bitter Liquor, which we call yellow *Bile*, is diffuſed, what Anxieties, fervent Heats, and Weakneſſes, forthwith ſeize the Patient! But when we are freed or purg'd of the Exceſs of this Liquor in due Time, either ſpontaneouſly, or by means of proper Medicines, then both the Pain, and intenſe Heat, are manifeſtly remov'd. But when by Length of Time this Liquor is become crude, intemperate, and elevated above its natural State, neither the Fever nor Pains can be allayed by all the Suggeſtions of Art. And indeed what Madneſs, what Deſpair, what Gnawings of the Viſcera and Breaſt, are thoſe afflicted with, who abound too much with a ſtimulating, acrid and æruginous *Bile*!" *Hippocrates* very juſtly obſerves, that theſe Effects are only produced by an intemperate *Bile*; for if a temperate *Bile* is by a Fit of Anger thrown into the Inteſtine in too large a Quantity, it does not prove ſo hurtful, but rather a Remedy in cold Conſtitutions, as *Hippocrates* in a great many Paſſages obſerves.

I ſhall now inquire what Diſorders may poſſibly ariſe from a tainted and perverted *Bile* convey'd into the Maſs of Blood. Among theſe we may juſtly and principally reckon thoſe Fevers called bilious, and continual double Tertian Fevers. And tho' Fevers themſelves generate *Bile*, yet it is not to be doubted, but they may alſo ariſe, or be produced, from a bad and peccant *Bile*. *Hippocrates* concurs with me in this Opinion, who, in his Book *De Natura Hominis*, informs us, that moſt Fevers, eſpecially a continual Quotidian, Tertian and Quartan, ariſe from the *Bile*. For, firſt, 'tis not to be doubted, and indeed we have the Senſe of Antiquity full on our Side, that the proper Seat and Origin of moſt Fevers, eſpecially thoſe of the intermittent and burning Kinds, and ſuch as are called *choleric*, is in the firſt Region of the Body, that is, about the Præcordia, the ſmall Inteſtines, the Cavities of the Liver, the Spleen, the Pancreas, and the Omentum; for, as in theſe Organs the Circulation is generally ſlow, Impurities are generated, and corrupt acrid Humours flow from the Pancreas into the Inteſtines, and generally excite not only the ſpaſmodic and feveriſh Symptoms which accompany hypochondriacal Diſorders, but alſo the above-mentioned Fevers. For the Symptoms, which generally attend theſe Fevers, for the moſt part, make their firſt Appearance in the firſt Region of the Body, as evidently appears from the Inflation of the Stomach and Abdomen; the Pain of the Back, the Nauſea, the Vomiting, and the Conſtipation of the Belly. And becauſe, when any highly ſenſible Part of the Body is affected with Spaſms, all the other Parts are readily drawn into Conſent with it, hence the Horror, the Rigor on the Surface of the Body, the Coldneſs, the convulſive Pains of the external Parts, and Pandiculations, draw their Origin from the Irritation of the *Primæ Viæ*. Beſides, the Diarrheas, the bilious Vomitings, the rediſh high-colour'd Urine, the inſatiable Thirſt, the intenſe Heat, the violent Coughs, the Eroſion of the Fauces, as alſo the Relief afforded by Refrigerants, gentle Evacuants, and ſuch Preparations of Nitre as correct and allay the Acrimony of the *Bile*, and, on the contrary, the Miſchiefs produc'd by volatile, hot, oily, and acrid Medicines, are Circumſtances which manifeſtly declare, that a corrupted *Bile* is lodged in the *Primæ Viæ*, and Maſs of Blood; and conſequently fully prove my Aſſertion. Beſides, we may obſerve, that young People, who have bilious Conſtitutions, and are prone to Anger, are eaſily thrown into Fevers; and that ſuch as have formerly labour'd under critical bilious Diarrheas, if theſe do not return the following Year, are in their ſtead ſeized with tertian Fevers, accompanied with a pungent Pain, and Gnawing of the Stomach, which ceaſe when plentiful Diſcharges of a yellow bilious Matter by Vomit and Stool come on.

Among many others, there is a beautiful Paſſage of *Hippocrates* in Confirmation of my Opinion, in his Book *de Affectionibus*. "Where, ſays he, there is a Fever, the Patient has an inſatiable Thirſt, a rough and black Tongue, and a bilious Colour; his Spit is bilious; he is cold externally, but pretty hot internally. Refrigerants are proper in this Caſe, and the Diſorder proceeds from agitated *Bile* pent up in the Body."

Fevers of this kind generally terminate on the ſeventh Day; nor does the Method, in which theſe Fevers terminate, leſs confirm my Opinion; for they generally terminate on the ſeventh Day, by a critical Jaundice, without any Senſe of Heavineſs, Tenſion, or Pain, in the Right Hypochondrium, eſpecially in Patients labouring under continual tertian Fevers. *Hippocrates*, in his Book *de Morbis*, juſtly obſerves, *that it conduces very much to the Relief and Safety of feveriſh Patients, and ſuch as abound with* Bile, *to have the Bile evacuated in d Time.*

The Antients, and particularly *Hippocrates*, as alſo, amon the latter Phyſicians, *Fernelius*, aſſign the Putrefaction of t *Bile* as the Reaſon why Fevers are augmented. Accordingl the laſt-mention'd Author, in his *Patholog. de Febribus*, h theſe Words: "In Fevers the *Bile*, becoming putrid, acquir a malignant Quality; and that in the Beginning of the A ceſs, it ruſhes violently, and in large Quantities, into th Membranes of the Duodenum, is ſufficiently proved fro the dry Cough, the Oſcitation, the Suffocation, the A xiety, the Diſtenſion of the Præcordia, the Pain, t Nauſea, the Vomiting, and the white thin Urine."

And indeed 'tis certain, that the *Bile*, when in a State Reſt and Stagnation, very eaſily becomes putrid. Now nothi is more injurious to the human Conſtitution, nothing mo impairs its Strength and Vigour, nothing more diſturbs a perverts its natural Motions, than corrupt and putrid Subſta ces. For which Reaſon, we juſtly deduce the Origin of vi lent Fevers in cachectic and phlegmatic Patients, from a lar Quantity of corrupted *Bile* in the Primæ Viæ. Beſides, putrified *Bile* is lodged in the Primæ Viæ, it eaſily admi multiplies, and renders active, the Contagion of the Plagu malignant and petechical Fevers, Small-pox, Meaſles, Dy enteries, and other contagious Diſeaſes. Hence thoſe Med cines which either by Vomit or Stool diſcharge the Sord from the Primæ Viæ, ſuch as the *Acidulæ*, purging Flax, N tre, Spirit of Vitriol, Spiritus Vitrioli dulcis, and Elixir Pr prietatis prepared with a proper Acid, prove excellent Pr ſervatives againſt Contagion, and malignant Diſtempers. N farther, an impure *Bile*, generated afreſh in a conſiderab Quantity, lays a new Foundation for the Paroxyſms of inte mittent Fevers. Hence the Reaſon is obvious, why Evac ants, which operate without inducing Spaſms, and do not i jure the Tone of the Inteſtines, ſuch as the Pilulæ amar neutral Salts exhibited in large Doſes, Mercurius dulcis, alſo thoſe Medicines which correct the too great Acrimony the *Bile*, ſuch as Preparations of Nitre, and thoſe wh prevent its Corruption, ſuch as bitter earthy Subſtances, a *Peruvian* Bark, and ſuch as ſtrengthen the Tone of the n vous Parts, in order to prevent ſpaſmodic Contractions them, are of all others beſt calculated for removing the Ca and Origin of intermittent Fevers.

I now come to conſider a Phenomenon of the higheſt I portance in the Practice of Phyſic, which is, that, in all veriſh Diſorders, the *Bile* is not only plentifully generat but alſo vicious and peccant, by reaſon of the Dyſcraſy of Humours, and the diſorderly Circulation of the Blood. N this *Bile* neceſſarily flows into the Inteſtines, and, if it is evacuated, lodges in them, and paſſes into the lacteal Veſſ and the Blood itſelf, by which means the moſt terrible D orders are produced. For which Reaſon in all Fevers a ſo ble Belly, whether tis ſo naturally, or made ſo by Medicin is a highly lucky and ſalutary Circumſtance (*a moſt excell Remark!*) Hence when Fevers of this kind are accompan with Coſtiveneſs, we generally obſerve, that purple Feve Aphthæ, Inflammations of the Mouth and Fauces, and exa thematous Eruptions of various kinds, appear; the Reaſon which is no other than this, that the corrupt and bilious H mours generated during the preternatural and febrile Comm tion of the Blood, coming into the Blood itſelf, are thro out to the Surface of the Body. I muſt on this Occaſi obſerve, that the Purples, which appear principally in the Su mer, and generally ſeize People whoſe Fluids are impure, thoſe of pregnant Women, and ſcorbutic Conſtitutions, for moſt part are, and which often appear on the ſeve or ninth Day of many acute Fevers, ariſe principally fr bilious Humours fluctuating in the *Primæ Viæ*. For Reaſon all Medicines which correct Acrimony, and evacu gently, not only guard againſt, but alſo remove the Purp eſpecially if gentle Diaphoretics, in Conjunction with pro Acids, are now-and-then duly interpoſed. Women Child-bed are frequently ſeized with a purple Fever, wh ariſes from the Lochia not being diſcharg'd, and the Pri Viæ evacuated; and this Species of the Diſorder, if not j ciouſly treated, proves mortal.

I now come to conſider ſome other Diſtempers, whoſe O gin is properly deduced from a Fault in the *Bile*; and the I ſhall mention is the Eryſipelas, eſpecially if the Patien coſtive, and Tranſpiration is obſtructed; for nothing m corrupts the *Bile*, or more effectually ſtores it with imp and cauſtic Salts, than an Obſtruction and Suppreſſion of uſual cutaneous Evacuations. When, then, a *Bile* of this c ſtic Quality is lodged in the *Primæ Viæ*, it excites Horro Anxieties, and Vomitings; and being afterwards received i the Blood, is generally thrown off the third Day by the feb Motion. Arthritic Pains, which, according to the Antie draw their Origin from a hot Cauſe, are in like manner p cipally produced by a Fault in the *Primæ Viæ*, ariſing fro

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vitiated *Bile*, which being convey'd into the Blood, proves the Cauſe of all theſe Pains, whilſt the cauſtic Salts with which the *Bile* is impregnated, are fix'd upon the Membranes of the Joints. And this is the Reaſon why Fits of the Gout are for the moſt part uſher'd in by Pains of the Stomach, Anxieties, Nauſeas, and Loſs of Appetite. Hence the Perſon who knows how, on theſe Occaſions, to evacuate the Primæ Viæ without raiſing tumultuous Commotions in the animal Oeconomy, and at the ſame time to correct the Acrimony of the Humours, is the likelieſt to ſucceed in removing, or at leaſt mitigating, arthritic Pains.

It alſo deſerves our greateſt Attention, that Hæmorrhages, which either happen at ſtated Periods, or ſuch as are critical and ſymptomatical in Diſeaſes, have their chief Cauſe and Origin in the *Primæ Viæ*: For in theſe, Flatulences, Coarctations, and Conſtrictions, are perceiv'd; a heavy depreſſing Pain is felt in the Hypochondria and Back, the Patient is coſtive, the extreme Parts are cold, and the Impetus of the Blood is afterwards directed to ſome particular Part of the Body, whether the Head or Lungs, the Anus or the Uterus. But the Medicines which are beſt calculated for allaying and reſtraining the Violence of the Flux, are thoſe which are gently purgative, but which, at the ſame time, preſerve the Tone of the Inteſtines, and render the *Bile* temperate and balſamic; ſuch as Preparations of Rhubarb, the Pilulæ Becherianæ, the Pilulæ Macrocoſtinæ, my balſamic bitter Elixir corrected, and volatile oily Salts frequently exhibited, but in ſmall Doſes; but for correcting the Acrimony and Volatility of the cauſtic and corroſive *Bile*, Preparations of Nitre, and the precipitating Powders, as they are ſometimes call'd, are of all others the moſt effectual.

Can it now be doubted, whether from theſe Circumſtances we may not juſtly conclude, that a vitiated *Bile*, accumulated in the Primæ Viæ, proves an Occaſion and Stimulus to Hæmor- hages, in Conſtitutions diſpoſed to them, by the preceding ſpaſms of the Primæ Viæ? And on this Occaſion it muſt be obſerved, that periodical and ſtated Evacuations of Blood, as lſo arthritic and catarrhous Diſorders, appear for the moſt part the Autumn or Spring, or about the Months of *October* and *March*; for which no other Reaſon can be aſſign'd, than that e equable Tone of the Fibres is at theſe Seaſons loſt, in Con- quence of the Inequalities in the State of the Atmoſphere and Weather; and thus the Equilibrium of the Fluids and Solids, in ich Health conſiſts, is deſtroy'd; and that at theſe Times the ive excrementitious Salts, which ought to be carried off by ranſpiration, paſs principally into the *Bile*, where, with their ited Force, they deſcend to the Inteſtines, and produce mberleſs Diſorders.

But 'tis particularly to be adverted to, that by the Corru- on, Acrimony, and corroſive Quality of the *Bile*, in Conſe- ence of an Admixture of many ſtimulating heterogeneous and roſive Parts, violent Defluxions are excited in the Inteſtines mſelves; for hence ariſe Diarrheas, Choleras, violent Vo- ings, Gripes, and Dyſenteries. The Antients, as well as Moderns, aſcribe theſe Diſorders to an æruginous, porra- us *Bile*, which preternatural Colour ſufficiently manifeſts, its due Craſis and natural State are deſtroy'd by an Admix- e of ſome corroſive Acid; for 'tis certain, that the *Bile* ac- es a greeniſh Colour by the Addition of an Acid; and green es in Children are manifeſt Proofs, that there is a large ntity of Acid generated from the Milk they ſuck; for by ds the natural Colour is deſtroy'd, and a Diſeaſe is brought *Hippocrates*, in his Book *de Natura Hominis*, has long condemn'd a greeniſh-colour'd *Bile*, in the following ds: "Green *Bile* ſtagnating near the Liver, where 'tis ways in an Ebullition, is the Cauſe of Corruption, and a oubleſome Inmate." Beſides, practical and anatomical rvations ſufficiently confirm, that a green *Bile* is the Cauſe e above-mentioned Diſorders: Thus *Diemerbrock* affirms, upon opening the Body of a Patient who died of a violent s Diarrhea, in which the Excrements were green, he the Gall-bladder filled with a deep-green *Bile*, and ded to the Bulk of a Hen's Egg. The ſame Author in- us, that, in the Hoſpital in which he was concern'd, the lodg'd in the Gall-bladders of ſome of the Patients, was, their being diſſected, found highly green, æruginous, and ſomewhat blackiſh Caſt; nay, in a young Daughter of *Ulyches*, who died of a Flux, in which the Excrements æruginous, and who was laid open by myſelf in the Pre- of ſeveral Phyſicians, I found the Gall-bladder diſtended Bulk of a Hen's Egg, and fill'd with æruginous *Bile*; Circumſtance I have alſo obſerved in other Children who ied of a like Diarrhea, and in ſome to whoſe Lives the a Morbus has put a Period. *Pechlinus*, in his *Exercitatio gantibus*, affirms, that he has often found the hepatic ck and livid, or of a leaden Colour. In a young Stu- Diſtinction, and of a melancholic Habit, I obſerved the the Gall-bladder thick and black, like that of a Fiſh; Circumſtance I alſo remember to have ſeen in a *Maniac*, fter his Death was laid open. By *Bontius de Medicina* we are inform'd, that in an aſthmatic Boy, who died of a Dyſentery, the Gall-bladder was found ſtuffed with a blackiſh Humour; and this black Colour is to be aſcribed to no other Cauſe than the large Quantity of an Acid, which, by inducing a Stagnation of the *Bile*, renders it in Proceſs of Time black. The Reaſon is therefore obvious, why in the above-mentioned Diſeaſes, and in their Beginnings eſpecially, gentle Emetics, Rhubarb; as alſo the precipitating nitrous Powders, Milk, Whey, Oil of ſweet Almonds, anodyne and emollient Clyſters, and the Cremor of Ptiſan, of all other Medicines prove the moſt effectual; for the *Bile*, when rendered highly acrid and cauſtic, excites Symptoms like thoſe produced by Poiſon. *Borrichius in Act. Med. Haffn. Tom.* 3. *Obſ.* 36. gives us the Caſe of a Youth afflicted with the ſame Symptoms which are generally produced by Poiſon, for an Eroſion of his Stomach by an highly acrid *Bile* enſued. The ſame Author writes, that not only the *Bile*, but other Humours affect the Body and Stomach in ſuch a manner, that one would be induc'd to think the Patient had taken a Doſe of Poiſon, in which Caſe they undoubtedly acquire a malignant Quality, by which they corrode and vellicate the Membranes, and other ſenſible Parts, in the moſt violent manner, and excite the moſt intolerable and racking Pains. For a Proof that the *Bile* may become ſo corroſive as to raiſe an Ebullition like *Aqua-fortis*, when thrown upon the Earth, ſee *Borelli*, *Obſervat*. 1. *Cent*. 2.

From what has been ſaid, I think it plainly appears, that the *Bile*, when in its natural State, both as to Quantity and Quality, is a Medicine, and an Humour of the higheſt Uſe and Importance to the Body, and a Poiſon when vitiated; and that conſequently the Health of Man may either be preſerved or deſtroyed by the *Bile*; and that for this very Reaſon, both in accounting for the Symptoms of Diſeaſes, taking our Indications, and preſcribing the Means of Relief, we are in a particular manner to advert to the State and Condition of this Humour; and carefully obſerve whether it is faulty, either with regard to its Quantity, its Quality, and the Degree of its Motion; for certainly many Medicines, which are very efficacious in the Cure of Diſeaſes, operate no otherwiſe than by increaſing the Quantity of *Bile* when deficient, evacuating it when redundant and ſuperfluous, correcting it when vitiated, and preſerving its Motion to the Inteſtines in its due and proper State; for few Medicines act directly and immediately upon the Blood and Humours, but moſt of them exert their Virtues and Efficacy upon the Primæ Viæ, where, in a ſecondary manner, they correct the vitious Humours, of which the *Bile* is the principal, which are the direct and formal Cauſes of Diſeaſes. This Obſervation holds good in a particular manner with regard to Emetics, Laxatives, Abſorbents, Acids, Preparations of Nitre, temperating Medicines, Emollients, Bitters, fix'd Salts, Chalybeates, Corroboratives, and others of a like Nature. *Hoffman.*

The above-quoted Author, in another Part of his Works, makes the enſuing Remarks relative to the Bile and its Organs.

The Blood is conveyed to the Liver by the Vena Portæ, which being a venous Veſſel, the Motion of the Blood through it muſt of courſe be ſlow. The Vena Cava carries back the Blood to the Heart. The hepatic Artery conveys Nouriſhment to the Parts of which the Liver is compoſed; and the biliary Ducts carry the ſecreted Bile partly through the Ductus Cholodochus to the Duodenum, and partly through the Cyſtic Duct to the Gall-bladder; for indeed the only Uſe and Deſign of the Liver is to ſeparate the ſulphureous, torrefied, and lixivial Parts of the Blood and Serum convey'd to it through the *Vena Portæ*; ſo that the Antients were miſtaken when they believ'd, that the Liver was the principal Laboratory of Sanguification.

The Bile, which is a thick Humour, and heavier than the Blood itſelf, requires a mechanical Apparatus of a particular Kind, for its Secretion.

For the Secretion of a thick Humour, 'tis neceſſary that the Blood flowing into the ſecretory Organ ſhould be thick, that a fine Liquid may not paſs in too large a Quantity through its capacious Ducts.

As the Separation of thick Humours requires pretty large Canals and Ducts; and as a thin Liquid paſſes through theſe with the ſame, and even greater Eaſe, than a thick one; hence, leſt too thin a Lymph ſhould be ſecreted, it was neceſſary that the Blood ſhould in a great meaſure be previouſly deprived of its thin lymphatic Part, which is done in the Kidneys, the Stomach, the whole inteſtinal Tube, the Omentum, and Pancreas, through all which Parts the Blood muſt neceſſarily paſs before it reaches the Liver.

That the Bile may be ſecreted in the Liver, 'tis requiſite that its Motion and Progreſs through that Organ ſhould be ſlow.

For in general all the Secretions and Excretions are more advantageouſly carried on by a ſlow than an accelerated and rapid Motion; becauſe, during the former, the fluid Parts are more eaſily ſeparated from thoſe which are more thick and ſolid, and the fine aqueous Parts are carried into the lymphatic Veſſels, of which there is a great Number in the Liver; and thoſe that are thicker are convey'd through the biliary Ducts.

In order to form a clear Idea of the Separation of the thick bilious Humour, we muſt carefully attend to the ſingular Structure of the Vena Cava, and its Connexion with the Vena Portæ, ſince in theſe there is a peculiar Kind of Mechaniſm, not to be obſerved in any other Parts of the Body.

For though in other Parts the Extremities of the Arteries are joined to thoſe of the Veins, and form one continued Canal; yet this does not happen in the Liver; for the minute Ramifications of the Vena Cava are inſerted into the Sides of the Vena Portæ in ſuch a manner, as to form right Angles with them; for no other Reaſon, than that the Blood, which is thinner than the Bile, may be forced into the Orifices of the Vena Cava, juſt as the Chyle is into the Inteſtines, after it has left the thick *Bile*, which is then convey'd into the *biliary Ducts*, adjacent to the Vena Portæ, and thence forced through the Ductus Cholodochus, and Communis, to the Duodenum, and through the Ductus Cyſticus to the Gall-bladder.

Though the *Bile*, in Conſequence of the Ingredients of which it is compoſed, is an Humour diſagreeable both to the ſolid and fluid Parts of the human Body, and in this Senſe excrementitious, yet, with regard to the Elaboration of the Chyle, 'tis highly uſeful and neceſſary, and conſequently ought not to be diſcharged from the Body, till it has exerted itſelf to that Purpoſe.

The Expanſion of the Stomach by means of the Aliments, and the Fermentation they undergo in it, very much aſſiſt the Conveyance of the Bile from the Gall-bladder to the Duodenum.

The Situation of the human Gall-bladder is very remarkable, ſince its Neck is higher than its Bottom; for which Reaſon the Aſcent of the *Bile* is very difficult, eſpecially ſince it muſt flow from a wide to a narrower Place. Then again, becauſe the Ductus Cholodochus paſſes a long Way between the ſecond and third Coats of the Duodenum, and at laſt opens with a round Orifice into its Cavity, the *Bile* cannot at all times be diſcharged into the Duodenum, but only when the Inteſtines are relaxed, and the Gall-bladder compreſs'd by the right Side of the Stomach, when rendered turgid by the Quantity and Fermentation of the Aliments.

The larger the Quantity of Aliments taken into the Stomach is, the more it muſt be expanded, and conſequently the greater the Compreſſion of the adjacent Gall-bladder muſt neceſſarily be; for which Reaſon the Bile muſt on theſe Occaſions flow plentifully to the Inteſtines.

It is a Circumſtance deſerving our Attention, that in Animals whoſe Stomachs are become flaccid by long Faſting, the Gall-bladder is turgid and diſtended, whereas, after they have taken a large Quantity of Aliments, it is obſerved to be only half-full. It is alſo remarkable, that in human Fetuſes the Gall-bladder is found diſtended with *Bile*, becauſe in them the Stomach is collapſed, and free from Expanſion. *Hoffman.*

There are ſome farther Circumſtances relative to the Bile, of too much Importance to be omitted.

The Bile, when out of the Body, is highly bitter, and the moſt acrid of all the animal Fluids; it is neither of an alcaline, nor an acid Quality. It reſiſts Aceſcence, and conveys the ſame Quality to other Subſtances with which it is mixed. It tends very much to Putrefaction, which it promotes, when added to other Subſtances diſpoſed to it. It very ſoon mixes with Water; and when inſpiſſated over a gentle Fire, it diſſolves, if expoſed to the Air. It does not burn in the Fire, unleſs it be previouſly dry'd. It renders Oils, and oleaginous Subſtances, miſcible with Water. If it is rubb'd with any tenacious Subſtances, ſuch as Reſins and Gums, it reſolves and attenuates them. It is coagulated by Fire, Alcohol of Wine, acid Spirits, and Extract of Galls: See *Boerhaave Chym. Vol.* 1. *P.* 343, 732, 736, 842. and his *Inſtitut. Med. Sect.* 99. I ſhall now take a brief Survey of the ſeveral Experiments which the Curious have made on the Bile of various Animals. When the Bile, then, of an Ox was put into different Veſſels, and mixed with various Liquors, in order to diſcover what Changes they produced, either in its Conſiſtence or Colour, it was found to hold univerſally, that Spirit of Sal Ammoniac produced no Coagulation in it, tartarated Spirit of Wine a very ſmall one, pure Spirit of Wine a ſomewhat greater in ſome Parts of the Bile, and Oil of Tartar per Deliquium none at all. Spirit of Vinegar, and Vinegar itſelf, produced large and fibrous Concretions in it. Spirit of Verdegriſe and Sulphur, Oil of Vitriol, Spirit of the Butter of Antimony, Spirit of Honey, and Extract of Galls prepared with common Water, produced a very firm Coagulum in the Bile; but Spirit of Nitre a very ſmall one, and Aqua-fortis but a moderate one. The expreſs'd Juices of Monkſhood or Hemlock produced no Coagulum in it; and a Mixture of the Juices of Deadly Nightſhade, Onion, Horſe-radiſh, and Vipers-graſs, produced a very ſmall Coagulum with it. No Condenſation or Change at all was produced in it by the Juices of Tanſey, Sage, Mint, Maſterwort, Angelica, Lavender, and Baum; but a ſmall Condenſation and Change were produc'd in it by the Juices of Succory, Smallage, Biſtort, Mugwort, and Pilewort. When all theſe Liquors were mix'd with the Bile, and kept till the next Day, whatever Concretions were produc'd were fibrous and light; for they floated in the Liquor, and contained nothing ſolid: But the Parts not condens'd were ſerous like Whey, or the Serum of the Blood. Beſides theſe coagulated and ſerous Parts, ſome pinguious Portions adher'd to the Sides of the Veſſels. The Concretions produced by Spirit of Nitre, or Aqua-fortis, were alone not fibrous, but divided into Grumes and Froth. The Coagulum produced by the Extract of Galls ſeemed to be the firmeſt of all, and almoſt free from all Seroſity, which being condens'd ſeparately, aſſum'd the Conſiſtence of a Jelly. *Du Hamel Hiſt.*

Ox's Gall mixed with Powder of Alum, by ſhaking them gently together, excited a perceptible Effervescence. The Mixture became turbid, but the Colour of the Bile remain'd the ſame it was before, and a Precipitation was inſenſibly made. If this Mixture is expoſed to the Rays of the Sun, the Liquo becomes clear, and aſſumes a reddiſh Colour. If five or fi Days after this the floating Sordes and the Sediment are ſepa rated, and the clear Liquor again expoſed to the Heat of th Sun for three or four Months in a cloſe-ſtopp'd Phial, it depoſit ſtill another Sediment, and gradually exhibits on its Surface white, hard, and ſebaceous Fat; but the Liquor itſelf aſſume a yellow citron Colour, and a Smell reſembling that of boile Crabs. To one Pound of the Bile there was half an Ounce Alum added, and the Quantity of the Matter precipitated ex ceeded that of the Alum; which is an evident Proof, that ſom Part of the Bile, that is, its earthy Portion, had been carried the Bottom of the Veſſel along with the Alum; but we ma reaſonably conclude, that the Fat floating on the Top was ſepa rated from the Bile. *Homberg* has deſcribed this Experimen and at the ſame time taught us a Method of preparing a Med cine from it, when it is freed from its earthy and pinguio Parts, by being expoſed to the Heat of the Sun for at leaſt tw or three Months. The Deſign of the Medicine is to remo thoſe Blemiſhes in the Face, eſpecially the Noſe, which ar from a thick and unctuous Matter collected and treaſured up the cutaneous Ducts; and which, when expreſs'd, are of t Form of a Worm, and become black in the Air. The Meth of preparing this Medicine is as follows:

> Mix half a Dram of Bile prepared as above, with an eq Quantity of Oil of Tartar per Deliquium; then adding Ounce of River-water, keep it for Uſe in a cloſe-ſt Phial.

The Method of applying it is to dip the Point of the Fin in it, and anoint the Part affected ſeven or eight times a D *Mem. Ac. R. Sc. A.* 1709.

I ſhall now mention ſome of the Experiments try'd on Bile of an Ox by *Baglivi*.

Ox-gall then, upon the Admixture of Oil of Tartar per liquium, was concreted into a kind of fibrous Coagulum wi Froth, but its Colour remain'd unchang'd. The Bile of an upon an Admixture of Mercury ſublimate, was forthwith agulated, and aſſumed an obſcure greeniſh Colour, which d increaſed. Ox-gall, mixed with Spirit of Vitriol, firſt produ a great Froth, and then coagulated into a greeniſh Maſs, Acidity and Greenneſs remaining unchanged. Twenty- Hours after there was a green thick Sediment found in the tom of the Veſſel, but the Taſte of the Liquor remained ſame. The Bile of a Calf newly kill'd immediately quitte yellow Colour, and became green by the Admixture of O Vitriol, and retained that Colour for three Days: It was der'd leſs green by Spirit of Nitre. With Oil of Tarta ſame Bile was in a great meaſure coagulated into white C which floated up-and-down in the reſt of the Liquor. *Bag*

Six Pounds of Ox-gall upon Diſtillation, yielded almoſt e Ounces of Liquor, three Ounces and two Drams of twenty-four Drams of volatile Salt, and five Drams of Salt. *Hiſt. Ac. R. Sc.*

Hartman made the Analyſis of Ox-gall in two different ners: And, firſt, for Diſtillation from a Retort, he took Ounces and five Drams of Bile, and having mixed with Sand, he put the Whole into a Retort; and firſt ſeven Ounces of a watery-coloured Phlegm were yielded; this there ſucceeded another Phlegm of a milky Colour, with an Oil, which, taken together, amounted to two O and three Drams. This Oil was of two Kinds; for one it floated on the milky Phlegm, and another ſubſided Bottom of the Veſſel: But after ſome Weeks the grea of that which floated on the Top fell to the Bottom, at time it was obſerved to aſſume a Lentor, not unlike t Pitch. The Form of a volatile Salt was not to be diſco tho' the Smell of it ſtruck the Noſtrils. From the Capu tuum calcin'd, ſeven Grains of a fixed Salt were procure duſky, black, and almoſt inſipid Matter, without the le gree of Tenacity, adher'd to the Neck of the Retort. Diſtillation of Ox-gall by the Alembic, he managed manner: Firſt he took one Pound three Ounces a Drams of the Gall.

The Phlegm yielded by this was all of one Colour, that is, an aqueous one; and it diffuſed a ſulphureous ſaline Smell, reſembling that of the milky Phlegm yielded by the Retort.

Nor was the Phlegm of any other Smell which was diſtil'd afterwards with the Oil, and which was not of a milky Colour, but rather reſembling that of Fire, when the reſt of the Maſs appear'd thick and black in the Alembic.

The Weight of this Oil and Phlegm together amounted to an Ounce and an half: But 'tis ſomething remarkable, that the Oil yielded by this Diſtillation was not like that yielded by the Retort of two Kinds; for it conſtantly floated on the Surface of the Phlegm, and retain'd the Form of a fluid Oil.

There was no reſinous Colophony, but a duſty black Caput Mortuum remain'd.

Volatile Salt, which would have adher'd to the Alembic, in its proper Form, and ſhewn its pure ſaline Spicula, did not at all appear.

One Dram and thirteen Grains of fix'd Salt were procured from the Caput Mortuum. *Burggrav. Lex.*

Baglivi makes the following Experiments on Sheeps Gall. I divided, ſays he, Sheeps Gall into ſeveral Cups one Morning, when the Weather was rainy. Its ungrateful, and, as it were, urinous and putrified Smell irritated my Throat, and created a ſmall Pain in my Head. The *Bile* itſelf was tranſparent, and of a Colour reſembling that of Tobacco. The Fingers which were employ'd in handling it were clean and white, and the Skin ſomewhat corrugated, juſt as when we waſh our Hands with Soap.

I. The *Bile*, mixed with rectified Spirit of Wine, produced o Fermentation whilſt the Subſtances were mixing. Twenty-our Hours after, it was of a browniſh Colour. In the tranſ-arent browniſh Liquor, white ſmall Filaments floated con-fuſedly; and at the Bottom of the Veſſel there was a farina-ous Sediment. The Bitterneſs was the ſame, or rather ſome-hat increaſed. On the third Day it was the ſame. By the ddition of common Water the browniſh Colour became mewhat more clear. On the twelfth Day the Smell was grate-l, the Liquor tranſparent, but its Colour browniſh; and in Bottom of the Veſſel there was a Sediment.

II. Oil of Tartar, added to the *Bile*, produced no new Phe-menon upon their being mix'd. Twenty-four Hours after, it ſumed an obſcure-browniſh Colour, but the Liquor was entire-limpid and tranſparent; and in the Bottom of the Veſſel re was a ſmall Quantity of a white Sediment. Its Smell ſembled that of over-roaſted Eggs. The Bitterneſs was the e, but rather more intenſe. On the third Day it was ſtill ſame; and the Addition of common Water produced no Phenomenon. On the twelfth Day the Smell reſembled t of Lime. There was a ſmall Sediment at the Bottom; Liquor above it was tranſparent, and its Colour ſomewhat niſh.

II. Salt of Wormwood, reduced to Powder, and added to *Bile*, at firſt produced no Change in it. Twenty-four urs after, the Salt lay entirely undiſſolved at the Bottom. Liquor itſelf was ſomewhat tranſparent, and its Colour darkiſh, reſembling that of Tobacco. It had the ſame ous and putrid Smell, the ſame Bitterneſs; but ſoon after, ming more acrid, and its Bitterneſs being much increaſed, all Quantity of it, which I taſted, excited a violent Vomit-. By adding common Water its Colour was changed into rk-yellow. On the third Day after the Addition of the ter it became ſomewhat fetid, but its Colour remained the . The Salt was not as yet diſſolved in the Bottom of the el, but remained without any Alteration for fifteen s.

V. Crude Alum, reduced to Powder, produced no remark- Change in it, when firſt mix'd with it. The ſecond Day, ever, the Liquor was highly turbid; its Colour obſcure, but parent, and greeniſh towards the Surface. Towards the om of the Veſſel it was viſcid, denſe, and a cineritious Por- ſettled at the Bottom. Its Smell reſembled that of ſalted . Its Bitterneſs was ſomewhat diminiſh'd. On the third it was the ſame in every reſpect. Upon an Admixture of non Water it immediately acquired a Colour reſembling of Butter. On the twelfth Day the Liquor was tranſpa- but its Colour remain'd the ſame; and in the Bottom of eſſel there was a browniſh Sediment.

Twenty-four Hours after an Admixture of Cinnamon-, there was a white cineritious Sediment in the Bottom of eſſel; but the Liquor above it was tranſparent, and of a niſh, but not very dark Colour. The Smell was the ſame that of the Cinnamon-water, which had proved more than nce for the urinous putrid Smell of the Sheeps Gall. The neſs was grateful enough to the Taſte, and not very pun- but reſembling that which I obſerved produced by the Salt ormwood. The third Day after, it was the ſame in all ts. Upon an Addition of common Water, there was no ge produced in its Colour; but the Smell became highly ul: On the twelfth Day the Liquor became turbid, and ell diſagreeable.

VI. Tincture of Cantharides extracted upon hot Aſhes, with common Water, and added to the *Bile*, produced no Change when firſt mix'd. The ſecond Day after, there was a ſmall Quantity of a thin farinaceous Sediment found at the Bottom; but the Liquor about it was tranſparent, and of the Colour of Tobacco. Its Smell was ungrateful, like that of the Leaves of Dwarf-elder bruiſed. Its Bitterneſs was not very ungrateful; and on the third Day its State was the ſame. Upon an Addition of common Water nothing new happen'd. On the twelfth Day all the Parts of the Liquor were turbid; it aſſum'd a feculent reddiſh Colour, and an ungrateful Smell.

VII. Upon an Addition of common acid Spirit of Salt, there was a Fermentation, and a Change of the Colour, into an Obſcure-yellow, produced. On the ſecond Day the Colour was highly green, and in the Bottom of the Veſſel there was a groſs white Meal. The Smell was ungrateful, and reſembled that of ſalted Fiſh. Its Bitterneſs was ungrateful, and a ſmall Quantity of it, being taſted, excited a kind of Inclination to vomit. On the third Day it was the ſame in every reſpect. Upon an Admixture of common Water, the Liquor became more tranſparent, and ſomewhat whitiſh. On the fifteenth Day the Smell was the ſame, but ſomewhat leſs intenſe. In the Bottom there was a greeniſh Sediment, and the Liquor above it was green and tranſparent.

VIII. Spirit of Hartſhorn, added to the *Bile*, immediately changed its Colour into a beautiful, but ſomewhat obſcure Yellow; and there was no Sediment to be ſeen at the Bottom. The Smell of the Spirit proved more than a Balance to that of the Bile. Its Bitterneſs was grateful, almoſt like that produced by the Cinnamon-water. On the third Day the Colour of the Bile, its Tranſparency, and Smell, remain'd the ſame till the eighth, when, upon an Addition of common Water, all its Parts became clearer. On the twenty-fifth Day, by adding warm Water, the Liquor became turbid and foul, and aſſum'd an ungrateful Smell, and a Colour reſembling that of the Yolks of Eggs.

IX. Eighteen Hours after an Admixture of Spirit of Sal Ammoniac, it aſſum'd an univerſally tranſparent beautiful Colour, like that of a Ruby. The Smell of the Sal Ammoniac was ſtronger than that of the *Bile*. The Taſte was gratefully bitter, like that produced by the Cinnamon-water and the Spirit of Hartſhorn. On the third Day it was in the ſame State; but its Colour was a little more obſcure, and continued ſo till the tenth Day; when, by an Addition of common Water, it aſſumed a beautiful tranſparent Colour, like that of pure White-wine. After which, by reaſon of the Admixture of the Water, it became turbid, foul, and aſſumed an ungrateful Smell.

X. Upon an Addition of Spirit of Nitre, it was immediately changed to a Colour reſembling that of the Yolks of Eggs, and a gentle Fermentation was produced. On the ſecond Day its Colour was intenſely green, and rather more ſo than when mix'd with Spirit of Vitriol. Its Smell was acid and ungrateful, and in the Bottom of the Veſſel there was a thick white Maſs. The ſuperior Part of the Liquor was green, and ſomewhat tranſparent and limpid; but its Taſte was acid and bitter. On the third Day it was the ſame in all reſpects; but upon the Addition of common Water, its intenſe Greenneſs was ſomewhat abated. On the twelfth Day there was a large Quantity of Sediment at the Bottom, and the Liquor above it was tranſparent, but of a high-green Colour, which remained the ſame.

XI. Upon an Addition of Spirit of Vitriol, it was changed from its natural browniſh Colour to one reſembling that of the Yolks of Eggs, and a ſmall Ebullition was produced. On the ſecond Day all the Parts of the Liquor were become turbid, and groſs Filaments floated confuſedly in it. Its Colour was everywhere greeniſh, and ſomewhat inclined to an azure Blue. Its Smell was like that of ſalted Fiſh, and its Taſte entirely acid. On the third Day its State was the ſame in every reſpect: Its acid Smell ſtrongly affected the Noſtrils.

XII. When the *Bile* was mix'd with Aqua-fortis, Bubbles were immediately produced, which forthwith became green, and a kind of azure-colour'd Scum floated on the Top of the Liquor. Twenty-four Hours after, its Smell was highly penetrating and acid; and the Liquor itſelf being highly turbid, a groſs farinaceous Sediment was obſerved at the Bottom of the Veſſel. In the Middle the Liquor was ſomewhat tranſparent; on the Surface there floated a groſs kind of Mucilage, of a white cineritious Colour; and a Froth and Bubbles appear'd about the Sides of the Veſſel. On the third Day the Appearances were the ſame, except that the Smell reſembled that of acid and corrupted Milk. On the twelfth Day its State was the ſame.

XIII. By an Addition of Vinegar the Colour of the Bile was immediately changed into that of the Yolks of Eggs, and render'd entirely thick. On the ſecond Day there was a groſs farinaceous Sediment depoſited at the Bottom of the Veſſel: The Liquor above this Sediment was of a greeniſh Colour, but turbid. Its Smell was urinous and putrid, like that of ſalted Fiſh; and its Bitterneſs was ſomewhat abated. On the third

Day it was in the ſame State, and remain'd ſo till the fifteenth.

XIV. Common Water, added to the *Bile*, changed its Colour immediately from a dark-brown to a yellow; but it was not ſo pellucid as before. The ſharp Smell of the *Bile* was the ſame, but rather more intenſe. Twenty-four Hours after, it had the ſame urinous putrid Smell, and its Colour became a little greeniſh. Upon an Addition of a ſmall Quantity of freſh Water the ſame greeniſh Colour remain'd, but the Bitterneſs was abated. On the third Day the Liquor was turbid; and on its Surface there was a Pellicle, like that which uſually floats on corrupted Liquors: It was alſo highly fetid.

XV. This *Bile*, when mix'd with moderately ſweet White-wine, became immediately turbid, and its Colour was changed into that of a foul Yellow. The Acrimony of the *Bile*, which before acted ſo forcibly on the Noſtrils, was immediately abated. Twenty-four Hours after, its ungrateful Smell ceaſed altogether. In the Bottom there was a Subſtance like a white Meal depoſited; and the Liquor above it was yellow, tranſparent, and intenſely bitter. On the third Day it was in the ſame State, but without any fetid Smell. On the twelfth Day all the Parts of the Liquor became fetid and turbid. *Bagliv.*

Five Pounds of Hogs Gall, newly taken from the Animals, upon Diſtillation, yielded almoſt ſeventy-one Ounces of various, and thoſe ſulphureous Liquors; and five Ounces and an half of Oil: Among all which there was an Ounce and an half of a thick and compact Matter, like Colophony or Bitumen; and two Drams of a fix'd Salt. Theſe Liquors remain'd without a Sediment, neither did they become fetid, nor undergo any Change. When digeſted together, by a gentle Heat, for thirty-one Days, they loſt four Ounces of their Weight: And the four Pounds and eleven Ounces which remain'd, left between four and five Ounces of a thick Sediment in the Bottom of the Veſſel; and the Liquor above this Sediment was pellucid, and of a greeniſh-brown Colour. *Du Hamel Hiſt. Ac. R. S.*

The *Bile* of a human Body, ſubjected to Diſtillation with a gentle Fire, immediately yields a Phlegm, and a thick and quickly inflammable Reſin remains at the Bottom of the Veſſel. By increaſing the Fire there aſcends a moderate Quantity of a volatile acrid Salt, which leaves behind it, in the inferior Part of the Veſſel, a large Quantity of a fix'd, acrid, and lixivial Salt, in form of a dark-colour'd Maſs, of a highly acrid Taſte, and penetrating Smell. Human Bile, when mix'd with Acids, eſpecially thoſe furniſh'd by the Mineral Kingdom, produces a gentle Effervescence, and is very ſenſibly changed as to its Colour. Upon an Admixture of Spirit of Vitriol, or that of Sulphur, there is a gentle Ebullition produced in it, and it becomes more or leſs green; letting fall at the ſame time an acrid Sediment to the Bottom, and loſing ſomewhat of its Bitterneſs. On the contrary, volatile alcaline Subſtances not only render it more thin and tranſparent, but alſo increaſe its yellow Lemon-colour. *Bagliv.*

From the above-enumerated Experiments it plainly appears, that the *Bile* is an Humour compoſed of an Oil, a Salt, and Water. It may therefore be conſider'd as a liquid Animal Soap, ſo that it is of an abſtergent and reſolvent Quality. That it is ſo, the Practice of ſome Tradeſmen is a ſufficient Proof; for Dyers of Cloth, in order to take out the Greaſe which ſticks to the Wool, and hinders the Adheſion of the Colour, uſe Soap, or putrid Urine, after it has aſſumed an alcaline Nature, or a Lixivium of ſome fix'd Alcali. But they may, with equal Succeſs, uſe Ox-gall for the ſame Intention. Painters alſo uſe the Bile of Animals for mixing and diluting their Paints. It diſcovers its Efficacy to be the ſame in Medicine, where a ſaponaceous Quality is requir'd, or where the Intention is to abſterge, where the ſluggiſh Veſſels are to be ſtimulated, where a tenacious Subſtance is to be reſolved, or a viſcid one attenuated (*ſee Boerh. Aph.* 75. 5.). Beſides, as *Bile* has for an Ingredient a Salt, which, tho' not an Alcali, yet inclines, and, as it were, approaches to it, like other animal Salts, it muſt of courſe prove an efficacious Medicine in thoſe Diſorders, where an Acid is to be reſiſted and corrected: So that it muſt be beneficial to Bodies which are prone to generate Acids, to ſuch as abound with mucous and pituitous Humours, and to thoſe who lead a ſedentary Life, or labour under Loſs of Appetite. It is alſo added to purgative Medicines, with a View to lubricate, ſtimulate, and reſolve. The Method of uſing it is to dry it a little, and make it up into ſmall Pills; Three or four Grains may be given for a Doſe to Adults; but, for Infants, one Grain of it is ſufficient for a Doſe. It ſeems to be owing to this ſaponaceous reſolvent Quality, that a few Drops of the *Bile* extracted from a living Dog, and mix'd with the *Aqua Epileptica* of *Langius*, produce the deſired Effect in the Cure of the Epilepſy. See *Act. Haſſn. Vol.* 3. *Obſ.* 20. From theſe Circumſtances we are enabled to diſcover the Reaſon, why *Boerhaave* recommended the Uſe of *Bile*, not only againſt a ſpontaneous Gluten, or viſcid Humours in general; but more eſpecially preſcrib'd it againſt thoſe Coagulums form'd in the *Primæ Viæ* of Children.

For this Intention he recommends the Galls of Quadrupeds
and Fiſh, eſpecially thoſe of the Pike and Eel. His Metho
of preſcribing is as follows:

> Take of the Galls of a Bull and of a Pike, each four Drams
> let them evaporate ſlowly, on a gentle Fire, till they hav
> acquired the Conſiſtence of Honey; then add a ſufficien
> Quantity of the Powder of freſh *Arum-root*. Make int
> Pills, weighing three Grains each, to be cover'd with Leaf
> gold. Let the Patient take one of theſe in the Morning
> at Noon, and at Night, an Hour before his Meals.

To this Claſs belongs alſo the Stone call'd, by the *Spaniard*
Pedra del Porco; an Infuſion of which, in diſtill'd Water o
Carduus Benedictus, or *Rheniſh* Wine, may be drank, takin
two or three Ounces for a Doſe.

To this Claſs alſo belongs *Helmont's* Medicine, prepar'd o
the Liver and Gall of an Eel, reduced to a Powder by a gent
Fire; one Dram of which is to be given, with three Ounces o
Rheniſh Wine, for a Vehicle. *Boerh. Mater. Med.*

In *Page* 228. of the ſame Work, he preſcribes a Clyſter i
the following manner, which he recommends againſt Diſorde
of Children, ariſing from a caſeous Coagulation of the Mil
they feed on:

> Take of Ox's Gall, half a Dram; of the Honey of Me
> cury, half an Ounce; of diſtil'd Mint-water, an Oun
> and an half: Mix up for a Clyſter.

Bile may alſo be uſed in deterging glutinous ſordid Ulce
It may alſo be ſucceſsfully uſed in Diſorders of the Eyes, whe
Deterging is indicated as proper: For which Reaſon *Pli*
L. 28. *C.* 1. informs us, that Suffuſions are cured by the G
of a Man. See *Dioſcor. L.* 2. *C.* 17. *Etmuller* informs
that the Gall of Fiſh, eſpecially that of the Sea-lamprey a
Pike, the diſtil'd Water of it, and its Eſſence, are proper
curing the *Pannus Oculi*, or that Diſorder of the Eyes wh
is cauſed by an Inflammation in the ſmall Veſſels of the *Adn*
(ſee PANNUS); and that the Secret of *Burrhus*, for this Di
der, was human Bile, diſtil'd from a low Glaſs Cucurbit,
means of a Braſs or Copper Alembic. From what has b
ſaid it appears, that the Gall of Animals may be recko
among thoſe Medicines which are of a detergent, anti-acid,
reſolvent Nature. Hence it is alſo plain, that the ſtimulat
and anti-acid Virtues of thoſe Stones which are found in
Gall-bladders of Animals, are owing to the Bile, which is, i
particular manner, proved by the Stone call'd *Pedra del P*
But as the Bile ſoon becomes putrid, and conſequently acrid,
is obvious, that it is ſafer to uſe it as recent as poſſible, ra
than when old: But it appears that Bile, adminiſter'd internally
hot Conſtitutions, and ſuch Patients as are choleric, muſt alw
do Harm rather than Good, by what has already been ſaid.
then, the Gall of Animals is unſeaſonably uſed, or exhibite
too large Doſes, it is then ſuppoſed to exert an acrimoni
Quality prejudicial to Health; for which Reaſon every
of Gall is by ſome rank'd among Poiſons, becauſe it ex
bilious Vomitings and Syncopes. See *Foreſt. Obſ. Med. L.*
Obſ. 7. *Schol.* But whether the Notion of Poiſons is not
der'd more intricate than it otherwiſe might be, by thus ran
among them whatever produces fatal Effects, by being im
dently uſed, I leave to others to judge. As for the other
perties of Gall, *Pliny*, *L.* 18. 9. ſeems to be well enough
quainted with them. “Among all the other Subſtances,
“he, common to Animals, the Gall produces the moſt im
“tant and ſalutary Effects; for it is poſſeſs'd of a hea
“pungent, inciding, extracting, and diſcutient Quality.
“Gall of the ſmaller Animals is thought to be of a more
“tile Nature than that of the larger, and conſequently b
“adapted to the Diſorders of the Eyes. It is probable th
“ſome Difference between the Biles of different Animals;
“firſt, the Bile of Fiſh is more acrid than that of L
“animals. Secondly, among Land as well as Water-ani
“thoſe which have the ſmalleſt Bodies, are moſt habituat
“Motion, and feed upon other Animals, have a more
“Bile than ſuch as are larger, and feed otherwiſe. A
“Fiſh, the Preference is given to that of the Pike and
“among Land-animals, to the Hawk and Serpent.” *D*
rides, *L.* 2. *C.* 17. has obſerved, that the Biles of ſome
mals are preferable to thoſe of others in point of Acrimony.
Paulus Ægineta is ſo explicit and diſtinct upon this Su
that his Words deſerve our Attention. See the Quotatio
fore from this Author. With regard to keeping Bile in the
for medicinal Purpoſes, we find the following Directions:
Gall is to be taken from Animals of a middle Age, which
neither ſuffer'd Hunger nor Thirſt, and which have n
been fatigued by too violent Exerciſe, nor been too much
voked. Having firſt tied the Veſſels which give Ingre
Egreſs to the Bile, it is to be taken immediately from the
itſelf, and put for ſome time into boiling Water; after
it is to be taken out of the Water, dried in a proper Plac
cloſe kept for Uſe. It is alſo ſometimes hung up in a Chi

in order to dry, without being put into boiling Water. Bile is ſometimes uſed recent and newly taken from Animals, eſpecially from Cocks, Partridges, Fiſh, and other Animals that may eaſily be obtain'd, and purchaſed at a cheap Rate. The Gall of Animals is, by the *Chineſe*, applied to the worſt and moſt deteſtable of Purpoſes, ſince they ſecretly mix it up with other Ingredients, in order to protract the Cure of Wounds, and increaſe the Miſery of their Patients. That the Gall of Bulls produces a golden Colour, when applied to Objects, has been long ago obſerved by *Pliny*, *L.* 11. *C.* 37. There remains another medicinal Preparation of Ox-gall, to be met with in *Lemery's Pharmacop. Univerſ.*

Ox-gall, ſays he, contains a volatile Salt, which renders it deterſive, and proper to cleanſe the Skin; but as it is very viſcid, and will not keep without corrupting, a Preparation may be made of it in the following manner:

Take of Sugar-candy, two Ounces; of Roch-alum, half an Ounce; of Borax, and Sandiver, or Salt of Glaſs, each three Drams. After having reduced all theſe Ingredients to a Powder, and put them into a Glaſs Veſſel, add to them four Pounds of Ox's Gall, diſtil'd by a Sand-heat from a Glaſs or Earthen Cucurbit: Stop the Veſſel well, and expoſe it to the Heat of the Sun, or the Smoke of a Fire, for the Space of fifteen Days, ſhaking it now-and-then; after which filtrate the Liquor, and preſerve it for Uſe.

This Medicine renders the Skin delicate, ſmooth, and ſoft, nd is eſteem'd ſingularly efficacious in removing Freckles and Sun-burning. It is to be applied to the Face at Night, going o Bed; and is to be waſh'd off next Morning with the Water f Lilies, or that of the Water-lily. This Medicine may alſo e laid on the Face in the Morning when one goes into the Fields, and continue till Night, that the Face may be the better guarded againſt the ſcorching Heat.

The Deſign of diſtilling the Ox-gall is, that it may preſerve ſelf the better from Corruption, and be the more agreeable o the Ladies Faces. Camphire is generally added to this Preparation; but it is of little or no Uſe, ſince it not only remains ndiſſolved, but alſo gives it a diſagreeable Smell. I have alſo retrench'd the plumous Alum, and the corroſive Sublimate, by me uſed in this Medicine, becauſe I judged them unſafe.

The Salts which enter this Preparation of Ox's Gall, ſerve render it more deterſive and penetrating, that it may the ore effectually remove the Blemiſhes of the Face.

The Veſſel into which this Preparation is put muſt not be tirely full, that the Liquor may be the more commodiouſly aken at proper Intervals.

A Preparation of Bile, for coſmetic Purpoſes, is more eaſily tain'd, by diſſolving inſpiſſated Bile with tartarated Spirit of Wine, and precipitating it with Water of Frogs-ſpawn, accordg to *Hoffman* in his Notes to *Poterius*.

BINARIUS.

Tho' the Word *Binarius*, among the antient *Romans*, implied o more than the Number Two; yet the *Spagiric* Philoſophers x'd an Idea to it, which I cannot convey by any Words. I ll therefore repreſent their Sentiments in their own Terms. he *Binarius* then, according to them, was either *Naturalis*, or *tra Naturam*. The *Naturalis Binarius* was that which was oduc'd by God, in conſequence of the Diviſion made between perior and inferior Objects, and which, when wrapt up, as were, and included under the Bond of Unity, conſtitutes the *narius*, when it is fit for returning into Unity. The *Binas contra Naturam* is that very Thing, which, being highly mical not only to Nature, but more eſpecially to God, of endeavour'd to deſtroy all created Objects. This, according them, is the Source of all Diſeaſes, and of Death; ſince it ot confin'd under any Bonds, but is rather the firſt Divorce, ngly endeavouring to break the Bond of Peace and Concord, only among the ſupernatural, but alſo the natural Creatures the omnipotent God, who form'd all things. *Theat. Chym.* . 1.

By theſe he ſhould mean the ſame which the *Perſians* underd by their *Ormozd* and *Arimanius*.

BINSICA. A Rabbinical Term, according to *Helmont*, denotmental Sickneſs, and particularly a diſtemper'd Imagination: as *Helmont*, in his myſtical Way, terms it, an Atrophy of the gan of the Phantaſy, ſuch as, he ſays, is excited by the Bite Tarantula, or a mad Dog, the Conſequence of which is at he calls *Mors Binſica*, " a Binſical Death."

BINTAMBARU *Zeylanenſibus*. Convolvulus maritimus *lanicus, Folio craſſo cordiformi. Pes Capræ (à Folii Simine) Luſitanis.* Herman. Catal. Hort. Leyd.

grows in *Malabar*, the Iſland of *Ceylon*, and other Parts he *Eaſt-Indies*. M. *Herman* ſuppoſes this Convolvulus, as as others of that Species, to abound with a purgative Salt, ch he infers both from the Acrimony of its milky Juice, ch ſtrikes the Tongue and Fauces, and from repeated Expents; for a Dram of the Reſin of the Root, given in the Yolk of an Egg, or any other convenient Emulſion, gently purged Water from Hydropical Patients: An Extract of the Root, prepar'd with Spirit of Wine, had the ſame Effect. Hence he believes, that the Opinion which the *Portugueſe* and ſome *Indians* have conceiv'd of its diaphoretic Virtues, (which, perhaps, they entertain'd from its external Reſemblance to Sarſaparilla) is merely imaginary. Tho' the Root be in the Liſt of Cathartics, its Leaves are the common Food of Rabbets, Deer, and wild and tame Goats. *Raii Hiſt. Plant.*

BIOLYCHNIUM, βιολύχνιον, from βίος, Life, and λυχνίον, a Candle, or Lamp. The Lamp of Life; a Term much us'd by ſome late Writers, and ſignifies the ſame as the *vital Flame*, or the *natural Heat*: It ſignifies alſo a ſort of Secret prepared of human Blood, mention'd by *Beguinus*. *Caſtellus.*

BIOS, βίος, βιοτὸς, βιοτὴ, generally ſignifies Life, and its Courſe; but ſometimes means no more than *Victus*, Victuals, or Food neceſſary for Life. *Caſtellus.*

BIOTE, βιοτὴ, Life, in an affected Senſe, ſignifies the Time of Continuance of Aliment in the Body, according to *Galen*, *Aph.* 20. *Lib.* 6. *Epid. Sect.* 5. τὰ ἀσθενέστερα σιτία ὀλιγοχρονίαν βιοτὴν ἔχει, " weak Food has a ſhort Life an-" nexed;" that is, weak Aliment makes Perſons ſhort-liv'd; or, in the Senſe before, is but of ſhort Continuance in the Body.

BIOTHANATI, βιοθάνατοι, from βίος, Life, and θάνατος, Death. A Term applied to thoſe who die a violent Death. *Caſtellus.*

BIPINELLA, an Herb, the ſame as PIMPINELLA, which ſee.

BIPULA, a ſort of Worm in *Ariſtot. Hiſt. Animal.* as *Gaza* interprets him. *Caſtellus.*

BIRA. Beer. The ſame as CEREVISIA, which ſee. *Caſtellus.*

BIRSEN, an *Arabian* or *Perſian* Word, ſignifying an Inflammation or Impoſtume of the Breaſt; for *Bir* ſignifies a Breaſt, according to *Avicenna* and others. *Caſtellus.*

BISCOCTUS, δίεφθος, διπυρίτης, twice dreſs'd, or that has twice felt the Fire; chiefly applied to Bread twice bak'd, or that is much bak'd. Biſcuit.

BISEMATUM. The lighteſt, paleſt, and baſeſt Lead. *Rulandus.*

BISERMAS. A Species of *Horminum*. See HORMINUM.

BISLINGUA, *Hippogloſſum*, *Uvularia*, Offic. *Hippogloſſum ſive Biſlingua*, Park. Theat. 702. *Hippogloſſum mas & fœmina*, Ger. 761. Emac. 908. *Bonifacia ſive Biſlingua*, J. B. 1. 575. *Hippogloſſum*, *Biſlingua*, *Bonifacia*, Chab. 45. *Laurus Alexandrina*, *fructu pediculo inſidente*, C. B. Pin. 305. *Ruſus anguſtifolius*, *fructu folio innaſcente*, Tourn. Inſt. 79. Elem. Bot. 70. Boerh. Ind. A. 2. 63. DOUBLE-TONGUE.

This Plant is commonly cultivated in the Gardens of Botaniſts, and is ſaid to be of a vulnerary Quality. *Dale Pharmacologia.*

BISMALVA. The ſame as ALTHÆA, which ſee.

BISMUTHUM, Offic. Charlt. Foſſ. 49. Aldrov. Muſ. Metal. 161. *Biſmutum plumbum cinereum*, Worm. 125. *Marcaſita ſive Biſmutum*, Schrod. 456. *Marcaſita argentea*, Cæſalp. *Galæna inanis*, *Germanis Blende*, Woodw. Att. Tom. 1. 182. *Biſmuthum*, Idem, Tom. 2. P. 1. p. 28. MARCASITE OF SILVER, or TIN-GLASS. *Dale.*

Biſmuth is a Species of Tin, or a white and brittle metallic Subſtance, diſpos'd in ſmall Laminæ, ſhining like Glaſs; for which Reaſon it is call'd Tin-glaſs. It ſeems to be compos'd of a mineral Salt, a groſs Sulphur, Mercury, a ſmall Quantity of Arſenic, and a great deal of Earth. Mr. *Poli*, having pounded ſeparately one Part of Biſmuth, and two of corroſive Sublimate, and mix'd them in a Retort, to which a Receiver was adapted, extracted from them, by Diſtillation, a ſort of Gum or Butter, which partly adhered to the Neck of the Retort, and partly fell into the Receiver. This Butter he diſtill'd a ſecond time, and, beſides another Butter yielded like the former, there remain'd in the Bottom of the Retort a very fine Powder, of the Colour of oriental Pearls, ſoft to the Touch, and ſomewhat glutinous. A third Proceſs yielded him a Powder ſtill more fine and beautiful. In ſhort, he repeated the Operation 'till the Butter was entirely chang'd, partly into running Mercury, and partly into a pearl-colour'd Powder. This Powder may be uſed either in repreſenting fine Pearls in Painting, or in giving their agreeable Colour to any Objects. *Hiſtoire de l'Academie Royale*, 1713.

Biſmuth, or *Tin-glaſs*, named *Biſmuthum*, Officin. *Plumbum cinereum Agricolæ*, *Marcaſita argentea*, Quorund. is a metallic, fuſible, but not ductile Subſtance; very brittle and heavy, and diſtinguiſhable from Lead and Tin by its Colour, which is ſometimes ſhining, like Silver, ſometimes of a faint Purple, reſembling the Regulus of Antimony, but conſiſting of broader Laminæ, and ſtaining the Fingers. It is prepared by Artiſts, by being firſt torrefy'd, and then melted into a Regulus. It is often found in Silver Mines; and where-ever the Miners find

Biſmuth, they conclude they ſhall find Silver; and hence they call it the Proof of Silver. The Mines of *Biſmuth* are in *Bohemia* and *Miſnia*. Some pretend that it may be extracted from Cobalt melted into a Regulus, by a particular Proceſs; but this is not certain.

Biſmuth ſeems to have been unknown both to the *Greeks* and *Arabians*; for the *Arabian Marcaſite* was the *Lapis Pyrites*. It is very ſeldom uſed in Phyſic, tho' ſome prepare Flowers from it, which they ſay are diaphoretic; but moſt Phyſicians have been afraid to uſe it inwardly, becauſe of the arſenical Parts contain'd in it. The Magiſtery of *Biſmuth* is prepared by diſſolving the Metal in Spirit of *Nitre*, then precipitating it with a Solution of Sea Salt in Water. This Precipitate, being edulcorated by frequent Lotions, becomes a very white Powder, much valued by the Ladies as a Coſmetic, and much uſed by Dealers in Hair, to improve the Colour of it when dark or red. Pewterers mix it with Tin to harden it, and give it a more ſhining Colour. *Geoffroy*.

PROCESSES *upon* BISMUTH.

FLORES BISMUTHI: *Flowers of Biſmuth*.

Beat the *Biſmuth* into very fine Powder, and to four Ounces of it put half a Pound of Nitre, alſo in fine Powder; put in that Mixture, by half a Spoonful at a time, into an earthen Body, perforated in the Side; when the Body is red-hot, and the Operation is over, take away the Aludels, and wipe off the Flowers with a Feather.

Theſe are very white, and uſed as an excellent Fucus, mix'd with Pomatum, or Roſe-water; but they muſt not be too buſy with it, who try it upon their Complexions; for the ſaline Parts of the Arſenic may do Miſchief many ways. But if the Nitre, and the Arſenical Salts, are waſh'd away by frequent Solutions in warm Water, it will not only continue to be a good Coſmetic, but alſo may with Safety be given internally, and by ſome is reckon'd a good Diaphoretic. Yet, as the Materia Medica is large enough in its Supply for that Intention, there is no Occaſion to torture a Poiſon to make a Medicine of it. Its Doſe is from ten Grains to two Scruples or a Dram. *Quincy's Diſpenſatory, from Wilſon's Chymiſtry*.

Lemery's Method of making theſe Flowers is ſomewhat different.

The Flowers of *Biſmuth* are nothing but a Portion of Tin-glaſs, elevated in form of a fine Powder, by means of volatile Salts.

Calcine the *Biſmuth* in the manner Lead is commonly calcin'd; then mixing it with an equal Quantity of Sal Ammoniac, put your Mixture into an earthen Cucurbit capable of bearing the Fire; but two Thirds of the Cucurbit muſt at leaſt be left empty. Adapt a Blind-head to it. Lute the Juncture carefully. Place your Veſſel in a ſmall Grate-furnace, with an open Fire, but yet in ſuch a manner, as that the Fire may breathe only thro' the Regiſters, for which Purpoſe the Top of the Furnace muſt be cloſed up with Bricks and Clay. The Cucurbit muſt alſo be ſunk a Third, or thereabouts, of its Height in the Furnace. Apply a ſmall Fire at the Beginning; then augment it gradually, till the Bottom of the Veſſel becomes red; and then continue it in the ſame Degree, till nothing aſcends any longer, which may be known when the Head is become cold, and then the Sublimation is completed. Then allow the Veſſels to cool, and unlute them. By this Proceſs you will obtain Flowers, which may be diſſolv'd in Water, and precipitated with Spirit of Sal Ammoniac, or Oil of Tartar.

This Magiſtery, or Precipitate, may be applied to the ſame Uſes with the following.

MAGISTERY *of* BISMUTH.

Magiſtery of Biſmuth is nothing but Biſmuth diſſolv'd, and precipitated into a very white Powder.

Diſſolve in a Matraſs one Ounce of the groſs Powder of Biſmuth, with three Ounces of the Spirit of Nitre; pour the Diſſolution into a clean earthen Veſſel, and add to it five or ſix Pounds of Spring-water, in which half an Ounce of Sea Salt has been previouſly diſſolv'd; upon which a white Powder will be precipitated to the Bottom. Pour off the Water by Inclination, and waſh the Magiſtery ſeveral times; then dry it in a Shade. This is the Coſmetic which the *French* call *Blanc-d'-Eſpagne*, or the celebrated *white Spaniſh Coſmetic*, which is eſteemed ſo fine a Cleanſer and Whitener of the Face. The Method of uſing it is, either to mix it with Pomatum, or with Oil of Lilies. Wig-makers alſo uſe it, in order to beautify their Hair.

REMARKS.

A pretty large Matraſs ought to be employ'd in diſſolving the Biſmuth, in order to give room for a violent Efferveſcence, which is produc'd as ſoon as the Spirit of Nitre is pour'd upon that Mineral. The Operator muſt guard, as much as he poſſibly can, againſt admitting the Steam either into his Noſtrils or Mouth, becauſe it is highly prejudicial to the Breaſt.

This quick and violent Efferveſcence proceeds from this; that the Pores of the *Biſmuth* being pretty large, the Acid immediately makes its Way into them, and violently removes every thing that oppoſes its Motion. On this Occaſion it alſo happens, that the Matraſs is ſo heated, that one cannot hold a Hand upon it; becauſe the Points of the Diſſolvent ſtrike with a great deal of Force upon the ſolid *Biſmuth*, by which a Heat is produc'd, reſembling that which reſults from the Friction of two ſolid Bodies upon each other for a conſiderable time. Beſides, the Quantity of fiery Particles contain'd in the Spirit of Nitre, may contribute very conſiderably to the Production of this Heat.

If the Solution is turbid, on account of any Impurities contain'd in the *Biſmuth*, a double Quantity of Water being mix'd with it, it muſt be filtrated; for, if an Attempt ſhould be made to filtrate it without Water, it would coagulate in the Form of a Salt, and, conſequently, become incapable of paſſing thro' the Filtre. This Coagulation proceed from this, that the acid Spirits of the Nitre, which ar ſheath'd up in the Particles of the *Biſmuth*, finding too ſmal a Quantity of Liquor to float and diſperſe themſelves in, unit together in the Form of Cryſtals, when the Solution become cold.

The Impurity which generally floats upon the Solution of *Bi muth*, is a pinguious and bituminous Subſtance, which is no diſſolvable by the Spirit of Nitre.

This Magiſtery may be made, by pouring a large Quantity Spring-water without Salt into the Solution; but it is mor quickly done, and the Precipitation more exactly made, b the Addition of the Salt, which agitates and breaks ſome thoſe acid Parts, which the Water alone was not powerf enough to ſubdue and divide. A Difficulty here ariſes, an that is, why common Water alone precipitates the *Biſmut* Lead, or Antimony, which an Acid has previouſly diſſolv' but can neither precipitate Gold, Silver, nor Mercur without the Aſſiſtance of ſome Salt, or ſome other prop Subſtance. I ſuppoſe this Phenomenon is produc'd, becau the former Subſtances having large Pores, the Acids are n ſo ſtrongly lock'd up in them, but that they may be diſlodg by Water; whereas Gold, Silver, and Mercury, havi Pores comparatively very ſmall and minute, keep the Ac ſo ſtrongly lock'd up, that it cannot be ſeparated by the languid Agitation of the Water alone, which, to produ this Effect, requires the Addition of ſome other Subſtanc capable of giving ſtronger and more violent Shocks.

The Augmentation happening to the *Biſmuth*, when reduc to a Magiſtery, proceeds from ſome Part of the Spirit Nitre being retain'd in it, notwithſtanding the Precipit tion and Lotion. If we incline to have it exceeding white, 'tis not only neceſſary, that the Water us'd in wa ing it ſhould be very pure and tranſparent, but, after it been thoroughly dried in a Shade, it muſt he carefully k in a Glaſs-phial, well ſtopp'd; for the Air renders it of a d and browniſh Colour.

As for the Method of uſing this Magiſtery, a Dram of i ordinarily mix'd with four Ounces of the Lily or Bean-flo Water, or with an Ounce of Pomatum. This Medicin good for the Itch, becauſe it deſtroys the Acids, or Sa which foment and nouriſh that Diſorder: But this Magiſt is rarely uſed in any other Shape than that of a Coſmet It is the Paint moſt generally uſed by Women who inc to improve their Complexions, becauſe it is more eaſily on, and adheres more firmly, than other Paints. But as Marcaſite, from which it is drawn, is of the metallic Ki the Heat of the Skin reunites, revivifies, and renders bro its Particles, which ow'd their Whiteneſs only to their viſion; for which Reaſon, thoſe who make frequent U this Paint, have generally a livid Countenance, and the S of it more rough and unmpoliſh'd, than it was before t began to uſe it.

If, for the ſake of Curioſity, we filtrate the Water uſed precipitating the Magiſtery of *Biſmuth*, and, with a Pen, write any thing with it on white Paper, the Let will not at all appear; but if, after they are thoroughly we rub them gently with a little Cotton, dipt in a Decoc of the Scoriæ of Antimony, they become very bl *Lemery Cours de Chymie*.

BISON.

This is a Sort of wild Ox in the *Indies*. His Forehea large, his Horns crooked, ſharp at the Points, black and ſh

; his Eyes are large, fierce, terrible, and flaming; his ongue is ſo rough, that the Part lick'd with it is excoriated, d Blood is drawn from it. In his Tail there is a large Quan- y of Hairs, which ſmell like Musk. This Animal frequents e Woods, and is of ſo ſavage and cruel a Nature, that 'tis angerous to come in his Way. The Horns of this Animal, hen reduced to a Powder, and taken internally, are eſteemed dorific, and proper for reſiſting Poiſons. The Doſe of this owder is from half a Scruple to one Dram.

The Excrements of this Animal are poſſeſſed of a highly ſolvent Quality. *Lemery des Drogues.*

BISTACIUM, for PISTACIUM, or PISTACIA, which e.

BISTORTA, Offic. *Biſtorta Serpentina*, Chab. 507. *Biſ- rta major*, Ger. 322. Emac. 399. Raii Hiſt. 1. 186. Synop. . *Biſtorta major vulgaris*, Park. 391. *Biſtorta major, rugo- ribus foliis*, J. B. 3. 538. Dill. Cat. 89. *Biſtorta radice nus intorta*, C. B. 192. Hiſt. Oxon. 2. 585. Tourn. Inſt. 11. Boerh. Ind. A. 2. 86. Buxb. 39. BISTORT or SNAKE- EED.

The Roots of the great Biſtort are about as thick as the tle Finger, brown on the Outſide, and reddiſh within; mewhat curled and twiſted, with many ſmall Fibres growing t on every Side. The Leaves reſemble ſomewhat the Leaves the common Dock, but are of a firmer Subſtance, of a iſh-green Colour above, and aſh-colour'd underneath, ch narrower at the End next the Root, having only a nar- w Film running on each Side the Stalk. The Flowers ow in Spikes like Ears of Corn, of a pale-red Colour, made of ſeveral ſmall, imperfect, ſtaminous Flowers, in which ow black triangular Seeds; they ſtand on Stalks a Foot or a ot and a half high, which have a Leaf or two at the Joints, compaſſing them round next the Stalk, and growing nar- wer, and ſharp-pointed at the End.

Biſtort grows in ſeveral moiſt Meadows, tho' it is not very mmon about *London*. It is to be met with in *Batterſea* eadow, near the *Thames* Side, flowering in *May*.

The Roots of Biſtort, which are the only Part that is uſed, e drying and binding, of Service in all kind of Fluxes and morrhages, either from the Bowels, or any other Part; y help the Incontinence of Urine, and the making bloody ater. They are alſo Alexipharmic, and good in peſtilen- l Fevers; they reſiſt Poiſon, and the Bites and Stings of nomous Creatures. *Miller's Bot. Off.*

The Root is moſtly uſed in the Shops, and is of a healing, ringent Quality, eſpecially in Dyſenteries, bloody Fluxes, ſenteric Exulcerations of the Inteſtines, and Vomitings of od. It cures an exceſſive Flux of the Menſes and Hemor- ids, and removes violent Vomitings. It quenches Thirſt, which Reaſon it is by *Paracelſus* called *Anaſacra*, by which perhaps meant *Anaſarca*. The principal way of uſing s to mix it with other proper Herbs for the Cure of the opſy. *L. Thurneiſſer, de Aquis Miner. & Metall. L.* 6. 67. affirms, that it kills Worms in the Inteſtines. It is alſo d in Defluxions, and Pains of the Head, malignant Fevers, all-pox, Meaſles, and the Plague. It proves a Check to the violent Ebullition of the Blood, and prevents the over- ing of its more ſpirituous Parts. It prevents Miſcarriages, cures Wounds and Ruptures. And when any Veſſel in Abdomen is broken, it is often made an Ingredient in nerary Drinks, prepar'd as a Remedy. The Root der'd, and thrown into recent Wounds, ſtops the Effuſion Blood, and cures them. A Decoction of the Root alſo, h Wine and Vinegar, ſtops immediately the moſt violent ſions of Blood from Wounds, if waſhed with it. Some e two Parts of the Root reduc'd to Powder, and one Part Quick-lime, and mix them with Wine and Vinegar, and, r having evaporated the Humidity, uſe the Powder which ains in the Veſſel for curing the Cancer. The Root mix'd h ſome Water proper for Diſorders of the Mouth cures oth-achs, fixes looſe Teeth, and hardens the Gums, by venting a Fluxion of Humours to them. Some diſtil a ter from the Root, Leaves, and Flowers. Others prepare rup from the Root, which they call *Syrupus Colubrinus*. h theſe Medicines are accounted excellent againſt the Plague, entery, Fluxes, Vomitings of Blood, immoderate Diſ- ges of the Menſes, and Vomitings. The Water cleanſes heals all old Ulcers and Cancers, if they are waſhed with and ſome of the Powder of the Root is ſprinkled upon n. It is confidently affirmed, that it baniſhes all Inſects n a Houſe. *Barthol. Zorn Botanologia.*

ITHNIMALCA and GASTERANAX are Words ed by *Dolæus*, to ſignify a peculiar active Principle reſide- in the Stomach, and preſiding over the ſeveral Functions Chylification, Diſtribution, and Secretion.

ITHYNICI *Tonſoris Emplaſtrum*. The *Bithynian* Bar- Plaiſter for ſplenetic and hydropical People. It is deſcrib'd *etius, Tetrab.* 3. *Serm.* 2. *cap.* 22.

THYNOS, Βιθυνὸς, the Name of a Plaiſter de- ed by *Galen*, *L.* 9. *de comp. Med. Sec. Loc. cap.* 31. alſo a Troche in the ſame Author, *Lib.* 5. *de comp. Med. per Gen. cap.* 12.

BITI. The Name of a tall and evergreen Tree growing in *Malabar*, and other Parts of the *Eaſt-Indies*; all the Uſe it is known to have in Medicine is, that an Oil is prepared of the Root, which cures an Alopecia. *Ray.*

BITRINATI. Glaſed. *Rulandus.*

BITTERN. At the Salt-works, where Salt is made from the Sea Water, that Liquor which runs from the common Salt, when taken out and put into proper Veſſels, is called Bittern.

Or it is the Liquor which remains after the Cryſtallization of the common Salt. *Phil. Tranſact.* See SAL CATHARTICUM AMARUM.

BITUMEN, Offic. *Bitumen vulgare Piſſaſphaltum*, Mont. Exot. 12. Gæbal. 20. *Piſſaſphaltos nativum*, Schrod. 4. 208. Dioſc. *Piſſaſphaltum*, Worm. Muſ. 30. Charlt. Foſſ. 14. *Bitumen Foſſile*, Aldrov. Muſ. Metall. 382. COMMON FOSSILE PITCH.

The *Piſſaſphaltos* is produced in *Apollonia* near *Epidamnos*, and is carried down the *Ceraunian* Mountains by the Current of a River, and thrown upon the Shores, where it concretes into Maſſes, and ſmells like Pitch mixed with Brimſtone. *Dioſcor. lib.* 1. *cap.* 100.

The *Piſſaſphaltum* of *Dioſcorides*, and of the Shops, or mineral Pitch, is a black or red kind of *Bitumen*, of a fragrant and not unpleaſant bituminous Smell, viſcid, or of a middle Conſiſtence between *Petroleum*, and a ſolid *Bitumen*, not unlike the common Pitch, fuſible by Fire, concreſcible by Cold, and eaſily inflammable. It is compounded of two *Greek* Words, which ſignify Pitch and *Bitumen*, and the Compound might be rendered a bituminous Pitch, or pitchy *Bitumen*; the Reaſon of which Name is not, that it conſiſts of an artificial Mixture of theſe two Subſtances, but it ſmells like ſuch a Mixture. It diſtils from Rocks, or ſprings from the Earth in ſeveral Countries. In *Italy* they uſe that which is found in the *Campania di Roma*, about ſixty Miles from the City, near a little Town called *Catho*. It ouſes through the Crannies of Rocks in the Summer-time, of the Conſiſtence of Honey, of a black Colour, and penetrating Smell. There is likewiſe a plentiful Spring of this *Bitumen* in *Auvergne* in *France*, which is ſoft and black like Pitch, and of a bituminous Smell. If it be kept a great while, it grows hard, retaining ſtill ſomething of its fatty Conſiſtence, and never grows ſo dry or hard as the ſolid *Bitumens*.

Freſh *Piſſaſphaltum* is digeſtive, maturating, and reſolvent. It is uſed in ripening Buboes, reſolving Tumors, diſcuſſing ſciatic Pains, and to ſtrengthen luxated Parts after they have been reduced. A Mixture of this, and ſlimy or muddy Clay, is called *Maltha*, and was uſed as Morter in building the Walls of *Babylon*, according to *Vitruvius*. *Geoffroy.*

The *Aſphaltus*, of which an Account is given under the Word, is a Species of *Bitumen*, of which Dr. *Shaw* in his Travels gives the following Relation; this Author ſpeaking of the *Dead Sea*, ſays thus.

I was informed, that the *Bitumen*, for which the Lake hath been always remarkable, is raiſed at certain times from the Bottom in large Hemiſpheres; which, as ſoon as they touch the Surface, and ſo are acted upon by the external Air, burſt at once with a great Smoak and Noiſe, like the Pulvis Fulminans of the Chymiſts, and diſperſe themſelves round about in a thouſand Pieces. But this happens only near the Shore; for in greater Depths, the Eruptions are ſuppoſed to diſcover themſelves only in ſuch Columns of Smoke, as are now-and-then obſerved to ariſe from the Lake. And perhaps to ſuch Eruptions as theſe we may attribute that Variety of Pits and Hollows which are found in the Neighbourhood of this Lake, and compared very juſtly, by Mr. *Maundrell*, to thoſe Places in *England*, where there have been formerly Lime-kilns. The *Bitumen*, in all Probability, is accompanied from the Bottom with Sulphur, inaſmuch as both of them are found promiſcuouſly upon the Waſh of the Shore. The latter is exactly the ſame with common native Sulphur; the former is friable, heavier than Water, yielding upon Friction, or by being ſet on Fire, a fetid Smell. Neither doth it appear to be, as *Dioſcorides* deſcribes his *Aſphaltus*, of a purpliſh Colour; but is as black as Jet, and exactly of the ſame ſhining Appearance.

BIVALVA, BIVALVULA. Bivalve. A Term in Botany, apply'd to the Pods or Huſks of Plants, which open lengthwiſe in two Parts, like the Shell of a Muſcle. *Miller's Dict.*

BIVENTER, διγαςρικὸς, double-belly'd. The ſame as DIGASTRICUS, which ſee.

BIXA OVIEDI. A Name for the ACHIOTL, which ſee.

BLABE, βλάβη. Hurt, Injury, Prejudice. Hence βλαβερὸς, noxious, injurious.

BLACCIÆ. A Name in *Rhazes* for the Meaſles.

BLACHMAL. *Johnſon* ſays, that this imports a Matter conſiſting of various Metals melted together, and caſt into Sulphur.

BLACTARA. Ceruſs, white Paint.

BLÆSITAS. Stammering, or Liſping. The ſame as Balbuties.

BLÆSUS alſo ſignifies a Perſon whoſe Legs are diſtorted and crooked, being bent outwards.

BLANCA. Ceruſs, white Paint.

Blanca is alſo the Name of a compound lenitive purging Medicine, deſcribed in the *Antidotarium* of *Nicolaus.*

BLANCNON. A Name for Fern in *Oribaſius, Med. Coll. lib.* 12.

BLANDUS, ἠΰς, ἠΰς. Gentle. An Epithet in Uſe among the Chymiſts, and Preparers of Medicines, and commonly applied to Fire or Heat, by way of Oppoſition to *fortis*, or *vehemens, ſtrong*, or *violent*. Thus in the Affair of the Philoſopher's Stone there is required *blandus Ignis*, a *gentle* Fire.

BLAPTISECULA. A Græco-latin Name for *Cyanus*, Blue-bottle, from βλάπτω, to hurt, and *ſeco*, becauſe it incommodes the Mowers, by blunting the Edges of their Scythes. *Blancard.*

BLAS. A Term coined by *Helmont*, by which he means, as he ſays, the Force of Motion, both alterative and local; of this he makes two Kinds, the *Blas Meteoron*, and the *Blas humanum.* The firſt belongs to the Stars, whoſe *Blas motivum*, he ſays, is the pulſive Virtue by which they perform their Courſes, and preſent their Aſpects according to their Places; and this is their *local* Blas. The *Alterative* Blas of the Stars conſiſts in the Production of Heat and Cold, eſpecially by the Change of the Winds. Analogous to this *Blas Meteoron* is the *Blas Humanum*, which operates in Men and Brutes; and this is of two Kinds, *natural* and *voluntary*: the former is what every one of the Viſcera forms to itſelf, according to the Model of its Conſtellation, whence it is called the *aſtral Blas*; the other is impelled, and put in Motion, by the Will of Animals, and is no way connected with the upper Motion, that is, the *Blas* of the Heavens.

BLASIUS. A Martyr, whoſe Name *Aetius* repreſents as effectual in making any thing, which ſticks in the Throat, either come up or go down. See the Life of Aetius,

BLASO, or PLASO, (for I am not certain which is the right) is the *Indian* Name for a Tree, otherwiſe called, *Arbor ſiliquoſa trifolia Indica, flore papilionaceo, ſiliqua grandi piloſa, unicam intus fabam continente.* The Fruit reduced to Powder, and taken internally, kills Worms. The Bark alſo powder'd, and taken with dried Ginger in Powder, is given for the Bite of a Viper. *Raii Hiſt. Plant.*

BLASTEMA, βλάϛημα, from βλαςάνω, to germinate, ſignifies properly a Bud, or Off-ſet, or Shoot of a Plant. But it is uſed by *Hippocrates* to expreſs a cutaneous Eruption or Pimple. *Foeſius* ſeems to ſuſpect, that it may mean a Bubo, or glandular Tumor; but I ſee no Reaſon for this Suppoſition.

BLATTA BYZANTINA, Offic. *Blatta Byzantia*, Schrod. 5. 325. *Blatta Byzantia ſive Unguis odoratus*, Park. Theat. 1573. Ind. Med. 21. *Blatta Byzantina, Unguis odoratus*, Mont. Exot. 6. *Operculum cochlearum marinarum ſubrotundum vulgare*, Lang. Meth. Teſt. 56. *Blatta Byzantia Arabum*, Aldrov. de Exang. 346. *Operculi Conchylii & Buccini*, Rondel. de Piſc. 2. 86. THE CONSTANTINOPLE SWEET HOOF. *Dale.*

When exhibited internally, it renders the Belly ſoluble, ſoftens the Spleen, and diſcuſſes peccant Humours. When uſed externally by way of Fumigation, it reſtores epileptic Patients, and Women labouring under a Strangulation of the Uterus. In other Diſorders its Effects are the ſame with thoſe of moſt other teſtaceous Subſtances. *Dale Pharmacologia from Schroder.*

The common Druggiſts and Apothecaries apply both the Name and Virtues of the *Unguis Odoratus* or *Indicus* of the Antients, the ὄνυξ Ἰνδικὸς of *Dioſcorides*, to the *Blatta Byzantia*, and make the ſame Uſe of it. *Myrepſus* mentions the *Unguis odoratus* in ſome Places under the Name of ὄνυχος Ἰνδικὸς, *(Onychus Indicus)* particularly in the Antidote of fifty Ingredients. And in many Places we meet with his βλάτῖα Βυζάνῖια, which, he informs us, is the Name by which the *Italians* call τὸ ὀςῦν τῆς ῥινὸς τῆς πορφύρας, "the Bone of the "Noſe of the Purple-fiſh." The Tranſlators of the *Arabian* Authors have rendered the *Arabic* Words *adfar althaib*, which in *Latin* ſignify *Ungues Odorati*, or *Aromatici*, and literally expreſs the *Greek* Denomination ὄνυξ ἀρωμαῖίζων, by *Blatta Byzantia*, how truly we ſhall by-and-by examine; but our firſt Inquiry ſhall be concerning the Name.

Blatta, or *Blattea*, was the Name which the antient *Latins* gave to a Bubble of Clay, as *Paulus* remarks out of *Feſtus*; afterwards it came to ſignify a Clot of Blood, as the Author of the old Gloſſes obſerves: *Blattea*, θρόμβος ἄιμαῖος, "Blat-"tea, a grumous Concretion of Blood;" and Uſe at laſt appropriated it to the concreted Blood or Sanies of the Purple-fiſh, as the forementioned Gloſſes alſo take Notice: *Blattea*, θρόμβος ἅιματος τῶν κογχυλίων. Hence *Blatteum*, under the Emperors of the middle Ages, ſignified any thing dy'd with Purple, and *Blatta infectum*, Purple. The *By-zantine* Purple-fiſhes are alſo mentioned by the Antients which are called *Blattæ Byzantiæ*, and by the *Greeks* of th *Conſtantinopolitan* Empire βλάτῖια Βυζάνῖια· whence *Anaſta-ſius* the Library-keeper, in his Lives of the Popes, often men tions *Pallia e Blattio Byzantino.* It appears then, that by th *Blattæ Byzantiæ* can be meant nothing but the *Conchylia By-zantia*, or *Byzantian* Purple-fiſh. As κογχύλιον, (*Conchylium* as well among the *Greeks* as the *Latins*, is ſometimes take for the Fleſh of an Oyſter, ſometimes for the Shell, ſo th Name of *Blatta Byzantia* has by Uſe been appropriated to th flinty Cover of the Purple-fiſh.

Conſider'd therefore in this reſpect, the *Blattæ Byzanti* are a quite different thing from the *Unguis Odoratus* of th Antients, which was gather'd out of the *Indian* Marſhes, an for that Reaſon called by the *Greeks* ὄνυξ Ἰνδικός. But *Dio-ſcorides* tells us, that this *Indian* Onyx was like the Cover the Purple-fiſh: ὄνυξ ἐςὶ πῶμα κογχυλίυ, ὅμοιον τῶ τῆς πορφύρα "The Onyx is the Cover or Lid of a Shell-fiſh, like that "the Purple-fiſh." Let us grant then, that, on account the Likeneſs, the Name of the Purple-fiſh is juſtly due, an may be given, to that *Indian* Shell-fiſh. All the Difficulty do not lie here, but in what *Dioſcorides* properly calls the πῶμ κογχυλίυ, "The Cover of the Conchylium, or Shell-fiſh All our modern Interpreters take it for the Shell of the Co chylium, becauſe the Conchylium is empty. *Braſſavolus* re ders it the Cruſt and Shell of the Conchylium, (*Cruſtas Conchas Conchyliorum*) which, I am ſure, is far wide of t Truth, and the genuine Signification of the Word πῶμ The *Greeks* call the Shell of any ſort of Oyſter Ὄςρα (*Oſtracum*). Thus *Dioſcorides* ſpeaking of Lime: τῶν θαλαττ κηρύκων τὰ ὄςρακα, "The Shells of Sea-whelks." Beſid that *Dioſcorides* did not take the Word ὄνυξ, which, he ſays the πῶμα Conchylii, for the whole Shell, appears from own Words towards the End of the Chapter, where he ſa that "The *Conchylium* calcined produced the ſame Effe "as the Purple-fiſh and Whelk," αὐῖὸ δὲ τὸ κογχύλιον ποιεῖ ὅσα ϗ ἡ πορφύρα ϗ ὁ κήρυξ, Therefore the ὄνυξ, *Ungu* is a Part of the Conchylium, not its whole Incloſure or Sh The *Arabians* took it right. *Avicenna*'s Words, *adfar altha* by which he expreſſes the ὄνυχες ἀρωμαῖίζονῖες of *Dioſcori* are rendered by *Fruſta vel Fragmenta ſimilia Unguibus*, " "or Fragments reſembling Nails;" for this is the Senſe u by him in the plural Number, which in a very antient Gloſ is expounded by *Conciſio, Inciſio, Deciſio, Comma, Morſ* "Conciſion, Inciſion, Deciſion, Fragment, Bit." In ſame Gloſſary *Mukatha* is explained by *decerptum*, "crop what is cropt or cut off from an entire Body. So here is to be taken for a Piece cut off from the Conchylium, for a Part of it, not for the whole Shell; and this is the π κογχυλίυ of *Dioſcorides*, which now comes to be explained

In Veſſels of a long Neck, and narrow Mouth, that w cloſes the Summit of the Mouth, by which Liquors are po in and out, is called in *Latin Operculum*, in *Greek* π "a Cover." *Severus Sulpitius*, from its Figure, calls it *U* "a Buckler." In every Veſſel alſo which has a wide Mo what covers the Opening goes by the Name of πῶμα· we have πῶμα χύῖρας, πῶμα φρέαῖος, "the Cover of a "the Cover of a Well." The Purple-fiſh, Whelk, other Fiſh of that kind, which the *Greeks* call ςρομβώδη, binated, or wreathed, may, in ſome meaſure, be likene Veſſels with a narrow Mouth; for they have but one P ration, through which they put forth their Tongue, and their Food. They have alſo a ſort of a Cover, at the where the Neck is ſituated, under which they thruſt out Tongue to feed, and draw it back as they pleaſe. Th called by *Dioſcorides* πῶμα, by *Ariſtotle* ἐπικάλυμμα (*E lumma*), who thus ſpeaks of the Purple-fiſh; ἔχει δὲ ϗ αὐ ὁ κήρυξ τὰ ἐπικαλύμματα καῖὰ τὰ αὐῖὰ, ϗ τὰ ἄλλα τὰ ςρομ ἐκ γενεῖῆς πάνῖα· νέμονῖαι δ' ἐξείρονῖα τὴν καλυμένην γλῶτῖα τὸ κάλυμμα. "This Fiſh the Whelk, and all others o "turbinated Species, are furniſhed with *Covers* alike ſitu "under which they thruſt out what is called their To "and ſo feed." Nothing can be expreſſed plainer. *Calumma*, κάλυμμα, is the ſame as the Poma, πῶμα, belongs to the Purple-fiſh, Whelks, and other turbinated K among which is comprehended the *Indian* ſweet-ſcented *chylium*, which reſembles the Purple-fiſh, and whoſe *Co* called ὄνυξ, *Unguis*, from its reſembling in Shape and W neſs a Man's Nail. In the Purple-fiſh, this Cover is wh properly call *Blatta Byzantia*, becauſe out of that Part is the *Blatta*, that is, the Part which is uſed in Dying. writes, that it lies in the middle of the Jaws of the P fiſh. *Ariſtotle*, ἀνὰ μέσον τραχήλυ ϗ μήκωνος, "betwi "Neck and the Excrement." Hence *Blatta* came to b for the Cover itſelf, which is the πῶμα that the latter called ὀςῦν τῆς ῥινὸς τῆς πορφύρας, "the Bone of the N "the Purple-fiſh;" and ſometimes ὀςῦν τῆς πορφύρας, "Bone of the Purple-fiſh;" which muſt be underſtood Bone, which ſerves for a Cover to the Shell of the Purple

Ser

Serapion, Cap. 433. treating of the Parts of the Purple-fiſh, mentions, among the reſt, *Adfer*, that is, *Ungues*; and ſays, they are Covers by which they are cloſed within their Perforation. The Tranſlator gives this Chapter the Title of *Blattæ Byzantiæ*, in which he is right; for theſe Covers of the Purple-fiſh are properly the *Blattæ Byzantiæ*, which were collected at *Byzantium*. *Serapion* has another Chapter on the *Ungues Odorati*, which were the Covers of the *Indian* Shell-fiſh that reſembled the Purple-fiſh; and are, by the Interpreter, wrongly expounded by the *Blatta Byzantia*; whereas the *Blatta Byzantia* is the *Unguis* of the Purple-fiſh, and has nothing of an aromatic Smell in it. But the *Unguis Odoratus* was the Cover of the *Indian* Shell-fiſh, and was commonly uſed with other ſweet-ſcented Ingredients in Suffumigations. *Myrepſus*, on *Suffumigations*, often mentions them, and calls them ὄνυχας μεγάλους ϗ μικρούς, "the great and ſmall Ungues," becauſe there were two Sorts of them. The larger were brought from *Arabia*, and the ſmaller from *Babylon*, according to *Dioſcorides*: *Myrepſus* ſometimes calls them ſimply ὄνυχας, *Ungues*; ſometimes ὄνυχας Ἰνδικοὺς, which muſt be underſtood of theſe *Ungues*; but when he calls them ὀστοῦν τῆς ῥινὸς τῆς πορφύρας, "the Bone of "the Noſe of the Purple-fiſh," you are to take it for the Cover of that Fiſh which was call'd *Blatta Byzantia*, by the *Greeks* βλάττιον Βυζάντιον, and had nothing of a ſweet Scent, but rather ſtunk when it was handled; both Sorts, however, went commonly under the Name of the *Blatta Byzantia*. *Alpagus*, in his Lexicon, writes, that the *Blatta Byzantia* is the Cover of a certain Shell-fiſh found in the *Red Sea*; and that this Cover was in the very Mouth of theſe Shell-fiſhes, and was open'd and ſhut at the Pleaſure of the included Animal; that it was call'd *Blatta Byzantia*; and that he had often ſeen them adhering to their Shells. Nothing better could be ſaid for the Explication of the *Poma* and *Calumma*, as well in Purple-fiſh and Whelks, as in the ſweet-ſcented *Indian* Shells.

Ὄνυξ was alſo a Name among the *Greeks* for a kind of Oyſter, otherwiſe call'd σωλὴν ϗ αὐλὸς, "Solen and Aulus." *Pliny* calls them *Ungues, Lib.* 9. *Cap.* 31. *Iſidore*, of Oyſters, *Ungues a ſimilitudine humanorum unguium dictæ*, "call'd *Ungues* "from their reſembling human Nails."

I wonder that *Dioſcorides* ſhould tell us, that this *Indian* Conchylium was found in the dried Marſhes of *India*, which produce Nard, and that this was the Cauſe of its Fragrancy, becauſe it was fed with Nard; and yet, in reckoning the Kinds of this Conchylium, ſhould only mention the *Babylonian*, and the *Arabian* which comes from the *Red Sea*. If it be found in the nardiferous Marſhes of *India*, why ſhould he make one Kind come from *Babylon*, and another from the *Red Sea*? Nard, indeed, is not produced in *Babylon*, nor in the *Red Sea*, but in *India* about the *Ganges*; whence it is call'd Γαγγιτικὴ νάρδος, "*Gangetic* Nard." But what he ſays about the nardiferous Marſhes, is Matter of Laughter; for what Author among the Antients ever told us, that *Indian* Nard grew in Water and Marſhes? *Dioſcorides* himſelf tells us, that it was produced on a Mountain of *India*; he mentions indeed another ſort, which grew "in watery Places," ἐφ' ὑδατωδῶν. But it is one thing to grow in moiſt and well-water'd Places, and another thing to ſpring up in the Middle of Marſhes and ſtanding Waters. *Garcias* informs us, that Nard is ſeldom found in *India* of ſpontaneous Growth, but that it is always propagated by Culture. *Dioſcorides* compiled his Chapter of the *Unguis Odoratus* from two Authors, without conſidering that they contradicted one another; for it is impoſſible to reconcile the collecting the *Unguis Odoratus* of the Conchylium from the Marſhes of *India*, with the Account of two Kinds of it, one coming from the *Red Sea*, and another from *Babylon*, differing in Colour and Bigneſs. Nor ſhall I regard what may poſſibly be pretended, that the *Indian* Ungues may come in Ships by Way of the *Red Sea*, and to *Babylon* by Land. This will by no means bring him off; for he mentions only one Kind in the beginning, which was found in *India*, and aſſigns the Cauſe of its Fragrancy to its feeding on Nard: Now it is certain, that Nard grows no-where but in *India*; beſides, he every-where diſtinguiſhes the *Indian* Species from the *Arabian*.

Upon the Whole, it is evident, that the *Unguis Odoratus* of the *Arabians* was the ſame with the Ὄνυξ Ἰνδικὸς of the Antients; which, however, was not brought out of *India*, but from *Babylon* and the *Red Sea*; and that what *Dioſcorides* tells us about the nardiferous Marſhes, and the aromatic Conchylia there collected, is mere Romance. It appears alſo, that the *Blattæ Byzantiæ* are properly a different Thing from the *Ungues Odorati*, tho' their Names are commonly confounded; for the former are the Covers of the *Byzantian* Conchylium, or Shell-fiſh, which were formerly uſed to dye a Purple; but the *Ungues Odorati* belonged to the *Arabian* Conchylium, which was like the Purple-fiſh. *Salmaſius de Homonym. Hyl. Iatr. Cap.* 98.

In the *Philoſophical Tranſactions* I find the following Remarks of Dr. *Liſter* upon the *Blatta Byzantia*, in Anſwer to a Query of Mr. *Dale's*.

I take the *Blatta Byzantina* to have ſucceeded the *Unguis Odoratus*, and to have been brought into the Shops in its Place.

I conjecture, therefore, that the true Unguis Odoratus was ſomething like the half of a Pectunculus Fluviatilis, ſo common in the River *Thames*, of the Bigneſs and Thickneſs of a Thumb-nail, and that for theſe Reaſons:

1. That the Unguis Odoratus ſeems to have been a freſh-water Bivalve or Muſcle, for that they ſtaid till the Lakes on the River *Ganges* were dried up before they gather'd them. Now Bivalves are ever buried in Sand and Mud, and never riſe up, and ſwim about, and float, as the Turbinate Snails do; to which latter only the Operculum belongs, and which therefore were always, and eaſily, to be caught.

2. *Dioſcorides* calls this Snail *Conchylium*, and by that general Name diſtinguiſhes it from all the other Sorts, concerning which he treats in ſeveral Chapters; which, tho' in general it takes in both Kinds, as well Turbinate as Bivalve, yet it does more particularly denote a Concha or Bivalve.

3. The Onyx is expreſly reckon'd by *Pliny* amongſt the Bivalves. For (*L.* 32. *C.* 11.) he makes all theſe ſynonymous, *Solen, ſive Aulos, ſive Donax, ſive Onyx, ſive Dactylus.* And again, more particularly, (*Lib.* 2. *Cap.* 61.) he ſays, *Ex Concharum genere ſunt Dactyli, ab Humanorum Unguium ſimilitudine appellati*; ſo that, in all Probability, the Onyx Odoratus, brought more antiently out of the freſh-water Lakes about *Ganges* in *India*, was not unlike the common Onyx of the *Mediterranean*, which was of the Solen Kind.

Whatever the *Blatta Byzantia* of our Shops is, which has certainly nothing of the Characters of the antient Aromatic Unguis; and which, in all Probability, was loſt upon the Account of the difficult Paſſage from *Ganges* into *Europe*; I lament its Loſs, which I have Reaſon to believe was a good Medicine, from its ſtrong aromatic Smell; which is much wanting in our teſtaceous Powders, of which this was one of the Number, ſo much uſed, and that not without good Reaſon now-a-days, which are all very flat and inſipid.

BLATTA, Offic. Aldrov. de Inſect. 499. *Blatta fœtida*, Mouffet. Inſect. 138. Charlt. Exer. 49. Jonſ. de Inſect. 82. Mer. Pin. 202. *Scarabæus impennis tardipes*, Pet. Gazophylac. Nat. & Art. Tab. 27. Fig. 7. THE SLOW-LEGG'D BEETLE. *Dale.*

The Inſide of the *Blatta*, which is found in Bake-houſes, bruiſed or boiled in Oil, and dropp'd into the Ears, eaſes the Pains thereof. *Dioſcorides, Lib.* 2. *Cap.* 38.

Dale has, by Miſtake, attributed the Virtues of the *Blatta* or Beetle found in Bake-houſes, which is a very nimble Inſect, to the ſlow-leg'd Beetle.

BLATTARIA, Offic. BLATTARIA LUTEA, J. B. 3. 874. Raii Hiſt. 2. 1096. Synop. 3. 288. *Blattaria vulgaris lutea*, Chab. 495. *Blattaria lutea, folio longo laciniato*, C. B. Pin. 240. Tourn. Inſt. 147. Elem. Bot. 123. Boerh. Ind. A. 147. Buxb. 40. Rupp. Flor. Jen. 195. *Blattaria Plinii*, Ger. 633. Emac. 776. Mer. Pin. 16. *Blattaria major, flore luteo, vel Blattaria Plinii*, Merc. Bot. 24. Phyt. Brit. 16. *Blattaria lutea minor ſeu vulgaris*, Park. Theat. 64. *Blattaria annua ramoſa, floribus luteis, ſtaminibus purpureis*, Hiſt. Oxon. 2. 489. MOTH-MULLEIN.

Authors have ſaid very little with reſpect to the Medicinal Virtues of this Plant, but inform us, that it is poſſeſs'd of the ſame as the Verbaſcum.

There is an Herb like Mullein, and often taken for it; but it has more Stalks, a Leaf not ſo white, and a yellow Flower. When thrown abroad, it gathers Moths (*Blattas*), and therefore at *Rome* they call it *Blattaria*. *Pliny.*

Ray, beſides this, mentions the following Species of *Blattaria*:

Blattaria magno flore, C. B. J. B. *Flore amplo*, Ger.

Blattaria lutea major ſive Hiſpanica, Park.

Blattaria flore cæruleo vel purpureo, J. B. *Flore purpureo*, Ger. Park. *Purpurea*, C. B.

Blattaria perennis, flore gilvo ſeu obſoleti coloris, Moriſ.

Blattaria lutea odorata, Park.

Blattaria piloſa Cretica, ſive Arctos quorundam, J. B. *Verbaſcum humile Creticum laciniatum*, C. B. *Verbaſcum Braſſicæ folio*, Col.

Blattaria Cretica incana, rotundo laciniato folio, Park. This is the *Arcturus Creticus Belli.*

Ab hac diverſam, C. Bauhinus. *Eumq; ſecutus*, Parkinſonus. *Verbaſcum ſuum foliis ſubrotundis, flore Blattariæ, quod in Prodroma ſic deſcribit.*

Blattaria Cretica ſpinoſa, Park. *Leucoium Creticum ſpinoſum*, Cluſ. J. B. *Creticum ſpinoſum incanum luteum*, C. B. *Galaſtivida Cretenſium Belli. Leucoium ſpinoſum cruciatum*, Alp. *Spinoſum Creticum*, Ger. Emac.

Blattaria incana multifida, Bocconi.

BLECHNON.

Blechnon minus, pinnulis integris. Filix querna, C. B. Pin. 358. *Filix ramoſa minor*, J. B. 3. 741. *Filix arborea*, Trag. 538. THE LESSER BRANCHED FERN.

It grows in ſhady Places, but very rarely.

C. Bauhine had no Reaſon to refer *Tabernæmontanus*'s *Filicula petræa fœmina*, ii. to this Species; we muſt rather, with *J. Bauhine*, refer it to the *Filicula petræa fœmina* iv. of this Author; therefore we ought not to diſtinguiſh this from the *Filix ramoſa minor, pinnulis dentatis*, Pin. *C. Bauhine* was miſtaken when he ſaid, that the *Pteridion maſculum Cordi* was the ſame with this; for *Cordus* compares it to the unbranch'd Male *Fern*, and he finds in it no other Difference than that of Bigneſs. *J. Bauhine* knew theſe Species better than his Brother, who has ſeparated from his *Filix querna* the *Filix pumila ſaxatilis*, Cluſ. Thoſe who examine *Cluſius*'s Figure well, will not diſtinguiſh it from that of *Tragus*. Therefore this Plant is thrice repeated in the *Pinax*, under the Names of *Filix querna*, of *Filix ramoſa minor, pinnulis dentatis*, and of *Filix ſaxatilis ramoſa, nigris maculis punctata*. *Pena* and *Lobel* have given a ſorry Figure of it. That of *Camerarius* ſeems to be but a Copy of *Matthiolus*'s Figure. *Martyn's Tournefort*. See Filix.

BLECHROS, βληχρὸς. Weak, ſlight. Βληχρὸς πυρετὸς, in *Lib*. 5. *Epid*. is a ſlight Fever, and oppoſed to περικαὴς, a burning (Fever), *Aph*. 17. *Lib*. 6. *Sect*. 1. And βληχρὸς σφυγμὸς, a weak low Pulſe, is oppoſed to ὀξὺς, a ſmart ſtrong one, *Lib*. 1. περὶ γυναικ. Βληχρὸς, in *Galen*'s *Exegeſis*, is expounded a kind of Pulſe, otherwiſe written βλήχιον.

BLEMA, βλῆμα. See Intritum.

BLENNA, *Blena*, βλέννα, μύξα, κορύζα, in *Hippocrates*, is a thick Phlegm and Mucus flowing from the Brain through the Noſtrils, and ſhewing Signs of a beginning Concoction, as *Galen* explains him in ſeveral Places of his Works. He ſays alſo, that φλέγμα (Phlegm) is by ſome call'd βλέννα, or βλῖνα. It is alſo read βλαίννα, in *Hippocrates*'s ſecond Book of Diſeaſes: "If there be an Eruption of Water or Mucus [βλαίννα] by the "Noſtrils, there is a Solution of the Diſeaſe." It is alſo written πλέννα, and expounded by μύξα in *Galen*'s *Exegeſis*. *Heſychius* explains βλεννὸς by νωθρὸς, and μωρὸς, a Blockhead, or a Fool, and as it were *mucous*, from the exceſſive Humidity of his Brain. *Blennus* alſo, in *Plautus*, has the ſame Signification, as *Feſtus* obſerves. Βλέννα, in *Erotian*, is the Name of a Fiſh, which he alſo calls βλὰξ or βλακίς.

BLENNUS, βλέννος, βλῖνος, βλινὸς, in *Suidas* βαίων. A Fiſh found in ſhallow Waters, of little or no Value, which is denoted by its Name, ſignifying *mucous*, as being of a ſoft, excrementitious, and inſipid Fleſh. It is deſcribed by *Aldrovandus*.

BLEPHARA, βλέφαρα. The Eyelids. See Palpebræ.

BLEPHARIDES, βλεφαρίδες. The Hairs on the Extremities of the Eyelids, as expounded by *Heſychius* and *Celſus*. In *Hippocrates*'s *Coac*. it is put for the Eyelids, as βλεφαρίδων καμπυλότης there ſignifies a Retortion of the Eyelids. *Cælius Aurelianus, Lib*. 4. *Cap*. 3. *Tard. Paſſ*. renders the *Greek* βλεφαρικὰ, *Palpebraria (Collyria)*.

BLEPHAROXYSTUM, βλεφαρόξυστον, from βλέφαρον, an Eyelid, and ξύω, to ſcrape, ſhave. A Surgeon's Inſtrument for ſcraping or ſcarifying the Eyelids.

There have been various Forms of Inſtruments for theſe Purpoſes. *Hippocrates* ſeems to have uſed a Thiſtle, or ſome prickly Herb, ſuch as the Atractylis. Others of the antient Phyſicians invented an Inſtrument of Iron or Steel, not unlike a fine Raſp, delineated *Tab*. 37. *Fig*. 5. and ſhaped like a Spoon; and with this they uſed to ſcrape the Inſide of the Eyelids till the Blood flow'd, as we are told by *Celſus* and *Ægineta*, the latter of whom calls this Inſtrument *Blepharoxyſton* [Eyelid-ſcraper]; the other calls it *Aſperatum Specillum*, the Raſp-like Probe. Some uſed that rough Herb which the Botaniſts call'd *Equiſetum majus*; others, among whom was *Celſus*, the Leaves of the Fig-tree; others a Pumice-ſtone, or the Bone of a Cuttle-fiſh, or any other Thing that ſeem'd moſt convenient for the Purpoſe. *Heiſter*.

BLESTRISMUS, βληστρισμὸς, from βάλλω, to toſs, in *Hippocrates*, is a diſorderly Jactation, or Toſſing, and Reſtleſſneſs of the Body, by which it is perpetually diſturb'd, and thrown out of one Poſture into another. It is alſo call'd ῥιπτασμὸς, which is a Word uſed in ſeveral Places of the *Epidemics*. *Aretæus* uſes βληστρίζεσθαι to expreſs the diſorderly Toſſing and Tumbling of a Perſon in a Phrenſy.

BLETA, *White*, is an Epithet for milky Urine, proceeding from diſeaſed Kidneys; and is reckon'd among the Cauſes of a Phthiſis by *Paracelſus, de Tartaro, Tract*. 3. *Cap*. 3. *Caſtellus*.

BLETI, βλητοὶ, from βάλλω, to ſtrike. Struck. So the Antients call'd thoſe who were ſuddenly ſeiz'd with a Suffocation, Stertor, and Difficulty of Breathing, from an Inflammation of the Pleura, the Side being mark'd with black and blue Spots, as from Blows; for which Reaſon they were call'd *Bleti*, ſtruck or ſmitten, and *Syderati*, Planet-ſtruck. *Hippocrates de Rat. Vict. in Morb. acut*. and *Coac*. In *Lib*. 1. περὶ γυναικ. an Ecbolium, ἐκβόλιον, is deſcrib'd to be ὃ τὸ παιδίον βλητὸν γενόμενον ἐκβάλλει, "what expels the kill'd or dead Child." Βλητὸς is expounded in *Heſychius* by ἀπόπληκτος, καὶ ὁ ὑπὸ τῶν ὀξέων νοσημάτων αἰφνιδίως τελευτῶν, "one ſeiz'd with an Apoplexy, "or that dies ſuddenly of ſome acute Diſeaſe." And βλητὸς in *Varinus*, is *Syderatus*, labouring under an Apoplexy, or Stupor of the Body.

Βλητὸς, in *Hippoc. Lib*. 2. περὶ γυναικ. is an Herb of the Figure of a Tongue. And you meet with βλῆτον in *Theophraſtus, Hiſt. Plant. Lib*. 7. *Cap*. 1. and βλῆτον in *Dioſcorid. Lib*. 2. *Cap*. 143. for βλίτον.

BLICARE. Prepar'd Præſil, as defin'd by *Rulandus*; but I do not know what Præſil is.

BLICHODES, βλιχώδεις, is expounded, by *Epicles* in *Erotian*, by τὸ λελιπασμένον μετὰ γλοιώδους ὑγρασίας ἀκαθάρτου, "turgid with ſome impure viſcous Humour." *Euphorion* explains it by τὸ ἐκπεπιεσμένον καὶ κατεξηρὸν, "expreſs'd and "dried." *Bacchius* and *Lyſimachus*, in the ſame Author, read πληρώδεις with a π, and explains it by ἐξεπλυγμένον, "ſmooth'd," as much as to ſay, full diſtended, and void of Folds or Wrinkles. *Erotian* adds, that ſome for βλιχώδεις read γλισχρώδεις, glutinous or viſcous, which agrees very well with the Expoſition of *Epicles*. Βλικχώδεις is expounded by *Suidas*, out of *Hippocrates*, and alſo by *Heſychius*, τὸ λελεπισμένον καὶ καθαρὸν, "decorticated and pure."

BLIÑCTA is explain'd, by *Rulandus*, *Terra rubra*, red Earth.

BLITUM, Blite. A ſort of Herb.

This Herb is cultivated in Gardens allotted for Pot-herbs, and is uſed in Food. It affords little Nouriſhment, and generates a very bad Blood. *Plin. Lib*. 20. *Cap*. 22. has theſe Words: "Blitum ſeems to be without any Virtues, without "any Taſte or Acrimony; for which Reaſon the Poet *Menan*-"*der* makes cold and indifferent Huſbands compare their Wives "to it, by way of Contempt." It is prejudicial to the Stomach; and raiſes ſuch a Commotion in the Inteſtines, as, i ſome, to excite a *Cholera*. Theſe Verſes of *Eoban. Heſſ. Lib. de Bona Valetudine*, muſt not, on this Occaſion, be forgotten:

Ignavum ſine honore Blitum, ſine viribus eſtur,
Hoc ſolo: Ventrem quod bene dejiciat.

Galen, Lib. 2. *de Alim. fac. c*. 45. ranks it among the Potherbs without Taſte; for which Reaſon it is ſo little uſed in th Kitchen, that it is become a Proverb of Contempt to ſay, tha a Perſon is more deſpicable than *Blites*. Hence it alſo happens that every thing of no Worth or Value is call'd *Blites*; fo the *Greeks* call it βλίτον, as it were βλητὸν, a Thing to be throw away. *Iſiodorus, Lib*. 17. *Orig. C*. 10. is of Opinion, tha *Blitum* is ſo call'd, as it were, from *Vilis Beta*. In *Suidas* w read, that among the *Greeks* the Whores were call'd βλιταρίδ or βλίταδες, *Bliteæ Uxores*. *Plautus* alſo ſpeaks *de blitea* & *lutea meretrice*, that is, a moſt contemptible, wither'd, an inſipid Whore. *Catullus* has an Expreſſion to the ſame Purpoſe *Non aſſis facis, oblitum Lupanar*: "Thou art good for nothing "thou contemptible Whore. The *Greeks* alſo, according t *Heſychius*, call'd Fools and Idiots βλίτας and βλίτωνας, probabl from the *Greek* Word βλὰξ, which ſignifies ſtupid. See *Joh Ruell. de Natura Stup. L*. 1. *C*. 20.

The Seeds of this Herb are good in Dyſenteries, and immoderate Fluxes of the Menſes; and, according to *Tabernæm*-*tanus*, the Seeds of it are boil'd like Millet in *Sileſia*, and affor the common People a grateful Food. The Juice of the Herb expreſs'd, cures Corns of the Feet, if applied to them. Fumigation of the Herb promotes the Menſes, when ſtopp'd and expels falſe Conceptions, and the Secundines. Accordin to *Caſp. Schwenkf. in Catal. Stirp*. the Country-people uſe it a Remedy againſt Hemorrhages in their Cattle: And *Taberna*-*montanus* informs us, that its Juice, exhibited in Wine, cur the Bites of Scorpions and Spiders. *Barthol. Zorn Botanolog*

There are many Sorts of Blites, the common Sort of whic is thus diſtinguiſh'd.

Blitum Album, Offic. Park. Parad. 488. *Blitum albu majus*, or the great white Blite, Ger. 252. Emac. 320. C. 118. Tourn. Inſt. 507. Hiſt. Oxon. 2. 599. Boerh. Ind. A. 91. Dill. Cat. 164. Buxb. 40. *Blitum pulchrum album m*-*gnum*, J. B. 2. 967. Raii Hiſt. 1. 200. GREAT WHIT BLITE.

The common Blite grows to be two Foot high, with thi hollow Stalks, cloath'd with a great many Leaves, ſomew like Beet-leaves, but leſs, growing on long Foot-ſtalks, and o thinner Texture. The Flowers conſiſt of long Spikes, ſmall, moſſy, greeniſh *Floſculi*, in which lie ſmall, round, bl Seeds. The Root is pretty thick, but periſhes every Year. T whole Plant has a flaſhy inſipid Taſte. It is planted in Garde and flowers in *July*.

The Leaves, which are only uſed, and thoſe but ſeldom, much of the Nature of Arrache, being cooling and emollie and are ſometimes put into Clyſters. *Miller's Bot. Off*.

Blites are eaten among other Greens; and are good for Belly, participating of no purgative Quality. *Dioſcorides*, 2. *Cap*. 143.

Anot

Another Species of this Plant is the

BLITUM RUBRUM, Offic. Park. Parad. 489. *Blitum rubrum majus*, or the Great Red Blite, Ger. 252. Emac. 320. Raii Hiſt. 1. 200. C. B. Pin. 118. Tourn. Inſt. 507. Elem. Bot. 407. Boerh. Ind. A. 2. 91. Hiſt. Oxon. 2. 599. *Blitum pulchrum rectum magnum rubrum*, J. B. 2. 966. Buxb. 40. *Blitum*, Chab. 304. RED BLITES.

The medicinal Virtues of this are much the ſame as thoſe of the preceding.

BLITUM, Cod. Med. 21. *Blitum ſyveſtre ſpicatum*, Tourn. Inſt. 507. Herb. Par. 399. Mart. Hiſt. 106. Vaill. Bot. Par. 21. *Blitum minus album*, C. B. Pin. 118. Hiſt. Ox. 2. 599. J. B. 2. 967. Raii Hiſt. 1. 200. Boerh. Ind. A. 2. 91. Ger. 252. Emac. 321. *Blitum album ſylveſtre minus*, Park. Theat. 752. SMALL WHITE BLITE.

Camerarius is the only Author who has given a good Figure of this Plant; it is ſo like the *Blitum rubrum minus*, that it is impoſſible to diſtinguiſh them without the Fruits. This Species is quite loaded with them, but they are not only placed in the Boſoms of the Leaves, but form alſo a very conſiderable Spike at the Top of the Stalks; and, beſides, each Fruit is a ſort of membranous greyiſh Bladder, reddiſh, oval, pointed, flat, a Line long: It does not open tranſverſly, like the *Blitum rubrum minus*, but burſts like a Bladder which is preſs'd, and lets out a very ſmall, black, ſmooth, ſhining Seed, ſhap'd like a Lentil.

Tournefort takes Notice of another Species of *Blitum*, which is the

Blitum rubrum minus, C. B. Pin. 118. J. B. 2. 967. *Blitum rubrum ſupinum*, Lib. Icon. 250. *Amaranthus ſylveſtris & vulgaris*, Inſt. THE SMALL WILD RED BLITE. It is often found on Dunghils.

J. Bauhine and *Lobel* have given good Figures of this Plant. That of the *Blitum rubrum minus*, Cam. Epit. 235. agrees better with the *Blitum album minus*, C. B. Pin.

The Root of this Plant is whitiſh, ſometimes purple, about half a Line long, four or five Lines thick at the Neck, divided into capillaceous Fibres. The Stalks are procumbent, branch'd, about a Foot long, chanel'd, two or three Lines thick, reddiſh, full of Juice, adorn'd with alternate Leaves, reſembling thoſe of Pellitory, about two Inches long, taking in the Tail, which is very ſlender, and almoſt as long as the reſt of the Leaf. This Leaf is a bright-green, ſometimes having purpliſh Edges, seven or eight Lines broad, divided into two equal Parts, by a Rib which extends itſelf from one End to the other, and forms little crooked Veins, which loſe themſelves in the Edge. Out of the Bottom of each Leaf ſometimes proceed others, which are much ſmaller; theſe Boſoms are fill'd with many Flowers, growing upon one another in rounded Cluſters, three or four Lines in Diameter. Each Flower uſually conſiſts of three very narrow, pointed, gutter'd Leaves, one Line long, whitiſh, with a greeniſh Back: From the Middle of the Flower ariſes an oval-pointed Pointal, encompaſſed with three very ſlender Chives, which are ſcarce a Line long, and ſuſtain each a yellowiſh Summit. This Pointal afterwards becomes an oval, flat, membranous, reddiſh Capſule, one Line long, terminated by a little Thread. It is compoſed of two Pieces, placed one upon the other, and opening tranſverſly. In each Capſule is one Seed, almoſt round, black, ſmooth, ſhining, ſhap'd like a little Lentil.

We have no good Figure of this Plant; for that of *J. Bauhine* has its Leaves too obtuſe, and repreſents the preceding Species better; and that of the *Blitum rubrum minus*, Cam. which agrees better with it in the Leaves, makes a Spike of Flowers, which we do not ſee in our Plant. *Lobel's* Figure has the very same Fault. *Vaill. Martyn's Tournefort.*

BLITYRI. Βλίτυρι. A fictitious Word, with no Signification annex'd to it, but proverbially uſed by *Galen*; as is alſo another Word, *Scindapſus*, *σκινδαψὸς*, to ridicule the Vanity of coining new Terms. *Gal. de Diff. Pulſ. Lib. 3. Cap 1. Meth. Med. Lib. 2. Cap. 7.*

BLUMATI *terreum*. A glaz'd Veſſel. *Johnſon.*

BOA, Jonſt.

Is an aquatic Serpent of a prodigious Size, which follows the Herds of Oxen, from whence it takes its Name; it ſucks the Cows Teats, for it loves Milk very well. It is found ſometimes in *Calabria*. One of theſe was kill'd in the Reign of the Emperor *Claudius*, in the Belly of which they found a Child, which it had ſwallowed whole. The Bite cauſes an Inflammation of the Part bit. They ſay that this Serpent is ſometimes so big, that it can ſwallow a whole Ox, which is not to be credited. *Lemery des Drogues.*

BOANTHEMON, βοάνθεμον, is expounded in *Galen's* Exegesis by τὸ βούφθαλμον, (*Buphthalmum*) which, he ſays, is alſo call'd χρυσάνθεμον, *Chryſanthemum*. *Foeſius.*

BOAX. See BOOPS.

BOCCA. The large Mouth or Opening of a Glaſs-houſe Furnace.

BOCCARELLA. A ſmall Hole, or Mouth, one of which on each Side the *Bocca* of a Glaſs Furnace, lying almoſt horizontally with it. Out of theſe the Workmen take colour'd or finer Metal from the Piling-pot.

BOCCONIA. A Plant ſo call'd from *P. Boccone* of *Sicily*, who has publiſh'd ſeveral curious Books of Botany. It has a Flower, conſiſting of one Leaf; from the Middle ariſes the Pointal, which afterwards becomes an oval-ſhap'd pointed Fruit, which is full of Juice, each containing one round Seed. We have but one Species of this Plant, which is a Native of *Jamaica*, and call'd by Sir *Hans Sloane*, in his Nat. Hiſt. *Chelidonium majus arboreſcens, foliis quercinis.* I find no medicinal Virtues attributed to it.

BOCHETUM. The ſecond Decoction of Lignum Sanctum, Sarſaparilla, China-root, and other Sudorifics. *Caſtellus.*

BOCIA. A Glaſs Veſſel, firmly clos'd, and ſhap'd with a round Belly, and long Neck, about half a Foot in Diameter. It is otherwiſe call'd *Ovum*, *Sublimatorium*, *Urinale*, and *Cucurbita*. This muſt not be touched with the cold Hand in time of working, for fear of breaking it. *Caſtellus.*

BOCIUM. The ſame as BRONCHOCELE, which ſee.

BODAGI is defin'd by *Rulandus*, *Aliud Vas.*

BODID. An Egg. *Idem.*

BOE, βοή. See CLAMOR, and ANAPHONESIS.

BOERHAAVE. The Figure this illuſtrious Phyſician made whilſt alive, and the Reputation of his Works now he is no more, demand ſome Account of his Life and Writings.

Herman Boerhaave was born on the laſt Day of *December* 1668. about One in the Morning, at *Voorhout*, a Village two Miles diſtant from *Leyden*: His Father, *James Boerhaave*, was Miniſter of *Voorhout*, of whom his Son, in a ſmall Account of his own Life, has given a very amiable Character, for the Simplicity and Openneſs of his Behaviour, for his exact Frugality in the Management of a narrow Fortune, and the Prudence, Tenderneſs, and Diligence, with which he educated a numerous Family of nine Children. He was eminently ſkill'd in Hiſtory and Genealogy, and well verſed in the *Latin*, *Greek*, and *Hebrew* Languages.

His Mother was *Hagar Daelder*, a Tradeſman's Daughter of *Amſterdam*, from whom he might, perhaps, derive an hereditary Inclination to the Study of Phyſic, in which ſhe was very inquiſitive, and had obtained a Knowledge of it not common in Female Students.

This Knowledge, however, ſhe did not live to communicate to her Son; for ſhe died in 1673, ten Years after her Marriage.

His Father, finding himſelf encumber'd with the Care of ſeven Children, thought it neceſſary to take a ſecond Wife, and, in *July* 1674. was married to *Eve du Bois*, Daughter of a Miniſter of *Leyden*, who, by her prudent and impartial Conduct, ſo endear'd herſelf to her Huſband's Children, that they all regarded her as their own Mother.

Herman Boerhaave was always deſign'd by his Father for the Miniſtry, and with that View inſtructed by him in Grammatical Learning, and the firſt Elements of Languages; in which he made ſuch a Proficiency, that he was, at the Age of eleven Years, not only Maſter of the Rules of Grammar, but capable of tranſlating with tolerable Accuracy, and not wholly ignorant of critical Niceties.

At Intervals, to recreate his Mind, and ſtrengthen his Conſtitution, it was his Father's Cuſtom to ſend him into the Fields, and employ him in Agriculture, and ſuch kind of rural Occupations, which he continued thro' all his Life to love and practiſe; and, by this Viciſſitude of Study and Exerciſe, preſerv'd himſelf, in a great meaſure, from thoſe Diſtempers and Depreſſions, which are frequently the Conſequences of indiſcreet Diligence, and uninterrupted Application; and from which Students, not well acquainted with the Conſtitution of the human Body, ſometimes fly for Relief to Wine inſtead of Exerciſe, and purchaſe temporary Eaſe at the Hazard of chronical Diſtempers.

The Studies of young *Boerhaave* were, about this Time, interrupted by an Accident, which deſerves a particular Mention, as it firſt inclin'd him to that Science, to which he was by Nature ſo well adapted, and which he afterwards carried to ſo great Perfection.

In the twelfth Year of his Age, a ſtubborn, painful, and malignant Ulcer, broke out upon his Left Thigh; which, for near five Years, defeated all the Art of the Surgeons and Phyſicians, and not only afflicted him with moſt excruciating Pains, but expoſed him to ſuch ſharp and tormenting Applications, that the Diſeaſe and Remedies were equally inſufferable. Then it was that his own Anguiſh taught him to compaſſionate that of others, and his Experience of the Inefficacy of the Methods then in Uſe incited him to attempt the Diſcovery of others more certain.

He began to practiſe at leaſt honeſtly, for he began upon himſelf; and his firſt Eſſay was a Prelude to his future Succeſs; for, having laid aſide all the Preſcriptions of his Phyſicians, and all the Applications of his Surgeons, he at laſt, by fomenting the Part with Salt and Urine, effected a Cure.

That he might, on this Occaſion, obtain the Aſſiſtance of Surgeons with leſs Inconvenience and Expence, he was brought by his Father, at Fourteen, to *Leyden*, and placed in the fourth Claſs of the public School, after having been examined by the Maſter: Here his Application and Abilities were equally conſpicuous. In ſix Months, by gaining the firſt Prize in the fourth Claſs, he was raiſed to the fifth; and in ſix Months more, upon the ſame Proof of the Superiority of his Genius, rewarded with another Prize, and tranſlated to the ſixth; from whence it is uſual in ſix Months more to be removed to the Univerſity.

Thus did our young Student advance in Learning and Reputation, when, as he was within View of the Univerſity, a ſudden and unexpected Blow threaten'd to defeat all his Expectations.

On the 12th of *November* in 1682. his Father died, and left behind him a very ſlender Proviſion for his Widow and nine Children, of which the eldeſt was not yet ſeventeen Years old.

This was a moſt afflicting Loſs to the young Scholar, whoſe Fortune was by no means ſufficient to bear the Expences of a learned Education, and who therefore now ſeem'd to be ſummoned by Neceſſity to ſome Way of Life more immediately and certainly lucrative; but with a Reſolution equal to his Abilities, and a Spirit not to be depreſs'd or ſhaken, he determin'd to break thro' the Obſtacles of Poverty, and ſupply by Diligence the want of Fortune.

He therefore aſk'd and obtain'd the Conſent of his Guardians to proſecute his Studies as long as his Patrimony would ſupport him, and, continuing his wonted Induſtry, gained another Prize.

He was now to quit the School for the Univerſity, but, on account of the Weakneſs yet remaining in his Thigh, was, at his own Intreaty, continu'd ſix Months longer under the Care of his Maſter, the learn'd *Wynſchotan*, where he once more was honour'd with the Prize.

At his Removal to the Univerſity, the ſame Genius and Induſtry met with the ſame Encouragement and Applauſe. The learned *Triglandius*, one of his Father's Friends, made ſoon after Profeſſor of Divinity at *Leyden*, diſtinguiſh'd him in a particular manner, and recommended him to the Friendſhip of Mr. *Van Apphen*, in whom he found a generous and conſtant Patron.

He became now a diligent Hearer of the moſt celebrated Profeſſors, and made great Advances in all the Sciences, ſtill regulating his Studies with a View principally to Divinity, for which he was originally intended by his Father; and for that Reaſon he exerted his utmoſt Application to attain an exact Knowledge of the *Hebrew* Tongue.

Being convinc'd of the Neceſſity of mathematical Learning, he began to ſtudy thoſe Sciences in 1687. but without that intenſe Induſtry with which the Pleaſure he found in that kind of Knowledge induc'd him afterwards to cultivate them.

In 1690. having perform'd the Exerciſes of the Univerſity with uncommon Reputation, he took his Degree in Philoſophy; and, on that Occaſion, diſcuſſed the important and arduous Queſtion of the diſtinct Natures of the Soul and Body, with ſuch Accuracy, Perſpicuity, and Subtilty, that he entirely confuted all the Sophiſtry of *Epicurus*, *Hobbes*, and *Spinoſa*, and equally raiſed the Character of his Piety and Erudition.

Divinity was ſtill his great Employment, and the chief Aim of all his Studies. He read the Scriptures in their original Languages, and, when Difficulties occurr'd, conſulted the Interpretations of the moſt antient Fathers, whom he read in Order of Time, beginning with *Clemens Romanus*.

In the Peruſal of theſe early Writers, he was ſtruck with the profoundeſt Veneration for the Simplicity and Purity of their Doctrine, the Holineſs of their Lives, and the Sanctity of the Diſcipline practiſed by them; but, as he deſcended to the lower Ages, he found the Peace of Chriſtianity broken by uſeleſs Controverſies, and its Doctrines ſophiſticated by the Subtilties of the Schools. He found the holy Writers interpreted according to the Notions of Philoſophers, and the Chimeras of Metaphyſicians adopted as Articles of Faith. He found Difficulties raiſed by idle Curioſity, and fomented to Bitterneſs and Rancour. He ſaw the Simplicity of the Chriſtian Doctrine corrupted by the private Notions of particular Parties, of which each adhered to its own Philoſophy, and Orthodoxy was confined to the Sect in Power.

Having now exhauſted his Fortune in the Purſuit of his Studies, he found the Neceſſity of applying to ſome Profeſſion, that, without engroſſing all his Time, might enable him to ſupport himſelf; and, having obtain'd a very uncommon Knowledge of the Mathematics, he read Lectures in thoſe Sciences to a ſelect Number of young Gentlemen in the Univerſity.

At length, his Propenſion to the Study of Phyſic grew too violent to be reſiſted; and, tho' he ſtill intended to make Divinity the great Employment of his Life, he could not deny himſelf the Satisfaction of ſpending ſome Time upon the medicinal Writers, for the Peruſal of which he was ſo well qualified by his Acquaintance with the Mathematics and Philoſophy.

But this Science correſponded ſo much with his natural Genius, that he could not forbear making that his Buſineſs, which he intended only as his Diverſion; and ſtill growing more eager, as he advanced further, he at length determin'd wholly to maſte that Profeſſion, and to take his Degree in Phyſic, before h engaged in the Duties of the Miniſtry.

It is, I believe, a very juſt Obſervation, that Mens Ambition is generally proportion'd to their Capacity. Providenc ſeldom ſends any into the World with an Inclination to attemp great Things, who have not Abilities likewiſe to perform them To have form'd the Deſign of gaining a competent Knowledg in Medicine by way of Digreſſion from Theological Studies would have been little leſs than Madneſs in moſt Men, an would have expoſed them to Ridicule and Contempt. But Boerhaave was one of thoſe mighty Capacities to whom ſcarce an thing appears impoſſible, and who think nothing worthy of the Efforts but what appears inſurmountable to common Underſtandings.

He began this new Courſe of Study by a diligent Peruſal o *Veſalius*, *Bartholine*, and *Fallopius*; and, to acquaint himſe more fully with the Structure of Bodies, was a conſtant Attendant upon *Nuck's* public Diſſections in the Theatre, and himſelf very accurately inſpected the Bodies of different Animals.

Having furniſh'd himſelf with this preparatory Knowledg he began to read the antient Phyſicians in the Order of Tim purſuing his Inquiries downwards from *Hippocrates*, thro' a the *Greek* and *Latin* Writers.

Finding, as he tells us himſelf, that *Hippocrates* was the or ginal Source of all medicinal Knowledge, and that all the lat Writers were little more than Tranſcribers from him, he r turned to him with more Attention, and ſpent much Time making Extracts from him, digeſting his Treatiſes into Metho and fixing them in his Memory.

He then deſcended to the Moderns, among whom none e gaged him longer, or improved him more, than *Sydenham*, whoſe Merit he has left this Atteſtation, *that he frequen peruſed him, and always with greater Eagerneſs.*

His inſatiable Curioſity after Knowledge engaged him now the Practice of Chymiſtry, which he proſecuted with all the A dor of a Philoſopher, whoſe Induſtry was not to be weari and whoſe Love of Truth was too ſtrong to ſuffer him to quieſce in the Reports of others.

Yet did he not ſuffer one Branch of Science to withdraw Attention from others: Anatomy did not with-hold him fro the Proſecution of Chymiſtry, nor Chymiſtry, inchanting as is, from the Study of *Botany*. He was not only a careful E miner of all the Plants in the Garden of the Univerſity, made Excurſions, for his further Improvement, into the Wo and Fields, and left no Place unviſited where any Increaſe Botanical Knowledge could be reaſonably hoped for.

In Conjunction with all theſe Inquiries, he ſtill purſued Theological Studies, *and ſtill*, as we are inform'd by himſ *propoſed, when he had made himſelf Maſter of the whole Ar Phyſic, and obtain'd the Honour of a Degree in that Science, petition regularly for a Licence to preach, and to engage in Cure of Souls*; and intended, in his Theological Exerciſes, diſcuſs this Queſtion, *Why ſo many were formerly converte Chriſtianity by illiterate Perſons, and ſo few at preſent by of Learning.*

In purſuance of this Plan he went to *Hardewich*, in order take the Degree of Doctor in Phyſic, which he obtain'd *July* 1693. having perform'd a public Diſputation, *De utili explorandorum excrementorum in ægris, ut ſignorum.*

Then returning to *Leyden*, full of his pious Deſign of un taking the Miniſtry, he found, to his Surprize, unexpected ſtacles thrown in his Way, and an Inſinuation diſperſed th the Univerſity, that made him ſuſpected, not of any ſlight viation from received Opinions, not of any pertinacious Ad rence to his own Notions in doubtful and diſputable Matt but of no leſs than *Spinoſiſm*, or, in plainer Terms, of Athe itſelf.

How ſo injurious a Report came to be raiſed, circulated, credited, will be, doubtleſs, very eagerly inquir'd; and an act Relation of the Affair will not only ſatisfy the Curioſi Mankind, but ſhew that no Merit, however exalted, is empt from being not only attack'd, but wounded, by the contemptible Whiſpers. Thoſe who cannot ſtrike with Fo can, however, poiſon their Weapon, and, weak as they give mortal Wounds, and bring a Hero to the Grave: So is that Obſervation, that many are able to do Hurt, but to do Good.

This deteſtable Calumny owed its Riſe to an Incident, which no Conſequence of Importance could be reaſonably prehended. As *Boerhaave* was ſitting in a common Boat, aroſe a Converſation among the Paſſengers upon the impious pernicious Doctrine of *Spinoſa*, which, as they all ag tends to the utter Overthrow of all Religion. *Boerhaave* and attended ſilently to this Diſcourſe for ſome time, till of the Company, willing to diſtinguiſh himſelf by his Zeal, ſtead of confuting the Poſitions of *Spinoſa* by Argument, gan to give a Looſe to contumelious Language, and virulen vectives; with which *Boerhaave* was ſo little pleaſed, th laſt he could not forbear aſking him, whether he had ever read the Author againſt whom he declaim'd.

The Orator, not being able to make much Anſwer, was check'd in the Midſt of his Invectives, but not without feeling a ſecret Reſentment againſt him who had at once interrupted his Harangue, and expoſed his Ignorance.

This was obſerved by a Stranger, who was in the Boat with them; he inquir'd of his Neighbour the Name of the young Man, whoſe Queſtion had put an End to the Diſcourſe; and, having learn'd it, ſet it down in his Pocket-book, as it ſoon appear'd, with a malicious Deſign; for, in a few Days, it was the common Converſation at *Leyden*, that *Boerhaave* had revolted to *Spinoſa*.

It was in vain, that his Advocates and Friends pleaded his learned and unanſwerable Confutation of all atheiſtical Opinions, and particularly of the Syſtem of *Spinoſa*, in his Diſcourſe of the Diſtinction between Soul and Body. Such Calumnies are not eaſily ſuppreſſed, when they are once become general. They are kept alive and ſupported by the Malice of bad, and ſometimes by the Zeal of good Men, who, tho' they do not abſolutely believe them, think it yet the ſureſt Method, to keep not only guilty, but ſuſpected Men out of public Employments, upon this Principle, That the Safety of many is to be preferr'd before the Advantage of a few.

Boerhaave, finding this formidable Oppoſition raiſed againſt his Pretenſions to Eccleſiaſtical Honours or Preferments, and even againſt his Deſign of aſſuming the Character of a Divine, thought it neither neceſſary nor prudent to ſtruggle with the Torrent of popular Prejudice, as he was equally qualified for a Profeſſion, not indeed of equal Dignity or Importance, but which muſt undoubtedly claim the ſecond Place among thoſe which are of the greateſt Benefit to Mankind.

He therefore applied himſelf to his medicinal Studies with freſh Ardor and Alacrity, reviewed all his former Obſervations and Inquiries, and was continually employed in making new Acquiſitions.

Having now qualified himſelf for the Practice of Phyſic, he began to viſit Patients, but without that Encouragement which others, not equally deſerving, have ſometimes met with. His Buſineſs was, at firſt, not great, and his Circumſtances by no means eaſy; but ſtill, ſuperior to any Diſcouragement, he continued his Search after Knowledge, and determin'd that Proſperity, if ever he was to enjoy it, ſhould be the Conſequence, not of mean Art, or diſingenuous Solicitations, but of real Merit, and ſolid Learning.

His ſteady Adherence to his Reſolutions appears yet more plainly from this Circumſtance: He was, while he yet remain'd in this unpleaſing Situation, invited by one of the firſt Favourites of King *William* III. to ſettle at the *Hague* upon very advantageous Conditions, but declined the Offer. For having no Ambition but after Knowledge, he was deſirous of living at Liberty, without any Reſtraint upon his Looks, his Thoughts, or his Tongue, and at the utmoſt Diſtance from all Contentions and State-parties. His Time was wholly taken up in viſiting the Sick, ſtudying, making chymical Experiments, ſearching into every Part of Medicine with the utmoſt Diligence, teaching the Mathematics, and reading the Scriptures, and thoſe Authors who profeſs to teach a certain Method of loving God.

This was his Method of living to the Year 1701, when he was recommended by Mr. *Van Berg* to the Univerſity, as a proper Perſon to ſucceed *Drelincourt* in the Office of Lecturer in the Inſtitutes of Phyſic, and elected without any Solicitation on his part, and almoſt without his Conſent, on the 18th of *May*.

On this Occaſion, having obſerv'd, with Grief, that *Hippocrates*, whom he regarded not only as the Father, but as the Prince of Phyſicians, was not ſufficiently read or eſteem'd by young Students, he pronounced an Oration, *de commendando Studio Hippocratico*; by which he reſtored that great Author to his firſt and antient Reputation.

He now began to read public Lectures with great Applauſe, and was prevail'd upon by his Audience to inlarge his original Deſign, and inſtruct them in Chymiſtry.

This he undertook, not only to the great Advantage of his Hearers, but to the great Improvement of the Art itſelf, which had been hitherto treated only in a confus'd and irregular manner, and was little more than a Hiſtory of particular Experiments, not reduced to certain Principles, nor connected one with another: This vaſt Chaos he reduced to Order, and made that clear and eaſy, which was before to the laſt degree perplex'd and obſcure.

His Reputation began now to bear ſome Proportion to his Merit, and extended itſelf to diſtant Univerſities; ſo that in 1703, the Profeſſorſhip of Phyſic being vacant at *Groningen*, he was invited thither; but he choſe to continue his preſent State of Life, and therefore refus'd to quit *Leyden*.

This Invitation and Refuſal being related to the Governors of the Univerſity of *Leyden*, they had ſo grateful a Senſe of his Regard for them, that they immediately voted an honorary Increaſe of his Salary, and promiſed him the firſt Profeſſorſhip that ſhould be vacant.

On this Occaſion he pronounc'd an Oration upon *the Uſe of Mechanics in the Science of Phyſic*, in which he endeavour'd to recommend a rational and mathematical Inquiry into the Cauſes of Diſeaſes, and the Structure of Bodies; and to ſhew the Folly and Weakneſs of the Jargon introduc'd by *Paracelſus*, *Helmont*, and other chymical Enthuſiaſts, who have obtruded idle Dreams upon the World, and, inſtead of enlightening their Readers with Explications of Nature, have darkened the plaineſt Appearances, and bewilder'd Mankind in Error and Obſcurity.

Boerhaave had now for nine Years read phyſical Lectures, but without the Title or Dignity of a Profeſſor, when, by the Death of Profeſſor *Hotten*, the Profeſſorſhip of Phyſic and Botany fell to him of courſe.

On this Occaſion he aſſerted the Simplicity and Facility of the Science of Phyſic, in Oppoſition to thoſe who think, that Obſcurity contributes to the Dignity of Learning, and that, to be admired, it is neceſſary not to be underſtood.

His Profeſſion of Botany made it Part of his Duty to ſuperintend the phyſical Garden, which he improv'd ſo much by the immenſe Number of new Plants which he procur'd, that it was inlarg'd to twice its original Extent.

In 1714. he was deſervedly advanc'd to the higheſt Dignities of the Univerſity, and in the ſame Year made Phyſician of St. *Auguſtine*'s Hoſpital in *Leyden*, into which the Students are admitted twice a Week to learn the Practice of Phyſic.

This was of equal Advantage to the Sick and the Students; for the Succeſs of his Practice was the beſt Demonſtration of the Soundneſs of his Principles.

When he laid down his Office of Governor of the Univerſity in 1715. he made an Oration upon the Subject of *attaining to Certainty in Natural Philoſophy*; in which he declares himſelf, in the ſtrongeſt Terms, a Favourer of experimental Knowledge, and reflects with juſt Severity upon thoſe arrogant Philoſophers, who are too eaſily diſguſted with the ſlow Methods of obtaining true Notions by frequent Experiments, and who, poſſeſs'd with too high an Opinion of their own Abilities, rather chuſe to conſult their own Imaginations, than inquire into Nature; and are better pleaſed with the delightful Amuſement of forming Hypotheſes, than the toilſome Drudgery of amaſſing Obſervations.

The Emptineſs and Uncertainty of all thoſe Syſtems, whether venerable for their Antiquity, or agreeable for their Novelty, he has evidently ſhewn; and not only declar'd, but prov'd, that we are entirely ignorant of the Principles of Things, and that all the Knowledge we have is of ſuch Qualities alone as are diſcoverable by Experience, or ſuch as may be deduced from them by Mathematical Demonſtration.

This Diſcourſe, fill'd as it was with Piety, and a true Senſe of the Greatneſs of the Supreme Being, and the Incomprehenſibility of his Works, gave ſuch Offence to a Profeſſor of *Franeker*, who, having long entertain'd a high Eſteem for *Deſcartes*, conſider'd his Principles as the Bulwark of Orthodoxy, that he appear'd in Vidication of his darling Author, and complain'd of the Injury done him with the greateſt Vehemence, declaring little leſs than that the *Carteſian* Syſtem and the Chriſtian muſt inevitably ſtand and fall together, and that to ſay we were ignonorant of the Principles of Things, was not only to enliſt among the Sceptics, but to ſink into Atheiſm itſelf.

So far can Prejudice darken the Underſtanding, as to make it conſider precarious and uncertain Syſtems as the chief Support of ſacred and unvariable Truth.

This Treatment of *Boerhaave* was ſo far reſented by the Governors of his Univerſity, that they procured from *Franeker* a Recantation of the Invective, that had been thrown out againſt him. This was not only comply'd with, but Offers were made him of more ample Satisfaction; to which he return'd an Anſwer not leſs to his Honour than the Victory which he gain'd; "That he ſhould think himſelf ſufficiently "compenſated, if his warned Adverſary received no farther "Moleſtation on his Account."

So far was this weak and injudicious Attack from ſhaking a Reputation not caſually raiſed by Faſhion or Caprice, but founded upon ſolid Merit, that the ſame Year his Correſpondence was deſired upon Botany and Natural Philoſophy by the Academy of Sciences at *Paris*, of which he was, upon the Death of Count *Marſigli*, in the Year 1728. elected a Member.

Nor were the *French* the only Nation by which this great Man was courted and diſtinguiſhed; for, two Years after, he was elected Fellow of our Royal Society.

It cannot be doubted, but, thus careſs'd, and honoured with the higheſt and moſt public Marks of Eſteem by other Nations, he became more celebrated in his own Univerſity; for *Boerhaave* was not one of thoſe learned Men, of whom the World has ſeen too many, that diſgrace their Studies by their Vices, and by unaccountable Weakneſſes make themſelves ridiculous at Home, while their Writings procure them the Veneration of diſtant Countries, where their Learning is known, but not their Follies.

Not that his Countrymen can be charged with being inſenſible of his Excellencies, till other Nations taught them to admire him; for in 1718. he was choſen to ſucceed *Le Mort* in the Profeſſorſhip of *Chymiſtry*, on which Occaſion he pronounced an Oration, *De Chymia errores ſuos expurgante*; in which he treated that Science with an Elegance of Style not often to be found in chymical Writers, who ſeem generally to have affected not only a barbarous, but unintelligible Phraſe, and, like the *Pythagoreans* of old, to have wrapt up their Secrets in Symbols, and enigmatical Expreſſions, either becauſe they believed, that Mankind would reverence moſt what they leaſt underſtood, or becauſe they wrote not from Benevolence, but Vanity, and were deſirous to be praiſed for their Knowledge, though they could not prevail upon themſelves to communicate it.

In 1722. his Courſe both of Lectures and Practice was interrupted by the Gout, which, as he relates it in his Speech after his Recovery, he brought upon himſelf, by an imprudent Confidence in the Strength of his own Conſtitution, and by tranſgreſſing thoſe Rules which he had a thouſand times inculcated to his Pupils and Acquaintance. Riſing in the Morning before Day, he went immediately, hot and ſweating, from his Bed into the open Air, and expoſed himſelf to the cold Dews.

The Hiſtory of his Illneſs can hardly be read without Horror. He was for five Months confined to his Bed, where he lay upon his Back without daring to attempt the leaſt Motion, becauſe any Effort renewed his Torments, which were ſo exquiſite, that he was at length not only deprived of Motion, but of Senſe. Here Art was at a ſtand; nothing could be attempted, becauſe nothing could be propoſed with the leaſt Proſpect of Succeſs. At length having, in the ſixth Month of his Illneſs, obtained ſome Remiſſion, he took ſimple Medicines in large Quantities, and at length wonderfully recovered.

Succos preſſos bibit Noſter *herbarum Cichoreæ, Endiviæ, Fumariæ, Naſturtii aquatici, Veronicæ aquaticæ latifoliæ, copia ingenti: Simul deglutiens abundantiſſime gummi ferulacea Aſiatica.*

His Recovery, ſo much deſired, and ſo unexpected, was celebrated on *January* 11. 1723. when he open'd his School again with general Joy, and public Illuminations.

It would be an Injury to the Memory of *Boerhaave*, not to mention what was related by himſelf to one of his Friends, that when he lay whole Days and Nights without Sleep, he found no Method of diverting his Thoughts ſo effectual as Meditation upon his Studies, and that he often relieved and mitigated the Senſe of his Torments by the Recollection of what he had read, and by reviewing thoſe Stores of Knowledge which he had repoſited in his Memory.

This is, perhaps, an Inſtance of Fortitude, and ſteady Compoſure of Mind, which would have been for ever the Boaſt of the Stoic Schools, and increaſed the Reputation of *Seneca* or *Cato*. The Patience of *Boerhaave*, as it was more rational, was more laſting than theirs; it was that *Patientia Chriſtiana*, which *Lipſius*, the great Maſter of the Stoical Philoſophy, begged of God in his laſt Hours; it was founded on Religion, not Vanity; not on vain Reaſonings, but on Confidence in God.

In 1727. he was ſeized with a violent burning Fever, which continued ſo long, that he was once more given up by his Friends.

From this time he was frequently afflicted with Returns of his Diſtemper, which yet did not ſo far ſubdue him, as to make him lay aſide his Studies, or his Lectures, till in 1726. he found himſelf ſo worn out, that it was improper for him to continue any longer the Profeſſorſhips of Botany and Chymiſtry, which he therefore reſigned *April* 28. and upon his Reſignation ſpoke a *Sermo Academicus*, or Oration, in which he aſſerts the Power and Wiſdom of the Creator, from the wonderful Fabric of the human Body; and confutes all thoſe idle Reaſoners who pretend to explain the Formation of Parts, or the animal Operations, to which he proves that Art can produce nothing equal, nor any thing parallel. One Inſtance I ſhall mention, which is produced by him, of the Vanity of any Attempt to rival the Works of God. Nothing is more boaſted by the Admirers of Chymiſtry, than that they can, by artificial Heats and Digeſtion, imitate the Productions of Nature. *Let all theſe Heroes of Science meet together*, ſays *Boerhaave*, *let them take Bread and Wine, the Food that forms the Blood of Man, and by Aſſimilation contributes to the Growth of the Body: Let them try all their Arts, they ſhall not be able from theſe Materials to produce a ſingle Drop of Blood.* So much is the moſt common Act of Nature beyond the utmoſt Efforts of the moſt extended Science!

From this time *Boerhaave* lived with leſs public Employment indeed, but not an idle or an uſeleſs Life; for, beſides his Hours ſpent in inſtructing his Scholars, a great Part of his Time was taken up by Patients, who came, when the Diſtemper would admit it, from all Parts of *Europe* to conſult him, or did it by Letters, which, in more urgent Caſes, were continuall ſent to inquire his Opinion, and aſk his Advice.

Of his Sagacity, and the wonderful Penetration with which h often diſcovered and deſcribed, at the firſt Sight of a Patien ſuch Diſtempers as betray themſelves by no Symptoms to common Eyes, ſuch wonderful Relations have been ſpread over th World, as, though atteſted beyond Doubt, can ſcarcely be cr dited. I mention none of them, becauſe I have no Opportunity of collecting Teſtimonies, or diſtinguiſhing between tho Accounts which are well proved, and thoſe which owe the Riſe to Fiction and Credulity.

Yet I cannot but implore, with the greateſt Earneſtne ſuch as have been converſant with this great Man, that th will not ſo far neglect the common Intereſt of Mankind, as ſuffer any of theſe Circumſtances to be loſt to Poſterity. M are generally idle, and ready to ſatisfy themſelves, and intim date the Induſtry of others, by calling that impoſſible which only difficult. The Skill to which *Boerhaave* attained, by a lo and unwearied Obſervation of Nature, ought therefore to tranſmitted in all its Particulars to future Ages, that his Succe ſors may be aſhamed to fall below him, and that none m hereafter excuſe his Ignorance, by pleading the Impoſſibility clearer Knowledge.

Yet ſo far was this great Maſter from preſumptuous Con dence in his Abilities, that in his Examinations of the Sick was remarkably circumſtantial and particular. He well kne that the Originals of Diſtempers are often at a Diſtance fr their viſible Effects; that to acquieſce in Conjecture, wh Certainty may be obtained, is either Vanity or Negligence; that Life is not to be ſacrificed, either to an Affectation quick Diſcernment, or of crouded Practice; but may be quired, if trifled away, at the Hand of the Phyſician.

About the Middle of the Year 1737. he felt the firſt proaches of that fatal Illneſs that brought him to the Grave, which we have inſerted an Account written by himſelf *Sept.* 1738. to a Friend at *London*; which deſerves not only to preſerved as an hiſtorical Relation of the Diſeaſe which depri us of ſo great a Man, but as a Proof of his Piety and Reſigna to the Divine Will.

Ætas, labor, corporiſque opima pinguetudo, effecerant, annum, ut inertibus refertum, grave, hebes, plenitudine tur corpus, anhelum ad motus minimos, cum ſenſu ſuffocationis, p mirifice anomalo, ineptum evaderet ad ullum motum. Urg præcipue ſubſiſtens prorſus & intercepta reſpiratio ad prima ſ initia: Unde ſomnus prorſus prohibebatur, cum formidabili ſt gulationis moleſtia. Hinc hydrops pedum, crurum, femor ſcroti, præputii, & abdominis. Quæ tamen omnia ſublata. dolor manet in abdomine, cum anxietate ſumma, anhelitu ſ cante, & debilitate incredibili: Somno pauco, eoque vago, ſomnia turbatiſſimo: Animus vero rebus agendis impar. Cu luctor feſſus, nec emergo: Patienter expectans Dei juſſa, q reſigno data, quæ ſola amo, & honoro unice.

In this laſt Illneſs, which was to the laſt Degree linge painful, and afflictive, his Conſtancy and Firmneſs did not ſake him. He neither intermitted the neceſſary Cares of nor forgot the proper Preparations for Death. Though D ction and Lowneſs of Spirit was, as he himſelf tells us, Pa his Diſtemper; yet even this, in ſome meaſure, gave wa that Vigour which the Soul receives from a Conſciouſne Innocence.

About three Weeks before his Death he received a Viſit Country-houſe from the Rev. Mr. *Schultens*, his intimate F who found him ſitting without Door, with his Wife, S and Daughter. After the Compliments of Form, the L withdrew, and left them to private Converſation; when *haave* took Occaſion to tell him what had been, during h neſs, the chief Subject of his Thoughts. He had never do of the ſpiritual and immaterial Nature of the Soul, but de that he had lately had a kind of experimental Certainty Diſtinction between corporeal and thinking Subſtances, mere Reaſon and Philoſophy cannot afford; and Opportu of contemplating the wonderful and inexplicable Union o and Body, which nothing but long Sickneſs can give. T illuſtrated by a Deſcription of the Effects which the Infir of his Body had upon his Faculties; which yet they did oppreſs or vanquiſh, but his Soul was always Maſter of and always reſigned to the Pleaſure of its Maker.

He related, with great Concern, that once his Patie far gave way to Extremity of Pain, that, after having l teen Hours in exquiſite Tortures, he prayed to God, might be ſet free by Death.

Mr. *Schultens*, by way of Conſolation, anſwered, T thought ſuch Wiſhes, when forced by continued and ex Torments, unavoidable in the preſent State of human N that the beſt Men, even *Job* himſelf, were not able to from ſuch Starts of Impatience. This he did not den ſaid, "He that loves God, ought to think nothing "but what is moſt pleaſing to the ſupreme Goodneſs."

Such were his Sentiments, and ſuch his Conduct, in this State of Weakneſs and Pain: As Death approached nearer, he was ſo far from Terror or Confuſion, that he ſeemed even leſs ſenſible of Pain, and more chearful under his Torments, which continued till the 23d Day of *September* 1738. on which he died, between Four and Five in the Morning, in the 70th Year of his Age.

Thus died *Boerhaave*, a Man formed by Nature for great Deſigns, and guided by Religion in the Exertion of his Abilities. He was of a robuſt and athletic Conſtitution of Body, ſo hardened by early Severities, and wholſome Fatigue, that he was inſenſible of any Sharpneſs of Air, or Inclemency of Weather. He was tall, and remarkable for extraordinary Strength. There was in his Air and Motion ſomething rough and artleſs, but ſo majeſtic and great at the ſame time, that no Man ever looked upon him without Veneration, and a kind of tacit Submiſſion to the Superiority of his Genius.

The Vigour and Activity of his Mind ſparkled viſibly in his Eyes, nor was it obſerved, that any Change of his Fortune, or Alteration in his Affairs, whether happy or unfortunate, affected his Countenance.

He was always chearful, and deſirous of promoting Mirth by a facetious and humorous Converſation; he was never ſoured by Calumny and Detraction, nor ever thought it neceſſary to confute them; for *they are Sparks*, ſaid he, *which, if you do not blow them, will go out of themſelves.*

Yet he took care never to provoke Enemies by Severity of Cenſure; for he never dwelt on the Faults or Defects of others, and was ſo far from inflaming the Envy of his Rivals by dwelling on his own Excellencies, that he rarely mentioned himſelf, or his Writings.

He was not to be overaw'd or depreſs'd by the Preſence, Frowns, or Inſolence of great Men, but perſiſted on all Occaſions in the right, with a Reſolution always preſent, and always calm. He was modeſt, but not timorous; and firm without Rudeneſs.

He could, with uncommon Readineſs and Certainty, make a Conjecture of Mens Inclinations and Capacity by their Aſpect.

His Method of Life was to ſtudy in the Morning and Evening, and to allot the Middle of the Day to his public Buſineſs. He roſe at Four in the Summer, and Five in Winter. His uſual Exerciſe was Riding, till, in his latter Years, his Diſtempers made it more proper for him to walk; when he was weary, he amuſed himſelf with playing on the Violin.

His greateſt Pleaſure was to retire to his Houſe in the Country, where he had a Garden of eight Acres, ſtored with all the Herbs and Trees which the Climate would bear: Here he uſed to enjoy his Hours unmoleſted, and proſecute his Studies without Interruption.

The Diligence with which he purſued his Studies, is ſufficiently evident from his Succeſs. Stateſmen and Generals may grow great by unexpected Accidents, and a fortunate Concurrence of Circumſtances, neither procured nor foreſeen by themſelves: But Reputation in the learned World muſt be the Effect of Induſtry and Capacity. *Boerhaave* loſt none of his Hours, but when he had attained one Science, attempted another: He added Phyſic to Divinity, Chymiſtry to the Mathematics, and Botany to Anatomy. He examined Syſtems by Experiments, and formed Experiments into Syſtems. He neither neglected the Obſervations of others, nor blindly ſubmitted to celebrated Names. He neither thought ſo highly of himſelf, as to imagine he could receive no Light from Books; nor ſo meanly, as to believe he could diſcover nothing but what was to be learned from them. He examined the Obſervations of other Men, but truſted only to his own.

Nor was he unacquainted with the Art of recommending Truth by Elegance, and embelliſhing Philoſophy with polite Literature; he knew that but a ſmall Part of Mankind will ſacrifice their Pleaſure to their Improvement; and thoſe Authors who would find many Readers, muſt endeavour to pleaſe while they inſtruct.

He knew the Importance of his own Writings to Mankind; and leſt he might by a Roughneſs and Barbarity of Style, too frequent among Men of great Learning, diſappoint his own Intentions, and make his Labours leſs uſeful, he did not neglect the Arts of Eloquence and Poetry. Thus was his Learning at once various and exact, profound and agreeable.

He was not only ſkilled in the learned Languages, and the Tongues in which the Old Teſtament was written, but was able to converſe in many of the modern Languages, and to read others which he could not ſpeak.

But his Knowledge, however uncommon, holds, in his Character, but the ſecond Place; his Virtue was yet much more uncommon than his Learning. He was an admirable Example of Temperance, Fortitude, Humility, and Devotion. His Piety, and a religious Senſe of his Dependence on God, was the Baſis of all his Virtues, and the Principle of his whole Conduct. He was too ſenſible of his Weakneſs to aſcribe any thing to himſelf, or to conceive that he could ſubdue Paſſion, or withſtand Temptation, by his own natural Power; he attributed every good Thought, and every laudable Action, to the Father of Goodneſs. Being once aſked by a Friend, who had often admired his Patience under great Provocations, whether he knew what it was to be angry, and by what means he had ſo entirely ſuppreſſed that impetuous and ungovernable Paſſion; he anſwer'd, with the utmoſt Frankneſs and Sincerity, That he was naturally quick of Reſentment, but that he had, by daily Prayer and Meditation, at length attained to this Maſtery over himſelf.

As ſoon as he roſe in the Morning, it was, throughout his whole Life, his daily Practice to retire for an Hour to private Prayer and Meditation; this, he often told his Friends, gave him Spirit and Vigour in the Buſineſs of the Day; and this he therefore commended as the beſt Rule of Life; for nothing, he knew, could ſupport the Soul in all Diſtreſſes but a Confidence in the Supreme Being, nor can a ſteady and rational Magnanimity flow from any other Source than a Conſciouſneſs of the Divine Favour.

He aſſerted on all Occaſions the Divine Authority, and ſacred Efficacy, of the Holy Scriptures; and maintained that by them alone was taught the Way of Salvation, and that they only could give Peace of Mind. The Excellency of the Chriſtian Religion was the frequent Subject of his Converſation. A ſtrict Obedience to the Doctrine, and a diligent Imitation of the Example, of our bleſſed Saviour, he often declared to be the Foundation of true Tranquillity. He recommended to his Friends a careful Obſervation of the Precept of *Moſes* concerning the Love of God and Man. He worſhipped God as he is in himſelf, without attempting to inquire into his Nature. He deſired only to think of God, what God has reveal'd of himſelf. There he ſtopped, leſt by indulging his own Ideas he ſhould form a Deity from his own Imagination, and commit Sin by falling down before him. To the Will of God be paid an abſolute Submiſſion, without endeavouring to diſcover the Reaſon of his Determinations; and this he accounted the firſt and moſt inviolable Duty of a Chriſtian. When he heard of a Criminal condemned to die, he uſed to think, and often to ſay, Who can tell whether this Man is not better than I? Or, if I am better, it is not to be aſcribed to myſelf, but to the Goodneſs of God.

So far was this Man from being made impious by Philoſophy, or vain by Knowledge, or by Virtue, that he aſcribed all his Abilities to the Bounty, and all his Goodneſs to the Grace of God. May his Example extend its Influence to his Admirers and Followers! May thoſe who ſtudy his Writings, imitate his Life; and thoſe who endeavour after his Knowledge, aſpire likewiſe to his Piety!

He married, *September* 17. 1710. *Mary Drolenveaux*, the only Daughter of a Burgomaſter of *Leyden*, by whom he had *Joanna Maria*, who ſurvives her Father, and three other Children, who died in their Infancy.

The genuine Works of *Boerhaave*, according to his own Catalogue of them, are as follows; and he declares, in 1732, that all others under his Name are ſpurious, unleſs ſome few Prefaces to new Editions of Books.

Oratio de commendando Studio Hippocratico, habita & impreſſa Lugd. Bat. 1701. *apud Abrah. Elſevier.*

------ *de Uſu Ratiocinii Mechanici in Medicina*, 1703. *apud Joann. Verbeſſel.*

------ *qua repurgatæ Medicinæ facilis aſſeritur Simplicitas*, 1709. *apud Joann. Vander Linden.*

------- *de comparando Certo in Phyſicis*, 1715. *apud Petrum Vander Aa.*

------- *de Chymia ſuos errores expurgante*, 1718. *apud Petrum Vander Aa.*

------- *de Vita & Obitu Clariſſimi Bernardi Albini*, 1721. *apud Petrum Vander Aa.*

------ *quam habui, quum, honeſta miſſione impetrata, Botanicam & Chymicam profeſſionem publice ponerem*, 1729. *apud Iſaacum Severinum.*

------- *de Honore Medici, Servitute*, 1731. *apud Iſaacum Severinum.*

Inſtitutiones Medicæ in Uſus annuæ exercitationis domeſticos, 1708. *apud Joannem Vander Linden, P. & F.*

Qui dein auctior aliquoties recuſus in 8vo.

Aphoriſmi de cognoſcendis & curandis Morbis, in uſum doctrinæ domeſticæ, 1709. *apud Joannem Vander Linden.*

Qui dein auctior aliquoties recuſus in 8vo.

Index plantarum, quæ in Horto Academico Lugduno-Batavo reperiuntur, 1710. *apud Cornelium Bouteſtein, in 8vo.*

Libellus de Materie Medicâ, & Remediorum Formulis, 1719. *apud Iſaacum Severinum, in 8vo.*

Qui iterum prodiit in 8vo.

Index alter plantarum, quæ in Horto Academico Lugduno-Batavo aluntur, 1720. *apud Petrum Vander Aa, in 4to.*

Atrocis, nec deſcripti prius, Morbi Hiſtoria, ſecundum Medicæ Artis leges conſcripta, 1724. *apud Bouteſtein, in 8vo.*

Atrocis, rariſſimique, Morbi Hiſtoria altera, 1728. *apud Samuelem Luchtmans & Theodorum Haak, in 8vo.*

Tractatus Medicus de Lue Aphrodiſiaca, præfixus Aphrodiſiaco, 1728. *apud Joh. Arn. Langerak, & Joh. & Herm. Verbeek, in Folio.*

Beſides theſe, he communicated to the Royal Society, and to the Royal Academy of Sciences, ſome Obſervations upon Quickſilver, which are publiſhed in the *Philoſophical Tranſactions.*

Having given this Account of the Life and Writings of *Boerhaave*, it remains, that I take ſome Notice of his capital Works, which are his Inſtitutes, his Aphoriſms, and his Chymiſtry.

His Inſtitutes were deſigned as little more than a Syllabus to his Lectures. They are written in a very conciſe and cloſe Style; but abound in Matter containing all the modern Diſcoveries in Anatomy, Phyſiology, and whatever relates to the Laws of the Animal Oeconomy, and the Action of Medicines upon the Body, with conſiderable Improvements of his own, which are ſpecify'd under their proper Articles. This Treatiſe is very methodical and diſtinct; but I apprehend it is utterly unintelligible to any one who is not in ſome Degree previouſly acquainted with the Subjects of which he treats.

His Aphoriſms are, as he tells us himſelf, collected from the *Greek* Medicinal Writers, the *Arabians*, and ſome few of the Moderns; and his Reaſonings are founded on the Structure of the Parts, and the Laws of Mechanics. I muſt here obſerve, that *Boerhaave*, to his great Honour, ſeems to have gone counter to moſt Writers of Inſtitutes, and Compilers of Syſtems. For they have generally endeavour'd to lead Nature as it were captive, and make her act conformable to their preconceived Notions, however crude and chimerical; impoſing Laws upon the Animal Oeconomy, which have no Reality, and eſtabliſhing with great Pains and Induſtry, Sources of Action, which exiſt no-where but in their own Imaginations. *Boerhaave*, on the contrary, was convinced by daily Experience, and a Fund of good Senſe, that the *Greek* Phyſicians by diligent Obſervation had determin'd with great Accuracy, how Nature acts in producing the Symptoms of Diſtempers, and her Methods of relieving her herſelf, either with or without the Aſſiſtance of Art; and that their Experience had furniſh'd them with very ſucceſsful Methods of Cure. The two Points therefore which he ſeems to have had perpetually in View were, to eſtabliſh on Mechanical Principles, as much as was poſſible, the Doctrine of the Antients with reſpect to the Diagnoſtics and Prognoſtics of Diſeaſes, and ſhew that they could not be otherwiſe than they have repreſented them.

But the ſecond View is of more Importance than the firſt, it being no leſs than to demonſtrate, that the Methods of Cure, purſued by the antient Phyſicians, were generally the beſt that could poſſibly have been contriv'd with the Materials they were acquainted with, tho' for Reaſons to which they were probably Strangers. This appears to me the diſtinguiſhing Character of *Boerhaave*. And by this he has done almoſt as much Service to Phyſic, as his Predeceſſors for ſome Centuries had done Miſchief.

It is greatly to be lamented, that our illuſtrious Author did not think proper to publiſh his Lectures on his Inſtitutes and Aphoriſms, before his Deceaſe. If he had foreſeen the fatal Conſequences of ſuch an Omiſſion, I believe his Love to Mankind would have prevailed upon him to have done it, and thereby prevented the Miſchiefs his great Name, and the Reputation of his Lectures, may poſſibly do in the World. That I may explain my Meaning, I muſt obſerve, that it is the Misfortune of the *Engliſh* to be very little uſed to converſe in *Latin*, tho' perhaps no People in the World underſtand it better. Add to this, that as we pronounce *Latin* in a different manner from all other Nations, our Ears are not accuſtom'd to the foreign Accent. Hence Foreigners with Difficulty underſtand us, and, on the other hand, it is impoſſible for us to take their Meaning, eſpecially in long Diſcourſes, with that Degree of Exactneſs, which Subjects of Importance require; and indeed it is no eaſy Matter to take the entire Senſe of long Diſcourſes, tho' deliver'd in the Languages we are beſt acquainted with. This is the Reaſon, that many of his Pupils, who have only attended his Lectures for two or three Years, have frequently miſtaken his Meaning, and held their own Errors in an equal Degree of Veneration with the genuine Doctrine of their Profeſſor; and have imprudently neglected to ſet themſelves right, by examining the Sources from whence *Boerhaave* himſelf drew his Treaſures; ſometimes perhaps, becauſe they imagined the Authority of their Profeſſor render'd it ſuperfluous; and ſometimes, becauſe they were Strangers to the Languages in which the beſt Medicinal Authors wrote; thus either out of Choice or Neceſſity taking a more eaſy, tho' leſs certain Way to Knowledge, than *Boerhaave* either adviſed, or thought proper to purſue himſelf.

That this has been really the Caſe, the ſpurious Works, attributed to *Boerhaave* by his Scholars, are glaring Evidences; amongſt which, his Method of ſtudying Phyſic, as I think it is called, deſerves ſome Notice, being a crude and injudicious Performance, and in a great many Inſtances contradictory to the Sentiments of *Boerhaave*, on the Subjects there treated; and, as I remember, it recommends ſome Authors who never wrote, or even exiſted. In the ſame Rank is the *Praxis Medica*, printed in five Volumes in *Holland*, tho' the Tit tells us at *Padua*. In the Preface we are informed, th many of his Auditors took his Lectures in Writing; th theſe were carefully compar'd, and hence this Work w compiled. Yet, notwithſtanding all this Care, there are n many Pages without ſome enormous Error, nor even Sen tences without falſe *Latin*; ſo little did they underſtand eith their Profeſſor, or their Subjects.

With reſpect to his Chymiſtry, it may be juſtly ſaid, th his Theory is more philoſophical, exact, and full, and his Pr ceſſes more methodical and regular, than thoſe of any pr ceding Author on the Subject. It is remarkable, that in t Work he has made many Chymical Operations ſubſervient the eſtabliſhing ſeveral important Doctrines of the Antien and to the Confirmation of their Practice. I ſhall conclu with remarking, that this Work alone would have been ſu ficient to raiſe the Character of any other Man; but is, ho ever, that in which *Boerhaave* ſhines much leſs than in Inſtitutes and Aphoriſms, the laſt of which is, perhaps, m uſeful than any one Book written upon Phyſic, and has had t Honour of being tranſlated into *Arabic*, as is ſaid, by t *Mufti*, and printed at *Conſtantinople.*

BOETHEMA, βοήθημα. A Remedy.

BOETHEMATICA SEMEIA βοηθηματικὰ σημεῖα, au liary Signs in Diſeaſes, are ſuch as give us Notice of a Cu obſervable in them, (ἐξ ὧν ὑπομιμνησκόμεθα τῆς ἐπ' αὐ τετηρημένης θεραπείας) *Gal. Def. Med.*

BOF. Quick-lime. *Rulandus.*

BOICININGA, Johnſton. *Boicininiga*, G. Piſon. *Do nica Serpentum*, Nieremb. In *Portugueſe* and *Spaniſh*, *Caſcav* or *Tagendor*; in *French*, *Serpent à Sonnettes*; in *Engliſh*, RATTLE-SNAKE.

A Serpent of *Braſil*, four or five Feet long, of the Thi neſs of a Man's Arm, and of a reddiſh Colour, inclining yellow, with ſmall Eyes, a forked Tail, very long and ſh Teeth, and its Tail towards the Extremity furniſhed with parallelogrammous Subſtance, two Fingers Breadth or more Length, and about half a Finger's Breadth in Wideneſs, conſi ing, as it were, of ſmall Links combin'd with one anoth dry, ſmooth, ſhining, and of an Aſh-colour inclining to R This Subſtance increaſes every Year a Link, and makes Noiſe like little Rattles, when the Serpent creeps, ſo as to heard at a good Diſtance. It keeps itſelf in By-paths, runs after Paſſengers with ſuch Swiftneſs, that it ſeems to and is a very violent and dangerous Creature. They ſay t Travellers, for their Security againſt it, carry with them a Pi of *Virginian* Root called *Snakeroot*, faſten'd to the End o Stick; and that when they perceive by the rattling Noiſe, t the Serpent approaches, they hold forth to it that Root, Smell of which either kills it, or diſables it from advan any farther.

Its Fleſh has the ſame Virtues as the Viper's in reſiſting P ſon, purifying the Blood, and exciting Sweat. *Lemery Drogues.*

This ſeems to be the Rattle-ſnake now ſo well known, ſo remarkable for its Poiſon. With reſpect to this ſort of per, I find the following Obſervations in the *Philoſophi Tranſactions.*

The Fat of the *Rattle-ſnake* is ſaid to be uſed by the Ph ſicians of *Mexico* with good Succeſs in the Sciatica, and Pains of the Limbs, and for diſcuſſing preternatural Tumo

A preſent Antidote for this Poiſon is ſaid to be the Snake-ſto *Pierre de Cobras de Cabelo*, as it is called by the *Portugu* and is famous all over the *Indies*; 'tis deſcrib'd by *Garcias Horto*, by *Kircher*, and others, particularly by *Redi*, renders very much ſuſpected the Relations that are comm ly had of its great Force and Virtue: but that it does not ways fail, ſome Accounts I have had of Perſons relieved b here in *England* have convinc'd me. One Inſtance is markable, that was told me by an eminent Phyſician in *L don*, of a Perſon near the Town that was bit by a Viper: Hand and Arm ſoon ſwelled with great Extremity of Pa but, upon the Application of this Stone for one Night, b were aſſwaged, and he thought himſelf well, and took off Stone, which ſtill firmly adhered. But, not long after, former Symptoms violently returning, he had recourſe to Antidote, and then ſuffered it to continue there till it fell itſelf, and ſo was cured. One Trial I formerly made my in a Patient troubled with the Gout in her Stomach; hav removed it thence, it ſeized her Toe; but ſhe being impati of the Pain, that I might ſeem to do ſomething, and to h der her uſing abundance of Medicines, which every body like to adviſe her to, and might be apt to ſtrike it to her S mach again, I thought of this: Holding the Stone therefor my Hand, and without acquainting her, I put it near Joint where her Pain was moſt, and, being very near I perceived it move out of my Hand, and readily adhere the Part. Soon after, ſhe acquainted me, that ſhe very ſenſi perceived a great Drawing and Tickling all down her Leg Thigh, and afterwards owned an Abatement of her Pain.

pestilen

peſtilential Swellings very probably it may be of Uſe. Dr. *Edward Tyſon.*

The *Rattle-ſnake* ſeems to take its Name from the Rattles in its Tail, in which are ſometimes twenty of thoſe looſe Rings. The more Northerly they travel, theſe Snakes are leſs numerous, as well as leſs venomous; nor, as it is ſaid, are any ſeen to the North of *Merimack* River, which is about forty Miles North of *Boſton.* It is conſtantly affirmed by the *Indians,* that theſe Snakes frequently lie coiled at the Bottom of a great Tree, with their Eyes fixed on ſome Squirrel above in the Tree, which ſeeming by his Cries, and Leaping about, to be in a Fright, yet at laſt runs down the Tree, and into the Jaws of the Devourer. The Winter-abode of theſe Snakes is in the Clefts of inacceſſible Rocks, from whence in the Spring they come forth a ſunning themſelves, at firſt very feeble, which is their chief Time of deſtroying them. At this time the Cyſtis or Gall-bladder in theſe Snakes is full of an acrid azure-coloured Juice, which they ſqueeze out into a Glaſs, but it is ſo ſpirituous, that, if the Glaſs be not immediately ſtopt, it will ſoon evaporate: This Liquor therefore they mix with a convenient Quantity of powder'd Chalk, or *Indian* Meal, and uſe it as a proper Medicine againſt the venomous Bite of this Snake. Some have named it *Trochiſci Connecticotiani,* from the *Connecticut* Colony. 'Tis obſervable, when the Summer Heats come on, the Snakes have no longer this azure Liquor in their Gall-bladders, in which there is only found a black thick Sediment of no known Uſe, at which time they think the forementioned ſpirituous Juice is carried to, and lodged in their Gums, and ſo conveyed or thrown by the Hollow of the Teeth into the Wound when they bite, having received another Digeſtion, and higher Exaltation, by paſſing through ſeveral Strainers and Glands before it arrives at the Gums.

As an Inſtance of the Virulence of the Liquor, a Traveller, killing one of theſe Snakes, ſuffer'd the enraged dying Viper to bite the End of the Switch, with the Laſhes of which he had diſabled him; and a Fly by chance diſturbing one of his Temples as he rode on afterwards, he rubb'd his Temple with the other End of the Switch, which immediately cauſed his whole Head to ſwell to a great Exceſs, the Poiſon, as he ſuppoſes, penetrating the whole Length of the Switch. Another provoking a Rattle-ſnake to bite the Edge of a broad Ax he had in his Hand, the Colour of the ſteel'd Part bitten was immediately changed; and at the firſt Stroke he made with it, in uſing his Ax, the diſcolour'd Part broke out, leaving a Gap in his Ax. But to return to the Troches made of the Gall: It is a cordial ſudorific, and ſo good an Anodyne, that ſome take three or four Grains of it to compoſe them to Reſt after Travel. 'Tis good in all Fevers, eſpecially the malignant. It is an infallible Remedy for Obſtructions incident to Women upon catching Cold in Child-bed. Being taken in a convenient Quantity, twelve Hours before the Fit, it certainly cures a Quartan Ague. The Doſe is fourteen Grains, more or leſs, according to the Circumſtances of the Patient, in any Vehicle. Dr. *Mather.*

The Inhabitants of *America* have ſeveral Remedies for the Biting of a Rattle-ſnake: Among others, that which is much made uſe of is a Root they call Blood-root, I ſuppoſe ſo named from the Colour of the Root, and the Juice, which is red like Blood. It grows in great Abundance in the Woods: They bruiſe the Root, and bind it above the Place that is bit, to prevent the Poiſon's going further, at the ſame time ſcarifying the Place affected. Some of the Root is alſo boil'd, and the Perſon poiſon'd drinks the Water. *Paul Dudley, Eſq;* ' *Phil. Tranſ. Abr.*

The *Senekka* Rattle-ſnake Root, taken internally, is ſaid to be a Cure for the Bite of the Snake whoſe Name it bears. But 'tis probable, that the common Sallad Oil, that is, Oil of Olives, rubb'd well into the Part by a warm Fire, would cure this Bite, as it does that of a Viper.

BOJOBI, *Piſon. Jonſt.* A Serpent of *Braſil,* call'd by the *Portugueſe Cobre verde,* about an Ell *(French)* long, and an Inch thick, and of a ſhining Leek-green Colour; has a wide Mouth, and a black Tongue. It keeps itſelf among the Stones and Buildings, and does no Harm, unleſs provoked; but then raiſes itſelf on its Tail, and throws itſelf on the Hand that is next to it. Its Poiſon is ſo venomous, that it will hardly yield to the moſt powerful Remedies. The Medicine chiefly uſed by the *Indian* Phyſicians is the Root of an Herb call'd *Coa-apia,* which is full of Joints, which they bruiſe well, and cauſe the Patient to ſwallow in Water.

The Fleſh of this Serpent has much the ſame Virtues with that of the Viper; and the volatile Salt extracted from it would be more effectual againſt its Bite, than the *Coa-apia.* *Lemery des Drogues.*

BOITIAPO, *Marcg. Jonſt.* is a Serpent of *Braſil,* called by the *Portugueſe Cobus de Cipo.* It is ſeven or eight Feet long, as thick as a Man's Arm, round, and pointed towards the Tail, like a Shoemaker's Awl: It is cover'd with fine, and, as it were, triangular Scales; and is of an olive Colour and yellowiſh. It lives upon Frogs, and its Bite is dangerous, like that of many other Serpents.

Its Fleſh might be uſed as effectually as that of the Viper for purifying the Blood, and as an Alexipharmac. *Lemery des Drogues.*

BOLBIDION, βολβίδιον. A ſmall Polypus, a ſort of Fiſh. *Hippocrates,* περὶ γυναικ. *Lib.* 2. ἢ δ' ἄρτον βούλεται, ϗ βολβίδια, ϗ σηπίδια τῶν σμικρῶν "If ſhe has a mind to Bread, and Bulbuli, and ſmall Polypuſes." Again, in the ſame Book, for an Inflammation of the Uterus, he adviſes, in Food, βολβιδίοισι ϗ πολυποδίοισιν ἐν οἴνῳ ϗ ἐλαίῳ "Bulbuli and ſmall Polypuſes in Wine and Oil." *Foeſius.*

BOLBION, βόλβιον. This, as well as the preceding, is a Diminutive of βολβὸς, and is render'd alſo *Bulbulus,* a ſmall Bulb. *Hippocrates, Lib.* 2. περὶ γυναικ. adviſes Bulbuli, with Garlick and Nitre, to be uſed as a Peſſary for a Weakneſs of the Uterus, not retaining the Semen. He often uſes the Bulbulus, or *Bolbion,* in a Peſſary for Diſorders of that Part, as, in *Lib.* περὶ ἐπικυήσιος, to cleanſe the Uterus; and, *Lib.* 2. περὶ γυναικ. the ſame bruiſed, with Myrrh and Honey, as an excellent Peſſary for the *Fluor Uterinus.* Again, *Lib.* περὶ γυναικ. φύσ. he adviſes the Bolbion, bruiſed in White-wine, and wrapp'd in Wool, to cleanſe the Uterus, in order for Conception; and in the ſame Book, he orders βόλβιον ἐκ τῶν πυρῶν, "the Bolbion which grows amongſt Wheat," to be bruiſed and macerated in Wine, and, being wrapp'd in Wool, to be applied to a Woman newly brought to Bed. See Bulbus.

BOLBITION, βολβιτίον. *Galen,* in his *Exegeſis,* ſays *Bolbition* is call'd by ſome *Bombylion,* and is a ſmall Polypus, a ſort of Fiſh. *Foeſius.*

BOLBITON, βόλβιτον. Cow-dung. It is alſo call'd *Boliton,* βόλιτον, as *Galen* ſays in his *Exegeſis.* *Hippocrates, Lib.* περὶ γυναικ. φύσ. for a Dropſy of the Uterus, adviſes πυριῆν ἐν τῷ βολβίτῳ, "to foment it with Cow-dung;" and in all his Treatiſes concerning Women, he frequently preſcribes Suffumigations of Cow-dung for Diſorders of the Uterus. And *Dioſcorides, Lib.* 2. *Cap.* 98. writes, that the Dung of a Male Bullock repreſſes the Falling-down of the Uterus. It is alſo called *Bolbitos,* and *Bolitos,* in the *Attic* Dialect, and by *Heſychius Bolynthon.* *Foeſius.*

BOLBONAC. See Bulbonac.

BOLBOS, βολβός. *Erotian,* in *Hippocrates,* ſays, βολβὸν βοτάνης ὄνομα, "Bolbos is the Name of an Herb;" but, for βολβὸν, perhaps we ſhould read βόλβιον; tho', in *Lib.* 7. *Epid.* we meet with βολβοῦ χυλὸς, "the Juice of the Bulbus." See Bulbus.

BOLCHON, βολχὸν. A Name for Bdellium.

BOLESIS. A Name for Coral. *Rulandus.*

BOLESON. A Balſam. *Johnſon.*

BOLETTO, Frit. See Fritta.

BOLETUS. A Muſhroom. See Amanitæ.

In Dr. *Martyn's Tournefort* I find the following Catalogue of *Boleti.*

Boletus major, pileo fuſco, poris albidis. Fungus poroſus magnus craſſus, ex fuſco albicans, J. B. 3. 817. Lib. 40. C. 29.

The Head of this is ſometimes ten or eleven Inches in Diameter, *Vaill.*

Boletus major, pileo purpuraſcente. Fungus poroſus magnus craſſus purpuraſcens.

This differs from the former only in Colour.

Boletus major, pileo tuberculis aſpero, coloris aurantii, poris albidis. Fungus poroſus magnus craſſus, tuberculis minimis exaſperatus, colore pomi aurantii exiccati, Vaill. 59.

The Diameter of the Head is from four to ſix Inches. The Stalk is four or five Inches high, above an Inch thick at the Baſe, and tapers towards the Top. It is white, and in a manner hairy: This Hair or Down afterwards grows black, and variegates the Stalk.

Boletus major, pileo caſtanei coloris, poris ex luteo virentibus. Fungus poroſus magnus craſſus, coloris caſtanei nunc liquidioris, nunc magis ſordidi, Vaill. 59.

The Head is from four to nine Inches in Diameter: Its Subſtance is white, but it grows red ſoon after it is cut. It is an Inch thick in its thickeſt Part. The Top of the Head is a bright cheſnut Colour, ſometimes of a dirty-white, and ſometimes of an amber Colour. The Stalk is white, and ſometimes tinged with Yellow. It is five Inches high, and two or three in Diameter towards the Baſe, eſpecially when the Plant is growing, and tapers towards the Top. It is found about the latter End of *Auguſt,* and Beginning of *September.* The *Fungus poroſus maximus craſſus luteus lacer, pediculo longiſſimo vireſcente,* Cimel. Reg. and the *Fungus poroſus noſtras brachiatus maximus,* ibid. are Varieties of this Species, *Vaill.*

I take this to be the ſame with the *Fungus poroſus magnus,* Raii Hiſt. 100. which we often meet with about the latter End of Summer.

Boletus pileo purpuraſcente, poris flavis. Fungus poroſus medius, ſordide purpuraſcens, Vaill. 59.

The Head is about two Inches in Diameter, a little convex. The Stalk is about one Inch and a half high, five Lines thick, and of the ſame Colour with the Head. Perhaps it is the *Fungus*

gus Italicus, pediculo tumente, pileolo ſupina parte coloris vini fæcum, prona vero luteo, Cimel. Reg. Vaill.

Boletus pileo ſordide albo, tuberculis caſtaneis variegato, poris flavis. Fungus poroſus medius, ſuperficie ſordide alba, tuberculis caſtaneis variegata, Vaill. 59.

The Head is hemiſpherical at firſt; afterwards it grows flatter. It is two or three Inches high, of a dirty White, near an Inch thick at the Baſe, and about ſix Lines at the Top. I take it to be the *Fungus brizzatus madidus*, Raii Supp. 25. Vaill.

Boletus lævis & viſcidus, ſuperne coloris fuſci caſtanei, inferne lutei, Dillen. Cat. Giſſ. 188. *Fungi lutei pernicioſi ſub pinu habitantes*, J. B. 3. 816. Lib. 40. C. 24.

The Head of this is from one to three Inches in Diameter: It is a little convex, of the Colour of Ginger-bread, or a reddiſh Yellow, ſmooth, and a little ſhining. This Shining proceeds from a Slime, with which it is uſually cover'd, eſpecially whilſt it is young. Its Fleſh is white. The Pores are of a Lemon or Brimſtone-colour; there is a whitiſh Liquor diſtils from them, which gathers in Drops. The Stalk is white, an Inch or two long, and a little ſwell'd ſomething above the Baſe.

Boletus pileo ſordide albo, caule ovali. Fungus poroſus, pediculo ovali, pileoli ſuperficie ſordidiſſime alba, Vaill. 60.

The Stalk, Pores, and Head, are all the ſame Colour; the Fleſh of the Head, when broken or cut, is bluiſh, and ſtains the Paper of the ſame Colour. *Vaill.*

Boletus pileo croceo, caule ovali. Fungus poroſus, pediculo ovali, pileoli ſuperficie ſplendide crocea, Vaill. 60.

The Head is of a dark Saffron-colour, and the Pores of a light one; as is alſo the upper Part of the Stalk, tho' the lower Part of it is of the ſame Colour with the Head. The Fleſh is of a greeniſh Yellow, when firſt cut; but ſoon changes to a dirty Green. It is the *Fungus Italicus fuſcus, pileolo patulo, pediculo tumeſcente, & in apice rubro*, Cimel. Reg. Vaill.

Boletus pileo caſtanei coloris, poris albidis, pediculo ovali. Fungus poroſus, pediculo ovali, pileoli ſuperficie caſtanea. Vaill. 60.

The Stalk is of the ſame Colour with the Head: The Fleſh is white, and does not change Colour when it is cut. Vaill.

Boletus fuſcus, pediculo tumeſcente. Fungus poroſus fuſcus, pediculo tumeſcente, Vaill. 60.

What is uſually underſtood by the *Boletus*, is the

BOLETUS, Offic. *Tubera Cervina*, C. B. 376. Park. 1320. Hiſt. Oxon. 3. 638. *Tubera pernicioſa terreſtria ſive cervina*, Sterb. 315. Tab. 32. B. *Tuberum genus quibuſdam Cervi Boletus*, J. B. 3. 851. Raii Hiſt. 1. 111. *Cervi Boletus*, Chab. 591. DEERS-BALLS.

Theſe are digg'd out of the Earth; and the Whole of them are uſed, which is as large as a Walnut, of an unequal Surface, externally of a cineritious, but internally of a whitiſh-purple Colour, and of a grateful Taſte.

It is rarely uſed, tho' ſome recommend it as a powerful *Stimulus* to Venery, and a Medicine very proper for increaſing Milk. Its external Uſe is recommended in hyſteric Diſorders, and hard Labours. *Dale* from *Schroder*.

BOLISMUS. This Word occurs in *Avicenna*, where it is written, by Miſtake, for BULIMUS. *Caſtellus.*

BOLUS. A Bole, or Bolus. The Form of a Medicine.

A *Bolus* is an internal Medicine, ſoft, coherent, a little thicker than Honey, and whoſe Quantity is a little Morſel or Mouthful; for which Reaſon it is by ſome call'd *Bucella*.

Whatever is fit for internal Uſe, either by itſelf, or when mix'd with other Subſtances, provided it is capable of the above-mention'd Conſiſtence, is a proper Material for the Compoſition of a *Bolus*, and may be applied to that Purpoſe: Such are all dry Subſtances, which operate when exhibited in ſmall Doſes, and ſuch as are proper only for forming Powders: Theſe are call'd *Excipienda*, and are not capable alone of forming a *Bolus*.

Soft Subſtances, more or leſs thick, Conſerves, Electuaries, ſoft Extracts, Robs, Pulps, ſoft Confections, thick, native, and factitious Balſams, potable Ointments, and Syrups, are call'd the *Excipientia*; becauſe, when mix'd with the above-named Subſtances, they conſtitute the Form of a *Bolus*, which ſome of the *Excipientia* naturally have of themſelves.

Liquid Subſtances, which are *given in ſmaller Doſes*, ſuch as liquid Balſams, whether native or factitious, Oils, Spirits, Tinctures, Eſſences, and Elixirs, being of themſelves unfit for the Form of a *Bolus*, are either *received* into other Ingredients, or *receive* others into them, before they can become proper for this Purpoſe.

The Choice of proper Materials for a *Bolus* is regulated by the following Conſiderations.

A due Coheſion, Softneſs, and an equable Mixture, are highly commendable, and eſſential at leaſt to the due Conſiſtence of a *Bolus*.

For this Reaſon dry Subſtances, or ſuch as are liquid, are not by themſelves proper for this Purpoſe; but ſome Ingredients of a ſoft and glutinous Quality muſt be interpoſed, before the due Conſiſtence of a *Bolus* can be produced.

Moſt ſoft Subſtances muſt alſo be inſpiſſated by the Addition of ſome dry Ingredients, for the Formation of a *Bolus*; ye ſome of them are of themſelves ſufficient for this Purpoſe, ſuch as the thicker Conſerves, Electuaries, and Robs. Theſe may therefore be uſed by way of a ſimple *Bolus*.

All the Ingredients of a *Bolus* ought to be of ſuch a Nature, as to be capable of being mix'd up, and form'd into an equable Compoſition.

Acrid Subſtances, ſuch as are offenſive either by their Smell or Taſte, and ſuch as are viſcid, are more properly exhibited i the Form of a *Bolus*, than in that of Powders; ſince, in th former Shape, their diſagreeable Qualities are much better concea'd than in the latter; for which Reaſon the Form of a *Bolu* is the moſt proper Vehicle for the more ſtrong and draſtic Preparations of Mercury.

It is proper to divide pinguious Subſtances, Balſams, and potable Ointments, by mixing them with Sugar, or ſome other dr Ingredients, that they may be the more eaſily ſwallow'd down and diſſolved in the Stomach.

Alcaline, fix'd, and volatile Salts, and all other Subſtance which ſoon become liquid, are very improperly made Ingredient in a *Bolus*, which is intended to be kept for any conſiderabl Time; ſince, by their Colliquation, the due Conſiſtence of th *Bolus* is loſt, and its Virtues deſtroy'd by their Exhalation.

For this Reaſon Subſtances which produce an Efferveſcence or eaſily ferment when mix'd together, are highly improper fo the Formation of a *Bolus*, unleſs the Patient is to uſe it immediately after it is prepar'd.

The Number of Ingredients in a *Bolus* ought ſcarce ever t exceed three or four.

The moſt uſual Order obſerved in preſcribing the Ingredient of a *Bolus*, is, firſt, to ſpecify the Quantity of the *Excipient* then the Quantity of the *Excipienda*, or dry Ingredients, is t be determin'd; then that of the Liquids; and laſtly, if there any more of the *Excipient* to be added, at the Apothecary Diſcretion, that Circumſtance is to be mention'd.

The Doſe of a *Bolus* may be extended from one Dram t one Dram and an half, or two Drams; but is not raſhly to b augmented beyond the laſt-mention'd Quantity, unleſs whe the Materials of the *Bolus* are of a conſiderable ſpecific Gravity or when the Patient can take them without Reluctance or Un eaſineſs; but the Doſe ought ſcarcely to exceed a Dram, if th Ingredients are light. For this Reaſon, when the Quantity the Ingredients muſt exceed theſe Bounds, before it prove a effectual Doſe, it is better to divide the Maſs into ſeveral *Boluſes*, than to choak and diſguſt the Patient by one that is un conſcionably and extravagantly large; for as Smallneſs of Bul is a great Recommendation to a Powder, it is much more ſo a *Bolus*; ſo that, in this reſpect, we can ſcarce err, tho' t Quantity of the *Bolus* ſhould ſcarce exceed a Scruple.

The Number of *Boluſes* made at a time, is, for the mo part, only one or two, and rarely three or four Doſes, unle when they are to be taken at very ſhort Intervals; for, wh they are divided by the Apothecary, they readily become t dry, or are melted down, when kept for any conſiderab time.

The mutual Proportion of the Ingredients is to be determin by their Conſiſtence, and their Efficacy; ſo that the ſame Pro portion is not to be obſerved promiſcuouſly in the Compoſitio of all *Boluſes*.

When ſoft Subſtances, each of which is of itſelf fit to for a *Bolus*, are compounded, the Proportion in which they are be mix'd muſt be determin'd by the Quantity of each, whi proves an effectual Doſe when exhibited by itſelf, and by t Quantity of the compound *Bolus* which muſt be a Doſe; fo in this Caſe, the Conſiſtence is not to be conſider'd.

When dry Subſtances are to be incorporated with any *Excipient*, the Doſe of them may be half a Dram two Scruples, at moſt one Dram; but the Proportion of Excipients muſt varied, according as they are of a thicker or thinner Conſiſtence.

The Subſtances moſt commonly us'd for *Excipients* are Conſerves, Electuaries, Honey, thick Balſams, and potable Oin ments; and the Quantity of theſe to be us'd is from two Scr ples to one Dram, or one Dram and an half. When Ro Pulps, and ſoft Confections, are us'd as *Excipients*, th Quantity may be from half a Dram to one Dram, or fo Scruples.

When Syrups are us'd for this Purpoſe, as they are more quid than the above-mention'd *Excipients*, their Quantity m be from one Scruple to half a Dram, or one Dram.

For, when the Quantities of dry Ingredients are the ſame, more liquid the *Excipient* is, the leſs of it is requiſite in order ſubdue them, or reduce them to the Conſiſtence of a *Bolus*.

Hence 'tis obvious, that, when the Quantity of dry Ing dients is ſmall, 'tis proper to uſe thick *Excipients*; where when 'tis large, thin *Excipients* muſt be us'd, leſt the Doſe the Bolus ſhould be inlarg'd to an unreaſonable or impro Bulk.

If to the above-mention'd Ingredients Liquids are to be add we muſt not exceed the Quantity of one, two, three, or, moſt, four Drops; and, even in this Caſe, the Quantity of the ſoft *Excipients* is to be leſſen'd in a due Proportion.

On ſome Occaſions, the preciſe Quantities both of the dry and liquid Ingredients being determin'd and fix'd, the Proportion of the ſoft *Excipients* is left to the Diſcretion of the Apothecary, to whom the Phyſician's Meaning is convey'd by the two ſignificant Letters Q. S. which import a ſufficient Quantity. But this Method cannot be us'd, if a ſmall Doſe of theſe Ingredients is capable of conſiderable Effects: But when the Quantity of dry Ingredients is pretty large, or when the primary *Excipient* is deſir'd thick, and in ſo ſmall a Quantity, that 'tis dubious whether the ſoft and delicate Conſiſtence of a Bolus can be produc'd by it, there is often a ſecondary and more liquid *Excipient* added; a ſufficient Quantity, for Inſtance, of ſome Syrup.

On the contrary, when the too great Softneſs of the *Bolus* is dreaded, 'tis cuſtomary to add a ſufficient Quantity of Sugar, Powder of Liquorice, or ſome other proper Subſtance; which Practice is principally us'd in making up pure terebinthinous Ingredients.

The *Subſcription* runs thus: *M. F. Bolus*, or *Boli*, No. ij. iij. that is, mix up into a *Bolus*, or into two or three *Boluſes*. As to the Diviſion of the Doſes, when the Ingredients are of a ſtrong and draſtic Quality, the Diviſion muſt be made with the utmoſt Accuracy and Exactneſs. Sometimes, for the ſake of Ornament, or that the Patient may ſwallow the Medicine with the leſs Reluctance, it is added, *Auri Folio aut Nebula obvolvatur*, or *exhibeatur cum Nebula*; that is, *Let it be wrapp'd up in Leaf-gold, or a Wafer*, or *let it be exhibited in a Wafer*. The Bolus is generally put into a ſmall Gally-pot, or a Paper; but theſe are Circumſtances too trivial to be mention'd.

The *Signature* muſt ſpecify the Deſign of the *Bolus*, the Doſe, the Vehicle, the Time of taking it, and the Regimen to be us'd. Some love a *Wafer* for a Vehicle, and others chooſe to have the *Bolus* previouſly diſſolv'd in ſome Liquor. It is proper to give ſome convenient Liquor to be drank after taking the *Bolus*, if we ſuſpect, that it will be diſſolv'd ſlowly, and with Difficulty, in the Stomach; and this Caution is principally to be obſerv'd with regard to terebinthinous Subſtances, and others of a like Nature.

The Uſe of Boluſes is almoſt univerſal, either as Evacuants or Alteratives; only we ought carefully to conſider, whether the Nature of the Diſeaſe, its Seat, its Symptoms, the Conſtitution of the Patient, Cuſtom, and the Nature of the indicated Relief, do not render ſuch a Formula improper. The Difficulty, or abſolute Incapacity, of Deglutition in Quinſeys, Ulcers of the Fauces, Apoplexies, Epilepſies, and Syncopes, ſeem to forbid, or, at leaſt, render *Boluſes* highly improper. Tho' *Boluſes* are deſign'd for the ſame Intentions with Powders, yet they are leſs frequently us'd, becauſe they do not always produce their Effects ſo ſoon as could be wiſh'd. Thoſe who are delighted with Variety, or chooſe a *Bolus* rather than Powders, are to be gratify'd with this Form.

For Specimens of *Boluſes*, take the following.

An EMETIC BOLUS, *for a full-grown Perſon.*

Take of white Vitriol, twenty-five Grains; Rob of Juniper, a ſufficient Quantity: Mix up into a Bolus to be exhibited in a Wafer.

Signature: An Emetic *Bolus* to be taken in a little Ale, or an Infuſion of Green-tea. Let ſome Draughts of the ſame Infuſion be drank tepid, after every Time of vomiting.

PURGATIVE BOLUS, *to be exhibited in a feveriſh Reſtleſtneſs.*

Take of the Electuarium Diaprunum of *Sylvius*, one Dram and an half; and of the Powder of Sena-leaves, one Scruple: Mix up into a *Bolus*.

An ANTIHYSTERIC BOLUS.

Take of Mithridate, one Dram; of the Troches of Myrrh, half a Scruple; of the diſtil'd Oil of Amber, two Drops: Mix up into a *Bolus*, to be wrapt up in Gold-leaf.

Signature: A Sedative *Bolus*, to be taken in a Glaſs of Peny-royal Water.

BALSAMIC BOLUS. *See* Harris de Morb. Infant. Lib. 2. Obſervat. 2.

Take of the Turpentine of Chios, two Drams; of Liquorice-powder, a ſufficient Quantity: Mix and make two Boluſes.

Signature: The Nervous Boluſes, one of which is to be taken in the Morning, and the other in the Evening, in the Yolk of a new-laid Egg, drinking after each two Ounces of alexiterial Milk-water.

SALIVATING BOLUSES: *See* Boerhaave's Mat.

Take of the Conſerve of red Roſes, half a Dram; of Mercurius Dulcis triturated, nine Grains: Mix up into a Bolus. And two others, exactly the ſame, but made up ſeparately, are to be deliver'd, put up in different Wafers.

Signature: Aperient Boluſes, one of which the Patient is to take every four Hours, having firſt drank a large Quantity of ſome proper Ptiſan.

ASTRINGENT BOLUSES.

Take Rob of the Cornelian-cherry, three Drams; Extract of Tormentil, one Dram; Armenian Bole levigated, two Scruples; Prepar'd Blood-ſtone, half a Dram; Syrup of Myrtles, a ſufficient Quantity: Mix, and make four Boluſes.

Signature: The aſtringent Boluſes, one of which is to be taken every three Hours, in a little auſtere red Wine.

There are many fat Earths us'd in Medicine, which go by the Name of BOLI, *Boles*; as the

BOLUS ARMENA, Offic. *Bolus Armena Orientalis*, Mont. Exot. 13. *Bolus Orientalis*, Charlt. Foſſ. 5. Calc. Muſ. 111. *Bolus Armena, ſive Armeniaca*, Dugd. Ind. 118. *Bòlus Orientàlis, quibuſdam Armena*, Worm: Muſ. 11. *Bolus ſeu Terra Armenia*, Aldrov. Muſ. Metall. 269. *Bolus Armenius verus*, Kentm. 7. *Bolus vera quibuſdam.* BOLE-ARMONIAC. *Dale.*

It is an earthy Subſtance, of a pale-yellowiſh Colour, inclining ſomewhat to Red. It is ponderous, pinguious, eaſily friable, and of a ſtyptic Taſte. It is digg'd out of the Mines in *Turky*, and thence brought to us. It is, at preſent, very rare with us; for what is found in the Shops, approaching to the Colour of red Okre, is imported from *Spain* and *Normandy*, and is thought to be little different from the *Rubrica ſynopica*.

It is an Alexipharmic, and corrects thoſe Acidities in the Blood which are prejudicial to Health. It is aſtringent in ſome Degree, and, for that Reaſon, us'd in Fluxions of Humours. When apply'd externally, it is of a drying Quality, and induces Cicatrixes on Wounds. *Dale.*

Fracaſtorius ſays, that Bole Armoniac given to a Perſon almoſt in the Agonies of Death, from the Bite of a Spider, inſtantly cur'd him.

BOLUS ARMENA ALBA, Mont. Exot. 13. WHITE ARMENIAN BOLE. *Dale.*

This *Bole* is brought from *Armenia*. Its Virtues are the ſame with thoſe of the *Bole Armoniac*, but it is not to be met with in our Shops. *Dale.*

BOLUS ARMENA LUTEA, Mont. Exot. 13. *Bolus luteus Theophraſti*, Kentm. 7. *Bolus Armenus naturalis flavus*, Aldrov. Muſ. Metall. 270. *An Terra Arabica ſigillata ſublutea*, Charlt. Foſſ. 6. YELLOW ARMENIAN BOLE.

This *Bole* adheres to the Tongue, is a ſtrong Aſtringent, and ſaid to be a powerful Reſiſter of Malignity. *Dale.*

BOLUS BLESENSIS, Ind. Med. 21. EARTH OF BLOIS.

This is an Earth of a pale-reddiſh Colour; but I have never met with any Accounts of its Virtues, or its Uſe in Medicine. *Dale.*

BOLUS BOHEMICA, Offic. Aldrov. Muſ. Metall. 271. *Bolus Bohemicus rubens*, Kentm. 7. GERMAN BOLE.

It is an earthy Subſtance, of the ſame Colour with the Oriental Bole Armoniac, but ſomewhat fainter. It has ſome Veins of a yellowiſh Colour running thro' it, and is heavy, eaſily friable, and of an aſtringent Taſte. It is digg'd from the Mines of *Bohemia*, and thence imported to us.

Its Virtues are the ſame with thoſe of the Bole Armoniac, and it is much kept in our Shops. *Aldrovandus* informs us, that it is a very efficacious Medicine in all exanthematous Fevers. *Dale.*

BOLUS CANDIDUS, Offic. *Bolus candidus Lignicenſis, ſeu Terra ſigillata Goltbergenſis*, Charlt. Foſſ. 5. Worm. Muſ. 10. *Bolus candidus Lignicenſis*, Schw. Foſſ. 397. *Terra ſigillata Lignicenſis*, Schrod. 318. Aldrov. Muſ. Metall. 265. *Unicornu Minerale*, Schrod. 111. 318. *Axungia Lunæ Chymicis.* WHITE BOLE.

This *Bole* is digg'd from the Earth at *Gran* in *Hungary*, and at *Goltberg* in *Liege*.

It relieves and mitigates Pains of the Head, ſtrengthens the Brain, and is ſingularly efficacious in curing Dyſenteries, and the Fluor Albus. *Dale.*

BOLUS RUBRA NOSTRAS, Ind. Med. 21. FRENCH BOLE.

Dale confeſſes he knows nothing of this Bole. I take it to be the red *French* Bole, which is got in many Parts of *France*. *Pomet* gives the enſuing Account of the *French* Boles.

" The Bole which we ſell is found in ſeveral Parts of *France*,
" about *Blois* and *Saumur*, or *Bourgogne*, and which is of
" various Colours, as grey, red, and yellow. The Yellow is
" the moſt valuable, becauſe it paſſes the readieſt for Bole of
" the *Levant*, and becauſe it fits the Gilders beſt.

" As theſe Boles are the deareſt, becauſe of the Charge of
" tranſporting them to *Paris* from *Blois* and *Saumur*, we pre-
" fer that of *Baville* and other Places about *Paris*, becauſe the
" Peaſants bring it us at a cheaper Rate than we can buy the
" other. The beſt is the cleaneſt, ſmootheſt, and well-colour'd,
" of a light-yellowiſh Red, which, being taſted, ſeems to
" melt, like Butter, in the Mouth. Its Thickneſs is known
" by ſticking to the Tongue. The counterfeit or adulte-
" rate Bole is of a ſad-deep Red, ſandy, and gritty, being,
" indeed, not of a third Part of the Price. It is very drying

“ and aſtringent, good againſt Fluxes and Gleets. It thickens “ thin Humours, reſiſts Putrefaction, and expels poiſonous “ Bodies. It is likewiſe us'd in ſpitting of Blood, bleeding “ Wounds, and alſo to conſolidate broken Bones, and ſtrengthen weak Limbs. ”

Bolus Toccaviensis, Offic. Charlt. Foſſ. 5. Worm. Muſ. 2. *Bolus Hungaricus*, Crato. *Bolus Tokaikus*, Schw. 370. *Bolus Pannonicus verus*, Kentm. 7. TRANSYLVANIAN BOLE.

This *Bole* has all the Characteriſtics of the true *Armenian Bole*, and melts in the Mouth like Butter. It is digg'd from the Earth in *Tranſylvania* near *Tokai*.

It is highly celebrated as an efficacious Medicine in Catarrhs and the Plague. It was firſt apply'd to medicinal Purpoſes by *Crato*, who prefers it to the *Armenian Bole* brought from *Turky*. I cannot determine whether it is really different from all the former or not. *Dale*.

Bolus Fabrilis. The ſame as *Rubrica Fabrilis*, which ſee.

Bolus Judaicus. A Name for the *Althæa*, Marſh-mallows. *Johnſon*.

BOMBAX, Offic. *Goſſipium ſive Xylon*, Ger. 753. Emac. 901. *Goſſipium fruteſcens annuum*, Park. Theat. 1553. *Goſſipium fruteſcens, ſemine nigro*, C. B. Pin. 430. *Xylon ſive Goſſipium herbaceum*, J. B. 1. 343. Raii Hiſt. 2. 1064. Tourn. Inſt. 101. Elem. Bot. 84. Boerh. Ind. A. 273. *Goſſipium herbaceum, ſemine albo*, Hiſt. Oxon. 3. 517. COTTON-BUSH. *Dale*.

The Cotton-buſh, or Shrub, grows to be a Yard high, or more, ſpread out into many Branches, with many brittle woody Stalks, on which grow Leaves, divided into five Segments, not much unlike the Leaves of Maple, ſtanding on pretty long Foot-ſtalks; among theſe, on the Upper-part of the Branches, grow the Flowers, of a pale-yellow Colour, with a purple Bottom, in Shape like thoſe of Mallows, or the Small Holy-oak, and are ſucceeded by roundiſh or oval Capſulæ or Seed-veſſels, which, when ripe, open into three uſually, and ſometimes four Partitions, diſcovering the white ſoft Cotton, among which lies dark-brown, longiſh, round Seed.

Cotton is cultivated in *Greece*, *Turky*, *Sicily*, and *Malta*. It flowers in *June*.

The Seed, which is the only Part us'd, is of a balſamic Nature, us'd in Coughs, Shortneſs of Breath, and Soreneſs of the Lungs, cauſing Expectoration, and freeing them from tough Phlegm. It is alſo reſtringent, and good to ſtop Fluxes of all Sorts. *Miller's Bot. Off.*

In the Shops the Seeds and Wool of this Shrub are us'd. The Wool burn'd, and reduc'd to Powder, ſtops the Effuſion of Blood from Wounds, if put into them. The Seeds are good for Diſorders of the Kidneys and Liver, but prejudicial to the Head and Stomach. They are alſo eſteemed excellent for thoſe who are afflicted with a Cough, or Difficulty of breathing. They are good for the Stone, yield a wholſome Nouriſhment, ſtrengthen the Conſtitution, and cure the Dyſentery; for, by their lenitive Quality, they obtund the acrid and exulcerating Humours. *Caſp. Hoffmann. de Medic. offic. L.* 2. *C.* 105. The Oil expreſſed from the Seeds removes Spots of the Skin, and cures running Sores of the Head. *Zacut. Luſitan. Prax. Hiſt. L.* 1. *C.* 2. *in Obſ.* In *Egypt*, according to *Proſper Alpinus*, they extract a Mucilage from the Seeds, juſt as they do from thoſe of the Fleabane and Quinces, which is of Uſe in burning Fevers, and corroſive Coughs. They alſo reſtrain all immoderate Fluxes of the Menſes. *Rein. Solenand. Conſil. Medic.* 8. *Sect.* 4. The Inhabitants of *Malta* fatten their Cattle with the Seeds of this Herb, which have a Taſte reſembling that of an Acorn. See *Henr. Bunting. Itinerar. S. S. p.* 2. *fol.* 95. See alſo *Pliny, L.* 12. *C.* 10 & 11. *Theophraſt. de Plantis, L.* 9. *C.* 4. *Claud. Salmaſ. ad Solin. p.* 2. 296. and 998. and *Eraſm. Franciſc. Part.* 1. *p.* 552. *Barthol. Zorn. Botanolog.*

BOMBUS. Βόμβος. A Word made to imitate a Sound, by a Figure the Rhetoricians call *Onomatopœia*; a reſounding, ringing Noiſe, proceeding from Blaſts which break out of a narrow Paſſage, and diffuſe themſelves abroad; but if thoſe Blaſts fall into a narrow Paſſage, and vent themſelves, as it were, thro' Chinks, there is heard a Stridor, a grating Noiſe, or an Hiſſing. In *Coac.* βόμβος ἐν ὀξέσι, ϗ ἦχος ἐν ὠσὶ, θανάσιμον, “ a “ reſounding Noiſe, and Ringing in the Ears, in acute Diſ- “ eaſes, is mortal. ”

BOMBYLIUM. Βομβύλιον is expounded in *Galen*'s Exegeſis by a narrow-mouth'd Cup, or a Cover, ſo call'd from its ringing Sound. The Word occurs, *Lib.* 3. *de Morb.* ϗ οἶνον γλυκὺν ϗ ὑδαρέα προπίνειν, μὴ ψυχρὸν, ὀλίγον ἐκ βομβυλίου εὐρυστόμου. “ Let the Patient drink a little ſweet diluted Wine, “ not cold, out of a wide-mouth'd Bombylium. ”

BOMBYX, Offic. Schrod. 5. 339. Goedart. 1. 112. T. 42. Liſt. Ed. Angl. 41. N. 32. Mar. Eruc. Ort. 1. p. 1. Aldrov. de Inſect. 278. Jonſ. de Inſect. 114. The SILK-WORM.

This Inſect undergoes a ſtrange and ſurpriſing Metamorphoſis in the ſeveral Periods of its Exiſtence. This Animal, or Worm, is call'd Bombyx in the Shops, and is produced from

ſmall Eggs, hatched by the genial Heat of the Sun, in the Spring of the Year. It feeds upon Mulberry-leaves 'till it has arriv'd at a State of Maturity. After this they are uſually put into a ſmall Paper-bag, where they wrap themſelves up in a ſilken Caſe, which, coming from their Mouths, is, without Interruption, carry'd very often round them. This Caſe is ſometimes of a paliſh, and ſometimes of a yellowiſh Colour. In this Caſe, or Coat, it remains wrapt up, 'till it is transform'd into its *Chryſalis* or *Aurelia*, and appears dead; but, at laſt, it ſallies forth from its Coat in the Form of a Butterfly, with four Wings; and after a Copulation, which laſts for three Days, and proves immediately mortal to the Male, the Female lays a conſiderable Number of Eggs, and dies likewiſe. The whole Worm, the Silk, and the ſilken Coat or Covering, are us'd in Medicine.

Silk-worms dry'd, and reduc'd to a Powder, are, by ſome, apply'd to the Crown of the Head for removing Vertigos and Convulſions. The Silk, and Caſe or Coat, are of a due Temperament between Heat and Cold, and corroborate and recruit the vital, natural, and animal Spirits. *Dale from Schroder.*

N. B. We muſt take care not to uſe the Coat or Caſe, if it is either ſtain'd with their Excrements, or if the Aurelia or Worm remains dead in it. *Dale*.

Silk yields by Diſtillation, a very good volatile Spirit and Salt; which Spirit is ſaid to be the *Guttæ Goddardianæ*, *Goddard*'s Drops, formerly ſo famous.

BOMPOURNICKEL. A Sort of very coarſe black Bread, much us'd in *Weſtphalia*, on which *Hoffman* gives the following Diſſertation.

'Tis a Truth not to be call'd in queſtion, that the Bodies o Animals, being inceſſantly and variouſly agitated by the Hea and perpetual Motion of their Fluids, do, by that very means continually loſe ſome of their Parts, and, conſequently, ſtan in need of a ſeaſonable Supply and Reparation of them.

This Supply or Reparation is advantageouſly made by Al ments, which nouriſh and ſupport our Bodies, and ſupply th Place of the waſted eliminated Humours, aſſuming their Na tures, and transforming themſelves into Blood and Juices. Bu of the ſeveral kinds of Aliment, *Bread* is the principal an moſt conſiderable; for, according to *Iſidorus*, the *Latin* Wo *Panis*, which ſignifies *Bread*, is derived from the *Greek* Wo Πᾶν, which imports as much as the *Engliſh* Expreſſion, *All all*. 'Tis certain that *Bread* is, as it were, the Baſis of Foo and an univerſal Aliment, which is highly agreeable to the Co ſtitution, and grateful to the Stomach; and which has not on been daily us'd, but highly approv'd by moſt Nations of t World, from the very Infancy of Mankind to this preſent Tim ſo that it is with good Reaſon call'd the chief or principal of A ments: And, indeed, all the farinaceous Grains, and the Bre prepar'd of them, contain Principles more ſimilar to our vi Juices, than any other Subſtances us'd in Food.

For 'tis certain, that the Fluids of our Bodies are compo of Corpuſcles of widely different Figures and Bulks; and t they contain, as we find from Chymical Proceſſes, a Variety Principles or Elements; Sulphur, for Inſtance, Oil, vola Salt, Mucilage, Earth, Water, and other Principles of a l Nature. The like Elements are contain'd in Bread; for, up Diſtillation, it yields an oleous, and ſomewhat acid, Spi which, beſides other Subſtances, ſpeedily diſſolves Coral, a by a previous Digeſtion, produces a reddiſh Tincture, whic a Medicine of conſiderable Efficacy. Bread alſo yields a la Quantity of an inflammable Oil, and a great deal of a bl fix'd Earth is found at the Bottom of the Veſſel after its Di lation. As for the thick and mucilaginous Subſtance it conta it is obvious to our Senſes, without the Aſſiſtance of Chymi That it contains ſubtil ſpirituous Parts, of a comforting Q lity, is not only proved by the Authority of Sacred Writ, by the Evidence of Senſe; for the very Smell of Bread is refre ing, and Water prepar'd of Bread, eſpecially of the co kind, is, by Phyſicians, highly extoll'd as a Liquor of an leptic and cordial Quality. Its daily Uſe alſo proves, tha conveys Strength and Nouriſhment to the Body. Beſides, Stomach is greatly delighted with this Species of Aliment, account of its mild and ſubtil Acid, by whoſe means the di vent Force and Activity of the Menſtruum, appropriate the Maceration and Digeſtion of Food, is highly increaſed augmented.

A great many other Things known to the Antients cerning the Nature, Virtue, and various Kinds of Bread, m on this Occaſion be advanced, were they neceſſary to my ſent Deſign. However, on this Subject the Reader may ſult *Hippocr. L.* 2. *de Vict. Rat. Athenæus, L.* 3. *Cap.* 1 18. *Pollux, L.* 7. *Cap.* 11. and *Pliny, L.* 18. *Cap.* 7.

My preſent Deſign is only carefully, but briefly, to in into the Nature and Qualities of that coarſe Bread uſe the Inhabitants of *Weſtphalia*, which acquir'd the Na *Bonpournickel*, from a *French* Traveller, that I may this Bread from the Contempt it lies under in the Opin many.

This Species of Bread was known long ago to ſome o moſt antient Nations, under the Name of *Panis furfur* or ſurfuraceous Bread, becauſe it was not throughly purged from the Bran, according to *Aulus Gellius*, *L.* 2. *Cap.* 9. It was alſo called *Panis impurus*, impure Bread. See *Hippocrates. Athenæus*, *L.* 3. calls it *Syncomiſton*, prepar'd of unſifted Meal. He alſo called it *Coliphium*, from the *Greek* Words κῶλον, a Member, and ἶφι, Strength, importing that it convey'd Strength to the Members of the Body. See *Petr. Faber Agoniſtice* *L.* 3. *Cap.* 3. By *Cælius Rhodiginus*, *L.* 9. *C.* 16. it is called *Panis cibarius*, and *Panis gregarius*; and by *Terence*, *Panis ater.*

This kind of Bread was always highly eſteemed, both for nouriſhing the Body, and rendering it ſtrong and robuſt: Hence furfuraceous Bread was among the *Greeks* called πολυτεροφώτεροι, that is, Bread which contains a great deal of Nouriſhment; whereas that which was made of Flour, or the fineſt Meal, was called ὀλιγοτεροφώτερος, or Bread which yields little Nouriſhment, according to *Athenæus*, in the above-quoted Book. For this Reaſon the Wreſtlers of old, whoſe Limbs were of a large and robuſt Make, and who were full of Fleſh and Blood, only uſed the Coliphium, or coarſe Bread, for Dinner, and at Supper Swines Fleſh, not boil'd, but a little roaſted by the Fire: They alſo drank warm Water, not only that they might receive the more Nouriſhment from their groſs and thick Food, but that they might alſo be the longer ſenſible of the ſaturating and filling Quality of it. See *Petrus Faber, in the above-mention'd Book; as alſo Galen de Alimentis*, and *Arrianus*, *Lib.* 3. *Verrius* in *Pliny* informs us, that the *Roman* People, for three hundred Years, uſed only the Bran of their Corn. See *Fulvii Urſini Append. p.* 316. For this hard and firm Food generates Humours leſs ſubject to Corruption, nouriſhes much more than that which is ſoft and fine, reſiſts Hunger more powerfully, and produces Bodies fitter for bearing Hardſhips and Injuries, and leſs ſubject to thoſe Diſorders which proceed from a Colliquation of the Blood generally reſulting from its exceſſive Heat.

The Inhabitants of *Weſtphalia*, who are a hardy and robuſt Race of People, capable of enduring the greateſt Fatigue, and undergoing the ſevereſt Hardſhips, are living Proofs of the ſalutary Qualities of *Bonpournickel*. 'Tis remarkable that the *Weſtphalians* are rarely attack'd by acute Fevers, and thoſe Diſeaſes which proceed from an Ebullition of the Humours, and a certain malignant Colliquation of the Blood, and of the Elements or Principles of which it is compoſed. But the Diſeaſes which rage among them are of a cold and chronical Nature, a Circumſtance to be aſcrib'd to the Groſſneſs of their Food, and Hardneſs of their Diet: For, when but a ſmall Quantity of ſuch Aliments as are diſpoſed and prepared for a ſpeedy Corruption is taken, the Humours undergo a ſlow and leſs violent Fermentation: Hence an Exceſs of Heat is prevented by the Coheſion of the viſcid Parts. Nor can the Humours of the Body, which have acquir'd a firm and durable Texture, be eaſily broken and deſtroy'd by a preternatural and morboſe Ferment; and I am actually of Opinion, that the maſterly Turn of Genius, the Evenneſs of Temper, and the happy Judgment of tranſacting Buſineſs, with which the *Weſtphalians* are peculiarly bleſſed, as alſo their Promotions in foreign Countries both in Church and State, preferable to the Natives, are Circumſtances to be aſcribed partly to their Education, and partly to their Method of living. They are highly qualified for Labour and Induſtry, to which they are inur'd and habituated from their Infancy. Now, as People, by doing *nothing*, inſenſibly learn to do *ill*, ſo, by Diligence in the honeſt Employments of Life, the Seeds of Vice, and the Exorbitance of lawleſs Paſſions, are check'd in due Time. And the Method of living uſed by the *Weſtphalians* contributes not a little to the Production of this happy Effect. *Ariſtotle*, *Lib.* 1. *Pol.* 3. judiciouſly obſerves, that a Diverſity of Food and Aliment produces a proportionable Diverſity in the Lives and Morals of Men; nor is this aſſerted without a Reaſon. Since there is a continual Commerce, and an intimate Union between the Soul and the Body, ſuch as are the State and Motion of what we call the animal Spirits, ſuch alſo will be the Inclinations, Thoughts, Operations of the Mind, and Morals. But this is a Truth ſo well known to Phyſicians, and confirmed by Arguments ſo ſtrong and irrefragable, that it does not, on this Occaſion, ſtand in need of a farther Illuſtration.

Nor can it be ſaid, that the groſs Food uſed by the *Weſtphalians* generates groſs Spirits; for, by Labour and Motion, the viſcid Particles are ſufficiently divided, and, as it were, prepar'd in ſuch a manner, as not only to increaſe the Bulk of the ſolid Parts, by a cloſer Union and Adheſion to the Tubes, but alſo generates ſufficiently firm Spirits, which, as they are not fluctuating and inconſtant, render People fit for bearing the moſt obſtinate Labours both of the Body and Mind; and, though their Blood is ſomewhat cold, yet their animal Spirits are of a ſufficiently active Quality. It is obvious, that an inteſtine Spirit, which reſides in the Pores of any Fluid, muſt be confin'd by the Preſſure of the thick and rigid Parts, and of courſe become leſs ſubject to Diſſipation; ſo that the ſpirituous Parts, being forc'd to the Centre, and render'd ſtronger by a mutual Union, are poſſeſſed of an uncommon Force and Energy.

But 'tis not to be denied, that this groſs Food is leſs ſafe and ſalutary, for ſuch as have the Misfortune of weakly Conſtitutions, or thoſe who live a quiet and idle Life, or are not accuſtom'd to Labour. Hence *Hippocrates*, *de Medicina priſc.* juſtly obſerves, "That the ſtronger Aliments, if ſubdued by "Nature, are excellent Nouriſhers; if not, they produce "Pains, and cold Diſeaſes." And *Celſus* informs us, "That "the ſtronger Foods are not eaſily concocted; but that, when "concocted, they nouriſh more than other Aliments." So that Labour and Motion are abſolutely neceſſary for thoſe who uſe ſtrong Aliments. Athletic Bodies, and ſuch as are accuſtom'd to Labour and Exerciſe, receive a more ſolid Nouriſhment than thoſe who are habituated to a calm and idle Life, in whom the Nutririon, and the Fat produc'd by it, are generally ſuſpected of being faulty; for 'tis the Motion and Circulation of the Blood, which by its internal Attrition, and elaſtic Force, reſolves, ſubdues, deterges, and converts the Particles of the Aliments into the Subſtance of our Bodies; whereas Reſt deſtroys Nutrition, and generates Obſtructions, which prove a fruitful Source of Diſeaſes, and render the Genius ſlow and fluctuating.

From what has been ſaid, I think it evidently appears, that the *Weſtphalian Bonpournickel* is of a highly nouriſhing Quality; and that this firm and ſtrong Species of Aliment, by which both their Bodies and Minds are recruited, may be more ſafely uſed, and produce more ſalutary Effects in theſe People, who are accuſtom'd to Labour, than a more delicate Diet can in thoſe who are habituated to Idleneſs. Beſides, if we will but take the Pains to put this Matter to the Teſt of Reaſon, many ſatisfactory Proofs of the Excellency of the *Weſtphalian* Bread occur; for the Nature and Qualities of this groſs furfuraceous Bread, are widely different from thoſe of that which is made of the fineſt Meal. The coarſe *Weſtphalian* Bread, upon Diſtillation, yields a very large Quantity of an empyreumatic inflammable Oil. Bread indifferently fine, ſuch as that commonly called *Second Bread*, yields a moderate Quantity of a ſimilar Oil: But Bread of the fineſt Flour yields a very ſmall Quantity, or rather none at all of it. Beſides, Bran itſelf, upon Diſtillation, yields a large Quantity of Oil, produced, in my Opinion, from the hard external Huſk, which is continually acted upon by the Warmth of the ambient Atmoſphere. Now 'tis very well known, that a diſtill'd Oil is an active Principle, highly agreeable to our Conſtitutions, ſuited to the Maſs of Blood; a Balſam, as it were, to the Humours, and a faithful Guardian of a due and natural Temperament. The Blood itſelf, upon Diſtillation, yields an inflammable Oil; and the more it partakes of this oleaginous Principle, the greater Strength it ſupplies, and the more effectually it preſerves Life and Health. That diſtill'd Oils are the Repoſitory, and, as it were, the Matrix of a volatile Salt, with which the animal Kingdom abounds, is a Truth ſufficiently known to thoſe who have any tolerable Acquaintance with Chymiſtry.

From what has been ſaid, we may eaſily ſee, how much *Bonpournickel* is preferable to other Kinds of Bread. It may juſtly be called a medicinal Aliment, ſince, beſides that Quality by which it is ſo friendly to our Conſtitutions, it is poſſeſſed of another, by which it remarkably reſtores Strength, corrects a moiſt Intemperies, dries, defends from Putrefaction, and recruits the ſpent and diſſipated Spirits: For which Reaſon it may be exhibited as a Medicine, in Caſes where Strength is loſt, where the Force and due Texture of the Blood is deſtroy'd, and where a Diſſipation of Spirits is dreaded, either in Broth impregnated with Wine, Sugar, and Cinnamon, or in its own diſtil'd Water of a highly ſweet Taſte, which is excellent in Loſs of Strength, and phthiſical and hectical Diſorders. I need not, on this Occaſion, mention its ſingular Uſe, when apply'd externally in Pains of the Head, and in Caſes where the Intention is to diſſipate ſtagnating Humours.

Laſtly, this coarſe Bread is poſſeſs'd of a ſingular Quality not to be found in other Bread, ſince, notwithſtanding the Coarſeneſs of its Texture, it renders the Belly ſoluble. This Virtue in coarſe Bread was long ago obſerved by *Hippocrates*, who affirms, "That Bread made of unſifted Meal is purgative, "whereas that which is purer, is proportionably leſs ſo; and "that which is pureſt of all, is ſo far from operating in this "way, that it renders People coſtive." I am of Opinion, that this purgative Quality is to be aſcribed to the rigid Texture and Figure of the Bran, which proves a quick and continual Stimulus to the ſmall inteſtinal Fibres, to perform their excretory Motion; for, according to *Galen*, Bran is poſſeſs'd of a deterſive Quality. Hence we may obſerve, that Gruels made of coarſe Meal are excellently qualified for keeping the Belly ſoluble.

As for the Medicines prepared of this *Bonpournickel*, the principal and moſt celebrated is the following Water, which is excellent for reſtoring Strength, and recruiting the homogeneous Humidity of the Body in hectic Heats. It is prepared thus:

> Take one Pound of the Bread bruiſ'd; of the Juice of Cray-fiſh, half a Pound; of *May* Dew, four Pounds; of Roſe-water, four Ounces; of Nutmegs, half an Ounce; and of Saffron, one Dram: Let the Whole be diſtil'd together *in Balneo Mariæ*, applying a moderate Heat.

Thus a highly cordial Water is yielded, of a fragrant Smell, grateful to the Stomach, and excellently calculated for allaying hectical Heats; for which Purpoſe half a Pint of it muſt be taken daily, either by itſelf, or with Powder of calcin'd Hartſhorn.

Beſides, if a ſpirituous ſtomachic Water is deſired, this Bread is to be diſtil'd with Rheniſh-wine, adding a ſufficient Quantity of Nutmegs and Cinnamon. By this Proceſs a Water is yielded which is of ſingular Service for ſtrengthening the Stomach, when afflicted with an exceſſive Relaxation, Vomiting, or Loſs of Appetite. Beſides, the Spirit of this Bread when diſtil'd dry in a Retort, and well purg'd from its fetid Oil, is a ſudorific Medicine agreeable enough to the human Conſtitution, and highly efficacious in removing Impurities of the Blood. If this Spirit is expoſed for ſome time to the Rays of the Sun, it aſſumes a reddiſh Colour. The Virtues and Excellencies of this Spirit are more fully inſiſted on by *Joh. Tackius in Chryſog. Anim. Hoffman Obſ. Chym.*

BON. The Coffee-tree, or JASMINOIDES, which ſee.

BONA, or BOONA, in *Blancard*, is the Bean, or Kidney-bean.

BONASUS. A kind of wild Ox, as high as a Bull, and bigger than a common Ox. His Head and Neck are cover'd with great yellow Hairs, longer and ſofter than thoſe of a Horſe. His Horns are turned inward, ſo that they are no great Defence to him; their Colour is a fine ſhining Black. The Hair of his Body is aſh-colour'd Grey, inclining to Red. His Skin is very hard, and Proof againſt Blows; and he lows like an Ox. He is found between *Pæonia* and *Media*, and lives among the Mountains. His Fleſh is very good Food.

His Horns are aſtringent, ſudorific, and alexipharmac. *Lemery de Drogues.*

BONATI is explained by *Rulandus* vitreati. I ſuppoſe glaz'd.

BONDUCH, Offic. *Bonduch Indorum*, Jonſ. Dendr. 300. *Bonduch cinerea, foliis longioribus*, Act. Philoſ. Lond. N. 267, 702. *Bonduch vulgare majus polyphyllum*, Plum. Nov. Gen. 25. Boerh. Ind. A. 2. 59. *Bonduch Pianta Indiano*, Zan. 44. *Bonduch Indiano*, Pon. Ital. Bald. 32. *Arbor exotica ſpinoſa, foliis lentiſci*, C. B. Pin. 399. Raii Hiſt. 2. 1743. Herm. Muſ. Zeyl. 35. *Arbor ſpinoſa Indica, muricatis ſiliquis*, Park. Theat. 1551. *Lobus echinatus*, or Bezoar Nuts, Ger. Emac. 1554. *Lobus echinatus, fructu cæſio, foliis longioribus*, Herm. Parad. Bat. Prod. 348. Cat. Jam. 144. Hiſt. 2. 41. *Lobus alius exoticus hirſutus cum piſo duro cinerei coloris*, Chab. 92. *Lobus* ἐχινώδης *cum piſo duro cinerei coloris*, J. B. 1. 439. *Acacia glorioſa, lentiſci foliis, ſpinoſa, flore ſpicato luteo, ſiliqua magna muricata*, Pluk. Almag. 4. Phytog. Tab. 2. Fig. 2. *Caretti*, Hort. Mal. 2. 35. Tab. 22. *Inimboy Braſilienſibus*, Marcg. 12. *Inimboy Braſilianorum frutex ſpinoſus ſpicatus platylobis echinoidibus, glycyrrhizæ foliis*, Breyn. Prod. 1. 40. *Inimboia ſive Sylva de praya Luſitanis*, Piſ. 95. (Ed. 1648.) *Inimboy*, Ejuſd. 205. (Ed. 1658.) *Criſta pavonis glycyrrhizæ folio minor repens ſpinoſiſſima, flore luteo ſpicato minimo, ſiliqua latiſſima echinata, ſemine rotundo cinereo, lineis circularibus cincto majore*, Breyn. Prod. 2. 38. Commel. Flor. Mal. 93. MOLUCCA NUTS, MARSAO, BEZOAR NUTS.

It grows to a Man's Height, and is a Native of both *Indies*; the Parts in Uſe are the round Beans, which are of an Aſh-colour, white on the Inſide, extremely bitter, and taſteleſs.

They are good in Hernias, diſcuſs Flatulencies, eaſe the Colic, comfort a weak Stomach, provoke the Menſes, and expel the Stone. *Dale.*

There is another rarer Species of it barely mentioned by *Ray*, under the Title of *Bonduch Indorum, ſiliqua minime ſpinoſa.*

BONIFACIA. The ſame as *Laurus Alexandrina*. See LAURUS. *Blancard.*

BONTIA. *Barbados* wild Olive *vulgo.*

It has a perſonated Flower, conſiſting of one Leaf, whoſe upper Lip is erect, and the under Lip divided into three Parts. From out of the Cup ariſes the Pointal, fixed like a Nail in the hinder Part of the Flower, which afterwards becomes an oval Fruit, which is ſoft, and full of Juice, in which is contained one oblong Seed, incloſed in a Nut of the ſame Form. *Miller's Dict. Vol. 2.*

We find no Medicinal Virtues aſcribed to this Plant.

BONUM, ἀγαθὸν, καλὸν, Good. It ſignifies in general what a Perſon ought to chuſe, do, or on which he may rely, according to *Galen, Lib. 7. de Hippocr. et Platon. Decr. Cap. 2. Bonum* may be taken abſolutely, or in itſelf, and comparatively, in which Senſe it comprehends a leſs Evil. *Galen, C. 20. in Epid. t. 36. Caſtellus.*

BONUS HENRICUS, *Tota bona, Mercurialis*, Offic. *Bonus Henricus*, J. B. 2. 965. Ger. 259. Emac. 329. *Bonus Henricus, Tota bona*, Chab. 303. *Bonus Henricus officinarum*, Volck. 67. *Bonus Henricus, falſo Mercurialis*, Pharm. Edengb. 4. *Blitum Bonus Henricus dictum*, Raii Hiſt. 1. 195. *Blitum perenne Bonus Henricus dictum*, Synop. 64. *Blitum perenne, ſpinachiæ facie*, Hiſt. Oxon. 2. 599. *Atriplex Chenopodia, folio triangulo*, Hort. Monſp. 29. *Chenopodium folio triangulo*, El. Bot. 406. Tourn. Inſt. 506. Dill. Cat. 67. Buxb. 70. *Lapathum unctuoſum, folio triangulo*, C. B. 115. *Lapathum unctuoſum, ſive Bonus Henricus*, Park. 1226. Munt. Herb. Brit. 207. ENGLISH MERCURY. *Dale.*

This Mercury has a thick, yellowiſh, perennial Root, with ſeveral Fibres; the Leaves grow upon long Foot-ſtalks of a triangular Shape, like Spinage, of a yellow-green Colour, feeling greaſy or unctuous in handling. The Stalks grow to be about a Foot high, with ſeveral of the like Leaves growing on them; and on their Tops Spikes of ſmall herbaceous Flowers, incloſing little, round, black, ſhining Seed. It grows in waſte Places, and among Rubbiſh; and flowers in Spring.

This Herb is of a deterſive cleanſing Quality. The young Shoots, before they come to Seed, boiled as Spinage or Aſparagus, are pleaſant to the Palate, cooling, ſoluble, and good for the Scurvy, and provoke Urine; outwardly it is much uſed in Clyſters, and a Cataplaſm of the Leaves helps Pains of the Gout.

The only Officinal Preparation is the *Mel Mercuriale*, which is thus made:

> Take of the Juice of Mercury, three Pounds; of Honey, two Pounds: Let them be depurated, and boiled up together, to the Conſiſtence of Honey.

This is ſeldom uſed, except in Clyſters.

BOOPS, *Boax, Box*, βῶξ, βόαξ, βόωψ. The Name of
Fiſh that lives near the Shore. Its Fleſh is reckon'd amon
Meats eaſy of Digeſtion, and is adviſed to ſick Perſons. It i
deſcribed by *Aldrovandus, Lib. 2. de Piſc.*

BOOS *thalaſſiu*, βοὸς θαλασσίȣ, from θάλασσα, the Sea, th
Genitive of βȣ̃ς θαλάσσιος, the Sea-cow. The Words are i
Galen's Exegeſis on *Hippocrates*, which he expounds b
σελαχώδης ἐςὶν ὁ ἰχθὺς ȣ̓τος, "this is a cartilaginous Fiſh."
This Sort of Fiſhes *Pliny, Lib. 9. Cap.* 24. calls *plani*, an
amongſt them he reckons the Sea-cow; and ſo does *Ariſtotle*
Lib. 5. Hiſt. Anim. Cap. 5. and *Lib. 6. Cap.* 12. who,
Pliny ſays, calls all thoſe Kinds σελάχη, "cartilaginous,"
which are diſtinguiſhed from others by having a Cartilage inſtea
of a Spina, or Chine-bone of the Back. *Foeſius.*

BORACO, *Capiſtrum Auri*, "the Bridle of Gold." *Ru
landus.* See *Salmaſius*'s Remark on this Name under BORAX.

BORADES, Filings. *Rulandus.*

BORAGO, Offic. *Borrago*, Park. Parad. 249. Cha
515. *Borrago hortenſis*, or Garden Borage, Ger. 653. Ema
797. Raii Synop. 3. 228. Hiſt. Oxon. 3. 437. *Borrago flori
bus cæruleis*, J. B. 3. 574. Tourn. Inſt. 133. Boerh. Ind. A
188. *Borrago floribus cæruleis & albis*, Raii Hiſt. 1. 49
Bugloſſum latifolium, Borrago, C. B. Pin. 256. BORRAG
Dale.

The Root of Borrage is thick, whitiſh, and but litt
branched; from which ſpring ſeveral large, long, and roundi
green Leaves, wrinkled, rough, and even prickly in handlin
The Stalk likewiſe is rough and prickly, beſet with ſmall
Leaves, bearing many Flowers at the Top, which are of o
ſingle Leaf cut into five Segments, laid open like a Star,
a fine blue Colour, with a black Umbo in the Middle, each
which is ſucceeded by four brown angular Seeds, growing in
round Calyx. It grows in Gardens, but is found wild
divers Places near Houſes, and upon Walls; and flowers
June. The Leaves and Flowers are uſed.

The Leaves are accounted Cordial, good to comfort t
Heart, and drive away Faintneſs and Melancholy; and
that Purpoſe, the Tops are frequently put into Wine, a
Cool-tankards. They are likewiſe Alexipharmic, and good
malignant Fevers.

The Flowers are one of the four Cordial Flowers. T
only Officinal Preparation is the Conſerve of the Flowe
Miller's Bot. Off.

BORAX. A kind of Salt uſed in mechanic Arts and M
dicine. It is thus diſtinguiſh'd:

Borax, Chryſocolla factitia, ſanterna Plinii & Tincar, O
Borax, Charlt. Foſſ. 9. Dougl. Ind. 18. *Nitrum unde Bo
coquitur*, Aldrov. Muſ. Metall. 324. *Nitrum factitium, A
bice Borax*, Worm. 21. *Nitrum nativum aliorum foſſili
modo in terra repertum durum, & ſpiſſum, ut Lapidi non ab
aſſimilari poſſit. Tincar eſt Arabum, ex quo Chryſocolla Gr
corum, Borax eorundem Arabum, Venetiis conficitur*, C

Muſ. 162. *Nitrum nativum ſciſſile durum, ex quo Venetiis Borax coquitur*, Kentm. *Baurach*, Mayern. Syntag. 1. BORACE. *Dale.*

The beſt Chryſocolla is what comes from *Armenia*, and is of a lively Leek-green. The next in Goodneſs is the *Macedonian*, and after this the *Cyprian*, of which Kind the pure is to be preferred; what has gathered Dirt and Stones is to be rejected.

The Manner of waſhing the Chryſocolla is thus: Firſt, they break it, and then put it into a Mortar, where, pouring in Water, they rub the Chryſocolla well with their flat Hand againſt the Peſtle; after this they let it alone to ſubſide, and then ſtrain it off. This done, they pour freſh Water to it, and work it as before, repeating the Operation till the Chryſocolla comes out pure and unmixed; then they dry it in the Sun, and ſo lay it up for Uſe.

When they have a Mind to burn it, they do it in the following manner: Having pounded a ſufficient Quantity, they ſet it in a Pot upon the Coals, and proceed as has been directed in other Caſes.

Chryſocolla exterges the Marks of Scars, and checks Excreſcences; it is of a cleanſing, aſtringent, and heating Quality; and is a gentle Septic, with ſome Degree of Mordacity. It is reckon'd among thoſe things which excite Vomiting, and endanger Life. *Dioſcorides*, *Lib.* 5. *Cap.* 104.

Chryſocolla is a liquid Subſtance, which runs through a Vein of Gold, and is condenſed by the Cold of the Winter to the Hardneſs of a Pumice-ſtone. The beſt is found in the Copper Mines, and the next in Goodneſs in the Silver Mines; they meet with it alſo in the Lead Mines, and a baſer Sort in the Gold Mines. They have alſo a way of making Chryſocolla artificially in all theſe Metals, though much inferior to what grows naturally, by introducing into the Vein a gentle Current of Water during all the Winter, till the Month of *June*, which, in that and the next Month, drying up, leaves behind it the Chryſocolla, which may be underſtood, from this manner of Production, to be no other than a putrid Vein. The native Chryſocolla is far different from this with reſpect to Hardneſs; they call it *Lutea*, though they dye it alſo with an Herb of that Name. It is of the Nature of Wool or Flax to imbibe any Juice. They pound it in a Mortar, then paſs it through a fine Sieve; after this they grind it; and being thus reduced ſmaller, they paſs it through the Sieve again; what will not go through is pounded over again in the Mortar, and afterwards ground in the Mill. The Powder is always diſpoſed into ſmall Veſſels [*catinos*], and macerated in Vinegar, to take off all Hardneſs; then pounded over again; and afterwards waſhed in Pans, and ſo dried. After this they ſtain it with plumous Alum, and the Herb *Lutea* before-mentioned; and thus it is painted, before it paints. It matters much how bibulous and receptible it is; for if it does not immediately take the Colour, they add to it Schy-anum and Turbyſtum, which are the Names of Drugs that diſpoſe things to receive Colours. When the Painters have ſtain'd it, they call it Orobitis, and make two Sorts of it; the Yellow [*Lutea*], which is kept for a Paint; and the Liquid, reſulting from a Diſſolution of the Globules by Sweat; both theſe Kinds are made in *Cyprus*.

The moſt valuable Chryſocolla is the *Armenian*, next to that the *Macedonian*, but the largeſt comes from *Spain*. The utmoſt that can be ſaid in its Commendation is, that it very nearly repreſents the Colour of a lively Corn-green. The Emperor *Nero*, in the Time of the public Shews, ordered the Area of the Circle to be ſtrew'd with Chryſocolla, then enter'd himſelf, habited in the ſame Colour, and after introducing a Rabble of Mechanics, entertain'd them with his Dexterity in driving a Chariot. They make three Kinds of Chryſocolla; the *rough*, which is valued at ſeven Libræ; the middle Sort, valued at five Denarii; and the *Attrita*, called alſo the herbaceous, at thirteen Denarii.

The Uſe of Chryſocolla in Medicine is to cleanſe Wounds, being mixed with Wax and Oil: As it is dry of itſelf, ſo it dries and contracts. It is preſcribed alſo in the Quinſey and Orthopnœa, being mixed with Honey. It provokes Vomiting, and is an Ingredient in Collyria for Cicatrices of the Eyes, and green Plaiſters for mitigating Pains, and inducing a Cicatrix. Phyſicians call the Chryſocolla, except the Oribitis, *Aceſis.* The Goldſmiths lay Claim to the Chryſocolla for ſoldering Gold, from which Uſe it takes its Name, [χρυσὸς, Gold, and κόλλη, Glue, Solder] and is ſo called by all who uſe it for the like Purpoſe. It is temper'd with *Cyprian* Verdegriſe, and the Urine of a Boy, with an Addition of Nitre; they pound it with *Cyprian* Copper Peſtles in *Cyprian* Mortars; we call it *Santerna.* This makes a Solder for that Gold which they call the *Copperiſh*, which is known by its acquiring a Brightneſs by an Addition of Santerna. But what they call the *Copperiſh*, on the contrary, contracts itſelf, and looks dull, and is difficult to be ſolder'd. For this Kind they make a Solder, conſiſting of Gold, and a ſeventh Part of Silver, added to the before-mentioned, and pounded together. *Pliny*, *Lib.* 33. *Cap.* 5.

Some Sorts of Chryſocolla are found among Metals, and theſe only are by ſome accounted proper Chryſocolla. But there is a factitious Sort, which is prepared by pounding them with Boy's Urine in a Mortar of red Copper, with a Peſtle of the ſame Metal, in the Heat of the burning Sun. This is more medicinal than the native Kinds, and makes an excellent Remedy for malignant Ulcers, either by itſelf, or mixed with proper Ingredients. Burning of it will diminiſh its pungent Quality. *P. Ægineta*, *Lib.* 7. *Cap.* 3. *Aetius*, *Tetr.* 1. *Serm.* 2. *Cap.* 81.

Borax is a barbarous Word Latinized, and now every-where uſed inſtead of Chryſocolla. The later *Greeks* alſo call it βοράχιον, *(Borachion)* as *Myrepſus*, in the Ointment διὰ κιτρίων, "of Citrons," Number forty-two, where one of the Ingredients is a Quantity λίθου βοραχίου, "of the Borachian Stone," where you ſee that Chryſocolla is called a Stone. But *Dioſcorides* makes it a Property of the beſt Chryſocolla to be without Stones; and ſo the beſt Stone muſt not be at all ſtony, which is abſurd. But I have often wonder'd how both *Greeks* and *Latins* of the later Ages came to uſe the Words βοράχ and βοράχιον, inſtead of Chryſocolla. They ſeem to have received them from none but the *Arabians*; and yet theſe are no *Arabic* Words. Therefore a great Man happens to be miſtaken in his Notes upon *Garcias*, *Cap.* 35. *Lib.* 1. where he obſerves that *Borax* is a corrupt Word, and that we ought to ſay *Baurac.* This *Baurac* is indeed an *Arabic* Term, but never uſed for Chryſocolla, but for *Nitrum*, or *Aphronitrum*; it is *Avicenna*'s Word for *Nitrum*, for he calls *Aphronitrum*, *Zebed Baurac*, that is, *Spuma Nitri.* The *Arabians* ſometimes alſo uſe the *Greek* Word *Nitron*, but Chryſocolla they call *Tincar.* In a very antient Copy of *Dioſcorides*, χρυσόκολλα (Chryſocolla) is expounded, by the *Arabian Gloſſer*, *Tincar va Lezac Alzeheb*, "Tincar, or the Solder or Conſolidation of Gold." In the latter Explication the *Greek* Word χρυσόκολλα is expreſſed, being no other than that by which Gold is ſolder'd. But *Zeheb* is put for *Deheb*, for this is *Avicenna*'s Word for Chryſocolla, as *Lezac Aldeheb.* This is the *Chaldaic* Name for Gold; for they alſo ſay דהב, *Dahab*, inſtead of the *Hebrew* זהב, *Zahab*, Gold. *Braſſavolus*, and others, obſerve, that Chryſocolla is called by the *Arabians Capiſtrum Auri*, "the Bridle of Gold." They were led into this Miſtake by the old Interpreter, who on the Word *Tincar*, in *Avicenna*, has theſe Words, *et dicitur Capiſtrum Auri*, "and it is called "the Bridle of Gold." In the *Arabic* it is, "the Conſolida- "tion or Soldering of Gold." *Avicenna* uſes the Verb every-where as ſignifying to conglutinate and conjoin ſeparate Parts, in the ſame Senſe as the *Greeks* uſe συγκολλᾷν and κολλᾷν· whence κολλητικὰ φάρμακα, "conglutinating Medicines." But the Letters of the Verb, with but one Apex more, ſignify *frænare*, "to bridle;" whence is deriv'd the verbal Noun, ſignifying *Frænum*, *Capiſtrum*, "a Bridle or Halter." This deceived the old Interpreter, who miſtook it for the other; and indeed it would be abſurd to call Chryſocolla, which is the Cauſe of the Coheſion and Conglutination of Gold to Gold, the Bridle of Gold.

The *Arabians* ſeem to acknowledge ſome Relation between the Chryſocolla and Nitre, that is, *Baurac*; for *Serapion*, in his Chapter of Chryſocolla, *Cap.* 413. writes, that the Tincar was a kind of Salt, and had ſome Taſte of Nitre, that is, of *Baurac.* Alſo in his Chapter of Nitre, ſpeaking according to the Opinion of *Rhaſis*, he ſays, there is a kind of Nitrum, or Aphronitrum, whence is the Tincar, that is, the Chryſocolla. However it be, I do not in the leaſt doubt, but from this *Arabic* Word *Baurac*, or *Borac*, which is Nitre, the *Barbarians* form'd their *Borax* to ſignify Chryſocolla. Thus from the *Arabian Sandarac* we know they made their *Sandarax*, and βερνίκη *(Bernice)* they chang'd to *Vernix*, though to quite a different Senſe from what the *Greeks* put upon their *Bernice*.

That the *Arabians* will have ſome Reſemblance between the Chryſocolla, commonly called *Borax*, and Nitre, which they call *Baurac*, muſt perhaps be underſtood of that factitious kind of Chryſocolla, which is commonly made of plumous Alum and Sal Ammoniac; and therefore *Serapion* reckons the Chryſocolla among the kinds of Salt.

Borax, in *Albertus Magnus*, is alſo the Name of a Stone found in the Head of a Toad; but no Credit is to be given to that Author. *Salmaſius de Homonym. Hyl. Iatr. Cap.* 121.

Ariſtotle, in his Book περὶ θαυμασ. ἀκουσμάτων, ſpeaks of *Demoneſus*, an Iſland over-againſt *Chalcedon*, which produced Chryſocolla, the fineſt Sort of which was valued at its Weight in Gold, being a Remedy for the Eyes. *Idem*, *Plinianæ Exercitationes.*

Mr. Geoffroy *gives the following Account of Borax.*

Borax is a Salt, whoſe Compoſition, whether natural or artificial, is but little known. Natural Hiſtory, as well antient as modern, affords us but little Light or Information concerning this ſtrange Salt; and from what we can learn of it from thence, we are not ſufficiently inſtructed to conclude, that it is the true Chryſocolla of the Antients, though the *Spaniards*, who work in the Mines of *Chili*, the *Venetians*, and other Moderns, ſtill give it that Name, which they found in antient Natural Hiſtory.

Pliny, ſpeaking of the Chryſocolla of his Time, divides it into two Kinds; the native, which was taken out of the Mines of Copper; and the factitious, which was made by ſtirring and beating the Urine of young Children in Mortars of Copper. See above.

Paul Herman, in his *Materia Medica*, *Straſbourg* 1706. ſays, that they make Borax in the *Eaſt-Indies* of a nitrous Earth, which, after they have calcin'd, and reduced it to Powder, they boil and make thereof a ſtrong Lixivium; this they afterwards expoſe to the Air, in order to make it run into Cryſtals; that this Salt never comes to a greater Perfection in that Country; and that it is in the Places whither it is tranſported that they purify it.

By theſe two Deſcriptions, and eſpecially *Pliny*'s, it appears, that we are at a Loſs for the true Borax at preſent; for, in the Eſſays which I made on the Solution of this Salt in Water without Addition, I could never find a ſingle Atom of Copper, whereas there ought to have been a conſiderable Quantity, had it been the Chryſocolla of *Pliny*.

Nor had I any more Reaſon, from what I could diſcover, to think that it might be made of a nitrous Earth, taken in the Senſe, and according to the Properties of our Nitre at preſent, becauſe it cryſtallized in a different manner, and fuſed upon Coal. But if M. *Herman*, by his *Indian* Nitre, means the Nitre of *Agra*, and ſome other Places in the *Eaſt-Indies*, which is a Natrum, and conſequently a ſtrong Alkali, Borax would be an alcaline Salt of much greater Penetration, and of a much more acrimonious Taſte than we find it, unleſs they have a way in making this Salt, to add to the Natron ſome ſweetening Subſtance to take off the Acrimony, and ſo make an imperfect Sal Salſum, in which the Alcali is predominant.

My late Brother, in the Lectures which he read at the Royal College upon the *Materia Medica*, and after the Peruſal of ſome Memoirs of a *German* Traveller called M. *Narglin*, a good Naturaliſt, who had made many Eſſays upon that Salt, both in the *Indies*, and at *Venice*, where it was formerly purify'd, tells us, “That Borax was produced in ſeveral Parts of the “ *Eaſt-Indies*, but moſt plentifully in the Dominions of the “ Great Mogul, and in *Perſia*; that, in ſeveral Places of thoſe “ two Countries, there flow'd gently from different Mines, “ but principally from thoſe of Copper, a ſalt Water, muddy “ and greeniſh, which was carefully preſerved; that, after it “ was evaporated to a certain Conſiſtence, they poured it into “ Pits ſunk in the Earth, and lined with a Paſte compoſed of “ the Mud depoſited from the ſame mineral Sources, and the “ Fat of Animals; that they laid over theſe Pits a Cover of a “ convenient Thickneſs, made of the ſame Paſte; that at the “ End of ſome Months they open'd them, where they would “ find the Water partly evaporated, and the Salt of the Borax “ cryſtallized; that they took theſe Cryſtals out of that fat “ Mud, with which they were ſtill mix'd or cover'd, and in “ that Condition they were brought to us from the *Indies*.”

Our Merchants import Borax alſo from *China*, where it coſts little; which makes it probable, that this kind of Salt is natural to that Country, or at leaſt very eaſy to make.

Theſe different Boraxes are at preſent refined in *Holland*; but the way of doing it is not a Secret known only to the *Dutch*, for there is a private Gentleman in the *Fauxbourg St. Antoine*, who did refine it, and deliver it to the Merchants as fine and as pure as that of *Holland*. In this State of perfect Purification it is tranſparent like Rock-cryſtal.

While it is rough, or in the ſame State in which it was imported from the *Indies*, its Cryſtals are commonly of the Bigneſs of Haſel-nuts, of a greeniſh Colour, dirty, and obſcure, like the Lare-ſtone of *China*, or of a paliſh Green like the Jade [a ſort of precious Stone]. They are full of Impurities, and mix'd with Earth, and bedaub'd with a fat Subſtance, which is perhaps that of the Paſte ſpoken of before, or ſome other Fat with which they were cover'd, in order to prevent their running into a Calx, or being reduced to a Powder during their Carriage in theſe hot Countries. For we know, that Borax is eaſily calcin'd in the Air, as ſoon as it has been waſhed in cold Water, and cleared of its unctuous Envelopement, which whitens the Water, and diſſolves in it like Soap.

The Cryſtals of this Salt have the Figure of an oblique Priſm, with ſix Faces, whoſe Baſe has ſix Sides, of which thoſe oppoſite to each other are equal and parallel. The greateſt Diameter or Length of the Baſe is almoſt double, and ſometimes more than double its Breadth. What is ſingular in theſe Cryſtals is, that if we conſider the two oppoſite Planes, which may reciprocally ſerve for a Baſe, we ſhall perceive a ſmall Side of that Plane flatten'd throughout its whole Length; and ſometimes alſo the acute adjacent Angle, and the two Sides, one in each Plane, thus flatten'd, are ſo ſituated, as to be diametrically oppoſite. Though this be not exactly true in all theſe Cryſtals, we may yet perceive, that they for the moſt part reſemble that Figure. The greateſt Diameter of the Baſe of the largeſt that I could find was about ten or twelve Lines; and the leaſt Diameter, or what meaſures the Thickneſs, five or ſix Lines. The Length is not always proportion'd to the Greatneſs of the Baſe; for one, the greateſt Diameter of whoſe Baſe is but eight Lines, ſhall be thirteen or fourteen Lines in Height, whereas another, the greateſt Diameter of whoſe Baſe is twelve Lines, ſhall have but ten Lines of Height.

There are ſome Cryſtals which come very ſhort of that Size; and even ſome which are no bigger than Grains of Millet.

As it is very probable, that this Salt was form'd in a troubled or muddy Liquor; accordingly we find in diſſolving it a great deal of groſs Earth, or Sand; and its greeniſh Colour diſappears, if it be cryſtallized anew.

This is all that I have to ſay concerning the external Form and Figure of Borax; as to its internal Nature and Properties, which has been the Object of the Inquiries of the moſt Part of the Chymiſts of *Europe*, I can ſpeak no more than by Conjecture. *Becher* ſeems to have known the Compoſition of this Salt, if he did not ſpeak at random in his *Phyſica Subterranea*, and his *Alphabetum Minerale*, where he ſays, “That the univerſal Acid, in diſſolving a Stone, or fuſible Earth, forms “ Borax; as it forms Alum, when it meets with an Earth fit “ to make Lime.”

We ſhall, perhaps, one Day or other, diſcover Borax in Subſtances where we never ſuſpected it could have been, as we have found *Glauber*'s Salt, and vitriolated Tartar, in mineral Waters, Plants, and other natural compounded Bodies.

M. *Homberg* believ'd, that Borax was a mineral urinous Salt. M. *Lemery* the elder thought it had the Qualities of a neutral Salt, which neither fermented with Acids nor Alcalies; and, in the laſt Place, M. *Lemery* defin'd it to be a Sal Alcali, becauſe it precipitates the metallic Earth of Vitriols, and the Earth of Alum, almoſt as readily as Salt of Tartar does it. He has ſhewn alſo, that Borax is ſublimed not only with a vitriolic Acid, but with other mineral Acids, and with white Vitriol. *Memoires de l'Acad. Roy. des Scienc.* 1732.

The diſtinguiſhing Properties of *Borax* are principally theſe:

1. Its Form and Appearance, as brought to us from the *Eaſt Indies*, which is that of dirty Lumps, or a coarſe, ſaline, an particularly fetid Subſtance, mixed with much unctuous, earthy and ſtony Matter; and in this State it is commonly called Tin cal, or Tincar.

2. Its pure and entire Cryſtals, when refined, being octagon Priſms very finely cut, though ſeldom obtained perfect in th ordinary way of refining it.

3. Its particular Taſte, not eaſy to be deſcribed, as bein ſweetiſh, ſharpiſh, and ſomewhat urinous or lixivious.

4. Its Property of ſoldering Metals, or making them eaſil unite, or take hold of each other, more particularly the Parts o Gold.

5. Its making an excellent Flux for Metals and certain Ore and, by being melted with a proper Proportion of Sand or Flin turning, in a very ſhort time, to a hard Glaſs, capable of cu ting common Glaſs almoſt like a Diamond.

6. Its extremely vitreſcible Nature, ſo as by itſelf, with moderate Heat, and in a few Minutes time, to become tru and permanent Glaſs.

The Uſe of Borax in Medicine is that of an inciſive and ap rient Salt, by virtue of which it is effectual againſt Diſeaſ which proceed from an Inſpiſſation of the Humours, and O ſtructions thence ariſing, acting at the ſame time againſt t Acid, without exciting any Motion. The Doſe is an enti Dram. It is thought by ſome to have a ſpecific, emmenagog cal, and expulſive Virtue, which may probably be derived fro the aforeſaid inciſive, deobſtruent, and aperitive Qualiti However, its Stimulus does not ſeem ſtrong enough to be d pended upon for preſent Relief in a difficult Birth, unleſs it join'd with ſome other Ingredients, that are of more Efficacy their volatile Stimulus. For this Reaſon Borax is common given in Powder mixed with Saffron, Myrrh, Oil of Cinnamo Caſtor, the volatile Salt of Amber, and other Powders of kno Efficacy, in promoting the Birth, and facilitating Delive Some adviſe a few Grains of it to be taken in a poach'd Eg as a Provocative to Venery, eſpecially to thoſe whom poac Eggs alone have a good Effect upon.

Borax calcin'd is reckon'd of ſpecific Virtue in Fluxes of t Belly, or the Semen, becauſe it is a ſort of ſtyptic Earth. T Doſe is from a Scruple to half a Dram, in Conſerve of Ro either alone, or with other ſuitable Ingredients, for Inſtanc the Bone of the Cuttlefiſh, or toaſted Nutmeg.

Outwardly it is apply'd, though but ſeldom, to conſu carnous and ſpongy Excreſcences in ſordid Ulcers; it is reco mended alſo for the Itch, and in Coſmetics. The Uſefulneſ Borax in ſuch Caſes may reaſonably be expected from its fi inciſive, and reſolving Qualities, which cauſe it to be rece into the Unguentum Citreum, which is recommended mak making the Skin ſmooth, and free from Aſperities. Its ſaponaceous, abſterſive Virtue, for the Purpoſes aforeſaid, may perhaps more juſtly be expected from Borax in its crude State, as it is ſold in *India*; tho', according to *Garcias*, it is ſeldom uſed by the *Indian* Phyſicians, unleſs for the Itch. The *Pulvis Diaboracis Mynſichti* has Borax for its Baſis, and ſtimulating Aromatics and Abſorbents for Acceſſories. The Doſe is to a Dram for Women in Labour, to facilitate the Birth, and to expel the Secundines, and dead Fœtus.

As Examples of the Methods of preſcribing Borax, I ſhall give the *Pulvis Emmenagogus* of *Fuller*, and the *Pulvis Diaboracii* of *Mynſicht*.

PULVIS EMMENAGOGUS, *Fulleri*.

Take of *Venetian* Borax, fifteen Grains; Myrrh, twelve Grains; Saffron, three Grains; Oil of Cloves, one Drop: Mix together, and make a Powder.

This is to be taken twice a Day, and is recommended for promoting the Menſes.

PULVIS DIABORACIS, *Mynſichti*.

Take of *Venetian* Borax, an Ounce and a half; Caſſia Lignea, and Oriental Saffron, each three Drams; Savin-wood, white Amber prepared, each a Dram and a half; Bone of a Stag's Heart; Miſleto, Flowers of the Wall-flower, each a Dram: Mix, and make a Powder. The Caſſia Lignea, Savin-wood, Miſleto, the Bone of a Stag's Heart, the Saffron, and Flowers dried, are to be powder'd together; and ſo are the Amber and Borax; and then all are to be mix'd together.

It is recommended for promoting Delivery, and expelling the After-birth; and is ſaid to be a good Emmenagogue.

BORBONICUS, *Borbonenſis*. A patronymic Epithet of ſome hot Springs, commonly call'd the Waters of *Bourbon*. *Caſtellus*.

BORBORODES, βορβορῶδες, muddy, dirty, earthy, feculent. Βορβορῶδες πύον, is dirty, feculent Pus, *Hip. Prognoſtic.* and *Aph.* 44. *Lib.* 7. and *Coac.* Βορβορώδεες ὀδμαὶ are "muddy, "earthy Smells," *Lib.* περὶ χυμῶν. Βορβορώδεα οὖρα are "muddy, feculent Urines." *Galen. Comment. ad Aph.* 69. *Lib.* 4.

BORBORYGMUS, βορβορυγμός. A rumbling Noiſe, excited by Wind, mix'd with ſome Degree of Humidity. *Galen*, n his Comment on the ſeventy-third Aphoriſm of *Book* 4. ſays hat *Borborygmus* is the Noiſe of a Flatus, not very loud, nor ng, with a moderate Degree of Humidity, deſcending to the ferior Parts. And, *Lib.* 3. *Symptom. Cauſ. Cap.* 7. "a Borborygmus is a murmuring Sound, excited by Humidities contain'd in the Inteſtines, and is the Fore-runner of a humid Excretion: So Tumors about the Præcordia terminate in a *Borborygmus*, or Rumbling; the Flatulencies, together with the Excrements and Urine, diſcharging themſelves principally by Stool; for ſuch is not barely a Sign of a Flatus, but that it is mix'd with ſome Humour, or more ſolid Body." βορυγμὸς γενόμενος ἐν ὑποχονδρίῳ "A Rumbling in the Hypochondria," *Coac.* Βορβορίζειν, and διαβορβορίζειν, are oken of the κοιλίη, "Belly," when it rumbles, and is irritad to Excretion, *Lib. de Rat. Vict. in Morb. acut.* Διαβορβοζυσα κοιλίη κεναῖς ἐξαναστάσεσι "The Belly rumbling, with vain Efforts to eaſe itſelf," *Prorrhet.* Διαβορβορύζοντα χόνδρια μετέωρα "The Hypochondria rumbling, and elevated, *Aph.* 73. *Lib.* 4. Ὑποβορβορύζειν is alſo uſed, as, λίη ὑποβορβορύζουσα φύσησι, "the Belly rumbling with Flatulencies," *Aretæus*, *Lib.* 2. *Cap.* 6. *de Cauſis & Signis acut.* rb. Οἱ ἐν ποτοῖσιν ὑποβορβορύζοντες· "Who have a Rumbling in them when they drink," *Coac.* This ſort of Noiſe ke what is produced by treading in Mire, βόρβορος, whence akes its Name.

OREAS, *Boreales Venti*. The Northern Winds are of a l Temperament, and therefore the moſt wholſome of all nds, eſpecially to Bodies of a hot Complexion, and well thed with Fleſh. *Aetius*, *Tetrab.* 1. *Serm.* 3. *Cap.* 163.

t is obſerved, that the North and Eaſt Winds bring with n the univerſal Acid of the Air in great Abundance: Hence might reaſonably be expected to be cold, *a priori*, as we ffect find they are. In conſequence of this Cold, all Teny to an alcaline Putrefaction, and a Diſſolution of the d, is deſtroy'd; that is, all Contagion, in ſome Degree ſt; which the South Winds, as productive of Heat, ine and promote.

ence we may readily determine, what ſorts of Diſeaſes the h Wind is likely, in general, to produce; which are ſuch pend upon an increaſed Rigidity of the Fibres, and a Viſcif the Juices, the Conſequences of Cold. And, in Fact, nd in theſe Northern Climates, moſt Fevers, thoſe which n during Winter more eſpecially, are accompanied with a ſs of the Blood; whereas very hot Countries are more ſubject to Fevers attended with a Diſſolution of the Juices, that is, peſtilential Diſorders.

BORIDIA. A ſort of ſalt Meat, prepared of a kind of ſmall Fiſh, and eaten raw. This, with other Pickles of the like Kind, are hurtful to the Stomach, hard of Digeſtion, and looſen the Belly. *Oribaſius* from *Xenocrates*, *Med. Coll. Lib.* 2. *Cap.* 58. *ad finem*.

BORITIS. The Philoſopher's Stone, which melts the Copper of the wiſe Men, and renders it fluid like Water.

BORIZA. The ſame as LUNARIA, which ſee.

BOROMETZ. See AGNUS SCYTHICUS. See AGNUS.

BOROS, βορός. Voracious, edacious. Hence ὕδωρ βορόν, voracious Water, that is, Water which excites a good Appetite, *Aph.* 18. *Lib.* 6. *Epid. Sect.* 4. *Galen* ſays, "All the *Greeks*, in "our Part of *Aſia*, ſtill call great Eaters by the common Name "of *Bori*." Βορὴ, in the *Ionic* Dialect, for βορὰ, ſignifies Food, *Lib.* 1. περὶ γυναικ. Βορὰ, in *Heſychius*, is expounded by βρῶσις, σῖτος, τροφὴ, "Meat, Food, Aliment."

Caſtellus, by an egregious Blunder, calls this *Borrhus*, βοῤῥός.

BOROZAIL, or the *Zail* of the *Ethiopians*. A Diſeaſe epidemic in the Countries about the River *Senega*. It principally infeſts the Pudenda, but is different from the *Lues Venerea*. This owes its Riſe to immoderate Venery, to which they are very ſubject. This Diſtemper, in the Men, is call'd *Aſab*; in the Women, *Aſſabatus*. *Blancard*.

BORSELLA. An Inſtrument belonging to the Glaſſmakers, by which they contract or extend their Glaſs Veſſels, as they ſee Occaſion. *Caſtellus*.

BOS, Offic. Schrod. 5. 269. Schw. Quad. 63. Aldrov. de Quad. Biſul. 13. Geſn. de Quad. 25. *Bos domeſticus*, Jonſ. de Quad. 26. Charlt. Exer. 8. Raii Synop. A. 70. *Mas Taurus*. THE BULL. *Dale*.

But *Bos* properly ſignifies a Cow, Bullock, Heifer, or any thing of the Neat Kind.

Black Cattle, or Kine, as well as other Animals which feed on high Graſs and Herbs, during Winter, and the Beginning of Spring, are lean, and of bad Juice; but as the Summer comes forward, and the Graſs grows, they viſibly increaſe in Fleſh, and become of better Juice. But Animals which can eat tender Herbs, and ſhort Graſs, are beſt in the Beginning and Middle of Spring: Such are Sheep. The Beginning and Middle of Summer agree beſt with Goats, and their Fleſh is moſt wholſome when they can brouſe on the tender Shoots of all manner of Shrubs.

Beef affords a good deal of Nouriſhment, and what is not eaſily diſſipated, but generates too thick a Blood. And if a Perſon be naturally of a melancholy Temperament, a plentiful feeding on Beef will bring upon him ſome melancholy Diſorder. As much as Beef ſurpaſſes Swines Fleſh in Solidity, ſo much does this latter exceed the other in Slimineſs of Subſtance, and yet is much eaſier of Concoction. *Oribaſius*, *Med. Coll. Lib.* 2. *Cap.* 28.

In a Reſolution of the Stomach, by which it becomes incapable of retaining the Food, Meats of a cold Quality, and ſuch as are difficult of Concoction, rather than eaſy to be corrupted, are to be preferr'd; for which Reaſon many Perſons digeſt Beef, who can digeſt nothing elſe. *Celſus*, *Lib.* 4. *Cap.* 5.

The ſame Author adviſes Eating of a Bullock's Spleen, to thoſe who labour under a Hardneſs and Swelling of that Part, *Lib.* 4. *Cap.* 9.

The Marrow of young Bullocks is reckon'd, by *Oribaſius*, next in Goodneſs to that of Stags; that of Bulls and Goats, he ſays, is more drying and acrimonious, and therefore not ſo fit as the others for diſſolving a ſcirrhous Tumor or Hardneſs. *De Virtut. Simpl. Lib.* 2. *Cap.* 1.

The Fat of Beef is reckon'd among Sudorifics, by the ſame Author from *Zopyrus*, *Med. Coll. Lib.* 14. *Cap.* 56.

The Dung of Bullocks, like their Food, has but little Variation: It is of a drying Quality, and is alſo an Attractive. A Phyſician, of no mean Skill in his Profeſſion, uſed to cover up his Hydropical Patients with Cow-dung, and then expoſe them to the Sun, and by that means did much Good. He choſe the Dung in the Spring-time, when it was moiſt, and the Cows were at Graſs: This he dried, and laid aſide for Uſe. He applied the ſame, by way of Cataplaſm, to ſtrumous and all other hard Swellings. *Aetius*, *Tetrab.* 1. *Serm.* 2. *Cap.* 115.

With reſpect to the Ox-kind as an Aliment, it muſt be conſider'd, that Animals of this Species live on Graſs and Water only; and that their habitual Exerciſe is very little, moſt of their Time being employ'd in Eating, Sleeping, and chewing the Cud; unleſs when they are imprudently put upon hard Labour, as is the Cuſtom in ſome Countries. Hence their Fleſh is not render'd too hard by their habitual Exerciſe; nor are their Salts highly exalted either by their Food or Motion. It muſt therefore be a very good Aliment, under proper Management, when taken in due Quantities, and in proportion to the Exerciſe uſed by the Perſon who eats it.

But the *Engliſh* generally take care to abuſe the Gifts of Providence, in regard to this ſalutary Food; and with much Pains contrive to convert Beef, of itſelf a very nouriſhing and ſtrengthening Aliment, into a Poiſon, rendering it hard, and, in Conſequence of that, indigeſtible, by laying it in Salt for many Days before they dreſs it; not to mention, that it is even then frequently ſwallow'd half raw. The digeſtive Organs, therefore, not being able to diſſolve this indurated Aliment, and convert it into good Chyle, many Particles, too large to circulate thro' the minute Veſſels of the Body, muſt ſtagnate in different Parts, and particularly in the Glands. Hence that Diſtemper which we call the Scurvy, the Source of innumerable Diſorders, both acute and chronical; to which Sailors, on account of their ſalt Diet, are particularly ſubject.

It is owing to this Error, more than to our Climate, that the *Engliſh* are remarkable for being melancholy and dejected, eſpecially in a rainy or cloudy Day, when the Atmoſphere is light, and the Elaſticity of the Air diminiſh'd; for on theſe Occaſions it is, that they appear gloomy and unſociable, and are much inclined to find out a retired Place, where they may, without Diſturbance, put an End to their Lives: A Cuſtom too frequent amongſt us, and which is peculiar to our own Country; for Self-murder is ſcarcely ever heard of abroad.

The *French*, with reſpect to their manner of Diet, are more prudent than we. They boil their Beef well, unſalted, and make of it large Quantities of Soop and Boullies; adding to them a large Quantity of Vegetables, and Salt as they like it; by which they avoid the Inconveniencies and Diſorders we voluntarily run into. Hence they are perpetually gay, and full of Spirits; and hence the Scurvy, and its Conſequences, are known in *France* to none but the Sailors.

Beef, according to *Hippocrates*, *de Diæta*, *Lib.* 2. is a ſtrong Food, and binds the Belly, and is of difficult Concoction, becauſe the Animal abounds with thick Blood, and its Fleſh is heavy. In another Place, which is his Book *de Rat. Vict.* he ſays, that atrabilious Affections are exaſperated by eating of Beef; for its Nature is inſuperable, and it is not to be digeſted by every Stomach; but it is beſt qualified for Concoction and Diſtribution when thoroughly boil'd, after it has been hung up for a good while.

Simeon Sethi, giving us the Opinion of the Antients, writes, that Beef affords very firm Nouriſhment, and that the Blood generated of it is immoderately thick; for which Reaſon, in melancholy Conſtitutions, it cauſes various Diſeaſes of the ſame Kind. It is alſo very heavy of Digeſtion and Diſtribution; but, if well concocted, is abundantly nutritive. If compared with Mutton, it is of a cold Nature, and generates melancholy Blood; but Broth made of it ſtops a Flux of the Belly proceeding from yellow Bile. If any one deſires, or is compell'd, to feed on it, let him, if he be apprehenſive of any Harm from it, eat it corrected with Vinegar, Garlick, and Rue; but it only proves of bad Juice in the before-mention'd Caſes, and is a Remedy for a hot Stomach, and to thoſe who uſe much and continual Exerciſe.

From the Premiſes we learn, that Beef is better for ſtrong than weak Perſons; for thoſe who uſe Exerciſe, than the Sedentary; for thoſe who are in the Vigour of their Age, than for Children or aged Perſons; and in the cold Seaſons of the Year, than in the hot. We ſee the Reaſon alſo, why Beef is call'd the Food of Heroes in *Nonnius*; and why its Broth is good to ſtop a Looſeneſs, that is, when the Diſeaſe requires a Remedy of a glutinous Nature, that tempers Acrimony, and is a Vulnerary; and laſtly, why it is hurtful to thoſe who are of a melancholy Habit of Body, if they feed too freely on it. If it be eaten, then, by thoſe who uſe much Exerciſe, and with Moderation, it will verify what *Celſus* ſays of it, *Lib.* 2. *Cap.* 24. which is, that it is good for the Stomach.

The Fleſh of Bulls is inferior to that of Oxen in Wholſomeneſs; unleſs the Ox has been much inur'd to Labour, and his Fleſh by that means render'd dry and hard. The Fleſh of Oxen is alſo preferr'd to that of Cows.

The Smell of the Hide, but eſpecially old Leather made of it, burnt or ſinged, is commended for the Hyſteric Paſſion. The Tallow is of Service, where-ever Emollients are required. The Axungia, which is melted from the Hoofs, is more penetrating and emollient, becauſe of finer Parts; but the Marrow exerts its emollient Virtue where-ever it is applied. That the Bones, calcin'd and pulveriz'd, are ſaid to ſtrengthen the Bowels, to ſtop a Looſeneſs, and to be effectual againſt Worms and the Epilepſy, uſed either internally, or in Ointments or Plaiſters, muſt be underſtood of ſuch Caſes where the Diſorder proceeds from an Exceſs of Humidity, or an Acid, and is to be ſubdued by Driers and Abſorbents. Some commend the Scrapings of a Bull's Horn, taken at the Time of his Coition, for the Epilepſy and Impotence; but, ſuppoſing it eaſy to be obtain'd at ſuch a Juncture, it can no otherwiſe be effectual to theſe Purpoſes than as an Anti-acid, which acts by its volatile alcaline Salt. The Horns are alſo commended as proper for Suffumigation in peſtilential Times; but I much queſtion whether the inſpir'd Fume, being of an alcaline Nature, would not more diſpoſe the Humours to Putrefaction. The Hoofs have an antepileptic Virtue, with the Limitations aforeſaid: Being fried, and ſo taken, they may be of ſome Service in a Dyſentery, where an alcaline, anti-acid, glutinous Faculty is requir'd. The *Talus* of a Cow pulveriz'd, and drank in Wine, is commended by *Foreſtus*, as a Specific againſt Worms in the Inteſtines. The *Membrum genitale*, or Pizzle of a Bull, pulveriz'd, or elſe a Decoction of the ſame, is reported to create a Deſire of Coition in Men, but an Abhorrence of the ſame in Women; but Reaſon does not comprehend theſe Contrarieties, nor Experience atteſt them. There is a Stone ſometimes found in the Gall-bladder of this Animal, which is call'd *Bezoar Bovinus*, and *Alcheron Lapis*, by the *Portugueſe Meſang de Vaca*, and by the *Arabians Haraczi*, which is ſaid by ſome to have an alexipharmac and antepileptic Virtue. But this Stone is not to be confounded with the *Bulithum*, or Ball, which is ſometimes found in the Stomach, and ſometimes in the Inteſtines of this Animal. Theſe are uſually call'd alſo *Tophi Bovini*, and conſiſt of Hairs, which it gets off, by Licking, from its Body, and ſwallows; where by degrees they concrete into a Ball, which is commonly of the Colour of the Animal's Hair. Sir *Hans Sloane*, in his Hiſtory of *Jamaica*, ſays, that ſome give half a Dram of it in Powder as an Aſtringent. Theſe Balls have ſometimes a ſhining Cruſt over them, in which reſpect they imitate the true Bezoar-ſtone. The Gall is fully treated on under the Article BILIS. The Spleen is not only commended in Decoctions, but for external Uſes, in Affections of the Spleen, as Hardneſs, Inflammation, Pain, and Tumor. *Paracelſus*, as *Etmuller* writes, has a remarkable Experiment of the Virtue of this Part, which he chopp'd into ſmall Bits, and boil'd in Water, for a Suppreſſion of the Menſes, and a Cachexy proceeding from it. Reaſon does not comprehend this, but muſt yield to Experience. *Etmuller* goes on to tell us, that the Eſſence prepar'd with Spirit of Baum is commended in Obſtructions of the Menſes, and a Cachexy thence proceeding. It may alſo conveniently be mix'd with liquid Eſſence of Steel, that it may be more appropriated to ſuch Caſes, and more eſpecially to th internal Parts, and principally to the Opening of the Obſtructions and Oppilations of the Meſentery. *D. Michaeli* had ſom compound Eſſence of Ox's Spleen mix'd with Eſſence of Steel which he uſed in a Suppreſſion of the Menſes, attended wit Pain. Some commend it to provoke an Appetite. The Splee of an Ox, diſtil'd with Spirit of Wine, is recommended for a Infirmities of the Stomach. Thus far *Etmuller*; but the Virtue of this diſtil'd Liquor, I ſhould think, were owing to th Spirit of Wine, and that of the Eſſence to the other Ingredien rather than to any thing proceeding from the Spleen of the O In the *Berlin* Diſpenſatory there is a Medicine intituled, *Eſſe tia Splenis Bovini*, which is extracted from the Spleen of a you Bull caſtrated, by means of Spirit of Wine, or of Baum, after has been cut into thin Slices, and macerated for ſome Days Spirit of Wine, ſaturated with Myrrh, or the Powder of Ang lica, and then dried in the open Air.

The Liver of an Ox, dried and pulveriz'd, is commended good in Fluxes of the Belly, and Hemorrhages. If it be ſ viceable in this Caſe, it acts as an abſorbing, alcaline Powde but then the Liver of other Animals will have the ſame Effe It is ſaid to be conducive in curing Infirmities of the Liver, i Decoction be made of it, and other hepatic Plants; but I att bute ſuch Effects to thoſe Plants alone.

The Dung of an Ox is deſervedly commended for its diſc ſive Virtue in external Applications. Hence it is uſed rece by way of Cataplaſm, in Inflammations, particularly the Go as an approved Anodyne. Some mix with it Earth-worm and apply it to the Abdomen, in order to cure the Colic, a diſcuſs Flatulencies; as alſo in the Aſcites, to repreſs the T mor, and diſcuſs the Water; for, next to human Dung, of an Ox is reckon'd the beſt for this Purpoſe. *Etmuller* it is very effectually applied to œdematous Tumors: It is commended againſt a Suppreſſion of Urine, if applied to Pecten, and the Region of the Pubes. The common Pe give the expreſs'd Juice in Pains of the Colic; and *Etm* aſſerts, from certain Experience, that it is not only a pre Remedy in the Colic, but alſo in the Pleuriſy; that of Dung, in the ſame manner as of human Dung, by repe Digeſtion and Sublimation, may be prepar'd the *Zibethum O dentale*, ſo call'd by *Paracelſus*, becauſe it exhales a ſweet S like Civet. *Dioſcorides*, *Lib.* 2. *Cap.* 73. ſays, that the D of an Ox that grazes, applied recent, mitigates the Inflam tion of Wounds. It is wrapp'd, he ſays, in Leaves, and he in hot Aſhes, and then applied to the Place; that a Fome tion of it aſſwages the Pain of the Sciatica; that it diſc Hardneſſes, Pain, and Strumæ, being anointed with it, in in Vinegar; and that a Suffumigation of the Dung of the of this Species repreſſes the Falling-down of the Uterus that the Smell of it, when kindled, drives away Gnats. theſe Paſſages, *Matthiolus* remarks: “ We are to co “ that all Medicines of this Kind are accommodated to th “ Bodies of Ruſtics, ſuch as Diggers, Mowers, and ſ “ are inur'd to Work which requires bodily Strengt “ ſuch as theſe, when affected with ſcirrhous Tumors, it “ plied by way of Cataplaſm, with Vinegar.” *Valeſcus* *ranta* aſſures us, that the Dung of an Ox (or a Horſe) is of excellent Uſe in a Gangrene, to preſerve the ſound Parts from Corruption: And, after him, *Sylvius* and *Barbette*, as they ſay, made uſe of the ſame Remedy, which they kept as a great Secret. But it is really a ſordid Medicine, hardly worthy of a Phyſician, and to be left to the poor Commonalty, rather than to be recommended to the Rich and Noble, according to *Heiſter*, *Chir. p.* 323.

Cow's Urine, internally uſed, *Etmuller* ſays, cures the Gout, if it be taken in the Month of *May*, and the Feet are bathed a while in it, and, after that, the *Norimberg* Plaiſter is applied to them. *Dioſcorides* ſays, that a Bull's Urine, with Myrrh, inſtil'd into the Ears, eaſes Pains thereof. *Helmont* propoſes, as an approved Remedy for the Stone, the Liquor that uſually fills the Bladder of the Fœtus in a Cow, drank every Morning, to the Quantity of about two Ounces, in a like Proportion of White-wine.

The Blood of a Bull, freſh-drawn, is reckon'd poiſonous, by cauſing a Difficulty of Breathing, and Suffocation; but *Matthiolus* on *Dioſcorides* obſerves, that, except it be drank in great Quantities, and hot as it comes from the Veins, before it concretes, it does little or no Harm. This poiſonous Quality is not, however, confirm'd by later Experiments. But the Blood of Oxen and Bulls is commended, as internally uſed, for the Dyſentery, an Exceſs of the Menſes, and other internal Hemorrhages; and, for Spitting of Blood, it is preſcribed to be taken in Vinegar. Externally it is effectual in diſcuſſing and mollifying Tumors, and clearing the Face of Spots and Blemiſhes. *Etmuller* ſays, the Blood is hardly uſed, but in caſe of an Atrophy of the Limbs and Joints, after great Wounds receiv'd; and for Weakneſs and Pains in the Members and Joints, which, being thruſt into the freſh Blood of an Ox, or a Dog newly kill'd, will be wonderfully refreſh'd thereby, and render'd more pliable, and fit for Motion. The Blood of an Ox then, externally applied, as theſe Virtues in common with the Blood of other Animals; hich Virtues are derived from its ſaponaceous Nature, where-y it is a Diſſolvent and Aperient, its native Heat promoting s Operation. Internally taken, it is hurtful, by its natural Pro-erty, which cauſes it to concrete in the Stomach, and renders it nſuperable by the vital Powers. *Helmont* ſays, that the Blood of Bull is Poiſon, but not that of an Ox or Cow; and aſſigns as Cauſe the Fury of the Bull, dying with an eager Deſire of evenge, which impreſſes a Mark of Vengeance, and a powerful gnature, on the Blood. *Guainerius* ſays, that not only the Blood a Bull, but that of an old Ox, is poiſonous. *Kiegar.*

BOSA. An *Egyptian* Word for a Maſs, prepar'd of the Meal Darnel, Hempſeed, and Water, of the ſame inebriating Vir-e as the Assis, which ſee.

BOSCADES, βοσκάδης. An Epithet for Pigeons which ild in Towers, which ſome uſe to erect in the Fields. They otherwiſe call'd *Agreſtes*, wild, to diſtinguiſh them from Domeſtic, τῶν κατοικιδίων, *Galen*, *Lib.* 2. *de C. M. S. G.* p. 10. Βοσκὰς is alſo a kind of dry Pitch, of a tenacious uality, like Bird-lime. *Gorræus.*

BOSCI SALVIA. A kind of Sage which takes its Name m *Boſcum*, or *Boſcus*, a Wood, the Places where it grows. *ancard.*

BOSMOROS, or BOSPOROS, from βόσκω, to feed, and ρα, a Portion or Diviſion. A kind of Corn ſo call'd, be-ſe it is divided by the Teeth of the Mill, or by the Stone; becauſe it is ſeparated from the Chaff by the Treading of the en, it may derive its Name from βοῦς, *Dorice*, βῶς, an Ox; again, from βῶς and πείρω, to paſs over. *Blancard.*

BOTAMUM. Waſh'd Lead. *Rulandus.*

BOTANE, βοτάνη. An Herb; whence is derived

BOTANY. The Science relating to Herbs and Plants, for ch the Antients have no Name, as it was not in their Days ted into a regular Science.

efore I proceed to the Hiſtory of Botany, it will be con-ent to give an Explication of the Botanical Terms com-ly us'd, which will ſave the Reader the Trouble of turning Multitude of Articles, in order to underſtand what will wards be ſaid.

A

Caulis & Acaulos, without a Stalk; that is, when the er of a Plant grows cloſe to the Ground, having no viſible ; as in the Carline-thiſtle.

Cinus & Acini, are the Berries or Fruit of the Elder, t, Ivy, *&c.*

Garicus. See this Word in the Letter A.

La is the Sinus of a Stalk, which the Leaf or Pedicle makes the Stalk or Branches, from whence a new Offspring uſes t forth.

Cyonium. See this Word in the Letter A.

Ga. The *Alga* is a Species of Plant that grows in Water, fine oblong graſſy Leaves, and more perfect Seed than f the Fucus; for its Veſſels, when come to Maturity, and let fall the Seed, as it happens in more perfect Plants.

Entaceous Flowers are ſuch as have an Aggregate of its hanging down in form of a Rope or Cat's Tail; as the Male Flowers of the Mulberry, the Haſel, Walnut, and Oak. Theſe are alſo call'd *Iuli*, and, in *Engliſh*, *Katkins.*

Apetalous Flowers. See Flos.

Apices, *Summits*, are thoſe Bodies which hang upon the Chives, or Threads, which generally ſurround the Pointals of Flowers, and contain the prolific Powder, which is analogous to the Male Sperm in Animals.

Arbor, a *Tree*, is defin'd to be a woody Plant of the largeſt Growth, whoſe Trunk is perennial and ſingle, and divided into many large Branches, which are again divided into ſmaller Twigs, on which the Leaves, Flowers, and Fruits, are produc'd.

Arista is that ſharp-pointed Needle which ſtands out from the Huſk or Covering of the Grain of Corn or Graſs, and is call'd *Awn*, or *Beard.*

Articulation is the Connexion of Parts that conſiſt of Joints or Knees, ſuch as the Pods of Birdsfoot, or *French* Honeyſuckle, which, when ripe, divide into ſo many Parts as there are Knees or Joints.

Axis is a taper Column placed in the Centre of ſome Flowers or Katkins, about which the other Parts are diſpos'd.

B

Bacca, a *Berry*, a roundiſh Fruit, for the moſt part ſoft, containing one or more Seeds in a pulpy Subſtance.

Balaustium is the Cup of the Flower of the wild Pomegranate.

Barbulæ are the Half-florets of compound Flowers.

Bivalve: The Pods or Huſks of Plants, which open lengthways in two Parts, like the Shell of a Muſcle, are term'd *Bivalve.*

Brachia are the Diviſion of the large Branches of Trees from the Trunk.

Bryum. The *Bryum*, or *Bryon*, is a fertile kind of Moſs, which differs from the *Polytrichum* by its ſmooth Calyptra, and from the *Hypnum* principally with reſpect to the Original of its Pedicles, which proceed from the Tops of the Stalks and Branches, or from the Radicles and annual Shoots, which, the former Year, were the Tops of the Stalks, and have not their lower Part incloſed in a ſquamous Sheath, like thoſe of the *Hypnum.* Add to theſe Characters, that its Stalks are, for the moſt part, erect, and leſs branch'd than thoſe of the *Hypnum*, and not trailing and creeping. The Calyptræ are ſituated ſometimes perpendicularly, ſometimes obliquely in the Head, and the Seed-veſſels, uſually part tranſverſly, ſometimes with an even, ſometimes with an indented Margin.

Bulbus: Bulbous Roots are ſuch as conſiſt either of ſeveral Coats involving one another, or of ſeveral Scales lying one over another. The firſt of theſe is call'd a tunicated Root, (of this Sort is the Onion and Tulip) and the laſt is call'd a ſquamous (that is, a ſcaly) Root; of which ſort is the Lily and Martagon.

Byssus. The *Byſſus* is the loweſt, and a barren kind of *Moſs*, conſiſting of a very thin, and, to the naked Eye, imperceptible ſort of Wool, which is produc'd from various Subſtances, appearing ſometimes like a very fine Powder, ſometimes like Down, and frequently laſts for a conſiderable time, in which reſpect it differs from the *Fungus*, as it does alſo in having no Head, or any other Reſemblance to the reſt of the *Fungi.*

C

Calyptra is the thin Involucrum or Cover of ſome Seeds.

Calyptra, a thin Cup, which covers the Heaus of ſome of the Moſſes.

Calyx, or Empalement, is generally underſtood to mean thoſe leſs tender Leaves, which cover the other Parts of the Flower.

Capillaments in Flowers are generally underſtood to mean the Chives which ſupport the *Apices.*

Capitellum, the Head or Seed-veſſels, frequently applied to Moſſes.

Capitulum is the Head or Top of any Plant.

Capsula is the ſhort Pod or Huſk of a Plant, containing the Seed.

Carina is the concave Petal or Segment of a Butterfly-flower, which reſembles the Keel or lower Part of a Boat.

Cauda, the Tail of a Leaf, is a Production of the middle Rib, and connects the Leaf with the Stalk, after the manner of a Pedicle; when the middle Rib has an Appendix of the Leaf running along it, it is often call'd a wing'd Leaf.

Caudex is the Trunk of a Tree.

Caulis is a Part of a Plant receiving the Nouriſhment from the Root, and conveying it into the other Parts with which it is cloath'd, not having one Side diſtinguiſhable from the other. The Stalk of a Tree is call'd the Trunk, and in Corn and Graſs it is call'd the Blade.

Caulis procumbens, a procumbent or trailing Stalk, is that which lies on the Ground without emitting Roots.

Caulis repens, a creeping Stalk, is that which lies on the Ground, and propagates itſelf by emitting Roots, as the Ivy and Strawberry.

Caulis scandens, a climbing Stalk, is that which climbs by the Help of Tendrils, as the Vine and Briony.

Caulis volubilis, a twining Stalk, is that which twiſts about any Prop without the Help of Tendrils, as the Hop, Kidney-bean, &c.

Cirri are the little Fibres of the Roots of Plants.

Claviculus, or *Capreolus*, (that is, Tendrils) is a Part of a Stalk, curling and laying hold on any adjacent Body, and is always produc'd at a Joint. Theſe are alſo call'd *Claſpers*.

Coma is the Top of a Branch or Flower.

Conferva. The *Conferva* is a barren kind of *Moſs*, deſtitute of little flowery Heads, and even of thoſe Boſſes and Tubercles, which ſome other Kinds are furniſh'd with inſtead of them, and conſiſting only of round, ſmooth, and uniform Leaves, or rather little Stalks, divided into fine Capillaments.

Conus, a Cone, is the Fruit of the Pine, Fir, and Cedar.

Corymbus ſignifies a Cluſter of Flowers or Fruit ſtanding on Pedicles, which are diſpoſed in ſuch a manner as to form a Sphere; of this ſort is the Ivy.

Crena, or crenated Leaves, are ſuch as are cut about the Edges into ſeveral obtuſe Segments.

Cubitus, a Cubit, that is, a Foot and a half; ſo the Stalks of Plants are term'd *Cubitalis*, *Bicubitalis*, &c. according to their Height.

Culmus is the Stalk or Blade of Corn.

Cylindrus, that is, Cylinder; the Fruit of Plants are term'd Cylindrical, when they reſemble a Column.

Cytinus is generally underſtood to mean the Flowers of the true Pomegranate; but, by ſome Writers, the Cups of Flowers, which expand after the ſame manner, are term'd *Cytiniformes*.

D

Denticulatus, that is, indented; thoſe Leaves of Plants which are cut about the Edges into ſeveral Segments, more acute than the crenated Leaves, are term'd denticulated.

Digitated Leaves are compound Leaves divided into ſeveral Parts, all of which meet together at the Tail, in form of a Hand.

Discus, the Diſk, is an Aggregate of Florets, forming, as it were, a plain Surface.

Dissepimentum is the thin Septum which divides the ſeveral Cells in the Fruit of Plants.

E

Echinus; thoſe Plants, or Parts of Plants, which are beſet very cloſely with Spines, like a Hedghog, are term'd echinated.

Emarginatus; thoſe Leaves of Plants which are hollow'd at their Extremities, ſo as to form a Heart, are call'd Emarginated Leaves.

Embryo is the tender Fœtus of the Plant.

Eschara. The *Eſchara* is a ſtony kind of Plant, ſomewhat reſembling a Web in its Contexture.

F

Fimbria, Fringe; thoſe Parts of Plants or Flowers, whoſe Borders end in ſmall Threads reſembling fring'd Linen, are term'd fimbriated.

Fistulous Plants are ſuch whoſe Stalks are hollow like a Pipe.

Flos, that is, a Flower, is the Organs of Generation of both Sexes, adhering to a common Placenta, together with their common Coverings, or of either Sex ſeparately, with its proper Coverings, if it have any.

The Flowers of Plants are diſtinguiſh'd by Botaniſts in the following manner.

Flos amentaceus, Amentaceous Fowers; theſe are ſuch as are term'd Katkins.

Flos apetalus, Flowers without Petals; theſe are ſuch as have no other Covering to the Parts of Generation but the Calyx.

Flos campaniformis is ſuch a Flower as is ſhap'd like a Bell. Thoſe Flowers whoſe Edges ſpread very wide, are term'd open bell-ſhap'd Flowers; but thoſe which are much leſs ſpread, are call'd tubulous bell-ſhap'd Flowers.

Flos caryophylleus is ſuch a Flower as is ſhap'd like a Clove-gilliflower.

Flos compositus is a compound Flower, which is compos'd either of Florets or Semiflorets, or of both together. Of this kind is the Blue-bottle, Knapweed, and many others.

Flos cruciformis, a croſs-ſhap'd Flower, which is compos'd of four Petals, plac'd in form of a Croſs. Of this ſort are the Cabbage, Muſtard, and Wall-flower.

Flos flosculosus, a floſculous Flower, is that which is compos'd of ſeveral Florets, included in one common Cup.

Flos infundibuliformis, a funnel-ſhap'd Flower, is that which is ſhap'd like a Funnel. Of this kind is the Primroſe, leſſer Centaury, and many others.

Flos labiatus, a Lip-ſhap'd Flower. This is an irregular monopetalous Flower, divided commonly into two Lips; the upper Lip is call'd the Creſt, and the under one the Beard. Sometimes the Creſt is wanting, and then the Style and Chives ſupply its Place. This is by ſome call'd an unilabiated Flower.

Flos liliaceus, a Lily-ſhap'd Flower, is generally com
pos'd of ſix Petals, which reſemble thoſe of the Lily. Of th
ſort are the Tulip and Aſphodel.

Flos monopetalus, a Flower compos'd of one Lea
All thoſe Flowers whoſe Petals are join'd at the Bottom;
that they fall off entire, are term'd monopetalous Flowers.

Flos monopetalus anomalus, an irregular Flowe
conſiſting of one Leaf.

Flos papilionaceus, a papilionaceous or pea-bloo
Flower, is one which, in ſome meaſure, reſembles a Butterf
with its Wings expanded. It always conſiſts of theſe four Part
the Standard, (or *Vexillum*) which is a large erect Segment
Petal; the two Wings, (*Alæ*) which compoſe the Sides; a
the Keel, (*Carina*) which is a concave Petal or Segment, r
ſembling the Keel of a Boat; this is ſometimes entire, and,
other times, it conſiſts of two Petals or Segments, adheri
pretty cloſe together. Of this ſort are the Bean, Pea, a
Vetch, &c.

Flos personatus, a perſonated Flower, that is, an ir
gular monopetalous Flower, whoſe upper Part reſembles t
Beaks of Fowls. Of this kind are the Snap-dragon, Toad-fla
and others.

Flos petalodes, a petalous Flower, that is, a Flow
whoſe Organs of Generation are ſurrounded with Leaves
Petals.

Flos polypetalus, a polypetalous Flower, that is,
Flower compos'd of ſeveral Leaves or Petals. When th
agree in Figure and Poſition, it is call'd a regular polypetalo
Flower; but when the Petals do not agree in Figure and Po
tion, it is call'd an irregular polypetalous Flower.

Flos radiatus, a radiated Flower, conſiſts of two Part
the Diſk, which is an Aggregate of Florets forming a p
Surface, and the Rays, which are ſeveral Semiflorets ſet rou
the Diſk, in form of a Star. Theſe are call'd radiated diſc
Flowers; but thoſe which have no ſuch Rays, are call'd na
diſcous Flowers.

Flos rosaceus, a roſe-ſhap'd Flower, that is, a Flo
conſiſting of four or more Petals, which are plac'd circularly
form of a Roſe.

Flos rotatus, a Flower in the Form of a Wheel. S
are thoſe of Borrage, Anagallis, and Willow-weed.

Flos scorpioides, that is, when the Flowers are rang'd
one Side of the Pedicle, which twiſts at the Top in form o
Scorpion's Tail. Of this ſort is the Heliotropium.

Flos semiflosculosus, a ſemifloſculous Flower; thi
compos'd of ſeveral Semiflorets, included in one comm
Calyx.

Flos spicatus, a ſpik'd Flower, is that whoſe Flo
are ſet thick on the Pedicle, in ſuch a manner as to form
acute Cone.

Flos stamineus, a ſtamineous Flower, is that whic
compos'd of many Chives included in a Calyx, having no
tals. Of this ſort is the Biſtort and Sparganium.

Flos sterilis, barren Flowers; theſe have no Emb
adhering to them; ſo are call'd Male Flowers, and Falſe Flow
Of this kind are the Melon and Gourd.

Flos verticillatus, that is, a whorle-ſhap'd Flo
Theſe Flowers grow cloſely united, ſurrounding the Stalk at
ſeveral Joints.

Flos umbellatus, an umbellated Flower, is, when
Extremity of the Stalk or Branch is divided into ſeveral
dicles or Rays, beginning from the ſame Point, and openin
ſuch a manner as to form a kind of inverted Cone, like an U
brella. When the Pedicles, into which the Stalk is divi
are ſubdivided into others of the ſame Form, upon which
Flowers are diſpoſed, the firſt Order is call'd Rays, the ſe
Pedicles. That Umbel which conſiſts of Pedicles only, is c
a ſingle Umbel; that which is compoſed both of Rays and
dicles, is call'd a compound Umbel.

Flos urceolatus, or Pitcher-ſhap'd Flower. Of
ſort are the Arbutus and Whortle-berry.

Folium, a Leaf, is a Part of a Plant, extended into Le
and Breadth in ſuch a manner as to have one Side diſtingu
able from the other. This is call'd in *Latin Folium*, to di
guiſh it from the Leaf of a Flower, which is call'd *Petalu*

Folium alatum, a wing'd Leaf, is, as it were, c
poſed of ſeveral pinnated Leaves.

Folium angulatum, an angular Leaf, is that w
Margin is cut into ſeveral Angles.

Folium auriculatum, an ear'd Leaf, is that w
Baſe, next the Pedicle, is indented, ſomewhat reſembling
Ear.

Folium compositum, a compound Leaf, is that w
is divided into ſeveral Parts, each reſembling a ſimple Leaf.

Folium crenatum, a crenated Leaf, is that which i
about the Edges into ſeveral obtuſe Segments.

Folium digitatum, a digitated Leaf, is a com
Leaf, divided into ſeveral Parts, all of which meet toge
the Tail, ſo as to reſemble a Hand.

FOLIUM HEPTAFOLIATUM, a heptafoliated Leaf, is a digitated Leaf, conſiſting of ſeven Fingers.

FOLIUM INTEGRUM, an entire Leaf, is that which has no Diviſion on the Edges.

FOLIUM LACINIATUM, a jagged Leaf, is that which 'is cut about the Edges into ſeveral deep Portions, in an irregular manner.

FOLIUM PENNATUM, a pennated Leaf, is a compound Leaf divided into ſeveral Parts, each of which is call'd a Lobe, plac'd along the middle Rib, either alternately, or by Pairs. When the middle Rib is terminated by an odd Lobe, it is call'd an unequal pennated Leaf; and when it is not terminated by an odd Lobe, it is term'd an equal pennated Leaf. When the Lobes are all nearly of the ſame Form and Bigneſs, it is call'd an uniform pennated Leaf; when they are not ſo, it is term'd difform.

FOLIUM QUINQUEFOLIATUM, a quinquefoliated Leaf, is a digitated Leaf conſiſting of five Fingers

FOLIUM RAMOSUM, a ramoſe Leaf, is that which is ſtill farther divided than the wing'd Leaf, as is the common or Female Fern.

FOLIUM SAGITTATIUM, a Spear-ſhap'd Leaf, is that which ends in three ſharp Angles, reſembling a Dart.

FOLIUM SIMPLEX, a ſimple Leaf, is that which is not divided to the Middle.

FOLIUM SINUATUM, a ſinuated Leaf, is that which is cut about the Edges into ſeveral acute Segments, like the Teeth of a Saw.

FOLIUM TRIFOLIATUM, a trifoliated Leaf, is a digitated Leaf, conſiſting of three Fingers.

FOLIUM TRILOBATUM, a trilobated Leaf, conſiſts of three obtuſe Lobes, which are not divided to the Bottom.

FOLIUM UMBILICATUM, an umbilicated Leaf, is that which has the Pedicle faſten'd to the Backſide of a Leaf, ſo that, n the upper Side of the Leaf, there is a ſmall Cavity form'd ke a Navel.

FOLLICULUS is a leafy membranaceous Sheath or Covering, hich ſurrounds the Fruit or Seed; as the Winter-cherry.

FONTINALIS. The *Fontinalis* is a ſort of Moſs diſtinguiſh'd y its cloſe uniform Heads, ſupported by none, or very ſhort edicles, and, when come to Maturity, opening tranſverſly in e upper Part, and diſcharging a Capitellum.

FORNICATUS, or fornicated Petals, are ſuch Flower-leaves are arch'd after the manner of the Galea, or Creſt, of the Clary d Sage.

FRUCTUS, a Fruit. By the Word Fruit is to be underſtood e Seeds of all Plants, with their Covering.

FRUCTUS UMBILICATUS, an umbilicated Fruit, is that hich had the other Parts of the Flower growing on its Top hen it was an Ovary. They uſually form a Cavity, which is own by the Name of the *Umbilicus*, or Navel; as in the edlar, Roſe, and Pomegranate.

FRUTEX, a Shrub, is a Plant with many woody perennial runks, ſuch as Roſes, Syringa's, and Spaniſh-broom, which ide into ſeveral Stems near the Ground; but the Word is quently us'd by Gardeners for all woody Plants of low rowth.

FUCOIDES. The *Fucoides* is a Species of Plant which grows Waters, and is of a middle Nature between the *Conferva*, *rallina*, and *Fucus*. It is often finely divided, and of a more der Subſtance than the *Fucus*, and not diſtinguiſh'd by Nodes, Joints like the *Conferva* and *Corallina*.

FUCUS. The *Fucus* is a Species of Plant growing in Water, oſe Leaves and Stalks are of various Figures. It is, for the ſt part, of a viſcid and coriaceous Subſtance, and is furniſh'd h Veſicles on both Sides, which admit the Air, being form'd aſſiſt its Floating. Its Extremities are often ſet with Tu- cles, which ſeem to contain ſomething of a ſeminal Nature.

FUNGOIDES. A *Fungoides* is a Species of *Fungus* without a ad or Cap, whoſe Pedicles or Stalks are of various Shapes and iſions. As to its Subſtance, it conſiſts of an uniform Matter, ch is undivided into Lamellæ, or by Pores.

UNGUS. A *Fungus* is the loweſt, and a very imperfect nus of Plants, having neither Seed nor Flower, as far as can erto be obſerv'd, and remarkably differing from other Plants, hat it has not an herbaceous Colour, nor Leaf, properly king, nor any thing elſe analogous in its Contexture. Moſt hem ſpring up in a very ſhort time, and are as ſoon diſſolv'd the putrid Matter whence they aroſe.

G

ENICULUM, a Knot; ſuch Roots and Pods of Plants are to be geniculated, as are divided into Joints.

LUMA is the Huſk or Chaff of Corn.

H

ABITUS PLANTÆ is the outward Appearance of Plants, hat they call the *Port*.

ERBA, an Herb. By an Herb is meant all ſuch Plants e Stalks die to the Ground every Year. Thoſe whoſe s do not continue longer than one Year, are term'd annual Plants; thoſe whoſe Roots continue two Years, are term'd biennial Plants; and thoſe whoſe Roots continue many Years, are term'd perennial Plants.

HYPNUM. The *Hypnum* is a fertile kind of *Moſs*, furniſh'd with uniform calyptrated Heads (*Capitulis*); the Calyptræ, for the moſt part, being ſituated obliquely on them. The Capitella fall off tranſverſly, ſometimes with an even, and ſometimes with an indented Margin. The Pedicles, which, for the moſt part, are pretty long, proceed from the Sinuſes of the Leaves, and ſhoot along by the little Stalks and Branches, and have their loweſt Part incloſed in a ſquamous Sheath, which is different from the Leaves. To theſe Characters we may add, that the Stalks are, for the moſt part, ſet at a wider Diſtance, and more branch'd, than in the *Bryon*.

I

IMBRICATUS. The Leaves or Scales of Plants are ſaid to be imbricated, when they are diſpoſed ſo as to lie one on the Edge of the other, after the manner of Tiles on a Houſe.

INTERNODIUM is that Part of the Stalks of Plants between the Knots or Joints.

IULUS is a Katkin.

L

LANUGO, Down. The Seeds of Plants which have a downy Subſtance faſten'd to them, which ſerves as Wings to tranſport them, are term'd lanuginous, as the Thiſtle: Theſe are alſo call'd pappous.

LICHEN. The *Lichen* is a floriferous as well as ſeminiferous kind of Moſs, whoſe flowery little Heads are furniſh'd with many Grains, and are variouſly ſhaped, producing, as they ripen, ſeveral little monopetalous Flowers. The Seeds, which are ſmall, flat, and orbicular, are contain'd in ſome peculiar open Capſules, reſting upon the Plane of the Leaves; and are ſometimes found in the ſame Plant that bears the little Heads, ſometimes in other Plants of the ſame Species. Beſides theſe flowery little Heads, there are obſerved in ſome Species ſome umbellated Heads of different Figures, which produce neither Flower nor Seed, as other Plants of the ſame Species uſually do. The Pedicles of both Species are, for the moſt part, naked, and proceed from no Vagina. Tho' theſe Characters are very evident, yet, the more eaſily to diſtinguiſh it from the reſt of the Tribe of the Moſſes, we may add, that the Leaves are of an herbaceous Conſiſtence, and of an indeterminate Figure, widely ſpreading, and running out into numerous Roots from their back Part.

LICHENASTRUM. The *Lichenaſtrum* is a fertile, or a remarkably floriferous, kind of *Moſs*, with Heads ſupported by pretty long Pedicles; which Heads, as they ripen, uſually cleave into four equal Parts, as far as the Baſe, and reſemble a cruciform Flower, and diſcharge a very fine Duſt, which anſwers to the fine Flour of the Apices in the moſt perfect Flowers: This Duſt cannot be denied to be of the ſame Service in the reſt of the Moſſes, ſince the Duſt of their Heads appears to be exactly of the ſame Figure and Contexture, if examined with a Microſcope. The Heads of the *Lichenaſtrum* are ſimple and naked, each ſtanding on its own Pedicle, which is longer or ſhorter, and proceeds from a Vagina or Sheath, ſometimes ſimple, ſometimes bivalve, and ſometimes divided at the Top into ſeveral Parts, by which Character it is very clearly diſtinguiſh'd from the *Lichen*.

LICHENOIDES. The *Lichenoides* is diſtinguiſh'd from the *Conferva* and *Ulva*, by its Boſſes and Tubercles; and from the *Lichen*, *Lichenaſtrum*, and others, by the ſame, and its being deſtitute of little flowery Heads, and conſiſting of a middle Subſtance between the *Fungi* and *Moſſes*; whence many of its Species are uſually call'd *Muſco-fungi*.

The *Lichenoides* are divided into,

I. The Cauliferous, or Stock-bearing, which are ſubdivided into,

1. The capillaceous, not tubulous, and ſcutellated, that is, with Eminences like little Targets, from *Scutella*, a little Target or Buckler.

2. The coralliform, for the moſt part, ſet with Tubercles; and of this Sort there are (1.) the ſolid, and not tubulous; (2.) the tubulous.

3. The pyxidated, that is, hollow'd in form of a Box, in *Latin pyxis*.

4. The fungiform, or thoſe reſembling a *Fungus*.

II. The *Lichenoides* without Stalks, ſubdivided into

1. The purely cruſtaceous.

2. Thoſe with a leafy, ſcutellated Cruſt, or ſcutellated Leaves, cloſely adhering one to another; and theſe are either (1.) of a Jelly-like Subſtance; or (2.) of a harder and juiceleſs Conſiſtence.

3. Thoſe with Leaves more at Liberty, and not growing ſo cloſe to one another; and theſe are either (1.) with Leaves ſcutellated and tuberculated, or (2.) peltated.

LITHOPHYTON. A *Lithophyte* is a Species of Plant, of horny ſort of a Subſtance, and of a middle Nature, between

Wood and Stone. There uſually adheres to it a Bark, which conſiſts of a Contexture of Fibres, or reſembles Tartar. *Boerhaave* calls theſe *Keratophyti*.

Loculamenta are the Cells in the Fruit of Plants, where the Seeds are lodged, which are divided by ſmall Partitions.

Locusta is the outer Covering of the Flower and Grain of Corn, which incloſes the Chaff.

Lycopodioides. The *Lycopodioides* differs from the *Lycopodium*, in the ſame reſpect as the *Selaginoides* differs from the *Selago*.

Lycopodium. The *Lycopodium* is a fertile kind of *Moſs*, deſtitute, as well as the *Selago*, of Pedicles and Capitella: But it differs from the *Selago*, in that its Heads, or Capſules, grow not ſcatter'd in the Sinuſes of the Leaves, but are collected into a Club; for each Scale covers a Kidney-ſhaped and bivalve Capſule, which loſes no Part of itſelf when ripe.

M

Malleolus, Mallet. The Cuttings of Vines, which are taken with Joints of the old Wood to their Bottom, ſo as to reſemble a little Mallet, are term'd *Malleoli*; which Cuttings more certainly take Root than any other; and always make better Plants.

Marginatus, border'd. The Seeds of Plants which have a thin leafy Border round them, are ſaid to be marginated; as thoſe of the Stock-gilly-flower, Honeſty, and others.

Mnium. The *Mnium* is a fertile kind of Moſs, furniſh'd with little flowery Heads, or ſeminal ones, if they may be ſo eſteem'd, which are of two Sorts; for ſome of them are naked and duſty, having neither Capſule nor Cover, nor ſo much as ſurrounded with a Membrane; but others are obſerved to be like the reſt of the floriferous kinds of Moſs, particularly the *Hypna* and the *Brya*; and the different Manner of flowering is what diſtinguiſhes this Kind from all the reſt. There is uſually a Variety in the little Heads, ſometimes in the ſame, ſometimes in different Plants; and the Pedicles which ſupport membranaceous Heads, are pretty long and bare; but thoſe which have their Heads naked are obſerved to be much ſhorter than the others, and ſurrounded with very ſmall Leaves.

Mucro, a ſharp Point. Thoſe Leaves or Fruits of Plants, which are terminated in a ſharp Point, are termed mucronated.

Multicapsular Plants are ſuch as have ſeveral Pods of Seeds ſucceeding each Flower, as the Celandine, Columbine, and others.

N

Nucleus, a Kernel, is that Part of the Fruit which is incloſed in a hard Shell, as the Kernel of the Almond and Apricock.

O

Ossiculum, a Shell, is the hard ſtony Covering of Seeds.

P

Panicula, a Panicle, is a Stalk diffuſed into ſeveral Pedicles, ſuſtaining the Flowers or Fruits; of this Sort are the Oat, Millet, and others.

Pappus, Down. See Lanugo.

Pediculus, a Pedicle, is that Part of a Stalk which immediately ſuſtains a Leaf, a Flower, or a Fruit, and in *Engliſh* is call'd Foot-ſtalk.

Petala, Petals, are the tender fine-colour'd Leaves, which are generally the moſt conſpicuous Parts of a Flower; ſo thoſe Flowers which conſiſt of one Leaf, are call'd monopetalous Flowers; thoſe of two Leaves are call'd bipetalous; thoſe of three Leaves, tripetalous; thoſe of four Leaves, tetrapetalous; thoſe of five Leaves, pentapetalous; thoſe of ſix Leaves, hexapetalous; and thoſe of a greater Number of Leaves, are term'd polypetalous.

Peziza. The *Peziza* is a Species of *Fungus*, ſometimes without Pedicles, and ſometimes with them, having its Edges divided in ſuch a manner as to form a remarkable Cavity between them. It is of an uniform Subſtance, like the *Fungoides*, and neither diſtinguiſh'd by Lamellæ nor Pores.

Pistillum, Pointal or Style, is that Column which occupies the Centre of the Flower, riſing on the Top of the Embryo, and is generally ſurrounded with the Chives. Theſe differ greatly in their Form; for in ſome Flowers they are roundiſh, in others triangular, oval, or ſquare.

Placenta is that Part of the Pod or Huſk of a Plant to which the Seeds are faſten'd, and by which they are nouriſh'd till they are ripe.

Planta, a Plant, is an organical Body, deſtitute of Senſe, and ſpontaneous Motion, adhering to another Body in ſuch a manner, as to draw from it its Nouriſhment, propagating itſelf by Seed. Under this generical Name are included Trees, Shrubs, Under-ſhrubs, and Herbs.

Polypetalous, many Leaves. Thoſe Plants are term'd polypetalous, whoſe Flowers are compoſed of ſeveral Leaves.

Polytrichum. The *Polytrichum* is a fertile kind of Moſs, whoſe Capitellum commonly quits the Plant tranſverſly, with an even Margin; and is cover'd with an upright and villous Calyptra, with a Capitellum; by which Character it is diſtinguiſh'd from the *Bryon*. From the *Hypnum*, beſides the Difference of the Calyptra, it is diſtinguiſh'd by its erect and leſs branch'd Stalks, which, from their Tops, or from annual Shoots, produce naked Pedicles, not having their loweſt Part incloſed in a ſquamous Sheath.

Pomum, an Apple, is generally underſtood to be any fleſhy Veſſel, containing more Seeds than one; ſo that all Plants which produce ſuch Fruit are term'd pomiferous, that is, Apple-bearing.

Prunum, a Plum, is a fleſhy Veſſel, incloſing a hard brittle Shell, in which are one or two Seeds; ſo that all Plants which produce ſuch Fruit are term'd pruniferous, that is, Plum-bearing.

Pulpa, Pulp, is the ſoft Part of Fruits which ſurrounds the Seeds, as in the Tamarind and Caſſia.

Pyramidatus, pyramidal. Thoſe Flowers or Fruits which grow in form of a Pyramid, are term'd pyramidal.

R

Racemus, a Cluſter, is a Stalk divided or branch'd into ſeveral Pedicles, ſuſtaining the Flowers or Fruits thick ſet together (as in the Vine and Currant): The firſt of theſe Conditions diſtinguiſhes it from a Spike, the laſt from a Panicle.

Radix, a Root, is that Part of a Plant by which it naturally receives its Nouriſhment. Theſe are of different Forms and Contextures, ſome of them being fibrous, others fleſhy or woody.

Radix asphodeli, an Aſphodel-root, is that which i compoſed of ſeveral oblong fleſhy Knobs; of this Kind are th Kingſpear and Day-lily.

Radix bulbosa, a bulbous Root, is that which conſiſts o ſeveral Coats, involving one another, or of ſeveral Scales lyin one over another. The firſt of theſe is call'd a tunicated Root of this Sort are the Onion, Tulip, and Hyacinth (from whenc the *French* call all theſe Sorts of Roots Onions); the laſt is call' a ſquamous (or ſcaly) Root; of this Sort are the Lily and Martagon.

Radix fibrosa, a fibrous Root, is that which conſiſ only of ſmall Fibres like Hairs; of this Sort are Graſs an Corn.

Radix granulosa, a granulous Root, is a kind of grumous Root, conſiſting of many ſmall fleſhy Knobs, reſemblin Grains of Corn; of this Kind is the white Saxifrage.

Radix grumosa, a grumous Root, is that which conſiſ of many oblong fleſhy Knobs, joined to one Centre at t Top; of this Sort is the Ranunculus.

Radix palmata, a handed Root, is a tuberous Roo divided as it were into ſeveral Fingers, ſo as to reſemble a Hand of this Sort is the handed Orchis.

Radix testiculata, a teſticulated Root, is a doub tuberous Root; for it conſiſts of two Knobs, reſembling a Pa of Teſticles: Of this Sort are ſome of the Orchis Species.

Radix tuberosa, a tuberous Root, is that which conſiſ of an uniform fleſhy Subſtance, and is generally of a roundi Figure: Of this Sort is the Sowbread.

Ramus, a Branch, is the Diviſion of a Stalk; in Trees is often call'd a Bough.

S

Selaginoides. The *Selaginoides* is a kind of Moſs, whi agrees with the *Selago* in all reſpects, except its Heads, whi conſiſt of three or four Grains, and, when ripe, open, as were, into as many Capſules: Of this there is but one Spec hitherto known in *England*.

Selago. The *Selago* is a fertile kind of *Moſs*, deſtitute Pedicles and Capitella; for the Heads are ſituated in the Sinu of the Leaves, being bivalve, and ſhaped like a Kidney; when ripe, cleave in two lengthwiſe, and diſcharge a me Subſtance, without letting go any Part of the Capitellum.

Semen, a Seed, is that Part of a Plant which is commit to the Earth, in order to obtain a Plant of the like Kind its Parent Plant, which produced it.

Semen alſo ſignifies a Body perfected by the mutual Op tion of both Sexes, containing the Rudiment of ſuch Plan that from which it was taken; ſo may properly be judged to analogous to the Egg of an oviparous Animal.

Semen nudum, a naked Seed, is that which has no Co ing, beſide the Empalement, remaining upon it, till the of Vegetation.

Semen papposum, a downy Seed, is that which h downy Subſtance, like Wool, faſten'd to it, by which i tranſported in the Air to a great Diſtance from the Pa Plant.

Siliqua, a Pod, is a long, flat, or round membranac Veſſel, containing one or two Rows of Seeds.

Sphagnum. The *Sphagnum* is a fertile kind of Moſs, whoſe Heads are furniſh'd with a Capitellum, in Shape like thoſe of the Hypnum, Polytrichum, and Bryum; but differing from them in that they are bare, and without Calyptræ, and commonly ſtand on none, or but very ſhort Pedicles; whence they were heretofore call'd *Muſci apocarpi.*

Spica, a Spike, is a Part of a Stalk, thick-ſet with Flowers or Fruit, in ſuch a manner as to form an acute Cone.

Spongia, a *Sponge*, is ſomewhat like a *Fungus*, being a Plant that grows in the Water, thick, of a ſoft, and, as it were, woolly Subſtance, full of little Perforations, elaſtic, and eaſily imbibing and retaining Water, or any other Moiſture.

Stamina, or Chives, are thoſe ſlender Threads which encompaſs the Style in the Centre of Flowers, and ſupport the Apices or Summits which contain the Male Duſt.

Stolones, Suckers, are ſuch Shoots of Plants as ariſe from the Root, and may be taken off, with Fibres to them, ſo as to propagate the Species thereby: Of this Sort are the Filbert and Fig.

Striæ, Chanels. Thoſe Parts of Plants which have ſmall longitudinal Furrows running along them, are termed ſtriated.

Strobylus is the Cone or Fruit of the Pine-tree.

Suffrutex, Under-ſhrub, is a woody Plant, not gemmiparous: Of this Sort are Thyme, Sage, and Lavender.

T

Talea, Cuttings, are ſuch Parts of a Branch as, when cut off from the Tree, will take Root, if they are planted in the Ground.

Thyrsus, a Thyrſe, differs from a Spike in having the Flowers or Fruits ſet more looſely on it, ſo that there are Spaces viſibly between them.

Tomentum, Flocks, is when the Leaves or Stalks of Plants are cover'd with a thick Down, as in Mullein.

Trachææ are the Air-veſſels in Plants.

Turiones, Buds, are the future Shoots of Plants, which, eing inoculated into a proper Stock, will produce a Tree of he ſame Kind with its Parent Plant, from which it was aken.

V

Vagina, or **Theca**, is the Sheath or Covering of a ud.

Valvæ, Valves, the Sides of the Pod or Seed-veſſel, which, hen they open lengthways in two Parts, like Muſcles, Coc-es, and ſuch kinds of Shell-fiſh, are term'd bivalve Pods, as the Stock-gilly-flower.

Verticillum. See **Flos verticillatus.**

Vexillum, or *Standard.* See **Flos papilionaceus.**

Vimen is the flexible Shoot of a Tree.

Viticulæ, Runners, are the ſlender Shoots of Plants, hich trail on the Ground, and emit Roots at their Joints, ſo to propagate; as in Strawberries and Cinquefoil.

Ulva. The *Ulva* is a barren kind of *Moſs*, which differs om the *Conferva*, in that it conſiſts of plain and very thin aves, which are ſometimes wide, ſometimes narrow. and metimes tubulous.

Umbella. See **Flos Umbellatus.**

Umbilicus. See **Fructus Umbilicatus.**

Tho' *Botany*, as a Science, may to ſome appear a Study too t and dull for what we commonly call an exalted and refined nius; yet, if we caſt our Eyes back on the earlier Ages, and ce this Branch of Learning down to our own Times, we ll find, that it has been cultivated by thoſe of the brighteſt ts, and careſs'd by Men of great Diſtinction. As a Proof this, I ſhall firſt mention *Solomon*, that venerable *Eaſtern* ge, ſo famed for his Wiſdom, that his very Name is become other Term for a wiſe and knowing Man. This Prince, born to a Throne, and deſtin'd to rule over a powerful ople, was yet ſo captivated with the Charms of Botany, and trongly addicted to the Study of Plants and Herbs, that he n Scripture ſaid to have known them all, from the Cedar *Lebanon* to the Hyſſop that grows upon the Wall; and he ſelf, in the Book of *Wiſdom*, informs us, that he was l'd in the Differences of Plants, and the Properties of Roots. *ephus*, alſo, that celebrated *Jewiſh* Hiſtorian, makes mention *Solomon*'s Skill in Botany, and gives us almoſt the ſame Ac-nt with that laid down in the Sacred Records. But how- knowing *Solomon* might be in this reſpect, yet 'tis cer-, we are at preſent no competent Judges, how far his owledge might have reach'd, and conſequently cannot de-ine poſitively with regard to the State of Botany in his time. began to reign in the Year of the World two thouſand hundred and twenty-nine, that is about an hundred and nty Years after the Siege of *Troy*, and is ſaid to be the Botaniſt mention'd by any Records now extant.

ut as 'tis an unpleaſant Thing to grope, if I may ſo ſpeak, e dark, and a criminal Thing to advance imaginary Facts iſtorical Truth, we ſhall paſs the State of Botany during the Ages which intervened betwixt *Solomon* and *Hippocrates*, the great Founder of Phyſic.

This Phyſician was, according to moſt Hiſtorians and Chronologers, born in the Iſland of *Cos*, in the firſt Year of the eightieth Olympiad, that is, about four hundred and fifty-nine Years before Chriſt. Some maintain, that he died in the eighty-fifth, others in the ninetieth, others in the hundred and fourth, and others in the hundred and ninth Year of his Age. So that according to theſe different Accounts he muſt have died, either three hundred and ſeventy-four, or three hundred and ſixty-nine, or three hundred and fifty-five, or three hundred and fifty Years before Chriſt. As in this Phyſician's Days it was cuſtomary for thoſe who were cured of Diſeaſes to fix up in the Temple of *Æſculapius* an Account of their Diſorders, and the Medicines by which they had been removed, that the ſame Remedies might afterwards be uſed in parallel Caſes; he is ſaid to have wrote out theſe Accounts, and, according to *Varro*, conſtituted by their means what we call *Clinical Medicine*, after the Temple was burnt; for this Reaſon we find the Writings of *Hippocrates* interſperſed with the Names of the Plants moſt known to the *Greeks*, and Accounts of their Uſes and Virtues. But he would have done a further Service to Botany, and ſtill more effectually conſulted the Health and Welfare of Poſterity, if he had given us Deſcriptions of them. But he has only mention'd the Names and Virtues of about two hundred and thirty-four, leaving their Deſcriptions to *Cratevas*, the moſt celebrated Botaniſt of his Time, whilſt he himſelf was wholly employed in curing the Sick.

This *Cratevas* or *Crateias*, was Cotemporary with *Hippocrates*, and ſo ſkilful a Botaniſt, that this divine Phyſician ſtyled him ἄεισος ῥιζοτόμος, the Prince or Chief of Botaniſts; and publickly profeſſed, that he admir'd his Skill and Knowledge of Plants and Herbs. This *Cratevas*, and *Andreas Medicus*, who are thought to have been the moſt ſkilful Botaniſts in the Times in which they liv'd, are yet charg'd by *Dioſcorides* with having left many uſeful Roots and Herbs imperfectly deſcrib'd. But, however imperfect the Works of *Cratevas* may have been, yet 'tis certain, Botany has in After-ages ſuſtain'd a conſiderable Loſs for want of them; ſince in all Probability he deſcribed the Plants mention'd by *Hippocrates*. Whether this Conjecture be well founded, they who have an Opportunity of looking into the Fragments of *Cratevas* ſtill preſerv'd in the *Imperial* Library, are beſt able to judge.

The next Botaniſt of any Note who appear'd was *Theophraſtus*, the Son of *Melantus* a Fuller of Cloth. This Author juſtly deſerves the higheſt Encomiums for his Hiſtory of Plants, and his Treatiſe intituled, φυτικῶν αἰτ.ῶν βιβλία η, or *eight Books concerning the Cauſes of Plants*, of which the firſt ſix have only reach'd our Hands. He was firſt called *Tytramo*, according to *Diogenes Laertius*; but was afterwards called *Theophraſtus* by *Ariſtotle*, on account of his uncommon Eloquence. He is ſaid to have had two thouſand Diſciples at one time, a Circumſtance which ſufficiently proves the Reputation he had acquir'd. He was born at *Ereſus* in the Iſland of *Leſbos*, and ſtudied under *Leucippus*, *Plato*, and *Ariſtotle*; whom he ſucceeded in the hundred and fourteenth Olympiad, in the Beginning of the Reign of *Ptolemy* the Son of *Lagus*, under whom *Herophilus* flouriſh'd. Tho' *Theophraſtus* lived till he was eighty-five Years of Age, he is ſaid to have found Fault with Providence for giving a longer Life to Deer and Ravens, than to the human Species; ſince Men, if their Lives were longer, might acquire greater Degrees of Knowledge, and become more perfect than they really are when they come to die.

The *Romans*, tho' in other reſpects a polite and learned People, were nevertheleſs Strangers to Botany till *Pompey* conquer'd *Mithridates*, the moſt powerful, and at the ſame time the moſt knowing King then in the World. This Prince is reported to have drunk poiſonous Draughts every Day, in order to render himſelf proof againſt Poiſon; and indeed ſo curious he was with regard to Medicinal Subjects in general, that he collected all the Obſervations of this Nature he poſſibly could, which, falling into *Pompey*'s Hands, were by his Order tranſlated into *Latin* by one *Lenæus*, a ſkilful Grammarian, and a freed Man of his own. Till this Time, according to *Pliny*, the *Romans* were entire Strangers to Botany; and even after this Science was known in *Rome*, it was not univerſally cultivated, for *Marcus Cato* alone is ſaid to have apply'd to it. Nor after him do we read of any Botaniſt among the *Romans*, till *Caius Valgius* publiſh'd a very imperfect Work of this kind, dedicated to *Auguſtus*. After *Valgius*, appear'd *Marcus Terentius Varro*, about twenty-five Years before the Birth of Chriſt. This *Roman*, however ſkilful in Botany, wrote nothing on the Subject till the eighty-firſt Year of his Age. He has wrote three Books *de Re Ruſtica*, which make a Part of that valuable Collection which goes under the Name of *Rei Ruſticæ Scriptores.*

Much about the ſame time lived a conſiderable Number of Phyſicians well verſed in Botany. Of theſe the moſt celebrated are *Antonius Muſa*, and *Euphorbus*, the former of whom ſaved the Life of *Auguſtus*, and wrote a Treatiſe on Botany, dedicated to *Marcus Agrippa*; which Work has been reviſed by *Gabriel Humbelbergius*, of *Ravenſpurg* in *Germany*, and printed at *Zurich*, together with *Apuleius's Treatiſe de Medicaminibus Herbarum*.

The next *Roman* Botaniſt who appeared was *Æmilius Macer*, who was born at *Verona*, and died in *Aſia*, whither he had gone to fight. As this Author had a Turn for Poetry, he cloathed Botany in Numbers ſo agreeable and ſoft, as to deſerve the Approbation of *Ovid*. See ÆMILIUS MACER.

Next appear'd *Julius Baſſus*, and *Sextius Niger*, who, tho' both *Romans*, yet wrote in *Greek* concerning Plants. Theſe Authors have but little Regard paid them by *Dioſcorides*, a little before whoſe Age, or that of *Pliny*, *Salmaſius* thinks they liv'd.

But hitherto Botany ſeems only to have been, as it were, in its Infancy, till *Dioſcorides* aroſe, who, by his Induſtry and Diligence, ſurpaſſed all who had gone before him. He was born at *Anazarba*, a City of *Cilicia*, afterwards called *Cæſarea Auguſta*. He is commonly diſtinguiſhed from the others of his Name by the Epithet *Pedacius*, which *Photius* without any Reaſon ſuppoſes to be beſtow'd on him from his Country. In ſome Manuſcripts the Epithet is read *Pedanius*, and 'tis pretended, that *Dioſcorides* recciv'd that Part of his Name from the *Pedanian Family*, as other Foreigners did from the *Roman* Families into which they married. But *Lambecius* was probably in the Right, when he ſuppoſed, that this Epithet was beſtow'd on him, becauſe he was the Son of one *Pedanius* or *Pedianius*, as that Author would have it.

From the Works of *Dioſcorides* it plainly appears, that he was contemporary with *Licinius Baſſus*, who in Conjunction with *Craſſus Frugi* had been Conſul under *Nero*. But the Time in which he flouriſh'd is a Point ſo much controverted, and ſo little capable of being fix'd, that it would be a Taſk both tedious and uſeleſs to attempt it. In his Works he has mention'd about ſix hundred Plants, four hundred and ten of which he has either deſcrib'd or compar'd with ſuch as were better and more univerſally known, but of the reſt he has only given us the Names and Virtues.

Soon after *Dioſcorides* appear'd *Lucius Junius Moderatus Columella*. He was born at *Cadiz* in *Andaluſia*, and the Time in which he liv'd may be determin'd from his having been contemporary with the *Senecas*, and his quoting *Lucius* the Philoſopher as then alive. Other memorable Incidents concur to render us ſufficiently certain as to the Time in which he flouriſh'd; for he was the intimate Acquaintance of *Gallio*, and wrote his Work after the Conſulſhip of *Lucius Voluſius*. We have only thirteen Books of his *de Re Ruſtica*, and one *de Arboribus*, tho' *Caſſiodorus* attributes ſixteen to him. In the firſt Chapter of his firſt Book he enumerates not only the *Roman*, but alſo the other foreign Authors who had wrote upon Agriculture before him. The delicate and polite Turn of his Language, together with his Learning, and the Force of his Genius, juſtly calls for our Admiration. In his Poem intituled *Hortulus*, the Numbers are ſoft, harmonious, and unſullied with that unmeaning Pomp of Words, which is the Reproach of Language, and the common Bane of the ill-form'd and luxuriant Genius. But, among all the *Romans*, none ſeems to have made more ſurpriſing Advances in Botany than *Plinius Secundus*. In his Hiſtory of the World, which he dedicated to the Emperor *Veſpaſian*, or, according to others, to *Titus*, he treats of Plants in an hiſtorical, philoſophical, medicinal, rural, and magical Light. This, according to *Geſner*, is his Deſign from the twelfth to the twenty-ſeventh Book. His Work conſiſts in all of thirty-ſeven Books, which contain a great Part of the Writings of *Dioſcorides*, whom he no-where quotes, having in all Probabiity uſed the very ſame Authors, from whom that Author had made his Collections. He alſo tranſlated ſeveral Things from *Theophraſtus*'s Hiſtory of Plants, and is thought to have been no very happy Tranſlator, however bright his Genius might be in other reſpects. The preciſe Time in which he liv'd is much diſputed: However, 'tis, I think, generally agreed, that he flouriſh'd pretty near the Time of *Dioſcorides*. He is by ſome cenſur'd as wanting ſome of the Qualifications moſt neceſſary for producing a Botaniſt, whilſt others are ſo blindly devoted to his Character, as to believe him infallible.

The next of the *Romans* who diſtinguiſhed himſelf in this Way, was the illuſtrious *Palladius Rutilius Taurus Æmilianus*, tho' he is more properly to be claſs'd among the *Geoponici*, *Cato*, *Varro*, and *Columella*. He wrote fourteen Books *de Re Ruſtica*. According to *Ludovicus Vives*, he wrote in a pure and elegant Style, except that ſome Words and Phraſes are peculiar to the Time in which he lived. *Johannes Jucundus* of *Verona*, in *Pref. Lib. de Re Ruſtica*, gives him an ample, and at the ſame time a juſt Character in the following Words. "When, ſays he, amongſt other Books of Agriculture, I "read the Works of *Cato*, *Varro*, *Columella*, and *Palladius*, "I could not help being charm'd with the delightful Study; "for I imagin'd I was tranſported to the Country, placed in "ſome agreeable Village, and leading the calm and bliſsful "Life of *Marcus Curius*, and *Lucius Quintius Cincinnatus*; "the former of whom, after having triumph'd over the *Samnites*, the *Sabines*, and *Pyrrhus*, retir'd to the Country to "ſpend the Remains of a glorious Life, where, having a large "Quantity of Gold brought him by the *Samnites*, he bravely refuſed the magnificent Preſent, and told them, *his* "*Grandeur did not conſiſt in the actual Poſſeſſion of Gold, but* "*in ruling over thoſe who poſſeſſed it.*" And the other, being created Dictator, was honourably invited to leave the Country, and take his Place in the Senate.

From theſe Accounts 'tis plain, that the Diligence and Induſtry of the *Romans* were more employ'd in cultivating Agriculture than Botany; in which they were ſurpaſſed by the *Greeks*, amongſt whom the moſt conſiderable, who apply'd to the Study of natural Things, was *Claudius Galenus*, who, next to *Hippocrates*, was juſtly accounted the greateſt Ornament of antient Medicine. He was born at *Pergamus*, a moſt flouriſhing City of *Aſia*, about the Year of Chriſt 133. under the Reign of the Emperor *Adrian*; and flouriſh'd under *Antonius* *Pius*, *Marcus Aurelius*, *Antoninus*, *Commodus*, *Pertinax*, *Didius Julianus*, and *Septimius Severus*. He died under the Reign of *Caracalla*, after having lived, according to *Suidas*, ſeventy, according to *Laertius*, eighty-ſeven, according to others, ninety-eight, or an hundred and five Years. He wa a curious and indefatigable Inquirer into the Virtues and Qualities of natural Bodies, with which View he undertook ſeveral Voyages. He went, for Inſtance, into *Paleſtine*, in orde to get acquainted with the Opobalſamum and Bitumen; h ſailed into the Iſland of *Lemnos*, that he might diſcover whether the Accounts he had receiv'd of the *Lemnian* Earth wer true or falſe. He viſited *Cyprus*, in order to take a View o the celebrated Mines of that Country. He alſo travelled int *Cilicia*, *Phœnicia*, *Crete*, *Egypt*, and ſeveral other Countries to enrich his Mind with a proper Store of uſeful Obſervations He has treated of the Virtues of about four hundred and fort Plants, in the ſixth, ſeventh, and eighth Books of his Treatiſe, *de Simplicium Medicamentorum Facultatibus*, beſides man more, which he has caſually deſcrib'd on different Occaſions.

I now proceed to thoſe who after *Galen*'s Time apply' themſelves to the *Materia Medica*. The firſt of theſe wh diſtinguiſhed himſelf was *Oribaſius* of *Sardis*, tho' *Cniringiu* endeavours to prove, that he was a Native of *Pergamus*: Th Author was contemporary with *Julian* the Apoſtate, who Favour he had ſo effectually gain'd, as to be appointed Quæſtor of *Conſtantinople* by him. He wrote many Things co cerning ſimple and compound Medicines; but ſtole moſt his Works from *Galen*, except ſome fooliſh and trifling Thing he has added of his own.

Next appear'd *Aetius*, diſtinguiſh'd by the Epithet *Amid* *nus*, becauſe born at *Amida*, a City of *Meſopotamia*. H has written pretty much in the ſame manner with *Oribaſiu* ſince like him he has borrow'd a great many Things from oth Authors. *Caſtellanus* ſeems to give him a favourable Char cter, when he affirms, that in his Works we have *Galen* co tracted, *Oribaſius* explain'd, and *Paulus Ægineta* inlarg' This Author flouriſhed in the Year of Chriſt three hundre and fifty, or, according to others, four hundred and fift five, which was more early than *Paulus Ægineta*. See AETIU

Alexander Trallianus, ſo called from *Tralles*, a City of *L* *dia* in the leſſer *Aſia*. He has ſeveral Things relating Herbs, principally borrow'd from his Predeceſſors. See ALEX ANDER.

After *Trallian* appear'd *Paulus Ægineta*. This Author c pies pretty exactly *Dioſcorides* and *Galen*, with reſpect Plants. See ÆGINETA.

But *Geſner*, tho' a ſevere Cenſurer of theſe three Author yet ſeems to have entertain'd more favourable Notions of t *Arabian* Phyſicians than the reſt of his Contemporaries; the *Materia Medica*, during many Years cultivated only by t *Greeks*, was at laſt ſo conſiderably enriched by the *Arabians*, tha great part of the Medicines now in Uſe are to be aſcribed them. They receiv'd Botany, as well as all the other Branch of Phyſic, from the *Greeks*, eſpecially after the Califs orde the Productions of the *Greek* Authors to be tranſlated i the *Perſian* Language. The firſt who applied to the Scien among them, was the ſecond Calif *Abu-Jaafar Almanſor*, w was created Calif in the Year of Chriſt ſeven hundred fi four. But the Empire at laſt falling into the Hands of ſeventh Calif *Abdalla Almamunem*, in the Year of Chriſt e hundred and thirty-one, he interceded with the *Greek* Em rors to ſend him all the philoſophical Works they poſſi could; which Favour when they had granted him, he ſou out for learned Interpreters, and order'd them to be faithf tranſlated. Then Learning began to flouriſh, and all Branches of Medicine were cultivated with uncommon C and Induſtry.

But of all the *Arabians*, none was more ſucceſsful in carrying on this Deſign than *Serapio*, who collected and digeſted all the *Greek* and *Arabian* Authors who had wrote on Simples before his Time. The greater Part of this Work conſiſts not only of the Materials, but alſo of the very Words, of *Dioſcorides* and *Galen*; but yet it contains a great Number of Simples not taken from the antient *Greeks*. Some of theſe are at preſent known, whilſt we are entire Strangers to the reſt. According to *Wolfgangus Juſtus*, he flouriſh'd in the Year one thouſand and ſixty-ſix.

Next appear'd *Razis* or *Razy*, or *Arrazy*, which Name he receiv'd from *Rei*, the City of *Perſia* in which he was born; for his original Name was *Aboubieri Mouhammad*. He is by ſome quoted under the Name of *Almanſor*, and his Book called *Almanſor* or *Manſor*. His Book is, as it were, an Abſtract of thirty other Volumes, which he called *Al hhaouy*, which in the *Arabian* Language ſignifies *Containing*, becauſe it was thought to contain uncommon Treaſures of uſeful Knowledge. He likewiſe publiſhed *Aljania*, which was an immenſe Collection of Things relating to Phyſic; and ſome Treatiſes concerning the Parts of the human Body. He flouriſh'd, according to *Wolfgangus Juſtus*, in one thouſand and ſeventy, or one thouſand and eighty-five.

Next appeared *Avicenna*, by ſome called *Aviſena*, or *Abenſina*, or *Ben Sina*, or *Abuali Ibn Tinſa*. His ſecond Book treats of all kinds of Medicines in general. In this Work he quotes *Galen*, *Dioſcorides*, and a few *Arabian* Authors. See AVICENNA.

Actuarius, who lived about this Time, or perhaps a little later, has not much contributed to the Improvement of the Knowledge of Plants; all that he ſays concerning them being taken from others. See ACTUARIUS.

Next appeared *Johannes Meſues Damaſcenus*, the Son of *Abdela* King of *Damaſcus*. He acquir'd an uncommon Fame for his having been the Inventor of many of the Medicines which we daily uſe with Succeſs. He flouriſhed in the Year f Chriſt one thouſand one hundred and fifty-eight.

Averrhoes about the ſame Time diſtinguiſhed himſelf by the Improvements he made in the *Materia Medica*. This Phyſi- ian collected an Account of the moſt remarkable Plants from *Galen*'s Books of ſimple Medicines, and reduced them to the Order of the *Greek* Alphabet, as *Geſner* obſerves.

Next appeared *Baitar*, by others called *Ibnu El Baitar*, as ſo *Abenbitar*, or, as others write it, *Ebenbitar*. He was born t *Malaga*, in the Year of Chriſt one thouſand two hundred nd ſixteen.

It muſt be confeſſed, that Botany is much indebted to the *rabians*, who, tho' they borrow'd much from the *Greeks*, ve enriched the *Materia Medica* with many Plants unknown their Maſters, among which are moſt of the milder Ca- artics.

After the Time of theſe *Arabians*, a ſhameful and almoſt niverſal Ignorance prevailed, and the Monuments of Learn- g handed down from former Times were, excepting a very w, buried in Oblivion. The barbarous and ill-form'd Taſte hich reigned in theſe Days, is ſufficiently prov'd by the orks of *Nicolaus Myrepſus* of *Alexandria*. We cannot eciſely fix the Time in which he liv'd; yet, according to *uchſius*, he was among the later *Greek* Writers, ſince he otes *Actuarius* and *Meſue*, who lived in the Year of Chriſt e thouſand one hundred and fifty-five. His Style is uncor- ct, and his Works abound with barbarous, and ill-choſen ords.

In the Year one thouſand one hundred and eighty, appear'd *Hildegardis*, Abbot of St. *Rupert*'s Monaſtery in *Mentz*, and e of the *Benedictine* Order. He enriched ſeveral Parts of atural Knowledge, and among the reſt Botany; but writes a very barbarous Style, and has many Things which are not ly trifling, but alſo ſuperſtitious, and repugnant to Truth and mmon Senſe.

Next appear'd *Johannes Platerius* of *Salerno*. He flou- h'd in the Year of Chriſt one thouſand three hundred. As Reader will be beſt able to judge both of his Deſign, and his Style, from ſome of his own Words, I ſhall inſert the lowing Paſſage of his Preface.

"In Tractatione, *ſays he*, uniuſcujuſq; Medicinæ ſimplicis Complexio rerum primo eſt intendenda, conſequenter utrum ſit Arbor, an Frutex, Herba, Radix, an Flos, an Semen, an Folium, an Lapis, an Succus, an aliquid aliud: Poſtmodum quot ſunt ipſius Maneries, & qualiter fiant, & in quo loco inveniantur. Quæ etiam Maneries ſit melior, qualiter ſophiſticantur, & ſophiſticatæ cognoſcantur."

Muchabout the ſame Time *Matthæus Sylvaticus*, of *Mantua*, mpil'd a Volume of the Pandects of Medicine, and dedicated o *Robert* King of *Sicily*; but this is a Work of ſo little Va- , with reſpect to *Botany*, that we ſhall not ſpend Time in ing any Account of it. Its Author liv'd in 1336. Nor is a ch greater Regard due to the Productions of *Arnaldus de Villa ua*, who died in the Year 1412. or thoſe of *Jacobus de Dondis*, of *Pavia*; or of *Petrus Creſcentienſis*, a Senator of *Bononia*, who wrote in the Year 1473.

Soon after appear'd *Johannes Cuba*, *Quiricus de Auguſtis de Thertona*, *Johannes de Boſco* of *Alexandria*, and *Paulus Suardus* of *Milan*; but the Works of theſe Authors are ſo obſcure, and full of Blunders, that they ſcarce deſerve out Conſideration.

About this time *Avicenna* was firſt read in the Schools. Then *Razis*, eſpecially his ninth Book to *Almanzor*. Numbers of the later practical Phyſicians were alſo ſtudy'd, whilſt the *Greeks* were entirely neglected, and forgot ſo much, that the Names of *Hippocrates* and *Galen* were loſt, or rather chang'd into thoſe of *Hippocras* and *Galienus*.

Thus, for about four Centuries, Barbarity and Ignorance had almoſt put an End to the Sciences, and baniſh'd Learning from the World, till at laſt, about the End of the fifteenth Century, propitious Heaven raiſed up ſome great Men, who reſcu'd the Authors of Worth and Note from the ſhameful Oblivion in which they had been bury'd. At this happy Conjuncture, *Botany* had the ſame good Luck with other Parts of Learning; for *Theodorus Gaza* reſtored *Theophraſtus*, and tranſlated his Works into *Latin*, in which he is thought to have ſucceeded very well. He died in *Rome* in the Year 1478.

After him appear'd *Hermolaus Barbarus*, a *Venetian* Nobleman. He was born in the Year 1454. He corrected *Pliny's* Natural Hiſtory, and tranſlated *Dioſcorides* into pure and beautiful *Latin*; but he is thought to have receded too much from the Meaning of the Original, that he might imitate the Style of *Pliny*. *Fuchſius* commends him for the ſeaſonable Aid he gave to Botany and Phyſic, and the Pains he was at in improving and enriching them, tho' he was himſelf no Phyſician.

Soon after aroſe *Johannes Ruellius*, born at *Soiſſons* in *France*, and a Man of uncommon Learning. He ſeems to have trod in the Footſteps of *Hermolaus Barbarus*, and purſued the ſame Deſign of baniſhing and exploding the Jargon of *Avicenna*, and ſome other *Arabians*, that we might draw our Knowledge of Plants from *Dioſcorides* himſelf. He cultivated Botany with greater Care than any of his Contemporaries, and collected all the uſeful Obſervations which *Theophraſtus*, *Pliny*, and *Galen*, had made concerning Plants.

He was ſoon after ſucceeded by *Marcellus Virgilius*, a *Florentine*, who, tho' not a Phyſician by Profeſſion, nor, perhaps, very ſkilful in Botany, is, nevertheleſs, to be commended for his Induſtry in correcting, and reſtoring to their antient Splendor, ſome Pages of *Dioſcorides*, which had been wretchedly mangled and corrupted.

Marcellus was ſucceeded by *Joannes Manardus* of *Ferrara*, a celebrated Phyſician. In his Epiſtles there are many Things which illuſtrate *Dioſcorides*, eſpecially in the eighth Book, where he corrects *Marcellus*'s Verſion in many Places, and defends the Interpretations of *Ruellius* and *Hermolaus Barbarus*. He alſo wrote Annotations on the *Medicamenta Simplicia* of *Joannes Meſue*, in which, if we may believe his own Word, many obſcure things are made plain, thoſe that were formerly too conciſe inlarg'd, ſuch as were loſt reſtor'd, and ſuch as were erroneous corrected.

In the ſame Age appear'd a great Number of Interpreters, Critics, and Reſtorers of *Theophraſtus*, *Dioſcorides*, and *Pliny*. Amongſt the reſt, *Nicolaus Leonicenus*, in his Work *de Plinii & aliorum in Re Medica Erroribus*, delivers many things of great Importance with reſpect to the Knowledge of Plants. He was born at *Vincentia* in the Year 1428. and died at *Ferrara*, (where he had taught for ſixty Years) in 1524. after he was ninety-ſix Years of Age. When he was aſk'd what medicinal Secret he us'd, in order to preſerve ſo uncommon a Vigour both of Mind and Body, and elude the Attacks of old Age, ſince he us'd no peculiar Diet which could account for ſuch happy Effects, he made this noble Reply: "I eaſily preſerve my Mind "lively, by a Reflection on the perpetual Innocence of my "Life; and my Body ſound and healthful, by a chearful Fru- "gality." According to *Scaliger*, this Author was, from his Infancy, afflicted with violent epileptic Fits, till the thirtieth Year of his Age; after which this formidable Diſeaſe left him, and he enjoy'd the perfect Uſe of all his Limbs and Senſes, without the Suſpicion, much leſs the Shock, of a Diſeaſe, till he was ninety-ſix Years of Age. If this Circumſtance is true, he was ſingularly indebted to his Temperance; for, according to *Paulus Jovius*, he was highly abſtemious in every reſpect. He firſt tranſlated *Galen*'s Works from the *Greek* to the *Latin* Language, and illuſtrated them with Commentaries.

In 1534. appear'd *Antonius Muſa Braſavolus* of *Ferrara*. He publiſh'd an Examination of all the Simple Medicines uſed in the Shops, in which Work he often treats of Plants. He alſo wrote Commentaries upon the Aphoriſms of *Hippocrates*, and compil'd a large Index to all the Works of *Galen*.

Braſavolus was ſucceeded by *Otho Brunfelſius*, who was born at *Mentz* in *Germany*. He was firſt a *Carthuſian* Monk, then a Schoolmaſter for nine Years, and, laſt of all, a Phyſician. He was a Man of ſingular Learning, and attempted to reſtore and illuſtrate Botany, both in the *Latin* and *German* Languages. Tho', in his Works, many things are imperfect, tho' the Deſcriptions do not correſpond to the Draughts, and tho' he often calls Herbs by their wrong Names, yet he was the firſt who reſtor'd the true way of drawing Herbs in *Germany*. He was at laſt call'd to *Bern* in *Switzerland*, where he practiſed with ſuch Succeſs as to acquire an uncommon Reputation; but he died about a Year and an half after he had ſettled there, in the Year 1534.

Brunfelſius was ſucceeded in his Deſign of reſtoring and enriching *Botany*, by *Euricius Cordus*, born at *Heſſe* in *Germany*. He practiſed and taught Medicine at *Erford*, *Marpurg*, and *Bremen*. Beſides his Skill in Poetry, and other fine Accompliſhments, he was a Man of untainted Morals, and ſingular Induſtry. How much he has contributed to the Improvement of Botany, may be judg'd from his *Botanologicon, ſeu Colloquium de variis Herbis*. He died in the Year 1538.

Nor are we to paſs over in Silence *Gualterus Hermenius Riffus*, Profeſſor at *Straſburg*, and *Joannes Lonicerus*, Profeſſor at *Marpurg*; the former of whom has follow'd *Ruellius*, and the other *Marcellus*, in interpreting *Dioſcorides*. *Geſner* gives both theſe Authors ſuch a wretched Character, as would induce one to neglect their Productions, as worthleſs and inſipid Jargon.

But the greateſt Illuſtrator of *Dioſcorides*, and the moſt happy Diſcoverer of Plants before unknown, was *Valerius Cordus*. He was born in *Heſſe* in the Year 1515. and died at *Rome* 1544. in the twenty-ninth Year of his Age. He was more induſtrious in enriching Botany than many of thoſe who had gone before him. Beſides his exquiſite Annotations on *Dioſcorides*, he compil'd an Hiſtory of Plants, in four Books; but as he died before that Work was completed, all his Deſcriptions are not equally exact and juſt.

In 1550. appear'd *Amatus Luſitanus*, who is by ſome call'd *Joannes Rodericus Luſitanus*, and *Joannes Rodericus Caſtelli albi*. He wrote Illuſtrations upon *Dioſcorides*, in which he often talks of things to which he was an entire Stranger.

But *Andreas Lacuna*, of *Segovia*, is an Author far preferable to *Amatus Luſitanus*. He was chief Phyſician to *Julius* the Third. In the *Spaniſh* Language he wrote Commentaries and Annotations on *Dioſcorides*, but is ſeverely cenſur'd for being a *Plagiary* by *Matthiolus*. He alſo tranſlated that Work concerning Plants, aſcrib'd to *Ariſtotle*. He died in the Year 1552.

Hieronymus Bockius, call'd commonly *Bock*. He is known by the Name *Tragus*, and was born at *Hiedſpach*, a Village of *Bretta*, near the City of *Spires*. He liv'd for ſome Years at *Deuxponts*, where he adorned the Gardens of Duke *Lewis*, Palatine of the *Rhine*, with a Variety of Herbs formerly unknown in it. He compoſed a Hiſtory of Herbs at *Saarbruck*, and died in 1554.

Next appear'd *Joannes*, or *Janus Haynbut*, or *Hagenbut*, who was call'd *Cornarius*, tho' *Hagenbut* ſignifies the Fruit of the Dog-roſe. He was born at *Zuvicca*, a City of *Miſnia*, in the Year 1500. He tranſlated *Dioſcorides*, and added Figures to each Chapter. Tho' in this Work he does not diſcover a more extenſive Knowledge in Botany than ſome who had gone before him, yet he re-eſtabliſhes the genuine Readings in numberleſs Places. He had for an Antagoniſt *Leonardus Fuchſius*, who finds fault with a great many Paſſages in his Tranſlation. He died in 1558.

Next appear'd *Jacobus Goupylus* of *Poictiers*. He was Doctor of Phyſic at *Paris*, and very ſkilful in the *Greek* and *Latin* Languages. He gave ſome very ſhort, but, at the ſame time, very uſeful Amendments of *Dioſcorides*. He diligently and judiciouſly reviſed *Trallian*, *Actuarius*, and ſome others. He died in the Year 1560.

At *Wembding*, in the Country of the *Griſons*, was born *Leonarthus Fuchſius*, in the Year 1501. He was a Man of uncommon Application, and a diligent Inquirer into the Plants of *Germany*, five hundred and ten of which he repreſented in large Figures, to the no ſmall Improvement of Botany. But he was ſo fooliſhly attach'd to *Dioſcorides*, that he endeavour'd to accommodate *Dioſcorides*'s Deſcriptions to the *German* Plants; which made him ſometimes affirm, that things were clearer than the Light, when they were, at the ſame time, involved in the greateſt Darkneſs and Obſcurity. He died at *Tubingen* in the Year 1566.

The ſame Year deprived the World of *Gulielmus Rondeletius*, a celebrated Phyſician, born at *Montpelier*. He was indefatigably laborious in diſcovering and finding out Simples, and their Virtues. He wrote Commentaries upon ſeveral Parts of *Dioſcorides*, which were much eſteem'd by the Botaniſts who liv'd at the ſame time with himſelf. He died in 1566.

William Turner, an *Engliſh* Phyſician of ſingular Learning, in 1551. publiſh'd an Hiſtory of Plants in *Engliſh*; in which Work he has, for the moſt part, publiſh'd the Figures of *Fuchſius*, and given the Names of the Plants in *Latin*, *Gerek*, *Engliſh*, *German*, and *French*, in an alphabetical Order.

Nor ought we to forget *Lucas Ghini* of *Forli*, a Phyſician of an excellent Genius, and uncommon Learning. He profeſſed the *Materia Medica* at *Piſa* for ſeveral Years with univerſal Approbation; and tho' he publiſh'd nothing himſelf, yet he was either the Maſter, or the intimate Acquaintance, of thoſe celebrated Men, *Cæſalpinus*, *Anguillara*, *Marantha*, *Matthiolus*, and ſome others, to whom he not only ſent Plants, but openly deliver'd his Opinion of them; by which means he contributed conſiderably to the Illuſtration of former Authors, and the Improvement of Botany.

Petrus Andreas Matthiolus was born at *Sienna*, a celebrated City of *Tuſcany*. *Thuanus* gives him a very great Character for a ſkilful Botaniſt. But however well acquainted *Matthiolus* might have been with the Writings of the Antients, yet he was ſo ignorant of the common Plants, that of the whole nine hundred he has treated of, he has ſcarce given an accurate Deſcription of one. He died of the Plague at *Trent* in the Year 1577.

Bartholomæus Maranta, a Phyſician of *Venuſium*, compoſed three Books on the Method of knowing ſimple Medicines, which are highly uſeful for underſtanding many Paſſages of *Dioſcorides*. He died in the Year 1554.

Adamus Lonicerus was born at *Marpurg* in *Heſſe* in 1528. He was a learned Phyſician, and a ſkilful Botaniſt, as is obvious from his *Botanicon*, his *Hiſtoria Plantarum*, and his *Herbarium*, publiſh'd in the *German* Language. But *John Baubine* ſeems to have judged rightly of *Lonicerus*, when he affirms, that he collected his Botanical Works from *Tragus*.

Nor at this time were there wanting Men of Learning, who either went to both *Indies* themſelves, in order to diſcover the Spices and Plants produc'd in them, or treated largely of them after they were brought into *Europe*. Amongſt theſe were *Garcias ab Horto*, *Chriſtophorus a Coſta*, *Nicolaus Monardes*, *Gonſalvus Ferdinandus Oviedo*, *Franciſcus Lopez de Gomara*, *Johannes Fragoſus*, *Hugo Linſchotanus*, *Johannes Leirius*, *Franciſcus Hernandez*, *Franciſcus Ximenez*, *Joſephus a Coſta*, and, nearer our own Times, *Jacobus Bontius*, of *Rotterdam*, *Gulielmus Piſo*, a Phyſician of *Amſterdam*, *Georgius Marcgravius*, of *Liebſtad*, and ſome others.

Among thoſe who have more particularly applied themſelve to the Knowledge of Plants, was *Jacobus Dalecampius*, wh was born at *Cadom*. He practis'd Phyſic at *Lyons*, with univerſal Reputation. He was the firſt of the Moderns who undertook to write an univerſal Hiſtory of Plants; but being involved in a Multiplicity of Buſineſs, he did not live to finiſh it This Taſk was, by *Rovillius*, a Printer at *Lyons*, committe to one *Molinæus*, a learned Phyſician, who finiſh'd the Deſign, and publiſh'd it under the Title of *Hiſtoria Lugdunenſis*. *Dalecampius* died in the Year 1537.

Jacobus Theodorus Tabernæmontanus is, according to *Conringius*, juſtly preferable to his Maſter *Tragus*; ſince, in Imitatio of him, he advanced many things new concerning the Virtue of Plants; but 'tis to be lamented, that he only finiſhed the fir Part of his Work, ſince the ſecond and third, done by anothe Hand, however excellent, are yet ſhort of the Judgment an Skill of *Tabernæmontanus* himſelf. In his Practice, abſtractin from the Theriaca and the Mithridate, he uſed very few exoti Subſtances, contenting himſelf with the Simples of his ow Country. Beſides his diſcovering ſome Plants formerly unknown, he has wrote very well concerning the Virtues of tho which were commonly known. He was call'd *Tabernæmontanus* from the Place where he was born, which is *Bergzabern*, Town in the Territories of the Prince of *Deuxponts*. He died a *Heidelberg* in the Year 1590.

This Author originally practiſed Pharmacy at *Kronweiſſenberg*.

Some of the Figures of *Tabernæmontanus*, and alſo of *Lobeliu* were taken by *John Gerard*, an *Engliſhman*, born at *Namwich* in *Cheſhire*. Nor did he add any Figures of his own, except ſixteen, in the whole Hiſtory of Plants which he publiſh in *Engliſh*. He had little or no Knowledge of the Language The greater Part of his Work is nothing but the *Pemptades* *Dodonæus*, turned into *Engliſh* by one Doctor *Prieſt*, whic *Gerard* took without any Alteration. To conceal this, changes the Method of *Dodonæus* into that of *Lobelius*, begi ning with Graſſes and Graminifolious Plants. To this Tranſ tion of *Dodonæus* he has added ſome Plants from *Cluſius*, a others from the *Adverſaria* of *Pena* and *Lobelius*, having on given about fourteen of his own. He has confounded and u ſkilfully tranſpoſed the Figures of *Tabernæmontanus*. He flo riſhed about the Year 1597.

Joachimus Camerarius, born at *Norimberg* in the Year 153 acquired a far greater Reputation than *Gerard*. He is by ſo celebrated as a Man of profound Learning, and a ſkilful Bo niſt. He was ſo fond of promoting Natural Hiſtory and Bota that he purchaſed of *Wolfius* the *Bibliotheca Herbaria*, and Botanological Works which were left him by *Geſner* in his Will. However, he is not much extoll'd by *Tournefort*, who of him, "That if we were to judge of him from what "publiſh'd during his Life, we ſhould find his Skill in Bot "far inferior to the Reputation he acquired on that accoun He died in the Year 1598.

With *Camerarius* we may join *Janus Antonius Saracenus*, *Lyons*, who flouriſh'd about 1598. By his Care and Dilige reſtor'd the Works of *Dioſcorides* to their primitive Dignity; r he preſerves the Senſe of *Dioſcorides*, without receding from e Purity of *Pliny*'s Dictiou.

Petrus Bellonius, of *Mans*, was a Man of incredible Induſtry d Application, as appears from his Works publiſh'd partly in e *Latin*, and partly in the *French* Languages. He has written ncerning coniferous Trees and Evergreens. He has alſo given Commentaries on *Dioſcorides*, and a Book concerning Agri-lture. He likewiſe deſigned ſome other Works, but Death revented him.

Leonardus Rauvolfius was born at *Mechlin* in 1517. He ravell'd thro' *Syria*, *Judea*, *Arabia*, *Meſopotamia*, *Babylon*, *ſſyria*, and *Armenia*, from which Countries he brought back to *Germany*, with him, many Herbs, Shrubs, Plants, and her things of the like Nature. He wrote a Book, which he lls *Hodæporicon*, or Travels into *Syria*, *Judea*, *Arabia*, *Meſopo-mia*, *Babylon*, *Aſſyria*, and *Armenia*, which he divided into ſix arts, and which contain many curious things relating to the *ateria Medica*. He flouriſh'd about the Year 1583.

The World is conſiderably indebted to the Lucubrations of *mbertus Dodonæus*, who was born at *Mechlin*, in *Brabant*, 17. His Hiſtory of Plants is recommended not only by the legance of the Figures, but alſo the Richneſs and Variety of e Matter. By his Learning he acquired ſuch a Reputation, at he was invited to the Univerſity of *Leyden*, where he profeſs'd yſic with great Applauſe, and died in 1585. in the ſixty-eighth ear of his Age.

Carolus Cluſius was ſingularly fond of Botany. He became amour'd with this Science when he was at *Montpelier*, where lodg'd with the celebrated *Rondeletius*, as *Boiſſard* informs us. e was born at *Arras*, in the *French Netherlands*, in the Year 26. His Reputation ſoon procur'd him an Invitation from the ofeſſors of the Univerſity of *Leyden*, which having accepted, he ere revis'd all his Writings, put the laſt Hand to them, and digeſt- them into two Volumes; the former of which contains one thou- d one hundred and thirty-three Figures of Plants; the other, ides Fruits, and exotic Animals, contains the Repreſentations of ty-five Plants diſcover'd by himſelf. He died, much regretted, *Leyden*, in the Year 1609. in the eighty-fourth Year of his Age.

Matthias Lobelius, of *Liſle*, was far inferior to *Cluſius*, and exact in deſcribing his Plants, as appears from his *Adver-ia*, and his Obſervations and Illuſtrations of Plants, in which, ere Figures are wanting, he is ſcarcely intelligible. In aſ-ing the Places where Plants grow, he truſts too much to his mory; for, as Mr. *Ray* juſtly obſerves, he takes many nts to be the natural Product of *England*, which were never n to grow ſpontaneouſly in it, and which, perhaps, were r ſeen any-where in the World. *Lobelius*, relying on the ſtance of *Petrus Pena*, a Native of *Provence* in *France*, a Man of great Learning, publiſh'd a Deſcription of the Plants of *Languedoc*, in a harſh and uncouth Style.

now come to *John* and *Caſpar Bauhine*, two Brothers, o have acquir'd ſuch an uncommon Fame for their Skill in ny, that the ſmalleſt Herb is hardly mention'd without, at ſame time, mentioning the Name affix'd to it by them. y were born at *Baſil*, but their Father was a Native of nce. Notwithſtanding the Learning and Induſtry of theſe Brothers, they ſeem to have undertaken a Taſk to which y were by no means equal; for each of them propoſed to e an univerſal Hiſtory of Plants. But as *Geſner*, in one of Epiſtles to *Fuchſius*, well obſerves, one Man is not at all cient for carrying on ſo extenſive a Deſign, ſince there are berleſs Species of Plants, each of which a ſingle Man muſt n entire Stranger to, on account of the Diverſity of Cli-es. But if different Men, in different Climates, would ge the World with their Obſervations, there is a Poſſibility n univerſal Hiſtory of this kind being ſome time or other uc'd by a maſterly Hand. Tho' it were to be wiſh'd, that ork of this Nature ſhould appear in our own Age, yet we no Reaſon to expect it; becauſe, from the Deſcriptions of Plants already known, we can neither infallibly diſcover r Species, nor reduce them to their proper Genuſes; and this Source have ariſen almoſt all the Errors of the univerſal ories of this Nature, which have hitherto appear'd. But, to rn to the *Bauhines*: No more uſeful Work of the kind has ar'd than the *Pinax*, nor was it poſſible to render it much e perfect at the time in which it was written. Among the undred Plants deſcrib'd by *Caſpar* in the *Prodromus Thea-Botanici*, many were receiv'd dry and imperfect from his nds and Acquaintances. His Brother *John*, tho' he us'd ame Practice, yet gave his Deſcriptions far more natural accurate. But the great Fault of theſe two Authors ſeems onſiſt in their having neglected to eſtabliſh the Genuſes of ts, than which nothing is more requiſite to ſuch a Hiſtory. died at *Mont Beleard* in 1614. and *Caſpar* at *Baſil* in . in the ſixty-fourth Year of his Age.

or ought we, on this Occaſion, to forget the *Hortus Flori-* f *Criſpinus Paſſeus*, publiſh'd in 1614. in which there are hundred and twenty-five Figures accurately delineated, ivided according to the Seaſons of the Year; nor the Works of *Emanuel Suvertius*, a Native of *Sevenberg* in *Holland*; nor the *Florilegia* of *Theodorus de Bry*; nor the Deſcription of the Herbs growing on Mount *Baldo*, publiſh'd by *Johannes Pona*, an Apothecary of *Verona*; nor the Hiſtory of the Plants of *Canada*, publiſh'd by *Jacobus Cornuti*, a Phyſician of *Paris*.

After the *Bauhines* appear'd *John Parkinſon*, a Native of *London*, and Apothecary to the King, who attempted to give an univerſal Hiſtory of Plants in the *Engliſh* Language; for in his *Paradiſus Terreſtris*, publiſh'd in 1629. he gives the Hiſtory of Flowers at great Length; and, in his *Theatrum Botanicum*, he has comprehended more Species of Plants, than were to be found in any Hiſtory of Plants publiſh'd before his Time. For the moſt part, he follow'd *Caſpar Bauhine*; and added ſeveral Species from *Alpinus*, *Cornuti*, and ſome others. But tho' he trod in the Steps of the beſt Authors, who had gone before him, yet, thro' Forgetfulneſs or Haſte, he has omitted many Things, and ſometimes repeated his Deſcriptions of one and the ſame Herb.

As Kings and Princes have contributed to the Advancement of other Sciences, ſo have they not been wanting to the Improvement of Botany; for the Herbs of *Greece*, and the *Eaſtern* Countries, have been rendered as famous by the Notice which Kings have taken of them, as by their own Virtues. *Juba*, King of *Mauritania*, is as memorable for his diligent Study of Plants, as for his being cloath'd with Royalty, and ſwaying the Sceptre over a warlike People: And, according to *Galen*, *Mithridates* and *Attalus* were acquainted with the Virtues of almoſt all the Simples which reſiſt Poiſon, the Qualities of which they tried upon ſuch Criminals as were condemn'd to Death.

Nor were the *Roman* Emperors leſs Admirers of Botany, or leſs careful in advancing it; for the Botaniſts kept by *Cæſar* in *Arabia*, *Lybia*, *Sicily*, and *Crete*, tranſmitted Baſkets of Flowers not only to *Cæſar* himſelf, but almoſt to all the *Roman* People. And *Evax*, a certain King of the *Arabians*, is ſaid to have written to *Nero* concerning the Virtues of Simples.

But, to come near our own Times, *Philip* the Second, of *Spain*, as we are told by *Joſephus Acoſta*, ſent his chief Phyſician, *Franciſcus Hernandez*, into *America*, with a View to diſcover new Plants, and more accurately deſcribe thoſe already known.

Among the public Gardens, in which Herbs are demonſtrated by Profeſſors, that of *Padua* is the oldeſt. *Franciſcus Bonafidius*, a Phyſician of *Padua*, at whoſe Perſuaſion the Deſign was ſet on Foot, firſt explain'd the Simples in this Garden from the Year 1533. to 1549. when, being weaken'd with Age, and loſing his Sight, he reſign'd his Place.

He was ſucceeded in this Office by *Gabriel Fallopius*, of *Modena*, whoſe Character, both as a Surgeon and a Botaniſt, is well enough known. He was ſucceeded by *Bernardinus Triviſanus* in 1563.

In 1561. *Melchior Guilandinus* was choſen Keeper of the *Paduan* Garden. He was born at *Coningſberg* in *Pruſſia*, and made uncommon Advances in Medicinal Learning, but more eſpecially in Botany: He took Notice of an hundred Errors in the *Herbarium* of *Matthiolus*; and, after having acquired an uncommon Character for Learning, died at *Padua* in 1589.

His Place was given to *Jacobus Antonius Cortuſus*, in the Year 1590. who, tho' no profeſs'd Phyſician, was yet the moſt ſkilful Botaniſt of the Times in which he lived. He died in 1593. without publiſhing any thing, except a Catalogue of the Plants in the *Paduan* Garden.

The ſame Year *Proſper Alpinus*, born at *Maroſtica*, a Town at the Foot of the *Vicenſian* Mountains, in the *Venetian* Territories, was choſen to read Lectures on Simples in the Schools, and ſhew them in the Garden. He went into *Egypt* in the Year 1580. with *Georgius Amius*, a *Venetian*, in order to take care of the Health of the *Venetians* who reſided there. He was called thence to *Genoa* in 1586. by *Joannes Andreas Aureas*, Admiral of the *Spaniſh* Fleet, in order to preſcribe for him. Thence he went to *Padua*, and enter'd upon the Explication of Simples. He was a Man of an univerſal Genius, and uncommon Learning. The Plants he himſelf had ſeen in *Egypt*, as alſo thoſe ſent him from *Crete*, and other Parts, by *Hieronymus Capellus*, and *Nicolaus Contarenus*, are imperfectly deſcribed by him, and as imperfectly delineated, as appears not only from his Treatiſe *de Plantis Ægyptiis*, but alſo from his Books *de Plantis Exoticis*, publiſh'd by his Son *Alpinus* in 1628. *Proſper*, the Father, died at *Padua* in 1617.

The following Year *Jacobus Zabarella* was choſen to give Lectures on Simples; and *Johannes Prevotius*, a Native of *Baſil* in *Switzerland*, to ſhew them in the Garden; but the latter was carried off by the Plague in 1630. The following Year an Offer of his Place was made to *Joannes Rhodius*, a *Dane*, but he refuſed it; and in 1633. it was given by the Senate to *Alpinus Alpinus*, the Son of *Proſper*, who enjoy'd it till 1637. when he died of a Conſumption. Next Year he was ſucceeded by *Joannes Veſlingius*, of *Minden*, whoſe Character, both as an Anatomiſt and a Botaniſt, is too well known not to procure him the Eſteem he juſtly deſerves. He was a Knight of the *Holy Sepulchre*, and died of a malignant Fever in 1649. He had for his Succeſſor, in Office, *Georgius a Turre*, who is juſtly celebrated for his Skill in Botany. His Succeſſor, the illuſtrious

Abbot *Felix Viali*, was no leſs a Glory to his Country, and the Univerſity of *Padua*.

Encouraged by the Example of the *Paduans*, *Coſmo* of *Medicis*, the Great Duke of *Tuſcany*, formed a Garden for the ſame Purpoſe at *Piſa*; the Care of which he committed to *Andreas Cæſalpinus*. We muſt not here forget the *Farneſian*, the *Barberinian*, the *Ludoviſian*, the *Burgheſian*, the *Aldobrandinian*, and the *Eſtenſian* Gardens in *Italy*. The *Bononian* Garden has been ſingularly enrich'd by *Jacobus Zanoni*, and *Lælius Triumphetti*; and that at *Rome* by the ſkilful Botaniſt *Joannes Baptiſta Triumphetti*.

Nor let us imagine, that in this Particular we were outdone by the celebrated Gardens of the *Heſperides*, or thoſe of *Babylon*, or by that of *Adonis*, *Alcinous*, *Epicurus*, or *Theophraſtus*; for if we take a View of the Gardens of *Holland* and *England*, we ſhall find them equal, if not preferable, to the moſt celebrated among the Antients; ſince thoſe of *Leyden* and *Amſterdam* contain whatever the *Indies* and *Africa* produce: And thoſe of *London* and *Oxford*, the laſt of which has of late been greatly improved by Dr. *Dillenius*, thro' the Munificence of Dr. *Sherrard*, contain whatever *Jamaica* and *Virginia* afford. And thoſe of *Hampton*, Biſhop *Compton*'s at *Fulham* (now neglected), and that at *Chelſea*, are furniſh'd with almoſt whatever is to be found in the whole World. The Gardens of Mr. *Beaumont* in *Holland*, in which there is Euphorbium, brought from *Africa* at the Proprietors Charges, is no leſs famous than that of *Juba*, and will for ever be ſignaliz'd by the Catalogue of its Plants, publiſh'd by the learned *Hagelaerus*.

Nor have the Kings of *France* been wanting in this Particular; for *Francis* the Firſt was not only an Admirer of Botany himſelf, but alſo a great Encourager of every Plan that could improve and advance it. *Henry* the Fourth alſo, King of *France* and *Navarre*, form'd a Garden for the Culture of rare Plants, and gave the Care of it to that ſkilful Botaniſt *Joannes Robinus*. But *Lewis* the Thirteenth, in 1626. form'd a ſtill larger, and more noble Garden, in the Suburbs of *St. Victor's* at *Paris*, by the Perſuaſion of *Heroard* his chief Phyſician, and *Guido Broſſæus* his Phyſician in Ordinary, and who, being created Governor of the Garden, appointed the Plants to be demonſtrated by *Veſpaſianus Robinus*, that diligent Botaniſt; who, beſides the Species of the *Lingua Cervina*, the Names of which are mentioned in the Catalogue of Plants contain'd in the Royal Gardens, firſt brought into *France* the *Filix Baccifera*, the *Adianthum Americanum*, the *Geranium Triſte*, the *Origanum Fiſtuloſum*, the *Aſarum Canadenſe*, the *Acacia Americana*, and other curious Plants, with which *Cornuti*, a Phyſician of *Paris*, has adorn'd his Hiſtory of Plants. At laſt, *Lewis* the Fourteenth gave the Charge of his Gardens to the illuſtrious *Guido Creſcentius Fagon*; who, at his own Expence, ſoon enrich'd the Royal Garden with Store of curious Plants, which he cull'd, with his own Hands, in different Parts of the World: So that it is no Wonder, if the Royal Garden at *Paris* ſurpaſſes moſt others in the World for the immenſe Number of Plants it contains. Mr. *Fagon*, being call'd to the Court, put *Armandus de Mauvillain*, a Phyſician of *Paris*, into his Place; and in the Year 1683. *Mauvillain* was ſucceeded by *Tournefort*, a brief Sketch of whoſe Life I ſhall give; ſince he ſeems to have carried Botany to a higher Degree of Perfection, than any of the Authors I have hitherto mention'd.

Beſides the Royal Garden at *Paris*, *France* is bleſs'd with another at *Montpelier*, inſtituted by *Henry* the Fourth, about the Year 1598. the Care of which has ſucceſſively been committed to the moſt diſtinguiſh'd Botaniſts; ſuch as *Petrus Richierius de Belleval*, *Joannes Richerius de Belleval*, *Michael Chycoineau*, *Petrus Magnol*, *Franciſcus Chycoineau*, and *Nicolaus Fabricius Peireſkius*, who, by a matchleſs Diligence, tranſplanted the *Myrtus latifolia flore pleno* from the woody Places between *Toulon* and *Marſeilles*; the *Jaſminus Indicus flavus odoratiſſimus* from *China*; the *Papyrus* from *Sais*, a Town of *Egypt*; the *Liſa* from *Mecca*; and ſome uncommon Vines from *Tunis*, *Smyrna*, *Sidon*, *Damaſcus*, *New France*, and other Parts.

The Gardens of *Gaſto Borbonius*, Duke of *Orleans*, are alſo a noble and entertaining Scene for a Botaniſt, ſince it is enrich'd with Store of curious Plants. But among all the botanic Scenes the World ever ſaw, the moſt glorious and magnificent is that incredible Treaſure of Plants, done in their native Colours, as large as the Life, and kept in the Repoſitory of *Lewis* the Fourteenth. This Garden dreads neither the Cankerworm, the Locuſt, nor the Caterpiller; but blooms with all the Verdure of an eternal Spring, and bids a Defiance at once to the nipping Colds of the Winter, and the ſcorching Heats of the Summer.

LIFE *of* TOURNEFORT.

When we obſerve any Man diſtinguiſh'd by a ſuperior Knowledge, or Skill of any Kind, it is natural for the Mind to be ſolicitous and inquiſitive about the ſeveral Circumſtances which have concurr'd to render him thus conſpicuous. When, for Example, we hear of *Alexander*'s Skill in all the Arts of War and Conqueſt; when we view the brave and heroic Actions o *Cæſar*, *Scipio*, and *Hannibal*; when we reflect on the extenſiv Knowledge, the deep Reſearches, the accurate Deductions and important Diſcoveries, of the incomparable Sir *Iſaac Newton*; our Minds are indeed ſtruck with certain Ideas of Grandeur and Surprize; but a ſecret Diſſatisfaction is ſtill lodged i the Breaſt, and the labouring Soul remains, as it were, on th Rack, till we know ſomething more about the Men, and hav diſcovered their Turns of Mind, and the ſeveral Steps by whic they have gradually advanced to Honour, and paved their Wa to immortal Glory. Now, as Mr. *Tournefort* is univerſall allow'd to have carried Botany to a higher Degree of Perfectio than any who went before him, by enriching it with numberle Diſcoveries, advancing it into a Science, giving it an Air Accuracy, which it formeriy wanted, and ſmoothing all its Di ficulties; it muſt, of courſe, be an uncommon Satisfaction become acquainted with the Education, the Genius, the Diſpoſition, and Studies of this celebrated Botaniſt.

Joſeph Pitton de Tournefort, then, was born at *Aix* in *Pr vence*, on the Fifth of *June*, 1656. He was the Son of *Pet Pitton de Tournefort*, and *Aimare de Fagone*, the Deſcendant a Family of Note in *Paris*.

Their Son *Joſeph* was put to the Jeſuits College in *Ai* with a View to learn *Latin*, as the other Scholars did. But, ſoon as he ſaw any Plants, the Bent of his Genius diſcover'd future *Botaniſt*; for he was anxious and uneaſy, till he found their Names: He carefully remark'd their Differences, a ſometimes neglected to attend his Claſs, in order to diſcov Herbs, and ſtudy Nature in the Fields, inſtead of the Langua of the antient *Romans* in the Schools. And as it is no uncommon thing to ſee ſome People excel in an Art, by the me Force of Genius, without the Aſſiſtance of a Maſter, this you Botaniſt had, by his own Induſtry, acquir'd a Knowledge of the Plants produced about the Village where he was born.

When he enter'd upon his Philoſophical Studies, he diſco ver'd no great Reliſh for what was taught him. In Diſqu tions of this Kind, inſtead of Nature, with whoſe Contemp tion he was ſo highly charm'd, he found only vague and a tracted Ideas, which decoy and amuſe the Mind, witho enriching it with any thing that is ſolid and ſatisfacto During this Period of his Education, he accidentally found Philoſophy of *Deſcartes* in his Father's Study, and ſoon diſ ver'd it to be the very Thing he wanted. Tho' he could o read the Productions of this Author privately, and, as it we by Stealth, yet he read them with Care and Accuracy; and Father, who violently oppoſed ſo uſeful a Study, afforded hi without being ſenſible of it, the Advantages of a fine Educatio

As he deſtin'd his young Son for the Church, he made h apply to the Study of Theology, and for that Purpoſe ente him in a Seminary. But in his Breaſt *Botany* could not end a Rival, and the Bent of Nature was too powerful to balanced by any Views, or overcome by any Byas.

Notwithſtanding the Intentions of the Father, the Son m neceſſarily ſee Plants; and for this End he retired to proſec his darling Study, either to a curious Garden belonging to Apothecary of *Aix*, or to the neighbouring Fields, or to Summits of Rocks, which had been inacceſſible to oth fir'd with a leſs ardent Deſire of Knowledge than he. ther by Stratagem or Preſents he found Acceſs to the cloſe and conceal'd Places, where he ſuſpected there were Pl not to be found elſewhere; and when theſe Means fail'd, undaunted was his Reſolution, that he would make his into them in an unlawful and clandeſtine manner, rather not ſatisfy his Curioſity; and, indeed, for an Attempt of Kind, he once ran a Riſque of being ſtoned to Death by Country-people, who took him for a Robber. But what H ſhips will not a Mind, actuated with an ardent and inſati Deſire of Knowledge, undergo for Satisfaction?

Mr. *Tournefort* was almoſt as fond of Anatomy and miſtry as he was of *Botany*; and at laſt Phyſic and Medicin engroſs'd his Affections, as to gain a thorough Victory ove Inclinations to Theology, which he now reſolved to drop. this Reſolution he was encouraged by an Uncle on his Fat Side, who was a Phyſician of great Skill and Reputation. after, the Death of his Father in the Year 1677. left him own Diſpoſal, and Maſter of his own Inclinations.

He quickly improv'd this Revolution made in his For by his Father's Death; for, in the Year 1678. he care ranged the Mountains of *Dauphiny* and *Savoy*, from whic return'd with a large Quantity of beautiful dry Plants, were the Beginnings of his celebrated Collection of Herbs.

Botany is not an unactive and ſedentary Science, which, Geometry or Hiſtory, may be acquir'd by a recluſe and tary Application within the narrow Precincts of a Cloſet which, like Chymiſtry, Anatomy, and Aſtronomy, de only ſuch Operations as may be perform'd without a gre of Exerciſe, Toil, and Fatigue. The Botaniſt muſt thro' Mountains and Valleys, range the gloomy Foreſts, the ſteepeſt Rocks, and expoſe his Life on the Brinks of ous Precipices, in Queſt of Knowledge. The only Books ble of inſtructing us thoroughly in this Science, are, with a rich and liberal Hand, ſcatter'd up and down the whole Surface of our Globe. But Reſolution and Patience, Induſtry, and Contempt of Danger, are neceſſary to collect and gather them. This is the Reaſon why ſo few excel in this Science: That Degree of Ardor which is capable of rendering a Man ſkill'd in other Branches of Literature, is by no means ſufficient for forming a complete Botaniſt; who, beſides the inſurmountable Ardour of his Soul, muſt have an uncommon Strength of Body, and Soundneſs of Conſtitution, to bear him up under the Toils and Fatigues he muſt neceſſarily undergo. Now, Mr. *Tournefort* had a briſk laborious Turn of Mind, a robuſt Conſtitution, and a large Fund of natural Gaiety in his Temper, to ſupport him under his painful Reſearches; ſo that both the Make of his Body, and the Turn of his Mind, joined their united Force to qualify him for a Botaniſt.

In the Year 1679. he went from *Aix* to *Montpelier*, where he perfected himſelf in Anatomy and Phyſic. The Garden of Plants eſtabliſhed in that City by *Henry* IV. rich as it was, could not ſatisfy his unbounded Curioſity. He ranſack'd all the Tracts of Ground within more than ten Leagues of *Montpelier*, and, as a Recompence for his Labour, found Plants unknown and unheard of by the Inhabitants of the Country themſelves. But as he thought himſelf ſtill confin'd within too narrow Bounds, he quitted *Montpelier*, and went to *Barcelona*, in the Month of *April* 1681. He proceeded as far as *St. John*, in the Mountains of *Catalonia*, where he was follow'd about from one Place to another by the Phyſicians and young Students of Medicine, to whom he deſcrib'd the ſeveral Plants which occur'd; and one would have thought, that in this he reſembled the antient *Gymnoſophiſts*, who led their Diſciples into the Deſarts, in order to inſtruct them.

The *Pyrenean* Mountains, which were now not far of, could not fail tempting him to make them a Viſit; and before he undertook this Expedition, he knew that in theſe forbidding Solitudes he ſhould have no other Suſtenance than what the moſt auſtere Hermits are accuſtom'd to; and that the miſerable Inhabitants, who could ſupply him with it, were not more numerous than the Robbers, to whoſe Violence he was ſure to e expoſed. Accordingly he was ſeveral times robb'd by the *Spaniſh* Miquelets. In order to prevent the like Misfortunes or the future, he bethought himſelf of a happy Expedient; r he incloſed his Money in ſome Bread, which was ſo lack and hard, that the *Spaniſh* Robbers, undoubtedly the reedieſt in the World, did not think it a Prize worth the aking. The unconquerable Force of his Inclinations ſur- ounted all Difficulties; and the dreadful and almoſt inacceſ- le Rocks, which ſurrounded him on every Side, had to him anſform'd themſelves into a magnificent and well ſtor'd Li- rary, where he paſſed the Time with Pleaſure, and fully ſatiſ- d the Ardour of his Soul. One Day a ruinous Cottage, which he had the Misfortune to lodge, fell all on a ſudden; d Mr. *Tournefort*, being buried under its Ruins for two ours, had undoubtedly periſh'd, had not a ſeaſonable Relief en afforded him. But this Accident, which of itſelf would ve ſtruck Terror into the Braveſt, did not interrupt the ourſe of his painful Inquiries, nor fright him from a Scene other reſpects ſo agreeable to him.

At laſt, in 1681. he return'd to *Montpelier*, and thence to ix, the Place of his Nativity, where he ranged in his Repo- ory of Herbs all the Plants he had collected about *Pro- nce*, *Languedoc*, *Dauphiné*, and *Catalonia*, and thoſe leſs nown produc'd by the *Alps* and *Pyrenean* Mountains; and hatever People, whoſe Minds and Studies are turned another y, may think, the Pleaſure of ſeeing ſuch a large Number Plants, entire, well preſerved, and diſpoſed in a beautiful der in large Paper Books, was a ſufficient Recompence for Toil and Pains they had coſt him.

The Fame of Mr. *Tournefort*'s extenſive Skill in Botany by this time reach'd the Ears of Mr. *Fagon*, who was him- a curious Botaniſt, and firſt Phyſician to the Queen; and, he had receiv'd a very advantageous Character of *Tournefort* m all Quarters, he conceived a Deſign of alluring him to *ris*, the general Rendezvous of all the Literati of *France*. this Purpoſe he apply'd to Madam *de Venelle*, who was nd Governeſs to the Daughters of the Royal Family, and o was intimately acquainted with Mr. *Tournefort*, and his ations. Accordingly, this Lady, prevailing on him to come *aris* in 1683. preſented him to Mr. *Fagon*, who, before Year was expir'd, procured him the Place of Profeſſor of ny in the Royal Garden of Plants eſtabliſhed at *Paris* by *is* XIII. for the Inſtruction of the young Students of ſic.

his Employment did not hinder him from undertaking ſe- l other Voyages; for he went back to *Spain*, and thence *ortugal*, where he ſaw new Plants, but found no Botaniſts. en he was in *Andaluſia*, a Country fertile in Silk-worms, ndeavour'd to find out the Truth of the Reports ſo long handed down to us, concerning the Amours between the and Female of theſe Inſects; but he could diſcover nothing certain with regard to this Particular; and theſe Amours, if real, are hitherto myſterious. He travelled alſo into *Holland* and *England*, where he had an Opportunity of ſeeing Plants he had never ſeen before, and converſing with ſome of the greateſt Botaniſts of the Age, whoſe Eſteem and Friendſhip he eaſily gained. As a Proof of this, no other Circumſtance is neceſſary to be mentioned, than his being ſolicited by friendly and importunate Letters from Mr. *Herman*, the celebrated Profeſſor of Botany at *Leyden*, to accept of his Place, which, as he was too old and infirm, he offer'd to reſign in favour of Mr. *Tournefort*. This Gentleman's Zeal for the Intereſt of Botany made him chooſe *Tournefort* for his Succeſſor, tho' he was not only a Foreigner, but belonged to a Nation then engaged in an open War with his own Country. Mr. *Herman* promiſed him four thouſand Livres in the Name of the States-General, and gave him Reaſon to think, that his Salary would be augmented, when his Merit came to be better known. But tho' the Income affixed to his Place in the Royal Garden was very moderate, yet the Love of his Country prevailed upon him to reject ſo fair and advantageous an Offer. He alſo gave his Friends an additional Reaſon for his Refuſal of this Place, which was, that the Sciences were at leaſt in as flouriſhing a State at *Paris*, as in any other Part of the World; for the native Country of a genuine and unfeign'd Virtuoſo would be but a dull and uncomfortable Scene to him, if the Sciences did not thrive and proſper in it.

His Country did not prove ungrateful for the Love he had ſhewn her in rejecting Preferment in a diſtant Nation; for, in the Year 1691. the Academy of Sciences being put under the Inſpection of the Abbé *Bignon*, that Gentleman exerted his Authority, two Months after he was veſted with it, by taking into the Society Mr. *Tournefort*, and Mr. *Homberg*, neither of whom he was perſonally acquainted with, tho' he was no Stranger to the Fame and Reputation they juſtly acquir'd.

In 1694. Mr. *Tournefort*'s Elements of Botany, or the Method of knowing Plants, was printed at the *Louvre*, in three Octavo Volumes. This Work, tho' generally approv'd, found ſome very powerful Oppoſers; for its Author was attack'd upon ſome Points by Mr. *Ray*, a celebrated Botaniſt in *England*. And in 1697. Mr. *Tournefort* anſwered the Charge in a *Latin* Diſſertation addreſſed to Mr. *Sherrard*, another *Engliſh* Gentleman, who was a ſkilful Botaniſt. The Diſpute on both Sides was manag'd not only without Bitterneſs, but even with a certain graceful Air of Decorum and Politeneſs, which beſpeak Candour, and a Love of Truth. It may poſſibly be ſaid, that the Subject was not of ſufficient Moment to ruffle their Spirits, or inflame their Paſſions, ſince the Queſtion in Diſpute was only, whether the Flowers and the Fruits of Plants were ſufficient to eſtabliſh their Genuſes; and whether certain Plants were of one Genus, or another. But this Circumſtance does not at all detract from the Merit of theſe two Diſputants, ſince 'tis natural for Men, eſpecially of Learning, to become enrag'd at each other, on account of the moſt arrant Trifles in the World. Mr. *Tournefort*, in a Work poſterior to the Date of this Diſpute, paſſes very high Encomiums on Mr. *Ray* and his Syſtem; an exalted Inſtance of a candid and generous Soul!

Mr. *Tournefort* was created Doctor of Phyſic, of the Faculty of *Paris*; and in 1698. he publiſhed his *Hiſtory of the Plants which grow about* Paris, *together with an Account of their Uſe in Medicine*. Now we cannot readily ſuppoſe, that the Man who had made his Way to the Summits of the *Alps* and *Pyrenean* Mountains, in Queſt of Plants, could be a careleſs Obſerver of thoſe produced about *Paris*, where he had reſided ſo long. Botany would only be an Amuſement to the Mind, if it had no Relation to Medicine; but Mr. *Tournefort* has in this Work ſhewn the Subſerviency of the former to the latter.

We may alſo reckon among the Works of *Tournefort*, a Book, or at leaſt a Part of a Book, which yet was not printed by his Orders, intituled *Schola Botanica, ſive Catalogus Plantarum, quas ab aliquot annis in Horto Regio Pariſienſi, ſtudioſis indigitavit Vir clariſſimus Joſephus Pitton de Tournefort Doctor Medicus; ut & Pauli Hermanni Paradiſi Batavi Prodromus, &c. Amſtelædami*, 1699. One Mr. *Simon Wharton*, an *Engliſh* Gentleman, who had ſtudied Botany for three Years in the Royal Garden under Mr. *Tournefort*, made this Catalogue of the Plants he had there an Opportunity of ſeeing.

As *the Elements of Botany* had met with as favourable a Reception as the Author himſelf could have deſired, in the Year 1700. for the ſake of Foreigners he gave a *Latin* Tranſlation of it conſiderably inlarg'd, under the Title of *Inſtitutiones Rei Herbariæ*, in three Quarto Volumes; the firſt of which contains the Names of the Plants diſtributed according to his own Syſtem, and the other two their Figures very accurately engraved. To this Work he has prefixed a large Preface or Introduction to Botany, containing the Principles of his own Syſtem, ingeniouſly and ſolidly eſtabliſh'd, and a Hiſtory of Botany and Botaniſts collected with uncommon

Care, and written with an agreeable Spirit. We may eaſily ſuppoſe, that he employ'd himſelf with Pleaſure on every Object that had the leaſt relation to Botany, his darling Study.

But his Curioſity was not entirely confin'd to Plants and Herbs; for he was almoſt equally fond of all other natural Rarities, ſuch as figur'd Stones, uncommon Marcaſites, extraordinary Petrifications, and Cryſtallizations, and Shells of all Kinds. 'Tis true, he looked upon Stones to be Plants which vegetated, and had their reſpective Seeds; he was alſo pretty much inclin'd to extend this Syſtem to Metals, and ſeem'd inclin'd to transform every Object into the Nature of Vegetables, the Contemplation of which afforded him ſo ecſtatic and ſuperlative a Delight. He alſo collected the Garments, the Arms and Inſtruments of diſtant Nations, another Species of Curioſities, which, tho' not coming immediately from the Hands of Nature, may yet afford proper Occaſions of philoſophizing to thoſe happy Souls who have the Art of doing it. With all theſe Objects he had furniſhed a Muſeum, ſurpriſingly magnificent for a private Perſon, and juſtly famous in *Paris*. The Virtuoſi valued it at forty-five or fifty thouſand Livres, an Expence which would have thrown an indelible Blot on the Character of a Philoſopher, had the Money been laid out for leſs curious and inſtructive Purpoſes. This Circumſtance however proves, that Mr. *Tournefort*, conſidering his moderate Incomes, could not lay out a great deal of Money on other Pleaſures more frivolous in themſelves, tho' more eagerly purſued by the Generality of Mankind.

When we take a View of the fine Qualities of which Mr. *Tournefort* was poſſeſſed, we muſt readily perceive how well he was calculated for making an excellent Traveller; by which Word I do not mean the Man who runs from one Country to another, without knowing what he is about, or entertaining the leaſt Thought of rendering himſelf wiſer and better; but the Man who attentively views Nature in all her Variety of Shapes, with a View to become uſeful to his fellow Creatures, and treaſure up a grateful Store of Knowledge in his own Mind; ſo that the faithful Accounts of the Travels of a real Philoſopher may be look'd upon as ſacred Archives of ineſtimable Value. We may therefore account it an Advantage to the Sciences, that in 1700. Mr. *Tournefort* received an Order from the King to travel into *Greece*, *Aſia*, and *Africa*, not only to take a View of the Plants mention'd by the Antients, and perhaps to diſcover others unknown to them, but alſo to make Obſervations upon Natural Hiſtory in general, upon antient and modern Geography, and even upon the Cuſtoms, the Religion, and the Commerce, of the People. He had Orders to write, as often as he had Opportunities, to Mr. *de Pontchartrain*, and to give him a Detail of his Diſcoveries and Adventures. Accordingly Mr. *Tournefort*, accompanied by Mr. *Gundelſheimer*, a *German*, and an excellent Phyſician, and Mr. *Aubriet*, a ſkilful Painter, went as far as the Frontiers of *Perſia*, collecting and making Obſervations on Herbs. Other Travellers convey themſelves by Sea from one Part to another, if they poſſibly can; and, when that cannot be done, they take the moſt beaten and patent Roads by Land. But Mr. *Tournefort* with his Aſſociates were as little at Sea as was poſſible, diſdained the common Roads, and bravely ſtruck out new ones before untrod by Mortals. A Pleaſure, blended with Gloom and Horror, riſes in the Mind upon reading an Account of their Deſcent into the Grotto of *Antiparos*, which conſiſts of three or four hideous Abyſſes, one after another. Mr. *Tournefort* had here the ſenſible Pleaſure of beholding a new Species of Garden, in which the Plants were different Shoots of Marble, as yet young and ſpringing, and which, according to the Circumſtances with which their Formation was accompanied, muſt neceſſarily vegetate. In vain did Nature endeavour to conceal the Vegetation of Stones in theſe profound and inacceſſible Caverns, from ſo bold and curious Virtuoſi.

Africa was comprehended in the original Deſign of Mr. *Tournefort*'s Voyage; but the Plague, which rag'd in *Egypt*, determin'd him to return from *Smyrna* to *France* in 1702. This was the firſt Accident that put a Stop to the Execution of his vaſt and extenſive Deſign: However, he return'd, loaded with the Spoils of the *Eaſt*; for, beſides the numberleſs different Obſervations he had made, he brought along with him one thouſand three hundred and fifty-ſix new Species of Plants, moſt of which ranged themſelves, as it were, of their own Accord, under ſome one or other of the ſix hundred and ſeventy three Genuſes he had already eſtabliſhed; and, for all the reſt, he had only twenty-five Genuſes to create, without being obliged to augment the Number of Claſſes. A Circumſtance which ſufficiently proves the Advantage and Commodiouſneſs of a Syſtem to which ſo many foreign and unexpected Plants were eaſily reducible. Of theſe he compoſed his *Corollarium Inſtitutionum Rei Herbariæ* printed in 1703.

When he return'd to *Paris*, he thought of reſuming the Practice of Phyſic, which he had ſacrificed to his *Levant* Voyage, at a time when he began to be well employed. Experience ſhews us, that in every thing depending on the Taſte of the Public, eſpecially Affairs of this Nature, Delays are dangerous. The Approbation of Men is ſomething forc'd, and ſoon comes to an End. Mr. *Tournefort* then found a Difficulty in getting into the Buſineſs he had left. Beſides, he was obliged to go through his former Exerciſes in the Royal Garden, and thoſe of the Royal College, in which he was one of the Profeſſors of Medicine. The Functions of the Academy alſo took up ſome Part of his Time; and, beſides theſe, he wanted to reviſe and poliſh the Relation of his laſt Voyage, of which he had only the ſimple Memoirs roughly drawn up, and intelligible only by himſelf. This Multiplicity of Buſineſs put him upon ſtudying in the Night-time, a Circumſtance which ſoon broke his Health; and, when he was in this uncomfortable State, he accidentally receiv'd a Blow on the Breaſt, which he thought would very ſoon prove mortal to him. Accordingly he languiſh'd for ſome Months, and died on the twenty-eighth of *December* 1708.

He made a laſt Will, in which he left his Muſeum of Rarities to the King, for the Uſe of the Literati, and his botanical Books to the Abbé *Bignon*. This ſecond Article was no leſs a Proof of his Love to the Sciences than the former, conſidering the Character of the *Abbé*.

One Volume of Mr. *Tournefort*'s Travels was printed in the Author's Life-time at the *Louvre*: And the ſecond is, ſince his Death, printed from his own Manuſcript, which was found perfect and finiſhed. This Work, in which the original Form of Letters addreſſed to Mr. *de Pontchartrain* is retain'd, contains two hundred Plates of Plants, and other Antiquities well engraved. Beſides the Branches of Knowledge, of which we have already ſhewn Mr. *Tournefort* to be poſſeſſed, he in this Work diſcovers an uncommon Degree of Learning, and a very extenſive Knowledge of antient and modern Hiſtory. But one Quality, when poſſeſſed in an eminent Degree, often the Reaſon why we overlook others, which however, deſerve our Attention. *Hiſt. de l'Acad. des Sciences, A.* 1708.

Syſtem of Tournefort.

The Knowledge of Plants has in all Ages and Nations bee justly eſteem'd an uſeful and important Branch of Learnin People are generally convinc'd, that Simples make up almo the Whole of Medicine; and as Nature has implanted in ce tain Animals an Inſtinct, by which they diſcover particul Plants to be proper Remedies for their Diſorders, ſo ſhe ſeem to have acted a ſtill more liberal Part by Man, in furniſhi him with an Inſtinct for Plants in general, and inſpiring hi with an uncommon Confidence in the Remedies prepar'd fro them. But, tho' Nature has been thus bountiful in giving ſo uſeful an Inſtinct, yet ſhe has left us to uſe the laborio Methods of Reaſon, Deduction, and Experiment, in order diſcover the Virtues and Uſes of each particular Plant; Taſk, in the Execution of which, the Reaſon of Man c with Difficulty come up to the Inſtinct of ſome Animals.

The Works of *Theophraſtus* and *Dioſcorides*, of *Pliny* a *Galen*, are ſufficient Proofs, that the Antients had ſome Kno ledge of Plants, tho' their Learning in this Particular was ve ſuperficial, defective, and imperfect, ſince *Dioſcorides*, w applied himſelf to this Study in a particular manner, and quir'd the greateſt Reputation, on account of the Progreſs made in it, has only mention'd about ſix hundred Plants, deſcribed them in a manner ſo obſcure and intricate, that often difficult, and ſometimes impoſſible, to know them by Deſciption of them.

The Ages immediately ſucceeding that of *Dioſcorides*, not greatly enrich Botany; for in them all the Sciences ſe to have been veil'd with Clouds of Darkneſs and Ignoran which were not diſpelled till the fifteenth Century. Then deed People began to read the Antients with great Diligen in order to make themſelves Maſters of their Knowled which had been ſo long involv'd in Obſcurity and Oblivi The Botaniſts ſought for Plants no-where elſe than in the Bo of the *Greeks* and *Romans*; and even *Matthiolus*, the moſt c brated Commentator upon *Dioſcorides*, was not at the P to compare the Plants produced by Nature, with the Deſc tions his Author had given of them; but, attaching himſel credly and inviolably to the Deſcriptions, form'd to him ideal Plants, which he thought Nature muſt, or at leaſt o to have produc'd.

But, when the Sciences began again to be cultivated, Re aſſumed her juſt Prerogative, People ſtudied Nature as we Books, and ventur'd to ſeek for Herbs in the open Fi Upon this, Botany was enriched with new Diſcoveries, and came daily more extenſive.

Notwithſtanding this favourable Revolution, a Difficulty remained to be ſurmounted. The immenſe Number of Pl all differing from each other, began to prove a Grievan Botaniſts; for what Memory was ſufficient to retain ſo in ceivable a Variety of different Names, as were already in or even all the new ones, which were daily becoming neceſ

The Botaniſts therefore bethought themſelves of inventing a Method proper for the Removal of this Grievance; but it muſt be own'd, that few of them apply'd themſelves to this Diſcovery; that thoſe who did, were pretty late in doing it; and that others diſputed either the Poſſibility or Uſefulneſs of ſuch a Method. But 'tis no uncommon thing to ſee the Progreſs of Learning retarded by the Learned themſelves.

The only Method then, which could either be thought of or deſired, conſiſted in diſtributing all the known Plants under certain Genuſes, ſo that the Knowledge of each Genus might contain, as it were, a compendious and general Account of all the Plants it included; and that they might all, as much as the Nature of the Thing would permit, come under one Denomination common to their reſpective Genus, that too great a Number of particular and widely different Names might be avoided. Cuſtom has eſtabliſhed this Practice with regard to all the Species of the Ranunculus; but 'tis a hard Taſk to extend this Plan to a great many other Plants, whoſe Species do not eaſily exhibit to View what they have in common, and ſuch Circumſtances as may ſerve to eſtabliſh their proper Genus.

In order to preſerve that Uniformity which Method requires in the Syſtem of Plants, the ſame Idea muſt prevail in the Eſtabliſhment of the different Genuſes; and they muſt all be deduc'd from the ſame Principles. "A Plant, according to "Mr. *Tournefort*, is an organiz'd Body, which has always a "Root, always probably a Fruit or Seed, and almoſt always a "Stalk, Leaves, and Flowers." Theſe are the five Parts; ſome of which are eſſential to all Plants in general, whereas others belong only to ſome particular Species of Plants. It is evident, that the Reſemblance between ſome of theſe Parts will conſtitute the Genuſes; but this Reſemblance ought always to be between the correſponding Parts; and our whole Buſineſs is to find out to which we ought to give the Preference. Mr. *Tournefort* determines for the Flowers and the Fruit taken in Conjunction.

Geſner and *Colonna*, two of the moſt learned Botaniſts that have hitherto appeared, were of the ſame Opinion; and indeed the Intention of Nature ſeems to point out theſe two Parts as the principal and moſt important; ſince the Whole of the Plant, and all the Apparatus of its Organs, which is greater and more magnificent than is commonly believed, ſeems only form'd with a View to the Production of the Seed, or, which is the ſame, of the Fruit, which is the Covering and Nouriſhment of the Seed. As for the Flower, it is only deſigned for a ſhort time, to afford the growing Fruit a Nouriſhment more delicate, better prepared, and more agreeable to its Nature, than what it could draw from the Leaves.

All Plants whoſe Flowers and Fruits are of the ſame Figure and Diſpoſition, are, then, of the ſame Genus, according to Mr. *Tournefort*'s Syſtem; and the Roots, the Stalks, and Leaves, are not on this Occaſion taken into Conſideration. But when any particular Genus is afterwards to be divided into the ſeveral Species comprehended under it, we muſt conſider the Roots, the Stalks, and Leaves; and thoſe Plants which either differ in all theſe three Parts, or only in ſome of them, are taken to belong to different Species.

As in all this the expreſs Deſign is not exactly to follow or imitate Nature, (who, in the Production of Vegetables, ſeems not to have been very ſolicitous about a Syſtem) but only to eſtabliſh an arbitrary Plan for facilitating the Knowledge of Plants, the Goodneſs of any Method invented for this Purpoſe cannot be ſo properly prov'd by philoſophical Reaſonings, as by the Advantages it brings along with it; its Clearneſs and Perſpicuity, and the Delight and Satisfaction that may poſſibly be found in it; and upon theſe Principles we muſt judge of the Sufficiency and Perfection of Mr. *Tournefort*'s Syſtem.

It muſt, indeed, be owned, his Plan is not univerſal, ſince here are Plants which have neither Flowers, Fruit, nor Seed; t leaſt the Fruit and Seeds are either not at all viſible, without e Aſſiſtance of a Microſcope, or not eaſily diſcovered even ith it; ſo that we are obliged, without perceiving them, to aſon analogically for their real Exiſtence.

Now in an Affair of this Nature, 'tis neceſſary there ſhould evident and uncontroverted Characteriſtics ſubjected to the ye. And the Aſſiſtance of the Microſcope is not in this Caſe mitted, and much leſs the moſt plauſible and ſolid Hypotheſis. r. *Tournefort* is therefore reduced to a Neceſſity of diſtributing eſe Plants into ſeparate Genuſes, which he regulates and fixes their moſt remarkable Parts. And as theſe Genuſes are only y few in Number, they make, if I may ſo ſpeak, but a very onſiderable Chaſm in the Univerſality of Mr. *Tournefort*'s an, which, however, is more extenſive and general than any her that could have been thought of.

Sometimes alſo, when the Flowers and Fruits taken in Conction are not ſufficient for fixing the Genus, he calls in to Aſſiſtance not only the Roots, or the Stalks, or the Leaves, t alſo, if there is a Neceſſity for it, ſome of their moſt obvis and ſenſible Properties, ſuch as its manner of growing, or at Botaniſts call the *Port of a Plant*; that is, its general Conformation, or what ſtrikes the Eye immediately upon its being preſented; for ſince, in this Caſe, there is not a natural Syſtem whoſe Rules would be unexceptionable, we muſt reſt contented with an artificial one, as perfect and complete as Diligence and Induſtry can poſſibly make it.

The Diſtribution of Plants under their Genuſes renders it more eaſy to name them; for they have firſt their generical and common Name, to which we add another, which determines their Species; ſo that the very Name of each Plant becomes a Definition of it. It is true, as the Botaniſts, who have gone before Mr. *Tournefort*, have not had the Genuſes of Plants at all in their View, or, at leaſt, have not had an Eye to the ſame Genuſes he has eſtabliſh'd, he is, for this very Reaſon, often obliged to change the Names which they had affixed to particular Plants; but he carefully mentions the antient Names given them by different Botaniſts, provided their Characters were famous enough to deſerve his Regard or Attention. And if Students in Botany would but habituate and familiarize themſelves to the new Names uſed by Mr. *Tournefort*, they would reap the Advantage by it, of knowing more readily the Genuſes and Species of Plants in a Syſtem, which ſeems excellently calculated for the Advancement and Improvement of Botany.

Some Plants lately diſcover'd, have, as it were, of their own accord, rang'd themſelves under certain Genuſes, already eſtabliſhed by Mr. *Tournefort*; and when others ſhall be diſcover'd, which, in Conſequence of their Flowers and Fruits, ſhall call for new Genuſes, we have no more to do than to eſtabliſh them.

Mr. *Tournefort*, in his Inſtitutions, has reduced the Whole to about ſix hundred and ſeventy-three Genuſes, which comprehend more than eight thouſand eight hundred and forty-ſix Species, including all Land and Sea Plants hitherto known; ſo that at preſent we know more Genuſes of Plants, than *Dioſcorides* did different Plants.

But as the Memory would be very much burden'd with ſix hundred and ſeventy-three Genuſes, whoſe different Characteriſtics muſt neceſſarily be known; and as the Number of theſe Genuſes muſt undoubtedly be increaſed in Proceſs of Time; Mr. *Tournefort* found out a happy Expedient for rendering this Taſk conſiderably more eaſy, by reducing the ſeveral Genuſes to Claſſes; and he is the firſt of all the Botaniſts who formed ſo noble and uſeful a Deſign. In order to eſtabliſh his Claſſes, he only conſidered the Flowers of Plants, if they had any, as indeed moſt of them have. He determines all the known Figures of the Flowers of Plants, and finds them to be only fourteen in Number, which of Conſequence muſt only produce fourteen Claſſes, if their Number was not augmented by thoſe Plants which have no Flower, and by the Diſtinction which it was neceſſary to make between Herbs or Suffrutices (*Underſhrubs*) and Shrubs or Trees, the Difference of whoſe Bulks has render'd it improper to range them under the ſame Claſs, tho' the Flower in both ſhould be alike. But notwithſtanding theſe Augmentations, the Whole of Mr. *Tournefort*'s Plan in his *Botanical Inſtitutions* is comprehended under no more than twenty-two Claſſes.

It is then ſufficient to retain in the Memory fourteen Figures of Flowers; and when we ſee the Flower of a Plant which we do not know, we may find in the Inſtitutions to what Claſs it properly belongs. Some Days after the Flower, the Fruit will appear, which gives the Genus; and all the other Parts of the Plant will determine the Species. If the unknown Plant is not in Flower, we muſt wait till it appears, before we can pronounce certainly and infallibly.

Mr. *Tournefort* has regulated his Claſſes by the Flowers, rather than by the Fruits of Plants; becauſe when we ſee the Flower appear, we have but a ſhort Time to wait before we ſee the Fruit, and thus determine the Genus; whereas, when we ſee only the Fruit, we muſt wait till the enſuing Year, before we can have an Opportunity of viewing the Flower.

Upon this Plan all the Difficulties of Botany are render'd as eaſy to be ſurmounted, as the Nature of the Thing can poſſibly admit of; and that prodigious Number of Plants, which not only adorn the Surface of our Globe, but alſo thoſe which vegetate in the Bottom of the Ocean, are reduc'd to ſo narrow Bounds, as to be eaſily retained by the Memory, without in the leaſt diſtracting the Imagination. But all this is no more than the firſt Inſtitutions, and, as it were, the Out-lines of Botany; for the Knowledge of the Virtues of Plants, which is the moſt important Part of the Science, is a Field of a vaſt and unlimited Extent; but 'tis ſtill more ſpacious and extenſive, if to their real inherent Virtues we join theſe aſcribed to them by the Whim, the Ignorance, or Caprice, of different Authors.

Mr. *Tournefort*, in his Hiſtory of the Plants produc'd about *Paris*, has already given an Eſſay on the Manner of explaining the Virtues and Uſes of Plants; and has propoſed ſome new Hints founded on the moſt ſolid Principles of Phyſic. See ANALYSIS.

Mr. *Tournefort* thus diſtinguiſhes Plants into their proper Claſſes.

Class I. comprehends

Herbs and Underſhrubs with monopetalous, campaniform Flowers.

Class II.

Herbs and Underſhrubs with monopetalous, infundibuliform, and rotated Flowers.

Class III.

Herbs and Underſhrubs with monopetalous, anomalous Flowers.

Class IV.

Herbs and Underſhrubs with monopetalous, labiated Flowers.

Class V.

Herbs and Underſhrubs with polypetalous, cruciform Flowers.

Class VI.

Herbs and Underſhrubs with polypetalous, roſaceous Flowers.

Class VII.

Herbs and Underſhrubs with polypetalous, roſaceous, umbellated Flowers.

Class VIII.

Herbs and Underſhrubs with polypetalous, caryophyllated Flowers.

Class IX.

Herbs and Underſhrubs with liliaceous Flowers.

Class X.

Herbs and Underſhrubs with polypetalous, papilionaceous Flowers.

Class XI.

Herbs and Underſhrubs with polypetalous, anomalous Flowers.

Class XII.

Herbs and Underſhrubs with floſculous Flowers.

Class XIII.

Herbs and Underſhrubs with ſemifloſculous Flowers.

Class XIV.

Herbs and Underſhrubs with radiated Flowers.

Class XV.

Herbs and Underſhrubs with apetalous, or ſtamineous Flowers.

Class XVI.

Herbs and Underſhrubs which have Seeds, but no Flowers.

Class XVII.

Herbs and Underſhrubs which have no conſpicuous Flowers or Fruit.

Class XVIII.

Trees and Shrubs with apetalous Flowers.

Class XIX.

Trees and Shrubs with apetalous, amentaceous Flowers.

Class XX.

Trees and Shrubs with monopetalous Flowers.

Class XXI.

Trees and Shrubs with roſaceous Flowers.

Class XXII.

Trees and Shrubs with papilionaceous Flowers.

Thoſe who are deſirous of being acquainted with the farther Diviſions of Plants made by *Tournefort* into Genera and Species, I muſt refer to his *Rei Herbariæ Inſtitutiones*; for, to ſpecify theſe, would be to tranſcribe the Book.

Tournefort had for an Antagoniſt the celebrated Mr. *John Ray*, an *Engliſhman*, born in *Black Notly*, an obſcure Village of *Eſſex*, in the Year 1628. Though *Ray*'s Father was only a Blackſmith, he ſent him to *Cambridge* for the Advantages of a liberal Education. Among the ſeveral Branches of Learning taught at this Univerſity, *Ray* was principally captivated with Phytology, by the Love of which he was prompted to range not only the Fields about *Cambridge*, but alſo the whole County in which it lies, in Queſt of Plants, a Catalogue of which he publiſh'd as a happy Earneſt of the future Advances he was to make in Botany. In 1661. he enter'd into Holy Orders; and in 1673. he married *Margaret*, one of the Daughters of Mr. *John Oakley*, of *Launton* in *Oxfordſhire*; and betwixt 1648. and the Time of his Marriage, he undertook ſeveral Journeys through all the Parts of *England*, *Scotland*, and *Ireland*, with a View to become acquainted with the Natural Hiſtory of theſe Countries. Nor did he confine the Scene of his Studies to theſe Countries alone; for he travell'd through *Holland*, *Germany*, *Italy*, and *France*, as a Companion to Mr. *Willoughby*, an *Engliſh* Gentleman of Note, who was very fond of Natural Knowledge. Theſe Travels laid a Foundation for his compiling a Synopſis of the *Engliſh*, and another of the *European* Plants. But as his Travels had contributed nothing to the bettering of his private Circumſtances, and only procured him the Honour of being created a Fellow of the Royal Society, after having paſſed four Years in *Warwickſhire*, he retired along with his Wife to his native Country, where, being content with a little, an Annuity of ſixty Pounds a Year left him by Mr. *Willoughby*, in 1672. being moſt of his Fortune, he made it his only Buſineſs to enrich Botany with his Obſervations, by comparing which with the Hiſtories of *John Bauhine*, and *Carolus Cluſius*, he form'd his METHOD, which was followed by a general Hiſtory of Plants, wrote in an elegant and modeſt Style, and reduced to a more natural Order than any Work of the Kind before publiſhed. He was ſo much aſſiſting to his Patron *Francis Willoughby*, who was then compiling a Hiſtory of Birds and Fiſhes, that almoſt the whole Work may be ſaid to be his. He alſo prepared for the Preſs a *Method of Inſects*; but being ſpent partly by running Ulcers in his Legs, and partly by old Age, he at laſt died in the Year 1705.

Mr. *Ray*'s Syſtem of Botany differs much from that of Mr. *Tournefort*. According to the laſt Edition of his *Synopſis Methodica Stirpium Britannicarum*, in which ſome Improvements have been made by the Editor, it conſiſts in a Diviſion of Plants into twenty-eight different Genera.

Under the firſt are contain'd the various Kinds of Fungi, which are divided into,

I. *Fungi Pileati et Lamellati*, that is, Fungi which have a Head or Cap, the inferior Subſtance of which is divided into Lamellæ or Plates.

II. *Fungi Pileati lamellis carentes*, Fungi which have a Cap or Head, but which are not lamellated.

III. *Fungi Pileis deſtituti*, Fungi which are deſtitute of a Cap or Head. Theſe again are ſubdivided into,

1. *Fungoides.*
2. *Pezizæ.*
3. *Agarici*, Agarics.
4. *Fungi pulverulenti*, Puff-balls.
5. *Fungi ſubterranei*, ſubterraneous Fungi, ſuch as Truffles.

The ſecond Genus contains ſubmarine Plants, or Plants which grow in the Sea. Theſe are divided into,

I. *Spongiæ*, Sponges.

II. *Alcyonia.*

III. *Eſcharæ.*

IV. *Corallia*, Corals.

V. *Lithophyta*, Lithophytes.

VI. *Corallinæ*, Corallines; which are ſubdivided into,

1. *Corallinæ per Gomphoſin articulatæ*, Corallines articulated by *Gomphoſis*.

2. *Corallinæ vel denticulatim diviſæ, vel Capillamentis Piliſve obſtitæ*, Corallines either indented, or thick ſet with Capillaments or Hairs.

VII. *Fucoides.*

VIII. *Fuci.* Theſe are ſubdivided into,

1. *Fuci non ramoſi*, the Fuci without Branches.

2. *Fuci ramoſi*, the branched Fuci.

IX. *Algæ.*

Under the third Genus are comprehended the various Sorts of Moſſes, divided into,

I. *Byſſi.*

II. *Confervæ*, ſubdivided into

1. *Confervæ ſimplices, et æquabili Filo protenſæ*, ſimple Confervæ, ſhooting out with even Threads.

2. *Confervæ geniculatæ*, geniculated or jointed Confervæ.

3. *Confervæ nodoſæ*, knotted Confervæ.

III. *Ulvæ.*

IV. *Lichenoides*, ſubdivided into,

1. *Lichenoides caulifera*, the Stalk-bearing Lichenoides.

2. *Lichenoides cauliculis deſtituta*, the Lichenoides without Stalks.

V. *Mnia*, ſubdivided into,

1. *Mnion capitulis in eadem Planta conjunctis*, Cluſter-headed Mnion.

2. *Mnion capitulis tota planta remotis*, ſcatter-headed Mnion.
VI. *Fontinales.*
VII. *Hypna*, ſubdivided into,
1. *Hypnum capitulis erectis, vel paulum ſaltem inclinatis*, Hypnum with upright or very little inclining Heads.
2. *Hypnum unicum capitulis reflexis*, the ſingle Hypnum with Heads bending backwards.
VIII. *Polytricha*, ſubdivided into,
1. *Polytrichum capſula quadrangulari*, Polytrichum with the quadrangular Seed-veſſel.
2. *Polytrichum capſula ſubrotunda*, Polytrichum with the undiſh Seed-veſſel.
IX. *Brya*, ſubdivided into,
1. *Bryon capitulis erectis*, the Bryon with upright Heads.
2. *Bryon capitulis reflexis*, the Bryon with Heads bending ckwards.
X. *Sphagna.*
XI. *Selagines.*
XII. *Selaginoides.*
XIII. *Lycopodia.*
XIV. *Lycopodioides.*
XV. *Lichenaſtra*, ſubdivided into,
1. *Lichenaſtrum capitulis bifariam ſe aperientibus*, Lichena- um with Heads that cleave in two.
2. *Lichenaſtrum capitulis in quatuor ſegmenta florida tan- m totidem petala ſe aperientibus*, Lichenaſtrum with Heads t open into four florid Segments like Petals.
XVI. *Lichenes*, ſubdivided into,
1. *Lichen pileatus*, Lichen with a Cap.
2. *Lichen ſtellatus*, ſtarry Lichen.
3. *Lichenes aut Lichenaſtra dubia duo*, two dubious ſorts of chen or Lichenaſtrum.

The fourth Genus contains the capillary Plants, with ſuch hers as nearly reſemble them. Theſe are divided into thoſe,
I. *Foliis integris et indiviſis*, ſuch as have their Leaves whole d undivided.
II. *Foliis laciniatis aut pinnatis*, thoſe with jagged or pin- ted Leaves.
III. *Herbæ capillares foliis ſemel diviſis*, capillary Herbs, h Leaves once divided.
IV. *Herbæ capillares foliis bis ſubdiviſis, ſeu ramoſis*, capil- y Herbs, with Leaves twice ſubdivided or branch'd.
V. *Herbæ capillaribus affines*, Herbs that have a near Rela- n or Reſemblance to the capillary Genus. Theſe *Ray* diſtri- s into,
1. *Ophioglоſſum.* Adder's-tongue.
2. *Lunaria minor*, Ger. et Park. Moonwort.
3. *Lentes paluſtres, cujus tres ſpecies recenſet*, three Species of ter-lentils.
Equiſetum, cujus duodecim recenſet ſpecies, twelve Species quiſetum or Horſe-tail.
Charæ quinque Species, five Species of Chara.

Under the fifth Genus *Ray* comprehends thoſe Herbs which an imperfect or ſtamineous, or rather an apetalous Flower. ſe are divided into,
Herbæ flore imperfecto ſeu apetalo ſtaminibus carente, s that bear an imperfect or apetalous Flower without ina.
Herbæ flore apetalo, ſtaminibus donati, Herbs with an alous Flower, and furniſh'd with Stamina. Theſe are ſub- ded into,
Calyce vel nullo (ſecundum Tournefortium*) vel monophyllo diviſo*, thoſe with no Calyx, or Flower-cup, (according to *efort*) or a Calyx conſiſting only of one undivided Leaf.
Calyce donatæ in plures lacinias diviſo, thoſe which have Calyx jagged in ſeveral Places. To this Diviſion belong, *Flore a ſemine ſejuncto, vel totis plantis, quæ ſexu differre tur, vel in eadem*, thoſe which have their Flower ſeparate their Seed, and that either in diſtinct Plants, which ſort id to differ in Sex, or in the ſame Plant. (2.) *Herbæ flore fecto, quarum ſemina floribus contigua, et triquetra*, Herbs an imperfect Flower, whoſe Seeds are contiguous to their ers, and of a triangular Figure. (3.) *Herbæ flore imper- fructui contiguo, ſeminibus rotundis*, Herbs with an im- t Flower, contiguous to the Fruit, which is of a round e.

e ſixth Genus comprehends all ſuch Herbs as bear a full oſite Flower, and afford a lacteous or milky Juice. To Genus belong,
Herbæ ſemine pappoſo, Herbs with a pappous or downy

Herbæ flore planifolio, natura pleno, lacteſcentes ſemini- lidis, ſeu flore e floſculis irregularibus tantum compoſita, with a full plain-leaf'd Flower, and affording a milky with ſolid Seeds; or Herbs whoſe Flower conſiſts only gular Floſcules.

The ſeventh Genus contains Herbs which are furniſh'd with a compoſite diſcous Flower, a downy Seed, but yield no lacteous Juice.

The eighth Genus contains ſuch Herbs as bear a compoſite diſcous Flower, with Seeds void of Down, and are call'd corymbiferous (cluſter-bearing).

To theſe he adds the *Herbæ corymbiferis affines*, ſuch Herbs as bear a near Reſemblance to the corymbiferous, which are ſome Species of the *Scabioſa* and *Dipſacus.*

Under the ninth he comprehends Herbs whoſe Flower conſiſts of fiſtular Floſcules, or capitated Herbs.

The tenth Genus compriſes Herbs bearing a perfect ſimple Flower, with naked ſolitary Seeds, or a ſingle Seed to each Flower.

The eleventh includes umbelliferous Herbs; or ſuch as are furniſh'd with an Umbella; and theſe are divided into,
I. *Umbelliferæ ſemine lato cempreſſo, ſeu foliaceo, aut ala foliacea cincto*, umbelliferous Herbs with a broad flat Seed, or a foliaceous Seed, or one ſurrounded with a foliaceous Border.
II. *Umbelliferæ ſemine et tumidiore et longiore*, umbelliferous Herbs with a long plump Seed.
III. *Umbelliferæ ſemine breviore*, umbelliferous Herbs with a ſhort Seed.
IV. *Umbelliferæ radice tuberoſa*, umbelliferous Herbs with a tuberous Root.
V. *Umbelliferæ ſemine ſtriato minore*, umbelliferous Herbs with a ſmall ſtriated Seed.
VI. *Umbelliferæ ſemine hirſuto, hiſpido, aut echinato*, umbelliferous Herbs, with hairy, briſtly, or prickly Seed.
VII. *Umbelliferæ foliis integris*, umbelliferous Herbs with entire Leaves.

The twelfth contains ſtellated Herbs, that is, ſuch as have their Stalk ſurrounded, at Intervals, with Leaves imitating the Irradiation of a Star.

Under the thirteenth are comprehended the *Herbæ aſperifoliæ*, or Herbs which bear a rough Leaf.

The fourteenth compriſes the verticillated *Suffrutices* (or *Underſhrubs*) and Herbs.

Under the fifteenth are contain'd polyſpermous (*where more than four Seeds ſucceed to each Flower*) Herbs with naked Seed.

The ſixteenth contains bacciferous or Berry-bearing Herbs.

The ſeventeenth includes Pod-bearing or corniculated Herbs, that is, ſuch as for every Flower produce a Pod.

Under the eighteenth are comprehended ſuch Herbs as bear a ſingle dry Fruit without a monopetalous Flower. Theſe are divided, with reſpect to their Flower, into ſuch as are furniſh'd,
I. *Flore regulari*, with a regular Flower; and theſe are ſubdivided,
1. *Flore integro, aut minus profunde diviſo*, ſuch as have their Flower entire, or with very ſhallow Diviſions.
2. *Flore tetrapetalum referente, ſeu tetrapetaloide*, thoſe with a tetrapetalous or four-leav'd Flower.
3. *Flore pentapetaloide*, with a pentapetalous or five-leav'd Flower. Of this Species there are (1.) *Unicapſulares*, thoſe with one Seed-veſſel, or unicapſular; (2.) *Bicapſulares*, the bicapſular, or thoſe with two Seed-veſſels; and (3.) *Multicapſulares*, the multicapſular, or thoſe with many Seed-veſſels.
II. *Flore irregulari*, Herbs with an irregular Flower.

The nineteenth and twentieth Genera conſiſt of vaſculiferous Herbs, with a dipetalous and tripetalous Flower.

The twenty-firſt contains tetrapetalous Herbs, divided into the,
I. *Siliquoſæ*, thoſe with large Pods, or *Siliquæ*.
II. *Siliculoſæ*, thoſe with ſmall Pods, or Huſks, or *Siliculæ*. Under theſe he diſtinguiſhes the *Tetrapetalæ ſiliculoſæ monoſpermæ*, the tetrapetalous Herbs with a ſmall Pod, containing only one Seed.

The twenty-ſecond includes vaſculiferous Herbs of an anomalous Kind, with a tetrapetalous Flower.

Under the twenty-third Genus are comprehended Herbs which bear a papilionaceous Flower, or leguminous Herbs. Theſe are divided into,

I. *Papilionaceæ, ſeu leguminoſæ ſcandentes*, papilionaceous or leguminous, ſcandent, or climbing Herbs.

II. *Papiliondceæ ſeu leguminoſæ non trifoliatæ, Claviculis carentes*, papilionaceous or leguminous Herbs, not three-leav'd, and without Tendrils.

III. *Herbæ papilionaceo Flore, ſeu leguminoſæ trifoliatæ*, three-leav'd leguminous Herbs, or Herbs with a papilionaceous Flower.

The twenty-fourth Genus contains vaſculiferous pentapetalous Herbs, divided into,

I. *Pentapetalæ Foliis in Caule ex adverſo binis*, pentapetalous Herbs with Leaves on the Stalk, ſtanding oppoſite in Pairs.

II. *Pentapetalæ Foliis in Caule alterno aut nullo Ordine poſitis*, pentapetalous Herbs, whoſe Leaves ſtand on their Stalk alternately, or in no regular Order. Theſe are ſubdivided into,

1. *Flore regulari*, thoſe with a regular Flower.
2. *Flore irregulari*, thoſe with an irregular Flower.

The twenty-fifth Genus contains vaſculiferous, hexapetalous, and polypetalous Herbs.

The twenty-ſixth compriſes ſuch Herbs as have a bulbous Root, and ſuch as are akin to bulbous Herbs.

Under the twenty-ſeventh we have the culmiferous Graſs-leav'd Herbs with an imperfect Flower. Under this Genus are comprehended,

I. *Culmiferæ Grano majore, Frumentacea et Cerealia dictæ*, culmiferous Herbs with a large Grain, ſuch as the frumentaceous, or thoſe Kinds of which Bread is made.

II. *Culmiferæ Grano minore, Gramina dictæ*, culmiferous Herbs with a ſmall Grain, call'd Graſſes. Theſe are ſubdivided into,

1. *Gramina ſpicata*, Graſſes bearing a Spike or Ear.
2. *Gramina paniculata*, paniculated Graſſes. And theſe are (1.) ſuch as have a ſimple Locuſta, or Huſk; and (2.) ſuch as have a ſquamous one. Theſe again are either *muticæ*, ſuch as have their Locuſta without a Beard; or *ariſtatæ*, ſuch as have it bearded.

The twenty-eighth and laſt Genus contains the graminifolious or Graſs-leav'd Herbs, with an imperfect or ſtamineous Flower. This may be divided into,

I. *Gramen Cyperoides polyſtachion*, the Cyperoidal Graſs with many Ears.

II. *Gramina Cyperoidea cum Spicis in ſummo caule, quem ſpica paleacea non terminat*, cyperoidal Graſſes with Spikes on the Top of the Stalk, which does not terminate in a paleaceous Spike.

III. *Cyperi Botanicis dicti*, the Graſſes call'd by Botaniſts *Cyperi*.

IV. *Scirpus*, the Ruſh, ſubdivided into,

1. *Scirpi nudi*, naked Ruſhes.
2. *Scirpi folioſi*, leafy Ruſhes.

V. *Juncus*, the Juncus, ſubdivided into,

1. *Juncus aphyllos*, the Juncus without Leaves.
2. *Juncus folioſus*, the leafy Juncus, with their ſeveral Species.

To theſe he ſubjoins the *Graminifoliæ non culmiferæ ſingulares, et ſui Generis*, the Graſs-leav'd Herbs, which are not culmiferous, but are ſingular, and belong to no Genus.

To make this Method more complete, the Trees and Shrubs are divided into Genera, with reſpect to the Difference of their Flowers, in the following manner.

The firſt Genus comprehends ſuch Trees and Shrubs as have their Flowers remote or ſeparated from their Fruit. Of theſe there are the following Species.

I. *Nuciferæ*, the nuciferous, or Nut-bearing.

II. *Coniferæ*, the coniferous, or Cone-bearing.

III. *Bacciferæ*, the bacciferous, or Berry-bearing.

IV. *Lanigeræ*, the lanigerous, or ſuch as produce a woolly Subſtance.

V. *Vaſculis foliaceis*, thoſe with foliaceous or leafy Veſſels.

The ſecond contains thoſe Trees and Shrubs which have their Fruit contiguous to a petaloidal Flower.

Theſe are divided into,

I. *Arbores et Frutices Flore ſummo Fructui inſidente*, Trees and Shrubs which have their Flower reſting on the Top of their Fruit; ſuch are the pomiferous and bacciferous Species, which produce a great or ſmall moiſt umbilicated Fruit.

II. *Arbores quarum Flos Baſi Fructus, ſeu imo Fructui cohæret, et primo Fructu per Maturitatem humido*, Trees whoſe Flower adheres to the Baſe or Bottom of the Fruit, which, as it ripens, turns to a humid Subſtance. Theſe are ſubdivided into,

1. *Pruniferæ*, the pruniferous, or Plum-bearing.
2. *Bacciferæ*, the bacciferous, or Berry-bearing.

III. *Arbores Flore imo Fructui adnaſcente, Fructu per Matu ritatem ſicco*, Trees whoſe Flower grows to the Bottom of th Fruit, which grows dry as it ripens.

There are ſome very conſiderable Botaniſts, who, tho' the have been an Honour to their Country, and a Bleſſing to Ma kind, are, however, not mention'd in the foregoing Accoun Among theſe, the firſt who occurs is *Carolus Plumier*. He w born at *Marſeilles* in 1646. and was contemporary with *Tou nefort*. Tho' he was deſcended of an obſcure Family, yet h ſoon became conſpicuous, not only on account of his Mech nical and Botanical Obſervations, but alſo on account of the a nexed Figures, delineated and engraved by his own Hand. B ſides his happy Turn for Mathematics and Mechanics, he w an induſtrious and ſkilful Botaniſt. He preſented his firſt L bours of this kind to *Lewis* the Fourteenth, who, as a Rewa for his growing Merit, gave him at once the Title and the S lary of King's Botaniſt. Beſides his Deſcriptions of *Ameri* Plants, his Hiſtory of Ferns, and his eſtabliſhing ſome n Genuſes, there are ſeveral other Works, wrote with his own Ha which are preſerved in the Libraries of the Royal Academy, a that belonging to the Monaſtery of the *Minims* in *Paris*. Th Works contain not only the Figures and Deſcriptions of abo nine hundred *American* Plants, but alſo the Hiſtory of a gr Variety of Birds, Fiſhes, Shells, and Inſects, which he h ſeen, and whoſe Figures he had drawn in *America*. Whilſt intended a Voyage to *Peru*, in order to diſcover ſomething m concerning the famous *Peruvian* Bark, he was ſeized with Pleuriſy, of which he died in the ſixtieth Year of his A in 1704.

The Merit of *Samuel Doody* may be judg'd of by the Spe mens of his Botanical Obſervations, given in *Ray*'s Hiſtory Plants. He was born in the County of *Stafford*, and, by Diligence, Induſtry, and Sagacity, ſoon diſtinguiſh'd him among the Apothecaries of *London*; by whom, on accoun his Skill in Natural Hiſtory and Botany, he was made Ma and Protector of their Garden at *Chelſea*. *Ray* ingenuo confeſſes, that he borrow'd a great many things from him. was a diligent Inquirer into the Natures of Moſſes, capil Herbs, Fucuſes, and Corals; ſo that Botany and Nat Hiſtory ſuſtain'd a very conſiderable Loſs by his Death in 17

Of thoſe celebrated Botaniſts who have died ſince the D of *Tournefort*, *Petrus Hotto* is the firſt. He was born at *ſterdam* in 1648. After he had taken the Degree of Docto Phyſic in the Univerſity of *Leyden*, he declin'd Prac that he might purſue the Study of Botany to the greater Ad tage. With this View he travell'd into *Denmark*, in orde make Obſervations on the Plants of that Kingdom. But he recall'd thence by the Magiſtrates of *Leyden*, in order to Lectures for *Herman*, who was appointed to go to the *I* to make Obſervations on exotic Plants; and he had the Pro of this Profeſſor's Place, if he ſhould happen to die in Voyage. During *Herman*'s Abſence he taught with great plauſe. *Herman*, upon his Return, reſum'd his Place; after his Death, *Hotto* ſucceeded him in 1695.

Beſides his elegant Oration *de Hiſtoria & Fatis Bota* deliver'd that ſame Year, he endeavour'd a Reconciliatio the Methods of *Tournefort* and *Herman*; but his Death 1709. put a fatal Stop to the Execution of ſo uſeful a Deſ

Among all the Botaniſts produc'd by the preſent Age, is more juſtly celebrated than Dr. *Sherard*, who had his cation begun at *Merchant-taylors School*, and afterwards be a Fellow of *St. John's College*, *Oxford*. His Learning, ther with his other Qualifications, procur'd him an Opport of travelling with two Noblemen at different times; d which he viſited many Countries of *Europe*, in which he diligent Obſerver of the Plants produc'd by each. Upo Return to his native Country, he was created Conſul of *Sm* which gave him an Opportunity of viewing the *Aſiatic* P At his Death he left three thouſand Pounds to the Phyſic-g at *Oxford*. He was much admir'd by *Boerhaave*, wh makes honourable Mention of his Brother *James Sherard*, accurate and curious Botaniſt.

Mr. *Iſaac Rand*, Dr. *Martyn*, Dr. *Dillenius*, and *Miller*, are ſo fam'd for their Knowledge of Botanical Sub that, to name them, is to praiſe them.

It would be doing a Piece of Injuſtice, not to make ho able Mention of the following Gentlemen, Meſſieurs *B* *Lawſon*, *Lhwyd*, *Newton*, *Stoneſtreet*, *Dubois*, *Dale*, *ningham*, and *Richardſon*.

I muſt add, that Sir *Hans Sloane*, by his Skill, In and Munificence, has greatly contributed to the Perfec Botany, and laid a Foundation for its farther Improveme

The laſt Author I ſhall mention, who has lent his f Aid to the Improvement of *Botany*, is the juſtly cel *Boerhaave*; and, indeed, by his Performances of this ki has, at once, oblig'd the World, and prov'd the Force tent of his own Genius; for, as his Aphoriſms and Inſt diſcover the ſagacious and diſcerning Phyſician, and his Chymiſtry the ſkilful Natural-Philoſopher and Chymiſt; ſo his Botanical Productions pronounce him an accurate, a diligent, and penetrating Botaniſt. Tho', by the ſurpriſing Degrees of Perfection, at which this Author arriv'd in other Branches of Learning, one would be tempted to ſuſpect, that he had too ſmall a Portion of Time left for making any conſiderable Advancements in the Knowledge of Plants; yet, when his judicious Diviſions and Diſtributions of them come to be perus'd, we are inclin'd to think he had employ'd the Whole of his Life in the Study of Botany.

In 1710. the Year after he was made Profeſſor of Botany, he publiſh'd, in one *Octavo* Volume, an Index of the Plants with which the Phyſic-garden at *Leyden* was then ſtor'd. This Work, tho' perhaps the moſt perfect of its kind the World had ever ſeen, began by degrees to be look'd upon as very imperfect in its Author's Eyes; for his Impartiality, join'd with the ſuperior Strength of his Judgment, enabled him to diſcover Blemiſhes in his own Productions, which eſcap'd the Eyes of all, except the happy Few, who are bleſs'd with a diſcerning Judgment. He had us'd *new* Names to *old* Plants; and, as he became ſenſible, that no Circumſtance had a more evident Tendency to create Confuſion and Diſorder in Botany, he was reſolv'd to rectify this Miſtake, which was, perhaps, adverted to by few except himſelf. Accordingly, in 1720. he preſented the World with a ſecond Index, in two *Quarto* Volumes, to which he has prefix'd a new and large Preface, with a Plan, and ſhort Hiſtory, of the Phyſic-garden. In the Preface to this Work, he affords us an Inſtance of that diſintereſted Candour, and noble Humility of Soul, which is, at once, the peculiar Glory of human Nature, and the diſtinguiſhing Badge of every Mind that is truly *great*. It is cuſtomary for Men to be blind to the Imperfections of their mental, as well as of their natural Offspring: Indulgent Fathers, and tender Mothers, are not fonder of their vicious, deform'd, and ill-diſpos'd Children, than ſome Authors are of their own Productions, however lame, monſtrous, incoherent, and abſurd. How far the incomparable *Boerhaave* was remov'd from this Weakneſs, ſo deſtructive of the true Intereſts of Truth, the Reader may judge from the following Tranſlation of his own Words in the above-mention'd Preface.

"In this Edition I have endeavour'd to avoid the Innovation "of Names, as much as the Nature of the Thing would poſſibly allow. In my former Index I tranſgreſſed againſt this "fundamental Law, by impoſing new Names upon Plants, "which were long ago much better known by other Denominations. I ingenuouſly confeſs my Error, and am heartily "ſorry for my Fault. The Hurry in which the Work was "compil'd, and my Mind not being employ'd on Botanical Subjects for a great while before, laid a fatal Foundation for my "Error, which I now endeavour to amend; and the few "Tranſgreſſions of this kind, which are found in the preſent "Performance, will, I hope, be pardon'd by ſuch as have any "tolerable Share of Goodneſs, or a ſympathizing Senſe of the "Frailties to which Mankind is unavoidably ſubjected. But I "am of Opinion, that nothing more fatal can befal Botany, "than that every Author ſhould, without any Neceſſity, and "with no other View than the Gratification of his own Caprice, impoſe new Names on Plants which were before accurately deſcrib'd, and properly denominated."

Nothing paints a truly great Man in Colours that ſtrike the yes of the diſcerning Mind with more Energy, and captivating orce, than a Confeſſion of his Weakneſs from his own Mouth. e did not uſe the low and diſingenuous Arts of Detraction and bloquy, in order to eſtabliſh his own Fame as a Botaniſt; for s Hiſtory of his Predeceſſors is one continu'd Strain of Praiſe d Approbation. Men who want Merit themſelves, are only d of ſtripping others of theirs, and raiſing a ſhort-liv'd Cha- ter upon the Ruins of real and unconteſted Worth.

His Induſtry, and conſcientious Diſcharge of the Office with ich he was entruſted, appears from this Circumſtance, that, the Space of ten Years, the Time between the Publication of firſt and ſecond Indexes, he had enrich'd the Phyſic-garden th double the Number of Plants it formerly contain'd. But was not all; he diſcover'd a fine Taſte by the happy Choice made of them, and the beautiful and regular Order into ich he diſpos'd them: And, as they were rang'd with a refin'd ſte, ſo they were cultivated with the niceſt Judgment; for uſt not be forgot, that all this Variety of delicate and tender nts, under *Boerhaave*'s Management, acquir'd a far greater ngth and Vigour, than the ſame Plants generally do under Care and Conduct of other Botaniſts.

n the Conduct of his Botanical Works, he has diſcover'd a d open to Truth, and entirely free from that baſe and ſer- Attachment to *Names* and *Authority*, which has, in all , prov'd the Bane of Learning and good Senſe. He had a ment of his own, and bravely dar'd to uſe it. He follow'd th where-ever ſhe led him, and did not, like ſome of his ceſſors, blindly follow the Methods of *Ray* and *Moriſon*, elected, from a Variety of Authors, ſuch Materials as were er for forming a better and leſs exceptionable Syſtem; and where he found theſe defective, he added what he thought proper of his own. *Linnæus*, a competent Judge of theſe Matters, affirms that he has form'd his *Genera Plantarum* in the moſt judicious manner; ſince he was the firſt of all the Botaniſts who call'd in to his Aſſiſtance all the Parts of Plants which concur to Fructification, and gave ſo accurate and minute a Deſcription of them, as to render the Arts of Sculpture and Colouring almoſt entirely uſeleſs. *John Bauhine*, *Moriſon*, *Tournefort*, and ſome others, tho' juſtly celebrated for enlarging the Catalogue of Plants, and claſſing them more judiciouſly than their Predeceſſors had done, yet added a freſh Load to Botany, before too burdenſome to the Memory, by fixing new-coin'd Names to ſuch Plants as were accurately enough deſcribed under old ones full as proper. This Misfortune made *Boerhaave* wait impatiently for the Publication of the *Pinax*, expected from Conſul *Sherard*, who, in that Work, deſign'd to fix the various Names given to each Plant, in a manner ſo correct and accurate, that there ſhould not remain the leaſt Motive or Temptation, for the future, to forge any new Appellations. By this means he propoſed to fix a Standard in this Part of Botany, and render it immutable and invariable for ever after. But I don't find this has ever been publiſh'd.

Tho' it is certain the individual Species of Plants never vary eſſentially from themſelves, yet it is equally obvious, that, by Difference of Soil, Situation, and Culture, they may aſſume ſuch a Variety of external Appearances as to deceive any one, who does not, with *Boerhaave*, diſtinguiſh them by the Parts of Fructification, which never alter. This ſeems to be the peculiar Excellency of *Boerhaave*'s Method, above all others the World has hitherto ſeen. Since Botaniſts, after comparing Plants thus ſettled with the Deſcriptions of Authors, have collected all the various Names given by different Authors to each Plant; and ſince *Vaillant*, and ſome others, have furniſh'd us with exact Deſcriptions and Delineations of them, according to what they really are, in the ſeveral Places where they are naturally produced; and by preſerving them complete and entire, by means of proper Leaves of Paper, form'd to perfect an *Hortus Siccus*, they have been able to fix the preciſe Number of Plants hitherto known, and to ſecure the diſtinct and diſcriminate Knowledge of them to the lateſt Poſterity: This, amongſt others, is one Advantage, which we originally owe to the Perfection and Extent of Mr. *Boerhaave*'s Syſtem. The Publication of his Index, abſtracting from its own Perfection, produced a very happy Effect, both with regard to himſelf, and other Botaniſts, who before were unwilling to communicate their *Duplicates*, without an Aſſurance, that they ſhould, in return, have their Deficiencies ſupplied: But when his Index appear'd, they perceived he was poſſeſs'd of what they wanted; a Circumſtance, from which he was certain of obtaining his Requeſts from them on the Foot of Exchange. Thus the ſame Plant came under the Inſpection and Management of different Botaniſts, by which means each had an Opportunity of making his own Obſervations on it; a Circumſtance which tends more to the Advancement of Botany, than perhaps every one is aware of. To his Skill in Botany he added the moſt extenſive and diſtinguiſh'd Gratitude; for in an Oration deliver'd in 1731. on reſigning his Profeſſorſhip, he immortalizes the Names of his Correſpondents; and, in the warmeſt Strains of Gratitude, recites the Friendſhips and Favours of the *Sherards*, Sir *Hans Sloane*, Baron *Baſſand*, and about forty more of different Nations.

Beſides, his Botanical Knowledge was not of the barren Kind; for it furniſh'd him with new Subjects for Chymical Operations, and new Medicines for Uſe. About ſeventeen Years after the Publication of his Index, he, in his Lectures, gave a full Deſcription of the Plants, together with an Account of their Virtues; but he never publiſhed theſe, which is much to be lamented.

I ſhall now proceed to ſpecify ſome of the modern Diſcoveries, relative to the Structure and Vegetation of Plants.

The STRUCTURE *of* VEGETABLES.

In treating this curious Subject, we ſhall purſue that Method, which, as Dr. *Grew* juſtly obſerves, is follow'd by Nature herſelf, in her continued Series of Vegetations, proceeding from the Seed ſown to the Formation of the Root, Trunk, Branch, Leaf, Flower, Fruit, and, laſt of all, to the Seed to be ſown again; to every one of which we ſhall ſpeak in their particular Order.

The Seed of a Plant, then, is that Part by which the Plant is propagated, and conſiſts of an Embryo, with its Coat or Cover; which Embryo contains the whole Plant in Miniature, and is therefore call'd the Gem or Bud, and is rooted in the Placenta or Cotyledon; which laſt ſerves the ſame Purpoſes in Vegetables, as the Secundines, or the Chorion and Amnion, in Animals.

But tho' the Conſtitution of the Seed is eſſentially the ſame in all Vegetables, yet, as ſome are more convenient for Obſervation than others, we ſhall chuſe to inſtance the great Garden-bean; which, if we diſſect, we ſhall find cloath'd with a double Veſt or Coat. Theſe, while the Bean is green, are ſeparable, and eaſily diſtinguiſh'd; but, when it is dry, cleave ſo cloſe together, that the Eye, not before inſtructed, will judge them but one; the inner Coat (which is of the moſt rare Contexture) ſo far ſhrinking up as to ſeem only the Roughneſs of the outer.

At the thick End of the Bean, in the outer Coat, there is a very ſmall Foramen or Hole, which, in Diſſection, is found to terminate againſt the Point of that Part call'd the Radicle, of which we ſhall ſpeak hereafter; and is of that Capacity as to admit a ſmall Wyre, and is moſt conſpicuous in a green Bean.

This Foramen may be obſerved, not only in the great Garden-bean, but alſo in the other Kinds; in the *French* Bean very plainly, in Peaſe, Lupines, Vetches, Lentiles, and other Pulſe; and in many Seeds not reckon'd of this Kindred, as in that of Fenugreek, Goats-rue, and others; in many of which it is ſo very ſmall, as ſcarcely, without the Help of Glaſſes, to be diſcover'd; and in ſome not without cutting off Part of the Seed, which otherwiſe would intercept the Sight.

All Seeds which have thick or hard Coats, have the ſame likewiſe perforated in this or ſome other manner; and accordingly, altho' the Coats of ſuch Seeds as are lodged in Shells or Stones, being thin, are not viſibly perforated; yet the Stones and Shells themſelves always are.

And for the ſake of this Aperture it is, that Acorns, Nuts, Beans, Cucumbers, and moſt other Seeds, are, in their Formation, ſo placed, that the Radicle ſtill ſtands next it, that, upon Vegetation, it may have a free and ready Paſſage into the Mould.

That this Foramen exiſts, even in old ſetting Beans, likewiſe appears, upon their being ſoak'd for ſome time in Water; for then taking them out, and cruſhing them a little, many ſmall Bubbles will alternately ariſe, and break upon them. And, indeed, a free Acceſs of the Air is as abſolutely neceſſary to maintain the Principle of Vegetation in the dry Seed, (tho' in a leſs Degree) as to nouriſh the Plant when germinated; which is well known to the Seedſmen, who find by Experience, that all ſorts of Seeds are beſt preſerved, if kept in the Pods or Huſks wherein they grew, and not ſhut up too cloſe from the Air.

The outer Coats of the Bean, then, being ſtripp'd off, the proper Seed ſhews itſelf, which, as we before obſerved, conſiſts of a main Body, Cover, or Cotyledon, and an Embryo, or young Plant; which laſt may alſo be diſtinguiſh'd into two Parts, the Radicle, and the Plume.

Now the main Body is not one entire Piece, but is always divided lengthwiſe into two Halves or Lobes, which are both join'd together at the Baſis of the Bean. Theſe Lobes, in dry Beans, are but difficultly ſeparated or obſerved; but in young ones, eſpecially boil'd, they eaſily ſlip aſunder.

There are ſome few Seeds, indeed, which are not divided into two Lobes, but more; as that of Creſſes, which have ſix; and ſome are not at all divided, but entire, as Corn: Excepting which few, all other Seeds, even the ſmalleſt, are divided, like the Bean, into juſt two Lobes. But in all Seeds whatſoever, they perform the ſame Office to the infant Plant, as the Membranes, (call'd *Chorion* and *Amnion* by Anatomiſts) *Placenta* or *Cotyledons*, call'd the After-birth, do to the Embryos of Animals. When the Plant begins to take Root, and receives ſome Nouriſhment from the Earth, theſe Lobes, in all except thoſe of the Pulſe Kind, become the Folia Seminalia, or Seed-leaves, which ſtill ſerve to protect the young Plant from Injuries; but, as ſoon as it has taken ſufficient Root in the Earth to ſhift for itſelf, the Plant may be ſaid to be born; and then theſe Seed-leaves, being of no farther Uſe, wither and drop off, like the aforeſaid Membranes in Animals.

Without theſe Lobes, and ſomewhat above the thicker End of the Bean, ſtands the Radicle, which is ſo call'd, becauſe, upon the Vegetation of the Seed, it becomes the Root of the Plant. Now this is immediately viſible, upon diveſting the Bean of its Coats, and is of a whiter Colour, and more gloſſy, than the main Body, eſpecially in a young Bean.

The next Part to be conſider'd is the Plume, which lies incloſed in two ſmall Cavities, form'd in the Lobes of the Bean for its Reception. Its Colour comes near to that of the Radicle, to the Baſis of which it is fix'd; tho' it has quite a contrary Germination, that is, towards the thin End of the Bean; and this is that Part, which, in Proceſs of Time, becomes the Body or Trunk of the Vegetable.

It is not, like the Radicle, one entire Body, but is divided at its looſe End into divers Pieces, all cloſe ſet together, like Feathers, in a Bunch, whence it derives its Name; and theſe are ſo very cloſe, that only two or three of the outermoſt are, at firſt, viſible; but, upon a nice and curious Separation, others ſtill more inward may be diſcover'd; all which are ſo many true Leaves, already form'd, tho' not diſplay'd, intended for the ſaid Trunk, and folded up with it, as afterwards appears upon the ſprouting of the Bean. In a *French* Bean the two outermoſt of theſe are very fair and conſpicuous; and in a great Garden-bean two very ſmall Plumes frequently, if not always, ſtand one on each Side the great one juſt now deſcribed, from which they differ in nothing but the Size. In many Seeds, indeed, nothing but the Trunk is viſible, without any Leaves; notwithſtanding which theſe laſt never fail to exert themſelves, after the Seed has lain ſome time in the Ground. The Seed, thus compoſed, is incloſed within two common Membranes, the outer thin, and the inner thicker; and one proper, which we ſhall call the Cuticle, which covers both the Outſide and Inſide of the Lobes, as alſo the Radicle and Plume.

But, before we proceed any farther in the Deſcription of the different Parts of Plants, it will be highly worth while to take Notice of the great Analogy there is betwixt Plants and Animals, in as few Words as may be.

Firſt, then, as a Mixture of Male and Female is neceſſary in Animals towards Generation, ſo it is in Plants, as appears, beyond all manner of Contradiction, by a great Number of Experiments.

Again, as the firſt perceivable Effect of the Mixture of Sexes, in Animals, is the Production of an Egg, which is depoſited in the Matrix or Womb of the Female Parent; or elſe laid in a Neſt, to be hatch'd by the Heat of the Mother's Body; or perhaps conceal'd by the Parent in ſome proper Place, in order to be brought to Perfection by the Heat of the Sun: It is juſt the ſame in Plants, where the firſt Effect of the Mixture of Sexes is the Production of a Seed, which may very properly be call'd the Egg of the Plant; which, when depoſited in the Earth, as a proper Matrix or Womb, is, in its Seaſon, as it were, hatch'd by the Heat of the Sun, and becomes a Plant of the ſame Species as its Parent.

The Embryo of Animals, whilſt in the Egg, is incloſed in Membranes, and is nouriſh'd by a Juice contain'd in the Egg, which it receives by means of a Navel-ſtring, or ſomething tha performs the Office thereof; being firſt collected by a Congeries or great Number of Veſſels, which is call'd the Placenta, or, in ſome Animals, the Cotyledons. In the Seeds of Plants alſo, the Embryo is contain'd in Membranes, and the infan Plant is for ſome time nouriſh'd by Veſſels analogous to th Navel-ſtring, and Placenta, or Cotyledons, which convey t the Embryo proper Nouriſhment.

When the Animal is born, or hatch'd, the Way of its Nouriſhment is then very different from what it was in the Egg for then there are a great Number of ſmall Veſſels, call'd b Anatomiſts Lacteals, which take up, from the Inteſtines, th fineſt Parts of the Aliment or Food which the Animal eats, an convey it to the Blood-veſſels, where it circulates with the re of the Juices, till it is again diſcharged from the Animal b means of Perſpiration, Urine, or ſome other Evacuation. I Plants, the Fibres of the Root perform the Office of the Lacteal and convey Nouriſhment to the Plant; which, after having ci culated in its Veſſels, is again thrown off by Perſpiration. An as curious Obſervers have found, that a Man in Health perſpir about thirty-one Ounces in twenty-four Hours; ſo Dr. *Ha* has demonſtrated by Experiment, that a Sun-flower perſpir twenty-two Ounces in the ſame Time; not that the Sun-flow is the only Plant that perſpires, nor a Man the only Anima but all Plants and Animals throw off vaſt Quantities of th Juices by Perſpiration, ſome more, and ſome leſs, when Health.

Is the Air neceſſary to the Support of Animals? It is not l ſo to the Life of Vegetables; for all Plants whatever will ſo wither and die, when deprived of a free Intercourſe with external Air.

Are Animals kept alive, nouriſh'd, and ſupported, by the C culation of the Blood? The Circulation of the Sap is equa neceſſary to Vegetables, which cannot ſubſiſt without it.

And here we cannot ſufficiently admire the Wiſdom of great CREATOR, in this ſurpriſing Harmony between Pla and Animals, than which we need no other Proof, *that* Go *a* GOD *of Order*. And it may be no ill Leſſon of Humil to us, that as even the very Worm, we tread under our Fe can ſay to Man, who is ſo wonderfully and fearfully made *am thy Siſter*; ſo likewiſe the baſeſt and moſt noiſome Weed as well as ourſelves, a Link of that golden Chain, by which Poets feign the World to be faſten'd to the Throne of *piter*.

The Lobes, as we have already obſerved, anſwer the ſ Purpoſes as the Membranes in Animal Fœtuſes; for betw theſe the tender Embryo is warmly and ſafely lodged, and that means ſecured from all external Injuries, which it m otherwiſe ſuſtain from the Mould, or the Acceſs of nox Colds; and this is continued till the little Plant is ſomewhat in to its new Element, and its Root tolerably fix'd in the Gro when theſe two Lobes become the Folia Seminalia, or S leaves, whoſe Office it is ſtill to protect the tender Plant, the Plume is become ſufficiently ſtrong and expanded.

Nor is this the only End they anſwer; for while they ad to the little Embryo, they not only guard and defend it in above-mention'd manner, but likewiſe prepare and purify cruder Juice the Plant is to receive from the Earth, by ſtra it thro' their own Body, and aſſimilating it to their own ture; which Nouriſhment the little Plant receives, and d to itſelf by a great Number of ſmall branching Veſſels, w it ſends into the Body of the Placenta, and which anſwe ſame Purpoſes as the *Funes Umbilicales*, or Navel-ſtrings, in Animals.

Moreover, we find that every Placenta or Cotyledon of a Seed abounds for the moſt part with a Balſam, diſpoſed in proper Cells, which is oily and tenacious, and not only ſerves to defend the Embryo from any extraneous Moiſture, but, by its Viſcidity, to entangle and retain that fine, pure, volatile Spirit, which is the ultimate Production of the Plant; and which is call'd the *Spiritus Rector*, or *Prevailing Spirit.* This Oil, it is true, is never obſerved to enter into the Veſſels of the Embryo, which are too fine to admit ſo thick a Fluid; but the Spirit, being quicken'd by an active Power, may probably breathe that vital Principle into the Juices which nouriſh the Embryo, which ſtamps upon it the Character which diſtinguiſhes the Family; after which every thing is changed into the Nature of that particular Plant.

But, before we diſmiſs the Seed, it may not be improper to obſerve, that every Plant, even the leaſt and moſt inconſiderable, ariſes from a Seed, nor is produced any other way; for, tho' the Earth nouriſhes every Individual, yet it cannot form an organical Body; and indeed, if it could, it muſt be endow'd with all the Omnipotence of the Creator.

Having thus taken a View of the Seed, we come next to the Root, or that Part of a Plant, by which it adheres to the Earth, and receives its Nouriſhment; but, before we proceed in our Anatomy, it may not be amiſs to obſerve, that the Roots of Plants being of various Forms, are accordingly diſtinguiſhed by Botaniſts. See the Explications of the different Roots under this Article.

But notwithſtanding theſe Varieties, in regard to Matter of Form, the eſſential Parts of the Root ſeem to be the ſame in all; and are,

1. The Bark.
2. The Wood, or lignous Body; or, in the more herbaceous Plants, ſomething equivalent to it.
3. The Medulla, or Pith.

The Bark, the Wood, and the Pith of the Root, ſeem to be nothing different from thoſe of the Trunk and Branches. Its Uſe is to receive the nutritious Juices of the Earth into its Veſſels, which are thence convey'd into the Trunk by correſponding Veſſels therein; or, according to the Opinion of ſome, the Veſſels of the Trunk are only a Continuation of the Veſſels of the Root. Therefore what we are going to obſerve of the Bark, Wood, and Pith, is to be underſtood both of thoſe of the Trunk and Branches, as well as thoſe of the Root.

The Bark may be divided into the outward Skin, or Cuticle; and the inner or cortical Subſtance.

The outward Skin, or Cuticle, ſeems to derive its Origin from the inner or cortical Subſtance, and to be nothing more than the old Bark dried and ſhrivel'd up, being ſupplanted yearly by a new one, after the ſame manner as a Snake caſts her Skin.

It is compoſed of little Bladders, or Veſicles, horizontally laced, ſo as to form a Ring; among which are alſo intermix'd, ore or leſs, ſeveral parallel woody Fibres, or Sap-veſſels.

The inner Subſtance conſiſts, 1. of ſeveral Enfoldments of oody Fibres, interwoven in the manner of a Net, and wrapping over each other like the Coats of an Onion. 2. Of a great any little Bladders, or Veſicles, ſometimes of an oval, and metimes an angular Figure, which fill up the Spots or Spaces tween the ſaid Fibres; and are placed, as it were, in Lines izontally towards the Wood. And, 3. of its own peculiar eſſels, which contain the proper and ſpecific Juice of the ant.

The woody Fibres are certain tubular Bodies, hollow for the ception of their proper Fluids; and are compoſed of a great ny ſmaller concave Fibres, diſpoſed in a quadrangular Figure, d communicating one with another. Theſe Veſſels do not n in right Lines or Parallels; but, for the moſt part, are ga- er'd together, as it were, in little Bundles; which, when ex- ded, or ſeparated from each other, form a kind of Net, or icular Coat, with which they embrace the Wood. Dr. *Grew* s them the lymphatic Ducts, from their containing an aque- , limpid, and almoſt inſipid Fluid.

The Bladders, or Veſicles, which are full of a Liquor they eive from the woody Fibres, are, for the moſt part, placed izontally in right Lines, which run from the Cuticle towards Wood, and are call'd by Dr. *Grew* the Parenchyma of the k, as being analogous to the Parenchyma in the Bowels of mals. Into theſe tranſverſe Veſicles the aſcending Fluid, ch may be call'd the Chyle of the Tree, is depoſited; where g remain'd for ſome time, and being intimately mix'd the former Juice, it is at length exalted into the Nature Aliment, and from thence diſtributed to the other Parts of Plant. And as there is great Plenty of this kind of Fluid ſe little Bladders, or Veſicles, it is no Wonder, that the of a Tree ſhould ſupply the Fire with a ſtronger and more dant Pabulum, than any other Part.

he Contents of the Sap-veſſels are different in various Plants, as a Reſin in the Fir, Milk in Spurge, &c. This Juice Mr. *Ray* chuſes to call the Quinteſſence of the Plant, as containing not only its Smell and Taſte, but all its Virtues.

The Wood conſiſts of the ſame Parts, and thoſe connected in the ſame manner as the Bark, *viz.* 1. Of certain hollow woody Fibres, gather'd together, as it were, in little Bundles, and interwove in the manner of a Net. 2. Of little Bladders, which fill up the Spaces between the ſaid Fibres. 3. Of the Veſſels containing the ſpecific Juice of the Plant. And, 4. of certain Veſſels, which we ſhall call Air-veſſels, and which anſwer to the Lungs in Animals.

The woody Fibres are exactly the ſame as in the Bark, only there is this Difference between them, that, upon cutting the Trunk tranſverſly, the Sap will voluntarily flow from thoſe in the Bark, but ſeldom or never from theſe. They compoſe far the greateſt Part of the Wood, and their Uſe is for the Strength and Compactneſs of it. *Malpighi* will have them communicate one with another, like the Branches of the Veins of Animals.

The little Bladders are rank'd in Lines, between the Fibres and Veſſels, from the Bark to the Pith; tho' they do not all extend quite ſo far, being ſometimes interrupted by little Circles, which riſe towards the inmoſt Parts of the Wood. In Shrubs, and thoſe which have not a very thick woody Body, and are pretty pithy, theſe Bladders are viſibly extended as far as the Pith, and reſolve themſelves into it; whence it plainly appears, that the Bladders in the Bark, and thoſe in the Pith, are of the ſame Nature. They are compoſed of oval Bodies, which communicate one with another; whence they are ſwell'd with the Juice of the Plant, in ſome with a limpid, in others with a tinctur'd Liquor. Each Bladder conſiſts of a fine tranſparent Membrane; and, in different Plants, they are very different, both in Number, Size, Texture, and Extenſion.

The Veſſels containing the proper and eſſential Juice of the Plant are diſpoſed in as many Circles as there are Coats, or Strata, of annual Increaſe from the Pith to the Bark; for theſe Strata are the ſame with the inner Parts of the Bark, which every Year apply themſelves to the Wood, being render'd thus compact by the Preſſure of the woody Fibres, which ſurround them on all Sides.

The Air-veſſels conſiſt of certain ſpiral Lines, each of which is compoſed of a great many ſquamous parallel Fibres, and of a great Number of ſmaller Fibres, which run acroſs theſe, and cover them in the manner of a Coat.

Theſe Air-pipes contain, as it were, certain pulmonary Veſſels; and, where they communicate one with another, are ſometimes of an oval Form, and always cloſed at the other End, ſo that they bear no ſmall Reſemblance to the Veſſels in the Lungs of Inſects. And Nature ſeems to have given both to Plants and Inſects, inſtead of Lungs, theſe ſpiral Veſſels, thus compoſed of hollow ſquamous Fibres, for the better bearing the ſudden Preſſure and Dilatation of the Air, in thoſe violent Flexures which Trees are liable to, and the elaſtic Motion of the included Air.

They are moſtly ſupported, ſurrounded on all Sides, and ſometimes ſtreighten'd by the woody Fibres; whence, on cutting the Wood acroſs, their Orifices frequently appear oval or round, and ſometimes angular. They run up almoſt in right Lines from the Root to the Trunk, whence they are diſperſed thro' the Branches, and, growing curved in the Leaves, are interwoven in the manner of a Net. Theſe Veſſels, except the Sap-veſſels of the Bark, are by far the largeſt of all, and occur in great Plenty thro' the whole Subſtance of the Wood; but none have ever been obſerved in the Bark.

The Pith, which was formerly look'd upon as analogous to the Heart and Brain in Animals, conſiſts of a great Number of little Globules, rank'd lengthways. Theſe Globules, which are ſo many little Bladders, or membranous Veſicles, in moſt Plants are of a round, and in ſome of an angular or cubical Figure, conſiſting of five or eight Sides.

Now the Pith, tho' it has a different Name from the ſpongy Subſtance of the Wood and Bark, yet is of the ſame Nature and Subſtance, as appears not only from its Texture, but Continuity; for the little Bladders, which form that ſpongy Subſtance, run quite from the Bark thro' the woody Fibres, and end in the Pith; whence it is plain, they partake of the ſame Nature: And, indeed, they differ in nothing but Size, the Veſicles of the Pith being very large, thoſe of the Bark leſs, and thoſe of the Wood the ſmalleſt of all. The Quantity of Pith is likewiſe different in various Plants; and is, in general, more in Shrubs, and the herbaceous Kinds, in proportion to their Size, than in Trees. It may be diſtinguiſh'd into its Veſſels and Bladders; the firſt of which are placed at the Extremities of the Pith, which they circle round, and embrace. Theſe Veſſels contain the proper and eſſential Juice of the Plant.

The Bladders of the Pith are likewiſe of different Magnitudes in different Plants, at leaſt an hundred times larger in ſome than in others; as in the common Thiſtle, for Example, than in the Oak. And it muſt alſo be obſerved, that the Size of theſe Bladders bears no Proportion to the Quantity of Pith;

in the Pith of the Elder-tree, which is more in Quantity than that of the Berberry-tree, the Bladders which compoſe it are as ſmall again as thoſe of the latter.

The Pith is only ſucculent or ſappy the firſt Year, its Bladders, after that, growing dry, lax, and ſoft; and this Sap it probably receives from the reticular Veſſels which ſurround it.

The Texture of the Branch is exactly the ſame with that of the Trunk.

But here we muſt not forget two very material Parts, remark'd by the curious Obſervers of Nature; and theſe are the Knots, and the Buds.

The Knots are thoſe Parts of a Plant in which the Buds are lodged, and from whence it ſhoots out its Branches. They not only ſerve as Abutments for the dilating Sap to exert its Force upon, but alſo to prevent the rarefy'd Sap's too free Retreat from the Pith.

The Buds, to uſe Mr. *Bradley*'s Words, have their firſt Riſe in the Pith; they are there framed, and as they become fit for Action, by being furniſh'd with every neceſſary Part for Vegetation, they are forced along certain Chanels, till they meet the Air at the tender Bark, thro' which they make their Way, and would drop to the Ground, were they not reſtrain'd by a Number of Sap-veſſels, which ſerve as ſo many Roots to nouriſh them from the Body of the Tree. Theſe Buds are, in every reſpect, as perfect as the Seed, or rather more ſo; for a Bud contains a whole Plant, roll'd up in itſelf; and has, for the moſt part, its Juices ſo well digeſted, as to come ſooner to bear Fruit than the Plant wrapp'd up in the Seed.

The Difference between a Bud and a Seed is, that a Seed conſiſts of Lobes and Ear-leaves, which include the young Plant, and ſerve to give it the firſt Stamp, by teaching it what kind of Juices it ought to draw from the Earth for its Nouriſhment: But a Bud has no Occaſion for ſuch Ear-leaves, becauſe it takes Root immediately in the Body of the Tree, where the Juices are already fit for it.

Buds likewiſe differ from Seeds, inaſmuch as they are always conſtant to the Mother-tree, and exact Repreſentatives of the Plant that produced them; whereas Seeds multiply their own Species, with Variety of Complexions, all the Plants produced by them being ſome way different from one another, either by ſome little Variation in the Colour of the Flower, the Taſte, or Time of ripening of their Fruit, the Flower or Figure of it, or ſome Difference in the Shape or Colour of the Leaves. And Nature, in this reſpect, ſeems to obſerve the ſame Conduct as amongſt Animals, where no two Faces are exactly alike; and where no Offspring perfectly reſembles either Mother or Sire.

This conſtant Likeneſs, therefore, of the Plant, proceeding from the Bud to the Mother-tree, ſeems as if deſign'd on purpoſe to ſupport the Reputation of the Mother-plant, and, in ſome meaſure, to make amends to Plants for their Deficiency in the want of local Motion; ſince, by the Bud, any particular Fruit, or Tree of Merit, may come to be naturaliz'd in any Part of the World.

But it muſt be obſerv'd, that the Buds are of ſeveral Sorts, *viz.* either Leaf-buds, or Bloſſom-buds. The Difference between them may be known in moſt ſorts of Fruit-trees, before they open, by obſerving, that the Leaf-buds are long, thin, and pointed; but the Bloſſom-buds ſhort and turgid. The Juices alſo, in the firſt, are more fluent and aqueous; and, in the latter, more digeſted and gummy. But both theſe ſorts of Buds proceed from the Pith of the young Wood, and are diſpoſed for different Offices, as the Plant or Branches that produce them are more or leſs vigorous. The moſt vigorous bring Leaf-buds, and thoſe that are ſmaller, and ſeem to be leſs nouriſh'd, produce Bloſſom-buds.

They are ſpread into Branches, when the Temper of the Air is ſuch, as to render the Sap or Juices of the Plant of ſuch a Fluidity as to circulate thro' the Veſſels without Interruption; when the Sap, being ſufficiently fluid, fills the Buds, and they, by degrees, are open'd into Shoots and Branches, every one of which is properly a Tree growing upon another Tree; which makes it practicable to cut off Branches from any Tree, where we pleaſe, without deſtroying the Tree; whereas, if a Tree was one entire Body, as the Body of an Animal, the cutting off the Branch would endanger the Whole.

But the Buds are not confin'd to the Parts above Ground only, being fram'd in the Pith of the Root, as well as in that of any other Part; and here it is worthy our Notice, that thoſe which are form'd in the Root, are impreſs'd with the Form of the Root, when put in Action; and ſo thoſe Buds which are form'd in the Branches, are alſo model'd for Branches, when they begin to act; but, in their Principles, they are both the ſame. For if we expoſe the Roots of a Tree to the Air, after allowing them a little Time to be acquainted with the Element, they will put out Buds in ſuch ſort, as to produce Leaves; and if we lay down a Branch of a Tree in the Earth, after it has had time to reconcile itſelf to that Situation, thoſe Buds form'd in the Pith, when they begin to move, inſtead of Leaves, or Flowers, or Fruit, which they would have produc'd, if raiſed in the Air, will now bring forth Roots, and from them others.

And hence it is likewiſe obſervable, that as the Pith, of conſequence, is only found in the younger Shoots; ſo, if we would increaſe a Tree by Layers, thoſe Layers muſt be of the young Shoots, where this Pith is perfect; otherwiſe they will want thoſe Seeds or Buds, ſo neceſſary to the Production of the Root.

The Leaf conſiſts of the ſame Parts as the Trunk and Branches, that is, woody Fibres, or Lympheducts, Veſſels containing the ſpecific Juice of the Plant, Air-veſſels, a Parenchyma, or Ranks of little Bladders, which fill up the Spaces between the reticular Fibres, and a Cuticle; all which are ſubſtantially the ſame with thoſe of the Branches: For the Cuticle of the Leaf, for Example, is no more than the Amplification of that of the Branch; as the Fibres or Nerves, diſperſed thro' the Leaf, are only the Ramifications of the Wood of the Branch, or lignous Body. So likewiſe the Parenchyma of the Leaf, which lies betwixt the Nerves, and fills all up, is nothing elſe but the Continuations of the cortical Body, or the inner Part o the Bark, from the Branch into itſelf; as in moſt Plants, with a fat Leaf, may eaſily be diſcern'd. For it muſt be obſerved, that the Stalk of the Leaf, which is compoſed of all theſe, where it enters the Leaf, divides itſelf, like another Trunk into a great Number of Branches; and theſe again are ſubdivided into a great many leſſer Branches or Twigs, which mu tually croſſing each other, compoſe a kind of Net-work, whic is very viſible in the Leaves of ſome Plants, particularly on th back Side of thoſe of Sage.

That theſe Fibres are likewiſe accompanied by the Veſſe containing the ſpecific Juice of the Plant, is evident from th different Colour of their Contents, which diſcovers itſelf upo Diſſection of the Leaves, as a Milk in thoſe of Spurge and Suc cory, and in thoſe of Celandine a yellowiſh Liquid. And th this is not ſo apparent in the Leaves of many Plants, where the Veſſels are only full of a limpid aqueous Fluid, yet the aforeſa Inſtances are ſufficient to convince us, that they are preſent all.

The Spaces between theſe Veſſels and Fibres, being fill'd by the above-mention'd little Bladders, form the Parenchym or fleſhy Part of the Leaf; and theſe Bladders, according to t Nature of the Sap they contain, and the Cloſeneſs or Laxity their Pores, are of different Figures upon the Surface of t Leaf, as in ſome angular, in others quite irregular.

Between theſe Bladders and the reticular Fibres, *Malpig* obſerves, that there are ſeveral little Cells or Pores diſperſe which ſerve for the Diſcharge of ſome Fluid, or the Exha tion of ſome Vapour.

The Whole is cover'd with a fine Cuticle, or Epiderm which partakes of the Colour of its Contents.

Dr. *Grew* divides the Flowers of Plants into the Empaleme Foliation, and Attire.

The Empalement is the outermoſt Part of a Flower, wh covers it before it is blown, and forms a kind of Support fo afterwards. This is call'd by ſome the Perianthium, as rounding the Flower; and by others, improperly, the Calix, Cup; for the Calix is properly the hollow Cup form'd by Perianthium, or Empalement, out of which the other Part the Flower grow. There are ſome Flowers whoſe Petals, Flower-leaves, have a firm and ſtrong Baſis, ſufficient to port themſelves, and therefore ſtand in need of no Empalem or Perianthium; and accordingly Nature has given them no as may be ſeen in the Tulip. Theſe, however, have a C or Cup.

By the Foliation Dr. *Grew* means the Aſſemblage of Petala, or thoſe finely colour'd Flower-leaves, which conſti the Beauty of the Flower. Theſe Petala, or Flower-lea grow generally immediately within the Perianthium, or Em ment, from the Edges of the Calix or Cup, and incloſe the tire, or Male and Female Parts of the Flower. Some Flo conſiſt of one Petal, or Flower-leaf, and are of different S in different Plants, as that of a Bell, or a Funnel; and ſo times of two, three, four, or five Petals; and ſometimes Number, as in the Marygold and Sun-flower.

There is a large Claſs of Plants which have no Petals a and therefore are call'd apetalous, as Hops, Mercury, Ne and Docks. Theſe are alſo call'd ſtamineous Flowers, their great Number of Stamina or Chives.

Theſe Petals are deſign'd by Nature for the Safeguard o Parts of Generation in the Flower; and hence we ſee expand themſelves at the Riſing of the Sun, to receiv Heat; and cloſe up, ſome more, others leſs, at the App of Rain or Night. Nor is this their only Office; the draw and convey Nouriſhment to the Embryo, Fruits, Seeds; for as ſoon as the Piſtil is form'd into a ſmall Fruit, impregnated with its minute ſeminal Tree, furniſh'd w Secundines or Membranes, the Bloſſom falls off, leavin new-form'd Egg, or firſt-ſet Fruit, to imbibe Nouriſhme itſelf, and the Fœtus with which it is impregnated; which riſhment is brought within the Reach and Power of its S by the adjoining Leaves.

We now come to the generative Parts of Plants, call'd by Dr. *Grew* the Attire. Theſe conſiſt of the Male Parts, call'd the Stamina or Chives, and Apices; and the Female Parts, call'd the Piſtillum or Stylus.

The Stamina are thoſe fine Threads which grow up within the Foliation, ſurrounding the Piſtil, as may be ſeen in Tulips and Lilies.

On the Tops of theſe Stamina, or Chives, are placed the Apices, or little Knobs, which may properly be call'd the Teſticles of Flowers; becauſe they contain the *Farina fæcundans*, or Seed neceſſary for the Impregnation of the Piſtillum, which may be call'd the Womb of the Plant.

In ſome Flowers theſe Stamina are exceedingly ſhort, and in others there are none at all; but in thoſe the Apices, with the *Farina fæcundans*, or impregnating Duſt, are fix'd immediately to the Capſula, or Pod, which contains the Seed.

In other Flowers, as the Thiſtle, and Lettuce, ſeveral of theſe Stamina, uniting together, form a little kind of Tube, or Pipe, which incloſes the Apices, furniſh'd with their impregnating Duſt.

The *Farina fæcundans*, or impregnating Duſt, is form'd in the Apices, which, when ripe, burſt; and then the *Farina* falls upon the Head of the Piſtil, or Female Part of the Flower, and is thence convey'd to the Matrix, or Womb, in order to impregnate the Seed.

This *Farina fæcundans* is what is gather'd by the Bees, in order to make their Wax.

The Piſtil is the Female Part of the Plant. It grows upright from the very Middle of the Cavity form'd by the Flower-leaves, which is call'd the Calix; and, when ripe, forms the Pod that contains the Seed, or becomes the Fruit. Sometimes the Piſtil is enlarged at both Ends, in the Shape of a Peſtle, whence it derives its Name; ſometimes it is, as it were, only a ſort of Thread; in ſome Plants it terminates in ſeveral Branches, or Horns, which have their Riſe from as many Pods, containing Seeds; ſometimes it is round, ſometimes ſquare, triangular, or oval.

The Piſtil in ſome Flowers is cover'd, at the Top, with very fine Hairs, which make it like Velvet. In others it is furniſh'd with a ſort of Plume; and others are cover'd with Veſicles, or ſmall Bladders, full of a glutinous Juice: But all Piſtils, of whatever Shape they are, have little Openings at the Top, which receive the *Farina fæcundans*; and have alſo little Chanels within, which convey the ſame *Farina fæcundans* to the Seed, in order to its Impregnation.

Some Authors make no Diſtinction between the Piſtil and Stylus; but *Malpighi*, and after him *Bradley*, ſeem to call it Piſtil when it contains the Seed within it; and name that Part the Stylus, which, in ſome Flowers, dries and falls off, after the Impregnation of the Seed.

Many and very different are the Opinions of Authors, in regard to the Generation of Plants: Without entering into their Diſputes, we ſhall give that Account of it, which ſeems to us moſt probable; after having obſerved, that moſt Plants are Hermaphrodites, among which ſome, and that the greateſt Part of them, contain both the Male and Female Parts of Generation in the ſame Flower. Others, the Melon for Example, bear Flowers upon the ſame Stem, of different Sexes, the Female, which produce Fruit, and the Male, which produce none. There are alſo ſome entire Plants, which bear Flowers without Fruit; whilſt others, of the ſame Species and Name, bear Fruit without Flowers; and they are hence diſtinguiſh'd into Male and Female Plants. Of this laſt Kind are the Palm-tree, Poplar, Hops and Hemp. The Male are thoſe which produce the Flower, and the Female thoſe which produce the Seed.

Now 'tis highly probable, that the Embryo of the young Plant, or that Part which we have before deſcrib'd as lying in the Middle of the Seed, and which we have diſtinguiſh'd into the Radicle and Plume, is form'd by the *Farina fæcundans*, which, falling down the Piſtil into the Uterus or Womb of the Plant, meets there with a proper Receptacle, where it fixes; so that the Lobes of the Seed, above deſcrib'd, which perform the ſame Office as the Membranes, Placenta, Cotyledons, or After-birth, do to the Young of Animals, are furniſh'd by the Female Part of the Plant.

When the Male and Female Parts of the Flower are very near to each other, it is not difficult to conceive, how the *Farina fæcundans*, or, as it may be call'd, the Male Sperm, is convey'd to the Piſtil, or Womb: But when the Male and Female Flowers are at a Diſtance from each other upon the ſame Plant, but more particularly when they grow upon different Plants of the ſame Species, it is not ſo eaſy to comprehend how the impregnating Duſt of the Male Plant is convey'd to the Female Plant, eſpecially when they are at a great Diſtance from each other.

We have a Story in *Jovianus Pontanus*, which will give the Reader an Idea of the vaſt Diſtances to which this impregnating Duſt may be carried. He tells us, that there was a Female Palm-tree which grew in the Wood of *Otranto*, and a Male Palm-tree at *Brindiſi*, fifteen Leagues from the Female; that the Female was barren for ſeveral Years, and bore no Fruit at all; till at laſt growing above the other Trees of the Wood, it began to be fruitful, and bore great Quantities, tho' there was no other Male Palm-tree nearer than that at *Brindiſi*.

Moſt Authors, that have treated of the Generation of Plants, have quoted this Hiſtory; and, I think, generally agree, that the Male Duſt muſt be brought from the Male Tree at *Brindiſi*, to the Female at *Otranto*, by the Wind; and therefore conclude, that the Wind is the Agent which carries the Duſt from the Male Plant to the Female. This would be very probable, provided theſe Palm-trees grew betwixt the Tropics, where the Wind, for at leaſt three Parts of the Year, blows from the Eaſt, and the Situation of the Male Tree had been towards the Eaſt of the Female; but if the Female had been placed Eaſt of the Male, it would have proved a very unfortunate Poſition for the Female, which muſt therefore have certainly been barren.

For my own part, I don't think it probable, that the Supreme Being, who always orders all the Operations of Nature to be perform'd in the beſt manner, ſhould leave a Thing of ſo much Conſequence, as that of the Generation of Plants, to be conducted by ſo uncertain an Agent as the Wind; which would undoubtedly leave a great Number of Plants barren, if it did not happen to blow from a right Point, juſt at the Time that the Duſt of the Male, being arrived at Maturity, was ready to be carried to the Female Plant.

I am therefore of Opinion, that there is ſome Power in Nature, which has not yet been duly conſider'd by the Learned, capable of affording ſo ſure a Conveyance to the Male Duſt, that it can never fail impregnating the Female.

There is a Power in Nature to which Philoſophers have given the Name of *Electricity*, becauſe firſt obſerved in Amber, call'd in Latin *Electrum*. This is an attractive or magnetic Force, which the aforeſaid Amber, Glaſs, and many other Bodies, exert, when rubb'd till they are warm, and by which they draw to themſelves any light Body that is near them, and ſometimes repel the ſaid Bodies from them. Mr. *Gray*, of our own Royal Society, and Monſieur *du Fay*, of the *French* Academy of Sciences, have, by their indefatigable Reſearches, diſcover'd many amazing Properties of electrical Bodies, too long to enumerate in this Place. But it is very much to our preſent Purpoſe to obſerve, that Bees-wax is endued with this attractive Power, at leaſt as much as any other Body whatever, and that without any rubbing at all; and this electrical or attractive Force Bees-wax retains longer than any other Body.

Now, if we conſider, that Bees-wax is little more than a Maſs of the *Farina fæcundans*, or impregnating Duſt of Flowers, collected by the Bees, it ſeems very likely, that every Particle of this was endu'd with a certain electrical or attractive Force, before it was gather'd from the Flower; and if ſo, why may we not preſume, that the Piſtil or Womb of the Plant, and the *Farina fæcundans*, or impregnating Duſt, ſtrongly attract each other? And as ſome Bodies are known to exert an attractive Force to a prodigious Diſtance, we may eaſily conceive, that it is poſſible for the *Farina fæcundans* of a Male Palm to ſail, even againſt the Wind, from *Brindiſi* to *Otranto*, though fifteen Leagues aſunder, when the Female Palm was grown high enough to receive the *Farina*, which, before that, would be intercepted in its Paſſage by the other Trees of the Forreſt.

There are ſome Circumſtances relating to Electricity, which ſeem to confirm, that what we have hinted at is, at leaſt, one of its principal Uſes. One is, that this electrical Virtue of Bodies is much diminiſh'd by a moiſt Air. Another is, that it does not exert itſelf ſo vigorouſly, during the Heat of the Day.

Curious Obſervers of Nature will diſcover, upon Examination, that the Generation of Plants is principally carried on in the moſt temperate Part of the Day, and when the Sun has been riſen long enough to dry in ſome meaſure the Air, and elevate the Vapours to ſome Diſtance from the Surface of the Earth. At this time the Mulberry, and many other Trees, during the Seaſon of their generating, may be ſeen ſurrounded, as it were, with a Cloud of Duſt; and this Appearance is not obſervable at any other Seaſon of the Year but that in which they generate, nor any other time of the Day but early in the Morning.

Having now diſpatch'd the Structure of Plants, and their Generation, we ſhall next proceed to their Vegetation or Growth.

Of the Vegetation or Growth of Plants.

In order to form ſome Idea of the Vegetation of Plants, it will not be amiſs to conſider the Production of a Plant as the Reſult of a Chymical Proceſs, in which Nature is the Operator, and the Perſon who cultivates the Ground an Aſſiſtant.

The firſt thing then, that is done, is to manure the Land, or, in other Words, to furniſh it with an alcaline Salt. Here we muſt ſuppoſe, that the Earth to be manur'd was before depriv'd of all its Salts, by bearing too frequent Crops, otherwiſe this Part of the Operation would be unneceſſary; Nature unaſſiſted

aſſiſted being abundantly ſufficient to ſupply the Ground with a due Quantity of Salts; but, when theſe are taken away, Nature unaided is a long time in providing more.

Theſe Salts, while they retain their alcaline Nature according to their known Property, divide the Earth into ſmall Particles, and render it light, and diſpoſed to crumble and fall in Pieces, like Lime, when Water is pour'd upon it; and thereby promote its Fertility. It is for this very Reaſon that frequent Ploughing, or Digging, fertilizes the Ground, and is what People mean when they talk of *making it mellow*.

When this is done, Nature furniſhes theſe alcaline Salts with a Fluid to diſſolve them, that is, they attract ſtrongly the Vapours and Dews floating in the Air, which have already been render'd ſomewhat oily, by the Oils of Animals and Vegetables, which perpetually float in the Atmoſphere. By theſe oily Dews, they are diſſolv'd into a kind of Oil, *per Deliquium*, and ſink into the Boſom of the Earth, which may be eſteem'd as the Veſſel in which this Operation, or Proceſs of Vegetation, is perform'd; and here again they meet with an Oil, of which all Earths contain more or leſs.

It has been obſerv'd under the Article ALCALINE, that if Salts are mix'd with any Acid, eſpecially when in a fluid State, an Effervеſcence is raiſed, with Ebullition, and a violent inteſtine Motion; and that they attract the Acid of the Air ſo ſtrongly, as in time to be impregnated therewith, and to become entirely neutral. It is then eaſy to underſtand, that whilſt theſe Salts lie in the Boſom of the Earth, diſſolv'd into what the Chymiſts call an Oil *per Deliquium*, or, in other Words, a *Lixivium* or *Lye*, as they gradually attract the Acid of the Air, a gentle Effervеſcence, or Ebullition, muſt be cauſed, which muſt divide and break thoſe Parts of the Soil, which before cohered ſtrongly together, and render the Earth yet more light and mellow.

Now let us call to mind, that when alcaline Salts are digeſted with an Oil, they intimately unite with it, and form a penetrating deterging Subſtance, which is diſſoluble in Water, and is of a Nature very different, both from the component alcaline Salt, and Oil; and this is commonly called Soap.

When therefore theſe alcaline Salts are committed to the Earth, and diſſolv'd into a kind of *Lye*, meeting there with an Oil, theſe Salts and this Oil are digeſted by the Heat of the Sun, united together, and converted into a Soap much more perfect than the artificial Sort we make uſe of; for this laſt always retains ſome of the Acridneſs of its Parent Salt, which renders it unfit for the Purpoſes of Vegetation till neutraliz'd; whereas that form'd in the Soil is render'd entirely neutral as it is made, the Salts attracting and imbibing the Acid of the Air, at the ſame time that they are mixing with the Oils of the Earth, in order to be transform'd into a Soap. See ACETUM.

As all Vegetables whatever contain a large Quantity of Earth, it ſeems at firſt View ſomewhat difficult to explain, how it ſhould be able to get there; becauſe the Pores of the Roots are too ſmall to admit of Earth undiſſolv'd, and perhaps even of Water; or, if they would admit Water, we find that utterly incapable of diſſolving Earth. How therefore Earth comes to be diſſolv'd, and render'd capable of entering through the Pores of the Roots, we are now endeavouring to explain.

The Solution of a Body is nothing more than dividing it into Particles ſmall enough to ſwim in the Menſtruum, or ſolvent Liquor, without being viſible. Thus, when Salts of any kind are diſſolv'd in Water, their Particles are ſo divided by the Menſtruum, Water, as to become inviſible whilſt they float in it. Now the dividing the Earth into ſmall Particles, in the manner juſt above-mention'd, is one Step towards a Solution.

Let us now conſider the ſaponaceous neutral Juice, form'd in the Earth by an alcaline Salt, an Oil, and the Acid of the Air, as a ſaponaceous or ſoapy Menſtruum, or Solvent, and ſee how it is capable of acting upon Earth; and, in order to make this the more plain, we ſhall give a very obvious Example, which falls under the Obſervation of every body.

When Cloaths, or Linen, or any thing elſe, are dirty, that is, have Concretions of Earth ſticking to them, we find the moſt effectual way to make them clean, is to waſh them in Water wherein Soap has been diſſolv'd. Here then Soap penetrates the Pores of the Earth, divides it into exceeding fine Particles, and in ſome meaſure diſſolves it. A ſaponaceous Fluid, therefore, bids the faireſt of any thing we are acquainted with, to be the Menſtruum or Solvent of Earth, and it is probable, that the ſaponaceous Fluid which is made in the Boſom of the Earth by a long Digeſtion, is more penetrating than any artificial Soap, and conſequently more capable of diſſolving Earth.

We ſhall be ſtill farther confirm'd in this Opinion, if we conſider this Juice of the Earth as a neutral Menſtruum or Solvent; for it appears by a great Number of Chymical Experiments, that neutral Menſtruums will diſſolve many Bodies or Subſtances, eſpecially thoſe that are of an earthy Nature, which no other Menſtruums or Solvents will touch.

From what has been ſaid, it appears very plain, that whe the Earth has for a conſiderable time been, as it were, digeſted by the Heat of the Sun, in a ſaponaceous, neutral Liquor, the Rains, falling in great Quantities, dilute this ſaponaceous Liquor more, extract a kind of Tincture from the Earth, that is, diſſolve a Quantity thereof ſufficient for the Purpoſes of Vegetation, which, entering the Pores of the Root, is carried into the Stem of the Plant; and by this means is brought about what could not be effected by Water alone, that is, a Solution of Earth.

The Antients, who were fond of concealing all their Knowledge under Allegories, ſeem, however, to give ſome Hints of the Earth being impregnated by the Air. Thus *Homer* tells us, that when *Jupiter*, that is, the Air, lay with *Juno*, meaning the Earth, on the Top of *Gargarus*, the Flowers ſprung up under them to make them a Bed.

Ἦ ῥα, καὶ ἀγκὰς ἔμαρπτε Κρόνου παῖς ἣν παράκοιτιν,
Τοῖσι δ' ὑπὸ χθὼν δῖα φύεν νεοθηλέα ποίην,
Λωτόν θ' ἑρσήεντα, ἰδὲ κρόκον, ἠδ' ὑάκινθον
Πυκνὸν καὶ μαλακόν· ὃς ἀπὸ χθονὸς ὑψόσ' ἔεργε·
Τῷ ἔνι λεξάσθην, ἐπὶ δὲ νεφέλην ἕσσαντο
Καλὴν, χρυσείην· στιλπναὶ δ' ἀπέπιπτον ἕερσαι. Il. 14. 346, &c.

Gazing, he ſpoke; and, kindling at the View,
His eager Arms around the Goddeſs threw.
Glad Earth perceives, and from her Boſom pours
Unbidden Herbs, and voluntary Flow'rs.
Thick new-born Violets a ſoft Carpet ſpread,
And cluſt'ring Lotos ſwell'd the riſing Bed:
And ſudden Hyacinths the Turf beſtrow,
And flamy Crocus made the Mountains glow.
There golden Clouds conceal the heav'nly Pair,
Steep'd in ſoft Joys, and circumfus'd with Air;
Celeſtial Dews, deſcending o'er the Ground,
Perfume the Mount, and breathe Ambroſia round. POPE.

Virgil in ſome meaſure explains this Paſſage in *Homer*, ſpeaking of the Spring.

Tum Pater omnipotens fœcundis Imbribus Æther
Conjugis in Gremium lætæ deſcendit, & omnes
Magnus alit, magno commixtus Corpore, Fœtus.
Georg. L. 2. v. 325, &c.

For then Almighty *Jove* deſcends, and pours
Into his buxom Bride his fruitful Show'rs.
And, mixing his large Limbs with hers, he feeds
Her Births with kindly Juice, and foſters teeming Seeds.
DRYDEN

Both theſe great Poets ſeem equally ſenſible, that the Eart owes its Fecundity to the Air; but I don't know, that eithe they, or any more modern Authors, have explain'd the Ma ner how this Impregnation is brought about.

We have before obſerv'd a great Analogy betwixt An mals and Vegetables. It will very much illuſtrate the D ctrine already laid down, in regard to the Preparation of t Food of Vegetables, that is, the Juices which enter the Roots for their Nouriſhment, to explain the Ways which N ture takes to prepare the Food of Animals in their reſpecti Stomachs.

There have for many Ages been great Diſputes among Authors who have wrote upon the Animal Oeconomy, co cerning the Digeſtion of Food taken into the Stomach. M have agreed, that ſome kind of Menſtruum was neceſſary its Solution. Amongſt theſe, ſome have affirm'd it to be alcaline Solvent, ſome an acid: There are others, who ha attributed this Solution to a Ferment in the Stomach, ſome have imagin'd, that Digeſtion was perform'd by Tritu tion, or grinding, as it were, the Aliment, contain'd in Stomach, betwixt the Diaphragm and the Muſcles of the Be But *Papin*, and ſince him, many more tell us, that the A ment is digeſted by the Heat of the Stomach, which, rarefy the Air contain'd in the Food, breaks it into ſmall Partic and reduces it into a Fluid. It would be endleſs to enter i a Detail of all the Inconſiſtencies which have been broac upon this Subject: I ſhall therefore content myſelf with ſerving, that it is probable, that the Saliva, or Spittle, gether with the Juices pour'd into the Stomach out of its Glands, much of the ſame Nature as the Saliva, furniſ Menſtruum or Diſſolvent entirely neutral, of a penetrating ponaceous or ſoapy Nature, capable of diſſolving the Alim by the Aſſiſtance of a gentle Heat, without having reco to an acid or alcaline Menſtruum, Ferments, and Tritu tion. When this Operation is perform'd in the Stomach, Aliment, thus far digeſted, is protruded by a gentle Pre from the Diaphragm and Muſcles of the Belly into the Inteſ or Gut, called by Anatomiſts the *Duodenum*, where it meets with a Fluid of all others, perhaps, the moſt ſaponac and penetrating, I mean the Bile, or, as it is uſually ca the Gall; and, mixing therewith, undergoes a farther Solu is render'd more fluid, and fitted to enter the Mouths of

La

Lacteal Veſſels, which open into the Inteſtines, and perform the ſame Office to Animals, as the fibrous Parts of Roots do to Vegetables.

That the Saliva, or Spittle, is of a ſaponaceous Nature, any one will readily be convinc'd, that thinks it worth while to try an eaſy Experiment; for he will find, that Spittle will diſſolve Concretions of Earth, or, in other Words, Dirt, adhering or ſticking to any Subſtances much ſooner than Water.

There is a Remedy recommended by the good old Women for Wens, or other ſmall Swellings upon the Surface of the Body, which, however vulgar, is ſaid to be a very good one; it is to anoint the Part with Faſting-ſpittle: Now the good Effect it has in theſe Caſes, is owing to its ſaponaceous, penetrating Nature.

Gall is ſo commonly known to be a natural Soap, that it is frequently uſed in Waſhing, eſpecially that of Oxen, which is eaſily procur'd, inſtead of artificial Soap.

It is remarkable, that the Gall of Pikes, Eels, and other Fiſhes of Prey, which want ſome Helps to Digeſtion which other Animals enjoy, have a Gall the moſt penetrating and ſaponaceous of all other Animals. See Bilis.

From what has been ſaid about Digeſtion, it appears how little thoſe People conſult their Health, who draw off vaſt Quantities of their Saliva, or Spittle, by ſmoaking, or chewing Tobacco.

From hence alſo it appears, that Nature is ſimple and uniform in preparing the Pabulum, or Food, both of Animals and Vegetables.

This Subject muſt not be diſmiſſed without animadverting upon an Error of many Authors, who have compar'd the Roots of Plants to the Stomachs of Animals, which ſeems to be without the leaſt Foundation; for the Food of Plants, or the Juices which are to circulate therein, are prepar'd in the Boſom of the Earth before they enter the Pores of the Root; and the Office of the Root ſeems to be little more than to furniſh Conduits, or Pipes, to convey theſe Juices to the Stem; though it is probable, they may undergo ſome Alteration by circulating in the Veſſels of the Root.

The nutritious Juices of Plants being thus prepar'd in the Boſom of the Earth, we are now to explain, how it comes to paſs, that they enter into the Seed. In order to do this, we muſt obſerve, that all Bodies whatever are expanded, that is, grow larger, by Heat. When therefore a Seed has lain all Winter in the Ground without any Signs of Germination, in the Spring, as the Seed is diſtended by the Heat of the Sun in all its Dimenſions, though never ſo little, there muſt be ſome vacant Spaces within it; and, as Fluids preſs every Way, the nutritious Juices in the Earth, with which the Seed is ſurrounded, will enter the Foramen, or Hole, which we have deſcrib'd to be at one End thereof, and fill up theſe Vacancies. When they are once got within the Seed, being extremely penetrating, they enter the Pores of the Cotyledons, or Lobes, for the very ſame Reaſon that they firſt enter'd the Seed. From hence paſſing through the *Funis umbilicalis*, or Navel-ſtrings, they are communicated to the Radicle and Plume, which are thereby diſtended, or, as it were, unfolded. And thus is the Circulation in the Infant Plant carried on, till the Radicle, by degrees extending itſelf into the Earth, fixes there, and becomes capable at laſt of furniſhing the whole Plant with a nutritious Juice, whilſt the Plume, ſhooting in a contrary Direction, in a very little time, flouriſhes above the Surface of the Earth.

Some Gentlemen of the Royal Academy of Sciences have pretty much puzzled themſelves, and their Readers, in endeavouring to give the Reaſons why the Plume aſcends, and the Radicle deſcends, when a Seed happens to be inverted in the Earth, which muſt often be the Caſe, or, in other Words, when the Plume, which ought to tend upwards, lies lowermoſt, or in any other Direction but perpendicular, *viz.* pointing to the Surface of the Earth. 'Tis certain, that Seeds of all Kinds, from the ſmalleſt to the largeſt, tho' thrown never ſo confuſedly into the Earth, and lying there in all manner of Directions, notwithſtanding theſe Diſadvantages, redreſs themſelves when they come to ſpring and riſe with the Plume perpendicular to the Surface of the Earth; and this is one of thoſe amazing Inſtances of the Wiſdom of Providence, which never leaves the Welfare of its Productions to Chance, but conducts the moſt inconſiderable Parts of the Creation with ſo much Art and Oeconomy, that the more we are acquainted with it, the more we muſt admire it. It ſeems exceeding eaſy to explain how this Perpendicularity is effected, if we only conſider, that, whilſt the Radicle is fixing itſelf in the Earth, the Plume lies betwixt the two Lobes, which Lobes afterwards ſhoot out of the Ground, together with the Plume, and become the ſeminal Leaves in all Plants, except thoſe of the Pulſe Kind, which have ſomething analogous to them. We muſt alſo conſider, that Fluids of all Kinds contain a great Quantity of Air.

This Part then of the Operation of Vegetation ſeems to us to be perform'd in the following manner; the Lobes of the Seed are diſtended with, and full of, the nutritious ſaponaceous Juice of the Earth, which Juice has in it a great Quantity of Air: This Air, being rarefied by the Heat of the Sun, is perpetually endeavouring to aſcend, and get above the Surface of the Earth, that it may perſpire through the Pores of the Lobes, and mix with the Atmoſphere, as we find in Fact it does, when theſe Lobes become the ſeminal Leaves, and get above the Surface of the Ground; but the Pores of the Lobes being ſtopp'd by the ſurrounding Earth, the Air, which cannot yet make its Eſcape, acting perpetually upon the Inſide of the Lobes, forces them to tend perpendicularly upwards, and with them the Plume.

If it ſhould be ſaid, that the Grains of Barley, in Steep in order to be made into Malt, or that Acorns, Cheſnuts, Piſtachio-nuts, or any other Seeds, when laid in a moiſt Place to ſprout, ſend the Radicle downwards, and the Plume upwards, notwithſtanding the Pores of the Lobes cannot in this Situation be ſtopp'd by the ſurrounding Earth; I anſwer, That even ſuppoſing the Pores of the Lobes not to be ſtopp'd at all, the ſame End will yet be anſwer'd, and the Lobes, together with the Plume, will be elevated perpendicularly, by the rarefied Air perſpiring through the Pores, and tending upwards.

But if we may ſuppoſe, that the perſpiring Air carries along with it a Portion of the nutritious Juice, in the Form of a Vapour, imperceptible to the naked Eye, as ſuch Vapours always aſcend, they muſt neceſſarily make the Lobes from whence they perſpire, endeavour to do ſo likewiſe, becauſe they muſt have this Tendency to riſe, before they have quitted the Veſſels in which they were contain'd, whilſt circulating in the Lobes.

Now, if this Reaſoning, in regard to the Elevation of the Plume, holds good, 'tis not neceſſary to mention the Reaſons why the Radicle ſhoots downwards, becauſe the Radicle muſt neceſſarily grow in a Direction contrary to that of the Plume.

Let us now purſue the Progreſs of the nutritious Juice, or Sap, and endeavour to inveſtigate the Method taken by Nature to conduct this Embryo to a perfect State.

We have obſerv'd above, that the Radicle and Plume receive their firſt Nouriſhment from the Lobes. Now, when the Radicle has fix'd itſelf in the Earth, and has put out Fibres ſufficient for the Support of the Plant, 'tis probable, that the Order of Circulation is chang'd, and that the Lobes, now about to become the ſeminal Leaves, receive, in their turn, Nouriſhment from their Root, either by the ſame Veſſels which originally convey'd Nouriſhment to the Radicle, or by others, which laſt is moſt probable.

Theſe Lobes, now become ſeminal Leaves, and got above Ground, are of great Uſe to the Plant; for, if theſe are taken away before the true Leaves are expanded ſufficiently to perform their Office, the Plant immediately withers and dies. The Office they perform I take to be this.

'Tis a known Maxim in Hydraulics, that when a Number of Branches proceed from one large Pipe, or Canal, if one of theſe Branches is open'd, a greater Quantity of the Fluid circulating in theſe Pipes will flow to every Branch proceeding from the ſame Pipe. Now theſe ſeminal Leaves, once got above Ground, are in a perpetual State of Perſpiration, when the Heat of the Atmoſphere is ſufficient to rarefy the Juices of the Plants enough for that Purpoſe; or in an imbibing State, when the Heat is not ſo great as to make them perſpire, inſomuch that Plants generally perſpire in the Day-time, and imbibe the Air, and its Contents, in the Night, at the Leaves. When therefore theſe ſeminal Leaves are in a State of Perſpiration, a greater Quantity of the nutritious Juice is deriv'd not only to theſe ſeminal Leaves, but alſo to the leading Stem or Head of the Plant, which is nouriſh'd by Veſſels proceeding from the ſame Trunk with thoſe which nouriſh the ſeminal Leaves. By means of this Perſpiration, there is a perpetual Supply of a nutritious Fluid drawn to the aſcending Branch of the Plant for its Support and Increaſe, which ceaſes, if the Perſpiration of theſe ſeminal Leaves is by any means ſtopp'd, or if the Leaves are taken away before the true Leaves are expanded, and grown large enough to perform their Office, and by perſpiring in a due Quantity to draw a ſufficient Nouriſhment to the leading Stem, or Head.

As ſoon then as the true Leaves are fit to do their Duty, there being no farther Occaſion for the ſeminal Leaves, they immediately wither and rot off; and this Decay of the ſeminal Leaves is probably cauſed by the Air, which, entering the Pores of the true Leaves, is from thence communicated to the Air-veſſels of the Trunk, which, being diſtended therewith to the very Root, the ſmall Veſſels, which before convey'd the nutritious Juice to the ſeminal Leaves, are compreſs'd and ſtopp'd up; the Conſequence of which is, that the ſeminal Leaves muſt periſh. Here again we have an Inſtance of an exact Uniformity in animal and vegetable Productions; and may obſerve, with Wonder, the Analogy betwixt the one and the other.

A young Animal originally receives its Nouriſhment from a Placenta or Cotyledon, by means of a Navel-ſtring; but as ſoon as the Animal is born, and is capable of taking in its Nouriſhment

ment at the Mouth, there being no farther Occaſion for the Placenta or Cotyledon, the Navel-ſtring rots, and the Animal is ſeparated from them. Mean time the Air, falling into the Veſſels of the Lungs, entirely alters the Circulation of the Blood and Juices.

'Tis pretty much the ſame in Vegetables, where the Infant Plant is originally nouriſh'd by Juices which it receives from the Lobes, by means of Veſſels analogous to a Navel-ſtring; but as ſoon as the Mouths of the Plant, that is, the Pores of the Root, are ſufficiently opened to provide for its own Support, the Circulation is ſomewhat altered; and the Root giving Nouriſhment to the Lobes, they become the ſeminal Leaves, which rot off as ſoon as the Plant has no farther Occaſion for their Aſſiſtance.

Animals are kept alive by an alternate Inſpiration and Expiration of the Air, that is, by the Air's being taken into, and ſoon after expell'd out of, the Lungs; and if this Inſpiration and Expiration is prevented for but a very little time, the Animal dies. There is alſo ſomething in the Air, which, in all Probability, is communicated to, and mixes with, the Blood of Animals, entering the fine Pores of the Blood-veſſels in the Lungs during Inſpiration. This I take to be the Acid floating in the Air; and a freſh Supply of this is ſo neceſſary to Life, that no Animal can live long, if confin'd in a cloſe Place where there is no Communication with the external Air.

Something of the very ſame Nature happens to Vegetables; they inſpire or take in Air at the Leaves, during the Night, and in moiſt Weather; and in the Day-time, eſpecially in the Morning, when the Weather is warm, they expire, that is, the Air is expell'd from the Plant, and carries along with it a Part of the nutritious Juice or Sap, in the Form of an exceeding fine Vapour, as it does from the Lungs of Animals, where it is viſible in froſty Weather. And this Acid of the Air, or whatever is ſo neceſſary to the Life of Animals, is not leſs ſo to the Life of Vegetables; for all Plants whatever will quickly die, if ſet in a cloſe Place, or covered with any Veſſel in ſuch a manner, as to be depriv'd of a free Intercourſe with the external Air.

The Leaves then of Vegetables may juſtly be eſteem'd their Lungs, and are ſo neceſſary to their well-being, that if all the Leaves are pull'd off a Plant, it will neither inſpire nor expire; and an immediate Stop is put to all Accretion or Growth, inſomuch that the Plant generally dies. 'Tis upon account of this Perſpiration of Plants at the Leaves, that when Trees are tranſplanted, they cut off a great many of the Leaves and Branches, that they may not perſpire too much, and kill themſelves before the Roots are ſufficiently fix'd in the Ground, to ſupply them with a due Quantity of Nouriſhment; and prudent Gardeners ſhade their Plants, when firſt tranſplanted, that the Sun may not make their Perſpiration too great, before the Roots are capable of bringing a proportional Supply of Juices. But this Inſpiration and Expiration of Plants at the Leaves is only neceſſary at that Seaſon of the Year when they increaſe or grow; and accordingly we find, that againſt the Winter the Leaves drop off, when there is no farther Occaſion for their Miniſtry, from all but Ever-greens, which probably always, in ſome Degree, inſpire and expire.

We have now conducted the Plant above the Surface of the Earth: It remains, that we examine into ſome Circumſtances relating to its Accretion or Growth, and ſhew by what means it is brought to Perfection.

What has been ſaid of the ſeminal Leaves drawing Nouriſhment, holds good of all the true Leaves of a Plant; for they all bring Nouriſhment to themſelves, and the adjacent Parts, by the Means, and for the Reaſons already taken Notice of: And as the rarefy'd Air and Vapour in the Leaves is perpetually tending upwards, this ſtill preſerves the Perpendicularity of the Plant, and keeps the Stem in an upright Direction, unleſs it is forced to deviate from its Perpendicularity, by ſome intervening Accident.

There is another thing which may alſo contribute ſomething towards the Perpendicularity of Plants, and that is the different Denſity of the Air at different Diſtances from the Earth. 'Tis well known, that the Air is heavieſt at the Surfaces of the Earth; and that it decreaſes in Gravity every Inch, to the utmoſt Limits of the Atmoſphere. Now, when a Vegetable is once got above the Surface of the Earth, the Direction of its Growth muſt be towards that Part where it meets the leaſt Reſiſtance; and as the Air is leſs denſe above the Plant than round about, it muſt meet with leſs Reſiſtance upwards, and conſequently tend that Way.

I am ſenſible, that the Difference in the Air's Gravity at ſuch little Diſtances from the Earth, is very ſmall; but ſmall as it is, it may have a conſiderable Effect upon ſo tender a thing as a young Plant.

As the Body of the Plant is daily more and more diſtended by the Heat of the Sun in all its Dimenſions, the Fluids it contains are yet more diſtended by the ſaid Cauſe, I ſay more, becauſe Fluids having a leſs Degree of Coheſion than Solids, their component Parts more eaſily recede from each other, and therefore take up more Room: The Conſequence of this is, that the containing Veſſels of the Plant muſt be preſs'd on all Sides by the contained Fluid, and grow larger; mean time the Air contained in the Air-veſſels of the Plant is alſo rarefied and diſtended, ſo as to keep conſtantly of the ſame Denſity as the external Air. Thus we ſee the Plant is conſtantly compreſs'd betwixt the internal and external Air; and as the Veſſels of the Plant are more expanded by the Rarefaction of the internal Air, the external Air is alſo rarefied, and conſequently, preſſing leſs upon the Surface of the Plant, gives it more Liberty to increaſe its Dimenſions outwards, and yield to the internal Preſſure both of the Sap, and internal Air; but as the Heat of the Atmoſphere is ſeldom many Moments exactly the ſame, the Rarefaction and Denſity both of the internal and external Air muſt be perpetually altering, as the Heat increaſes and decreaſes; inſomuch that the Force of the Air acting upon the Inſide of the Plant, and upon the Surface, is different almoſt every Moment; ſo that by this Preſſure, a Plant is acted upon much in the ſame manner as a Potter, who is going to form a Veſſel, would act upon his Clay; preſſing the Inſide with one Hand, and the Outſide with the other.

The reflecting Reader will readily obſerve, that ſomething more than what we have already mention'd is neceſſary towards Vegetation, otherwiſe the Plant would indeed be diſtended; but then its Veſſels would grow much thinner, juſt in the ſame manner as a Glaſs Veſſel under the Hands of the Maker decreaſes in Thickneſs, as the Surface is enlarged by the Air the Operator forces within; or the Sap-veſſels and Air-veſſels of the Plant would be like a Parcel of Bladders laid contiguous to each other, ſome of them diſtended with Water, and others with Air, where the containing Veſſels would decreaſe in Thickneſs, as they were expanded by their Contents: We are therefore to explain how it comes to paſs, that Plants increaſe in Solidity as well as Dimenſions.

This Part of the Operation then ſeems to be performed by the means of Cold, in the following manner:

The Heat of the Sun in the Day-time having diſtended th Sap in the Veſſels, and made a Part of it perſpire through th Pores of the Leaves, in order to draw Nouriſhment to themſelves and the adjacent Parts, the Coldneſs of the Night immediately ſucceeding, when Plants are not in a State of Perſpiration, this Coldneſs contracts both the Solids and Fluids of th Plant; for 'tis the Nature of Cold to contract all Bodies whatever, and reduce them into a leſs Space, which muſt be effecte by making the Particles of Matter, of which they are compos'd approach nearer each other; and the Particles of Matter ar known to attract each other very ſtrongly at ſmall Diſtances and infinitely more when their Surfaces exactly touch eac other: Therefore that Part of the fluid Sap which is neareſt th ſolid Sides of the Veſſels, is, by the Action of Cold, whic contracts both the Solids and Fluids, forc'd into Contact wit the Solids, where it ſticks faſt by reaſon of the increas'd Attraction; and thus are the Salts and Earth, which were diſſolv' in the Sap, applied to the Veſſels, and reduced to a Solid; an in this the Salts and Earth are much aſſiſted by the Oil and Water, which, entering betwixt each Particle of Matter, fill u the vacant Spaces, and render the Coheſion ſtronger; juſt i the ſame manner as two poliſh'd Pieces of Marble applied each other will adhere very ſtrongly when the Surfaces are oiled and as Leather or Paper will ſtick cloſely to any Body whe wet.

When once theſe Particles of Matter have acquired ſuch Degree of Coheſion, the Heat of the Sun, next Day, approaching by gentle Degrees, is not capable of diſſolving this Unio which however it would do, was it more ſudden and intenſe and indeed we find, that this Union is utterly diſſolv'd b Heat or Fire applied to Vegetables in a certain Degree; fo when Vegetables are burnt, the Oil and Water is diſſipated deſtroy'd, whilſt the Salts and Earth remain without any co ſiderable Coheſion.

But ſo far is this gradual Heat from deſtroying this Coheſio of the Particles of Matter, that it increaſes it; and by dryi up the ſuperfluous Moiſture, helps to harden it, and renders more ſolid; juſt in the ſame manner as Bricks, before they committed to the Kiln to be burnt, are dried and hardened the Heat of the Sun.

Thus we ſee how neceſſary a Viciſſitude of Heat and C is to the vegetable World; for without it not a ſingle Pl could grow upon the Face of the Earth: Was the Atmoſph to be always hot, Vegetables would be in a perpetual State Perſpiration, ſo long as the Earth could afford a Supply Juices; but then they could never be enlarg'd, or grow bigg but would be little more than the Neck or Pipe of an Alemb affording only a Conveyance to that Fluid which is forced th them by the Fire. As a Confirmation of this, we may f quently obſerve in very hot Summers, that Plants ſet in a wa Place, much expoſed to the Sun, perſpire themſelves almoſt Death, and grow but very little; whilſt others, planted in Shade, and defended from the too violent Heat of the S increaſe in Bulk conſiderably, and become very large.

Was it always to be cold, Plants would want the Cauſe of their Extenſion, and conſequently not grow at all.

In either of theſe Caſes the whole Brute Creation muſt want Subſiſtence, and conſequently Mankind.

Thus as we were originally miraculouſly formed, we are ſtill ſupported by a perpetual Chain of Miracles; inſomuch that if it pleas'd the ſupreme Being to diſſolve a ſingle Link thereof, an immediate End would be put to the whole Race of Animals upon the Face of the Earth, without having recourſe to a Deluge, or a Conflagration.

Many have been the Diſputes amongſt Naturaliſts concerning the Circulation of the Sap in Vegetables; ſome will have it, that it riſes in Veſſels analogous to the Arteries in Animals, and is again return'd towards the Root by other Veſſels analogous to the Veins; others again are of Opinion, that there is no ſuch Retrogradation of the Sap; and both Parties bring Experiments to juſtify their different Sentiments. For my own Part, I believe there are no peculiar Veſſels in Plants deſtined, like the Arteries and Veins in Animals, for the Flux and Reflux of the circulating Juices; but that the Sap riſes, and in ſome meaſure again retires, by the ſame Veſſels, as both the ſolid and fluid Parts of the Plant are dilated by Heat, and contracted by Cold.

It may not be amiſs to make one more Obſervation concerning the ſtrict Analogy there is betwixt Animals and Vegetables. It is well known to Anatomiſts, that the Bodies of Animals abound with Glands of different Sorts; which are deſtin'd by Nature to ſeparate various Kinds of Liquors from the Blood, neceſſary either for the Preſervation of the Animal, or the Propagation of the Species; thus the Bile or Gall is ſeparated by the Liver, and the Saliva or Spittle by the Glands about the Mouth and Throat. I don't in the leaſt doubt, that there is a Mechaniſm like this in Plants of all Sorts; and that Vegetables are furniſhed with Glands in vaſt Numbers diſperſed all over them, which ſeparate different Liquors from the Sap, according to the Exigencies of thoſe Parts where they are plac'd; and by theſe Glands I apprehend the nutritious Juices of the Earth are converted, if I may uſe that Expreſſion, into the ſpecific Juices of the Plant; which Juices diſtinguiſh every Plant upon the Face of the Earth from every other Plant, as much as their Forms and Complexions.

What we have above call'd, after Dr. *Grew*, the *Parenchyma*, I take to conſiſt of a great Number of Glands deſtin'd to ſeparate a peculiar Fluid from the Sap; and I alſo take the Pith to be a Congeries or Bundle of Glands, tied to each other; or what the Anatomiſts call a conglomerate Gland; and as the Pith is in greater Quantity in proportion, and more juicy, in young Plants, and the young Shoots of Trees, than in old ones, I conclude, that it furniſhes a Fluid abſolutely neceſſary to the Accretion or Growth of the Plant. Now, as the Buds are form'd in, and proceed from, the Pith, if I may be allow'd a Conjecture, do not the Glands of the Pith ſeparate a Liquor neceſſary for the Formation and Support of the Bud? And may not the Apices of Flowers be conſidered as Glands ſeparating the *Farina fœcundans*, for the Impregnation of the Piſtil or Uterus?

I am far from entering into thoſe romantic Notions and Opiions of ſome late Writers, who dream that the firſt Plant of very Species which grow upon the Face of the Earth, conain'd in it every individual Plant, with its Seeds, in Miniature, hich have ſince been propagated from it; for it ſeems to be ore conſiſtent with the general Order obſerv'd by Providence, hat one Plant ſhould, by a particular Mechaniſm, be render'd apable of forming another of the ſame Species out of ſuch Marials as the Juices of the Earth afforded, than that at the reation one Plant ſhould be ſtuffed into another, and another nto that, and ſo on, *ad infinitum*, like a Neſt of Boxes.

We proceed now to make ſome Obſervations on the Flowers: he firſt thing then that occurs worthy of Obſervation in lowers is, that they perform the ſame Office to the generative rgans, as the Leaves do to other Parts of Plants, that is, aw Nouriſhment to them for their Support, by perſpiring; d that they do actually perſpire, and in great Quantities, is rtain; becauſe they tranſmit to our Organs certain Effluvia, hich affect us with that Senſation which we call Smelling. heſe Effluvia are a Portion of the *Spiritus Rector*, or prevailing irit; which is exactly alike in no two Plants of different Sorts, t the ſame in every Branch of the ſame Family, allowing for the ccidents of Soil and Climate, and is inimitable by Art. This *iritus Rector* reſides in the eſſential Oils of Vegetables, and is obably form'd by the fineſt and moſt volatile Parts of theſe eſſen- l Oils, exalted by, and mixt with, the Particles of Light or at, which are embodied with them, and reſide therein in a id Form; and this I the rather believe, becauſe the eſſential s of Plants are of an alcaline Nature, eſpecially thoſe of the matic Kind, which, growing in hot Climates, have a greater portion of the Particles of Fire in their Compoſition. In- ces to our preſent Purpoſe are the Oils of Cloves, Saſſafras, Caraway, which make a violent Efferveſcence, when mixt h fuming Spirit of Nitre. Now, in many Inſtances, Fire renders Bodies it acts upon alcaline, or, however, diſſipates or neutralizes the Acids which they contain. Therefore, as eſſential Oils are of an alcaline Nature, I think it highly probable, that they are render'd ſo by the Particles of Fire, which enter their Compoſition. And when I conſider the extreme Volatility of this *Spiritus Rector*, I am farther confirm'd in the Opinion, that the Particles of Light or Fire are a Part of its Compoſition.

If we wanted an Inſtance to prove the Deſtruction of Acids by Fire, we might find one in moſt Kinds of Fruits, which are originally acid; but this Acid is by Degrees deſtroy'd, and the Juices of the Fruit neutraliz'd, as it imbibes the Particles of Fire, that is, as the Fruit ripens.

I have a few more Obſervations to make upon Flowers with regard to their Colours, which, however various and beautiful, may eaſily be accounted for by the Action of the Acid of the Air ſo often mentioned, upon a Portion of the Oil, or, as the Chymiſts call it, Sulphur of Plants, when expoſed to the Air upon the Surfaces of the Petals or Flower-leaves; and, indeed, if we conſider that the Varieties in Colours depend entirely upon the different Reflexions, Refractions, and Suffocations, the Rays of Light undergo upon the Surfaces of Bodies, 'tis not ſurpriſing that ſo penetrating a thing as the Acid of the Air, acting forcibly upon Sulphur, which the Chymiſts, by a Multitude of Experiments, have prov'd to be the Parent of Colours, ſhould ſo far alter the Diſpoſition and Texture of its Particles, as to produce thoſe beautiful Colours which we obſerve in the Petals of Flowers; and as the moſt minute Difference conceivable in Sulphurs or Oils will alſo make a Difference in the Action of the Acid thereon, the Variegation, or the Variety of Colours in the ſame Flower, may, from theſe Principles, be eaſily accounted for.

A great many Liquors, originally clear and limpid, will, by being expos'd to the Air, become red; and if a Bottle is fill'd half or three Parts full of theſe Liquors, the ſmall Quantity of Air contain'd in the Bottle, though cloſely ſtopp'd, ſhall have this Effect upon them. That this is cauſed by the Air, is very plain; becauſe if another Bottle is fill'd quite full with the ſame Liquors, and guarded carefully from the Air, the Liquors will retain their Limpidity.

And indeed nothing is more common than for Acids to change the Colours of Bodies; thus Nitre, which contains an Acid, and even the acid Smoak of Wood, will make Fleſh intenſely red.

Thoſe who are concerned in the Trade of Dying, obſerve, that a cloudy, moiſt Air, very much interferes with the Vividneſs and Beauty of their Colours; and, on the contrary, a ſerene Sky exalts their Colours, and makes them more elegant. Now, it is certain, that an Acid does not ſo much abound in a moiſt, cloudy Air, as in one which is ſerene.

The Colours of Flowers are alſo liable to the very ſame Accident; for in cloudy, moiſt Weather, they are never ſo vivid and exalted as when the Air is ſerene and dry.

So much has been ſaid already upon the Seeds of Plants, and their Generarion, that 'tis unneceſſary to repeat it in this Place: I ſhall therefore proceed to the Decay of Vegetables.

An annual Plant, when it has once brought the Seed to Perfection, has anſwer'd the End of Providence; and now the Veſſels which bring Nouriſhment to the Leaves being furr'd up, incruſted within-ſide, and render'd impervious, that is, no longer hollow, the Leaves can no more perſpire, but wither and drop off; mean time the Veſſels of the Root and Stem undergo the ſame Fate with thoſe of the Leaves; inſomuch that the whole Plant dies, rots, and helps to ſupply the Earth with a freſh Pabulum or Food for a ſucceeding Generation.

There is a large Claſs of Plants which are called perennial, of which Sort are Trees that live for Ages; theſe, like annual Plants, loſe their Leaves againſt Winter, and for the ſame Reaſon; but then the Sap-veſſels in the Root and Trunk continue pervious or hollow, ſo that even in the Winter a ſort of very languid Circulation is maintain'd, much like that by which Tortoiſes, Snakes, and many Sorts of Inſects, are kept alive during Winter. Theſe, at the Approach of Spring, when the Heat is increas'd, and the Earth has been for many Months laying in a Stock of Pabulum, or Food, for their Support, put out Leaves afreſh, perſpire and grow, till at laſt the Sap-veſſels in the Root and Trunk are obſtructed, and become impervious by Degrees, inſomuch that when the Circulation is entirely ſtopp'd in any Part of it, the Air diſſolves its Texture, and it gradually decays, dies, and rots.

As the Decay of Trees begins in the Middle, this is a ſtrong Evidence, that the Air penetrates into their inmoſt Receſſes; for nothing can rot, unleſs expos'd to the Air. And this Obſervation helps to confirm what we have already laid down in regard to the Air-veſſels of Plants.

I have purpoſely omitted obviating ſome Objections which may be made againſt many things I have advanc'd, (and which I think may eaſily be defended) for fear of being too prolix; and for the ſame Reaſon I have not drawn all the Corollaries that the Subject would have admitted of. As I hope I have led the

Reaſon in a juſt way of Thinking upon theſe Subjects, his own Reflection will ſupply him with many philoſophical and uſeful Truths, which I have either omitted, or, perhaps, not obſerv'd; and the more he pries into the Myſteries of Nature, the more will he adore the Power and Goodneſs of the Supreme Being, who created all Things in the Beginning, and ſtill continues to protect them by a Series of Miracles not leſs wonderful than that of their firſt Creation; otherwiſe the whole Frame of the Univerſe would, in an Inſtant, be utterly diſſolv'd, and all things degenerate into their original Chaos.

There is one Experiment, which ſhould be taken Notice of before we diſmiſs the Subject of Vegetation, which is this: Immerſe the Ends of a Parcel of cylindrical Glaſs Tubes, open at both Ends, in Water, and the Water will riſe in theſe Tubes above the Surface of the reſt of the Water, but always higheſt in the leaſt Tube: Now, as 'tis very likely ſomething of the ſame Nature happens in the Sap-veſſels of Plants, this may be a great Help to Vegetation, and contribute much to the Riſing of the Sap.

I ſhall conclude the Article of Botany with ſome Account of the principal Authors upon the Subject, and to theſe I ſhall add the Names of others who have wrote on the different Parts of the *Materia Medica*, not with a View of giving Information to thoſe who are already acquainted with the Science; but with a Deſign to direct thoſe, who are inclined to be more acquainted with it, to proper Authors. I ſhall alſo explain the Abbreviations of Authors Names generally uſed, and ſpecify the Editions refer'd to in this Work.

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BOTANICON, βοτανικόν. The Name of a Plaiſter deſcribed by *P. Æginet. Lib.* 7. *Cap.* 17.

BOTARGUM. The ſalted Spawn of the Mugil, or Mullet, which are prepar'd in the following manner:

> They take out the Follicles of the Spawn entire, and cover them with rough bruiſed Salt for four or five Hours; after this they put them in a Preſs, between two wooden Planks or Boards, for a Day and a Night: Then they waſh them, and afterwards dry them in the Sun for thirteen or fourteen Days together, taking them into the Houſe at Night.

Others ſay they hang them up in the Smoke, but far enough from the Flame, that they may not be injured by the Vehemence of the Heat.

They excite a decay'd Appetite, and provoke Thirſt, and give a Reliſh to Wine. *Dale*, from *Ray's Ichthyologia.*

BOTHOR is taken by ſome for an Abſceſs of the Noſtrils. *Bothor*, among the *Arabians*, has three Significations; in the largeſt Senſe it comprehends all Tumors; in a more reſtrain'd one, a Tumor with a Solution of Continuity; but, in the ſtricteſt Acceptation, it ſignifies only ſmall Tumors. *Caſtellus.*

BOTHRION, βοθρίον, [a ſmall Ditch] is a hollow or pure Ulcer in the Black of the Eye. *Gal. Def. Med.*

Of Ulcers in the Eye, the hollow and pure one, which is ſeated in the *Cornea Tunica*, is call'd *Bothrion*; but that Ulcer which is wider, but not ſo deep as the *Bothrion*, is call'd *Cœloma. P. Æginet. Lib.* 3. *Cap.* 22. *Actuarius de Meth. Med. Lib.* 2. *Cap.* 7.

BOTIN, *Butino*, Turpentine; alſo the Balſam of Turpentine, when it is gather'd at a certain Seaſon, according to its balſamic Influence. *Rulandus.*

Paracelſus mentions a diſtil'd Botin for extracting the *Flos Æris. Lib.* 10. *Chirurg.*

BOTIUM. A ſtrumous Tumor or Abſceſs in the Throat. *Rulandus.* See BRONCHOCELE.

BOTOTHINUM. An obſcure Term in *Paracelſus*, which he explains by the *Flower of a Diſeaſe*; whence he calls the Gout in the Feet *Locuſta gummata Botothina. Lib.* 2. *de Podagric. Necromantia.*

BOTOU, or BOTOUA. The ſame as PAREIRA BRAVA, which ſee.

BOTRACHOU, βοτράχου, in *Hippocrates*, according to *Galen*'s *Exegeſis*, is written for *Batrachou*, βατράχου, the Genitive of βάτραχος, a Frog; and ſome, he ſays, read it *Batrachou*; ſo βότραχος is expounded in *Heſychius* βάτραχος. *Foeſius.*

BOTRYITES, *Botritis*, βοτρυΐτις, from βότρυς, a Cluſter, properly, of Grapes. A ſort of burnt Cadmia, reſembling a Cluſter of Grapes, and collected from the upper Part of the Furnace where it is burnt; as what is collected in the lower Part is call'd *Placitis*, πλακῖτις. *Gorræus.*

Schroder, *Lib.* 3. *Cap.* 19. ſays, that the *Botryites* is collected in the middle Part of the Furnace, the *Placitis* in the upper, and the *Oſtracitis* in the loweſt.

BOTRYS, Offic. Ger. 950. Emac. 1108. Pharm. Edenb. 4. Raii Hiſt. 1. 196. *Botrys vulgaris*, Park. 89. *Botrys pleriſque Botanicis*, J. B. 3. 198. *Botrys Ambroſioides vulgaris*, C. B. 138. *Botrys ſive Ambroſia*, Cod. Med. 22. *Atriplex odora ſeu ſuaveolens*, Hiſt. Oxon. 2. 605. *Atriplex Chenopodia Ambroſioides folio ſinuato*, Hort. Monſp. 29. *Chenopodium Ambroſioides folio ſinuato*, El. Bot. 406. Tourn. Inſt. 506. Boerh. Ind. A. 2. 90. OAK OF JERUSALEM. *Dale.*

BOTRYS is a Plant all over yellow, ſhrubby, wide ſpreading, and running out into a Multitude of Branches. The Seed grows quite round the Branches; the Leaves are numerous, and much like thoſe of Succory. The whole Plant has a very fragrant Smell, and is for that Reaſon laid among Cloaths. It grows chiefly by the Sides of Precipices, and the Banks of Torrents.

Drank in Wine, it has a paregoric Virtue in the Caſe of an Orthopnœa. The *Cappadocians* call it *Ambroſia*, others *Artemiſia. Dioſcorides, Lib.* 3. *Cap.* 130.

The Leaves of Oak of *Jeruſalem* ſomewhat reſemble the Leaves of the common Oak, whence it derives Part of its

Name; only they are longer and narrower in proportion, and pointed at the End, having the like Inciſions; they are ſomewhat rough, and of a yellowiſh-green Colour, of a pleaſant agreeable Scent. The Stalk is ſtriated, or chanel'd, growing about half a Yard high, much branch'd, and full of the like Leaves. On the Tops of the Branches grow long Spikes, loaded with Bunches of ſmall, round, greeniſh, moſſy Flowers; in which lie very ſmall, round, and black, ſhining Seeds.

This Herb is of a bitter Taſte, and of a ſtrong, but not a diſagreeable Smell: It is of a heating, drying, diſſolving, opening, cleanſing, and purgative Nature. It reſiſts Putrefaction, and is ſingularly efficacious in Oppreſſions, Coughs, and all cold Diſorders of the Breaſt, and Difficulties of Breathing. It is alſo very effectual for diſſipating viſcid Matter lodged in the Thorax, *Hier. Cappivacc. Pract. Medic. L.* 2. *C.* 2. *Hier. Mercurial. Med. Pract. L.* 2. *C.* 2. It opens Obſtructions of the Liver, Kidneys, and Matrix; cures the Jaundice, prevents Dropſies, promotes a Diſcharge of the Menſes and Lochia, and cures Pains of the Uterus and Belly. The *Venetian* Women find the *Botrys* to be a ſure and infallible Remedy againſt hyſteric Fits, both when uſed internally and externally, *G. H. Velſch. Mictomim. ad Societat. Nat. Cur. Cent.* 2. *Obſ.* 35. Fumigations of the Herb itſelf are excellent for provoking the Menſes, and expelling dead Fetuſes, *Dom. Chabr.* The Leaves dried, reduced to Powder, and mix'd with Honey, are excellent for Vomitings of Blood, and Diſorders or Ulcers of the Lungs, *Camerar. in Hort. Med. Matthiolus* informs us, that by this Medicine he cured Patients, who had ſpit up Pieces of their Lungs. A Decoction of the *Botrys*, with Syrup of Violets, is recommended, as good for Abſceſſes, by *J. Heurn. L.* 2. *Meth. ad Prax. C.* 8. In the foreign Shops there is a Conſerve made of the young Leaves, and a Water diſtil'd from the whole Plant when it flowers: Both theſe are very good Medicines in Oppreſſions of the Breaſt, and in Pains of the Belly. A Lohoch of the *Botrys* is recommended as an excellent Medicine for all Diſorders of the Breaſt, by *P. Foreſt. L.* 16. *Obſ. Med.* 4. *in Schol. Guil. Fabr. Hildan. Cent.* 1. *Epiſt. Chirurg.* 49. And the *Syrupus Diabotryos* is, by *Levin Fiſcher. L.* 3. *Corpor. Med. Imper. Tit.* 4. ſaid to be an excellent Medicine for thoſe who are phthiſical. The Herb itſelf, boil'd in any Lixivium, kills Vermin, and carries off other Sordes of the Head, if waſh'd with it. *Joh. Theod. Tabernæmont.* in his *Herb. L.* 1. informs us, that the Seeds of this Herb, if ſown with Corn, kill the little Worms which prove ſo hurtful to it. *Barthol. Zorn Botanolog.*

BOTRYS MEXICANA, Cod. Med. 22. *Botrys Ambroſioides Mexicana*, C. B. Pin. 136. Raii Hiſt. 1. 196. *Botrys Americana*, Park. Theat. 89. *Atriplex odorata ſuaveolens Americana, Mexicanave*, Hiſt. Oxon. 2. 605. *Chenopodium Ambroſioides Mexicanum*, Tourn. Inſt. 529. Elem. Bot. 406. Boerh. Ind. A. 2. 90. *Epazoth, Atriplex odorata Mexicana*, Hern. 159. MEXICO THEA.

This is only found in *Europe*, in the Gardens of the Curious. The Herb and its Root are in Uſe; both which are ſaid to corroborate the Stomach, and to relieve in Aſthmas and Obſtructions. A Decoction of the Root reſtrains Dyſenteries, diſcuſſes Inflammations, and is ſaid to be diſagreeable to poiſonous Animals, and therefore to keep them at a Diſtance. *Dale* from *Hernandez.*

BOTUS, *bocia, botus barbatus.* A Chymical Veſſel, otherwiſe called *Cucurbita.* Alſo a Veſſel upon a Veſſel, a Veſſel for melting, a Crucible. *Caſtellus.*

BOUBALIOS, βουβάλιος, in *Galen*'s Exegeſis on *Hippocrates*, is expounded by σίκυς ἄγριος, a wild Cucumber. But βουβάλιος, in *Heſychius*, is expounded the wild Cucumber in *Hippocrates*, and alſo the *Pudendum Muliebre.*

BOUBON, Βουβὼν, in *Hippocrates*, ſometimes ſignifies the Groin, and the Place where the Thigh-bone and Hip-bone meet; ſometimes it means the Glandules on either Side, and a Tumor and Inflammation of the ſame. Hence the Appellation has been transferr'd to Tumors or Inflammations in the Glandules of the Neck and Arm-pits, which are ſometimes called Βουβῶνες. Places to this Purpoſe are very frequent in *Hippocrates*, as in his Books, *de Epid. Coac.* and *Lib.* 2. *de Morbis*; alſo in *Aretæus* and *Galen.*

Βουβὼν is alſo taken univerſally for an Inflammation of a Glandule of any kind, whether it be in the Neck, in the Arm-pit, in the Groin, or behind the Ears; as ὁι ἐπὶ βουβῶσι πυρετοὶ, “ Fevers proceeding from Buboes,” (Inflammations of the Glands) *Aph.* 55. *Lib.* 4. and *Lib.* 4. *Epid.* So *Lib.* 2. *Epid.* ὁι ἐπὶ πυρετοῖσι βουβῶνες κακόηθεοι, “ Buboes from Fe-“ vers are of a worſe kind.” *Galen* alſo *Meth. Med. Lib.* 13. ſays, ὀνομάζουσιν δὲ τοὺς ἐξαρθέντας ἀδένας βουβῶνας, “ they “ call Tumors of the Glands *Buboes.*” And in his firſt Book *de Diff. Febr.* βουβὼν ἐκ τοῦ γένους ἐστὶ τῶν φλεγμονῶν, “ a “ Bubo is a kind of Inflammation.” See BUBO.

BOUCERAS, Βούκερας, from βοῦς, an Ox, and κέρας, an Horn, in *Galen*'s Exegeſis, is expounded ἡ τῆλις, Fenugreek; to which he adds, that *Mnethrus*, in the Titles of Medicines, thought that Anagallis came under that Name. It is alſo called Βουκέρως, by Contraction from Βουκέραος, in *Theophraſtus.* And *Pliny, Lib.* 24. *Cap.* 19. ſays it is called *Telis*, by ſome *Carphos*, by others *Buceras*, by others *Ægoceras*, becauſe its Fruit is corniculated, by us (*Latins*) *Silicia. Columella* calls it *Siliqua*, becauſe its Pods reſemble thoſe of the *Siliqua. Heſychius* ſays, that Βούκερας ſignifies τὸ σπέρμα τῆς τήλιος, “ the “ Seed of Fenugreek.” The Word is uſed by *Hippocrates* (*Lib.* 1. περὶ γυναικ.) ϗ βούκερας, ἢ πτισσάνης πυρίνης μᾶλλον χυλός· “ and Fenugreek, or rather the Juice of Ptiſan made “ of Wheat.”

BOVILLÆ, with the antient Phyſicians, were the ſame as the *Morbilli*, or Meaſles, with the Moderns, in the Opinion of *Raym. Vinarius de Peſte, Lib.* 3. *Caſtellus.*

BOVINA AFFECTIO. A Diſeaſe among Black Cattle, cauſed by a Worm lodged between the Skin and the Fleſh, and perforating the ſame.

Something analogous to this is a cutaneous Diſorder, with which ſome ſcorbutic Conſtitutions are frequently affected. It ſeems to be owing to an Obſtruction of the perſpirable Matter, which concretes in the Pores of the Skin, and forms a ſebaceous Subſtance, reſembling a Worm with a black Head, which may be ſqueez'd out; and ſometimes cauſes a ſmall Suppuration, and is diſcharg'd along with the Pus. I never heard of theſe being attended with any great Inconvenience. But as they are Blemiſhes, I have given a Preparation of Gall, which is ſaid to cure them, under the Article BILIS, from *Homberg.*

BOVISTA. The ſame as LYCOPERDON, which ſee

BOULIMUS, βούλιμος, from βοῦ, a Particle which in Compoſition augments the Senſe, and λιμὸς, Hunger, is a Diſeaſe which cauſes a Deſire of Food at very ſhort Intervals. Perſons thus affected faint, and fall down, loſe their Colour, are cold in their extreme Parts, feel Oppreſſion at their Stomachs, and have a weak Pulſe. *Galen. Def. Medicæ.*

Boulimos, as the Name itſelf indicates, is *a great Hunger* It proceeds, as Reaſon ſeems to inform us, from the immoderate Heat and Weakneſs of the Mouth of the Stomach which cauſes the Patients, unleſs ſupported with an exceſſiv Quantity of Food, to faint and fall down; under which Mi fortune there is hardly any ſo ignorant, but knows how to hav recourſe to ſuch Smells as are proper to recal and recolle the diſſipated vital Spirits. Among ſuch Things as remarkab affect the Senſe of Smelling, it is uſual to offer Bread ſopp in Wine, roaſted Swines Fleſh, or Kid, and, in genera all ſuch things as have a nidorous and well-ſavour'd Sme They compreſs the Extremities, prick them in every Part, r their Ears, and pull them by the Cheeks, and by the Ha When they are come to themſelves from the Lipothymy, t moſt proper Thing to be given them in the firſt Place, Wine, and, after that, other Food. In our future Manag ment, we are to reſtore them by ſuch Meats as are of good a quick Nutrition, but difficult of Alteration and Digeſtio they are alſo to be treated with ſuch things as refrigerate a ſtrengthen; by this Method they are greatly benefited, a in Proceſs of Time, are reſtored to a good Temperame Some for a *Boulimos* have given Opium in cold Water, order to allay the exceſſive Heat; but I would adviſe you be cautious how you give Opium, but rather let the Patie take ſuch Food as is difficult of Concoction and Alteration. knew a Woman who eat a vaſt Variety of Meats, and in i moderate Quantities, and digeſted them all, and never ſaid was ſatisfied, but felt a Gnawing at her Stomach, and a P in her Head; at laſt, ſhe took the Cathartic Powder, ca *Hiera*, which brought away from her by Stool a Worm poſed to be above twelve Cubits in Length; after which immoderate and furious Appetite ceaſed, and it appear'd, it was not a *Boulimos*, but this miſchievous Animal, w compelled her to take ſuch Quantities of Food, and conſ it all. *Alex. Trallianus, Lib.* 7. *Cap.* 4.

Paulus Ægineta gives much the ſame general Account *Boulimos*, as this of *Alexander*'s.

In the *Caninus Appetitus*, there is a Deſire after much F and great Quantities are eaten, which, oppreſſing the Stom are again diſcharg'd by Vomit: The Patient being thus lieved, his Appetite returns, which having gratified, he himſelf obliged to eaſe his Stomach again, like a Dog, by miting.

Oftentimes this Diſorder has procur'd a *Boulimos*, a *Sopor*, a Lientery, Dropſy, Atrophus, and Death itſelf.

In a *Boulimos*, the Patients at firſt labour under a Hunger, which however, does not laſt long. At every alſo they faint away, and at the ſame time their Breath them; in which Caſe a Syncope may be feared to be at H followed by Death. *Lommii Med. Obſ.*

Boulimos is ſometimes called *Phagedæna*, φαγέδαινα, is alſo a Name for eating, ſpreading Ulcers; and *Fames na*, becauſe the Perſons affected have their Appetites mently ſet upon their Food, after the manner of Dogs.

It is to be obſerv'd, that ſome make a Diſtinction be *Boulimos* and *Fames canina*, whereas others take them fo ſame. The former ſay, that in the *Fames canina* the Patient is taken with Vomiting, as Dogs are, after eating too great a Quantity of Food; tho' ſome are ſeized with a Flux of the Belly inſtead of Vomiting, Nature that way diſcharging the Superfluity of Aliment, which the Stomach was incapable of digeſting; but the *Boulimos* is not attended with Vomiting, but ſometimes with a Lipothymy. Some there are who labour under this inſatiable Deſire of eating, and yet are not moleſted with Vomiting, nor a Flux; but throughly digeſt all the Food they take, and are ſick if they are not readily ſupplied with more. *Sennertus* relates a Story of a Student, a Man of a black Complexion, who would be eating not only in the Day-time, but in the Night, and perfectly digeſted whatever he took, without Vomiting; nay further, he could not be ſatisfied with delicate Food, but long'd for coarſer; for which Reaſon he did not eat ſuch Bread as was made by the Bakers, but what was bak'd by the Peaſants in the neighbouring Villages, as being more ſolid and ſubſtantial. He would often eat a great Number of raw Garden Parſnips in the Morning, without the leaſt Injury.

Galen makes the immediate Cauſe to be, firſt, a vicious and acid Humour ſtimulating the Stomach; and, ſecondly, a want of Nouriſhment from too great a Digeſtion.

The vicious Humours lodged in the Stomach excite an immoderate Hunger, becauſe by their exceſſive Coldneſs, Acidity, and Auſterity, they cauſe a Conſtriction, Corrugation, and Vellication of the Mouth of the Stomach, and ſo excite a Senſation like that of natural Hunger.

The perpetual Craving after Food is ſometimes owing to a Defect of Nouriſhment, on account of exceſſive Evacuations, by a Hæmorrhage, Flux of the Belly, Vomiting, Sweating, or the like, or from too great a Conſumption of the alimentary Subſtance, effected by the immoderate Heat of the Parts, the Thinneſs of the Humours, the rare Contexture of the Body, and Laxity of the Pores, want of Sleep, Bathing, immoderate Exerciſe, or exceſſive Venery; all which Things cauſe a great Diſſolution of the alimentary Matter, and conſequently a great Inanition, and want of Nouriſhment; whence the Food is hurry'd out of the Stomach with greater Speed than it ought to be.

Sometimes this Affection is owing to Worms conſuming the Chyle, as in the Caſe related by *Trallian*.

The diagnoſtic Signs of this Diſorder are ſufficiently evident, as well to the Patients as Attendants, who cannot but obſerve a depraved and exceſſive Appetite, which compels them to receive into their Stomachs an immoderate Quantity of Victuals, which afterwards proving burdenſome and oppreſſive to Nature, are thrown up again by Vomiting, in which Caſe the Diſtemper is the *Fames canina*; or, if there be no Vomiting, the Patient is ſeized with a Lipothymy, and then it is a *Boulimos*.

The different Cauſes of this Diſtemper are diſtinguiſhable by the Circumſtances, which are antecedent, attendant, and conſequent to it. Acid Evacuations and Vomitings, crude Stools, and want of Thirſt, are Signs of an Acid abounding in the Stomach. In Defect of Nutrition, the Patients are emaciated; and laſtly, the Signs of Worms are to be taken from their proper Symptoms.

As to the Prognoſtics of this Diſorder, if it depends wholly on external Cauſes, there is no Danger, provided theſe are ſpeedily remov'd; and what proceeds from Worms carries but little Danger in it, becauſe their Effects ceaſe as ſoon as they are deſtroy'd. In Pregnancy, where an inordinate Appetite is frequent, there is no Danger to be apprehended from it.

But the Diſtemper is very dangerous when followed by large Evacuations or Colliquations of the Body; and eſpecially, when after receiving Food, while the Stomach is yet full, the Patient is ſeized with fainting Fits; for when thoſe Things, which ought to give moſt Relief, prove of none or ill Effect, it is a Sign of a great Diſorder in the Tone of the Stomach.

So alſo the canine Appetite, when the Vomiting or Flux is obſtinate, is not void of Danger; for it commonly degenerates into a Cachexy, Dropſy, Lientery, Atrophy, and other fatal Diſtempers.

For the therapeutic Part, ſince the *Fames canina* generally takes its Riſe from redundant Humours inherent and lodging in the Stomach, we are to uſe evacuant and alterative Remedies, not omitting ſuch as are proper to ſtrengthen the affected Part.

Evacuation is to be perform'd either by Vomits or Purges, and that by means of ſuch Remedies as are proper for thoſe who labour under a want of Appetite; for, though theſe Affections are contrary one to another, yet they are uſually produc'd by the ſame Humours, differing only in Degrees of Frigidity, and ſome very different ſecondary Qualities which affect the Stomach after a different manner. A Remedy of this Kind, which is very much commended by *Galen*, is *Hiera* made into Pills, in the following manner.

> Take of choice Aloes macerated [*nutritæ*] in the Juice of Wormwood, one Dram; Troches of Agaric, two Drams; Rhubarb pulverized, and ſprinkled with White-wine, one Dram; Nutmegs and Spikenard, each half a Dram; Salt of Tartar, Maſtich, and Cinnamon, each one Scruple; and with Syrup of Wormwood make them into a Maſs for Pills, ſix of which gilt are to weigh a Dram, and are a Doſe in the Morning, if the Patient has a mind to purge thoroughly; or three of them may be taken two Hours before Dinner, two or three times in a Week.

Such Remedies alſo as heat and ſtrengthen the Stomach, both internal and external, are of very great Service: Of this Nature are Syrup of *Pontic* Wormwood, taken to the Quantity of an Ounce in the Morning faſting, for ſome Days together; or, inſtead thereof, Wormwood-wine may be ſubſtituted. Or,

> Take Conſerve of Roſemary-flowers, Mint, Lemon-peel preſerved, Nutmegs preſerved, each half an Ounce; Chebule Myrobalans preſerved, Number one; Confectio Alkermes, three Drams; the inner Membrane of Hens Gizzards prepared, two Drams; Cinnamon pulverized, and Aromaticum Roſatum, each one Dram; make them into an Opiate with Syrup of Mint, or into a Conſerve with Sugar of Roſes. Let it be uſed in the Morning, drinking after it a little generous Wine.

Salt of Wormwood, or Chymical Oil of Mint, may very properly be added to the above-recited Remedies: Or,

> Take of Salt of Wormwood, and Orange-peel, or either of them, half a Dram, and take them in Wine or Broth.

The following Mixture is alſo very effectual:

> Take of Syrup of Quinces, and preſerved Lemon-peel, each two Ounces; Cinnamon-water, one Ounce; Oil of Sulphur, twelve Drops; mix, and give a Spoonful at proper Intervals.

In a very great Frigidity of the Stomach, Cinnamon-water by itſelf is of excellent Uſe; or it may be mixed with Syrup of Wormwood, of Mint, or of Coral, to which Ambergriſe may properly be added.

External Remedies are Fomentations, Liniments, and Plaiſters, ſuch as the following.

> Take of the Root of Cyperus, Galangal, Florentine Orris, dry'd Lemon-peel, each two Ounces; the Leaves of Mint, Hyſſop, Sage, Roſemary, and Marjoram, each one Handful; Anniſeeds, Bay-berries, Nutmegs, Cloves, and Cinnamon, each three Drams; Flowers of Stœchas, Schœnanth, and Roſemary, each one Pugil: Cut and bruiſe them, and incloſe them in two Bags, which muſt be macerated in generous Wine, and by turns applied warm to the Stomach. Or,

> Take Oil of Wormwood, Oil of Mint, and of Hops, each half an Ounce; Oil of Nutmeg, two Drams; Lignum Aloes, Mace, Cinnamon, each a Scruple, with a little Wax; make a Liniment. This may be improved by adding of Oil of Cloves, ſix Drops; of Muſk and Ambergriſe, each ſeven Grains: Or a Liniment may be made of Oil of Nutmegs, and Balſam of *Peru*; or of Oil of Wormwood, and Balſam of *Peru*.

For a Plaiſter.

> Take Maſtich, one Ounce; Aromaticum Roſatum, one Dram; Oil of Nutmegs, a ſufficient Quantity; mix, and make a ſcutiform Plaiſter, which apply to the Region of the Stomach.

Crato greatly recommends the following Plaiſter:

> Take of Ladanum, two Ounces; Wax, four Ounces; Oil of Nutmegs, three Drams; make them into a Maſs for a Plaiſter, and add of Tacamahac and Maſtich, each one Dram.

Galen, Lib. 7. *Meth. Med.* adviſes not to ſuffer Plaiſters of this kind to continue long on the Place, becauſe by long Continuance they diſſolve the natural Heat.

Beſides the above-mention'd Medicines, pure Wine alone, drank in ſufficient Plenty, is a moſt powerful Reliever of Hunger, according to the Aphoriſm of *Hippocrates*, 21. *Sect.* 2. And the Spirit of Wine, commonly called *Aqua Vitæ*, has ſtill a more powerful Effect that way.

Such Medicines as mightily relax and moiſten the Stomach, and correct the Acidity of the Humour, have a peculiar Virtue, in taking off the Senſe of Hunger. Of this Sort are all pinguious and oleaginous Things; as Fats, Oils, and the Extremities of Animals. Thus *Villanovanus* relates, that a certain Man, affected with this Diſorder, eat hot Bread dipt in Lees of Oil; and that a Woman, in the like Caſe, drank twice the melted Fat of Beef with a like Quantity of hot Oil; and that both theſe Patients contracted ſo great a Loathing of Food, that neither of them eat any thing for five Days, and ſo got rid of their Diſtemper.

Narcotics, by blunting the too exquiſite Senſe of the Stomach, have a Virtue of moderating the *Fames canina*. Among other Remedies of this ſort, *Venice* Treacle, when new, is of common Uſe; becauſe, beſides its narcotic Virtue, it has a Power, as an Alexipharmac, of correcting the malignant Quality of the Humours, which ſome ſuppoſe to belong to this Affection.

But, becauſe Narcotics are ſeldom, and never without Neceſſity, to be uſed, old *Venice* Treacle is to be uſed at other times, as well for the Reaſons above given, as for the ſake of corroborating the Parts.

Ambergriſe to the Quantity of five or ſix Grains, taken in a poach'd Egg, not only ſtrengthens the Stomach, but is ſuppoſed to be endu'd with a ſpecific Virtue againſt this Diſeaſe. *Riverius, Prax. Med.*

So far *Riverius*; and it muſt be confeſs'd, that the moſt rational Way of curing a Diſorder, which is caus'd by an acrid Humour irritating the Stomach, is, firſt, to evacuate ſuch Humour, or correct its Acrimony; and then to reſtore the Stomach, and the Organs employ'd in Digeſtion, to their natural Tone and State, that no more may be generated.

BOUNIAS, βυνίας, a Species of *Napus*, which has a round Root, and delights in βύνεις, or rugged Places. *Blancard.* See Bunias.

BOUSTHE, βύσθη, a corrupt Word, tho' found, as *Foeſius* ſays, in all the Copies of *Hippocrates*. It is in a Paſſage of his παραγγελίαι, which is, αἰτήσαιμι δ' ἂν θαρσαλέως βύσθην. Here plainly appears, ſays *Foeſius*, a Miſtake, and all Tranſlators read it βοηθεῖν, rendering the Place thus: "I would with "Confidence aſk Aſſiſtance," or, "I would confidently de"ſire them to give their Aſſiſtance." For the Subject of the Diſcourſe are thoſe Phyſicians, who, being deſtitute of a Method of curing, inſinuate themſelves into popular Favour by pompous Words. With ſuch Phyſicians *Hippocrates* declares himſelf unwilling to hold a Conference concerning a Method of Therapeutics, but rather deſires Aſſiſtance from them, or calls upon them to perform, by their Actions, what they ſo confidently pretended to by their Words.

BOXUS, Miſleto, growing on Trees, ſuch as Miſleto of the Oak. *Caſtellus from Dornæus.*

BRABE, in *Oribaſius*, is an Herb, a Cubit high, ſhooting forth thin Branches on both Sides, with Leaves like thoſe of Dittander, but ſofter and whiter. At Top it bears an Umbella like that of Elder, with white Flowers. *Oribaſ. Med. Coll. Lib.* 11.

BRABYLA, τὰ βράβυλα, large, ſweet, black-azure Plums, commonly call'd *Damaſcene* and *Hungarian* Plums. They are reckon'd by *Galen, Lib.* 2. *de Alim. Fac. cap.* 38. amongſt Aliments which afford but little Nouriſhment to the Body, and are of bad Juice; but the boil'd Juice is accounted amongſt Stomachic Medicines by the ſame Author, *Lib.* 6. *de C. M. S. L. cap.* 2.

BRACHERIUM. A Surgeon's Bandage and Truſs for an Hernia. *Caſtellus. Scultetus* gives Figures of two of theſe, *Tab.* 39. *Fig.* 6. and 7. of his *Armamentar. Chir.* printed 1657.

BRACHIA, βραχίονες. The Branches of Plants, eſpecially Trees; ſo call'd becauſe they are extended like the *Brachia* (Arms) of a Man. *Blancard.*

BRACHIÆUS. There are two Muſcles which go by this Name. The firſt is the *Brachiæus internus.*

This derives its Name from its Situation, lying partly under the Biceps. It ariſeth fleſhy from the internal Part of the Os Humeri, at the Inſertion of the Deltoides and Caracobrachialis Muſcles; and, deſcending over the Juncture of the Cubit with the Arm-bone, it's inſerted, partly fleſhy, and partly tendinous, to the ſuperior and fore Part of the Ulna. This helps to bend the Arm.

The ſecond is the *Brachiæus externus.* This ſeems to be the third Beginning of the Gemellus. Its Origination is continu'd from above the Middle of the Inſertion and back Part of the Os Humeri to its Cavity, which receives the Olecranum in the Extenſion of the Cubit, where, joining with the tendinous Outſide of the Gemellus, it is inſerted into the ſuperior and external Part of the Ulna, call'd Olecranum, and Ancon, or the Elbow. *Cowper.* See Gemellus.

BRACHIALE. The ſame as Carpus, which ſee.

BRACHIUM, βραχίων, in *Hippocrates*, ſignifies the Bone which lies between the Cubit and the Joint of the Shoulder. *Galen, in the Beginning of his ſecond Comment on Hippocrates of Fractures.*

But the fore Arm, as we expreſs it, the *Avant Bras* of the *French*, ſignifies properly that Part of the ſuperior Extremities which lies betwixt the Elbow and Wriſt.

That the Reader may not lie under a Neceſſity of turning to too many different Articles, for an Account of the Parts belonging to the Arm, I ſhall, in this Place, take into Conſideration the entire ſuperior Extremities, and deſcribe particularly the Bones, Cartilages, and Ligaments, belonging to theſe.

The Os Humeri, or Bone of the Arm, is both longer and thicker than any other Bone of the upper Extremity. It is ſituated under the Acromium, along the lateral Part of the Thorax, from which, however, it may be remov'd to a conſiderable Diſtance in all Directions. Its Figure is irregularly cylindrical, and it is thick at one End, and broad at the other.

It is divided into the Body and two Extremities, or into an upper, middle, and lower Part.

The upper Part is generally call'd the Head of the Os Humeri, and the Part immediately below that, is call'd the Neck.

In the Head, we conſider a Half-globe obliquely inclined, cruſted over with a ſmooth Cartilage; two Tuberoſities, one large, terminating upward in a Point, over-againſt the Half-globe; the other ſmall, placed laterally between the large one and the Half-globe: A Chanel or Groove between the two Tuberoſities; four muſcular Impreſſions, three of which are on the large Tuberoſity, one in the Apex, one on the Side oppoſite to the Grove, and the third lower down on the ſame Side, over-againſt the ſmall Tuberoſity upon which the fourth is found. Of theſe four Impreſſions, that on the ſmall Tuberoſity, and the ſecond of the other three, are the largeſt. All theſe Parts of the Head of the Os Humeri, are one Epiphyſis in Children, of which very plain Marks remain ſometimes in an advanc'd Age.

The Chanel, or Groove, between the two Tuberoſities, i continu'd downwards, in an oblique Direction, thro' one Quarter of the Length of the Bone; and there becoming rough, i forms a muſcular Impreſſion, not always equally ſenſible. Th Edges of this Chanel are two Ridges, or prominent Lines, continu'd down, as it were, from the two Tuberoſities. Tha from the great Tuberoſity is the moſt conſiderable, and is continu'd down to the Middle of the Bone, where it is loſt in long, broad, rais'd muſcular Impreſſion, more or leſs rough The other, which comes from the ſmall Tuberoſity, is le prominent, and ſhorter. At the Side of this Ridge, towar the lower Part, are two other narrow, longitudinal, and ſupe ficial muſcular Marks, one above the other, the lower Extre mity of the firſt reaching down on the fore Side of the upp Extremity of the ſecond.

The middle Part, or Body of the Os Humeri, comes neare to a cylindrical Figure than the Extremities. It is a little rais' at the rough Eminence, or Impreſſion, already mention'd. O each Side of this Eminence is another muſcular Impreſſion, which uniting immediately below it, it appears to be incloſ' between them as between the two Prongs of a Fork. On tha Side which anſwers to the Middle of the Half-globe, we ſe likewiſe a longitudinal muſcular Mark; and about the Middl of that Side which is even with the great Tuberoſity, there i an oblique hollow Turning, of a conſiderable Length an Breadth, which, running down by the Side of the fork'd Impreſſion, makes this Part of the Bone appear contorted.

The lower Extremity of the Os Humeri is triangular fro its very Beginning, and from thence grows very broad and fla being bent a little near the End, towards that Side which anſwers to the ſmall Tuberoſity in the upper Extremity. It is divided into three Sides, two anterior, and one poſterior, whic is the broadeſt; and into three Angles, one anterior, and tw lateral.

At the End of this broad Extremity are two Tuberoſities; on ſhort and prominent, anſwering directly to the Middle of th Half-globe; the other oblong, rough, and reſembling a Criſta which anſwers to the Apex of the great Tuberoſity of th Head. The ſhort Tuberoſity is call'd the internal Condyle the other the external Condyle.

Between theſe two Condyles, on the very loweſt Part of th concave Side of this Extremity, are two articular Eminence one double, like a Pully, next the ſhort Condyle; the oth rounded, like a ſmall Head, next the long Condyle. T Pully has a great and ſmall Edge, with a Depreſſion betwe them. The ſmall Edge is loſt in the round Eminence, Head; the great one is gradually widen'd, and ends in a ſha Circumference. This Pully is ſituated obliquely; for, on th concave Side, it approaches toward the ſhort Condyle, an on the other, it is turn'd from it.

Three Foſſulæ are likewiſe obſervable in this lower Part the Bone; two anterior, one immediately above the Pully, t other above the ſmall Head; and one poſterior, which is ve large, and ſituated likewiſe immediately above the Pully. Children, the Pully, the ſmall Head, and the ſhort Cond are Epiphyſes.

Th

The outer Subſtance of this Bone is compact, eſpecially in the middle Part, within which there is a large tubular Cavity, containing a reticular Texture of bony Filaments. The Outſides of the Extremities are leſs ſolid, and their inner Subſtance is cellulous.

The particular Situation of this Bone deſerves well to be conſider'd, becauſe we are often miſled in forming an Idea of it, by viewing the Bone itſelf ſeparated from the Trunk of the Body, by the Figures which have been given of it, and by the undue Application of the Terms External, Internal, Anterior, and Poſterior, to the different Parts thereof; which Miſtakes may be of very bad Conſequence in many chirurgical Caſes.

When we examine the Os Humeri, as lying along either Side of the Trunk, in its natural Situation, the Head will be found ſo diſpos'd, as that the Half-globe is turn'd inward and backward, anſwering to the Situation of the Glenoide Cavity of the Scapula, the great Tuberoſity outward and forward, the Chanel between the two Tuberoſities almoſt directly forward, the long Condyle, ſaid commonly to be external, turn'd as much forward as outward, and the ſhort Condyle, call'd the Internal, turn'd as much backward as inward.

This Bone is articulated above with the Glenoide Cavity of the Scapula, by Enarthrodia, which is much plainer in the freſh Bones than in the Sceleton; and below, with the two Bones of the fore Arm.

The Uſes of this Bone are generally well enough known. The Explication of all its different Motions preſuppoſes the Knowledge of the freſh Bones, and of their Ligaments and Muſcles.

The BONES *of the* FORE ARM; *and, firſt, the* ULNA.

The fore Arm is made up of two long Bones, whereof one nam'd Cubitus, or Ulna; the other Radius.

The Ulna is irregularly triangular, diminiſhing in Thickneſs om one End to the other. It may be divided into the Body or iddle Part, and two Extremities, one great, the other ſmall.

In the great Extremity we obſerve two Eminences, one large, l'd Olecranum or Ancon; the other ſmall, call'd Corone, or Coronoide Apophyſis; and two Semilunar or Sigmoide Caties; one great, the other ſmall.

The Olecranum is a large Apophyſis ending in a rough Tubeity, and an obtuſe Point. The Tuberoſity makes the Corner the Elbow; the Point is lodg'd in the poſterior Cavity of lower Extremity of the Os Humeri, when the fore Arm is ended. Next under the Tuberoſity is a flattiſh, oblong, ngular Surface, on the Outſide of which is another of the kind, but longer, and a little hollow, together with a ſcular Foſſula.

The Coronoide Apophyſis is prominent, and a little point- reſembling a broad ſhort Beak. It is receiv'd into the ante- Cavity above the Pully, at the lower Extremity of the Humeri, when the fore Arm is bent.

The great Sigmoide Cavity lies directly between theſe two inences, reaching from the Point of one to the Point of the r. It is articular, cover'd with a ſmooth Cartilage, and ded thro' its whole Length by a middle angular Line; being ſuited exactly to the Pully of the Os Humeri, upon which noves obliquely; theſe two together making a moſt perfect glymus, as well in reſpect of their Structure as of their . The Half-cavities on each Side the angular Line are alſo ded tranſverſly by another Line a little hollow, which tertes at the Middle of each Edge of the Cavity, by a very l Notch.

The ſmall Sigmoide Cavity, which may likewiſe be term'd verſe or lateral, is a ſort of tranſverſe Notch in the inferior ion of one Edge of the great Sigmoide Cavity, at the Side e Coronoide Point, directly oppoſite to the muſcular Foſ- already mention'd. It is cover'd with a Cartilage as well e great one, of which it appears to be a true Continuation, t belongs to the Articulation of the Radius. Near this Ca- directly under the Coronoide Apophyſis, there is a very muſcular Impreſſion, ſometimes rais'd like a Tuberoſity.

is upper Extremity is oblique, and its Obliquity anſwers to f the Pully in the Os Humeri.

e ſmall Extremity is cylindrical, of a leſs Diameter than other Part of the Bone. It may be reckon'd a kind of , ending in an inverted Head, flat at Top, and of a cy- al Circumference, both which are cover'd with the ſame h Cartilage; and the Circumference is broader on the Side Coronoide Apophyſis, and ſmall Sigmoide Cavity, than here elſe. From the Head runs down a ſhort Styloide hyſis, on the Side of the Tuberoſity of the Olecranum, uiſh'd from the reſt of the Circumference by a ſmall

e middle Portion, or Body of the Ulna, is divided into Sides and three Angles. One of the Sides is narrow and d, one broad and hollow, and the third flat, and mark'd n oblique Line on its upper Part. The narrow Side an- o the Tuberoſity of the Olecranum, and is cover'd only common Integuments. The other two Sides are diſtin- from the former by two blunt Angles; and they unite at a ſharp Angle, which lies oppoſite to the rounded Side, and anſwers to the Point of the Coronoide Apophyſis. The hollow Side is even with the ſmall Sigmoide Cavity, and the flat Side oppoſite to it. Theſe two Sides give Inſertions to many Muſcles; and the ſharp Angle, to what is call'd the Interoſſeous Ligament. At the Top of this Angle there is a narrow, oblong, muſcular Impreſſion. The Angle common to the rounded and flat Sides ends below in an oblong, uneven, muſcular Eminence.

The Subſtance of the Ulna is much the ſame with that of the Os Humeri, already deſcrib'd. The Tuberoſity of the Olecranum, and the ſmall interior Head, with its Styloide Apophyſis, remain for a long time Epiphyſes in ſome Subjects.

It is connected with the Pully of the Os Humeri, by an angular Ginglymus; with the two Extremities of the Radius, by a compound lateral Ginglymus; and with the Hand, by Ligaments, and not by Articulation.

The Situation of this Bone may be conſider'd two ways; either when the fore Arm is extended, and lies along the Side of the Trunk, or when it is bent, and lies on the lower Part of the Breaſt. The firſt Situation appears to be moſt commodious for determining what Parts of the Bone are to be call'd anterior, poſterior, ſuperior, inferior, external, and internal; but the ſecond ſeems moſt natural, as being the moſt common in living Bodies, whether ſitting or ſtanding, and has accordingly been follow'd by ſome of the Antients.

The RADIUS.

The Radius is nearly of the ſame Length with the Ulna, bigger at one End than at the other, irregularly triangular, a little bent, and ſituated along the Side of the Ulna. Its Name is taken from the Reſemblance it bears to the Spoke of a Wheel.

We are to conſider in the Bone two Extremities, and a middle Portion. One Extremity is ſmall, and like a kind of Head ſet upon a Neck; the other is large, reſembling a Pedeſtal or Baſis; and therefore it might be divided into a Head, Body, and Baſis.

The Head, or ſmall Extremity of the Radius, is very ſhort or low, the Top of it is concave, and the Circumference cylindrical; and both the Glenoide Cavity and the Circumference are cover'd with the ſame ſmooth ſhining cartilaginous Cruſt; and about one Quarter of the Circumference is broader than the reſt. The Neck is ſmall, and its Situation a little oblique. It ends by a lateral Tuberoſity, which lies directly under the broad Part of the Head, being rough in the Middle and on one Side, and ſmooth and ſuperficially cartilaginous on the other.

The Baſis, or great Extremity of the Radius, is much broader than it is thick, and has two broad Sides, and one narrow. One of the broad Sides is a little hollow, and pretty even; the other is unequally convex, and divided by longitudinal Eminences, or bony Lines, into three or four longitudinal Chanels, much more diſtinct in freſh Bones than in the Sceleton. The narrow Side is concave lengthwiſe, and between its Edges, and thoſe of the two broad Sides, two Angles are form'd; by which the three Sides are diſtinguiſh'd; and, oppoſite to it, the broad Sides form a common Edge, and a third Angle. This narrow Side ends in a ſemilunar Cavity, border'd with a ſmooth Cartilage, and lying almoſt in the ſame Direction with the Tuberoſity. The broad Sides end at their common Angle, by an obtuſe Point or Production, which has been call'd the Styloide Apophyſis of the Radius, and is really a Continuation of one of the bony Lines.

The whole Baſis ends in an oblong, triangular, Glenoide Cavity, the Cartilage of which is continu'd over the hollow Edge of the narrow Side. This is an articular Cavity, reſembling an Arch, and ending on one Side at the Styloide Apophyſis, and hollow'd on the other, by the Cavity of the narrow Side. It appears divided into two Portions by a ſmall tranſverſe Line, and in the natural State the hollow'd Side is lengthen'd out by a cartilaginous Production, the Deſcription of which belongs to the Hiſtory of freſh Bones.

The Middle, or Body of the Radius, is a little incurvated, the Concavity lying between the Tuberoſity in the Head, and ſemilunar Cavity in the Baſis. It has three Sides, one rounded, which forms the convex Side of the Curvature, and two concave; three Angles, two of which are obtuſe, diſtinguiſhing the two concave Sides from the convex; and the third ſharp, lying between the two concave Sides, oppoſite to the convex Side. In each of theſe Sides there are ſeveral muſcular Marks.

The Subſtance of this Bone is like that of the Ulna. The Head and Baſis are Epiphyſes in Children, and, in ſome Subjects, remain ſuch for a long time afterward.

The Radius is connected with the Ulna, the Os Humeri, and Carpus. It is articulated with the Ulna, at its two Extremities, by a double lateral Ginglymus; the cartilaginous Circumference of the Head turning in the ſmall Sigmoide Cavity, and the ſemilunar Cavity in the Baſis turning upon the ſmall Head, at the lower Extremity of the other Bone; and thus the ſmall Extremity of one Bone is join'd to the great Extremity of the other.

It is articulated with the Os Humeri, by the Application of the Cavity in the Top of its Head to the ſmall Head at the lower Extremity of the other Bone. By this Conformation it would be capable of moving in all Directions; but, as it is ty'd to the Ulna at both Extremities, its Motions on the ſmall Condyloide Head, at the lower Extremity of the Os Humeri, are confin'd to two kinds; that of Rotation, when it turns on the Sides of the Extremities of the Ulna, and that of Flexion and Extenſion, in common with the Ulna; and both theſe Motions may be perform'd at the ſame time.

The Articulation of the Radius with the Bones of the Carpus ſhall be explain'd in deſcribing theſe Bones.

The Bones *of the* Hand; *and, firſt, the* Bones *of the* Carpus.

The Hand is the laſt Part of the upper Extremity, and is divided into the Carpus, Metacarpus, and Fingers. It may be further divided into the concave and convex Side. The concave Side is likewiſe call'd the Inſide, becauſe it is commonly, and, as it were, naturally, turn'd toward the Body, and ſo hid. The convex Side is, for the ſame Reaſon, nam'd the Outſide, as being, for the moſt part, turn'd outward, and expos'd to View. The firſt is alſo nam'd the Hollow or Palm of the Hand, the other the Back of the Hand.

The Carpus, or Wriſt, conſiſts of eight ſmall, unequal, and irregular Bones; and, taken all together, they repreſent a ſort of Grotto *(Grote)* of an irregular quadrangular Figure, and connected principally with the Baſis of the Radius. Conſider'd in this manner, the whole Collection of them has two Sides, and four Edges. One of the Sides is convex and external, the other concave and internal. The Convexity of the Outſide is pretty uniform, but the inner or concave Side has four Eminences, one at each Corner. One of the four Edges touches the fore Arm, and is, as it were, the Head of the Carpus: another Edge may be term'd the Baſis, and touches the Metacarpus; the third is toward the Point of the Radius, and the fourth toward the Point of the Ulna. The firſt of theſe laſt I ſhall call the ſmall Edge, and the other the great Edge.

The Bones of the Carpus are divided into two Rows; the firſt of which lies next the fore Arm, the ſecond next the Metacarpus. Each Row conſiſts of four Bones, but the fourth of the firſt Row lies, in a manner, out of its Rank. Each Bone has ſeveral cartilaginous Surfaces for their mutual Articulations; and, in ſome of them, for their Articulations with the Radius, and Bones of the Metacarpus and Thumb.

It is to no purpoſe to diſtinguiſh the three ordinary Dimenſions in any of theſe Bones, except one; but, in moſt of them, we may conſider ſix Sides, one external, turned toward the convex Surface of the Carpus; one internal, toward the concave Surface; one toward the fore Arm, which I call the brachial Side; one toward the Fingers, which I call the Digital Side; one toward the Point of the Radius, or the Radial Side; and one toward the Point of the Ulna, or the Cubital Side.

Of theſe Sides ſome are bony, others cartilaginous or articular. Theſe laſt I ſhall call Sides, the other Surfaces, as being Portions of the common Surface of the Carpus in its natural Situation.

To diſtinguiſh theſe eight Bones from each other, they are call'd firſt, ſecond, third, and fourth Bones of the firſt or ſecond Row, beginning to count from the Radius or Thumb.

Lyſerus has been at the Pains to give a particular Name to each of them: He calls the firſt Bone of the firſt Row Os Scaphoides, or Naviculare; the ſecond, Os Lunare; the third, Os Cuneiforme; the fourth, Os Piſiforme: The firſt Bone of the ſecond Row, Os Trapezium; the ſecond, Os Trapezoides; the third, Os Magnum; and the fourth, Os Unciforme.

Os Scaphoides.

The firſt Bone of the firſt Row is term'd *Scaphoides* in *Greek*, and *Naviculare* in *Latin*, from its Reſemblance to a ſmall Boat. Next the Radius it has a convex Side, by which it is articulated with the Baſis of that Bone; and a Tubercle, which is one of the four Eminences on the concave Side of the Carpus. Toward the Thumb it has two Half-ſides; a large one for the Os Trapezium, and a ſmall one for the Os Trapezoides. It has likewiſe a hollow Side for the Os Magnum, and a ſmall ſemilunar Side for the Os Lunare. The inner and outer Surfaces are rough.

Os Lunare.

The ſecond Bone of the firſt Row is call'd *Lunare*, becauſe one of its Sides is in form of a Creſcent. The articular Sides in this Bone are four in Number; one convex, for the Baſis of the Radius; one ſemilunar, for the Os Scaphoides; one almoſt triangular, for the Os Cuneiforme; and one hollow, which, with the hollow Side of the Os Scaphoides, forms a Cotyloide Cavity for the Head of the Os Magnum. The convex Side, together with that of the Os Scaphoides, forms an oblong Convexity, anſwering to the oblong Concavity in the Baſis of the Radius. The outer and inner Surfaces are ſmall and rough This Bone would be better nam'd Os Semilunare.

Os Cuneiforme.

The third Bone of the firſt Row, call'd *Cuneiforme* from i Figure, appears rather like a Wedge ſticking between the tw Rows. It has a rough Surface, with a ſmall Tubercle upon i which forms the greateſt Part of the cubital Edge of the Carpus and four articular Sides, whereof one is convex, which completes the articular Convexity of the Carpus; one orbicula and internal, or on the concave Side of the Carpus, on which th Os Piſiforme is ſet; and two which make an Angle betwee them; one for the Os Semilunare, and the other for the O Unciforme.

Os Orbiculare.

The fourth Bone of the firſt Row, call'd *Orbiculare*, *Piſ forme*, and *Lenticulare*, from its Figure and Size, is irregularl round. It has but one cartilaginous Side, irregularly orbicula the Border or Circumference of which repreſents a ſort of na row Collar. The reſt of the Bone is rough, convex, and i regularly round, making one of the four Eminences on th concave Side of the Carpus. This Bone, and the Os Cune forme, may be ſuppos'd to make a third Row diſtinct from th other two.

The four Bones of the ſecond Row lie all in a Line, the fir being articulated with the Thumb, the reſt with the Met carpus.

Os Trapezium.

The firſt Bone of the ſecond Row is nam'd *Trapezium*, being ſuppos'd to be of an unequal ſquare Figure. Its out Surface is rough, and makes a Portion of the convex Side the Carpus. On its inner Surface is an oblong Eminenc which makes one of the four Eminences on the concave Side the Carpus; and, on the ſame Side, it has a Groove or Ch nel. There is likewiſe a ſmall Tubercle on the outer Surface

It has ſeveral articular cartilaginous Sides; one Brachi one Digital, and two Cubital Sides.

The Brachial Side, which is hollow, is articulated with t Os Scaphoides; the Digital, with the firſt Phalanx of t Thumb; one of the Cubital Sides, with the Os Trapezoid and the other with the firſt Bone of the Metacarpus.

The Side which is articulated with the firſt Phalanx of t Thumb, appears to be made up of two ſuperficial Sigmoide Semilunar Half-ſides, diſtinguiſh'd by an Eminence of the ſa Figure, being each more hollow toward the Sides than at t Middle, which makes a Portion of a ſort of ſuperficial Pul with the Edges much worn.

One of the Cubital Sides, which is articulated with the Trapezoides, is large; the other, which joins the firſt Me carpal Bone, is ſmall.

Os Trapezoides.

The ſecond Bone of the ſecond Row deſerves the Name *Pyramidale*, rather than *Trapezoides*, being a kind of Py mid with the Point broke off. Its Baſis makes a Portion of outer or convex Side of the Carpus, and its Point a Part of concave Side.

It has ſeveral articular Sides; one Brachial, which is the l of all, and articulated with the Os Scaphoides; one Digital, a conſiderable Length, notch'd on each Side, and divided i two Havles, by a ſort of middle Line or Angle, which give the Appearance of a Pully, articulated with the Baſis of firſt Metacarpal Bone; one Radial, irregularly triangu and articulated with the Os Trapezium, and one Cubital, a li hollow, and articulated with the Os Magnum.

Os Magnum.

The third Bone of the ſecond Row, call'd *Os Magnum* the largeſt of all the Bones of the Carpus. It is of a conſi able Length, and has a kind of articular round Head, whi receiv'd into the Cotyloide Cavity form'd by the two firſt B of the firſt Row; and this Articulation is capable of a f Degree of Flexion and Extenſion.

The Digital Side is a cartilaginous Baſis, unequally and liquely triangular, the Apex being turn'd inward. It is art lated with the ſecond Metacarpal Bone, and is alſo a little no on the Radial Edge, for its Articulation with the ſmall Edg the firſt Metacarpal Bone.

The Radial Side is very ſmall, and, near the Baſis, it is culated with the Os Pyramidale; the reſt of this Surface is w out Cartilage. The Cubital Side is double, anſwering to a Side in the Os Unciforme, with which it is articulated.

The outer Surface, which forms a Portion of the co Side of the Carpus, is broad, rough, and uneven, for th ſertion of Ligaments. The inner Surface is likewiſe ro but narrower; and round both Surfaces are ſeveral Depreſſ which, in the natural State, are fill'd with ſmall Gland Ligaments.

Os Unciforme.

In the fourth Bone of the ſecond Row we are to conſider the Body, and hook'd or Unciform Apophyſis, from whence it has the Name of *Unciforme.* This Apophyſis, one of the four Eminences on the concave Side of the Carpus, is flat, and the hollow Side of its Curvature is turn'd toward the Os Magnum. The outer Surface of its Body is rough, and, in ſome meaſure, triangular. It completes the convex Side of the Carpus, and, toward the Ulna, terminates in a ſmall Tuberoſity, which is all the Cubital Side of this Bone.

It has three articular or cartilaginous Sides, one Radial, one Brachial, and one Digital.

The Radial Side is double, anſwering to the Cubital Side of the Os Magnum. The Brachial Side is very oblique, partly a little concave, and partly a little convex, anſwering to the Digital Side of the Os Cuneiforme. The Digital Side is double, or diſtinguiſh'd into two Halves, by a Sigmoide angular Line, for its Articulation with the two laſt Bones of the Metacarpus.

The Bones of the Carpus are articulated with each other by Arthrodia, but the firſt Row forms a ſort of Ginglymus with the ſecond, becauſe the Head of the Os Magnum may turn in the Cotyloide Cavity of the firſt Row, while the two firſt Bones of the ſecond Row ſlide upon the Digital Side of the Os Scaphoides, and the Os Unciforme in the ſame manner on the Os Cuneiforme.

When all theſe Bones are in their natural Situation, a tranſverſe Depreſſion is form'd on the convex Side of the Carpus, by which the two Rows are diſtinguiſh'd. This Depreſſion appears moſt between the Os Scaphoides and the three laſt Bones of the ſecond Row, and looks like a kind of Fold, by which the ſecond Row is thrown a little back upon the Convexity of the firſt. The four Eminences on the concave Side of the Carpus are for the Inſertion of a ſtrong tranſverſe Ligament. The inner Subſtance of all theſe Bones is ſpungy, and their Surfaces are not very compact.

The Bones *of the* Metacarpus.

The Metacarpus is the ſecond Part of the Hand, ſituated between the Carpus and Fingers. The Antients, who call'd the *Carpus*, *Brachiale*, from whence the Word Bracelet ſeems to be deriv'd, term'd the *Metacarpus*, *Poſt-Brachiale.*

The Metacarpus conſiſts of four Bones, one Side of which forms a broad Cavity, call'd the Palm of the Hand; the other a gentle Convexity, call'd the Back of the Hand. The antient Anatomiſts reckon'd five Bones in the Metacarpus, including that Bone which is now look'd upon as the firſt Phalanx of the Thumb.

The Bones of the Metacarpus are long, thicker at the Extremities than at the Middle, and of unequal Length and Bigneſs. The firſt is the largeſt, the reſt are leſſen'd by Degrees in all their Dimenſions. The two firſt are ſometimes, tho' very rarely, equal.

Each Bone is divided into the Extremities and Middle-part; or into a Baſis, Body, and Head. The Baſes are angular, and turn'd toward the Carpus; the Heads rounded like Condyles, and turn'd toward the Fingers. Both are cover'd with Cartilages, and the Heads remain for a long time very diſtinct Epiphyſes.

The Baſes are narrow, and almoſt angular, toward the Palm of the Hand; toward the Back of the Hand their Breadth is conſiderable; but, on the other two Sides, they are very broad; and there they have ſmall articular Sides, which I call lateral Sides. The Heads are flatted on the two Sides, which anſwer to the lateral Sides of the Baſis; and their greateſt Convexity is turn'd toward the Palm of the Hand, terminating in two obtuſe Points. Several Notches and Foſſulæ break in upon the lateral Sides, and the flat Sides of the Heads are a little depreſs'd, a ſmall Tubercle ariſing in the Middle of each Depreſſion.

The Body of each Bone is contracted, of a triangular Figure, and diſtinguiſh'd into three Sides, whereof one is external, and a little convex, contributing to make the Back of the Hand; the other two internal, and a little concave, one being turn'd obliquely toward the Radius, the other toward the Ulna. Theſe three Sides are ſeparated by the ſame Number of Angles; and that Angle, which parts the two internal Sides, is ſharp. It is by theſe two Sides, and the Angle between them, that the Hollow of the Palm of the Hand is form'd.

First Bone.

The firſt Bone of the Metacarpus is longer, thicker, and bigger, than any of the reſt, and ſupports the fore Finger. Its Baſis is a little hollow, anſwering to the Digital Side of the Os Pyramidale of the Carpus. On the outer Edge there is a ſmall angular Notch, and, on the Cubital Edge of the Baſis, a ſmall lateral Line, which is articulated with the Baſis of the ſecond Bone. The inner Edge is terminated laterally by an oblique Angle, which is articulated with the neighbouring Angle in the Baſis of the Os Magnum. Round the Baſis are Inequalities and Depreſſions, for the Ligaments and articular Glands. The Outſide of the Body of the Bone is broader toward the Head than toward the Baſis.

Second Bone.

The ſecond Bone of the Metacarpus ſupports the middle Finger, and has this peculiar to it, that its Baſis is very oblique, terminating at the outer Edge by an angular Point, turn'd towar the firſt Bone. By the triangular Side of its Baſis, it is articulated with the Baſis of the Os Magnum; and, by its lateral Sides, with thoſe of the firſt and third Bones of the Metacarpus.

Third Bone.

The third Bone of the Metacarpus ſupports the Ring-finger, being leſs than the firſt and ſecond. Its Baſis is irregularly triangular, and proportionably leſs than the two former; and by the principal Side thereof, it is articulated with the firſt Half of the Side of the Os Unciforme. The ſmall lateral Sides of the Baſis join thoſe of the ſecond and fourth Bone of the Metacarpus.

Fourth Bone.

The fourth Bone of the Metacarpus ſupports the little Finger. The principal Side of its Baſis, inſtead of being triangular, as in the other Bones, is all of an equal Breadth, a little oblique, ſomewhat convex, ſomewhat concave, and is articulated with the ſecond Half of the Side of the Os Unciforme. By its lateral Side it joins the correſponding Side of the Baſis of the third Bone; but in a much looſer manner than in the other Articulations of the like Kind. On the oppoſite Side there is a ſmall Tuberoſity.

The Bones *of the* Fingers.

The Fingers make the third Part of the Hand, and terminate the whole upper Extremity. They are five in Number in each Hand, call'd the Thumb, the fore Finger, the middle Finger, the Ring-finger, and the little Finger.

They may be ſaid in general to repreſent the ſame Number of compound, long, ſmall, bony Pyramids, convex on one Side, ſomewhat concave on the other, and join'd by their Baſes to the Carpus and Metacarpus, from whence they diminiſh gradually, and end in a ſort of ſmall Heads.

The Thumb is the biggeſt of all the Fingers; next to that is the third, call'd the long Finger. The ſecond and fourth are ſhorter than the third; the fourth being a very little longer than the ſecond. The fifth is the ſmalleſt of all.

Each Finger conſiſts of three Pieces, call'd *Phalanges*; the firſt of which is longer and thicker than the ſecond; and the ſecond than the third. Each *Phalanx* is divided, in the ſame manner as an entire Finger, into a Baſis, middle Portion, and Head; into two Sides, one convex, the other concave; and into two Edges. The Baſes of the Phalanges remain Epiphyſes for a long time, as well as the Heads of the metacarpal Bones.

First Phalanx *of the* Thumb.

The firſt Phalanx of the Thumb is not like thoſe of the other Fingers. Antient Authors reckon'd it among the Bones of the Metacarpus, which it reſembles very much; and then they counted five Metacarpal Bones, allowing only two Phalanges to the Thumb. The convex Side of this Phalanx is very much flatten'd, and broader toward the Head than toward the Baſis. On the concave Side is a kind of angular Line, which in ſome meaſure diſtinguiſhes it into two Parts. Its Head is like thoſe of the metacarpal Bones, only flatten'd at the Top.

The articular Side of its Baſis is proportion'd to the Digital Side of the Os Trapezium of the Carpus; and fram'd in ſuch a manner, as that the Sigmoide Cavities and Eminences in both Bones croſs each other. This Articulation has ſomething very particular in it. It is a kind of double Ginglymus, which readily allows of Flexion and Extenſion, Adduction and Abduction, but with Difficulty permits the oblique Motions; becauſe then the two Sides run counter to each other.

The Head and Baſis carry for a long time the Marks of Epiphyſes; and for all theſe Reaſons, this Bone may be reckon'd a Metacarpal Bone degenerated.

The Second Phalanx.

The ſecond Phalanx of the Thumb is ſhorter than the firſt; its Body convex or ſemicylindrical on one Side, flat on the other, and contracted between the Edges. The articular Side of the Baſis is gently concave, and ſurrounded near the Edges by ſmall Tuberoſities; as alſo near the Angle of the Phalanx. The Head is a regular Portion of a Pully, which projects more on the concave than on the convex Side; and on each Side of it there is a ſmall Foſſula, and ſome Inequalities in form of Tubercles. On the flat or concave Side of the Phalanx are two rough Lines, one near each Edge, which are often deſtroy'd in cleaning the Bones; they are the Impreſſions or Marks of the articular Vaginæ, which ſhall be explain'd in deſcribing the freſh Bones.

The Connexion of this Phalanx with the firſt is by a kind of Arthrodia, or by a flat Enarthroſis, which permits a Motion in ſeveral Directions, though more limited than in other Articulations of the ſame Kind. It is articulated with the third by a very perfect Ginglymus.

THIRD PHALANX.

The third Phalanx of the Thumb repreſents the half of a ſort of Cone, cut lengthwiſe; and by joining it to the ſame Bone of the other Thumb, an entire Cone is form'd. The convex Side is more even than the flat Side; and on each Edge there is a Tuberoſity near the Baſis. The Baſis has two hollow Sides, which form a Ginglymus, with the Head of the ſecond Phalanx. The Head is ſmall and flat, ending in a rough ſemicircular Border; which, on the flat Side of the Bone, repreſents a Horſe-ſhoe.

The FINGERS.

The other four Fingers in general, and their Phalanges in particular, are all nearly of the ſame Structure, differing chiefly in Size. The fore and Ring-fingers are almoſt equal, only the fore Finger is generally a little bigger, and ſometimes a little ſhorter than the other. The middle Finger is the longeſt; and the little Finger the leaſt. Almoſt the ſame Proportions are to be obſerved in the Phalanges.

FIRST PHALANGES.

The firſt Phalanges of theſe four Fingers are made nearly in the ſame manner with the ſecond of the Thumb; only they are longer in proportion, flatter on the concave Sides, and more rounded on the convex Sides. The Edges of the flat Sides have the ſame rough Line as the ſecond Phalanx of the Thumb. Their Baſes are more hollow for their Articulations with the Heads of the metacarpal Bones, and their Heads are like Pullies, as in the ſecond Bone of the Thumb.

SECOND PHALANGES.

The ſecond Phalanges are ſhorter, narrower, and thinner than the firſt. Both Phalanges are ſomewhat incurvated, and reſemble each other in Structure, except that the ſecond contract by Degrees from their Baſes to the Heads, which are very ſmall; and that their Baſes have a double Cavity for their Articulation, by a Ginglymus, with the Heads of the firſt Phalanges. Their flat Sides have the ſame rough Lines already mentioned.

THIRD PHALANGES.

The third Phalanges are in every thing like that of the Thumb, except that they are ſmaller, each of them being proportion'd to the Fingers they belong to.

It is to be obſerved concerning all the Phalanges, that their Baſes have ſmall Tuberoſities; and their Heads, except thoſe of the laſt Phalanges, have on each Side a roundiſh ſort of Foſſula, border'd with ſmall Eminences.

The particular Situation and Uſes of the BONES *of the* UPPER EXTREMITIES.

The Hand is generally repreſented in Sceletons and Figures, as lying in the ſame Plane, and in the ſame longitudinal Direction with the Bones of the fore Arm. This gives a very falſe Idea of its true Situation, which, with reſpect to the fore Arm, is oblique in two reſpects. The Back of the Hand is inclined upon the convex Side of the Carpus, and makes an Angle with the fore Arm; and, beſides, the fourth Bone of the Metacarpus is inclined towards the Ulna in particular. In a Word, the Breadth of the Hand makes an Angle with the Breadth of the fore Arm; and the Thickneſs of the Hand, at the ſame time, with the Thickneſs of the fore Arm. I mean here that Part of the fore Arm which is next the Hand.

This is owing to the Structure and Situation of the Bones of the Carpus, and to their Connexion with thoſe of the fore Arm. Firſt, the two Rows of theſe Bones make a ſort of tranſverſe Fold on the convex Side of the Carpus; and the articular Brachial Sides of the two firſt Bones of the firſt Row are turn'd a little toward the ſame convex Side of the Carpus; which obliges the whole Hand to be a little bent back in its natural Situation. Secondly, the Edge of theſe Bones next the Ulna is much ſhorter than that next the Radius, which makes the Cubital Edge of the whole Hand incline to that Side.

By not conſidering this, a large void Space is commonly left in Sceletons, between the Extremity of the Ulna and the Os Cuneiforme of the Carpus. It ought likewiſe to be obſerved, that the Edge of the Metacarpus next the Ulna is ſhorter than the other; ſo that in the Metacarpus a ſmall and great Edge may as juſtly be diſtinguiſhed as in the Carpus.

In this oblique and natural Situation of the Hand, the Fingers being extended, and a little ſeparated, the Extremity of the fore Finger will be found to anſwer to the Interſtice between the Bones of the fore Arm; and if in this Situation we make alternately the Motions of Pronation and Supination, the Extremity of the fore Finger will be found to be in ſome meaſure the common Centre of theſe Motions.

This Diſpoſition of all the Bones of the Hand is moreover very well contrived, to give it ſeveral kinds of Attitudes; for by means thereof it may be lengthen'd, flatted, ſhorten'd, and contracted. The Hand is lengthen'd or widen'd, and flatted, by extending all the Fingers, and turning back the Thumb, which is what is called extending or opening the Hand. It is ſhorten'd by bending all the Fingers, whether in what is call'd cloſing the Fiſt, or in graſping any thing; and to this the Situation of the Thumb, and the oblique Diſpoſition of the Bones of the Metacarpus and Fingers, contribute in a particular manner. And as in this Caſe the Thumb counterbalances all the other Fingers, the Articulation of the firſt Phalanx thereof with the *Os Trapezium* appears to be render'd more firm and ſteady, by partaking a little of the Nature of a Ginglymus, without hindering its other Motions. Laſtly, the Hand is contracted, and made into a ſort of Gutter or Furrow, by the Adduction of the Thumb, and the eaſy Motion of the fourth Metacarpal Bone; and if at the ſame time we bend the Fingers, and preſs them cloſe together, we both ſhorten and contract the Hand; and thereby form a Hollow, which is called *Diogenes*'s Cup.

In the Fingers we ought likewiſe to remark, that though the Articulation of the ſecond Phalanx of the Thumb, and firſt Phalanges of the other Fingers, be moveable in many Directions, and framed nearly in the ſame manner as that of the Os Humeri with the Scapula; yet theſe Phalanges cannot be moved round their Axes. This is not owing to their Conformation, but to the want of proper Muſcles. The ſame thing cannot be ſaid of the firſt Phalanx of the Thumb; becauſe, though it had proper Muſcles, yet the kind of Half-ginglymus, by which it is articulated, would not allow of ſuch a Motion.

The Thumb is ſituated differently from the other Fingers. The Fingers, both with reſpect to their Sides and Edges, have, in their natural Situation, nearly the ſame Direction with the Plane of the Metacarpus. The Thumb being in its natural Situation, and free from the Action of all its Muſcles, its convex Side anſwers to the convex Side of the Radius, and its fla Side is turn'd toward the little Finger; and the firſt Phalan makes an hollow Angle with the Radius, and a prominen Angle with the ſecond Phalanx; but both this, and the thir Phalanx, lie in a ſtrait Direction, like that of the fore Arm.

The Carpus is the Baſis and Centre of all the Motions of th Hand, except that of Rotation. By means thereof, we ca bend the Hand in all Directions, but with more Eaſe toward th Sides and Edges, than any other Way. The four Bones of th ſecond Row may have a ſmall Degree of Motion on the firſt ſuch as a Ginglymus can allow of.

The Radius is in a manner the Handle of the Hand; and i is chiefly by means thereof, that we can move the Hand reci procally as on the Axis, turning either Edge of it toward th Body. This Motion or Attitude is term'd Pronation; an when the Cubital, or ſmall Edge, is toward the Body, it term'd Supination. In the natural and moſt ordinary Situatio of the Hand, the Palm is turn'd toward the Body, and not th Edges.

This Diſpoſition of the Hand determines the true Situatio of the Radius, which is not on one Side of the Ulna in a p rallel Direction, as the Figures and Sceletons commonly repr ſent it; but the Radius croſſes the Ulna obliquely in ſuch manner, as that the Styloide Apophyſes in both Bones a directly over-againſt each other. This is its true natural Sit ation. The Radius, being bent, may be ſtill farther croſs'd o the Ulna, than in its natural Situation; and this happens Pronation, but in Supination it is parallel to the other Bone.

The Ulna ſupports the Handle of the Hand, without be itſelf articulated with the Hand. Two lateral *Ginglymi*, a very ſtrong Ligaments, connect the Radius cloſely with it, that in the moſt violent Motions theſe two Bones cannot ſeparated. When we puſh or preſs any thing with the Ha the whole Force is ſuſtain'd by the Radius, the Baſis of wh ſupports the Wriſt, and its concave Head is ſtrongly pre againſt the ſmall inferior Head of the Os Humeri. The obli Direction of the Pully of the Ulna is the Reaſon, that, bending the fore Arm upward, the Extremity of that Bon naturally turn'd toward the Thorax, and not without Diffic toward the Articulation of the Scapula.

An Account of the Cartilages and Ligaments are not leſs ceſſary to a Knowledge of the ſuperior Extremities, than preceding Detail of the Bones. For this Reaſon, I ſhall gi

WINSLOW'*s Remarks upon the* FRESH BONES.

The Cartilage by which the Hemiſphere of the Head of Os Humeri is covered, is gradually thicker toward the M than toward the Edges.

The four Surfaces of the Tuberoſities, which appear cartilaginous in dry Bones, ſerve only for the Inſertion of the Tendons of four Muſcles which move the Os Humeri on the Scapula.

The Channel or Sinus between the two Tuberoſities is partly covered by a thin Cruſt, which appears rather ligamentary than cartilaginous; and partly by a tendinous Stratum, of which hereafter.

The Trochlea and ſmall Head of the lower Extremity of the Os Humeri are covered by a common Cartilage, in which the ſame Proportion of Thickneſs is obſervable, as in that of the upper Extremity. This holds pretty generally of all the convex articular Cartilages.

The Foſſulæ near the Pulley and ſmall Head are covered with a kind of thin cartilaginous or ligamentary Varniſh.

The Capſular or mucilaginous Ligament looſly ſurrounds the whole Articulation of the Scapula with the Head of the Os Humeri. From its Inſertion round the Edge of the Glenoide Cavity, it is continued over the Hemiſphere of the Head of the Os Humeri, and fixed near its Edges, towards the muſcular Surfaces of the great and ſmall Tuberoſities.

Afterwards parting from them on both Sides, in the large Space left between the two Tuberoſities, that is, between the mall Tuberoſity and the loweſt Surface of the great Tuberoſity, runs down gradually on the Neck of the Bone below the oweſt Part of the cartilaginous Hemiſphere.

In all this Courſe the Capſula is cloſely fixed in the Bone, cept in the ſmall Space left between the two Tuberoſities, at is, at the Channel or Sinus, where it forms a Production ke the Tube of a Funnel, proportion'd to the Capacity of the hannel, and ſtrongly fix'd in the upper Portion thereof. This embranous Tube is the Vagina of the inter-articular Tendon the Biceps.

The true Ligament of this Joint appears to be compoſed of o Ligaments cloſely united together; one a Capſular Liga- ent, which ſurrounds the whole Articulation; and the other, m'd by ſeveral true Ligaments which run over, and cloſely here to the former in different Places.

Thus the Capſula, or mucilaginous Bag of this Articulation, in part ſtrongly united to four flat Tendons inſerted in the Tuberoſities; and in part covered by true ligamentary ds, which, between the four Tendons, and on both Sides the firſt and laſt, form a conſiderable Thickneſs. The reſt the Space between the firſt or ſuperior Plane of the great beroſity and the ſmall Tuberoſity is ſo little provided with mentary Fibres, that it has been believed to be altogether out them; and Anatomiſts have ſatisfy'd themſelves with g us, that in theſe Places the orbicular Ligament is very h on the Outſide, but ſhining and ſmooth on the Inſide.

n the Body of the Os Humeri there are two particular Li- ents, which I term intermuſcular, or lateral. They are , flat, thin, ſtrong, and narrow, fixed on one Edge along two lower Thirds of the Bone, and reaching to both Con- . They are braced pretty tight, and are very narrow at pper Part, but broader toward the Condyles.

he lower Extremity of the Os Humeri is joined to the s of the fore Arm by two Faſciculi of Ligamentary Fibres, fixed to the internal Condyle, the other to the external. Faſciculus is compoſed of Fibres cloſely joined together at Condyle, and afterwards parting in diſtinct Bands like a e's Foot.

e Capſular Ligament is fixed to the Condyles, and there s them; and afterwards it is fixed round both Sides of lower Extremity above the Foſſulæ. Its Inſertion in theſe is Archwiſe; ſo that it is there at a much greater Diſtance the Articulation, than at the Condyles. The Foſſulæ are y varniſh'd over with a cartilaginous Subſtance.

is Capſula appears to be ſtrengthen'd by a Ligamentary the Fibres whereof croſs each other in different Di- s; but we muſt not take for Ligamentary Filaments tendinous Fibres of Muſcles, to which the Capſula adheres loſely. It appears larger and looſer when the Muſcles parated from it, than in its natural State, when cloſely to the Muſcles.

two Sigmoide Cavities in the upper Extremity of the are covered by a Cartilage common to both, which is a terrupted about the Middle of the Edges of the Cavities tranſverſe Notches mentioned before. This cartilagi- Cruſt ſeems to be thicker at the Edges, than in the

inferior Extremity, or ſmall Head of the Ulna, is over by a Cartilage round its cylindrical Border, in the near the Styloide Apophyſis; and for ſome Space on the ſis itſelf.

Cartilage which covers the Head of the Radius is like- etched over the cylindrical Border thereof; and a lateral of the muſcular Tuberoſity immediately below the alſo covered with a thin ſhining Cartilage.

e concave Side of the Baſis of the Radius is cartilaginous, n divided by a ſmall cartilaginous prominent Line. The lateral Notch of the Baſis is likewiſe covered by a Continuation of the ſame Cartilage.

The lateral Half-grooves or Channels of the Baſis of this Bone appear likewiſe to be cruſted over with a cartilaginous Matter; but this I rather take to be Portions of the annular Ligaments.

At the Baſis of the Radius there is likewiſe a particular additional Cartilage, or triangular Production, longer than it is broad, very thin, and rather flat than concave on both its ſmooth Sides. It is fixed by its Baſis, or ſhorteſt Side, to the lateral Sigmoide Notch of the Baſis of the Radius, in ſuch a manner as that one Side of it is on a Level with the large cartilaginous Surface of the Baſis of the Bone, and its Apex directly oppoſite to the Styloide Apophyſis. The other Side touches the flat Extremity of the ſmall Head of the Ulna, but is not fixed to it.

This Cartilage may be term'd the interarticular Cartilage of the Joint of the Wriſt. It is tied to the Radius by very ſhort Ligaments; and ſliding on the ſmall Head of the Ulna, it follows all the Motions of the Radius. It is therefore a ſort of articular Production of the lower Side of the Baſis of the Radius, and fills in the natural State the void Space, which, in the Sceleton, appears between the End of the Ulna, and the neighbouring Bone of the Carpus.

Some of the Ligaments of the Bones of the fore Arm are common to them with the Os Humeri; ſome common to them with the Bones of the Hand; and ſome are proper. Theſe laſt are two in Number; one call'd the interoſſeous Ligament of the fore Arm; and one which may be termed the coronary Ligament of the Radius. To theſe may be added the annular Ligaments, which only ſerve for the Paſſage of Tendons, and other Ligamentary Expanſions, which may be called muſcular Ligaments.

The interoſſeous Ligament of the fore Arm is very like that of the Leg. It is fixed by one Edge along the ſharp Angle of the Ulna, and by the other along that of the Radius. It is principally made up of two very ſtrong Planes of Fibres, which croſs each other at oblique Angles, and leave Holes at different Diſtances for the Paſſage of the Blood-veſſels.

This Ligament ties the two Bones cloſely together; and the two Planes ſerve for the Inſertion of ſeveral Muſcles. In the Supination of the Hand it is very tightly braced; but in Pronation it is folded a little Lengthwiſe.

The Coronary Ligament of the Radius is a ſort of Ligamentary Hoop ſurrounding the circular Circumference of the Head of that Bone, reaching from one Side of the ſmall lateral ſigmoide or tranſverſe Cavity of the Ulna to the other, in an Arch, which is about three quarters of a Circle. It is very ſtrong, and comes near the Solidity of a Cartilage. The Side next the Radius is very ſmooth; and though it connects that Bone very cloſely to the Ulna, yet it leaves it room enough to turn in the Motions of Pronation and Supination.

The Capſular Ligament of the Joint of the Elbow runs down from its Inſertion in the Os Humeri, and is fixed in the Olecranum round the Edge of the great Sigmoide Cavity, including both the Apex of the Olecranum, and of the Coronoide Apophyſis. It likewiſe runs over the Head of the Radius, and is fixed to the Coronary Ligament quite round. Thus it completely ſurrounds the Articulation of theſe three Bones, and ſerves to contain the mucilaginous Liquor furniſhed by the Glands, and fatty Subſtance, both which are found in great Quantities near the Extremity of the Bone which forms the Elbow.

The true common Ligaments by which the Os Humeri is connected to the Bones of the fore Arm, call'd lateral Ligaments, are the two Faſciculi before-mentioned, which, after being inſerted in the Condyles of the Os Humeri, are expanded like a Gooſe's Foot. That which is fixed in the inner Condyle may be call'd Brachio-cubitale, and the other Brachio-radiale.

The Brachio-cubital Ligament running down over the Capſula, to which it cloſely adheres, below the great Edge of the Trochlea of the Os Humeri, is inſerted like Radii (of which its other Extremity fixed in the Condyle is the Centre) on the Side of the great Sigmoide Cavity of the Ulna. It is covered on the Outſide by ſeveral Tendons which adhere cloſely to it, and ſeem to ſtrengthen it.

The Brachio-radial Ligament is diſpoſed much after the ſame manner, but is of a greater Extent. It is expanded from the external Condyle of the Os Humeri, as from a Centre; and is inſerted round the Coronary Ligament, and from thence all the Way down to the Neck of the Radius; and alſo in the neighbouring Parts of the Ulna. Through all this Paſſage it covers the Capſular Ligament, and is covered by ſeveral Tendons adhering cloſely to both.

Of the Ligaments by which theſe Bones are connected to thoſe of the Hand, one is like a roundiſh Cord fixed in the Styloide Apophyſis of the Ulna, and from thence paſſes directly over the Os Cuneiforme of the Carpus, in which, and in other Bones, it is inſerted in a peculiar manner. Another pretty broad Ligament is fixed in the Point of the Radius; and by its other Extremity, in the Bones of the Carpus.

From this Styloide Ligament of the Radius, along each Edge of the Baſis of that Bone, are Ranks of Ligamentary Fibres lying much in the ſame Direction with the Ligament itſelf, and continued all the Way to the Styloide Ligament of the Ulna; thoſe neareſt the Ulna incloſe the interarticular Cartilage of the Baſis of the Radius, and near the Styloide Ligament of the Ulna there is a particular Faſciculus inſerted in the Point of that Cartilage.

All theſe Ligaments ſurround and cover the Capſular Ligament ſo cloſely, that they can hardly be diſtinguiſhed from it. The Capſula is likewiſe in part cover'd by a Portion of a great oblique Ligament, which being by a very broad Inſertion fixed in the large Extremity of the Radius, about two Fingers Breadth above the Styloide Apex, afterwards croſſes obliquely, partly over the convex Side of the *Baſis Radii*, and partly over that of the Carpus; and then turning towards the Os Orbiculare, is inſerted therein. It is called the external tranſverſe Ligament of the Carpus; and may likewiſe be named the great oblique Ligament of the Wriſt.

There are ſeveral ſmall annular Ligaments placed at different Diſtances on the convex Side of the *Baſis Radii*, from its Styloide Apex to its Articulation with the Extremity of the Ulna. They are at leaſt ſix in Number, ſome of them being often double or triple.

The firſt is fixed in the Styloide Apex; the ſecond in the Groove near that Apex; the third, in the ſmall narrow or middle Groove; the fourth, in the Groove next the former; the fifth, in the Corner of the ſemilunar Notch of the Baſis, at its Articulation with the Ulna; and the ſixth, in the Extremity of the Ulna, near the Styloide Apophyſis.

Theſe particular Ligaments are almoſt wholly covered by the great oblique Ligament, and are fixed as ſtrongly in it on one Side, as they are in the Bones on the other. They are all very ſtrong, and their concave Sides, ſerving for *Fræna* to the Tendons of ſeveral Muſcles that paſs over them, are very ſmooth, and accompanied with thin mucilaginous *Vaginæ*.

To theſe we may add the Ligamentary Expanſions, with which ſeveral Muſcles are cover'd, and ſeparated from each other, as by ſo many diſtinct *Septa*; which are all very thick and ſtrong, where they are inſerted in the Bones. One kind of them may be term'd Ligamentary Bands, or muſcular *Vaginæ*, the other Ligamentary *Septa*, or intermuſcular Ligaments.

All the Bones of the Carpus, Metacarpus, and Fingers, are cruſted over with Cartilages at thoſe Places, which I term'd Cartilaginous Surfaces, in the Treatiſe of dry Bones: but in freſh Bones they are thicker, ſofter, and whiter, than in the Sceleton. In adult Subjects, their Figure remains the ſame in both; but it changes in the dry Bones of younger Subjects, and in thoſe of Children it is quite different. The Impreſſions and Notches in which the mucilaginous Glands are lodged, are moſt ſenſible in the Cartilages of freſh Bones, becauſe of their Thickneſs.

The Ligaments of the Carpus are very numerous. Some of them tie each Bone to one or two neighbouring Bones in the ſame Rank; and theſe are compoſed of a great Number of Filaments, but ſo very ſhort, as to allow theſe Bones only a ſmall Degree of Motion. Some of them tie the Bones of one Row to thoſe of the other; which are likewiſe made up of many Filaments, but not ſo ſhort as the former, and therefore allow theſe Bones a more manifeſt Motion, as we ſee in bending the Wriſt. Laſtly, there are other Ligaments of the Carpus, by which the three firſt Bones of the firſt Row are connected to the Bones of the fore Arm; and to theſe may be added the Ligaments by which the Bones of the ſecond Row are join'd to thoſe of the Metacarpus, and firſt Phalanx of the Thumb.

We have already deſcrib'd all the Ligaments belonging to the Articulation of the Carpus, with the Bones of the fore Arm, except their Inſertions in the Carpus. The Styloide Ligament of the Radius is fixed round the neighbouring Tuberoſity of the Os Scaphoides. The Styloide Ligament of the Ulna is fixed firſt in the Os Cuneiforme, and then in the Os Unciforme, from whence it is a little ſtretched over the fourth Bone of the Metacarpus.

The Ligamentary Ranges, which lie between the above-mention'd Ligaments, the Baſis of the Radius, and a ſmall Portion of the Head of the Ulna, are fixed round the common Convexity of the three firſt Carpal Bones, as is alſo the mucilaginous Capſula, by which theſe Ligaments are lined.

Beſides all theſe ſmall ſhort Ligaments belonging to each Bone in both Rows, the rough Surfaces of all the Bones, eſpecially thoſe which form the Convexity of the Carpus, give Inſertion to a great many Ligamentary *Faſciculi*, ſtretched over, and cloſely united to the former ſmall Ligaments, and ſerving, probably, to ſtrengthen them. Some Faſciculi of the ſame kind are found on the concave Side of the Carpus, but they are fewer in Number, and not ſo ſtrong.

There is likewiſe a conſiderable Ligament, called the inner tranſverſe Ligament of the Carpus. It was formerly called an annular Ligament, and may ſtill very juſtly retain that Name in the Senſe already explain'd, when I ſpoke of the Ligaments in general.

The Bones of the Metacarpus, beſides the ſhort Ligaments by which they are tied to the ſecond Row of the Bones of the Carpus, have ſeveral Rows, by which both their Baſes and Heads are connected together. The Baſes of the third and fourth Bones are not ſo cloſely tied as the reſt, and therefore they have a very ſenſible Motion, which, however, is greater in the fourth than in the third.

The Heads of theſe Bones are firmly tied to each other, by a ſtrong tranſverſe Ligament, ſituated in the Palm of the Hand, and fixed by diſtinct Productions in the neighbouring Part o the Heads, in ſuch a manner, as to form in the Spaces between the Heads, as it were, perforated or chanel'd *Fræna*, through which the Tendons of the Flexor Muſcles of the Fingers have a free Paſſage, and theſe *Fræna* are alſo ſupported by aponeurotic Expanſions.

The firſt Phalanx of the Thumb is fixed to the Os Trapezium by ſhort Ligaments, which paſs obliquely over the Articulation. The firſt Phalanges of the other four Fingers ar joined to the Heads of the Metacarpal Bones, almoſt in th ſame manner, and by Ligaments like the former, which ar ſtrengthen'd by adhering to the tranſverſe Ligament. The ſecond Phalanx of the Thumb is joined to the firſt, by Lig ments of the ſame kind.

The third Phalanx of the Thumb is joined to the ſecond the ſecond Phalanges of the other Fingers to the firſt, and th third to the ſecond, by lateral Ligaments almoſt in the ſam manner as the Bones of the fore Arm to the Os Humeri; th is, theſe Ligaments ſpread from a Point fixed in the later Tubercles of the Heads of the Phalanges, and are inſected their other Extremity like *Radii*, in the Baſes of the neig bouring Phalanges.

The two firſt Phalanges of each Finger have a very ſtro Ligamentary *Vagina* inſerted in the rough Lines or Ridges their flat Sides. Theſe *Vaginæ* are lined with a mucilagino Membrane, which runs like a Tube, from one Phalanx to other, over the Articulation. They ſerve for *Fræna* to Flexor Muſcles of the Fingers, the Tendons of which through them. *Winſlow*.

All theſe Bones would be uſeleſs, and an Incumbrance, they were not furniſh'd with Muſcles, in order to move th in ſuch Directions, and for ſuch Purpoſes, as the Exigen of Mankind may require. All theſe Muſcles are deſcrib and their Uſes are ſpecify'd, under their proper Names. ſhall therefore only, in this Place, give their Names, and ſo Obſervations of Mr. *Cowper*, relative to them.

Galen, *Jacobus Sylvius*, and *Veſalius*, deſcribe ſeven M cles belonging to each Arm, that is, the

PECTORALIS.
DELTOIDES.
TERES MAJOR.
LATISSIMUS DORSI.
SUPRASPINATUS.
INFRASPINATUS, and
SUBSCAPULARIS.

Arantius, in his Anatomical Obſervations, counts another *Riolanus* called,

CORACOBRACHIÆUS.

To which *Julius Caſſerius Placentinus* adds the

TERES MINOR

By ſome reckoned as the eighth Muſcle of this Part, is therefore called OCTAVUS HUMERI PLACENTINI.

The MUSCLES *of the* CUBIT.

The lower Part of the Arm, from the Elbow to the is called the Cubit, which is either bended or extende five Muſcles, which are the

BICEPS.
BRACHIÆUS INTERNUS.
GEMELLUS.
BRACHIÆUS EXTERNUS, and
ANCONÆUS.

Of the MUSCLES *of the* PALM *of the* HAND.

The antient Anatomiſts mention but one Muſcle be to the Palm, which is the PALMARIS LONGUS.

But *Fallopius* deſcribes the PALMARIS BREVIS, c nicated to him by *Joannes Baptiſta Cananus*, an Anatomiſt, his Contemporary, and was firſt publiſhed *verda*, in his Anatomy written in *Spaniſh*.

The MUSCLES *of the* FOUR FINGERS.

The Muſcles of the four Fingers are divided into and proper. The common Muſcles of the Fingers are ariſe from the external or internal Protuberances of the *Os Humeri*, and, ſubdividing themſelves, are inſerted into moſt, if not all the Fingers ; they are the

Perforatus.
Perforans.
Lumbricales, and
Extensor Communis Digitorum.

The proper Muſcles of the Fingers are ſuch as have their Beginnings diſtinct, and are inſerted, without any Subdiviſion, into each reſpective Finger; as the

Interossei.
Extensor Indicis.
Abductor Indicis.
Extensor Minimi Digiti.
Abductor Minimi Digiti.

Of the Muscles *of the* Thumb.

Authors diſagree concerning the Number, Riſe, and Inſertions of the Muſcles of the Thumb; which may partly proceed from that great Variety, which may be ſo frequently obſerved in divers Subjects: They are the

Flexor tertii Internodii, seu Longissimus Pollicis.
Abductor Pollicis.
Flexor primi et secundi Ossis Pollicis.
Adductor Pollicis.
Extensor primi Internodii Pollicis.
Extensor secundi Internodii Ossis Pollicis.
Extensor tertii Internodii Ossis Pollicis.

Of the Muscles *of the* Wrist *or* Carpus.

Theſe are generally well deſcribed by moſt Authors, and receive their Names from their Situation and Uſe.

Flexor Carpi Radialis.
Flexor Carpi Ulnaris.
Extensor Carpi Radialis.
Extensor Carpi Ulnaris.

Of the Muscles *of the* Radius.

The Radius is moved in common with the Ulna, or Cubitus; but beſides that, it hath alſo a proper Motion, in which the Carpus, together with the Hand, is chiefly moved, or turned either upwards or downwards: And to this End there are two ſorts of Muſcles; of which ſome are called *Pronatores*, or thoſe that turn it inwards, and the Palm of the Hand downwards; and others *Supinatores*, which turn it outwards, and the Palm of the Hand upwards. Theſe have their Names from their Figure and Uſe, and are,

Pronator Radii Teres.
Pronator Radii Quadratus.
Supinator Radii Longus.
Supinator Radii Brevis.

For the Blood-veſſels of the ſuperior Extremities, ſee Arteriæ, and Venæ. And for the Nerves, ſee Nervi.

BRACHUNA. The ſame as Acrai, which ſee.

BRACHYCEPHALI, βραχυκεφαλοὶ, from βραχὺς, ſhort, and κεφαλὴ, a Head. A kind of Fiſh, condemn'd by *Oribaſius*, *Med. Coll. Lib.* 2. *cap.* 58. as of bad Juice, and a rank Smell.

BRACHYCHRONIUS, βραχυχρόνιος, from βραχὺς, ſhort, and χρόνος, Time. An Epithet of a Diſeaſe which continues but a ſhort Time. *Galeni Def. Medicæ.*

BRACHYLOGIA, βραχυλογία, from βραχὺς, ſhort, and λόγος, a Word or Sentence. A ſhort Sentence, ſuch as the Aphoriſms of *Hippocrates*.

BRACHYPNŒA, βραχύπνοια, from βραχὺς, ſhort, and πνέω, to breathe; moſt frequently ſignifies a ſhort and ſmall Reſpiration, and one fetch'd by long Intervals, according to *Galen*, *Lib.* 3. *de Diff. Reſp. Cap.* 8. So βραχύπνοος is one who draws his Breath ſmall and rare, that is, by long Intervals, from an univerſal Refrigeration of the Body, and Extinction of the natural Heat, *Lib.* 3. *Epidem. Ægr.* 1. & 15. But, *Lib.* 1. *Epid.* and *Lib.* 6. *Epid. Sect.* 2. *Aph.* 9. βραχύπνους is a ſhort Reſpiration at ſmall Intervals, or ſmall and frequent, and is oppos'd to μακρόπνους. *Galen*, *Lib.* 3. *de Diff. Reſp. Cap.* 11. *Foeſius.*

BRACHYPOTÆ, or BRACHYPOTI, βραχυπόται ἢ βραχύποτοι, from βραχὺς, ſhort, ſmall, and πότος, Drink. Little Drinkers. Perſons in a Phrenſy are ſaid, *Lib.* 1. *Prorrhet.* to be βραχυπόται, that is, to drink little and ſeldom. The ſame in *Galen*, *Com.* 3. *in* 3. *Epid.* are call'd βραχύποτοι, which he explains to be ὅσοι καὶ βραχὺ καὶ διὰ πολλοῦ πίνουσιν, "ſuch as drink little at a time, and at long Intervals."

Some have erroneouſly imagin'd, that by this Word *Hippocrates* means to expreſs the Dread of Fluids, with which People under a Hydrophobia are ſeiz'd. But it is plain, that he only means a Symptom very common in Fevers of the worſt kind; and which is neceſſarily bad, becauſe it prevents the Patient from taking ſufficient Quantities of diluting Liquors, which are of great Importance in the Cure of acute Diſeaſes.

It ſeems not unlikely, that this Diſguſt at Fluids may ariſe from a Dryneſs, and conſequent Cloſure of the Mouths of the lacteal Veſſels, which prevents Liquors from entering into them. Hence Liquors ſwallow'd are a Burden in the inteſtinal Tube, and conſequently are nauſeated.

Upon this Subject, I remember a pretty Obſervation of a Phyſician of Reputation, communicated to me; which was, that he attended a Patient in a Fever, whom he imagin'd plentiful Diluting would relieve; but could not prevail on him to take any Fluids, 'till, at laſt, he offer'd him ſome Oil of ſweet Almonds, which he took with Pleaſure, and would not be eaſy without taking it in large Quantities 'till he recover'd. If we conſider the Lacteals, in this Caſe, as obſtructed by extreme Dryneſs, and, at the ſame time, reflect upon the relaxing Nature of Oils, we may readily conceive why Oils ſhould be agreeable to this Patient, whilſt he could bear to drink nothing elſe.

BRACHYS. See Brevis.

BRACIUM. Copper. *Rulandus.*

BRACTEA, ἔλασμα, ἐλασμὸς, πέταλον. The ſame as *Lamina*, a Plate, or thin Piece of Metal. *Rulandus.*

BRADYPEPSIA, βραδυπεψίη, from βραδὺς, ſlow, and πέπτω, to concoct. A ſlow, weak, and imperfect Concoction of Food. *Gal. de Diff. Sympt. Cap.* 4.

BRADYS, βραδὺς, ſlow. See Tardus.

BRANCA, an *Italian* Word, ſignifying Foot. Hence the *Acanthus* is call'd *Branca urſina*, that is, *Bear's-foot*, from the Reſemblance of its Leaves to the fore Feet of a Bear. *Blancard.*

BRANCA LEONIS, or PES LEONIS. The ſame as Alchimilla, which ſee.

BRANCA URSINA, *Germanica.* See Sphondylium.

BRANCHUS, βράγχος, τὸ, a Defluxion of Humours upon the Fauces, being a Species of Catarrh, call'd by *Cælius Aurelianus*, *Lib.* 2. *Tard. Paſſ. cap.* 7. *Raucitas*, a Hoarſeneſs. Hence, *Lib.* 1. *Epid.* βραγχώδεες φωναὶ, and βραγχωδέστατα ὕδατα, *Lib. de Aer. Loc. et Aqu.* are Waters which very much diſpoſe to a Hoarſeneſs. *Foeſius.*

BRANCHI, or BRANCHÆ, is alſo a Name for thoſe glandulous Tumors in the Fauces, which reſemble two Almonds, and are accompany'd with a Difficulty of Spitting, and a troubleſome Reſpiration. *Caſtellus.*

BRANCIA. Glaſs. *Rulandus.*

BRANTA, or BERNICLA. A kind of Gooſe in *England* and *Scotland*, which has been the Subject of many fabulous Stories; as that it grows on Trees, and hangs on the Trunk or Branches; or is generated of rotten Wood. It is deſcribed by *Aldrov. Ornith. Lib.* 19. *Cap.* 23. Its Fleſh is more unſavoury and rank, than of the common Gooſe, but is eſteem'd a Delicacy in the inland Parts of *Scotland.*

BRASE. Coals. *Rulandus.*

BRASILIA, Offic. *Arbor Braſilia*, Raii Hiſt. 2. 1736. Park. Theat. 1644. *Braſilium lignum*, J. B. 1. 490. *Braſilium lignum*, Chab. 37. *Lignum Braſilianum*, Geoff. Tract. 310. Mont. Exot. 8. *Pſeudoſantalum rubrum, ſive Arbor Braſilia*, C. B. Pin. 393. *Ibirapitanga ſive Lignum rubrum*, Piſon. (Ed. 1658.) 164. *Ibirapitanga Braſilienſibus*, Marcg. 101. *Criſta pavonis Coronillæ folio tertia, ſive Tinctoria maxima Braſiliana, flore variegato parvo odoratiſſimo, ſiliquâ aculeatâ, lignum Braſilium dictum ferens*, Breyn. Prod. 2. 37. *Etythoxylum Braſilianum ſpinoſum, foliis Acaciæ*, Herm. Par. Bat. Prod. 333. BRASIL WOOD. *Dale.*

This is the Wood of a Tree call'd *Pſeudoſantalum rubrum Braſiliæ*, C. B. P. It is uſed by Dyers in dying Red, as the yellow *Braſil* Wood is for that Colour. *Geoffroy.*

It is cold and dry, mitigates the Heat of Fevers, and is a Reſtringent and Strengthener, like the Wood of *Sanders.* *Dale.*

BRASIUM. The ſame as Byne, which ſee.

BRASMA, βράσμα, in *Dioſcorides*, *Cap.* 189. *Lib.* 2. is a light empty ſort of black Pepper, which is good for nothing. *John Bauhine* aſſures us, that it is the ſame with what is now obſerved to corrupt on the Plant, and never come to Maturity.

BRASMOS, βρασμός. The ſame as ζύμωσις. "Fermentation;" for which a very antient *Greek* Author, *Pharnuthus*, is quoted. It is alſo call'd *Ecbraſmus*, ἐκβρασμός. *Caſtellus.*

BRASSATELLA, *Braſſadella.* The ſame as Ophioglossum, or *Adder's Tongue.* *Rulandus.*

BRASSICA. A Cabbage. A celebrated Plant among the Antients, and much in Uſe among the Moderns.

The Garden Cabbage is agreeable to the Stomach, if it be eaten ſlightly boil'd; for, after thorough Boiling, it binds the Belly; and much more, if it be twice boil'd, or boil'd in a Lixivium. The Summer Cabbage is more acrimonious and hurtful to the Stomach. What grows in *Egypt* is not eatable, becauſe of its Bitterneſs.

Cabbage, in Food, is good for Dulneſs of Sight and Tremblings: Eaten after Meals, it prevents the miſchievous Conſequences of Surfeiting and Drunkenneſs. The tender Shoots are moſt agreeable to the Stomach, but fuller of Acrimony, and more diuretic; but, being put in Pickle, are hurtful to the Stomach, and diſturb the Belly. The Juice of raw Cabbage, taken with Iris and Nitre, mollifies the Belly; and, drank in Wine, is good againſt the Bite of a Viper. Mix'd with the Meal of Fenugreek and Vinegar, it helps the Gout in the Feet and Joints; and is effectually apply'd to old and foul Ulcers. Infuſed by itſelf into the Noſtrils, it purges the Head; and, made into a Peſſary with Meal of Darnel, provokes the Catamenia. A Cataplaſm of the Leaves, either alone or bruiſed with Polenta, is effectual againſt all kinds of Inflammations, œdematous Swellings, and Eryſipelas; and cures the Epinyctides and Lepra. The Leaves, applied with Salt, cauſe a Carbuncle to break, and reſtrain the Falling-off of the Hairs of the Head. The ſame boil'd, and mix'd with Honey, ſtop the Progreſs of a Gangrene; and, eaten raw with Vinegar, relieve thoſe who labour under ſplenetic Diſorders: Chew'd in the Mouth, ſo as that the Juice be ſwallow'd, they reſtore a loſt Voice. A Decoction of Cabbage, drank, looſens the Belly, and provokes the Menſes. The Flowers, uſed in a Peſſary after Child-birth, prevent Conception. The Seed, eſpecially what grows in *Egypt*, being drank, expels Worms; and is an Ingredient in theriacal Antidotes. It alſo clears the Face of Freckles. The green Stalks, burnt, with the Roots, and then mix'd up with old Swine's Fat, and applied, mitigate inveterate Pains of the Sides. *Dioſcorides*, *Lib*. 2. *Cap*. 146.

Wild Cabbage grows, for the moſt part, in craggy Places, and by the Sea-ſide. It is like the Garden Kind, only whiter, more hairy, and bitter. The tender Buds, boil'd in a Lixivium, are not unſavoury to the Palate.

A Cataplaſm of the Leaves conglutinates Wounds, and diſcuſſes œdematous Tumors and Inflammations. *Idem*, *Cap*. 147.

It would require a long Time to ſpeak all that has been ſaid in Praiſe of Cabbage. *Chryſippus* the Phyſician wrote a Volume on this Subject, which he digeſted under general Heads and Sections, according to the different Parts of the human Body; and *Dieuches* has written another: But, before them all, *Pythagoras* and *Cato* were no leſs liberal of their Encomiums on Cabbage. The Opinion of *Cato* concerning its Virtues deſerves to be fully repreſented; and the rather, that we may know what ſort of Phyſic the *Roman* People uſed for ſix hundred Years together.

The moſt antient *Greeks* made three Species of Cabbage: As, firſt, the *curled*, which they call'd *Selinas*, from the Reſemblance of its Leaves to thoſe of Apium. This Kind is friendly to the Stomach, and gently mollifies the Belly. Another Species was the *ſmooth*, ſhooting forth broad Leaves from its Stalk, whence it was call'd by ſome *Caulodes*: It was of no Uſe in Medicine. The third was properly call'd *Crambe*, which produced thinner Leaves, plain, and growing very thick together: This is of a bitter Taſte, but of great Virtues. *Cato* moſt approves of the *curled*; next to which he prefers the *ſmooth*, with the large Leaves, and great Stalk.

He tells us, that it is effectual for Pains of the Head, Dimneſs of Sight, and Scintillations of the Eyes; for the Spleen, Stomach, and Præcordia, if it be taken in the Morning raw, in Vinegar and Honey, mix'd up with Coriander, Rue, Mint, and the Root of Laſer, to the Quantity of a Quartet of a Pint: That there is ſo great a Virtue in this Medicine, that the very Perſon who bruiſes the Ingredients will feel an Increaſe of Strength. It may be ſupp'd after it is bruiſed with theſe Simples, or taken out of the Liquor and eaten. Mix'd with Rue, Coriander, a little Salt, and Barley-meal, it makes a Cataplaſm for the Gout. A Decoction of it in Water wonderfully helps the Nerves and Joints; and is an effectual Fomentation for Wounds, whether recent or old; and even for a Carcinoma, which can be cured by no other Medicine. He firſt orders the Part to be fomented with the warm Decoction, and the Herb to be bruiſed and applied twice in a Day; and by the ſame Method are hollow Fiſtulas incarn'd, and Tumors diſcuſs'd. Boil'd Cabbage, plentifully eaten faſting, with Oil and Salt, relieves under Want of Sleep: Twice boil'd, and eaten with Oil, Salt, Cumin, and Polenta, it eaſes the Gripes; if eaten without Bread, it will have the more Effect. Among other Virtues, drank in black Wine, it purges Bile. The very Urine of one that uſually eats Cabbage, being kept a while, and heated, is a Remedy for the Nerves. I will expreſs the Author's Mind in his own Words, which are as follow: "If you waſh little "Boys with that Urine, they will never grow weak." He alſo adviſes the Juice of Cabbage, in Wine, to be inſtil'd warm into the Ears, and aſſures it to be good for Dulneſs of Hearing; and ſays, moreover, that it cures the Impetigo without ulcerating the Parts. So far *Cato*, for whoſe ſake it is fit that I ſhould ſubjoin the Opinions of the *Greeks*, which I ſhall do only in thoſe Things which he has omitted. They hold it, if parboil'd, to be a Cholagogue, and to looſen the Belly; but, after two Boilings, to be binding: That it reſiſts Wine, as being an Enemy to Vines: That taken firſt at Meals, it prevents Drunkenneſs; if laſt, Surfeits: That, eaten as Food, it conduces much to Clearneſs of Sight; but is much more effectual, if only the Corners of the Eyes be touch'd with the raw Juice, mix'd with *Attic* Honey: That it is a Food of very eaſy Concoction, and cleanſes and quickens the Senſes. The Diſciples of *Eraſiſtratus*, with one Voice, aſſert, that there is nothing more beneficial to the Stomach and Nerves, and preſcribe it in Palſies, and Tremblings, and Spitting of Blood. *Hippocrates* orders it, after two Boilings, with Salt, to be given to thoſe who labour under the Colic or Dyſentery. He judges it alſo to be good in the Teneſmus and Affections of the Kidneys, and to procure Plenty of Milk to Women in Child-bed who eat it, and to provoke the Menſes. The Stalks, eaten raw, expel the dead Fœtus. *Apollodorus* adviſes the Drinking of the Seed or Juice, againſt the Poiſon of Muſhrooms [*Fungi*]. *Philiſtius* recommends the Juice in Goats Milk, with Salt and Honey, for the *Opiſthotonici*. I find alſo, that ſome have been freed from the Gout by eating it, and drinking the Decoction; and it is preſcribed for the Cardiac Paſſion, and the Epilepſy; and alſo for Diſorders of the Spleen, in White-wine, for forty Days. The raw Juice of the Root is order'd to be gargarized, and drank, for the Jaundice, and in a Phrenſy. For the Hiccough it is preſcribed to be drank in Vinegar, with Coriander, Dill, Honey, and Pepper; and Inflations of the Stomach have been relieved by anointing it with the ſame. The Decoction only, with Barley-meal, or the Juice in Vinegar, or with Fenugreek, heal the Bites of Serpents, and old ſordid Ulcers. Some apply it to the Joints affected with the Gout; and an Application thereof cures alſo the Epinyctides, or any other ſpreading cutaneous Affection; alſo a ſudden Dimneſs [*Caligines*], which it alſo helps, if eaten with Vinegar. The ſimple Juice takes off the livid Marks of Blows in the Face, or any other Part, if it is anointed therewith: The ſame, with round Alum and Vinegar, cures the Lepra and Pſora; it prevents alſo the Falling-off of the Hair. *Epicharmus* aſſerts, that an Application of it is very effectual in Diſeaſes of the Pudenda; and that its Virtue is increaſed by mixing it with Bean-meal. Mix'd with Rue, it cures Convulſions; and, taken with the Seeds of Rue, it allays the Heat of burning Fevers, helps Diſorders of the Stomach, and expels the After-birth. The Powder of the dried Leaves cures the Bites of the Shrew-mouſe.

Of all the ſorts of Cabbage, the ſweeteſt are the *Cymæ* (young Sprouts, after the firſt Cutting); tho' they are of no Uſe in Medicine, are difficult of Concoction, and noxious to the Kidneys. We ought alſo to take Notice, that the Liquor of boil'd Cabbage, ſo much commended for its manifold Uſefulneſs, ſtinks when pour'd upon the Ground. The Aſhes of burnt Cabbage-ſtalks are reckon'd among Cauſtics; and, mix'd with very old Fat, help the Sciatica. With Laſer and Vinegar they ſerve as a Pſilothrum, to prevent the Growth of Hair after they have been pull'd out. Drank in heated Oil, or in Water wherein they alone have been boil'd, they are effectual in Convulſions, inward Ruptures, and Bruiſes by Falls.

Are there, then, no ill Properties belonging to Cabbage Yes, theſe ſame Authors acknowledge, that it gives a Perſo a rank Breath, is hurtful to the Teeth and Gums; and in *Egyp* they will not eat it, on account of its Bitterneſs.

Cato is very diffuſe in his Praiſes of the wild Cabbage, an affirms, that the Powder of the dried Plant, made into an Er rhine, or the Smell of it alone, taken up the Noſtrils, cures al Defects, and amends the ill Scent therein. Some call this th Rock Cabbage, and ſay, that it is a great Enemy to Wine that the Vine avoids it above all things, and, if it cannot ge rid of it, dies. It has two ſmall round ſmooth Leaves, an is much like the Garden Colewort, but whiter and more hairy *Chryſippus* recommends it for Inflations, and melancholy Di orders; alſo for recent Wounds, being applied with Honey and not taken off before the ſeventh Day: For ſtrumous Swell ings and Fiſtulas, he orders it to be bruiſed in Water. Othe affirm, that it checks the Progreſs of ſpreading Ulcers, whic they call *Nomæ*; conſumes Excreſcences, and ſmooths the Ski from Seams and Scars; that being chew'd, or the Decoction it gargariz'd with Honey, it heals Ulcers of the Mouth, an Affections of the Tonſils; and that three Parts of it, mix with two Parts of Alum, in ſtrong Vinegar, cure the Pſor and inveterate Lepra, if anointed therewith. *Epicharmus* w have the Application of it a ſufficient Cure for the Bite o mad Dog; but it is more effectual with Laſer and ſtrong Vin gar. It is alſo ſaid to kill Dogs, if given to them in Fle The Seed, roaſted, is a Remedy againſt the Venom of Serpen and the poiſonous Effects of Muſhrooms, and Bulls Bloo The boil'd Leaves are given in Food for Diſorders of the Splee and are applied crude, with Sulphur and Nitre, by way of C taplaſm, to the affected Part, with good Succeſs; as alſo t Hardneſs of the Breaſts. The Aſhes of the Root cure a Sw ing of the Uvula, by touching it; and, made into a Litus, w

Honey, repreſs the Parotides, and heal the Bites of Serpents. We ſhall here add one great and wonderful Argument for the Virtues of Cabbage, which is, That if all your Veſſels, uſed for Boiling, have contracted a Cruſt or Foulneſs on the Inſide, to ſuch a Degree, that you know not how to remove it, Cabbage boil'd in your Veſſels ſhall effectually ſcour it off, and leave them clean.

The Lapſana is a Species of wild Cabbage, a Foot high, with hairy Leaves, and very much reſembling the Napus, but that it has a whiter Flower. It is eaten in Food, and gently mollifies the Belly.

The Sea Cabbage purges with more Violence than any of the reſt: It is dreſs'd with fat Fleſh-meats on account of its Acrimony, and is very offenſive to the Stomach. *Pliny*, *Lib.* 20. *Cap.* 9.

Cabbage twice boil'd, if it be eaten, binds the Belly; but Cabbage once, and not much, boil'd, and then taken in Oil, Garum, or Salt, is rather looſening than binding; and the Juice thereof is alſo more purgative than that of Lentils: But the *Braſſica marina*, or Sea Cabbage, is more manifeſtly of a purging Quality, which may be known by its ſaltiſh and bitter Taſte. *P. Æginet. Lib.* 1. *Cap.* 74.

Cabbage is of a drying Quality, whether eaten or outwardly applied, without any manifeſt Acrimony; for which Reaſon it conglutinates Wounds, and cures malignant Ulcers, and Tumors which are difficult to be diſcuſs'd. It has alſo ſomewhat of a deterſive Property, by which it heals the Lepra. The Seed, eſpecially what grows in *Egypt*, being drank, deſtroys Worms. The Aſhes of the burnt Stalks are a Cauſtic; and, mix'd with Fat, are effectual in removing an inveterate Pain in the Sides. The wild Cabbage is ſtronger than the Garden Kind upon all Accounts, and is therefore not to be taken inwardly without Injury. *Idem*, *Lib.* 7. *Cap.* 3.

The Juice of Cabbage has ſomewhat of a purgative Quality, tho', according to the common Notion of Dryers, it ſhould rather bind, than diſpoſe to Excretion. Cabbage is, indeed, as much a Dryer as Lentils, and therefore dulls the Sight, except the Eye be preternaturally moiſt. However, it is not ſo wholſome a Green as Lettuce, but contains a bad and ſtinking Juice. *Oribaſius*, *Med. Coll. Lib.* 2. *Cap.* 5.

The ſame Author recommends a Decoction of the Root of Cabbage as a Diuretic and Emmenagogue. *Synopſ. Lib.* 1. *Cap.* 22.

A Way of preparing CABBAGE, *quoted by* Oribaſius, *from* Mneſitheus Cyzicinus.

Cut up a Cabbage with a very ſharp Knife; then waſh it, and throw away the Water. After this, pound the ſame with a ſufficient Quantity of Rue and Coriander; then ſprinkle it well with Oxymel, and throw over it ſome fine Scrapings of Silphium.

Half a Quarter of a Pint of this Medicine, being taken, will ſuffer no Collection of noxious Matters in the Body, and expels them, if already gather'd. Beſides, it helps Dimneſs of Sight, Shortneſs of Breath, and all manner of Diſorders in the Region of the Diaphragm and Hypochondria, opens Obſtructions of the Spleen, and extenuates that Part, when increaſed to an enormous Size; and is wonderfully effectual in Diſorders proceeding from the Atra Bilis, by purging the Veins. In Diſeaſes of the Joints, there is nothing of ſuch Efficacy as this Preparation of Cabbage, taken in the Morning faſting.

For the Gripes it is prepared in the following manner:

Let the Cabbage be firſt macerated in Plenty of Water; then put into hot Water, and boil'd till it be much waſted. This done, the Water muſt be all thrown away, and Oil put to it: Let them boil together, and then be put into a Veſſel. It is to be eaten alone cold, or with other Food, not once only, but every Day in the Morning, for many Days together; but not much of it muſt be taken at a time, leſt it ſhould do more Harm than Good. *Oribaſ. Med. Coll. Lib.* 4. *Cap.* 4.

Simeon Sethi, an Author amongſt the lower *Greeks*, and who lived about the Year 1070. writes thus of Cabbage.

Cabbage generates depraved and melancholic Juices, weakens the Sight, and interrupts Sleep with frightful and diſagreeable Dreams. Its Juice is purgative, but the Subſtance of the *Cabbage* itſelf is binding; for which Reaſon, when we intend to stop Diarrheas, we pour out the Water in which the Cabbage was boil'd for ſome time, and add freſh Water to it immediately; and, after it has been thus boil'd, it is to be uſed without being expoſed to the Air, or put in cold Water to cool it. Its Uſe is more prejudicial in the Summer than in the Winter-time. It provokes Urine, kills Worms, and removes the bad Conſequences ariſing from a Surfeit of Wine. It is ſaid to render the Sight of ſound Eyes dim; and, on the other hand, to remove that Species of Dimneſs which ariſes from a ſuperfluous Humidity. It loſes much of its noxious and hurtful Quality, by being boil'd with fat Fleſh. Its Seeds, applied to the genital Parts, by a certain peculiar occult Quality, corrupt the ſeminal Juices, and hinder Women from conceiving; they are alſo prejudicial to the Lungs. It is reported, that *Cabbage* is, of all other Foods, the moſt proper for preventing Intoxication by Liquors; and that its Juice, exhibited in Honey, wonderfully reſtores the Voice when loſt or diſorder'd. If applied to Wounds, it conglutinates them; and cures malignant Ulcers, and ſcirrhous Inflammations. *Simeon Sethi.*

From theſe Obſervations of the Antients it is obvious, that in Cabbage we are to conſider two kinds of Subſtances, on which the different Effects produced by it depend: The one is a ſolid and terreſtrial Principle, from which it derives its drying, aſtringent, and obſtructing Qualities, and its Tendency to generate depraved and melancholic Juices. The other is its Juice, to which its abſtergent, opening, and deobſtruent Virtues are to be aſcribed. This Doctrine is alſo inculcated by the *Schola Salernitana*, *C.* 57. in theſe Words:

> *Jus Caulis ſolvit, cujus Subſtantia ſtringit.*

But as the Sentiments of Dr. *Hoffman* will, in all Probability, be of greater Weight with the preſent Age, I ſhall here give his Opinion of *Cabbage*, in a Tranſlation of his own Words.

Common red *Cabbage*, ſays he, is evidently poſſeſs'd of a medicinal Quality; and abounds with a Juice, which, by its nitrous, ſweet, emollient, laxative, aperitive, attenuating, and ſtimulating Qualities, promotes thoſe Excretions which are abſolutely neceſſary to the Preſervation of Health. For this Reaſon it is not only a Preſervative againſt Diſeaſes, eſpecially of the chronical Kind, but alſo contributes very conſiderably to their Cure. *Bartholine*, in *Libr. de Medicina Danorum Domeſt. Diſſert.* 1. extols *Cabbage* in theſe Words: "The common "Cabbage of the Country-people is juſtly preferable to other "Pot-herbs, ſince, both raw and boil'd, it is poſſeſs'd of ſuch "ſalutary Qualities, as to prevent Occaſions for the Medicines "uſed in the Shops. For this Reaſon, when a certain foreign "Phyſician came into *Denmark* with a Deſign to ſettle, and "ſaw the Gardens of the Country-people ſo well ſtock'd with "*Cabbage*, he, with good Reaſon, prognoſticated ſmall En"couragement for himſelf in that Part of the World. It keeps "the Belly in an eaſy and ſoluble State, and a Decoction of "the Tops of its tender Shoots diſcharges ſuch an incredible "Quantity of Bile and Phlegm, that no Medicine proves a "quicker, a ſafer, or a more efficacious Purge, Hellebore and "Scammony not excepted." In the Shoots of the common red Cabbage, cut longitudinally, when the Autumn is pretty far advanced, there is a Juice whoſe Taſte reſembles that of Honey or Manna, which flows from them when laid in a cool Place for ſome time, and which I have often experienced to be of a purgative Quality. It is a bad Method of preparing Cabbage, firſt to boil it for ſome time, and pour out the Water; and then to boil it again with freſh Water; ſince, by this means, its ſalutary and medicinal Juice is in a great meaſure loſt. For this very Reaſon I cannot help commending the Method of preparing it uſed by the Inhabitants of *Weſtphalia*, and the Duchy of *Brunſwick*; for they do not throw away the Broth, which is impregnated with the more noble and ſalutary Virtues of the Plant; but, adding Salt and Fat to it, prepare it in ſuch a manner, as that it becomes not only agreeable to the Taſte, but wholſome and ſalutary to the Conſtitution. Of the Tops of red Cabbage, Water-creſſes, Ground-ivy, Spinage, Aſparagus, Succory-root, and Dead-nettle, boil'd in Beef or Capon Broth, a Food is prepared, far preferable to all other Medicines in phthiſical and ſcorbutical Diſorders. *Hoffman de Præſtantia Medic. Domeſtic.*

The Juice of Cabbage is of ſuch a Nature as not only to afford a ſufficient Supply of Nouriſhment to the Body, but alſo to correct the acrid Salts of the Juices, allay the Acrimony of the Blood, cleanſe the Inteſtines, and ſcour the Kidneys. For this Reaſon, Cabbage is highly ſalutary in Diſorders of the Breaſt, if baked in a cloſe Veſſel in an Oven, adding Sugar or Honey to it, after it is taken out; for by this means it will, in the Space of half an Hour, become a Jelly, or thick Juice, which, uſed as a Lambative, is of ſingular Efficacy in dry Coughs, excoriated Fauces in old Men, and Caſes where a purulent Matter is expectorated. A Decoction of Cabbage, with an Addition of Raiſins, is uſed by Preachers and Pleaders in Hoarſeneſs, and Defects of Voice, ariſing from too long Speaking. Its Juice, uſed for ordinary Drink, proves an excellent Remedy for the Scurvy; and this was, in all Probability, the Reaſon why the foreign Phyſician, mention'd by *Bartholine*, promiſed himſelf ſo poor Encouragement in *Denmark*, where the Scurvy is endemial, when he ſaw their Gardens ſo well ſtored with this Plant. The *Italians* put the young Tops of the *Braſſica fimbriata*, or Boor-cole, into their Sallads, in order to render the Body ſoluble, and provoke Urine. *Konigius* gives us an Account of a dropſical Patient, who, after deſpairing of Relief from the Phyſicians, was at laſt happily cured by a Quack, by means of Cabbage infuſed in Wine, with proper Correctors. The Plant itſelf, a little boil'd, with an Addition of Lemon-juice, and new Butter, is an excellent Remedy in phthiſical and hectic Diſorders. The red Cabbage is preferable to the white, in Caſes where the Body is afflicted with Ulcers, ſince, in ſuch Conſtitutions, the white ſoon aſſumes a putrid Quality, and becomes fetid. I am of Opinion, that the moderate Uſe of it may, in ſome Caſes, produce ſalutary Effects; but can't perſuade myſelf to believe, that large Quantities of it, frequently taken, ſupply the Body with laudable nutritious Juices. Where Urine is to be provoked, or the Body render'd ſoluble, it, by its ſtimulating Muriatic Acid, proves effectual, with ſuch as are not accuſtom'd to take Phyſic. Many People, eſpecially in *Poland*, uſe pickled Cabbage for diſſipating the Remains of a Debauch, which Intention they find it anſwers very well. Beſides, it has been obſerved, that the Pickle of Cabbage plentifully drank, by the Country-people, has removed continued Fevers, cured Dropſies, and carried off the moſt obſtinate Tertian Agues. When the Peaſants of *Croatia* are ſeiz'd with Fevers, they ſucceſsfully apply Cataplaſms of pickled Cabbage to their Foreheads. The Pickle of Cabbage is ſaid to be very effectual in Burns, Gangrenes, and the Beginnings of Inflammations in the Fauces, where the Intention is to refrigerate and repel, eſpecially with an Addition of Lemon-juice. Nor is unpickled Cabbage leſs uſeful for various external Purpoſes, ſince it refrigerates, repels, opens, and deterges. Thus 'tis uſual, after Veſicatories are taken off, to apply the Leaves of white Cabbage, anointed with Butter; but they ought to be removed every two Hours. According to *Etmuller*, they may alſo be very properly laid upon Iſſues, in order to carry on the Diſcharge of the Matter, and prevent Conſolidation. Nurſes alſo apply the Leaves of Cabbage to their Breaſts, in order to prevent Coagulations of their Milk, and hinder it from being accumulated in too large a Quantity. Some apply them to Abſceſſes of the Breaſt, in order to prevent Inflammations, and promote the Conſolidation of the Ulcer. The Country-people, in order to cleanſe Wounds and Ulcers, either pour the Juice of Cabbage into them, or lay its Leaves bruiſed to them. Some uſe red Cabbage-leaves, after having ſtripp'd off the outer Skin and Ridges, by way of Plaiſter, in inflamed Wounds, and itchy Ulcers. The Leaves, anointed with Rape-oil, are, in peſtilential Diſorders, very ſucceſsfully applied for the Maturation of Ulcers and Carbuncles. *Diemerb. de Peſte.* The Leaves, boil'd up into a Cataplaſm, with Butter, maturate and break Impoſtumations. It is ſaid, that when the Achors of Children are repel'd, the Leaves of the *Braſſica Capitata*, applied to them, never fail to make the Diſcharge of the Matter return. *Simon Pauli* tells us, that he himſelf knew a certain Girl, who, in the Space of fourteen Days, had an incredible Number of Warts taken off one of her Hands, by anointing them with the Juice of Cabbage, which ſhe allow'd to dry on them. In feveriſh Heats the Leaves are applied to the Soles of the Feet, with Salt, inſtead of Veſicatories. *Etmuller* informs us, that an antipleuritic Ointment is prepar'd of the Root of Cabbage, mix'd with Clove-gilly-flowers and Honey. *Bartholetus* gives Directions with regard to the Method of uſing it in Pleuriſies, and affirms, that he has known many reſtored by its means, without the Concurrence of Veneſection. Others make it thus:

Take freſh Hogs-lard, and Cabbage-juice, each two Ounces; and of Cumin-ſeed, three Drams. Mix up into the Form of an Ointment, to be applied to the Part affected. ETMULLER.

The Efficacy of Cabbage, ſo much extol'd by the Antients in arthritic Pains, was happily experienced by a certain ſtrolling Quack in *Holland*, by whoſe Preſcriptions many were ſenſibly relieved from the moſt racking arthritic Pains and Swellings, in the Feet, Hands, and Knees. The Leaves of red Cabbage, for this Purpoſe, are to be warm'd at the Fire, and applied to the Parts affected. Some uſe them anointed with new *May* Butter. *Foreſt. Obſ. Med. L.* 29. *Obſ.* 10. The Seeds of the red Cabbage, and eſpecially the black Seeds of the *Braſſica Fimbriata*, are poſſeſs'd of an anthelminthic Quality; and, when bruiſed, with Sugar, contribute to invigorate the Organs of Speech, and render the Voice clear, ſtrong, and ſonorous. But when they are groſly pounded, boil'd in Fleſh-broth, and drank with the Broth, they are ſaid to give certain and immediate Eaſe in Colic Pains. When reduced to the Form of an Emulſion, with Succory-water, they are alſo an excellent Medicine in nephritic Pains, and ſcorbutic Caſes: If they cannot be had, Turnep-ſeeds are uſed as a Succedaneum to them.

The *Syrupus Braſſicæ rubræ*, in the *Pharmacop. Argentoratenſis*, is made of the Juice of that Plant mixed up with Sugar, and is highly recommended in Diſorders of the Breaſt, eſpecially Coughs and Aſthmas. The *Lohoch de caulibus Gordonii in the Pharmacop. Auguſtana*, and *Antwerp.* is prepar'd of the Juice of red Cabbage, with Saffron, Sugar, and Honey, and is highly extol'd in Hoarſeneſs, and in Coughs, which ariſe from Cold. The ſame Medicine is, by *Meſue*, prepar'd of the Juice of the Cabbage, with Sapa and Honey. Cabbage is a flatulent Species of Food, and of hard Digeſtion; for which Reaſon it is a good, as well as an antient Cuſtom, to boil it with fat Fleſh, that it may become tender, and eaſily digeſted, and to eat it with groſs-pounded Pepper, in order to prevent Flatulencies. That Cabbage is of a hard Subſtance, is obvious from its being render'd more ſweet and tender by Froſts, and nipping Colds; for 'tis probable, that its compreſſed and conſtricted Fibres are by the penetrating Cold ſo chang'd and alter'd, as to become ſofter when boil'd, and conſequently more eaſily digeſted by the Stomach. With regard to the Method of preparing Cabbage, I ſhall here give the Advice of *Bruyerinus*. "I muſt, *ſays he*, expoſe an Error which is no leſs common, than pernicious, in preparing Cabbage. Moſt People, in conſequence of the Ignorance of the Cooks, eat it after it has been long boil'd, a Circumſtance which does not a little diminiſh both its grateful Taſte, and ſalutary Qualities. But I obſerve, that thoſe who have a more polite and elegant Turn, order their Cabbage to be gently boil'd, put into Diſhes, and ſeaſon'd with Salt and Oil, by which Method they aſſume a beautiful green Colour, become grateful to the Taſte, and proper for keeping the Body ſoluble. This Circumſtance ought not to be forgot by thoſe who are Lovers of Cabbage." The Antients boil'd their Cabbage with Nitre, which render'd i at once more grateful to the Palate, and more agreeable to th Eye. Hence *Martial*, *L.* 13. *Epigr.* 17. gives the followin Advice.

Ne tibi pallentes moveant faſtidia caules,
Nitratâ viridis Braſſica fiet aquâ.

Among the Antients it ſeems to have been a Traditio commonly receiv'd, that Cabbage not only carried off th troubleſome Conſequences of a Surfeit, but alſo guarded again Intoxication, if eat before a Drinking-match was undertake For this Reaſon, the *Egyptians* were eſteem'd a debauch'd an intemperate People, becauſe they uſed previouſly to eat boil' Cabbage, that they might indulge themſelves the more fre and immoderately over the ſocial Bowl. The Seeds of t Cabbage were alſo previouſly taken by many, with a View prevent Intoxication. Beſides, the Antipathy between the Ca bage and Vines was believ'd to be ſo great, that the latt yielded a poor and weak Wine, if the former happen'd to gr near them. See *Athen. L.* 1. *C.* 25. *Alex. Trallian. L. C.* 10. *Pallad. R. R. L.* 9. *C.* 5. This Antipat they accounted for, by a Fable almoſt too ridiculous to mention'd. They affirm'd, that the Cabbage ſprung from Tear ſhed by *Lycurgus*; for, ſaid they, when *Bacchus*, bei afraid of *Lycurgus*, enter'd into the Sea, *Lycurgus* in t mean time, begirt with the pliant Branches of the Vine, dro a Tear, from which the Cabbage roſe; and ever ſince th was an Antipathy betwixt the Vine and the Cabbage; for, they, when the Vine and Cabbage happen to grow near ea other, the Cabbage itſelf either decays immediately, or cau the Twigs of the Vine to do ſo. They affirm'd alſo, that Conſequence of this Antipathy, when the Uvula or Colum la was too much relaxed by a Defluxion of Humours, Juice of raw Cabbage applied to the Head drew it back. Th maintain'd in like manner, that if Cabbage and Vines w planted near each other, the ſpringing Shoots of the Vi when beginning to approach the Cabbage, ceaſed to co forth in their former Direction, but were turned backwa as if they had been conſcious of the mutual Antipathy tween themſelves and the Cabbage. In like manner t ſaid, that when the leaſt Quantity of Wine was pour'd on Cabbage when it was boiling, it would after that beco incapable of being boil'd, and have its Colour ſpoil'd. *Ge L.* 12. *C.* 17.

Ariſtotle, *L.* 3. *Prob.* 17. ſtarts the Queſtion, why Cab removes the Conſequences of hard Drinking; and ſeem account for it, from its ſweet and diſcutient Juice. Whe what he advances on this Head is conſonant to Philoſo and good Senſe, or not, 'tis yet certain, that aqueous Li poſſeſſed of an abſtergent Quality, as the Juice of Cabbag not only dilute the Humours of our Bodies, and allay Fervor, but alſo make a Revulſion from the ſuperior to inferior Parts, and conſequently carry off a Crapula, by ing the Head from the offenſive Matter; and that Ca eaten previouſly to a Debauch, dilutes the ſpirituous Li drank, and blunts their Strength, ſo as to make them powerfully than they would otherwiſe do. But Expe convinces us, that the Efficacy of Cabbage is not ſo gr this reſpect, as entirely to prevent the Effects of imm Drinking.

As for the innate Antipathy between the Vine and the Cabbage, ſome of the Moderns have endeavour'd to account for it from the Nature of theſe two Plants, by ſaying, that they are both ſo fond of nutritive Juice, as greedily to ſuck up the Moiſture of the Earth; from which it happens, that when they are planted in the Neighbourhood of each other, the one muſt languiſh and decay, becauſe the other robs it of a ſufficient Supply of Moiſture. *Levin. Lemn. Mir. L.* 2. *C.* 52. *L.* 4. *C.* 10. And *Baco. H. N. Cent.* 5. *Exp.* 479, 480.

This Account however ingenious, labours under a terrible Diſadvantage, which is, that it is contradicted by Experience, ſince we find, that Cabbages thrive no-where better than among young Vines, which in their Turn thrive as well as if there was no Cabbage near them. See *Eph. N. C. D.* 2. *a.* 7. *o.* 64.

The ſeveral Species of Cabbage beſt known, and moſt uſed, are the following.

BRASSICA SATIVA, *Caulis*, Offic. *Braſſica capitata alba*, or white Cabbage Cole. Ger. 244. Emac. 312. C. B. Pin. 111. J. B. 2. 826. Chab. 268. Raii Hiſt. 1. 794. Tourn. Inſt. 219. Elem. Bot. 188. Boerh. Ind. A. 2. 21. Hiſt. Oxon. 2. 206. *Braſſica capitata*, Park. Theat. 268. *Braſſica capitata vulgaris*, Park. Parad, 503. WHITE CABBAGE and COLEWORTS.

This Species of Cabbage is among the *Germans* moſt frequently uſed for Food; and of it they make their celebrated pickled Cabbage, called *Sauer Kraut*, of which *Geſner* ſays, that if *Cato* had only taſted it, he would have pray'd, *Totum ut ſe facerent Dii Palatum*, that the Gods would convert every Part of him into the moſt exquiſite Organs of Taſte, that he might regale himſelf with ſo delicious Food.

BRASSICA CAPITATA RUBRA, Offic. Ger. 245. Emac. 313. J. B. 2. 831. Chab. 270. C. B. Pin. 111. Raii Hiſt. 1. 794. Hiſt. Oxon. 2. 207. Park. Parad. 204. Tourn. Inſt. 219. Elem. Bot. 188. Boerh. Ind. A. 2. 10. RED CABBAGE. *Dale.*

This Species of Cabbage is cultivated in Gardens, and its Leaves are only uſed, a Decoction of which, ſweeten'd with a little Sugar, and drank at medicinal Hours, is an excellent Medicine for promoting a Diſcharge of the purulent Matter in Empyemas by Urine. *Dale* from *Etmul.*

It bears the Winter better than moſt others; and is for medicinal Purpoſes eſteem'd preferable to the white; for which Reaſon it is uſed in the Preparation of Syrups and Lohochs.

CAULIS RUBRA, Offic. *Braſſica rubra*, C. B. Pin. 111. Ger. 244. Emac. 312. Tourn. Inſt. 219. *Braſſica rubra vulgaris*, J. B. 2. 831. Chab. 270. Raii Hiſt. 1. 796. *Braſſica ſativa rubra aperta lævis*, Hiſt. Oxon. 2. 207. RED COLEWORTS.

This Plant is cultivated in Gardens, and its Leaves are only in Uſe, a Decoction of which, ſweeten'd with Sugar, is a celebrated Remedy in Aſthmas. *Dale* from *Riverius.*

This Species of Cabbage bears the Cold of the Winter very well. In the Kitchens 'tis principally uſed in the Winter Seaſon, after it is expoſed to the Froſt. In the Beginning of the Spring the Tops of its Shoots are by many thought a choice Ingredient in their Sallads.

BRASSICA SABAUDA, Offic. Ger. 247. Emac. 315. Park. Parad. 504. *Braſſica alba, capite longo, non penitus clauſa*, C. B. Pin. 111. Tourn. Inſt. 219. Elem. Bot. 188. Hiſt. Oxon. 2. 207. Boerh. Ind. A. 2. 11. *Braſſica Italica tenerrima glomeroſa, flore albo*, J. B. 2. 827. Chab. 268. Raii Hiſt. 1. 795. SAVOY CABBAGE.

In the Gardens of *England*, this Species of Cabbage is only cultivated for the Kitchen. *Dale.*

The Savoy Cabbage is very delicate and tender, for which Reaſon it is much ſought after by thoſe who have nice Palates, and are acquainted with its agreeable Taſte.

BRASSICA FLORIDA, Offic. Park. Theat. 269. Ger. 246. Emac. 314. Raii Hiſt. 1. 795. *Braſſica cauliflora*, C. B. Pin. 111. Hiſt. Oxon. 2. 208. Tourn. Inſt. 219. Boerh. Ind. A. 2. 11. *Braſſica multiflora*, J. B. 2. 828. Chab. 269. *Caulis florida*, Park. Parad. 505. THE COLLIFLOWER.

This Species of the Cabbage is cultivated in Gardens, and much uſed in the Kitchen. *Dale.*

The Uſe of the Colliflower is well enough known to Cooks, who prepare it much after the ſame manner they do the other Species of Cabbage. In Conjunction with other proper Ingredients, they alſo add it to Pyes and Sauces, which are very agreeable both to the Sick, and to the Healthy.

BRASSICA GONGYLODES, B. *Braſſica caulorapa, Rapocaulis vulgo*; and *Braſſica caule rapum gerens.* The TURNEP-CABBAGE.

The Heart of the Stock of this Cabbage, boil'd in fat Broth, eat in the ſame manner Turneps uſually are.

In *Egypt* the Eunuchs eat this Cabbage cut into ſmall Portions, and boil'd in fat Broth; ſometimes they alſo uſe it boiled in Water, preparing it with Oil, Salt, and Vinegar. *Proſp. Alpin.*

The Seeds of the Turnep Cabbage yield an Oil by Expreſſion, very proper for Lamps, and for the Purpoſes of thoſe concern'd in the Woolen Manufactory: After the Oil is obtain'd, what remains is allotted for Food to the Cattle.

BRASSICA FIMBRIATA, B. *Braſſica tophoſa*; *Braſſica criſpa lacinioſa.* The BOOR-COLE.

This Species, both for Food, and medicinal Uſes, is not inferior to the *red Cabbage.*

Its Seeds are of a blackiſh Colour, an acrid aromatic Taſte, and of a Smell ſufficiently grateful, tho' not ſtrong.

BRASSICA CAMPESTRIS *perfoliata, flore albo, C. B. P. Perfoliata ſiliquoſa*; Perfoliated wild Cabbage, with a white Flower.

This Species grows ſpontaneouſly in *Spain*, in ſome Parts of *Auſtria*, *Provence* in *France*, and in the Corn-fields about *Marbach*, in the Duchy of *Wirtemberg.* It flowers in the Summer, and brings its Seeds to Perfection. It is thought to be poſſeſſed of ſingular, if not more powerful Qualities, than the other Species of Cabbage; for which Reaſon it is by ſome called *Braſſica ruſtica*; it is not uſed as Food. It is by other Authors diſtinguiſh'd by the Epithets, *Perfoliata, Napifolia. Bauh. Moriſ. Garidel. Boccler.* and *Cluſ. Hiſt. Moriſon* thinks, that it is the Κράμβη ἀγρία of *Dioſcorides*, and the *Braſſica Sylveſtris* of the *Latins*, for the Virtues of which, ſee the Paſſage already quoted from *Pliny*, *L.* 20. *C.* 9. and that from *Dioſcorides*, *L.* 2. *C.* 114.

BRASSICA CAMPESTRIS *perfoliata, flore purpureo, C. B. P.* or, *Perfoliata ſiliquoſa purpurea.* Perfoliated wild Cabbage, with a purple Flower.

Its Seeds, Root, and medicinal Virtues, agree pretty much with thoſe of the perfoliated wild Cabbage with white Flowers.

BRASSICA RADICE NAPIFORMI, *C. B. P.* or, *Braſſica Sylveſtris*, called *Napobraſſica.* TURNEP-ROOTED CABBAGE.

This Species of Cabbage is principally cultivated in the colder Parts of *Germany*, in the Mountains eſpecially, and towards *Bohemia.* Its Root may be eaten, and ſome pickle it, like the Colliflower.

BRASSICA ASPARAGODES CRISPA, *Braſſica Epiphyllitis*, C. B. P. *Braſſica thyrſoides.* CURLED COLEWORT.

This Species laſts a long time, and endures the Rigors of the Winter in *England.* It was by the *Greeks* called *Aſparagodes*, from its ſending forth ſmall Shoots like Aſparagus, which are prepar'd in fat Capon or Mutton Broth. *Ray.*

BRASSICA SATIVA ALBA, *vel viridis*; *vulgaris aperta lævis*; or, *Braſſica vulgaris ſativa. Braſſica lævis Theophraſti, Catonis, & Plinii*, the laſt of whom alſo called it CAULODES.

BRASSICA ALBA CRISPA; and *Braſſica Sabauda rugoſa.* WHITE CURL'D CABBAGE.

This Species is cultivated in Gardens, but does not endure the Winter. *Moriſon.*

BRASSICA CAPITATA ALBA MINOR MUSCOVITICA, *H. A.* The RUSSIAN CABBAGE.

This Species was formerly in much greater Eſteem than at preſent, ſince 'tis now only to be found in particular Gentlemens Gardens, who cultivate it for their own Uſe, but 'tis rarely ever brought to the Market. *Miller.*

BRASSICA CAPITATA ALBA COMPRESSA, *Boer. Ind.* The flat-ſided Cabbage.

BRASSICA *capitata alba pyramidalis.* The Sugar-loaf Cabbage.

BRASSICA *capitata alba præcox.* The early *Batterſea* Cabbage.

BRASSICA *Sabauda hyberna, Lob. Ic.* The white *Savoy* Cabbage.

BRASSICA *capitata viridis Sabauda*, *Boer. Ind.* Green *Savoy* Cabbage.

BRASSICA *capitata vireſcens Italica criſpa*, Munt. Hiſt. The green Broccoli

BRASSICA *peregrina moſchum olens*, H. R. Par. The Muſk Cabbage.

BRASSICA *maritima arborea, ſeu procerior ramoſa*, Mor. Hiſt. Branching-tree Cabbage from the Sea-coaſt.

BRASSICA *rugoſa, longioribus foliis*, J. B. Brown Broccoli.

BRASSICA *arvenſis*, C. B. P. Common Colewort.

BRASSICA *Alpina perennis*, Tourn. Perennial Alpine Colewort.

SOLDANELLA, *Braſſica marina*, Offic. Chab. 123. *Soldanella*, Merc. Bot. 1. 72. Phyt. Brit. 115. *Soldanella marina*, SEA BINDWEED, Ger. 690. Emac. 838. Mer. Pin. 114. SEA COLEWORT, Raii Hiſt. 1. 726. *Soldanella maritima minor*, C. B. Pin. 293. *Soldanella vulgaris volubilis marina*, Park. Theat. 167. *Braſſica marina, ſive Soldanella*, J. B. 2. 160. *Convolvulus maritimus Soldanella dictus*, Raii Synop.

3. 276. *Convolvulus maritimus noſtras rotundifolius*, Hiſt. Oxon. 2. 11. Boerh. Ind. A. 245. Tourn. Inſt. 83. Elem. Bot. 73. SCOTTISH SCURVY-GRASS, or SOLDANELLA.

It is produc'd in the moſt ſandy Parts of the Sea-coaſt, and flowers in *June*. The whole Herb is in Uſe, and, as it is excellently calculated for diſcharging Water, it contributes very much to the Cure of Dropſies and Scurvies. *Dale* from *Schrod.*

Of this Plant *Miller* enumerates the three following Species.

1. The *Soldanella Alpina rotundifolia*, C. B. P. Round-leav'd Soldanella of the *Alps*.

2. *Soldanella Alpina rotundifolia, flore niveo*, C. B. P. Round-leav'd Soldanella of the *Alps*, with a Snow-white Flower.

3. *Soldanella Alpina, folio minus rotundo*, C. B. P. Soldanella of the *Alps*, with a Leaf leſs round. *Miller's Dictionary.*

What they call the Sea Cabbage is, in all reſpects, different from the cultivated Kind, as producing numerous thin ſlender Leaves, like thoſe of round Birthwort, each proceeding from a very red Spray, and ſtanding upon a ſingle Pedicle, like thoſe of Ivy. Its Juice is white, but not copious; and taſtes ſaltiſh, with a kind of Bitterneſs, and is of a fat Conſiſtence.

The whole Plant is hurtful to the Stomach, and acrimonious; and, if boil'd and eaten, is extremely opening to the Belly. Some boil fat Fleſh-meats with it, becauſe of its Acrimony. *Dioſcorides, Lib.* 2. *C.* 148.

The Root of Soldanella is ſmall, white, and ſtringy, ſending forth long weak trailing Branches, climbing on any thing it lays hold on, like the common Bindweed. The Leaves grow alternately on the Stalks, in Shape and Bigneſs like the leſſer Celandine, ſet on long Foot-ſtalks. The Bell-faſhion'd Flowers come forth at the Joints, with the Leaves in Shape like the common Bindweed, of a reddiſh-purple Colour. The Seed is black and corner'd, contain'd in a round Capſula. The Root, Stalk, and Leaves, afford a milky Juice.

It grows upon the Sea-beach, in many Parts of the North of *England*, and flowers in *June*.

Sea Cabbage evacuates watery Humours very powerfully, and is by ſome given as a good Purge in the Dropſy; but it works very ruggedly, and very much diſorders the Stomach, and therefore needs good Correctives. It is given likewiſe in the Scurvy and Rheumatic Caſes; tho' it is but ſeldom us'd. *Miller's Bot. Off.*

BRASSIDELLICA *Ars.* A Way of curing Wounds in *Paracelſus, Lib.* 2. *de Vita longa, cap.* 14. by applying the Herb Braſſidella, or *Ophioglоſſum*, to the Place.

BRATHU, βραθὺ, in *Oribaſius* and *Aetius*, is the Herb Savine. See SABINA.

BREGMA, βρέγμα, βρέχμα, βρεχμὸς, from βρέχω, to irrigate, or moiſten. The middle and fore Part of the Head, ſituated above the Forehead, and extended on the Sides as far as the Temples, call'd by *Cœl. Aurelianus, Tard. Paſſ. Lib.* 1. *cap.* 4. *Medium Teſtæ.* Βρέγμα is expounded in *Heſychius* by τὸ μέσον τῆς κεφαλῆς, "the Middle of the Head;" by others the *Sinciput*. Thus *Homer, Iliad.* 3. ἐυεργέος ἔκπεσε δίφρου, κύμβαχος ἐν κονίῃσιν ἐπὶ βρεχμόν τε ϗ ὤμους, "he fell forward "out of his magnificent Chariot into the Duſt, upon the Sin-"ciput and Shoulders." Where *Euſtathius*, on this Place, writes, that the Part is call'd βρέγμα, becauſe, in Infants, it is not only tender, but very humid, ſo that it may ſeem βεβρέχθαι, "to be irrigated." *Hippocrates, Lib. de cap. Vul.* ſays, that "the thinneſt and weakeſt Bone of all the Head is," τὸ κατὰ βρέγμα, "that at the *Bregma*." Again, in the ſame Treatiſe, he ſays, "the Brain is very tender, and quick of "Senſe, in Wounds which affect the Fleſh and Bone," κατὰ τὸ βρέγμα, "about the Bregma;" ϗ ὁ πλεῖστος ἐγκέφαλος ὑπὸ τῷ βρέγματι κεῖται, "and that great Part of the Brain "lies under the Bregma."

BRELISIS. The Caranna (a ſort of Gum). *Rulandus.*

BRENTHUS, βρένθος, a Species of Duck or Moor-hen, accounted delicious Food by the *Bœotians*. *Aldrovandus Ornitholog. Lib.* 19.

BREPHOS, τὸ βρέφος, whether from τρέφω, to nouriſh, by changing τ into β; or from φέρβω of the ſame Import, by a Metatheſis of the Letters ε and ρ, let Philologiſts determine. An Infant. *Caſtellus.*

BREVE VAS, or *Vaſa Brevia.* Theſe are form'd by ſome Branches of Veins from the Coronary Veins of the Stomach, which join with the ſplenic Veins at the Spleen.

Thro' theſe Veſſels the Antients thought that a melancholic Humour was convey'd from the Spleen to the Stomach, which ſerved to vellicate the Membranes of it, and to excite Appetite. But this Fancy is refuted by the Diſcovery of the Circulation of the Blood, which has demonſtrated, that nothing comes thro' thoſe Veſſels from the Spleen to the Stomach; but that, on the contrary, Blood is convey'd from the Stomach into the Splenic Vein, and by that to the Vena Porta. *Drake.*

BREXANTES, βρέξαντες. An Epithet of a kind of ſmall green Frogs, in *Galen, Lib.* 10. *de San. tuend.* where he expoſes the Vanity of a Remedy, prepar'd of the Blood of thoſe Frogs, for hindering the Regeneration of Hair. The Word *Brexantes* is made by an Onomatopœia taken from the Sound of the Voice of theſe Animals. *Caſtellus.*

BREYNIA. A Plant ſo nam'd in Honour of Dr. *Breynius*, a learned Botaniſt at *Dantzick*. It has a Roſe-flower, conſiſting of many Petals, which are placed in a circular Order, from whoſe Flower-cup riſes the Pointal, which afterwards becomes a Fruit or Pod, which is ſoft and fleſhy, in which are ſeveral Kidney-ſhap'd fleſhy Seeds. There are two Species of this Plant, which are, the *Breynia* with broad Almond-leaves, and that with Leaves like thoſe of the wild Olive. It grows very common in *Jamaica*, and ſeveral other Parts of *America*, being a Tree thirty Feet high, with a Trunk of the Bigneſs of a Man's Thigh. I find no medicinal Virtues aſcrib'd to it. *Miller's Dict.*

BRICUMUM. The Name by which the *Gauls* call'd the Herb *Artemiſia*. *Marcellus Empiricus, cap.* 26.

BRINDONES. *Indici Fructus rubentes acidi*, J. B.

In *Goa*, in the *Eaſt-Indies*, as *Garcias* relates, there is a kind of Fruit, which they call *Brindones*; it is a little reddiſh on the Outſide, but the Inſide is as red as Blood, and of a very ſour Taſte. Sometimes the Outſide is blackiſh, which Colour it contracts by Maturity; and the Fruit is not near ſo ſour as the other, but altogether as red in the Inſide. This Fruit is very agreeable to many Palates, but not to mine, ſays *Garcias*, becauſe of its exceſſive Sourneſs. The Dyers uſe it, and the Rind is preſerved, and tranſported to make Vinegar, for which Purpoſe it is uſed by ſome in *Portugal*. *Raii Hiſt. Plant.*

BRISTOL WATER. Theſe Waters, in reſpect to Heat, are the fourth in Degree amongſt the Waters which are eſteem'd warm. Thoſe of *Bath* are the firſt, *Buxton* the ſecond, *Matlock* the third, and *Briſtol* the next.

As to the Virtues of the *Briſtol* Water in particular Caſes, the Phyſicians upon the Spot are the beſt able to adapt them properly; but, that I may not omit ſome general Account of their Uſes, I ſhall inſert the ſubſequent Extract from Dr. *Wynter's Cyclus Metaſyncriticus.*

In ſpeaking of the Differences betwixt *Bath* Waters and thoſe of *Briſtol*, I would willingly, ſays he, do ſtrict Juſtice to both, with the utmoſt Impartiality: But ſince they can never prove Rivals, but on the contrary, Friends, and, by reaſon of their Vicinity, of mutual Good to each other, there can ariſe no Emulation, no Competition, much leſs Contention. Some, indeed, have endeavour'd to raiſe the Repute of the one, by leſſening and denying the other: But this Practice, ſo diſhoneſt in itſelf, muſt fall to the Ground, after I have made it appear, that they are of Qualities and Effects altogether different; that where the one is uſeful, the other is improper; and that therefore they are to be us'd in different Caſes.

I ſhall likewiſe obſerve one Caution more; that I will not, with almoſt all the Writers who have gone before, make each Water to cure every Diſeaſe, and thereby render either ſuſpected of having none, when each has manifeſtly ſo many good Qualities.

Dr. *Guidot*, indeed, has made theſe two Waters of one Kind; and then ſays, *Briſtol* Waters cannot do the ſame as the *Bath*, as being impregnated with a far leſs Quantity of Salts than they; but drank in greater Quantities, and for a longer Time, thei Effects are not unlike thoſe of the *Bath* Waters.

Who is there, that ſees not the Doctor has hereby, with grea Addreſs, render'd the *Briſtol* Waters of no Uſe at all? Fo who would chuſe to drink more Water, or continue ſick longer, than Neceſſity obliges him? But this Inſinuation happen to be as falſe, as it is artful; and, indeed, I cannot forbear applying the Character a certain great Man gives Dr. *Morton'* Performances on another Subject, to our Author: He ofte wants Method, Clearneſs, and Judgment; is tedious, withou inſtructing; and arguing, like the other, from chimerical Principles, draws not only trifling, but abſurd and wrong Concluſions.

The learned Profeſſor *Pitcairn* has laid it down as a certai Maxim, That due Secretions from the Blood, and their prope Diſtributions, are as neceſſary to the Preſervation of Life, a the Circulation itſelf; and that the greateſt Part of Diſeaſes ta their Origin from the glandular Secretions being too much in creaſed or diminiſhed. Whether this Doctrine will hold i acute or epidemic Diſeaſes, the Cauſe of which the Antien aſcrib'd to the Anger of the Gods, and the wiſeſt of the Mo derns profeſs themſelves ignorant of, I ſhall not inquire: but ſeems to be evident, that chronical Diſeaſes are owing to one other of theſe Cauſes.

The Blood is ſometimes too thin, and then too grea Quantity of its ſerous Part is ſeparated either by the Gland the Skin, Guts, or Kidneys; as in colliquative Sweats, Flu of the Belly, and Diabetes: The Blood grown too viſcous, caſions Obſtructions not only in its own Canals, but in Glands; and then the Secretions are leſs than they ſhould be a State of Health, and hence various Maladies.

Again, there is, in ſome Caſes, too great Fulneſs; in others, Deficiency of Blood. Both theſe interrupt due Secretions.

Bath Waters, then, are beneficial, where the Secretion is diminiſh'd; *Briſtol*, when too much increas'd. *Bath* attenuates powerfully; *Briſtol* incraſſates: *Bath* is ſpirituous, and helps Defect; *Briſtol* is more cooling, and ſuppreſſes Plenitude, with its Conſequences, Inflammation, and Hæmorrhage.

The Medicinal Waters of *Briſtol* are by no means ſo modern a Diſcovery, nor is their Uſe of ſo late a Date, as is generally imagin'd. Dr. *Venner*, near ſeventy Years ago, writes profeſſedly of them, and recommends them internally in all the Diſeaſes for which they are at this time ſo deſervedly celebrated, the Diabetes excepted, which was not known 'till near thirty Years after. From the Doctor's ſo full a Knowledge of their Qualities, we may infer, that they muſt have been in Repute and Uſe long before. Indeed, in his Time, and ſome Years after, they were not ſo much frequented, which might have been owing intirely to their inconvenient Situation, and want of Accommodation, which have been but of late ſufficiently remedied. The incomparable Dr. *Maplet*, the Ornament of his Age, in the Year 1665. confirms their Virtues in the Stone and Gravel, Ulcers of the Kidneys and Bladder; and adds their external Force in curing cancerous Ulcers, in a very ſhort time, which the Doctor thought incurable, by waſhing and fomenting them therewith. And, in a Letter to the Dean of *Wells*, 1669. he ſays, *Ad rupem Vincentianam tibi confugiendum eſſe arbitror, è quâ proſiliunt aquæ renibus, & veſicæ, ſive calculoſis, ſive exulceratis ſuccurrere, necnon ſanguinis maſſam contemperare, & ab illâ ſegregandam Urinam lenire, & edulcorare aptæ natæ.*

Thus, you ſee, the Virtues of *Briſtol* Waters, and the ſeveral Diſeaſes in which uſeful, were known to the Learned long ago: But that they are at this time ſo univerſally known, ſo ſucceſsfully adminiſter'd; that they are ſo much frequented by Perſons of all Ranks in our own Kingdom, and in ſuch Eſteem abroad; is owing to Dr. *Mead* and Dr. *Lane*, who have ſo eſtabliſh'd their Reputation, that it ſeems of an equal Period with their own.

I find myſelf again oblig'd to retire to my old Sanctuary, Experience; for it will be demanded, I ſhould give an Account of the Contents and Cauſe of Heat in theſe Waters; and from thence, by an eaſy Hypotheſis, deduce their Effects as a neceſſary and natural Conſequence. But I had rather give the Aſſertions of others, than my own Conjectures, in Matters ſo abſtruſe.

Dr. *Venner* tells us, this Water receives its medicinal Faculties from Sulphur and Nitre, and from both but in a ſmall Degree: He adds alſo, Iron; from which, he is perſuaded, it s ſome Tincture; becauſe a Patient of his, troubled with Gravel, and ſubject to Obſtructions in the Spleen, in the Uſe f it; voided black feculent Matter by Stool.

Dr. *Guidot* ſays, their Impregnation is from Iron, a ſmall Proportion of a nitro-ſulphureous Salt, and Lime-ſtone: He informs us, that they can have but very little of Iron, becauſe hey neither turn purple with Galls, nor curdle Milk: But hat I am ſurpriſed at is, how the Doctor came to find out hey had any Iron Particles at all, ſince they give not the leaſt gn of it, torture them as you will.

I have taken the Courage now to add my Conjecture, which , that if we may judge of their Contents from their Effects, hich are exceedingly deterſive and healing, they partake chiefly Chalk, Lapis Calcarius, and Calaminaris, the Virtues of hich, we know, are to dry, to cleanſe, to incarn, or fill lcers with Fleſh, and cicatrize them.

But, whatever the Subſtances are that impregnate them, it very plain they are very ſubtile, and that there is but little of erreſtrial Part in them, from their ſpecific Lightneſs above all her Waters; which is of itſelf ſo excellent a Quality, as by means to be overlook'd; and alſo from Experiment; for, r Evaporation, I found only three Drams two Grains of mineral-like Subſtance in five Gallons; and, after Di- llation, no more than one Dram and a half of a white wder, like levigated Pearl: So that the higheſt Proportion vital Part bears to the elemental, is as 7 to 6814 in each art.

But when we conſider how agreeable to the Sight, Smell, Taſte; how clear, pure, and ſoft, they are; their gentle gree of Heat, ſo adapted to ſundry Diſeaſes; we cannot but clude, that theſe Waters have imbib'd ſome ſalutary Par- es in their Paſſage thro' the Earth; and, from the many es yearly wrought by them, that they have an undoubted le to a Place in the firſt Claſs of Medicinal Waters.

Nor is it neceſſary, that Medicinal Waters ſhould contain ge a Quantity of the Particles they have imbib'd, as may vident to our Senſes; for we know, by Experiment, that ulus of Antimony, frequently macerated in Wine, loſes no- g of its Weight or Subſtance, tho' the Wine prove ſtrongly etic: In vain, therefore, do many Phyſicians erect Laboratories, and take great Pains, to diſcover what that adventitious Matter is, which theſe Waters carry with them.

The Diſeaſes in which *Briſtol* Waters are more properly preſcrib'd, are internal Hæmorrhages and Inflammations, Blood-ſpitting, Dyſentery, and immoderate Fluxes of the Menſes, purulent Ulcers of the Viſcera: Hence in Conſumptions, Dropſy, Scurvy with Heat, call'd by Dr. *Willis*, *Scorbutus ſulphureo-ſalinus*, Stone, Gravel, Strangury, the Habitual Gout, that kind of Rheumatiſm which Dr. *Sydenham* terms Scorbutic, Diabetes, ſlow Fevers, Atrophy, Pox, Cancer, Gleets in both Sexes, and King's-evil, in theſe Diſorders *Bath* Waters are not only improper, but hurtful; they rouſe the too languid, and quicken the too lazy Circulation; theſe allay the Heat, and reſtrain the too rapid Motion of the Blood: Thoſe impregnate the phlegmatic; theſe attemperate the choleric Conſtitution. *Bath* Waters ſeem to be adapted to the Maladies of the Stomach, Guts, and Nerves; *Briſtol*, to thoſe of the Lungs, Kidneys, and Bladder. Again, *Bath* Waters are at Variance with a Milk-courſe; and the *Briſtol* can never be judiciouſly directed, but where that may be joined with Reaſon and Succeſs. This is ſo great a Truth, that it holds even in the Diabetes, in which Milk is of great Service, and preſcrib'd as early as the Age of *Aretæus*, who, ſay the Learned, is at leaſt as antient as *Galen*: Tho' that this Diſeaſe was little known to Antiquity, is certain, ſince it is not once mention'd by *Hippocrates*: *Galen* ſays he never ſaw it but twice; and Rabbi *Moſes* affirms the Diabetes is very ſeldom ſeen in the Weſtern Parts of the World, but oftener in the hot and Eaſtern Countries, inſomuch that, in *Egypt*, in ten Years Practice, he ſaw more than twenty Patients of this kind; but we ſee a greater Number, almoſt every Year, in our Weſtern World.

Perhaps ſome may be ſurpris'd to find *Briſtol* Waters preſcrib'd in Dropſies, in which Authors order alſo thoſe of *Bath*; but which of the two, with beſt Judgment, is worth while to inquire. That diuretic and drying Medicines are of great Service in this Diſeaſe, no one can doubt; that *Briſtol* Waters have theſe two Qualities in a greater Degree than the other, is alſo as evident. For which Reaſon I ſhould prefer the *Briſtol* to *Bath*, in this Inſtance, unleſs where it happens, as it too often does, that a Jaundice attends it; and here *Bath* claims the Precedence, from its great Efficacy in opening Obſtructions of the Viſcera, where there is no formidable Inflammation.

But there is another Queſtion of more Importance, and that is, Whether *Briſtol* Water be ſpecific in the Diabetes? A ſpecific Remedy for each Diſeaſe would prove in Phyſic, what finding the Longitude muſt in Navigation: We ſhould go directly to the Cure, without the Circle of the alterative Courſe: But, at preſent, there is as little Probability of diſcovering the one, as the other. We know but one Specific, and but one Diſeaſe cur'd by it, unleſs I can prove this to be ſuch in the Diabetes.

The Diabetes, then, is defin'd to be the too quick and large Excretion of crude, unalter'd, and ſweet-taſting Water, exceeding the Proportion of the Fluids taken into the Body, accompanied with intolerable Thirſt: And a ſpecific Medicine is that which cures a Diſeaſe, without promoting any ſenſible Evacuation.

Suppoſe then a Perſon labouring under a Diabetes, voids a given Quantity of ſuch Urine, (for Example, four or five Quarts in twenty-four Hours) let him drink as many of this Water, and he ſhall excrete leſs daily; from whence it is manifeſt, that it proves no Evacuant. Another Argument to prove it ſpecific is, that, in this Inſtance, we need not obſerve the Rule of drinking Mineral Waters in ſmall Quantities; for 'tis ſpecific, and may be taken in as large Doſes as the Stomach will bear; and this is no bad News to a Perſon dying with Thirſt. In all other Diſorders, where it acts by its contemperating, alterative, and healing Qualities, the Rule holds good. A third is, that we ſee, by daily Experiments, its Effect in Diabetes more quick and ſudden than in any other Diſtemper, the Patient being certain of a Cure in a very ſhort time.

The proper Seaſons of drinking *Bath* and *Briſtol* Waters are generally known. *Bath* Waters may be drank, with Benefit, the whole Year; I think beſt in the cold, or, at leaſt, the cooler Months of *April*, *May*, *September*, and *October*. The *Briſtol* are to be taken medicinally, only during the hotter Months, as from *April* to *September*. *Wynter's Cyclus Metaſyncriticus.*

BRITANNICA. Βρεταννική.

The Bretanica, or Bettonica, is an Herb with Leaves like the wild Lapathus, but blacker and more hairy, and of an aſtringent Taſte. It ſends forth no great Stalk, and its Root is but ſhort and ſlender. The Juice is expreſſed from the Leaves, and inſpiſſated in the Sun, or by the Fire-ſide.

It has an aſtringent Virtue, and is particularly accommodated to eating Ulcers of the Mouth and Tonſils. It is effectual alſo to all thoſe Purpoſes for which Aſtringents are required. *Dioſcorides, Lib. 4. Cap. 2.*

Not only Beaſts, but even Waters and Places, ſhew their Malignity to Mankind. When *Germanicus Cæſar* had removed his Camp beyond the *Rhine* in *Germany*, they had only one Spring of freſh Water in that maritime Tract of Land, by drinking of which, within the Space of two Years, their Teeth fell out of their Heads, and the Joints of their Knees were enfeebled and relaxed. The Phyſicians call'd theſe Diſorders *Stomacace* and *Scelotyrbe*. There was a Remedy at length diſcover'd, which was the Herb *Britannica*, a moſt ſalutary Medicine not only to the Nerves, and in Diſeaſes of the Mouth, but alſo againſt an Angina, and the Poiſon of Serpents. It has oblong black Leaves, the Juice of which they expreſs, as alſo from the Root. They call the Flowers *Vibones*, which, being gather'd and eaten before Thunder is heard, ſecures the Perſon from being thunder-ſtruck. The *Friſians* who were in the Camp, ſhew'd it to our Men; and I cannot but wonder how it came by its Name, unleſs the People who are Borderers on the *Britannic* Sea, gave it the Name of *Britannica*, out of Reſpect to the neighbouring Iſland of *Britannia*; for it is certain, *Britannia* now lying open, that it does not take that Name becauſe that Iſland abounds with it. *Pliny*, *Lib.* 25. *Cap.* 3.

The Virtues attributed to this Plant agree pretty well with thoſe of the *Hydrolapathum*, Offic. *Hydrolapathum magnum*, Ger. 312. Emac. 389. *Hydrolapathum majus*, Park. 1225. *Lapathum aquaticum, folio cubitali*, C. B. 116. Hiſt. Oxon. 2. 579. Tourn. Inſt. 504. Boerh. Ind. A. 2. 85. Dill. Cat. 111. Buxb. 178. *Lapathum paluſtre maximum*, Schw. 218. *Lapathum maximum aquaticum, ſive Hydrolapathum*, J. B. 2. 986. Raii Hiſt. 1. 171. Synop. 35. *Lapathum maximum aquaticum*, Chab. 309. *Britannica antiquorum vera, ſive Lapathum longifolium nigrum paluſtre*, Munt. Herb. Brit. 150. GREAT WATER DOCK. *Dale.*

It has a thick, round, broad, juicy Root, ſpongy when old, about a Hand's Breadth in Length, divided below into ſeveral pretty thick Parts, and ſurrounded with fibrous little Roots; the Colour of it, when newly taken out of the Ground, is black on the Outſide, and white within, but ſoon alters into a reddiſh-yellow, like that of the true Rhubarb; and the Root, when dry, turns quite brown. The Leaves are not many; but the longeſt of all belonging to any of the kinds of Docks, ſituated near to one another, tho' not cloſely joined, but ſeparate, always pointing upwards, of a Foot and half, or two Feet in Length, and three or four Fingers broad, being wideſt in the Middle, and running up to a ſharp Point, like the Head of a Spear, of a deep Green, or Sky-colour, inclining to a dark Green above, but paler underneath, with pale-green Fibres, of a pretty thick, hard, denſe, cloſe, and firm Subſtance, the Edges ſometimes, eſpecially of thoſe which grow to the Stalk, a little curl'd; they ſtand on Pedicles which are of a moderate Length and Thickneſs, and ſometimes red near the Ground; they have alſo an Aſtringency, with ſomething of an Acidity, and fall off towards the End of *Auguſt*. The Stalk is ſingle, or multiply'd, according to the Age or Bigneſs of the Plant, two, three, and ſometimes four Feet in Length, ſtrait, round, green, hollow, adorn'd on both Sides with leſſer Leaves, which bend a little upwards as well as downwards, from whoſe *Alæ*, here and there, proceed little Sprigs, laden with little, ſhort, and tender pendulous Leaves, and pale Flowers, which open towards the End of *July*, and are thinly diſpos'd about the Joints, but not in the manner of Whorles. The three outer Petals of the Flower are conſpicuous on both Sides, for two hairy pale-whitiſh Gemmulæ; but theſe are obſerv'd in no Species of the *Lapathum*, but the *Virginian Britannica*. The Seed is ſmall, triangular, and of a ſpadiceous Colour.

Abr. Muntingius is perſuaded, that this Plant is the true and genuine Britannica of the Antients, ſince both its Figure and Virtues anſwer, in all Points, to the Deſcriptions which they have left us of it. He endeavours alſo to prove, that the Word *Britannica* is of *Friſian* Original; for it is not likely that this Plant took that Denomination from the Iſland of *Britain*, to which, as a reſpected neighbouring Land, the *Friſians* dedicated it, as *Pliny* conjectures. *Brit*, in the *Friſian* Language, ſignifies to conſolidate, render firm and compact; but *Tan* is a Tooth; and *Ica*, or *Hica*, ſignifies Ejection. Hence *Britannica* is as much as to ſay, the Herb which conſolidates and confirms the looſen'd Teeth, or cures the Diſeaſe that makes the Teeth fall out.

Every Part of this Herb, as the Stalks, Leaves, Flowers, Seed, but principally the Roots, are powerfully aſtringent, conſolidating, and conglutinating; for which Reaſon it reſtrains and heals all Sorts of Putrefactions, as Eryſipelas, ulcerated or not, Herpes, Phagedenic Ulcers, and Gangrenes. It ſtops Hæmorrhages from any Part, as alſo the Hæmorrhoids and Menſes, and is effectual for all thoſe Purpoſes in which other cold Aſtringents are requir'd.

It cures all manner of Diſeaſes of the Nerves, as Twitchings, Contractions, Tremblings, Convulſions, Palſies, febrile Heats, or Rigors. It chaſes away Serpents and other venomous Animals, and heals their Bites; for which Reaſon it is reckon'd among Alexipharmacs. It gives Relief under all Species of the Angina, Relaxation of the Uvula, Swelling of the Tonſils, and other like Diſeaſes of the Mouth, Fauces, and Stomach, which require Aſtriction; as alſo Abſceſſes, Tumors, and Ulcers. It removes various ſorts of Defluxions; and, laſtly, Diſeaſes which proceed from hidden Cauſes, as the *Stomacace*, the *Scelotyrbe*, (the Scurvy affecting the Mouth and Legs) and Ulcers in the Legs.

The green Leaves are apply'd to ulcerated Parts for twelve Hours, and then changed; the Juice alſo harden'd by the Dog-days Sun, or inſpiſſated by the Fire, is uſed to anoint the Sore.

Now becauſe the Scurvy, ſays *Muntingius*, has taken ſuch deep Root in ſome Perſons, that they can receive but little Benefit from a Decoction of *Britannica* alone, I am willing to communicate the Preparation of a Medicine, never yet, that I know of, made public, that all may have the Knowledge of ſo uſeful a Medicine, and be able to prepare it for themſelves; for the Remedy is more precious than Gold, and ought be kept in Houſes, as an ineſtimable Treaſure, in Readineſs againſt all Attacks, or bare Suſpicions, of the Scurvy.

> Take of Saffron, two Ounces; Mace, Liquorice, the beſt Cinnamon, black Pepper, Gentian-root, each three Ounces; Britannica, ſix Ounces: Pulverize them all groſly, and infuſe them in ſixteen Pints of *Spaniſh* White-wine, together with three Pints of Elder Vinegar, or ſome other very ſtrong Vinegar; and add thereto three Yolks of new-laid Eggs. Let them lie macerating together in a glaſed Stone Veſſel, well cloſed, for ſeventy-two Hours, in hot Aſhes, Horſe-dung, or hot Sand, but with no greater than a tepid Heat; after which ſet it aſide for Uſe.

Let the Patient take of this Decoction three, four, five, or even ſix Ounces, according to the Nature of the Subject, in the Morning faſting, for fourteen or twenty Days together, or more. To quench his Thirſt, let him drink *every* Day of the beſt Rheniſh Wine; or, if he be accuſtomed to Beer, let him take it not new, but defecated, and well boiled; and as often as he drinks it, he muſt alſo have three Spoonfuls of this Wine.

But it is here to be obſerved, that if the Patient labours unde a Dryneſs, a violent Cough, or is ſuſpected to be in a Conſumption, inſtead of the Pepper, let ſix Ounces of Liquoric be added; when the Wine is almoſt conſumed, an equal, o twice the Quantity of Wine, may be pour'd to the Ingredients.

By the Uſe of this Wine, not only an inveterate Scurvy, eſpecially if it be without a Fever or Inflammation, but alſo a other ſcorbutical Diſorders, inveterate Hernia's, Palſies, an Lues Venerea, are moſt ſucceſsfully cured. *Raii Hiſt. Plant.*

Its Leaves are ſtyptic, a little bitter, and give a deep Tincture of red to blue Paper. The Root gives it a little fainter it alſo is very ſtyptic and bitter. Its Bark is thick, of a Fleſh colour, ſtreaked; its Heart is ſoft, and of a pale Yellow.

It is probable, that the Salt of this Plant may be compoſe of Alum and Sal Ammoniac, mix'd with a great deal of feti Oil. *Martyn's Tournefort.*

I believe this Plant is very effectual in ſcorbutic Symptoms and am convinc'd by Experience, that it will effectually cu bleeding of the Gums, if chew'd in a Morning.

Muntingius has wrote an intire Volume in 4to. on the Subject of this Plant.

BRITHOS, βρίθος, a Weight, a Load, *Lib.* 1. περὶ γυνα καὶ βρίθος ἐν τῇ γαστεὶ ἐγγένηται, "and there be a (Senſe o "Weight in the Belly." And in the ſame Book, καὶ βρίθ γένηται ἐν τῆσι μήτρῃσι, "and there be a Heavineſs in the Uterus. Hence the Verb βρίθω, which, in many Places of *Hippocrat* carries much the ſame Senſe.

BRIZA, Offic. *Briza monococcos*, Ger. 67. Emac. 7 *Zea Briza dicta, ſeu monococcos Germanica*, C. B. Pin. 2 Theat. 415. Hiſt. Oxon. 3. 205. *Zea monococcos, ſive ſimpl ſive Briza*, Park. Theat. 1124. *Zea monococcos Briza quib dam*, J. B. 2. 413. Raii Hiſt. 2. 1242. *Zea ſimplex & m coccos Briza*, Chab. 174. *Hordeum diſtichum, ſpicâ niti Zea ſeu Briza nuncupatum*, Tourn. Inſt. 513. Boerh. Ind. 2. 159. ST. PETER'S CORN.

It is cultivated in *Germany*; and the Seed is uſed, wh agrees in Virtues with the *Zea*, or *Spelta*.

BROCHOS, βρόχος. The ſame as *Laqueus*, Bandage. LAQUEUS, and FASCIA.

BROCHTHUS, βρόχθος, in *Hippocr. Lib.* 2. *de Morb.* a ſmall kind of Drinking-veſſel. Βρόχθος alſo ſignifies the as βρόγχος, "the Throat;" whence καταβρογχίζω, καταβροχθίζω, *in Coac.* are both uſed to expreſs the Actio Deglutition.

BROCHUS, βρόχος. One who has a prominent u Lip; or, as others would have it, one with a full Mouth, prominent Teeth. *Caſtellus.*

BRODIU

BRODIUM. A Pharmaceutical Term, ſignifying the ſame as *Juſculum*; or the Liquor in which ſome ſolid Medicine is preſerved, or with which ſomething elſe is diluted. *Caſtellus.*

BROMA, βρῶμα, Food, any thing eatable, by way of Diſtinction from πόμα, Drinkables. *Galen*, *Lib.* 1. *de Alim. Fac.* expounds βρῶμα by τὰ ἐσθιόμενα, ἢ ἔδεσα, ἢ τροφὰς, ἢ σιτία, which are different Words for Eatables. In *Hippocrates*, *Lib.* 2. *Epidem.* τὰ βρώματα καὶ τὰ πόματα πείρης δεῖ, εἰ ἐπὶ τὸ ἴσον μένει, "whether Meats and Drinks are of equal Continuance, (equally "long in Paſſage) muſt be judg'd from Experience." And *Lib.* 6. *Epid. Sect.* 5. *Aph.* 35. βρώματα τὰ μὲν ταχέως κρατεῖται, τὰ μὲν ἐναντίως, "of Foods, ſome are ſoon overcome, "(*digeſted*) with others the contrary happens." And *Aph.* 31. ψυχρότατον βρῶμα φακοὶ, κέγχροι, κολοκύνθαι, "Lentils, "Millet, and Gourd, are very cold Foods." *Lib.* περὶ διαίτ. ἰσχυρὰ βρώματα are ſtrong hard Meats, which require a ſtrong Digeſtion; and, in the ſame Book, ἰσχυρὰ βρώματα ſignifies ſtrengthening Foods. In the ſame way of ſpeaking, βρώματα are ſaid to indicate πλήρωσιν, "a Plenitude." βρῶμα alſo, *Lib.* 4. *Epid.* ſignifies an Eroſion of a Tooth; as it does alſo in *Galen*, *Lib.* τῶν εὐπορίστων, where he ſays καταπλάσσε τὸ βρῶμα, "apply ſome Cataplaſm to the corroded Tooth."

BROMION, βρόμιον. The Name of a Plaiſter, in *P. Ægineta*, *Lib.* 7. *Cap.* 19.

BROMUS, Offic. *Bromus ſterilis*, or WILD OATS, Ger. 69. Emac. 76. Mer. Pin. 16. *Bromus herba ſive Avena* *terilis*, Park. Theat. 1147. *Ægilops*, Chab. 177. *Ægilops Matthiolo forte*, J. B. 2. 439. *Feſtuca avenacea ſterilis elatior*, *u Bromos Dioſcoridis*, C. B. Pin. 9. Theat. 146. Raii Hiſt. 1289. Synop. 3. 412. Hiſt. Oxon. 3. 212. *Feſtuca & oma Græca*, Merc. Bot. 1. 35. Phyt. Brit. 41. *Gramen ave-aceum, panicula ſparſa, locuſtis majoribus & ariſtatis*, Tourn. nſt. 526. Buxb. 142. *Gramen Feſtucæ ſterile elatius*, Tourn. iſt. Plant. Bar. 91. DRANK, or WILD OAT-GRASS.

The Bromus is a Plant much like the Ægilops, being of a ying Quality; for which Reaſon, if it be boiled with the oots in Water to a third Part, and then ſtrained, and mixed th an equal Quantity of Honey, and again boiled to the Con-ence of liquid Honey, it makes a good Remedy for an zena, by dipping a linen Cloth in the Decoction, and then tting it up the Noſtrils. This Effect it has by itſelf; but ne mix Powder of Aloes with it, and uſe them in the ſame nner. Boiled in Wine with dry'd Roſes, it amends a fetid ath. *Dioſcorides*, *Lib.* 4. *Cap.* 140.

A Decoction of the Root is recommended for the Worms in ildren. *Dale.* See ÆGILOPS.

BRONCHIA, βρογχίη. So *Hippocrates* calls the great tery, (*Lib.* περὶ ἀνατομῆς) ἀπὸ δὲ καρδίας ἐς ἧπαρ βρογ-πολλὴ καθήκει, καὶ μετὰ βρογχίης φλὲψ μεγάλη καλευμένη, δι' ἧς τὸ σκῆνος τρέφεται. "From the Heart to the Liver extend numerous Branches of the Bronchia (Aorta); and ith them the great Vein, as it is called, (*Vena Cava*) y which the whole Body is nouriſhed." This Place *Galen*, is Exegeſis, ſeems to have in his Eye, when he expounds χης by τῆς βρογχώδους ἀρτηρίας, "the bronchoidal Artery;" re for βρόγχης, I ſuppoſe ſhould be read βρογχίης. See ONCHOS.

BRONCHOCELE, βρογχοκήλη, from βρόγχος, the Wind-, and κήλη, a Tumor. A Tumor in the Neck, principally Women, frequently call'd a *Derby Neck*, probably on unt of the Inhabitants of that Town, or rather County, much ſubject to it; which is not unlikely to happen for ame Reaſons, that the Inhabitants about the Valleys of the , and other mountainous Countries, are ſo much affected theſe Tumors, as to have been taken Notice of pro-ally by *Juvenal*.

Quis tumidum Guttur miratur in Alpibus?

ther this proceeds from the Coldneſs of the Waters which drink, or from ſome Mineral with which their Waters are gnated in the Bowels of theſe Mountains, I will not pre- to determine.

the Neck, between the Skin and the Aſpera Arteria, riſes a Tumor, called by the *Greeks* βρογχοκήλη (*Bron-*), which incloſes ſometimes an inert kind of Fleſh; imes a ſort of Humour, reſembling Honey or Water; ometimes Hairs mix'd with ſmall Bones; but whatever e the Contents within the Coat of this Tumor, they may ated with Cauſtic Medicines; which, penetrating the Skin, with the ſubjacent Tunica, or Coat, make a Way included Matter, if it be a Humour, to run out; or if it a denſer Subſtance, to be drawn out with the Fingers; done, the Ulcer is healed up with Dreſſings of Lint. e ſhorteſt way of Cure is by the Knife. The Tumor open by one ſtrait Inciſion in the Middle, as far as the a. Then the corrupt Sinus, being ſeparated from the Parts with the Finger, is taken out entire together with its a; after which the Place is waſhed out with Vinegar, which ſome mix Salt or Nitre; and the Lips of the Wound are [illegible]ined by a ſingle Suture, upon which muſt be applied what is uſual in other Sutures; and the Whole muſt be bound up in a gentle manner, ſo as not to bear hard upon the Fauces. If the Tunica cannot be taken out, you are to ſprinkle the Cavity with Catheretics, and dreſs the Wound with Lint, and other Suppuratives. *Celſus*, *Lib.* 7. *Cap.* 13.

There is a large and round Tumor of the Neck, which takes its Name from the inward Parts, and is called *Bronchocele*, of which there are two Kinds, the *ſteatomatous*, and the *euryſmatous* (εὐρυσματώδης). This latter is known by the ſame Marks as an Aneuryſm; and the Cure of it, for the ſame Reaſons, is look'd upon as deſperate; for as almoſt all Aneuryſms are dangerous in the Operation, ſo eſpecially is an Aneuryſm about the Neck, becauſe of the Largeneſs of the Arteries. The ſteatomatous Tumor is to be treated like a Steatoma, by ſeparating and paſſing beyond the Veſſels, in the ſame manner as we are directed in ſtrumous Caſes. *P. Æginet. Lib.* 6. *Cap.* 38.

Albucaſis, treating of a Bronchocele, or a Rupture in the fore Part of the Neck, which, he ſays, is moſt frequent in Women, is fuller than the *Greeks* or *Celſus*; and he very rightly diſtinguiſhes between that which is natural, and that which is accidental. The firſt Sort is not to be touch'd. Of the ſecond there are two Species; one like a Tumor, which contains ſome groſs Subſtance; the other like an Aneuryſm. But though he is ſo bold in uſing the Knife, he adviſes the Operation only in the firmer Caſe; and even not there neither, unleſs the Tumor be looſe, and little, and incloſed in a Cyſtis. This Sort of Swelling may, no doubt, be removed by Art. Sometimes theſe Excreſcences are full of Water, ſometimes they have nothing in them but Air; and theſe Caſes may likewiſe be remedied by Inciſion, Friction, or Compreſſion. Sometimes they turn to a fleſhy Subſtance, which, lying between the Skin and the Wind-pipe, reſembles a Flap or Dew-cap hanging out, juſt like that of a Turky-cock, when he is angry. This is a frequent Diſtemper in thoſe Countries where they drink great Quantities of cold Water; eſpecially where they do not cool their Water in Snow, as in other warm Climates; but pour Ice into it, as the way is with the ordinary People, who live upon the bleak Mountains of *Genoa* and *Piedmont*. The Matter of Fact is as true, as that they themſelves attribute it to the drinking this Water; and from the Nature of Cold, it is not difficult to account for this Effect: For the Liquor in going down, muſt needs chill the Muſcles of the Throat, that is, it contracts the Veſſels, and thickens the Humours which circulate through them at the ſame time; from whence muſt follow a Stagnation or Obſtruction, and, after a while, a Swelling, in thoſe Parts. And it is remarkable, that Tumors, which owe their Origin to this Cauſe, are and always continue fleſhy; whereas other Bronchoceles, which proceed from Strains, Bruiſes, and ſuch-like Accidents, often ſuppurate, or turn to a Melicoris, Steatoma, *&c.* as *Albucaſis* obſerves. Among the *Spaniards*, Swellings in the Glands of the Throat are very frequent, who indulge themſelves immoderately in the Uſe of cold Liquors. And that the Coldneſs not only of the Liquors, but of the Climate itſelf, may produce theſe Effects, ſeems to be plain, from the Obſervations we find in Writers, that theſe Swellings about the Throat and Head are much more frequent among the Northern Nations, than the Southern.

Tumors very often happen in the Thyroidal Glands; but ſuch a Swelling is not properly a *Bronchocele*, though ſometimes ſo miſcalled, but a *Struma* or *Scrophula Colli*. In morbid Bodies I have ſeen theſe Glands enlarged to an extraordinary Bigneſs, ſo as to reach down almoſt to the Clavicles; and in ſuch Caſes they generally turn ſcirrhous. When the Swelling here is thus confirm'd, we may eaſily learn from Anatomy, were we not warn'd of it, that the Diſtemper is in its own Nature incurable; for, I believe, neither any inward Medicine, nor outward Application, can diſſolve it; and Repellents would rather do Miſchief, and throw the Humour upon ſome other Part. Neither would any prudent Surgeon, I preſume, attempt to extirpate ſuch a large Tumor, for fear of cutting an Artery or Vein, or the recurrent Nerve. And *Albucaſis* gives us a ſufficient Caution, in telling the Story of an ignorant Operator, who, in this Caſe, by wounding the Arteries of the Neck, killed the Patient upon the Spot. *Freind's Hiſtory of Phyſic.*

The *Bronchocele* is a Tumor ſituate upon the inveſting Membrane of the Windpipe, or betwixt that and the Muſcles of the ſaid Part; where it ſometimes takes ſo large a Compaſs, as to extend itſelf from one Jugular to the other, lying high and prominent, like a Semiſphere, or half Globe, or at leaſt of a ſpheroide Figure.

It takes its Riſe commonly from loud Crying, Coughing, and Vomiting; as alſo from a ſudden Jerk, or haſty Turn of the Neck, as I have been inform'd by ſome therewith affected.

It is called alſo *Hernia Bronchialis*; but if there be a Rupture in the Caſe, as that Name will imply, it is moſt likely to be that of ſome lymphatic Veſſel, diffuſing or ſhedding its Contents betwixt the Membranes of the Aſpera Arteria, and the Muſcles incumbent, where being leiſurely accumulated, it diſtends the containing Parts, and, from the broken Fibres thereof, makes itſelf a Cover, which grows along with it in like manner, as the other Capſulate Tumors.

There are others who derive their Origin from ſome nutritious Juice extravaſate, and turning into a Fleſh-like Subſtance, after the manner of certain other Sarcomata; and indeed both theſe may be right, ſince we often find the Body thereof made up partly of a fluid, and partly of a more firm and glandulous Subſtance: But to proceed to the Prognoſtic and Cure thereof.

The *Bronchocele*, by reaſon of its unhappy Situation among the large Blood-veſſels, the recurrent Nerves, and Windpipe itſelf therein concern'd, at leaſt its inveſting Tunicle, affords a very hazardous and uncertain Iſſue; and if it admit not of Diſcuſſion, there is little Encouragement to meddle farther: For if it ſuppurates, there is left commonly a very ſordid and ſinuous Ulcer, which ſince you cannot dilate ſo conveniently as in other Parts might be done, nor have any Advantage by rolling, which the ſame will not allow, you may be put upon riſquing your Patient's Life, or leave him in a Condition worſe than you found him, with an incurable gleeting Fiſtula, or Dyſepulotic Ulcer; ſo that if any thing be done in order for the Cure, it ought always to be attempted firſt of all by ſome proper Diſcutient. For this Uſe alſo ſerves the Empl. Antimoniale of Dr. *Fuller*, to be met with in his *Pharmacopœia extemp.* but indeed theſe Tumors are moſt commonly left to themſelves; the great Danger by Inciſion on account of their Situation, and the Difficulty of healing when they come to ſuppurate, having very much diſcourag'd their Undertaking. Wherefore the much greater Number now content themſelves without any Surgery, when appriſed of their ſtubborn Nature, and the Uncertainty of Succeſs.

'Tis much more rare to find theſe Tumors in the Necks of Men than Women, or at leaſt-wiſe, being leſs obvious to Sight, they paſs unheeded, and we are not ſo often conſulted about them. I am ſure, to one that I have obſerved in our Sex, I have met with half a Dozen on the Throats of Women.

That the Nature of this Tumor may be the better apprehended, I will here transfer an Account thereof, preſented by the ingenious Dr. *Douglaſs* to the *Royal Society*, in theſe Words.

I had lately (*ſaith he*) the Opportunity of opening a Woman about fifty Years old, who had a very large Tumor, or hard Swelling, in the fore Part of the Neck, poſſeſſing all the Space between the whole Extent of the lower Jaw, and the upper Part of the Sternum, with a conſiderable Riſing in its Middle, laterally its Point inclining to the Left Side, though the biggeſt Part of the Tumor was on the Right. The Skin on the Apex of this protuberating Part was thin and ſhrivel'd, of a Colour different from the reſt, and look'd as if the Swelling would have broke in that Place.

The Skin was exceeding thin, having no Fat under it, only in a Cavity between two Lobes, to be afterwards deſcrib'd. On its Right Side there was a ſmall Appearance of ſome; for the Skin being leſs ſtretch'd there, the Cells of the Membrana Adipoſa were not quite emptied. The fleſhy Fibres of the *Latiſſimus Colli* were ſcarcely viſible, the *Maſtoidæus* and *Coracohyoidæus* were extremely thin, and in their Aſcent they adher'd very firmly to the ſubjacent Tumor. The *Sternohyoidæus*, and the *Sternothyreoidæus* that run up the fore Part of this Swelling, were diſtended ſo thin, that it was difficult to ſeparate them, eſpecially the laſt named. The Right Carotid Artery, in its Aſcent to the Head, ran along the outer Edge, which increaſing, much obſtructed the Current of the Blood that Way.

The internal Jugular, the Par Vagum, and the Intercoſtal Pair, went alſo over ſome Part of this Swelling, in their Deſcent to the Thorax; two of the Lymphatic Glands of the Jugular Vein were ſwell'd to the Bigneſs of little Eggs, being placed at ſome Diſtance one from the other, with a Hollow between, where ſome Fat was found; theſe two Lobes made the Tumor very uneven alſo on its Right Side.

Theſe Muſcles, the Jugular with the Glands adhering to it, and the reſt of the forenamed Veſſels, being remov'd on both Sides, I could eaſily obſerve the Bigneſs, the Figure, and the Circumſcription or Limits of this preternatural Tumor, with all its Adheſions to the adjacent Parts. In Magnitude it ſeem'd to exceed that of two Fiſts join'd together: Its Figure was almoſt triangular, with a broad Baſis under the Chin, ſloping a little on each Side, as it deſcended to the upper Part of the Sternum, where its Point was pretty narrow; its Surface was made uneven by three Riſings, of which the largeſt was turn'd to the Left Side, the other being plac'd on the Right, as above remark'd. It adher'd by membranous Filaments to the maxillary Glands, to the *Digaſtric* Muſcle, and to the *Stylohyoidæus*, under which, on the Right Side, a ſmall Portion of it, in the Form of a Nipple, did intrude itſelf, as it were, under the Tongue; in the upper and fore Part it alſo adhered to the *Os Hyoides*.

Laterally it was connected to the *Levator Scapulæ*, and lower down to that Part of the *Cucullaris*, which terminates in the Clavicles backwards, to all the fore Part of the Aſpera Arteria, between its third and fourth cartilaginous Rings, and the Os Pectoris, as alſo to that Muſcle of the Head called *Rectus internus major*, and to ſome Part of the *Scaleni*; its lower Part was engag'd under the Jugulum, or lunated Part of the Breaſt-bone to which it adhered. It was eaſily freed from its Connexions to all theſe different Parts, but not ſo from the Glandulæ Thyreoidæ, to which it adher'd after a far different manner; for where the Thyreoidal Glands are joined to one another, a little below the *Cartilago Cricoides*, on the fore Part of the Aſpera Arteria, there was no ſeparating of it without cutting its Subſtance; whence it plainly appears, that the Union of theſe Glands was the Root or Beginning of this Tumor; and yet, which is very remarkable, the Glands themſelves kept their uſual Figure, and were no larger than ordinary.

This Tumor was hard, and very firm, being exactly of the Conſiſtence of a Cow's Udder when boiled; yet in a few Places it was ſoftiſh, containing a liquid and thick Juice. It Colour was chiefly of a whitiſh-yellow, only in ſome Places i was exceeding red, from its having a greater Store of Bloodveſſels, and in others it was very white. I pared off all the ſoft Part, and the hard Subſtance, that remain'd, I boil'd, and then clear'd it very well, having left ſticking to it at one Centre a ſoft cartilaginous Body, which poſſibly, had the Patien lived longer, would have acquir'd the ſame Degree of Induration. It very much reſembles a Piece of white unpoliſh' Rock Coral; but whether it may be reckon'd oſſeous, or if i be rather the viſcid Humour of the Glands, hardened and concreted into this irregular, chalky or gravelly Subſtance, o whatever elſe it may be, I leave to better Judgments.

The firſt Appearance of this large Swelling was about thi Years ago, cauſed by the breaking of a Vein, as the goo Woman uſed to expreſs it, in a hard and very difficult La bour. It increaſed very ſlowly, not arriving to any conſider able Bulk, till a few Years before ſhe died: It was never ver painful, being a true Scirrhus. Many Things by ſeveral Pe ſons had been uſed, and applied unſucceſsfully: Its Bigneſs length became very troubleſome, in impeding her Swallowi and free Breathing, and at laſt it quite choaked her, by co preſſing the Windpipe, upon which it lay. *Turner's Surgery*

I was formerly acquainted with a Woman who was in gr Reputation for reſolving theſe Tumors. Her Secret conſi in anointing the Part frequently with the Oil of Chamo made by Infuſion.

But the moſt celebrated Remedy for this Diſorder is which is ſold at *Coventry*, and, which is kept as a Secret the Preparer. It is order'd to be laid under the Tongue eve Night going to Bed.

I am pretty well inform'd, that this ſecret Remedy is th prepar'd.

> Take of Spunge, Cork, and Pumice-ſtone calcin'd, ea equal Parts. Half a Dram of this is mix'd with Sug and, with the Addition of ſome Syrup or Conſerve, made into a Bolus, and laid under the Tongue ev Night.

What makes me the more inclinable to believe this true *Coventry* Receipt is, that *Muſitanus*, as I remember, one much like it, which he directs to be uſed in the manner for ſuch Tumors. And I remember there is a ceipt in ſome of the old *German* Diſpenſatories, not very ferent from this, with an Addition of the *Pilæ Mari* which is order'd to be laid under the Tongue, as a Remed *Botium*, for the Bronchocele; but I cannot at preſent reco the Authors.

Ronodæus alſo gives a Receipt for the ſame Purpoſe, w he intitules, *Pulvis pro Botio D. D. Wolfgangi Gabelcho* as thus.

> Take of Sponge and Lapis Calaminaris calcin'd, each Ounces; of Pumice-ſtone, and Lapis Spongiæ, each Ounces; fine Sugar, three Ounces: Mix, and ma Powder.

But they all agree in making the Sponge a principal I dient.

BRONCHOTOMIA, βρογχοτομία, from βρόγχος, Throat, and τέμνω, to cut, Bronchotomy. See Anon

BRONCHUS, βρόγχος, βρόγχη, βρογχίη. The βρόγχος, according to *Galen*, in the Beginning of his Book *de C. M. S. L.* is the Aſpera Arteria, which r from the Larynx to the Lungs, conſiſting of a Multi cartilaginous Bodies, called βρόγχια (*Bronchia*). The Author, *Com.* 3. *in Lib. de Art.* ſays that βρόγχος is the entire Aſpera Arteria, or only for the Fauces. in *Hippocrates*, ſignifies the Throat, whence, *Lib.* d ἐξεχόβρογχοι is expounded by *Galen*, τοὺς ἐξέχοντα τὸν βρόγχον ἔχοντας, "thoſe who have a prominent T

And *Lib.* 5. *Epid.* οἴδημα ὑπὸ τὸν βρόγχον, "a Tumor under the Throat." And *Lib. de Rat. Vict. in Morb. acut.* ὥσπερ εἰ διαπτερώσειε τὸν βρόγχον, "dilate, as it were, with expanded "Wings the Throat." See PULMONES.

The *Bronchia* or *Bronchi*, as now underſtood, are the Ramifications of the *Aſpera Arteria.*

BRONTE, βροντή. Thunder; ſee TONITRU. I don't know, that this relates to Medicine, farther than as it purges ſome People by the Fright.

BRONTIS, from βροντή, Thunder. The Thunder-ſtone. See BELEMNITES, and CERAUNIA.

BROTOS, βροτὸς, from βρώσκω, to feed. An Epithet of Man, ſignifying his Neceſſity of eating and drinking, and conſequently his Mortality; but the Word is more in Uſe among the Poets than the Phyſicians.

BROUILLAMINI. A Term given by the *French* to ſuch Maſſes of Bole, which are as thick and long as a Finger. They alſo call theſe *Bol en Bille.*

BRUCHUS. A ſort of Caterpiller. *Foreſtus* in his Obſervations relates, that a *Bruchus* was thrown up by vomiting as big as a little Ball, incloſed in a Bit of Fleſh as in a Pod. *Hartman*, in his *Praxis Chymiatrica*, writes that *Bruchi*, that is, *May-worms* dry'd, and given to ſuch as are mad by the Bite of a mad Dog, will in a ſhort time cure them of their Madneſs. But I am afraid he is miſtaken.

BRUMA. The ſame as HYEMS, Winter, but eſpecially that Part of Winter which is about the Solſtice, when the Days are ſhorteſt.

BRUMASAR, a Spagirical Term, ſignifying *Silver*, or, the *Moon. Caſtellus.*

BRUMATI *terreum.* A glaſed Veſſel. *Rulandus.*

BRUNELLA. The ſame as PRUNELLA, which ſee.

BRUNSFELSIA. A Plant which takes its Name from Dr. *Brunſfelſius*, a famous Phyſician.

The Flower conſiſts of one Leaf, ſhap'd like a Funnel, which is tubulous, and cut into many Parts at the Top; from whoſe Calyx ariſes the Pointal, which afterwards becomes a round, ſoft, fleſhy Fruit, containing roundiſh Seeds between the Rind and the Fleſh.

There is but one Species of this Plant, which is,

BRUNSFELSIA *Flore albo, Fructu croceo molli*, Plum. N. G. Brunſfelſia with a white Flower, and a ſoft Saffron-colour'd Fruit.

It is very common in *Barbadoes* and *Jamaica*, but I find no Medicinal Virtues aſcribed to it.

BRUNUS, *Ignis ſacer*, St. *Antony*'s Fire, or Eryſipelas. *Rulandus.*

BRUSATHAER. The Name of a Tree that grows in *hina. Ray's Index to his Hiſt. Plant.*

BRUSCANDULA. The ſame as LUPINUS, a Lupin, hich ſee. *Blancard.*

BRUSCUS, *Ruſcus*, Offic. *Ruſcus ſive Bruſcus, or Kneeholme.* Ger. 752. Emac. 907. Mer. Pin. 107. *Ruſcus*, J. B. 1. 579. Chab. 46. C. B. Pin. 470. Park. Theat. 253. Raii Hiſt. 1. 664. Synop. 3. 262. *Ruſcus myrtifolius aculeatus*, Tourn. Inſt. 79. Elem. Bot. 70. Boerh. Ind. A. 2. 63. *Ruſcus, Bruſcus, Oxymyrſine*, Merc. Bot. 1. 65. Phyt. Brit. 107. UTCHERS-BROOM. *Dale.*

Ruſcus, or the wild Myrtle, has a Leaf like the Myrtle, ly broader, and pointed at the Top like a Spear; a round uit, which ſticks to the Middle of the Leaf, and is red hen ripe, with a ſtony Inſide. From one Root proceeds a ultitude of twiggy Stalks, hard to break, a Cubit in Height, d cover'd with Leaves. The Root is like that of the *Agro*s, and is of a tart and bitteriſh Taſte; it grows in rough d craggy Places.

The Leaves and Berries, drank in Wine, provoke Urine, d the Menſes, and break the Stone in the Bladder. They o cure the Jaundice, Strangury, and Head-ach; a Decoction the Root in Wine, if drank, produces the ſame Effects. he young Stalks, when they have juſt begun to ſhoot, are ten inſtead of Aſparagus, or other Greens; they are diure, and of a bitter Taſte. *Dioſcorides, Lib.* 4. *Cap.* 6.

The Roots of Butchers-broom are white, thick, and knobd, matted together, and ſending down large Fibres. The lks grow to be about a Foot high; they are tough, pliant, d hard to break, ſtriated and thickly beſet with ſmall, ſtiff, id, nervous Leaves, about the Bigneſs and Shape of the ll Myrtle, ending in a ſharp and prickly Point, and ſtickg cloſe to the Stalks. The Flowers grow on the Backs of Leaves, being ſmall and purple, made up of ſix Leaves ece; and after them come round red Berries, like the Berries Aſparagus, containing two Seeds. This Plant grows in dges and Thickets, as on *Epping-foreſt*; plentifully flower in Summer.

The Root of Ruſcus, which is the only Part in Uſe, is one the five opening Roots. It opens Obſtructions of the Li and Spleen, and helps the Jaundice and Dropſy. It is a g Diuretic, provoking Urine, and helping the Stone and Gravel; and brings down the Catamenia. *Tournefort* commends a Conſerve of the Berries to ſtop a Gonorrhea. *Miller's Bot. Off.*

What *Dioſcorides* has ſaid of the Ruſcus, does not diſagree with the Plant now called by that Name: the Seeds in the Berries are very hard; ſo I believe we muſt read in *Cæſalpinus, quaſi cornea ſubſtantia*, inſtead of *carnea:* The Root is one of the five opening Roots, good to remove Obſtructions of the Bowels, and to evacuate by Urine. For the Dropſy, Cachexy, Jaundice, Stone, and Retention of Urine, it is preſcribed in Broths, Ptiſans and Apozems. For ſcrophulous Tumors, they give to drink, for ſeveral Days, a Pint of White-wine, in which a Dram of the Powder of the Roots of Butchers-broom, with the ſame Quantity of thoſe of Figwort and Dropwort, have been infuſed. The Conſerve of the Berries is good for Heat of Urine: the Seeds are uſed in the *Benedicta laxativa.*

The Flower is monopetalous, three Lines in Diameter, greeniſh; divided into three larger and three ſmaller Segments. It has a Violet-colour'd Sheath, inſtead of Chives, which ſuſtains ſix Summits, and is raiſed with ſix rounded Ribs running lengthwiſe. *Vaill. Martyn's Tournefort.*

BRUTA, is that Virtue of the Celeſtial Influence which is manifeſted by brute Animals to the rational; as the Virtue of Celandine communicated to Mankind, by reaſon of the Swallow; the Uſe of Salt in a Clyſter, taught by the Stork. *Rulandus.*

BRUTIA. An Epithet for the fatteſt and moſt reſinous kind of Pitch, which was therefore thought fit to be uſed in making a factitious Oil, called *Oleum piſinum, Pliny, Lib.* 15. *Cap.* 7. We often meet with *pix Brutia*, in the antient Phyſicians, which was ſo called from *Brutia*, a Country in the extreme Parts of *Italy*, where it was produced.

The *Brutii* were a People of *Calabria*, over-againſt *Sicily*, beyond the *Lucani. Pliny, L.* 16. *C.* 11. gives the antient Method of making this Pitch, from the *Tæda*, Mountain-pine.

BRUTOBON. A barbarous Name for ſome *Greek* Ointment, the Preparation of which is unknown. *Caſtellus.*

BRUTUM, ἄλογον. An Epithet for Animals void of Reaſon, ſignifying the ſame as *irrational, Galen. Orat. Suaſor. ad Artes.* He alſo calls them βοσκήματα (*Boſcemata*), 4. *de R. V. I. A.* In the *Theatrum Chymicum, Vol.* 4. the Philoſopher's Stone is call'd *Cor Brutorum. Caſtellus.*

BRUXANELI, H. M. *Baccifera Indica, floſculis umbellatis, baccis umbilicatis dicoccis.* It is a tall Tree, about the Bigneſs of an Apple-tree, growing in the mountainous and woody Parts of the Kingdom of *Malabar:* It flowers in *July* and *Auguſt*, and the Fruit is ripe in *November* and *December.* The Tree lives a long time.

Of the Juice of the Leaves, mix'd with freſh Butter, is prepared a Liniment, which is uſed in the Cure of a Carbuncle. A Decoction of the Bark of the Tree is held to be diuretic. Of the Bark of the Root, mix'd with Ginger and Turmeric, in Butter-milk, they make a Poultis, which is highly commended for arthritic Pains. *Ray's Hiſt. Plant.*

BRYCHIOS, βρύχιος. Deep, ſunk; the ſame as ὑποβρύχιος. In *Lib.* περὶ ὀστέων φυσ. we read, αὕτη δὲ διὰ τῆς ἐπιγουνίδος ἐς τὸ ἐντὸς διὰ τῆς κνήμης τοῦ μυὸς, βρυχίη τέταται "This "(Vein) extends itſelf by the Patella, and, paſſing by the "Muſcle of the Tibia, runs deeply into the inner Parts." Βρύχιον, in *Erotian* upon *Hippocrates*, is expounded οἱονεὶ βύθιον, καὶ κατὰ βάθος κείμενον, "as it were, ſubmerged, and lying in "the Deep." *Heſychius* expounds βρύχιον and ὑποβρύχιον, by βυθιζόμενον, "ſubmerged, and ſunk in deep."

BRYGMUS, βρυγμὸς, is expounded by *Galen*, in his *Exegeſis*, ὁ ἀπὸ τῶν ὀδόντων συγκρουομένων ψόφος, "the grating Noiſe "made by the Gnaſhing of Teeth." *Erotian* makes βρυγμὸς to be ἰδίωμα ποιοῦ ψόφου, "a peculiar Kind of Noiſe;;" that is, ſuch as is made by the Gnaſhing or Colliſion of the Teeth. *Heſychius* expounds βρυγμὸς by τρισμὸς ὀδόντων ἢ ἀκόνησις μύλων· "A *Stridor Dentium*, or a Grinding of the large Teeth, or "*Dentes Molares.*" Βρυγμὸς, *Lib.* περὶ γυναικ. φυσ. ſignifies a Stridor Dentium; as καὶ πυρετὸς αὐτὴν καὶ βρυγμὸς λαμβάνει, "a "Fever ſeizes her, attended with a Stridor Dentium." And it has the ſame Signification in many other Paſſages of *Hippocrates.*

BRYON, βρύον, is a Moſs which grows to the Barks of Trees, being the grey Hairs of Trees, as *Pliny* expreſſes it, *Lib.* 12. *Cap.* 23. which appear moſt remarkably upon Oaks. Βρύον, and βρύα, are uſed by *Hippocrates, Lib.* περὶ γυναικ. φυσ. and *Lib.* 2. περὶ γυναικ. in Suffumigations for the Uterus.

Bryon Thalaſſium, βρύον θαλάσσιον, in the Alga, or Sea-moſs, which *Hippocrates* applies, by way of Cataplaſm, to Women labouring under an Inflammation of the Uterus, *Lib.* περὶ γυναικ. calling it βρύον θαλάσσιον, ὃ ἐπὶ τοὺς ἰχθύας ἐπιβάλλουσι· "Sea-moſs, which they caſt over Fiſhes." *Galen, Lib.* 3. *Meth. Med.* directs the Bandage of an Ulcer to be βρυῶδες καὶ μαλακὸν, "ſoft and yielding, like Alga;" to which is oppoſed οὕτως σκληρὸν ὡς θλίβειν, "one ſo hard as to preſs or ſqueeze "the Part."

I have given an Account of what is at preſent meant by *Bryum*, in the Explication of Botanical Terms.

Bryon, by ſome call'd *Splachnon*, is found upon Cedars, white Poplars, and Oaks; that upon Cedars is the beſt, and that upon Poplars is next to it in Goodneſs. The white and fragrant is the moſt valued, but the blackiſh is not ſo good.

Bryon has an aſtringent Virtue, is temperate in Quality, between Heat and Cold; and the Decoction of it makes a good Inſeſſion for uterine Affections, and is mix'd with Unguenta Balanina, and with Oils or Lituſes, becauſe of its inſpiſſating Quality. It is alſo an uſeful Ingredient in the Preparation of Suffumigations, and Medicines call'd *Acopa*. *Dioſcorides*, *Lib.* 1. *Cap.* 20.

Bryon Thalaſſium, Sea-bryon, grows upon Stones and Shells by the Sea-ſide. It is a capillaceous Plant, ſlender, without Stalk, of a very aſtringent Taſte, and effectual in Inflammations, Gouts, and other Diſorders in which Aſtringents are proper. *Idem*, *Lib.* 4. *Cap.* 99.

Bryon muſt be reckon'd among Sea-herbs: It has Leaves like Lettuce, but ſhrunk and ſhrivel'd. It grows moſtly on Rocks and Shells, which ſtick in the Ground. It is of a remarkably drying and inſpiſſating Quality, by which it repreſſes all Collections of Matter, Inflammations, Gouts, and other Diſorders which want Refrigeration. *Pliny*, *Lib.* 27. *Cap.* 8. See ALGA.

BRYONIA ALBA, Offic. Ger. 720. Emac. 869. Raii Hiſt. 1. 659. Synop. 3. 261. Merc. Bot. 1. 24. Phyt. Brit. 17. Mer. Pin. 16. *Bryonia alba vulgaris*, Park. Theat. 178. *Bryonia aſpera ſive alba*, *baccis rubris*, C. B. Pin. 297. Tourn. Inſt. 102. Elem. Bot. 85. Boerh. Ind. A. 2. 61. *Bryonia aſpera incana alba*, *baccis rubris*, Hiſt. Oxon. 24. *Vitis alba vel Bryonia*, J. B. 2. 143. *Vitis alba*, *Bryonia*, Chab. 120. WHITE BRYONY. *Dale.*

This Bryony has a large thick Root, frequently as big as a Man's Arm, growing very deep in the Earth, of a light Brown on the Outſide, and White within, of a bitter unpleaſant Taſte. In the Spring it ſends forth a great many rough and hairy ſlender Stalks, which have curl'd Tendrils at the Joints, which climb to a great Length upon the Hedges near which it grows. The Leaves are, in Shape, like Vine-leaves, whence it is call'd *Vitis alba*, the white Vine; they are rough and hairy. The Flowers grow ſeveral together, on a common long Foot-ſtalk, each of a ſingle Leaf, cut into five Segments, of a whitiſh-green Colour; after which follow red ſmall Berries, full of Seeds. It grows in Lanes, and by Hedge-ſides, flowering in *May*, the Berries being ripe in *September*.

Paulus Ægineta, *Lib.* 7. *C.* 3. informs us, that the young Shoots of white Bryony are uſed as a Food grateful to the Stomach. But in this he himſelf has either been in an Error, ſince it only holds true of black Bryony, or the Hands thro' which his Works have paſs'd, have made him ſay a thing which is abſolutely falſe. Neither can I comprehend how white Bryony ſhould generate Milk, unleſs, with *Baubine*, we ſay, that it may accidentally produce this Effect by purging ſuch Nurſes as are valetudinary, and in a bad State of Health; for all the Parts of the Plant are of an acrid exulcerating Quality; which *Meſue*, *R.* 111. *L.* 2. *C.* 25. ſeems to have had in his View, when he uſes theſe Words: "Its young Shoots, when "they firſt appear, are principally uſed with Aromatics, and cor-"rect the fetid and diſagreeable Smell of the Breath, eſpecial-"ly when that Misfortune proceeds from a Corruption of the "Humours lodged in the Stomach." For, by the Addition of the Aromatics, the draſtic purgative Quality of the Plant muſt, in ſome meaſure, be corrected and balanced. The ſame Author, for a Purge, preſcribes from one Dram to two Drams of the Juice of its Root; and of itſelf, in Subſtance, from one Dram and an half to three Drams. Later Authors have obſerved, that not only the Roots, but alſo the young Shoots and Berries, are poſſeſs'd of a very draſtic and powerful purgative Quality, and muſt conſequently be proper for removing Obſtructions. The Root alone is, at preſent, uſed for medicinal Purpoſes; and Authors, I believe, are ſufficiently agreed, that it is intolerably acrimonious and nauſeous, that it provokes Urine, purges violently, and vomits briſkly. It is generally claſs'd among the phlegmagogue and hydragogue Medicines; and is, on account of the Violence with which it operates, call'd *Ruſticorum Purgatio*, the Purge of the common People. The Doſe of the Root, reduced to Powder, is from two Scruples to one Dram: Half an Ounce of its Juice may be given; and three Drams of Infuſions or Decoctions of it may be uſed. But to whatever internal Purpoſes it is uſed, *Tournefort* thinks it expedient to correct its ſtrong and draſtic Qualities, by the Addition of a proper Quantity of Cream of Tartar, or *Tartarus Tartariſatus*.

According to *Le Mort*, an excellent Purge is prepared of Bryony in the following manner:

Take of freſh Bryony, a ſufficient Quantity; after having bruiſed it, and expreſs'd the Juice, let it be well dried. Then bruiſe it a ſecond time; and to one Ounce of the dried and pulverized Root, add three Drops of the Oil of Cloves, and half a Dram of diſtil'd Vinegar: Mix all together; and laſtly, dry the Whole, either over a very ſlow Fire, or by the Heat of the Sun. Thus will you have an excellent and efficacious Purge in Cachexies, and all Obſtructions of the Uterus. The Doſe is from five Grains to one Scruple. *Coll. Leyd.*

Baubine informs us, from *Jo. Stoffelius*, that if we cut the Bryony-root cloſe by the Surface of the Earth, and excavate that Part of it which is left in the Ground, covering it over with that Part of the Root which was cut off, in order to hinder Duſt and Earth from falling into the Cavity, we ſhall next Day, upon uncovering it, find it full of a certain milky Juice, which continues in it till the third Day; and that a Spoonful of this Juice purges a Man no leſs ſafely than ſpeedily. *Ray* alſo, from *Dolæus*, informs us, that by taking from one to two or three Spoonfuls of this Juice every Morning, many dropſical Patients have been cured; provided the Juice has been gather'd in the Spring of the Year, when the Moon is increaſing. *Hoffman* acquaints us, that *Platerus* took the white Bryony-root before it germinated; and, after pulling off the Bark, and cutting it into Shreds, paſs'd a Thread thro' it, and hung it up to dry, either by the Heat of the Sun, or that of the Fire; and that, when it was ſufficiently dry, he infuſed it in generous Wine, and dried it a ſecond time. This Method he repeated ſeveral times, and affirm'd, that, when thus prepared, it purged excellently, and without creating any Uneaſineſs. The ſame Author prepares Troches of white Bryony in this manner:

He reduces the Bryony, thus corrected, to a Powder; and, after ſprinkling it with *Malmſey* Wine, in which Ginger has been infuſed, he forms it into ſmall Cakes, which, when dry, he reduces to a Powder, and uſes in Infuſions. When thus prepared, it purges, according to that Author, in the ſame manner the Troches of Agaric do.

Now ſince this Root, when uſed internally, acts by its ſtimulating and reſolvent Acrimony, 'tis obvious, that it may be exhibited with Succeſs in Caſes where heating Medicines are indicated, and when the Intention is to ſtimulate the Nerve ſtrongly, and give a Concuſſion to the whole Syſtem. To thi Quality it is alſo owing, that it is ſo much extol'd in Intermitting Fevers, in provoking the Menſes, curing thoſe uterin Diſorders to which young Women are ſubject, and in killin and diſlodging Worms lodged in the Inteſtines; for, being po ſeſs'd of a highly draſtic Virtue, it powerfully incides the tenacious Juices, and ſurpriſingly opens and removes Obſtruction Thus *Ray* informs us, that the Bulk of a Nutmeg of the Conſerve made of its Root, taken twice a Day, and perſiſted in fo a long time, often proves the happy Means of removing an entirely curing Epilepſies, and hyſteric Paſſions; and that th ſame good Effect is produced by continually putting a Piece its Root into the Cup, out of which the Patient drinks. *Ba* *hine*, from *Arnaldus de Villa Nova*, gives us the Hiſtory of certain Patient, who, in the Space of three Weeks time, w completely cured of an Epilepſy, only by purging himſelf wi depurated Juice of Bryony, edulcorated with a little Sug *Matthiolus*, in his Commentaries on *Dioſcorides*, informs u that he knew a certain Woman, who, for ſeveral Years, h been daily ſubject to hyſteric Fits; and who was at laſt adviſe by a common Herb-man, once a Week, when going to Be to drink White-wine, in which an Ounce of Bryony-root h been boil'd; by which Medicine, continued for a Year, h Diſorder was entirely removed. *Foreſtus*, *Obſ. Chir.* *L.* 6. O 22. *Schol.* informs us, from *Avicenna*, that Patients render delirious by dangerous Wounds, are in a great meaſure reſtor' either by drinking Bryony-root for ſome Days, in ſome re gerating and diluting Liquor, or uſing it in any proper Fo capable of obtunding and blunting its Taſte. The Root, e ternally applied, has, in many Caſes, given inconteſted Pro of its reſolvent Qualities. When newly bruiſed, and mix'd with Salt and Vinegar, it reſolves cold Tumors, and remo the diſcolour'd Marks ariſing from extravaſated Blood, if a plied to them. *Helmont* affirms, that in Contuſions, where black diſcolour'd Blood is lodged under the Skin, Bryony-ro alone, ſhaved down and applied, will, in a few Hours, reſo the Blood into Water, and draw it thro' the Pores of the Sk According to *Etmuller*, Bryony-root not only cures the Drop when exhibited internally, but alſo evacuates the Waters c lected in the Abdomen, when applied externally, by way of C taplaſm, to the Region of the Loins, either bruiſed by itſelf, made up with the Dung of a Cow, the Pigeon's, or Goat's. is alſo applied to œdematous Swellings of the Feet and Legs, Hydrocele of the Scrotum, and other Diſorders of a ſim Nature, in which Caſes it carries off the Serum, and con quently diſcuſſes the Swellings. It is alſo properly applied ſcrophulous Swellings, whether exulcerated or otherwiſe; which Intention, Let half a Pound of the Root, cut into ſmall Shreds, be fried in a Pan till the Shreds are ſhrunk and ſhrivel'd up: Then let the Liquor, ſtrain'd off, be reduced to the Conſiſtence of an Ointment, with half a Pound of Reſin of the Fir-tree, and five Ounces of Wax. Let this Ointment be applied to the ſtrumous Swelling every Morning and Night, upon a Piece of Linen Cloth.

This Medicine either diſſolves the *Strumæ*, or brings them to Suppuration, and heals the Ulcers, as *Zacutus Luſitanus* affirms from Experience. If the Root of the white Bryony is excavated in the Ground, and cover'd with ſome proper Covering, the Liquor collected in it proves an excellent Medicine for arthritic Pains, if applied immediately to the Parts affected. The Root itſelf alſo, freſh bruiſed, mix'd up with Linſeed-oil, and applied warm, removes ſciatic and arthritic Pains: This Medicine muſt be repeated till the morbific Matter is reſolved and diſſipated. It is alſo excellent for Contuſions, and for diſſolving grumous and coagulated Blood. The Leaves of Bryony alſo, if bruiſed, and applied to livid and diſcolour'd Spots in the Skin, powerfully diſcuſs the grumous Blood. For this Reaſon, in Gangrenes, and other Tumors, *Tackius* made Trial of the Root freſh bruiſed, or cut down, either alone, or mix'd with Chervil, by way of Cataplaſm. It is alſo thought good for curing wandering arthritic Pains, by Tranſplantation, as it is commonly call'd. The Method of doing this is to hang the Bryony-root for ſome time to the Member or Part affected, and to bury it, when taken away, in any Garden or fruitful Soil where it grows. In the laſt Place, when the Uterus is to be purged, white Bryony-root may either be uſed as an uterine Peſſary, or by way of Fumigation. See *Etmuller*, *Lib.* 1.

According to *Bauhine*, the Root is by ſome highly eſteem'd in arthritic Pains; and their Method of uſing it is to cut it down, and macerate it in Brandy, which they afterwards diſtil, and ſteeping Linen Cloths in the Water, when warm'd, apply them to the Parts affected. Dr. *Hopper*, in *Eph. N. C. D.* 1. *a.* 4. *App. p.* 47. informs us, that Warts, on any Part of the Body whatever, are ſafely and effectually deſtroy'd by Aſhes of Bryony-root, mix'd with the Juice of the ſame.

It is not, on this Occaſion, improper to inquire, whether, from a Knowledge of the component Parts of Bryony, we can account for its Effects, and aſcertain the particular Form in which it may beſt anſwer the Intentions of a Phyſician, when preſcrib'd for internal Purpoſes? *Tournefort* informs us, that its Leaves are inſipid, contain a viſcid Juice, and do not, in the leaſt, tinge blue Paper with a reddiſh Colour; whereas it is conſiderably tinged by the Root: From which Circumſtance, he ſays, we may reaſonably conjecture, that the Acid of Sal Ammoniac, which, in this Plant, is ſuperior to its other Principles, is free and diſentangled in the Root, in conſequence of which it is left at Liberty to act agreeably to its own Nature; whereas in the Leaves this Acid is ſheath'd up in a larger Quantity of Sulphur; and that the Root, ſubjected to the Fire, yields a large Quantity of an acid Liquor, a great deal of fetid Oil, and a conſiderable Portion of a volatile concreted Salt. Mr. *Boulduc* affirms, that the Root conſiſts of ſaline, without any Mixture of reſinous Principles; that it acts more powerfully when taken in Subſtance, than in any other Form whatever; and that, for a Doſe, one Dram of the dried Root is ſufficient; whereas, when freſh gather'd, four Drams of it are requir'd, becauſe it then abounds with a ſuperfluous Moiſture. But as it is to be dreaded, leſt too violent Effects ſhould be produced by the Bryony-root in Subſtance, he thinks it more ſafe and expedient to have recourſe to Infuſions, Decoctions, and Extracts of it. He alſo prefers Infuſions to Decoctions of it; and approves more of infuſing it in Wine than in Water. When the preciſe and only Intention is to diſcharge the Waters from the Abdomen, he maintains, that Extracts prepared from its Juice, are preferable to thoſe obtain'd by Infuſion or Decoction, *Hiſt. Ac. Roy. des Sci. A.* 1712. It is to be obſerved, that the Root, when freſh gather'd, is thought to act more powerfully, than when it is dried; for which Reaſon, according to *Pomet*, it is call'd, by the Country-people of *France*, *Nouveau enragé*. In *Lemery*'s *Pharmacopœia*, the *Aqua Bryoniæ Compoſita* is directed to be prepared in the following manner:

Take of the Juice of Bryony-root, four Pounds; of the Juices of the Leaves of Rue and Mugwort, each two Pounds; of dried Savin-leaves, three Handfuls; of Feverfew, Catmint, and Penyroyal, each two Handfuls; of ſweet Baſil, and Dittany of *Crete*, each one Handful and an half; freſh Orange-peel, four Ounces; Myrrh, two Ounces; Caſtor, one Ounce; and rich *Canary* Wine, twelve Pounds. Digeſt for four Days in a proper Veſſel; then ſubject it to Diſtillation *in Balneo Mariæ*. About the Middle of the Diſtillation expreſs and ſtrain; and then, by continuing the Diſtillation, and inſpiſſating the Tincture, make an Hyſteric Extract.

REMARKS.

The Bryony-root muſt be freſh gather'd, raſp'd down, and the Juice expreſs'd. The Leaves of the Rue and Mugwort muſt be alſo freſh gather'd, and bruiſed in a Mortar, and the Juice expreſs'd in the common way. The Savin-leaves muſt be dry. The Dittany of *Crete*, together with the other Leaves, muſt be bruiſed and mix'd with the Orange-peel, the Myrrh, and the Caſtor. When all together are put into a large Cucurbit, the Juices and *Canary* Wine muſt be pour'd upon them, and the Cucurbit muſt be cloſe ſtopp'd, put in a warm Place, and the Ingredients allow'd to digeſt for four Days. Then diſtil *in Balneo Mariæ*; and when half of the Quantity is drawn over, expreſs what remains in the Alembic, and diſtil the expreſs'd Liquor as before, till there remain but little in the Still; and then evaporate the Humidity till it acquires a pretty ſolid Conſiſtence. Thus you will have an Extract to be kept for Uſe. Mix the diſtil'd Waters together, and thus you will have the COMPOUND BRYONY-WATER, which muſt be kept in a well-ſtopp'd Bottle.

This Water is antihyſteric, aperient, good for the Vapours, and proper to excite the Menſes, reſiſt Poiſon, fortify the Brain, corroborate the Nerves, and eliminate noxious Humours by Tranſpiration. Its Doſe is from half an Ounce to three Ounces.

The Extract is alſo antihyſterical, and proper to promote the Menſes. *Lemery's Pharm. Univerſ.*

In the *London Diſpenſatory*, from which Mr. *Lemery* took the above-mention'd Recipe, Spirit of Wine is order'd for the Diſtillation. In the *Edinburgh Diſpenſatory* Spirit of Wine is alſo uſed for that Purpoſe, but the Caſtor is rejected. Inſtead of the Extract, *Tournefort* recommends an Infuſion of the Root in Wine, which he orders to be inſpiſſated. In the *Collect. Leyd.* there is an Extract of Bryony preſcrib'd, which, in the Opinion of Mr. *Le Mort*, tho' a Medicine of a low Price, is yet a Purgative of great Value and Efficacy. It is prepared in the following manner:

Take of dried Bryony, one Pound; of the Herb Fumitory, two Pounds; and of Sena-leaves, four Drams: Boil all together for two Hours, in a ſufficient Quantity of Water; and let the expreſs'd Liquor be reduced to the Conſiſtence of Pills. The Doſe is from half a Scruple to half a Dram.

The *Electuarium Diabryonias Democriti*, in *Meſue*, is ſaid to be wonderfully efficacious in Epilepſies, Palſies, Vertigoes, and other cold Diſorders of the Brain, and Spinal Marrow, and of the Nerves which ariſe from them. It is prepared thus:

Take of Bryony-root, cleanſed and triturated, five Pounds; of the Rob of Grapes, four Pounds; roaſted Squills, and the Kernels of Pine-nuts, each half a Pound; Agaric, three Drams; Nutmegs, Cardamoms, Mace, and Ginger, each two Drams; Cloves, Long-pepper, and Stœchas, each one Dram and a half; Seeds of Hartwort, Sal Gem, and the Trochiſci Galliæ Moſchatæ, each one Dram; and of Spikenard, half a Dram: Mix up into an Electuary, according to Art. After it has ſtood ſix Weeks, the Doſe is from two Drams to five or ſix; tho' *Lemery* orders an Ounce and a half.

As Mr. *Lemery* thinks the above Preparation very faulty in ſeveral reſpects, he propoſes the following in its ſtead, under the Title of *Electuarium Diabryonias Emendatum*, which he prepares thus:

Take of the Juice of cleanſed Bryony, freſh extracted, four Pounds; of the beſt Honey, two Pounds: Let them be boil'd to the Conſiſtence of Honey; then add, of the Powder of Turbith, Hermodactyls, Jalap, Agaric, and Salt of Bryony, each ſix Drams; and of the *Fæcula Bryoniæ*, half an Ounce. Make up into an Electuary, according to Art. The Doſe is from one Dram to one Ounce. *Lemery Pharm. Univerſ.*

By the above-quoted *Meſue* a Syrup is aſcribed to the ſaid *Democritus*, which is compounded of the Juice of Bryony, Aromatics, the Rob of Raiſins, and Honey. This Syrup is ſaid to be as efficacious as the former Electuary, if two Ounces of it are taken for a Doſe.

In the *Diſpenſatorium Boruſſo-Brandenburgicum*, there is a *Syrupus de Bryonia*, prepared of the Juice of Bryony-roots, with Honey and Sugar, which may be given to aſthmatic and hyſteric Patients; and in Caſes where Animals are ſuſpected to be lodged in the Stomach or Inteſtines. *Faber*, in *Myroth. L.* 6. *C.* 10. prepares a Syrup of Bryony, from a Decoction of its new-pull'd Roots, inſpiſſated, and Sugar; to which he afterwards adds the fineſt of the Salt, procured by drying the Root, and reducing it to white Aſhes, allowing half an Ounce of the Salt for each Pound of the Syrup. He informs us, that this Medicine gently purges all ſerous Humours, powerfully promotes the Menſes, and ſafely cures moſt of the Diſorders to which young Women are ſubject, becauſe it opens all Obſtructions, and purifies the Blood. Half an Ounce of it, or in ſtrong Conſtitutions a whole Ounce, is exhibited for a Doſe, in ſome proper Broth, early in the Morning, with an empty Stomach: A Regimen muſt at the ſame time be obſerved, as in other Caſes.

An Ounce of the *Fœcula Bryoniæ*, or the Powder which ſubſides in the expreſs'd Juice of its Root, is by many exhibited as a Medicine ſafer than the Root itſelf, or its Juice, and is expreſly claſs'd among the Openers of the Uterus; but, as *Ludovicus* in his *Pharmacop.* well obſerves, it is a very ineffectual Preparation, unleſs aſſiſted with Chalybeats; ſince, according to *Etmuller*, it is a dead Calx, of no manner of Uſe nor Efficacy; beſides, what is commonly ſold is for the moſt part adulterated. The *Nectar Succoſum* of *Cloſſæus*, which, in *Schroder*'s *Phar.* is directed to be prepared of one Ounce of the expreſs'd Juice of Bryony, mix'd with one Dram of the Oil of Vitriol, or Sulphur, is, in *Etmuller*'s Opinion, a very ſafe and proper Purge, provided the Doſe does not exceed one Dram.

But, that we may ſee how prone ſome People are to Fraud and Impoſture, I ſhall here recount ſome Circumſtances mention'd by *Moriſon*. “ Mountebanks, ſays he, and ſome Bota-
“ niſts, form very ſtrange Monſters of the Bryony-root; upon
“ which, if bifurcated when taken from the Earth, as it fre-
“ quently is, they with a Pen-knife form the genital Parts of a
“ Boy; and endeavour, by a proper Fiſſure, to imitate thoſe
“ of a Woman, by *Laurentius* call'd the Sacred Cave. After
“ they have taken theſe Meaſures, they bury the Root for ſome
“ time in Sand, or rather in a ſandy Soil, till the wounded or
“ factitious Parts have aſſumed a Skin; after which they confi-
“ dently expoſe it to Sale, as the Male and Female Mandrakes.
“ We daily obſerve, that many Roots, ſuch as Carrots, and
“ ſome others of the umbelliferous Kind, grow ſpontaneouſly
“ bifurcated; and I boldly aſſert, that, if ſufficient Art is uſed,
“ they may be cauſed to grow in the Shape of other Parts of the
“ human Body. Now, when the Bryony-root happens to be
“ old, thick, and bifurcated, theſe trifling Forms may eaſily be
“ obtain'd. But to complete the Farce, and render, as they
“ think, the Impoſture beyond the Hazard of a Diſcovery,
“ theſe Wonder-working Botaniſts put the Seeds of Oats into
“ the Wound made in the Bryony-root, which germinate in
“ the Earth, and make an Effort to ſend forth Leaves; but
“ wanting ſufficient Nouriſhment, and being ſhut up from the
“ Influence of the Air, they degenerate into ſmall capillary
“ Fibres. This Piece of Fraud may eaſily be detected by a
“ ſkilful and quick-ſighted Botaniſt. I myſelf remember to
“ have ſeen ſuch forced Productions carried about by ſtrolling
“ Mountebanks, both at *London* and at *Paris*, where their
“ deſpicable Proprietors did not ſcruple to expoſe them to Sale
“ for the genuine Roots of the Mandrake.”

Dioſcorides gives the following Account of the white Bryony.

The *white Vine*, otherwiſe call'd *Bryony*, *Ophioſtaphylum*, *Chelidonium*, *Melothrum*, *Pſilothrum*, *Archezoſtis*, *Agroſtis*, and *Cedroſtis*, in its Branches, Leaves, and Tendrils, reſembles the cultivated Vine, only is more hairy in every Part. It twines about the neighbouring Shrubs, taking hold of them by its Tendrils. Its Fruit grows in Cluſters, of a deep Yellow, and is uſed by the Tanners in taking off the Hairs from their Skins.

The tender Shoots of the firſt Budding, being boil'd and eaten, looſen the Belly, and provoke Urine. The Leaves, Fruit, and Root, are of an acrimonious Quality; and therefore proper, being made into a Cataplaſm with Salt, for *Chironian*, gangrenous, and phagedenic Ulcers, and for putrid Ulcers in the Legs. The Root, with bitter Vetches, Earth of *Chios*, and Fenugreek, abſterges and clears the Skin from Wrinkles, Sun-burns, Freckles, and black Marks. Boil'd in Oil till it be liquefy'd and diſſolved, it works the ſame Effects. It takes off the livid Marks of Blows in the Face, and repreſſes the *Pterygia* of the Fingers. Applied in a Cataplaſm with Wine, it diſcuſſes Inflammations, and breaks Abſceſſes; and the Powder of it, in a Cataplaſm, extracts Splinters of Bones: It is a proper Ingredient in ſeptic or ſuppurative Medicines. A Dram thereof, drank every Day for a whole Year, is a Medicine for the Epilepſy; and is good for thoſe who are ſubject to an Apoplexy or Vertigo. Two Drams of it, drank, are effectual againſt the Bite of the Viper, and kill the Child in the Womb. Sometimes it ſlightly diſturbs the Reaſon. Being drank, it provokes Urine; and, apply'd as a Peſſary, extracts both Birth and Afterbirth. It is made into an Eclegma with Honey, for the Uſe of thoſe who are oppreſs'd with a Strangulation, or a Dyſpnœa, and for Coughs, Pains in the Sides, Ruptures, and Convulſions. Half a Dram of it, taken in Vinegar, for thirty Days together, waſtes the Spleen; and, applied by way of Cataplaſm with a Fig to the Place, is effectual for the ſame Purpoſe. Its Decoction is proper for Inſeſſions, being a Purger of the Uterus, and expelling the dead Fœtus. The Juice is expreſſed from the Root in the Spring-time, and is drank in Hydromel for the forementíon'd Purpoſes, being a Phlegmagogue. The Fruit, us'd by way of Unction, or Cataplaſm, is of Efficacy againſt the Pſora and Lepra; and the Juice of the Fruit, ſupp'd with boil'd Wheat, cauſes Milk to flow in Plenty to the Breaſts. *Dioſcorides*, *Lib.* 4. *Cap.* 184.

Pliny, in the firſt Chapter of his twenty-third Book, aſcribes the ſame Medicinal Virtues to white Bryony, with thoſe now enumerated from *Dioſcorides*.

There are ſeveral other Species of Bryony, ſuch as,

1. The *Bryonia Zeylanica*, *foliis profunde laciniatis*, B. This Plant is frequently us'd in Dropſies, by the Inhabitants of *Ceylon*, an Iſland in the *Eaſt-Indies*, where it grows ſpontaneouſly on ruinous Walls, and in other uncultivated Places. *Boccler.*

2. The *Bryonia alba vulgaris procerior*, *folio cucurbitæ*. This agrees in Virtues with the other white Bryony.

3. The *Bryonia Indica* or *Americana*. The ſame with MECHOACANNA, which ſee.

4. The *Bryonia Africana glabra*, *foliis in profundas lacinias diviſis*, *flore luteo*, Olden. Smooth *African* Bryony, with deep-cut Leaves, and yellow Flowers.

5. The *Bryonia Americana*, *olivæ fructu rubro*, Plum. Cat. *American* Bryony, with red Olive-ſhap'd Fruit.

6. The *Bryonia Africana*, *fructu variegato*, Hort. Elth. *African* Bryony, with a variegated Fruit.

7. The *Bryonia Africana laciniata*, *tuberoſa radice*, *floribus herbaceis*, Par. Bat. *African* cut-leav'd Bryony, with a tuberoſe Root, and herbaceous Flowers.

BRYONIA NIGRA, Offic. Ger. 721. Emac. 871. Raii Hiſt. 1. 660. Mer. Pin. 16. *Bryonia ſylveſtris nigra*, Park. Theat. 178. *Bryonia lævis ſive nigra racemoſa*, C. B. Pin. 297. Hiſt. Oxon. 2. 5. *Bryonia nigra*, *ſigillum Beatæ Mariæ officinarum*, Merc. Bot. 1. 24. Phyt. Brit. 17. *Vitis nigra quibuſdam*, *ſeu Tamnus Plinii folio cyclamini*, J. B. 2. 147. *Vitis nigra ſive Bryonia nigra quibuſdam*, Chab. 120. *Tamnus racemoſa*, *flore minore luteo-palleſcente*, Tourn. Inſt. 103. Elem. Bot. 85. Boerh. Ind. A. 2. 62. Raii Synop. 4. 262. BLACK BRYONY. *Dale.*

The black Vine, which ſome call black Bryony, others the *Chironian* Vine, has Leaves like Ivy, but more nearly reſembling thoſe of the Smilax, only larger; their Stalks alſo are alike. This Plant, as well as the white Bryony, takes hold of the neighbouring Trees by its Tendrils. The Fruit grows in Cluſters, and is green at firſt, but black when ripe. The Root is black on the Outſide, but of the Colour of Box within. The Shoots of the firſt Budding are eaten as other Greens.

They provoke Urine and the Menſes, waſte the Spleen, and are good for epileptical, vertiginous, and paralytical Perſons. The Root has the ſame Virtues as that of the white Vine, and performs the ſame Effects, but in a leſs efficacious manner. A Cataplaſm of the Leaves with Wine cures the gall'd and ulcerated Necks of Beaſts of Burden, and is apply'd alſo t Luxations. *Dioſcorides*, *Lib.* 4. *Cap.* 185.

The *black Vine*, properly call'd *Bryony*, is by ſome name *Chironia*, by others *Gynecanthe*, or *Apronia*; it is like th *white Vine*, except in Colour. The tender Shoots of it, eate as Food, are preferr'd, by *Diocles*, before Aſparagus, for pro voking Urine, and diminiſhing the Spleen. It delights to gro among Shrubs and Reeds; the Root is black on the Outſide but of the Colour of Box within, and is more effectual in ex tracting Splinters of Bones, than the white Vine; but it h a peculiar Virtue of curing the gall'd Necks of Beaſts of Burde They ſay that if a Farm-houſe be mark'd with it, Hawks wi not approach it, and ſo the Poultry will be kept in Security. T Plant, bound about the Ancle of Man or Beaſt, cures a Defluxio of Phlegm or Blood upon the Part. *Pliny*, *Lib.* 3. *Cap.* 1.

The Root of the black Bryony is leſs than that of the whi blackiſh on the Outſide, whitiſh within, more ſolid, but ſlim withal. The Branches grow as long as the white, climbing a ramping upon the Hedges in its Way, but without Tendrils Claſpers; they are ſmooth as well as the Leaves, which are a dark-green Colour, and ſhining, in Shape of an Heart inverte but longer pointed. The Flowers grow among the Leaves long Cluſters, much ſmaller than thoſe of the white Bryony, a greeniſh Colour, of one Leaf cut into ſix Parts; after wh come red Berries, as in the former. It grows in the ſame Pla with that, and flowers about the ſame time.

Some Authors affirm, that the Root of this Bryony is a ſtro Purge; but *Hoffman* could not find any purgative Quality in no more than Dr. *Liſter*, tho' both try'd it ſeveral times. provokes Urine, and cleanſes the Reins from Gravel. A Ca plaſm of the Root, with Vinegar and Cow-dung, helps Gout. It is but rarely us'd. *Miller's Bot. Off.*

There are ſeveral Species of the black Bryony, or *Tam* ſuch as,

1. The *Tamnus racemoſa*, *flore minore luteo-palleſcente* of T *neſort*. The common black Bryony mention'd above.

It flowers in *June*, and its Root is only in Uſe. It in and attenuates viſcid Phlegm, eſpecially in Diſorders of Thorax. *R. H. p.* 661. It provokes Urine and the Me and diſcharges Sand from the Kidneys, if drank in a proper Liquor. *Lobel.* Concerning its purgative Quality, I have as yet found nothing. *C. Hoffman.* *Geſner* affirms, that it is poſſeſs'd of an exulcerating Quality. It is poſſeſs'd of very violent Qualities, and is ſaid to have ſomething of a poiſonous Nature in it; for which Reaſon it is very improperly us'd inſtead of the white Bryony. *Dale* from the above-quoted Authors.

2. The *Tamnus Cretica, trifido folio*, Tourn. Cor. Black Bryony of *Crete*, with a trifid Leaf.

3. The *Tamnus Americana tubifera, radice fungiformi*, Plum. *American* black Bryony, with a Root reſembling a Muſhroom.

4. The *Tamnus Americana racemoſa minor*, Plum. Smaller branching *American* black Bryony.

5. The *Tamnus Americana racemoſa major*, Plum. Greater branching *American* black Bryony.

6. The *Tamnus Americana, amplis foliis, ſubtus purpureus*, Plum. *American* black Bryony, with large Leaves, which are purple on their under Side.

7. The *Tamnus Americana, anguriæ folio*, Plum. *American* black Bryony, with a Water-melon-leaf.

BRYOPTERIS, or DRYOPTERIS, from βρύον, Moſs, or δρῦς, an Oak, and πτέρις, Fern. White Fern of the Oak, which grows on Moſs of the Oak. *Blancard.* See DRYOPTERIS.

BRYTHION, a Malagma ſo call'd, the Compoſition of which is deſcrib'd by *P. Ægineta*, *Lib.* 7. *Cap.* 18.

BRYTIA, βρύτια. The ſolid Parts of Grapes, remaining after the Muſt is expreſſed. *Galen*, *Lib.* 2. *de Alim. Fac. Cap.* 9.

BRYTON, βρύτον. A kind of Drink, made of Barley, which *Ariſtotle* calls πῖνον (*Pinon*). They who get drunk with t, do not fall indifferently any way, as with other Liquors, ut always ſupine, and on their Backs. *Hellanicus* ſays the *Bryton* is made of Rice; and it may be alſo made of Millet, s *Athenæus* informs us; who alſo ſays, that τὸ βρύτον, "the "Bryton," is by ſome call'd κρίθινος οἶνος, "Barley Wine;" nd tells us, in the ſame Place, that this κρίθινος οἶνος is call'd ῖνον. But *Euſtathius* ſays there is this Difference, that the ῖνον is made of Barley, but the βρύτον alſo of Roots. *Gor- æus.*

BUBALUS, Offic. Schrod. 5. 272. Geſn. de Quad. 122. *Bubalus, Italis Bufalo*, Raii Synop. A. 72. *Buffelus*, Bellon. Obſ. edit. Cluſ. 102. Jonſ. de Quad. 38. *Buffelus ſive Buba- s vulgaris*, Aldrov. de Quad. Biſul. 365. THE BUFFAL. *Dale.*

The Parts us'd in Medicine are the Horns, Hoofs, Tallow, d Dung, of which the Horns and Hoofs are good againſt onvulſions; and the other Parts are reckon'd to be endu'd ith the ſame Virtues as thoſe of the Ox.

Thoſe who have wrote the Hiſtory of Quadrupeds, deny this nimal to be the *Bubalus* of the Antients, but rather the wild *dian Bos*, deſcrib'd by *Ariſtotle* without a Name, and ſaid to found among the *Arachotæ*. But the learned *Ray* is ſtrongly Opinion, that the Name of the *Bubalus* came into *Italy* with e Animal to which it belong'd, and which, conſequently, k its Name *Bubalus* from its native Country in *India* or a. *Bellonius*, *Obſerv. Lib.* 2. *Cap.* 50. takes the *African* s for the *Bubalus* of the Antients. *Idem ibidem.*

BUBO, βουβών. A Bubo.

A *Bubo*, *Phyma*, and *Phygethlon*, are Affections of the ands. A *Phyma* is an Inflammation of a Gland; a *Bubo* is Inflammation of that Gland, haſtening to a Suppuration; the eryſipelatous Inflammation of that ſame Gland is call'd *hygethlon*. *Actuarius*, *Meth. Med. Lib.* 2. *Cap.* 12.

According to *Galen*, a *Bubo*, *Phyma*, and *Phygethlon*, are ections of the Glands; and a Bubo is an Inflammation, but hyma an Inflammation of a Gland tending to a Suppuration. , according to others, all preternatural apoſtematous Tu- s, in whatever Part they ariſe, are call'd *Phymata*. *Hip- ates* ſays, that they who are moleſted with Phymata in their ary Paſſage, are freed by the Suppuration and Breaking of ſame. Buboes which owe their Riſe to Bruiſes, other ers, or Pains, are not dangerous; but ſuch as proceed from ever, as it uſually happens in Peſtilences, are of a very ma- nt Kind, whether they be near the Thigh, or in the Arm- or about the Neck.

uboes of the firſt or milder Sort are to be treated, like all r Inflammations, with Refrigerants and Aſtringents, and Medicines as have a repelling Virtue; ſuch are Applications ponges dipp'd in Oxycras, or Wool moiſten'd with Wine Oleum Omphacinum (ἐλαίῳ ὀμοτριβοῦς), Oil of Roſes, Oil uinces, Oil of Maſtich, or Oil of Myrtle. After theſe, ffive Remedies are to be us'd; but, if the Body abounds Humours, they are firſt to be evacuated. If there be no- that requires Purging, we are to apply ourſelves to the of the Ulcer from whence the Bubo was generated, which be treated like other Ulcers. The Inflammation in the ds muſt be mitigated by Applications of Wool moiſten'd ſome laxative kind of Oil, and the ſame muſt alſo be wrapp'd about the Part. The Tumor, when ſuppurated, is not haſtily to be open'd, but we muſt try to reſolve it by Medicines made into Cerates, particularly the Cerate nam'd *Diapyranon*, and that call'd *Botanicon*. If the Reſolution does not ſucceed, we muſt endeavour to break it by the ſame means as are us'd for other Abſceſſes; and the Cure is the ſame. In Buboes proceeding from Fevers, or a mere Redundance of Humours, Repellents are to be avoided, leſt we ſhould repel the Matter upon the inward Parts; but we muſt begin with Diſcutients. If the Age and Strength of the Patient will permit, Blood is to be firſt taken from the Vein of the Cubit; after which we muſt uſe Fomentations of the Decoction of Chamomile, Dill, and ſuch-like Herbs. The other Medicines are ſuch as we have recommended as proper for the Parotides, and for Inflammations. *After Atticus*, call'd alſo *Bubonium*, from its Virtues in this Diſtemper, is ſaid to cure it, not only if it be apply'd to the Sore, but worn as an Amulet. *P. Ægineta*, *Lib.* 4. *Cap.* 22.

There are ſome ſorts of Tubercles, or Tumors, which never appear but in certain Places, which are in a manner appropriated to them. To theſe kinds belong what we call Buboes, which infeſt no Parts but the Groin and Armpits, and may be divided into the *mild* and the *malignant*; which Diſtinction, becauſe it includes a different Method of Cure, requires a little Explication. A *mild* Bubo is ſo nam'd, firſt, when it riſes, as it were, ſpontaneouſly; that is, when the Patient is in a State of Health, and wholly free from any contagious or peſtilential Diſeaſe, in the ſame manner as a Furunculus, or Phlegmon, ariſes, eſpecially on Infants; tho', for the moſt part, without Danger: Or, ſecondly, a Bubo is ſaid to be *mild*, when it makes its Appearance at the End of ſome mild and favourable kind of Fever, the Violence of the Diſeaſe being, by the Strength of Nature, diverted that Way. A *malignant* Bubo is one which owes its Riſe to ſome peſtilential Contagion, or the Lues Venerea, and is therefore uſually call'd a *peſtilential* or *venereal* Bubo.

As to the Cauſes of a mild Bubo, I muſt remark, that this, as well as all other Inflammations proceeding from internal Cauſes, takes its Riſe from the Stagnation of ſome glutinous and inſpiſſated Blood, and, conſequently, no way differs from other Inflammations, except its Place, which is in the Groin or Armpit, where much Fat, and many Glands, are ſituated.

A mild Bubo is not difficult to be diſtinguiſh'd, if we conſider, that it is nothing but a Tumor, with an Inflammation, in the Parts above-mention'd, without any peſtilential or venereal Contagion.

This kind of *Bubo* alſo is very ſeldom of dangerous or pernicious Conſequence, being commonly reſolv'd, or brought to a Suppuration. But this Reſolution or Suppuration is ſometimes brought about with Difficulty, eſpecially in Perſons of a bad Habit of Body, inſomuch that theſe ſuppurated Tumors have ſometimes ended in ſtubborn Fiſtulas. A Bubo in the Armpit is more eaſily brought to a Suppuration than one in the Groin; but neither of them is ſo difficult of Suppuration as the Parotides.

For Buboes which happen without any other Diſtemper, eſpecially in Infants, the beſt way is often to adminiſter frequently ſome purging Medicine, mix'd with Mercurius dulcis, that the glutinous and coagulated Blood may be drawn by Revulſion from the affected Part, and, at the ſame time, diſſolv'd. Then other Medicines, which attenuate the Blood, are to be preſcrib'd, as Decoctions of the Woods. If the Bubo be attended with a ſlight Fever, a Phyſician ought to be conſulted, for adminiſtring ſome antifebrile Medicines.

Where the Inflammation is but moderate, and, conſequently, Reſolution may be hop'd, it will be proper to apply digeſtive Plaiſters, ſuch as thoſe of ſimple Diachylum, Sperma Ceti, Galbanum, Diaſaponis, or De Ranis cum Mercurio; for theſe ſorts of Tumors are often reſolv'd by ſuch external Applications.

If the Inflammation be violent, and the Pain intenſe, or if outward Digeſtives have no Effect, we are immediately to have recourſe to Suppuration, by applying a Plaiſter of *Diachylum cum Gummi*, which is of excellent Service in this Caſe. If the Pain be very great and intolerable, digeſtive Cataplaſms, applied warm to the affected Part, and often chang'd, are uſually of very great Efficacy, not only in mitigating the Pain, but reſolving the Tumor. Cataplaſms for this Purpoſe may be compos'd of Crums of wheaten Bread, and Milk, boil'd to a Poultis, with an Addition of ſome Saffron; or of Meal, with Honey and freſh Butter, work'd to a Cataplaſm by the Fireſide; to which may conveniently be added a ſmall Quantity of *Venice* Treacle. This is to be apply'd hot, and often chang'd.

When, by theſe and ſuch-like Medicines, we have reduc'd the ſtagnating Matter to Maturation, we are to make uſe of ſome Cauſtic, or of the Knife; but all imaginable Care is to be taken, that, in making an Inciſion, we do not injure the axillary Veſſels under the Armpit, or the crural Veſſels which lie under the Groin, and, by that means, excite a very dangerous Hæmorrhage. The Abſceſs, when open'd, is to be treated according to the general Method of treating Abſceſſes; tho' we ought to obſerve, that a Plaiſter of Diachylum is of extraordinary Uſe in this Caſe, as being extremely well adapted to the mollifying or reſolving any Hardneſſes or Calloſities about the Edges of the Ulcer. *Heiſter.*

Gulielmus de Saliceto, an Author who wrote before the Venereal Diſeaſe was imported from *America*, mentions a Bubo *propter concubitum cum fœda muliere.* This Dr. *Freind* does not think was a Venereal Bubo; becauſe all Buboes are not Venereal; and both theſe, and Tumors, and Abſceſſes in any of the genital Organs, may be contracted by converſing with Women, who, without having the Leproſy, or the Venereal Diſeaſe, are affected with Ulcers and Impoſtumations in thoſe Parts.

Hippocrates takes Notice of a ſort of *Bubo* ariſing on account of a Suppreſſion of the Catamenia, and coming to Suppuration, in his Treatiſe *de Natura Pueri.* He calls it φῦμα κατὰ τὸν βυβῶνα πύον γενόμενον.

PESTILENTIAL BUBOES.

Peſtilential Tumors are, by Profeſſors of Surgery, generally divided into *Buboes*, and *Carbuncles*, or *Anthraces.* Under the Name of *Bubo* they comprehend all inflammatory Tumors from a peſtilential Cauſe, which ariſe not only under the Ears, in the Armpits, and in the Groin, but alſo in the Neck, on the Breaſt, Arms, Feet, or any other fleſhy Part of the Body; the corrupt and peſtiferous Matter being, by the Benefit of Nature, driven to the external Parts.

A peſtilential Bubo may be known from other Tumors, by its appearing commonly juſt at the Time of a Peſtilence, and its being accompanied with other peſtilential Signs. For it is to be conſider'd, that the beſt of our later Writers, who liv'd in the laſt peſtilential Times, have aſſur'd us, that Perſons ſeiz'd with the Peſtilence, unleſs they died on the Spot, were every-where obſerv'd to have an Eruption of ſuch Tumors. This Eruption happens ſometimes quicker, ſometimes ſlower; for ſome perceive them before they are ſick, or have any Senſe of the peſtilential Poiſon; on others they appear not till the ſecond, third, or fourth Day after their being ſeiz'd with the Contagion; but they are very rarely obſerv'd to come forth later. Sometimes theſe Buboes are accompany'd with a Carbuncle, or Anthrax, but are more frequently without them; whereas a Carbuncle very ſeldom happens without a Tumor.

It is an old Obſervation, and confirm'd in the laſt Peſtilences, that moſt of thoſe on whom Tumors appear'd, if they were not attended with very ſevere Symptoms, or an Acceſſion of other Diſorders, had the good Fortune to recover. Therefote our later Phyſicians have come into an Opinion, and not without Reaſon, that the principal Part of our Buſineſs in managing the Peſtilence conſiſts in promoting, by all imaginable means, the Growth of the Tumor, or Bubo, without the Benefit of which there is no Preſervation of Life under the Peſtilence; and that the Phyſician, who takes a right Method of curing the Bubo, at the ſame time cures the Peſtilence. This being granted, digeſting, diſſolving, or repreſſing Medicines, Phlebotomy, or Purging, are ſo far from conducing to the Cure of the Peſtilence, that, by retracting the Poiſon into the Blood, they deſtroy the Patient. The principal Buſineſs therefore of the Phyſician, or Surgeon, in this Caſe, is, to aſſiſt provident Nature, by promoting the Expulſion of the Tumors forming in the Body, and reducing them as ſoon as poſſible to a Suppuration or Maturity.

For the more ready Accompliſhment of this End, it is much the ſafeſt way for the Patient, as ſoon as he perceives the Eruption of a Tumor, to confine himſelf to his Houſe, and avoid the Air, and even to betake himſelf to his Bed; for, by this Method, he may be the more ſucceſsfully defended from the external peſtiferous Air, and the Buboes, by the right Adminiſtration both of internal and external Remedies, be the more eaſily expel'd, and brought to Suppuration.

As to external Management, it will be extremely proper to rub the ſwelling Part, with ſome Vehemence, both with the Hands, and with Linen Cloths; and, what is moſt effectual to the Purpoſe, after that to apply ſome emollient and maturating Remedies, to promote a ſpeedy Eruption. A very good Remedy, in particular, is a Malagma compos'd of Ferment of Bread hot, alone, or mix'd with Salt and Muſtard-ſeed bruis'd. By virtue of this Medicine the conſtricted Parts are wonderfully mollify'd and ſtimulated, till the peſtiferous Matter, being attracted from the Blood toward the intumeſcent Parts, paſſes into a Suppuration. Of the ſame Virtue are Cataplaſms, ſuppurative of other Tumors; eſpecially one compos'd of Onions, roaſted under the Aſhes, and work'd with Treacle and Butter; or a Cataplaſm prepar'd of the Inſide of a wheaten or white Loaf, and well boil'd with Milk and Saffron. There are ſome Surgeons, who, to avoid expoſing the Body to the Air, becauſe of the frequent Change of Cataplaſms, by which Tranſpiration may be diſturb'd or hinder'd, are rather for applying emollient Plaiſters, particularly a Plaiſter of Diachylum, ſimple or compound, inſtead of Cataplaſms.

Barbette, a very noted Phyſician, in his Book of the Peſtilence, preſcribes the following, which ſeems a very good one.

> Take Plaiſter of Diachylum and de Mucilaginibus, each hal a Pound; Muſtard-ſeed pulveriz'd, four Ounces; Unguentum Baſilicum, four Ounces: Mix them, and mak them into a Plaiſter. This muſt be laid upon the ſwelling Part, which muſt firſt be well rubb'd, and renew'd every Day, or every other Day.

Hodges, a famous *Engliſh* Phyſician, in the Deſcription o that terrible Plague which rag'd at *London* in the Year 1665 very much commends the following.

> Take Plaiſter of Oxycroceum, three Ounces; Gum Galbanum ſtrain'd, and Caranna, each one Ounce; commo Pitch, two Drams. With Oil of Chamomile melt an make them into a Plaiſter according to Art, which muſt b applied in the ſame Method as the former.

Nor does that Plaiſter deſerve to be deſpis'd, which conſiſt of Honey, Meal, and Yolks of Eggs. The Remedies which moſt of the antient Phyſicians us'd to accelerate Suppuration as Veſicatories of Cantharides, and dry Cuppings, are almoſ wholly rejected by the Moderns, and thoſe the moſt experienc' Phyſicians in curing the Peſtilence.

But what is much to be admir'd, and deſerves a deeper Conſideration, is, that the very celebrated *Beintema*, Phyſician t the Emperor, in his *Latin* Treatiſe of the laſt Peſtilence, aſſures us that peſtilential Buboes were often ſafely and ſucceſſfully reſolv'd and cur'd by the bare Impoſition of hot Aſhes But tho' there be hardly any beſides this Author, who adviſe the Reſolution or Cure of Buboes in a Peſtilence, it will not b amiſs here to obſerve, that the peſtiferous Venom was not, b the Reſolution, repreſſed and repelled into the Blood, but rathe extracted out of the Body, by means of the hot Aſhes, an quite ſubdu'd.

To theſe external Medicines it will be proper to add the Uſ of internal Remedies, by whoſe Aſſiſtance the latent Venom may be expel'd by gentle Sweat; but immoderately heating an vehement Sudorifics have been always found to be noxious an dangerous, by Phyſicians of later Times; whereas ſupping ſmall Liquors hot has been experienc'd to have a very goo Effect, as being excellently accommodated to excite a gent Sweat, and to temper the Blood. Medicines of this Natur among others, are Potions of Tea, mix'd with a little Saffro or of other alexipharmic Herbs, as Sage, Scordium, Rue, Mi lefolium, or Betony; Ptiſan alſo, prepar'd with, or withou the Root of Scorzonera, and drank hot, in order to maintain continual, but gentle Sweat. And as vehement Sudorifics, cold Liquors are not a little dangerous; for they not only repre the Sweat, but, in a remarkable manner, reſtrain the Eruptio and Growth of the Buboes, on whoſe kindly Promotion a Increaſe the Fate of the Patient ſo much depends. The Air the Chamber in which the Patient lies, muſt be kept in a temp rate State, neither too hot, nor too cold; the Bed alſo muſt kept in the ſame Temperament, and as commodious as poſſibl If the Patient be weak and low, but without any remarkab Degree of Heat, it will not be improper to give thirty or for Drops of Elixir Proprietatis, or the Mixtura Simplex, the B zoartic Tincture, Eſſence of Myrrh, Eſſence of Scordiu two or three times every Day, in ſome warm Liquor; or ex bit ſome good Bezoartic Powder. On the contrary, for th who are of a hot Complexion, or are moleſted with immodera Heat, nothing is more proper than Nitre depurated, with Cra eyes, and teſtaceous Powders, or temperate Acids, ſuch as t Juices of Citrons, Currants, and Pomegranates, or the Syr and Water of Borage, Bugloſs, or any other temperate a cooling Simple, often exhibited, inſtilling at the ſame tim if the Heat be vehement, ſome Drops of ſweet Spirit Vitriol.

The Remedies above preſcrib'd are of ſufficient Virtue to ex all the Poiſon of the Contagion from the inward and noble Pa on the Authority of the moſt learned and experienc'd Phyſicia who have written on the late Peſtilence in *Poland*, *Pruſſia*, *D* *mark*, *Auſtria*, *Hungary*, and *Ratiſbon.* Theſe, then, ar be frequently repeated, till either the Tumors are digeſted reſolved, which, they tell us, ſometimes happens without S puration, or, what more generally happens, are brought Maturation. In ſome Caſes the Tumor immediately incli to Suppuration, ſometimes it remains for whole Weeks, wi out being in the leaſt mollify'd. When this happens, the of the above-preſcrib'd Medicines is to be continu'd till the mor either breaks of itſelf, or is open'd with the Inciſion-kn and the peſtiferous Matter, being thereby prohibited from turning into the Blood, is evacuated, and the Wound t roughly cleans'd.

The Abſceſs being open'd, we muſt immediately ſet ab cleanſing it, which being completed, the Wound muſt heal'd by means of ſome vulnerary Balſam. For the Purpo

cleanſ

cleanſing, we have a moſt noble Remedy, which is, the digeſtive Ointment, (Turpentine with the Yolk of an Egg) mix'd with a ſmall Quantity of *Venice* Treacle, and Balſam of Sulphur with Oil of Turpentine. At every Dreſſing the Pus is to be gently abſterged from the Ulcer, which is afterwards to be dreſs'd with the before-mention'd Ointment, but not tented, except the Orifice be too narrow; and a Plaiſter muſt be laid thereon, and the Place carefully bound up. Some of the beſt Plaiſters in this Caſe are Diachylon, or what is compos'd of Meal and Honey, and theſe may very properly be apply'd till the Wound is heal'd.

As to the moſt convenient Time for making the Inciſion, Phyſicians are not agreed. Many Authors, eſpecially among the Moderns, who have given us Precepts concerning the Peſtilence, are utterly againſt opening a peſtilential Bubo till it be perfectly ripe, and thoroughly ſoft. For, beſides that theſe Buboes, as ſome have obſerv'd, almoſt conſtantly break of themſelves, there is very great Danger, if we may believe theſe Authors, leſt a too haſty and precipitate Inciſion of a Bubo ſhould be ſucceeded by a Fiſtula of a bad kind, by an Immobility of the Limbs, and even by a Gangrene. Others, on the contrary, aſſert that the immediate Inciſion of a peſtilential Bubo in the Beginning is not only ſafe, but the moſt likely means to preſerve the Patients, and the ſureſt, as well as ſpeedieſt, way to free them from the Contagion.

Tho' ſome of the antient Phyſicians have directed the utter Exciſion of peſtilential Buboes, in order to extirpate the Venom, later Authors, for good Reaſons, have been of a contrary Opinion. For ſuch a Method of Cure is eſteem'd not only too violent, but even very dangerous, eſpecially in ſome Parts of the Body.

Thus alſo Cathartics and Emetics of all kinds, Phlebotomy, and internal healing Medicines, ſuch as a Bezoartic Tincture, diſtil'd Oils, with hot volatile antipeſtilential Spirits, *Venice* Treacle, and Mithridate, are almoſt unanimouſly rejected by later Phyſicians, tho' former Phyſicians laid a great Streſs upon them. *Heiſter Chirurg.*

Of VENEREAL BUBOES.

Venereal Buboes are painful, hard, renitent Tumors of the Conglobate or Lymphatic Glands, which are ſituated in the Groins, and which tend ſlowly to Suppuration, ariſing mediately or immediately from impure Venereal Commerce. Therefore when this Species of the Venereal Diſeaſe affects either Male or Female immediately after impure Embraces, or in a few Days after, ſome or more Glands, in either or both Groins, give ſome ſlight Pain in walking; and, upon feeling them, it may be perceived, that they are ſomewhat tumefy'd. The Tumor increaſes faſter or ſlower, and grows hard, tenſe, and renitent; hence the Pain in the Part increaſes, a Senſation of preternatural Heat is perceiv'd, but the Skin ſtill retains its natural Colour; the Patient finds more Difficulty in walking; at length a manifeſt Bubo appears, which are different in Figure, as orbicular, oblong, or round; ſometimes of the Size of a Pigeon's or Hen's Egg, ſometimes as large as a Man's Fiſt.

Venereal Buboes admit of a threefold Diſtinction. 1. They may be diſtinguiſh'd by the Manner in which they make their Attack; for ſome proceed immediately and ſolely from impure Embraces, and conſtitute an *eſſential* Diſeaſe; others accompany a Gonorrhea which is ſuddenly ſuppreſs'd, or has but a ſmall Diſcharge; or elſe attend chancrous Ulcers of the Penis, and form a *ſymptomatical* Diſeaſe; laſtly, others ariſe ſpontaneouſly without any immediate previous Embraces, and conſtitute a Pathognomonic Sign of a latent Pox.

2. They may be diſtinguiſh'd by their Qualities; for ſome are attended with great Pain, Heat, and Pulſation, and are of the Phlegmon kind; others have but little Heat, Pain, Pulſation, and Hardneſs, but are rather ſoft, and retain the Marks of the Fingers after Preſſure, and are of the œdematous kind; laſtly, others being quite void of Pain, Heat, and Pulſation, are very hard, and are call'd *ſcirrhous*.

3. They may be diſtinguiſh'd by their manner of terminating, which is various; for ſome, either ſpontaneouſly, or by the Force of the Remedies applied to them, are diſperſed by Degrees, and diſappear; others come to Suppuration, and, after Evacuation of the Pus which was collected in them, at an Aperture made by a Cauſtic or Inciſion, form a Cicatrix; laſtly, others, eluding the Force both of Ripeners and Emollients, perſiſt in their Hardneſs and Renitency.

CAUSES *of* VENEREAL BUBOES.

The inguinal Glands cannot be tumefy'd after impure Embraces, and indurated into a Bubo, unleſs the Lymph, which is convey'd to them from the neighbouring Parts, as to a common Reſervoir, and ought to flow thro' their Cells or Veſicles, in order to be carried off again, ſtagnate there, and accumulated in them. But the Lymph cannot ſtagnate, and accumulated in the inguinal Glands, unleſs it be thicker, and more viſcid than uſual. It follows, therefore, that the Lymph, which circulates thro' the inguinal Glands, is render'd too thick and viſcid by impure Embraces, and, by being accumulated in thoſe Glands, produces Venereal Buboes.

But nothing new happens to the Body from impure Embraces, except the ſimple Admiſſion of the Venereal Infection. That Infection, therefore, being admitted into the Body, and blended with the Lymph of the inguinal Glands, renders it too viſcid and thick; for the producing of which Effect it is very well adapted, ſince it is of a ſalſo-acid Nature, and is, for that Reaſon, effectual in coagulating ſulphureous Humours, of which kind the Lymph is.

The infectious Matter, when once receiv'd, can be communicated to the inguinal Glands two ways; the one a long and intricate one, that is, by the Circulation of the Blood; the other much ſhorter and more expeditious, for Inſtance, by the Lymphatic Veſſels, which are ſent to the inguinal Glands. The firſt we reject, as not fit for reſolving this Queſtion, ſince that being once admitted, all the conglobate Glands in the Body are equally liable to be affected with the inguinal Glands, ſince they derive their Lymph from the ſame Maſs of Blood: But this contradicts Experience. Therefore, in the preſent Caſe, we are of Opinion, that the later Way is only to be admitted.

But ſince there are three Species of Buboes, as we ſaid above, conſider'd with reſpect to the Manner in which they originally appear, the Diverſity of the Manners in which they are contracted, deſerves to be farther explain'd.

During the Act of Venereal Commerce, the external Parts of the Pudendum Muliebre, together with the Vagina, are irrigated with the *Liquor Genitale* of the Male. If this, therefore, ſhould be corrupted, the infectious Matter will be imbib'd into the ſpongy Subſtance of the Parts, and mix'd with the Lymph which circulates in them; but this is ſent by peculiar Lymphe-ducts to the inguinal Glands. The infectious Matter, therefore, which is admitted, will be carried with it, at the ſame time, to thoſe Glands.

In the ſame manner the Pudenda Maſcula, and Pubes itſelf, will be affected, by the Communication with the other Sex. Therefore, if the Humours there are corrupted, the infectious Matter, penetrating the Pores of the Parts, will inſinuate itſelf into the Lymph which flows thro' them, but this Lymph continually flows from thence to the inguinal Glands. Therefore the Venereal Matter, which is mix'd with the Lymph, tends to the ſame Parts.

In a ſuppreſſed Gonorrhea, or a Gonorrhea where the Diſcharge is too ſmall, the ſeminary Veſicles, Cowper's Glands, and Teſtes, in Men, but, in Women, the Proſtates, Cowper's Glands, and the Botryform Glands of the Vagina, will be turgid with a corrupted Fluid. Some Particles, therefore, of the virulent Humour exhaling from thence will be taken up by the refluent Lymph, which flows from thoſe Receptacles, or from the Parts which lie very near them in both Sexes, and will be carried with it to the inguinal Glands, where they will produce Buboes, unleſs a Paſſage be inſtantly open'd, by which the putrid Humour, which has been confin'd, may be diſcharg'd.

After the ſame manner the Lymph which returns from the Pudenda in either Sex, when they are affected with chancrous Ulcers, conveys with it ſeveral Particles of virulent Matter, from the ulcerated Parts, to the inguinal Glands, which by inſpiſſating the Lymph, and obſtructing the Glands in which it is contain'd, frequently occaſion Buboes.

Laſtly, in a latent Pox, when the Contents of the Teſtes, Proſtates, Veſiculæ Seminales, and Cowper's Glands, in Men, but, in Women, of the Proſtates, Botryform Glands, and Cowper's Glands, is infected with the Venereal Taint, the Lymph of theſe Receptacles themſelves, and of the Parts adjacent, will be ſo vitiated by the contagious Matter received from thence, that, being convey'd into the inguinal Glands, and infecting the Lymph collected there with the ſame Diſorder, will produce Buboes, if the Infection has Virulency enough to produce ſuch an Effect. But let the Bubo ariſe from whatever Cauſe, either from impure Embraces, a ſuppreſſed Gonorrhea, chancrous Ulcers, or, laſtly, from a latent Pox, if it happens, that the Lymph in each Groin be equally infected with the Venereal Poiſon, a Bubo will certainly ariſe in each Groin; but if there ſhould be any Diſparity in either Part, it will only happen on one Side.

This Diſparity may ariſe from three Cauſes.

1. From the Diſorder of the Part from whence the Poiſon is convey'd. So it appears, that the Glands of the Right or Left Side receive more Infection, as the Proſtates, ſeminary Veſicles, Cowper's Glands, or the Teſtes, in the Man, but the Proſtates, Cowper's Glands, or the Botryform Glands of the Vagina, in the Woman, ſhall be more turgid with virulent Humours on either Side, becauſe the Lymph that returns from thence, and is convey'd into the Glands of the ſame Side, will be more virulent.

2. From the Diſorder of the particular Part, to which the Poiſon is communicated. Thus it appears, that the inguinal

Glands on either Side are more affected, as they are by their natural Conformation more full of Windings, more intricate, more cellular, in a Word, as they are leſs pervious, and therefore the more eaſily obſtructed with inſpiſſated Lymph.

3. From external Cauſes, or, as they term it, from Accidents. Thus it appears, all other Circumſtances being alike, and the Glands of either Side equally infected with the Poiſon, that a Bubo may be raiſed on either Side by Preſſure or Contuſion of either Groin, by which the Congeſtion of the infected Lymph will be promoted; and this will ſometimes happen by only lying on one Side, by which means the Regreſs of the Lymph is render'd ſlower, and more difficult, the Declivity of its Paſſage being diminiſhed.

SYMPTOMS *attending* VENEREAL BUBOES.

1. The Lymph which is convey'd into the inguinal Glands, being inſpiſſated by the Venereal Poiſon, will be inclin'd to ſtagnate there, from the Multiplicity of Windings and Cells which communicate with each other, which will be ſo many Obſtacles to its Diſcharge. From hence, therefore, in the Beginning of the Diſeaſe, will ariſe a ſmall Tumor of the inguinal Glands.

2. The Glands of the Groin cannot ſwell, without being upon the Stretch; nor can they ſuffer Diſtention without Pain, more or leſs, according to the Degree of the Tumor. Hence, therefore, upon the Increaſe of the Bubo, Pain will ariſe in the inguinal Glands.

3. It is impoſſible to walk, unleſs the Muſcles of the Leg and Thigh pull them forward; but theſe Muſcles cannot act without preſſing upon the tumefy'd Glands of the Groin, and, by this Preſſure, Pain will be excited. The Action of Walking, therefore, cannot be perform'd without raiſing Pain in the Venereal Bubo.

4. The Glands of the Groin, being once obſtructed, will daily be more and more ſwell'd by the continual Acceſſion of freſh Lymph, till, at laſt, the Force with which the Glands reſiſt farther Dilatation, will be equal to the Force with which the freſh Lymph is impel'd. Therefore the Bubo will daily increaſe, grow harder, and, becoming prominent, tend to a Point, extending itſelf obliquely, according to the Situation of the inguinal Glands; more or leſs, however, in proportion to the Magnitude and Extenſibility of theſe Glands, and the different Impulſe of the Lymph which arrives at the Part.

5. Upon the Increaſe of the Bubo, the Blood-veſſels which creep thro' the Middle of the Subſtance of the indurated Gland, muſt neceſſarily be compreſſed. But the Blood which flows thro' theſe compreſſed Veſſels, muſt ſtagnate and be retarded in them, and, by that means, increaſe the Heat of the Part, till it has found itſelf a Paſſage. Hence, therefore, the Heat of the Bubo will increaſe.

6. But if the Tumor of the Gland increaſes exceedingly faſt, and ſuddenly reſtrains the Courſe of the Blood; if the Pulſation of the Arteries is very ſtrong, from the natural Make of the Body, or from a Fever coming on; laſtly, if the Blood, being naturally hot, rarefies much; ſeveral ſmall Drops of Blood will force their Way into the lateral Lymphatic Veſſels, from whence a new Circulation of the Blood, deviating from its Courſe, being begun, the Bubo will increaſe in Heat, Pain, Pulſation, and Reſiſtance; in a Word, will become a true Phlegmon.

7. But becauſe the Blood-veſſels of the Skin, which is free from any Diſorder, are not at all, or very little, ſtreighten'd, the Blood flows there as uſual, and the Skin is not at all inflamed, and ſcarcely changes its Colour, but preſerves that which is natural to it, or aſſumes one very little different from it.

8. If the Tumor increaſes ſlowly, if the Pulſation of the Arteries is ſlow and weak, if the Blood of the Patient is naturally aqueous, and inclin'd to Diſſolution, the Blood will be driven languidly and ſlowly into the Veſſels of the obſtructed Gland, and in them it will flow ſtill ſlower, and therefore will be leſs reſtrain'd; it will not ſtagnate, therefore, or will ſtagnate very little, in the neighbouring Veſſels; and therefore will bring on but a moderate Degree of Heat and Pain, and a weak Pulſation of the Arteries; but it will, by Degrees, ſo dilate the Paſſages thro' which it paſſes, that the Streightneſs which was brought on upon the external Parts, will give very little Trouble; or it will open itſelf a new Paſſage into the lateral Veſſels, leaving only its thinner Serous or lymphatic Parts with which it abounds, in the Subſtance of the Humour. Hence therefore the Bubo in the inguinal Glands will be attended with moderate Heat, Pain, and Pulſation; and, being ſoft, at leaſt externally, will eaſily receive and retain the Print of the Finger upon Preſſure; in a Word, it will become œdematous.

9. Laſtly, if the Blood is more thick, and inclin'd to Dryneſs, and ſecretes a thick and leſs fluid Lymph; if that Lymph is collected very ſlowly in the inguinal Glands, the Bubo which ariſes from thence will be ſcirrhous, that is, hard and renitent, becauſe it is occaſion'd by a Collection of very thick Lymph, indurated by Length of Time; it has neither Heat, Pain, or Pulſation, as it is attended with no Stagnation of the Blood; becauſe, as the Collection of Lymph in the Glands was form'd very ſlowly, the neighbouring Veſſels were compreſſed in proportion; by which means the more remote Veſſels, with which they communicated, were dilated, by Degrees, ſufficiently to keep a free Paſſage open.

10. The Bubo of the Phlegmon kind may be eaſily and perfectly reſolv'd; for the Blood, by whoſe Stagnation it is principally brought on, is eaſily reſtor'd to its natural Fluidity; but the Lymph which is retain'd in the obſtructed Glands, preſerves its Fluidity, and is ſtrongly urged on to a circulatory Motion, by the intenſe Heat, and violent Vibrations, of the Arteries, which are proper to this kind of Bubo; and therefore it is the more eaſy to be reſolv'd.

11. But if it does not reſolve, it is on the ſame Account not difficult to be brought to Suppuration; for the Blood, by whoſe Stagnation it is principally ſupported, is naturally ſubject to Putrefaction; the Lymph, with which the Glands are ſtuffed, is eaſily diſpoſed to Suppuration, by the violent Heat, and by the Pulſation of the Arteries with which it is agitated.

12. The œdematous Bubo is, indeed, eaſily reſolv'd, as far as it relates to the thin Serum which fills the Veſſels which ſurround the Tumor, becauſe it is eaſily reſtor'd, by the lymphatic Ducts, to its uſual Courſe of Circulation: but it is imperfectly reſolv'd, becauſe the thick Lymph collected in the Cells of the Glands not being ſupplied with a Degree of Heat ſufficient to render it fluid, and not being agitated by the Vibrations of the Arteries, which would urge it forward, both of which natural Aſſiſtances are wanting in this kind of Bubo, it is very difficult to be entirely reſolv'd, on which Account a hard Nucleus always remains.

13. For the ſame Reaſon alſo, it is not eaſily brought to Suppuration, becauſe the inſpiſſated Lymph, both from its natural want of ſaline and active Parts, and from the Defect of an intenſe Heat, by which it might be render'd fluid, and of the Vibrations of the Arteries by which it might be divided, is very unfit to form a Suppuration.

14. Laſtly, The ſcirrhous Bubo is never either reſolv'd, or ſuppurated, without great Difficulty, but generally grows daily harder; as well becauſe the Lymph which ſtagnates in the Cells of the Glands, is thicker and more viſcid, as becauſe the preternatural Heat and Vibration of the Arteries are wanting, by which it might be brought to Reſolution or Suppuration.

DIAGNOSTICS *and* PROGNOSTICS *relative to* VENEREA BUBOES.

Venereal Buboes agree with ſimple, peſtilential, ſcorbutic and ſtrumous Buboes, with reſpect to their Situation and Figure; but are diſtinguiſhable from them by peculiar Mark 1. From ſimple and peſtilential Buboes, becauſe in theſe th Skin is red and inflamed, different from what it is in the Venereal Bubo. 2. From ſtrumous and ſcorbutical, becauſe fro the known State of the Patient manifeſt Signs of ſtrumous o ſcorbutical Diſorders are collected. 3. But they are moſt ce tainly diſtinguiſhed from all others by the Relation of the Patients, who confeſs, that they have been guilty of unclean o ſuſpected Venery; or that they are affected with a Gono rhea, or chancrous Ulcers.

Venereal Buboes bear no very ſmall Reſemblance to the Bubonocele, or inguinal Hernia; yet we have known them ſometimes confounded with it, not with that kind of Bubonoce which is occaſioned by the falling down of the Omentum and is called Epiplocele, in which the Tumor is ſofter, bu with that which is occaſioned by the Inteſtine, and is call Enterocele, in which there is greater Reſiſtance, and is f that Reaſon more like a Bubo: but it cannot readily be mi taken for that Species of Enterocele, in which the Inteſti ſlips through the oblique Rings of the Epigaſtric Muſcles, b cauſe the Place in which the Inteſtine falls down, and whe the Tumor is raiſed, is at a Diſtance from the Inguinal Gland and of Conſequence from the Venereal Bubo; but it may confounded with that Enterocele, in which the Inteſtine fa into the Groin through the Foramen in the Peritonæu through which the crural Veſſels paſs, which in their Situati differ not much from that of the Inguinal Glands, or Bubo

But a Bubo may be eaſily diſtinguiſhed from an Enteroc of any kind, by the following Signs.

1. In the Enterocele the Tumor is ſmooth upon the Sup ficies, and pretty nearly of a ſpherical Figure; the Superfic is pretty broad, but the Baſis ſlender, equal to the Size of Foramen, from whence the Inteſtine is fallen, and adhere the Groin, as it were by a Stalk: the Bubo, on the ot Hand, has an unequal Superficies, and is generally of an long Figure, and has a wide expanded Baſis.

2. In the Enterocele the Tumor eaſily yields upon Preſſ but, upon taking off the Finger, it inſtantly recovers itſ on the contrary, the Bubo reſiſts Preſſure, as the Bubo of Phlegmon and ſcirrhous kind; or, if it yields to Preſſure, it

tains the Print of the Body impreſſed upon it, as the œdematous and ſuppurated Bubo.

3. In the Enterocele it appears by its giving Way to Preſſure, and eaſily riſing again, that either Flatuſes alone, or mixed with a liquid Matter, are the Contents of the Tumor: But in the Bubo no Flatulency is to be diſcover'd; or if by any obſcure Fluctuation it ſhall be diſcover'd, that any Fluid is contained therein, it is but in a very ſmall Quantity, and lies deep, and is only contained in the Middle of the Tumor, as it happens in the ſuppurated Bubo.

4. The Enterocele brings on very bad Symptoms, as Fever, colical Pains, total Aſtrictions of the Bowels, vomiting of the inteſtinal Feces upwards, and Iliac Paſſion, which never attend the Bubo. Beſides, it is an exceedingly rare Thing, that the Uſe of impure or ſuſpected Venery, by which the Bubo is produced, ſhall ſo aptly coincide with a Fall from on high, a Blow upon the Belly, or violent Motion, by which the Enterocele is brought on, that it ſhall make it a Doubt of which kind the Tumor of the Groin is, and to which Cauſe it ought to be aſcribed.

As ſoon as ever it appears, that there is a Venereal Bubo, it is eaſy enough to find out the Differences by which it is diſtinguiſh'd, by the Signs which we have laid down in its Deſcription. For if the Tumor is intenſely hot, painful, has a Pulſation in it, and reſiſts Preſſure, it is a Bubo of the Phlegmon kind; but if the Heat, Pain, Pulſation, and Reſiſtance are in a moderate Degree, or if it is of a ſofter Nature, and retains the Print of the Finger impreſſed upon it, it is œdematous; laſtly, if it is hard, makes great Reſiſtance to Preſſure, is quite free from Heat, Pain, or Pulſation, it is manifeſt, that it is a Bubo of the ſcirrhous kind.

Laſtly, The Cauſes of Venereal Buboes are to be inquir'd into, either from the Relation of the Patient, or from the Knowledge of what has preceded; from whence it will appear, whether the Venereal Infection was communicated to the Inguinal Glands immediately by impure Coition, or by the Suppreſſion of a Gonorrhea, or by chancrous Ulcers of the Penis, or from a latent Pox.

As to the Prognoſtics, the Venereal Bubo, if it is treated with Caution, is attended with no Danger; it is, however, a very troubleſome Diſorder, ſince it always requires a tedious Method of Cure, and oftentimes a Chirurgical Operation.

A Bubo may nevertheleſs be accounted dangerous on this Account, that it frequently brings on the Pox, unleſs the Poiſon that it receives is evacuated by Suppuration, or repeated Purging, and the Relicts, if any ſuch ſhould remain in the Blood, are diligently corrected by ſpecific Remedies. But there is leſs Danger of the Pox to be apprehended from the Bubo which ariſes from impure Embraces, or from a ſuppreſſed Gonorrhea, or from Ulcers of the Penis, than from the Bubo which ariſes without any preſent manifeſt Cauſe; for the firſt ariſes from the Infection, which is juſt admitted, and which, as it has not been communicated to the Blood, may be diſcharg'd or corrected; but the latter depends upon the Infection which has been already conceal'd a long time in the Blood, and therefore has throughly tainted it.

The Bubo of the Phegmon kind admits of a much more eaſy Cure, than that of the œdematous, or of the ſcirrhous kind; for as the firſt may be eaſily reſolv'd, or brought to Suppuration, it in either way, by obſerving proper Cautions, quickly admits of a perfect Cure: but the latter frequently ends in a truly ſcirrhous Tumor, which for a conſiderable time eludes the Force of all Remedies, and at length frequently degenerates into a cancerous Nature.

Cure.

The Cure of the Venereal Bubo may be undertook in three Caſes. 1. If it has come on without any manifeſt Cauſe. 2. If it is accompanied with a virulent Gonorrhea, or chancrous Ulcers of the Penis. 3. If it is unattended with any other Diſorder, and ariſes immediately after impure Embraces.

In the firſt Caſe, when the Bubo is an Evidence of a latent Pox, it is proper without Delay to have recourſe to Mercurial Unction, by which both the Bubo, and the Pox, by which it is occaſion'd, may be perfectly cured. But, if the Patient cannot, or will not, make uſe of this ſalutary Advice, you may try other ſpecific Remedies, according to the Methods laid down below, cautioning the Patient, as it is the Duty of every ingenuous Phyſician, that by this Method the Diſeaſe will not have a complete, but a palliative Cure only.

In the ſecond Caſe, the ſame Remedies in like manner are to be applied after the ſame Methods, but joined with others which may be proper for the Gonorrhea or Ulcers, in ſuch a manner, that by the joint Force of the Remedies both Diſorders may be perfectly cured at the ſame time.

Laſtly, in the third Caſe, (which, as it is the moſt ſimple, may be a Rule for the reſt) the utmoſt Endeavours ſhould be used to deſtroy or diſcharge the Infection which is juſt admitted; and, if any Relicts remain in the Blood, which may renew or bring on the Pox, they ſhould be diligently corrected.

Cuſtom has eſtabliſhed two Methods, by which all theſe Effects are equally produced; one by which Venereal Buboes are cured without Suppuration, or any Application of ripening Medicines, that is, only by the Uſe of Mercurials and Cathartics, till the Tumor, being diſperſed, diſappears by Degrees.

The other conſiſts in curing Buboes by Suppuration, which is promoted by the Application of ripening Topics to the Part, and is ſo united with the internal Uſe of Mercurials, that the morbid Infection is by both deſtroyed.

The firſt Method requires no Operation to be perform'd, is ſhorter, free from Pain, and equally ſafe, and therefore, in the Judgment of many, ſeems preferable to the other. But at the ſame time it has this Inconvenience, that the Patient muſt be confin'd to his Chamber, during the whole Time of the Cure, if he would avoid the Danger he may incur from the Coldneſs of the Air. The later Method generally takes up more Time, is very tedious, and, as it requires the Performance of an Operation, is painful; but, as it generally permits the Patient to follow his uſual Buſineſs, it is not yet quite neglected; but ſometimes things come to that Height of themſelves, when the Suppuration is once begun, that the Phyſician is obliged to follow this Method, though it be ever ſo much againſt his Will. Therefore, leſt I ſhould ſeem guilty of an Omiſſion, I ſhall deſcribe both Methods, but as briefly as I can.

I. Therefore firſt according to the former Method.

1. In the Beginning you ſhould bleed, that the Glands may be unloaded, and the Inflammation of them prevented. The Blood ſhould be drawn freely, if the Bubo is of the Phlegmon kind; but very ſparingly, if it is œdematous, or ſcirrhous. Therefore the Practice of the old Authors is not to be regarded in this Caſe, who, led by Prejudice, which Experience proves to be falſe, were afraid of opening a Vein in curing a Bubo, as if the Infection would by this means be thrown into the Blood, and produce a Pox.

2. After this, the Patient ſhould be purged, both that the Way may be prepared for the Uſe of other Remedies, and that Part of the infectious Matter may be carried off. Mild and cooling Purges ſhould be preſcribed, if the Bubo is attended with Inflammation. Theſe may conſiſt of the Pulp of *Caſſia*, Decoction of Tamarinds, ſome purgative Salt, with a moderate Doſe of *Mercurius Dulcis*, or *Calomel*. Proper Formulæ of this kind are theſe following.

> Take fifteen Grains of well prepar'd *Mercurius Dulcis*, and of the Pulp of *Caſſia* newly extracted, one Ounce; mix up into a Bolus, to be taken with an empty Stomach. Or,

> Take of Tamarinds, one Ounce and a half; and of Vegetable Salt, one Dram. Boil them in a Pound and an half of common Water. Let the Liquor, when ſtrain'd, be divided into two Doſes, to be taken at three Hours Diſtance from each other, having firſt ſwallow'd a Bolus, conſiſting of fifteen Grains of *Mercurius Dulcis*, mix'd up with a proper Quantity of Conſerve of Roſes.

But ſtronger Purges ſhould be order'd, if the Bubo ſhould be œdematous or ſcirrhous. Theſe may conſiſt of Jalap, Diagrydium, large Doſes of Calomel, adding alſo, if neceſſary, the *Trochiſci albandal*. Proper Formulæ for anſwering this Intention are theſe following.

> Take of Calomel, twenty Grains; of Jalap, and ſulphurated Diagrydium, each twelve Grains. Make up into a Bolus, with a ſufficient Quantity of Conſerve of Roſes. Or,

> Take of Calomel, twenty Grains, or one Scruple; of ſulphurated Diagrydium, ten Grains; of the *Trochiſci albandal*, four Grains; and of the Oil of Aniſe, three Drops. Make up into a Bolus, with a ſufficient Quantity of Conſerve of Roſes.

3. Mercurial Preparations, which have no purging Quality in them, are now to be preſcribed, becauſe they continue longer in the Blood, and have greater Efficacy in throwing out the Venereal Taint. Of this kind are,

> The Mercurial Panacea ſublim'd twelve times; the Mercurius Violaceus, or Antimonial Flowers of Mercury well waſh'd; Æthiops Mineral, either triturated with Mercury and Sulphur, or prepar'd by Ignition; or, which is ſtill better, the other Æthiops Mineral, triturated with *Peruvian* Balſam, or that of *Canada*. The Doſe of theſe is from fifteen to twenty or thirty Grains, which, being mixed with Conſerve of Roſes, may be taken twice every Day, Morning and Evening, or only once

every Day, or every other Day, as it ſhall have a quicker or ſlower Effect, perſiſting in this Method, till the Gums begin to ſwell, the Mouth grows hot, and a Ptyaliſm ſeems to be coming on.

4. But then, as ſoon as a Ptyaliſm is apprehended, you muſt immediately have recourſe to Purging, after the manner we juſt now preſcribed, that Part of the morbid Venereal Taint may be carried downwards, which otherwiſe would be diſcharged by the Salival Glands. That this may ſucceed the better, you muſt entirely abſtain for ſome time from the Uſe of Mercurials, and reſt till all is quiet again; if it ſhall ſeem proper, the Purging ſhould be frequently repeated, that the Salivation may be the more powerfully reſtrain'd.

5. The Tendency towards a Salivation being quite remov'd, you muſt return to the Uſe of Mercurials after the ſame Method, and the Ptyaliſm is to be again provok'd, which, as ſoon as it appears, is to be again reſtrain'd, as before, by repeated Purging, and refraining from the Uſe of Mercurials; repeating this Courſe alternately till the Bubo, being diſperſed, by Degrees diſappears.

6. Emollient and reſolving Topics conduce much to this End, as the *Emplaſtrum de Ranis*, either with or without Mercury; the *Emplaſtrum de Mucilaginibus*, and the *Emplaſtrum de Spermate Ceti*; or, which are ſtill more powerful, gentle Unctions of the Buboes and Groins, with mercurial Ointment, from one Scruple to half a Dram daily, or every other Day, or every third Day, as it ſhall ſeem requiſite, or as the Danger of a Ptyaliſm is greater or leſs. For by this means the Lymph, which from its Thickneſs ſtagnates in the Inguinal Glands, is render'd more fluid, and is therefore more eaſily diſperſed.

7. It has been the Practice for ſome time, to lay aſide the internal Uſe of Mercurials, which load the Stomach, or vitiate the Blood, and in their room to order external Inunctions with the mercurial Ointment, from half a Dram to one Dram, upon the Nates and Inguina, ſometimes every other Day, ſometimes upon every third Day, according to the different Degree of the Diſeaſe, and the different Effects that are produced. But upon the firſt Signs of a Salivation coming on, you muſt not only abſtain from farther Uſe of the Ointment, but the Patient muſt be inſtantly purged, that the Matter may be diverted downwards, as we have obſerv'd above. But the Hurry being over, the Frictions are to be repeated, and the Salivation taken down again upon its firſt Appearance, proceeding in this manner till the Bubo is perfectly diſperſed.

8. There is no manner of Danger from this Method, that the Venereal Infection ſhould be ſent into the Blood with the refluent Lymph, and produce a Pox; becauſe the Poiſon which is again mixed with the Blood, is corrected by the Power of the Mercury, and therefore has loſt its Virulence; and becauſe, although it ſhould retain its Virulence, it does not remain long enough in the Blood to infect it, ſince it is carried off by purging Medicines, as faſt as it is ſent into the Blood.

9. During this whole Courſe of Cure, the Patient is to be confin'd to his Chamber; otherwiſe there would be Danger, leſt the cutaneous and ſalivary Glands being ſuddenly contracted by the Coldneſs of the Air, and by that means Perſpiration and Spitting being ſuppreſſed, the Thorax or Brain would be in Danger of being loaded.

10. A thin, diluting, moiſt Diet ſhould be preſcribed, of Puddings, Panadas, Creams of Rice, Jellies, Broths, and at moſt poached Eggs, forbidding, or very ſparingly admitting of, the Uſe of Fleſh, though it be ever ſo young or light, as Pullets or Chickens. Laſtly, Care ſhould be taken, that the Patient ſhould abſtain from Venery, Exerciſe, Paſſions of the Mind, and eſpecially from Wine, and drink plentifully of Ptiſan, that the Particles of Mercury may have the freer Admittance into the Blood, and have the greater Power to divide the inſpiſſated Lymph.

II. Hitherto we have treated of the firſt Method; but if the Patient ſhall be better pleaſed with the other Method, as not being able to abſent himſelf ſo long from Buſineſs as the former Method requires, or if the Phyſician ſhall find, as ſoon as he is called, that the Matter in the Bubo is tending to Suppuration, the later Method may be proſecuted in the following manner.

1. Univerſals ſhould be premiſed, that is, Bleeding and Purging, with the ſame Cautions that we have already laid down.

2. Then, during the whole Courſe of Cure, mercurial Preparations ſhould be order'd, which are free from any purging Faculty, in a ſmaller Doſe, and at longer Intervals, than in the former Method, but in a ſufficient Doſe to deſtroy the Venereal Poiſon. But if a Ptyaliſm ſhould be threaten'd by this Method, it ſhould be taken down by Purging, as we adviſed before.

3. Topical Applications are at the ſame time to be made uſe of, by which the Matter of the Tumor may be ſoften'd, and brought to Suppuration. The following Cataplaſms are very ſerviceable to this End.

Take two Ounces of Onions roaſted under the Aſhes, of black Soap, and Diachylon with the Gums, each an Ounce and a half; and of Baſilicon, an Ounce: Beat all together in a Marble Mortar for a Cataplaſm. Or,

Take of the Roots of Marſh mallows, Bryony, and white Lily, each an Ounce; cut them all down, and boil them. Add of the Leaves of Mallows and Brank-urſine, each one Handful; boil all to a kind of Mucilage, and let them be bruiſed in a Mortar, and paſſed through a fine Sieve. To the Pulp thus paſſed through, add of old Leaven and Baſilicon, each half an Ounce, or an Ounce; one white Onion roaſted under the Aſhes, and Oil of Lilies, a ſufficient Quantity. Make up into a Cataplaſm to be applied to the Part affected, and to be frequently renew'd.

4. In the room of Cataplaſms you may order ripening Plaiſters, which adhere to the Part, and are therefore more conveniently carried about. Of theſe the beſt are,

Simple Diachylum, Diachylum with the Gums, or that which is mix'd up with Galbanum, Gum Ammoniac, Sagapenum, and Opopanax, Diachylum diluted with the Oils of Galbanum and Ammoniac, Diachylum mix'd with an equal Quantity of black Soap, and common Pitch mix'd with an equal Quantity of Burgundy-pitch.

5. Though it ſhould appear by certain Signs, that Matter is found in the Bubo, yet you are not too haſtily to open this Bubo, but ſhould wait for ſome time, till the greateſt Part o the Bubo is ſuppurated, that by this means the callous Parts o the Bubo being deſtroy'd, the Cure may be perfected with th greater Eaſe and Safety.

6. The ſuppurated Bubo may be laid open two differen ways, either with an Inciſion-knife, or by the potential Cautery: If the former way is made uſe of, the Inciſion ſhou be deep; if the Bubo is ſmall, one Wound will be ſufficien but if it is large, two Inciſions ſhould be made in the Form a Croſs, the Corners of which ſhould be taken off with Sciſſors. If you chuſe the latter way, the Bubo, accor to its Size ſhould have a large Eſchar made upon it with Cauſtic, guarded by a proper Plaiſter, which if it does penetrate as far as the Abſceſs, another Cauſtic ſhould be on, or what remains ſhould be cut through.

7. It is plain, that, in laying open a Bubo, the Uſe of th Cauſtic is preferable to Inciſion, both becauſe the Cauſtic mak a larger Opening, by which means it is eaſier to inſpect a dreſs the internal Parts of the Bubo; and more particularly b cauſe the Cauſtic, by its Catharetic Faculty, deſtroys the c lous Bodies, and harder Parts of the Glands; by which mea the Suppuration, Deterſion, and Union of the Ulcer, are t more happily brought on.

8. The Pus being diſcharged, the Cavity of the Bubo is be inſtantly filled up with dry Lint; which being removed t next Day, the Wound is to be dreſſed with common Digeſtiv prepared of Turpentine, the Yolk of an Egg, and Oil of John's-wort; to which, if the Foulneſs of the Ulcer ſhall quire it, you may add ſome of the Unguentum Ægyptiacu or Tincture of Myrrh and Aloes. Laſtly, the Suppurat going on, the Ulcer may be cured with the Liniment *Arcæus*.

9. As ſoon as ever the Inflammation ſhall be remov'd by Suppuration, the Cavity of the Ulcer ſhould be dilige examined; and if any Sinuſes ſhould be diſcovered, they be laid open by Inciſion, if poſſible; or at leaſt dilated in manner, that they may eaſily be deterged and healed. any callous Bodies remain, as is commonly the Caſe, they to be conſumed by Degrees with corroſive Medicines, as Cauſtic Powder ſprinkled upon a Pledget, or red Precipi mix'd with Baſilicon.

10. Laſtly, the hard Baſis of the Bubo ſhould be ſoftened relaxed by the repeated Uſe of a mercurial Ointment; the with which the Ulcer is filled, ſhould be made firm with *Balſamum Viride Metenſium*. If it is too luxuriant, it ſhou taken down by Dreſſings of dry Lint, or burnt Alum, length the Tumor of the Glands being quite ſubſided, divided Parts are to be united.

11. During this whole Courſe of Cure the Patient has Reſtraints laid upon him, as to his manner of Living, the former Method, unleſs a Fever ſhould come on at the of Suppuration; in this Caſe it will be neceſſary to for Patient the Uſe of Meat for ſome few Days. Neverthe will be proper to abſtain from Wine, Venery, Exerciſe, or high-ſeaſon'd Meats; and he ſhould be cautious of

himſelf to the Inclemency of the Air, eſpecially as long as he takes mercurial Preparations.

From what has been ſaid, it will be no hard Taſk to ſolve the following Problems:

1. Whether Venereal Buboes ariſe in any other Parts beſides the Groin?

It appears by Experience, that Venereal Buboes, or Tumors of the ſame Kind, ſometimes appear in the Axillæ, the Throat, or upon the Sides of the lower Jaw, which are very like the Inguinal Buboes, come on in the ſame manner, take the ſame Courſe, and are cured by the ſame Remedies.

2. From what Cauſe ſhould Venereal Buboes ariſe in thoſe Parts?

From a twofold Cauſe, as we juſt now ſaid of the Inguinal Buboes: (1). From an old Venereal Infection, which in the Pox infects and inſpiſſates the Lymph; by which means there will be an eaſy Deſcent upon theſe Glands, whenever the external Cold, a Blow, Attrition, or ſtrong Preſſure, ſhall afford an Occaſion. (2). From the Venereal Infection juſt admitted, which being abſorbed in certain Parts, is carried with the refluent Lymph into the Glands, to which that Lymph is determined by the Laws of the Circulation. So Nurſes who are infected by the Infants which they ſuckle, have moſt frequently Buboes either in the conglobate Glands, which are ſituated at the Baſis of their Breaſts, to which the Lymph firſt flows; or elſe in the Axillary Glands, to which it is afterwards carried. So Children which receive the Infection from their Nurſes, or the Lover who receives it from his Miſtreſs, or the Miſtreſs from her Lover, by kiſſing, are ſubject to Buboes in the Maxillary or Jugular Glands; whence the Lymph is conveyed that returns from the Tongue, Cheeks, and Gums, and from the internal Parts of the Mouth, into which the firſt Particles of Infection penetrate, blended with Milk or Saliva.

3. How are theſe Buboes cured?

After the ſame Method by which the Inguinal Buboes themſelves are cured, ſince they agree with them in all Points. Therefore by Bleeding, Purging, and Mercurial Unctions, they are to be diſperſed, if poſſible; but if theſe Methods do not anſwer the deſired End, they are to be brought to Suppuration, laid open, deterged, and cicatrized, according to Art, as we have adviſed above.

4. Do Venereal Buboes ever ariſe in the internal Lymphatic Glands?

I never obſerved any Venereal Buboes of this Kind myſelf, or do I remember to have read of any one that ever did obſerve hem. But it is common enough for hard and ſcirrhous Tuber-les to be found in the Lungs of pocky Perſons; and hard ſcir-hous Obſtructions in the Meſenteric Glands, which if they not go off in the ſame manner with Buboes, yet they ac-nowledge the ſame Cauſe.

5. Whence ariſes this Difference, ſince, on the other hand, the Pox, the morbific Matter being equally mixed with the hole Maſs of Blood, and in the ſame manner with all the ymph, ought to produce the ſame Diſorder in each of the lands?

Perhaps, from hence; becauſe as the internal Lymphatic ands are ſituated in Places that abound conſtantly with a great l of Heat, the native Fluidity of the Lymph is the more ly preſerved in them. Thence a Stagnation of the Lymph t be an uncommon Caſe in them; and if it ſhould by ance happen, it will be leſs, make a ſlower Progreſs, and be re eaſily diſperſed, than in the external Glands, which are ject to the Coldneſs of the Air. Beſides, the internal Glands guarded from Blows, Attrition, and Preſſure, by which the mph is frequently invited to ſtagnate in the external nds.

6. Laſtly, whether Venereal Buboes are formed in Catamites Pathics; and if they are produced by this means, in what ts is it uſual for them to appear?

As to the firſt Queſtion, I never obſerved myſelf, nor did I meet with any one that ever obſerved Buboes upon Cata-s, which could certainly be determined to ariſe from the tion juſt contracted: For I do not imagine, that there are Catamites who are ſo fond of playing the Pathic, that they attempt to play the Agent; but it is enough to have once d the Virile Part, to make it Matter of doubt whence the ariſes, if it ſhall follow this Action.

s to the later Queſtion, I ſcarcely believe, that the Bu- which are formed in Catamites, if ſuch do ever proceed unnatural Venery, fall upon the Inguinal Glands, to Parts the Lymph is never carried, or at leaſt in exceed-mall Quantities, from the Extremity of the Rectum, and neighbouring Parts of the Anus; but they will rather ariſe e Lymphatic Glands, which are ſituated in the Cavity Abdomen, near the Diviſion of the deſcending Aorta, to Glands the Lymph of theſe Parts is carried: And this, is the Occaſion that Buboes of this Kind are never, or arely, produced; becauſe as theſe Glands are ſituated in vity of the Abdomen, the Heat of the neighbouring Parts the Inſpiſſation of the Lymph, as was juſt now obſerved.

But let not theſe Wretches congratulate themſelves upon this Account, ſince, beſides many very grievous Diſorders, which are peculiar to their filthy Vice, they are intitled to Buboes of as bad, if not of a worſe Kind, than Inguinal Buboes; for it frequently happens in them, that the Lymph, which returns from the Extremity of the Rectum, and the Parts near the Anus, being inſpiſſated by poiſonous Particles, enlarges, diſtends, and ſwells the Lymphatic Glands, which are very ſmall, but ſituated in great Numbers in the Fat about the Podex; whence ariſes a kind of an annular Bubo, with which the Podex is incircled, attended with Heat, Redneſs, Hardneſs, and exceſſive Pain, eſpecially at the Time of the Excretion of the Fœces. This is to be cured with the ſame Remedies, and treated after the ſame manner, with the Inguinal Venereal Buboes.

Thus far Mr. *Aſtruc*. But with reſpect to the Cure of Venereal Buboes, I muſt remark, that the Method of Cure by Suppuration is preferable on all Accounts to that by Reſolution; for the former is much leſs Trouble to the Patient, ſuppoſing the Cure by both Methods to be perfected; and not by far ſo ſubject to be followed by other Venereal Symptoms, and thoſe of the very worſt Kind, which I have ſeldom fail'd to ſee conſequent to the Reſolution of a Venereal Bubo.

Heiſter, I am ſenſible, is of a different Opinion; but I am inclined to believe, that the general Practice of thoſe moſt concern'd in Venereal Caſes will determine it againſt him. I believe, however, that it is poſſible to cure a Venereal Bubo by Reſolution; but with leſs Eaſe and Safety. But as *Heiſter* is an Author of Reputation, I ſhall ſpecify the particular Method of Cure, which he recommends, as follows.

As to the Cure, there are many Phyſicians who will not admit of reſolving this any more than a peſtilential Bubo; for by ſuch a Method the Venereal Venom, contrary to the Intention of Nature, would return into the Veins, and, by infecting the Blood, excite a Lues Venerea. For the ſame Reaſon they forbid the Uſe of Cathartics and Phlebotomy; and direct a Suppuration to be forwarded as much as poſſible. But, for my part, though with due Reſpect to theſe Authors, I am for a different Way of Proceeding; for ſince the Method by Suppuration is not only very ſlow and tedious, but ſubjected to ſeveral other Inconveniencies, it is much the better and ſafer Way, as I have often found by Experience, to begin immediately with Purging, and other Mercurial Medicines, and Purifiers of the Blood, ſuch as Decoctions of the Woods, and other things of the like Nature. By theſe means the Venom is expell'd by a far more expeditious Way than by the Method of Suppuration; and the Tumors themſelves may alſo be reſolv'd without Fear or Danger of the Lues Venerea, or any other Diſtemper.

Whether, therefore, the Buboes be attended with a Gonorrhœa, or not, the moſt proper Way, certainly, is to purge the Patient with large and frequent Doſes of Mercurius dulcis, as is uſual in a Gonorrhœa; for the internal Cure of a Gonorrhœa is uſually the Cure of the Buboes, which can never be perfectly healed before the Venereal Poiſon be quite expelled from the Body. If there be a conſiderable Inflammation, it will be neceſſary, eſpecially if the Patient be young, and of a ſanguine Conſtitution, to take away ſome Blood, and afterwards adminiſter ſome mercurial Cathartics, with Eſſences that purify the Blood, and Decoctions of the Woods. Outwardly, to the Tumor, muſt be apply'd digeſtive Plaiſters, ſuch as thoſe of Melilot, de Ranis cum Mercurio, Diachylum, and ſuch-like. At the ſame time the Patient muſt obſerve a very ſtrict Regimen in his Diet, and Way of Living, confining himſelf principally to Liquids, prepared of Water, Barley, Oatmeal, and the like. His common Drink may be Ptiſan, prepared of Barley, Liquorice, Aniſe, or Fennel, or a ſecond Decoction of the Woods, or very ſmall Beer. Wine, Brandy, and all Kinds of generous Liquors, are carefully to be avoided, as exaſperating the Inflammation. By obſerving ſtrictly theſe Rules, the Venereal Buboes, if not inveterate, may very commodiouſly be reſolv'd without Fear or Danger.

When the Aſſiſtance of the Phyſician is call'd late, or the Buboes are too malignant to be cured by way of Diſſolution, or it may be thought proper, for ſome other Reaſons, to attempt the Cure by Suppuration, our chief Care, in order to the expelling and ſubduing the contagious Matter, is to be directed to the promoting and accelerating as much as poſſible the Suppuration. And beſides ſuppurative Plaiſters, it would not be amiſs, either with Linen Cloths, or the Fingers anointed with Butter, or Oil, to rub theſe Buboes frequently and ſtrongly, till they become red, and then immediately to apply a maturating Plaiſter; for this is an admirable Means of accelerating the Suppuration. And theſe Kinds of Plaiſters, that is, Diachylum cum Gummis, or a Plaiſter of Galbanum, and the like, are fitteſt to be apply'd while the Patient is yet able to walk without much Inconvenience, and may be taken off twice, thrice, or four times a Day, as Occaſion requires, that the Bubo may be as often ſtrongly rubb'd. Violent Exerciſes alſo, ſuch as Dancing, Fighting, Fencing, and the like, are very proper Means to accelerate the Suppuration. But if the Patient, as it often happens, is no longer able to walk, becauſe of the

Pain, ſome maturating Cataplaſm, of more Force and Efficacy than the Plaiſters before-mentioned, may be apply'd. Cataplaſms very convenient for this Purpoſe are thoſe compoſed of Onions roaſted under hot Aſhes, or of Honey and Meal, or of Ferment; or, to mention no more, of Crums of white Bread boiled with Milk and Saffron: Theſe Cataplaſms muſt be applied every now-and-then after Friction.

With the Uſe of theſe external Applications, internal Remedies muſt alſo be adminiſter'd. Thus the Patient is to take a Draught of eight, ten, or twelve Ounces, of a warm Decoction of the Woods, two or three times every Day, together with thirty or forty Drops of the Eſſence of thoſe Woods, white Burnet, Fumitory, Germander, and the like, and ſome Grains of Mercurius dulcis, every Day. Theſe Medicines, by greatly attenuating the Blood, and forcing it towards the Skin, and correcting the Venereal Poiſon, are very conducive to Diſſolution, as well as Suppuration.

This Courſe muſt be follow'd till the Matter be either diſſolved, or brought to Maturity. In this latter Caſe the Knife is to be uſed, and an Inciſion to be made; but with a great deal of Care and Circumſpection, leſt the larger Blood-veſſels of the Groin or Armpits, which lie near, ſhould be wounded, and a dangerous Hæmorrhage thence occaſioned. The beſt Precaution you can uſe in this Caſe, is to take the Head of the Bubo between your Fingers, and pull it upwards. As to the Time when the Inciſion is to be made, this one Obſervation is neceſſary, that it be not too ſoon nor too late, ſince both are dangerous. For as too much Haſte procures Pains, dangerous Inflammations, and other Miſchiefs, ſo too long a Delay, as *Hildanus* aſſures us, has almoſt conſtantly given Occaſion to the Matter of the Bubo to mix again with the Blood; and by corrupting the whole Maſs, to induce the Lues Venerea.

If the Patients be timorous, and dread the Knife, the Buboes muſt be open'd by ſome corroding Medicine, as the Practice is in Abſceſſes. When the Pus is evacuated, the Ulcer muſt be throughly cleanſed by ſome Digeſtive, mixed with a little Venice-treacle, and red precipitate Mercury. After this a Plaiſter of *Diachylum cum Gummie* muſt be apply'd, in order to mollify the Margin of the Bubo; and when the Ulcer is ſufficiently deterged, it is to be healed up with ſome vulnerary Balſam and Lint.

Sometimes theſe Ulcers are ſo ſtubborn, as not to be dry'd, nor conglutinated, by the Help of Medicines, but continually run with a plentiful Effuſion of Sanies. In ſuch a Caſe, and when neither the above preſcribed Medicines, nor red Precipitate, nor burnt Alum, are of any Effect, there is no other Way, at leaſt in my Opinion, but to cauterize the corrupted Part with a hot Iron, by which means the Lymphatic Veſſels by ſearing are often effectually cloſed.

From the Premiſes, if I am not miſtaken, it plainly appears, that it is always the beſt and moſt commodious Way, if it can be done, to diſcuſs Venereal Buboes as ſoon as may be; or to attempt the Cure by Reſolution, rather than Suppuration. But when the Blood is ſo far infected and corrupted by the Venereal Poiſon, as to ſhew manifeſt Symptoms of the Lues Venerea, another Way of Treatment, proper to that Diſeaſe, is required. *Heiſter.*

Of the Accidents which ſometimes accompany a Venereal Bubo; and, firſt,

Of the FISTULOUS BUBO.

When a Bubo is once opened, if it is neglected, the Lips uniting, and the Orifice contracting, it degenerates into a Fiſtula, that is, into a ſinuous and callous Ulcer; for both theſe are implied in the Nature of a Fiſtula. There are ſome Differences in this kind of Fiſtula.

1. With reſpect to the Aperture, which is ſometimes wider, and therefore conſtantly gaping; ſometimes narrower, and then it is ſometimes covered with a Cruſt, or thin Skin.

2. With reſpect to the Sinuſes which are concealed within, which are either wide or narrow, many or few, cutaneous or deep, ſtrait or curve, *&c.*

3. With reſpect to the Fluid which is diſcharged, as it is either in great or ſmall Quantities, purulent, ſanious, or only ſimply ichorous.

4. Laſtly, with reſpect to the callous Bodies which line the Sides of the Sinuſes, and greatly differ in Size, Number, and Hardneſs.

As to the Cauſes, the Bubo, after it is laid open, may degenerate into a ſordid and obſtinate Ulcer, by the bad Diſpoſition of the Blood, but more eſpecially if the Venereal Poiſon ſhould be latent in the Blood, by which the Pus will be render'd more acrimonious; but it will never degenerate into a Fiſtula, but by the groſs Neglect or Ignorance of the Surgeon.

1. For Inſtance: If an unſkilful Surgeon has made too ſmall an Aperture in the ſuppurated Bubo, either with the Knife or Cautery; for by this means the Bottom of the Ulcer not being open to the View, nor eaſily reached by Medicine, it will be difficult to diſcover what Alterations are made within, or to apply proper Remedies; ſo the internal Parts of the Ulcer remain foul, whilſt the Lips of it, which are more expoſed to the Force of the Remedies, and are well deterged, haſten to a Union, by which means a Fiſtula is neceſſarily formed.

2. If he unwarily permits the Ulcer (though the Opening be ſufficiently large) to tend too ſoon to a Cicatrix, before the ulcerated Gland be perfectly ſuppurated, or at leaſt, whilſt a ſmall Portion of it at its lower Part, which occupies the Centre of the Ulcer, or ſeveral Membranes by which it adheres, and which are ſo many Pedunculi to it, are left unſuppurated. For we know very well by Experience, that no Ulcer can be ever perfectly cured, unleſs its Bottom be well deterged; nor can the Bottom be ever well deterged, as long as the leaſt Portion of the ulcerated Gland, or of the Membranes by which it adheres, remain unſuppurated.

3. If from want of due Care he omits taking Notice of Pus being ſecretly diſcharged into the Bottom of the Ulcer from any neighbouring ſuppurated Gland, or from the Parts which lie between the neighbouring Glands; for unleſs this Fountain of Pus be ſpeedily remov'd by dilating the Paſſage with the Knife or Cautery, a perfect Union of the Parts will be expected in vain; for though the Lips may ſeem to tend to a Cicatrix, yet the Ulcer will neceſſarily end in a Fiſtula.

As to the Symptoms; whichever of theſe Errors the Surgeon is guilty of, it will follow from thence,

1. That the Bottom of the ulcerated Bubo, if it is not deterged by proper Remedies; if it is lin'd with putrid Portions of the Gland, or its Membranes; if it is continually kept moiſt with a purulent Diſcharge; it will neither be cleaned, nor filled up with good Fleſh, nor unite; but being continually eroded with a foul Exulceration, will form a larger or ſmaller Cavity.

2. But the Lips of the Ulcer, which, as they lie open to the Force of the Remedies which are applied, and are free from the other Inconveniencies which have been related, will be perfectly cleanſed, deterged, and filled with new Fleſh, which will by Degrees ſo contract the Mouth of the Ulcer, that there will remain a very ſmall Opening into the Cavity, which will be wider or narrower, or covered with a Cruſt or thin Skin.

3. In the mean time the Pus, being confined in the Cavity of the Ulcer, and exerciſing its Force upon the adjacent Parts, by diſtending their Fibres, and inſpiſſating the Lymph, will, in a ſhort time, produce hard callous Bodies all round, which vary with reſpect to their Number, Size, and Hardneſs, in proportion to the different Qualities of the Pus, the different Firmneſs and Denſity of the eroded Fibres, or the different Degree of Inſpiſſation of the circulating Lymph.

4. And if it is retained for any time, and is of an acrimonious Nature, the Eroſion being by Degrees promoted, it wi ſhortly form itſelf new Sinuſes in ſeveral Places, many or few, wide or narrow, in proportion to the Degree of Acrimon which it poſſeſſes; ſtrait or curve, deep or cutaneous, as th adjacent Parts afford more or leſs Reſiſtance to the Force of th acrimonious Pus.

5. The Diſcharge from the Ulcer will be of a different Nature; ichorous, if pure Lymph flows from the eroded Lymphatic Ducts; but ſanious, if Blood be diſcharged from th wounded Veſſels, and mixed with the Lymph in the Cavity the Fiſtula; purulent, if by Delay the Lymph and Blood acqui the Form of Pus; laſtly, in great or ſmall Quantities, in pr portion to the Flux of Humours to the Part.

As to the *Diagnoſtics*; the State of the Fiſtula into which ulcerated Bubo has degenerated, lies open to the Eye; the nuſes which are form'd, are diſcover'd by the Probe; callo Bodies are diſtinguiſhed by the Touch; laſtly, the Cauſes eaſily found out, if you are acquainted with the Method which the Bubo has been treated.

As to the *Prognoſtic*; a Fiſtula in the Groin, ariſing from Bubo, is a very bad Diſorder, and never to be made light ſince it generally ſuppoſes the Pox, by which it is brought or ſupported; and it always requires a long, difficult, laborio chirurgical Treatment. It is attended with Danger, (1.) i has Sinuſes which penetrate deep to the Crural Veſſels, or th larger Ramifications. (2.) If ſome of the callous Bodies, wh are concealed in it, are attended with acute Pains, and appro to the Nature of a Cancer.

As to the Method of Cure; if you are certain, or inde there are only ſtrong Reaſons for Preſumption, that the Fiſt into which the ulcerated Bubo has degenerated, is accompa with the Pox, by which it is aggravated, mercurial Unc ſhould be adviſed, before the Cure of the Fiſtula be attemp Nor are there any Hopes that the Effect ſhall ever per ceaſe, unleſs the Cauſe be firſt removed. Towards the En the Ptyaliſm, when the Blood has now been well depura the Fiſtula is to be cured according to the Rules of Art, th this means the Cure of the Pox and the Fiſtula may pr equally, and at laſt be completed together.

But if it ſhall appear, that the Bubo has become fiſtu wholly by the Unſkilfulneſs of the Surgeon, and that there Suſpicion of a latent Pox; in this Caſe, if the Seaſon o Year will permit, you ſhould lay aſide all manner of D and proceed to the Cure of the Fiſtula, after the following Method.

1. The Patient ſhould be prepared for the Method of Cure, not only by univerſal Remedies, that is, Bleeding and Purging, which ſhould be repeated according to the Strength and Conſtitution of the Patient, and the Nature of the Diſeaſe; but, beſides, he ſhould drink diluting and cooling Broths, made of Chicken or Veal, with proper Herbs and Roots; chalybeated Whey, Aſſes or Cows Milk; or, if the Seaſon of the Year renders it proper, he ſhould bathe in warm Water, or drink proper mineral Waters.

2. After this, having firſt examin'd the Number, Length, and Direction of the Sinuſes which communicate with the Mouth of the Fiſtula, you muſt lay each of them open; and, if they are cutaneous, and not very callous, you may perform the Operation with the Knife or Sciſſors, which are to be introduc'd upon a Director, and the Lips ſhould be carefully taken off, that the Bottom of the Sinuſes may be expoſed to View; and then, according to Cuſtom, it will be proper to fill up the Wound with dry Lint, in order to ſtop the Blood; which Dreſſing being taken off the next Day with a light Hand, the Ulcer ſhould be treated for ſome time with a ſimple Digeſtive, and afterwards with the Liniment of *Arcæus*.

3. But if the Sinuſes ſhould be very deep or callous, it will be more adviſeable to make the Aperture with the Cautery, as we adviſed above. Therefore, laying a Plaiſter upon the Fiſtula, with an Opening in it, in ſuch a manner that the principal Part of the Sinuſes may be immediately under the Opening in the Plaiſter, apply ſome Pieces of the cauſtic Stone to the Part, ſufficient to procure a deep Eſchar. If they do not reach to the Sinuſes, ſcarify the Eſchar to the Quick, and apply another Cauſtic; or, which is the quicker Method, cut away the half-rotten Fleſh with which the Sinuſes are cover'd.

After this, promote the Falling off of the Eſchar as ſoon as poſſible, by emollient and relaxing Applications; as Butter, the Yolk of an Egg, either alone, or beat up with Oil of St. John's-wort, Baſilicon, or Turpentine, and laid upon Lint.

The other Eſchar being fallen off, the Ulcer is to be treated with common Digeſtives, till the Decreaſe of the Pus indicates the Uſe of the Liniment of *Arcæus*.

5. The Lips, and the neighbouring Parts, of the Ulcer being now relaxed by the Suppuration, it will be proper to examine the Parts diligently, by preſſing them with the Finger, by examining them with the Eye, and with the Probe, to find whether any Sinus, or conſiderable Callus, be conceal'd anywhere, which will be neceſſary to be remedied before the Ulcer be united, and form a Cicatrix, leſt the laſt Error be worſe than the firſt, and another Fiſtula be brought on.

6. Therefore if any Sinus ſhould be diſcover'd, but in a Part which will admit of Inciſion without any Danger, the Aperture ſhould be made according to the whole Length of it, if poſſible; at leaſt, the Mouth of it ſhould be ſo enlarg'd, by thruſting an Eſcharotic, that the Bottom may lie ſufficiently open to freely deterged, and perfectly cured, by the Application of proper Medicines.

7. But if the Sinuſes ſhould reach ſo near to the Crural Veſſels, or any of their larger Branches, that an Inciſion would be free from Danger, Cathæretics alone muſt be us'd, and thoſe of the milder Sort, which act moderately, and, by a gradual Eroſion, dilate the Part in ſuch a manner, that you may form a Judgment of their Effects; it will alſo be worth while diligently to take care, that the Cathæretic Medicines may applied only to that Mouth of the Sinus which is at the greateſt Diſtance from the Crural Veſſels, and which may be expoſed therefore to their Force with the greater Safety.

If the harder Calloſities ſhould eſcape Suppuration, they to be conſum'd, by Degrees, with Cathæretics, as the Lapis Infernalis, or any other Cauſtic, or red Precipitate mix'd ſome Ointment; and, to render them the more efficacious, will be convenient to make light Scarifications upon the Surface of the callous Bodies with the Point of a Lancet.

The Sinuſes being once agglutinated, the callous Bodies conſumed and ſuppurated, if the new Fleſh, which ſprings up, is thick, granulated, and roſy-colour'd, the Ulcer is to be brought to a Cicatrix, to which End epulotic Medicines are of ce, which, by drying the Superficies of the Ulcer, bring Cicatrix; of this kind are the Green-balſam, Pompholyx, Lead, Ceruſs, or Plaiſters in which theſe are Ingredients; Lint, burnt Alum; or Agglutinants which guard the Rudiments of the Cicatrix, upon its firſt Formation, from being by the Air; amongſt which the beſt are Turpentine, and powder'd, Sarcocolla, Frankincenſe, and Myrrh.

Laſtly, from the very Beginning of the Cure, a proper Regimen of Diet ſhould be preſcrib'd; it ſhould be light, conſiſting of Pudding, Panadas, Cremors of Rice, or, at moſt, Fleſh of Chickens, when every thing is going on well; but light, and only of the ſmalleſt Broths, if the Patient is with a Fever, if the Suppuration is in great Plenty, very fetid, if the Lips of the Ulcer are inflam'd, if the is ſpongy, fungous, and luxuriant.

Of the SCIRRHOUS BUBO.

It ſometimes happens, that the Venereal Bubo, evading the Force of all Remedies, is neither diſpers'd, nor brought to Suppuration, but entirely, or almoſt entirely, by Degrees, becomes thicken'd and indurated, and turn'd into a hard Scirrhus, which chiefly happens to the œdematous and ſcirrhous Bubo.

Scirrhuſes, form'd in this Manner, differ,

1. With reſpect to their Figure and Size, in which there is great Difference.

2. With reſpect to the Number and Situation of the Glands which they poſſeſs; for ſome occupy only one Gland, and are call'd *Conglobate*; others occupy more, and are diſpos'd either in Cluſters, or after the manner of Links in a Chain, and are ſaid to be *congeſted* either *racematim* or *catenatim*.

3. With reſpect to their State of Mobility, as ſome adhere looſly to the ſubjacent Parts, being moveable either to one Side or the other; whilſt others adhere ſo immediately to the Part beneath them, that they can by no means be brought to vary their Situation.

4. Laſtly, with reſpect to their Senſation; as ſome are without Pain, and truly ſcirrhous, whilſt others produce an obtuſe Pain, and approach near to the Nature of a Cancer.

As to the Cauſes, a Bubo is converted into a Scirrhus, when the Lymph, ſtagnating in the Cells or Veſicles of the Inguinal Glands, is more than ordinarily inſpiſſated; by which means the Parts being ſtuffed up, and, by Degrees, brought to a more intimate Contact, it acquires, as it were, a cheeſy Hardneſs. But the Lymph is thicken'd in this manner by ſeveral Cauſes.

1. By its natural vitiated Thickneſs, by which means, upon the Acceſſion of the Venereal Poiſon, it is inſpiſſated, *cæteris paribus*, more than it would be otherwiſe.

2. By the too great Quantity or Energy of the Venereal Poiſon which is receiv'd; whence it happens, that the Lymph, into which it is admitted, is, *cæteris paribus*, ſo much the more coagulated.

3. By either of the foregoing Cauſes concurring with the other; whence it happens, that the Lymph, being naturally too thick, meeting with too great a Quantity, or too virulent a Portion of the Infection, is violently coagulated.

4. By the prepoſterous Uſe of topical Repellents, ſuch as are frequently applied upon the firſt Appearance of the Bubo, but very unadviſedly, ſince, by this means, the Thickneſs of the Lymph being increas'd, the Bubo becomes ſcirrhous, which might otherwiſe have diſpers'd of itſelf.

5. By the Abuſe of topical diſperſing or ripening Applications, which, if they are unequal to the Office of rendering the Lymph fluid, increaſe its Thickneſs, inaſmuch as they diſſipate the thinner and more fluid Parts of it.

6. Laſtly, by the Abuſe of ſtimulating topical Applications. Of this ſort are the ripening Cataplaſms, with which bruiſed Muſtard-ſeed is mix'd, which, by their Irritation, ſolicit the glandular Texture to frequent ſyſtaltic Conſtrictions; which is uſeful enough, if the confin'd Matter is fit to be diſperſed; but very hurtful, if it is of a hard Nature; ſince the finer and thinner Parts being forcibly thrown out, the thick Part which remains will form ſtill a harder Maſs.

As to the Symptoms, it appears, that according to the different Nature, Diſpoſition, and Infection of the Lymph in the different Glands of the Groin, or according to the different Tenſion, Texture, and Permeability of thoſe different Glands, ſometimes one Gland only, of a different Size or Figure, is affected; whence,

1. A conglobate Bubo, and ſo a Scirrhus, different in Figure and Size, is produc'd; ſometimes more together diſpoſed in Cluſters or Links, whence a Bubo, and ſo a Scirrhus *congeſted racematim* or *catenatim*.

2. According to the different Situation of the obſtructed Gland, whether it be more or leſs deep, or according to the different Length, and Degree of Softneſs, of the tendinous Fibres or Membranes, by which the Gland adheres to the neighbouring Parts, a Bubo, and ſo a Scirrhus, is produc'd, ſometimes moveable, ſometimes, on the other hand, fix'd and ty'd down to the ſubjacent Part.

3. As the Lymph which ſtagnates in the Gland, is either quiet without Motion, or, from any Cauſe, is rarefy'd and expanded, the containing Membranes of the Glands will ſometimes remain unmov'd, whence the Tumor will be without Pain, and truly ſcirrhous; ſometimes they will be diſtended painfully, whence the Tumor begins to have an obſcure Pain, and ſo to degenerate into a Cancer.

Laſtly, in the former Caſe, where the Blood and Lymph have either dilated their Veſſels by Degrees, or made themſelves new Paſſages into the collateral Veſſels, ſince, by the Matter of the Scirrhus being unmov'd, no new Preſſure of the Veſſel is brought on, nothing hence will ariſe new, with relation to the Colour or Heat of the Part; but, in the latter Caſe, things fall out differently, as will hereafter appear.

As to the Diagnoſtics, the Preſence of the Inguinal Scirrhus, and the Differences into which it is diſtinguiſh'd, are ſufficiently evident to the Sight and Touch; the Cauſes by which it was brought on, may be collected from the foregoing Ætiology.

As to the Prognoſtics; the Prognoſtic is always bad, ſince it is no eaſy thing to diſperſe or ſuppurate a Bubo, which is degenerated into a Scirrhus.

But it is worſt of all, if it begins to be painful, ſince by that it is manifeſt, that, by Degrees, it is becoming cancerous.

As to the Method of Cure, it is exceeding difficult, as we obſerv'd before, to diſperſe or ſuppurate a ſcirrhous Bubo. Some adviſe dry Cupping upon the Part, to be daily repeated for a Quarter of an Hour at a time, that, by the Flux of Blood to the Part, the Matter of the Scirrhus may be heated, and, by that means, yield more readily to the Force of topical Diſcutients or Ripeners. But Experience has taught us, that this Method is almoſt always fruitleſs, and frequently even dangerous; ſince the Scirrhus, being heated by the Conflux of Blood to the Part, at length becomes frequently cancerous.

Others adviſe the ſcirrhous Gland to be conſum'd, by Degrees, with Cathæretics, if it refuſes to yield to the Force of Diſcutients and Ripeners; or making an Inciſion into the Skin, to extirpate it with the Knife. But I ſhould never adviſe the undertaking of Operations of this kind, which are tedious, difficult, and full of Danger, as long as the Scirrhus is without Pain, and brings on no Inconvenience. I would have this more particularly underſtood of Cathæretics, ſince, by the prepoſterous Uſe of them, a Scirrhus is frequently converted into a Cancer.

Therefore it is better to have recourſe to Mercurial Unction, from which you may expect a happier Event. For, as the Parts of the Mercury, which are convey'd into the Blood by this means, not only very powerfully attenuate and divide the ſtagnating Lymph, but correct alſo the Particles of the Venereal Infection which coagulate the Lymph, they are the moſt efficacious Remedies that can be made uſe of to diſperſe gradually the ſcirrhous Bubo, ſince it is produced by the too great Viſcidity of the Lymph, and the Inſpiſſation of the Venereal Poiſon.

But two things are diligently to be obſerv'd in the Adminiſtration of the Mercurial Unction.

1. That the Patient be duly prepared with the Uſe of diluting and relaxing Remedies, as well Univerſals as Particulars; Univerſals to liquify the Blood and Lymph, that they may yield with the greater Eaſe to the Particles of Mercury; Particulars, or Topics, to ſoften and relax the Texture of the Bubo, that the Lymph may have a more free Paſſage thro' it.

The firſt Intention is anſwer'd by warm Baths of River-water, cooling Broths, or Apozems, chalybeated Whey, Aſſes Milk, acidulated or chalybeate Mineral Waters; the latter by Cataplaſms of the Crums of Bread, or of the Pulps of emollient Roots and Herbs, or by the Mucilage-plaiſter, or that of Sperma Ceti, the Uſe of which muſt be long perſiſted in.

2. That the Mercurial Unction be us'd in ſmall Quantities at each Friction; that the Frictions be perform'd at long Intervals, in order to permit the Mercury, which is mix'd with the Blood, to be retain'd in it for a long time, to the end that the Particles of Mercury circulating for a conſiderable time with the Blood, may the more forcibly divide the Lymph which ſtagnates in the Inguinal Glands, and ſo procure a perfect Reſolution of the ſcirrhous Bubo.

By this Method, it is certain that the Inguinal *Scirrhi*, which ſucceed the Bubo, are, at leaſt, ſo much leſſen'd, if they are not perfectly diſſolv'd, (which is rarely the Caſe) that the remaining Tumor is ſcarcely equal to the Size of an Almond or Haſel-nut. But I would by no means promiſe this as the certain and undoubted Effect of it, ſince I have known ſcirrhous Buboes ſo ſtubborn ſometimes, that they have obſtinately remain'd, notwithſtanding the utmoſt Caution has been us'd in adminiſtring the Mercurial Unction. If this ſhould be the Caſe, and the Bubo has not yet acquir'd a ſtony Hardneſs, nor is inclin'd to turn cancerous, it will be proper to viſit the warm Mineral Springs, and frequently to pump thoſe Waters upon the Part, covering it afterwards with the Slime that remains at the Bottom of thoſe Waters; by which means the coagulated Lymph may, by Degrees, be render'd fluid, and diſpers'd.

But here alſo ſome Caution is neceſſary; for if the Bubo begins, by this means, to rarefy, grow hot, and painful, the Patient ſhould inſtantly leave off the Uſe of theſe Waters, leſt the *Scirrhus* ſhould degenerate into a *Cancer*. In this Caſe, all Remedies being laid aſide, the Whole is to be left to the Strength of Nature, adviſing a proper Regimen to be obſerved in Diet, and applying a Plaiſter to the Tumor, compos'd of equal Parts of the *Emplaſtrum Diabotanum*, and *de Mucilaginibus*.

Of a CANCEROUS BUBO.

The ſcirrhous Bubo, whilſt it is becoming cancerous,

1. Grows hot, has an obſcure Pain upon Preſſure, ſwells, and grows very hard, ſometimes ſhoots, but ſeldom; and then it is call'd a beginning Cancer.

2. Then all the Symptoms increaſe, the ſhooting Pains are more frequent and acute, it changes its Figure, and riſes to a Apex, which is cover'd by a tenſe, ſmooth, ſhining, reddiſh Skin; and now it is call'd a confirm'd, but occult, Cancer.

3. Laſtly, the Skin dividing upon the Apex, it forms a Ulcer, from whence Blood, Ichor, and Sanies, are diſcharg'd Drop by Drop; the Ulcer ſpreads ſlowly, the cancerous Bodie are expanded and enlarged, the Lips of the Ulcer turn back fungous Fleſh ariſes, Ichor, Blood, and Sanies, are diſcharge plentifully, a tearing, ſhooting, burning Pain comes on in violent manner, the Parts which are ſituated near the Tumo grow livid; in a Word, it is now a confirm'd ulcerate Cancer.

But, as was ſaid before of the Scirrhus, the Cancer diffe with relation to its being fix'd, or moveable; for ſometimes is moveable, and ſometimes it firmly adheres to the ſubjacen Parts.

The whole Ætiology of the *Cancer* depends upon one Prin ciple, which has been hitherto unregarded, however true which is, That the Lymph, ſtagnating in the ſcirrhous Body, rarefiable by Heat; and, being once heated, expands itſelf wi ſo much the greater Force, as it is increaſed in Thickneſs a Inſpiſſation. This is abundantly demonſtrated from hence, th a ſcirrhous Tumor, when it begins to degenerate into a *Cance* ſwells without any Suppuration; that, upon the Increaſe of t Swelling, Part of the Scirrhus forms an Apex; laſtly, that t Skin being once broke, the cancerous Matter which is conceal within, riſing up, and, as it were, pouring out as ſoon Room is allow'd for its Expanſion, by Degrees enlarges t Ulcer, and, as it ſpreads more and more, turns out the Lips the Ulcer all round.

From hence it follows, that the preternatural Heat which t Matter, confin'd in the ſcirrhous Body, conceives, is the pro mate Cauſe by which the Scirrhus is converted into a Canc But it appears, that this kind of Heat is conceived by the ſc rhous Matters;

1. Whenever the Blood which flows near the Part is rende too hot, by an acute or hectic Fever; by an acrimonious, ſa piperine Diet; by the immoderate Uſe of Wine, or ſpiritu Liquors; by immoderate Venery, Exerciſe, or Watching.

2. Whenever the Blood, tho' it may not be too hot, forc'd to ſtagnate in the neighbouring Parts of the Scirrh from the too great Plenty of it, as it happens by too frequ Application of Cupping Glaſſes, or by a Contuſion upon Scirrhus.

3. Laſtly, whenever the ſcirrhous Tumor is heated bey meaſure, by the Application of Topics, which are actually potentially hot, or by the imprudent Uſe of Eſcharotics.

Therefore all theſe are to be reckon'd as remote or proca ctic Cauſes of a Cancer.

As to the Symptoms;

1. It appears from what has been ſaid, that a Scirrhus beg to be chang'd into a Cancer, becauſe the contain'd Matte heated and rarefied. Therefore a Scirrhus, degenerating in Cancer, ought to increaſe a little in Heat, Tumor, and ſiſtance.

2. The Matter in the degenerating Scirrhus enlarges: containing Cells, therefore, and external Coverings of ſcirrhous Gland, are, by this means, ſtrongly diſtended, produce Pain.

3. The ſame Matter ſtill rarefying more, and with gre Force, from any external Cauſe, preſſes ſtrongly upon neighbouring Veſſels. The Arteries, by this means, becom more turgid with Blood which is confin'd in them, will be vok'd to more frequent Vibrations, and ſhake the neighbou Parts with the greater Vehemence, from whence will pro a ſhooting Pain.

4. In the ſame Proportion that the Matter of the degenera Scirrhus increaſes in Heat and Rarefaction, the Pain, Tu Reſiſtance, and Shooting, will increaſe daily.

5. As the ſcirrhous Matter is not perfectly homogeneous uniform, but more or leſs prepar'd for Expanſion in diffe Cells of the Tumor; and as the Cells in which it is conta do not equally reſiſt its expanſive Force, ſo one or other of the degenerated Scirrhus, from one or both of theſe Ca will enlarge itſelf beyond the reſt, and, changing its Fig by Degrees protuberate into an Apex.

6. As one or other Part of the Tumor is more enlarg'd an Apex, the Skin which covers it will be more diſtended; Top of the Apex, therefore, will be cover'd with a t ſmooth, ſhining, thin Skin, of a darkiſh-red Colour, be the Blood meets with Difficulty in paſſing thro' its Ve which are too much diſtended.

7. The Skin, being render'd thin by violent Straining, laſt, divided by the contain'd Matter. Hence, at firſt, ceeds a ſmall ſuperficial Ulcer, which, by the Continuan the ſame Cauſes, by Degrees increaſes, and is dilated.

8. Blood flows from the ulcerated Cancer, if any o larger Blood-veſſels are divided; Lymph or Ichor, if the B veſſels remain unhurt, and only the Lymphatics are inju purulent Matter, if the fungous Fleſh, with which the

is cover'd, putrefies; laſtly, Sanies, or Lymph, mixed with Blood or Matter, if any of the foregoing Circumſtances concur at the ſame time: But never true, unmix'd, laudable Pus, ſince the ſcirrhous Matter, as well from its lymphatic Nature, as from its too great Inſpiſſation, is render'd unfit to form a perfect Suppuration.

9. The Expanſion of the cancerous Matter increaſing, as the Circumference of the Skin cannot be extended in the ſame Degree, the Lips of the Ulcer will, conſequently, be turned back, and look very ill.

10. Laſtly, the Veins being compreſſed on every Side, the Blood not only ſtagnates in the Parts which are ſituated near the Tumor, but, by this Stagnation, puts off its natural red Colour, and contracts one more black, from whence proceed the livid and varicoſe Branches of Veſſels, with which the Cancer is ſurrounded.

The Nature, State, and Differences of the cancerous Bubo, readily appear from the Deſcription of it. But the Cauſes of it may be diſcover'd, by examining the Way of living which has preceded it.

As to the Prognoſtics, the cancerous Bubo is a terrible and dangerous Diſeaſe, which is ſeldom cur'd, and never without the Knife, and actual Cautery.

If the Bubo ſtrictly adheres to the ſubjacent Parts, ſince it can neither be extirpated with the Knife or Cathæretics, it is evidently incurable, and can only be treated with Palliatives.

But if it is moveable, and not firmly united with the ſubjacent Parts, it may be perfectly cur'd by Extirpation, if it is at a ſufficient Diſtance from the Crural Veſſels, that the Operation may be perform'd without Danger.

In general, the larger cancerous Bubo is of more dangerous Conſequence than the ſmaller; the painful, than that which is attended with but little Pain; the ulcerated, than the occult.

The Method of Cure is different, according to the different Condition of the Tumor; that is, curatory, if it is moveable; but palliative only, if it is fix'd.

I. In the firſt Caſe, the preſent Indication requires, that the cancerous Tumor be ſpeedily taken out, leſt the neighbouring Parts be brought into Conſent, or leſt, by being increaſed in Size, it ſhould adhere to the neighbouring Parts.

Therefore,

1. The Patient ſhould be prepar'd for the Operation by univerſal Remedies, as by Bleeding and Purging, by alterative Broths or Apozems, by Aſſes or Cows Milk, or Whey, by mineral Waters, and by Bathing, which ſhould be varied according to the Conſtitution, State, and Age, of the Patient, and the Seaſon of the Year. Mercurial Unction ſhould even be premiſed, if there is any Suſpicion of a conceal'd Venereal Infection, as is frequently the Caſe.

2. In the Opinion of ſome, Cathæretics ſhould be us'd, eſpecially Preparations of Arſenic, corrected, or calcin'd, with which, they aſſert, the whole cancerous Gland will be mortify'd, as they term it, and fall off with little Trouble. Of this Opinion are *Fallopius*, *Sennertus*, *Vigierius*, *Faber*, and *Johannes Baptiſta Alliot*.

3. But this Method, tho' perhaps it may be attempted upon ſmall cutaneous Glands, with a very ſparing Hand, yet we think it dangerous, and not ſafe, in larger or deeper Cancers: (1.) Becauſe Cathæretics applied liberally, by Irritating, Stimulating, and Corroding, bring on an Inflammation, attended by a Fever, which is never free from Danger. (2.) Becauſe, by the acute Pain which they occaſion, they change the neighbouring Parts, which were ſound, into a cancerous Nature, by which means the Cancer increaſes, and adheres to the ſubjacent Parts, from whence it was before free. (3.) But principally, becauſe I could never think the Uſe of Arſenic ſafe, however prepar'd, calcin'd, or corrected. For it has been known more than once, that a miſerable Death has been brought on by the external Uſe of Arſenic. Concerning this ſee *Fernelius*, *Method. Medendi*, *Lib.* 16. *Cap.* 18. where he tells you, that Arſenic and Mercury Sublimate being applied to a cancerous Breaſt, deſtroy'd the Woman in ſix Days, in the ſame manner as if it had been taken by the Mouth.

4. It is better, therefore, to extirpate the moveable Cancer by the Knife inſtantly. To this End let the cancerous Gland be ken hold of with the Fingers, a Ligature, or a circular Pair of orceps: then divide the Skin and the Baſis of the Tumor all und with a Knife, arm'd half the Way up with Lint wrapt und it, till the Cancer is wholly extirpated, taking great re, that nothing be left which may be ſuſpected to be of a canrous Nature. The Flux of Blood may be ſtopp'd either ith a Ligature, if the Veſſels from whence it flows are large, only by the Application of a ſmall Piece of Vitriol. The ound may be fill'd up with dry Lint, which ſhould be preſſed wn for ſome time with the Hand, till the Blood is ſtopp'd. en, upon the ſecond or third Day, when the Lint falls off, remaining Ulcer is to be treated with common digeſtive lſamum Arcæi, or Balſamum Viride, according to the Rules Art.

5. But it is neceſſary, that the Surgeon attend diligently to the following Circumſtances: (1.) That if any ſmall cancerous Gland, or Gland of a cancerous Nature, remain, it ſhould be carefully extirpated; for a Cancer is of the Hydra kind, which will conſtantly ſpring up again, unleſs all its Heads are taken off. (2.) That he ſhould carefully provide for the Regeneration of good Fleſh, by treating the Ulcer with the greateſt Caution, leſt it degenerate into a Fiſtula, which is too frequent in cancerous Ulcers.

6. Laſtly, the Ulcer being healed, or tending to form a Cicatrix, the vitiated State of the Blood, which was brought on by the Cancer, and which afterwards aggravated and kept up the Cancer, is to be corrected by proper Remedies, leſt a freſh Cancer ſhould ariſe in another Part. To this End the palliative Method, which we ſhall deſcribe below, will be of Service; for all thoſe Remedies which conduce to the Mitigation of the Cancer, are of Uſe in preventing it.

II. In the other Caſe, that is, if the cancerous Tumor adheres to the neighbouring Parts, and therefore cannot poſſibly be extirpated by the Roots, you muſt refrain from all Operation, as uſeleſs, and even pernicious, and only inſiſt upon the Uſe of palliative Remedies.

1. But there are not wanting thoſe who will promiſe a perfect Cure, even in this Caſe, by the Uſe of Cathæretics, thoſe eſpecially of the arſenical Kind; but the Patients, who raſhly truſt to their great Promiſes, will ſuffer a moſt miſerable and cruel Death for their Credulity: For there is no Reaſon to expect, that this Method of Treatment ſhould be ſerviceable in a fix'd Cancer, which we juſt now demonſtrated to be prejudicial in one which is moveable.

2. It is beſt therefore, in this Caſe, for the Patient to look for no Cure, and, laying aſide all vain and dangerous Credulity, only to take all poſſible Care to prevent the ſpreading of the Cancer: Let the vitiated State of the Blood be corrected, and the Pains, which cruelly torment the Patient, aſſwaged: Laſtly, let Life be prolong'd as much, and upon as eaſy Terms, as poſſible; and to theſe Ends the palliative Method wholly tends.

3. Therefore let the Patient be every now-and-then purged, not with ſtrong Cathartics, as ſome raſhly adviſe, but with the milder Sort, as Manna, Caſia, Rhubarb, or Syrup of Peach-flowers, which gently carry off the ill-digeſted Chyle, and Foulneſs of the Bile, which lies in the firſt Paſſages, without giving any violent Stimulus.

4. A Vein alſo ſhould be ſometimes open'd in either Arm, if the Pain and Heat are violent; for by this Method, like Veſſels being emptied, the Arteries which run near the Tumor will be leſs turgid, and therefore, vibrating with leſs Force, will bring on leſs Heat and Pain.

5. The Patient muſt be forbid the Uſe of Wine, Venery, immoderate Exerciſe, vehement Paſſions of the Mind, ſalt, ſpiced, ſharp, or preſerved Meats of any Kind; and be preſcribed a thin, moiſt, cooling Diet, of Barley, Rice, Pudding, light Broths, or Jellies, or at moſt Chicken or Veal in Subſtance.

6. Cooling and diluting Broths or Apozems are to be uſed at the ſame time, and light chalybeated mineral Waters; Baths or Semicupia in warm Water, Aſſes or Cows-milk, or Whey, or, what is better, Cows-milk, for conſtant Diet, or uſed very frequently at leaſt; and, leſt it ſhould offend the Stomach, you may add to the Morning Doſe Lime-water, from one Ounce to three Ounces; or of the bitter Decoction of the Leaves of Wormwood, Centaury, and Germander, to three, four, or five Ounces; or, before the Morning Doſe, you may give a Bolus of red Coral, Crabs-eyes, *Peruvian* Bark, Blood-ſtone, ſeal'd Earth, Chalk, or any of this Kind which may be preſcrib'd, of each one Scruple, if you mix two or three of them together.

7. If the Cancer is an occult one, no topical Remedies are to be applied to it; neither warm, ſharp, diſperſing Medicines, which, by their Heat, aggravate the Diſeaſe; nor cooling, anodyne, fatty, ſoftening Medicines, which, by ſtopping up the Pores, and obſtructing inſenſible Perſpiration, increaſe the Heat of the Tumor, and by that means forward its Progreſs. It is ſufficient therefore to guard it from Cold, or any Injury that it may receive from the Moiſture of the external Air; which is no difficult Matter, if you conſider the Part which the Tumor occupies.

8. On the other hand, if the Cancer is ulcerated, then it will be neceſſary to dreſs the Ulcer daily, to clean it gently with dry Lint, and to waſh it with Decoction of Agrimony, or Herb-Robert; and to mitigate the Acrimony and Fierceneſs of the defluent Humour with Topics, which are poſſeſs'd of an anodyne or abſorbent Quality, ſo that they are not of an unctuous Nature. Various kinds of Remedies are recommended to anſwer this Intention, but the following ſeem to be preferable to the reſt:

Ointment prepared of the freſh-expreſs'd Juice of the Garden Nightſhade, beat with a Leaden Peſtil, in a Leaden Mortar, with the Sugar, or rather Magiſtery, of Lead.

Freſh Oil of Eggs, beat in a Leaden Mortar till it grows black.

A thin Plate of Lead, either alone, or rubb'd over with Mercury.

The Fleſh of common Snails, or of Cray-fiſh, boil'd much, and rubb'd in a Leaden Mortar.

Slices of Veal, juſt kill'd; or young Puppies, ſlit thro' the Middle, and applied hot to the Part.

Oil of green Frogs, diſtil'd *per Deſcenſum*, with an Addition of powder'd Frogs, Toads, or Craw-fiſh.

All Preparations of Tutty, Pompholyx, and Lead.

9. If the ſhooting Pains are very violent, Narcotics ſhould be mix'd with the foregoing Remedies, as Opium, from one Grain to two or three. They ſhould alſo be given internally in a proper Doſe, that the Pain by this means may be more powerfully aſſwaged; which we would have underſtood of the moveable Cancer, if it is attended with acute Pains, and alſo of the occult.

10. Laſtly, it will be proper at the ſame time to reſtrain the Luxuriancy of the fungous Fleſh with a mild cathæretic Medicine, of which Sort we have found the *Balſamum Chalybis* to exceed all others; for this kind of Balſam deſtroys the fungous Fleſh by corroding it, but in a very gentle manner; for the corroſive Points of the Spirit of Nitre are rubb'd down by Fermentation, and blunted by the Olive-oil. But, if it ſhall ſeem neceſſary, that Balſam may be render'd ſtill weaker and weaker, and by that means leſs corroſive, if, by repeated Ablutions, the acid Points of the Spirits of Nitre are waſh'd off. *Aſtruc.*

The BALSAMUM CHALYBIS *is thus made.*

Take of double Aqua-fortis, three Ounces: Put into this Needles, made of the pureſt Steel, which may be known by their Brittleneſs, till a ſmall Ebullition is raiſed. Then add three or four Ounces of the beſt Olive-oil. Mix them to the Conſiſtence of a Balſam. When cold, dulcify it, by repeated Waſhings with Water; by which its corroſive Quality may be taken off to what Degree the Compounder pleaſes.

BUBONIUM. See ASTER ATTICUS.

BUBONOCELE, βυβωνοκήλη, from βουβὼν, the Groin, and κήλη, a Tumor, is a ſoft Tumor in the Groin, cauſed by a Wound or Rupture of the Peritonæum, which was never conglutinated. If it ariſes about the Navel, the Patient has the Epithet of *Exomphalios* beſtow'd upon him by ſome Phyſicians.

The Falling down of the Inteſtines, occaſion'd by a Rupture of the Peritonæum, is a difficult Caſe; but if it be owing to the Thinneſs of its Contexture only, it is more eaſy to be cur'd, eſpecially in Children, as they abound with Humidity.

While the Inteſtine continues above the Groin, the Diſeaſe is named *Bubonocele*; but, when it deſcends into the Scrotum, it is called an *Enterocele*. *P. Æginet. Lib.* 3. *Cap.* 53.

An *Enterocele*, occaſion'd by Diſtention or Stretching of the Part, is preceded by a *Bubonocele*; for the Peritonæum being diſtended, the looſen'd Inteſtine falls upon the Groin, and conſtitutes a *Bubonocele*. *P. Æginet. Lib.* 6. *Cap.* 66.

Dr. *Freind* has the following Remarks upon the Bubonocele, or Inguinal Hernia, which are too curious to be omitted.

An Inguinal Hernia, according to all Authors, is only the Beginning of an Inteſtinal; the Gut, they ſay, muſt deſcend by the Groin firſt, before it can paſs into the Scrotum; and therefore *Paulus* ſays, that a Bubonocele always precedes an Enterocele. Accordingly all Anatomiſts, as well as Surgeons, have agreed, that in a Bubonocele the Gut comes down thro' the Rings or Perforations of the Abdominal Muſcles. But tho', no doubt, this be often the Caſe, yet perhaps, if we examine the Matter a little more nicely, we ſhall find, that the Gut may take another Courſe, hitherto unobſerv'd, to produce a Bubonocele. The Cavity in the Thigh between the Muſcles *Pectineus* and *Sartorius*, where the Crural Veſſels deſcend, is very remarkable: And the Tendons of the Abdominal Muſcles lie ſo looſe, that there is nothing but a little Fat, and ſome membraneous Fibres, which ſeparate it from the Abdomen; ſo that we ſee how eaſy it is for the Peritonæum to be forced down by any Preſſure, thro' this Interſtice into the Cavity we have deſcrib'd; eſpecially ſince, conſidering our erect Poſture, it lies in a more direct Line than even the Rings of thoſe Tendons. And if we compare the Accounts of thoſe very Authors, who think that a Bubonocele is always formed in the Proceſſes of the Peritonæum, we ſhall find them often agree to this Place only.

Aquapendente remarks, that a Bubonocele, and a *Varix* of the Crural Vein, have often been miſtaken for a Bubo; in which Caſe, upon Inciſion, the Vein or the Gut has been cut, ſo as to endanger the Perſon's Life. Buboes, we all know, are always in thoſe Glands which lie upon the Crural Veſſels; and therefore 'tis plain, he thinks, in many Inſtances, that a Bubo and a Bubonocele are in the ſame Place, that is, in the Place we have taken Notice of. Upon this Account too it ſeems to be, that *Celſus* called a Bubonocele a *Varix Inguinis.*

The late Mr. Serjeant *Bernard* was concern'd in a Caſe, where the Gut reach'd under the Skin down to the Middle of the Thigh; in which Inſtance it muſt deſcend through the Interſtice, under the Tendons of the Abdominal Muſcles; for, if it had come down through the Rings, it muſt have gone directly into the Scrotum, and not turned down the Thigh. And *Barbette* ſeems to imply this Way, tho' he has expreſſed it with the ſame Obſcurity as other Writers do, when he ſays, *Experimur etiam proceſſum Peritonæi ita poſſe diſrumpi, ut Inteſtina non in Scrotum, ſed inter Cutim & Muſculos, verſus Femur, ſeſe urgeant.* Where by the Words, *proceſſum Peritonæi*, if he means the Productions which ariſe from the Vaginal Coat, we have ſeen, that the Gut cannot get into the Situation he deſcribes. Perhaps it may give us a little more Light into the Matter, if we conſider the Inguinal Hernia in Women. *Fallopius* deduces it from the round Ligaments of the Womb, which make the ſame Perforations in the Tendons of the Abdominal Muſcles of that Sex, as are in thoſe of Men. 'Tis very true, they do, but not in the ſame Place; for theſe Rings in Women lie juſt upon the Os Pubis, and the Ligaments, as ſoon as ever they are paſſed through them, are ſtrongly inſerted with the Tendons into the Bone. So that, by the Streightneſs of the Paſſage, there ſeems to be little room for a Hernia here: and if there were, the Gut muſt lie juſt forward upon the Os Pubis, as indeed we find ſometimes it does, even as far as the very *Labia Pudendi.* But I believe in ſuch Ruptures it will be found generally to take its Courſe much more aſide, towards the Os Ilium. And therefore *Celſus* expreſly ſays, that a Hernia in Women *fit præcipue circa Ilia*. That the Peritonæum may be diſtended in this Place, is plain from the Account *Nuck* gives us of a Dropſy in this Membrane, which ſpread itſelf, he ſays, and form'd a Sack in the Thigh, *per vacua muſculorum ſpatia.* And *Hildanus*, in explaining the Reaſon of a *Hernia Uterina*, thinks the Extenſion of the Peritonæum happen'd *circa foramina illa, circa quæ Bubonocele fit in Mulieribus*: and if we compare theſe Words, which are ambiguous enough, and perhaps left ſo on Purpoſe, with a Deſcription of the Poſture which is given of the Tumor, we ſhall find them only applicable to the Interſtice we ſpeak of. How capable the Peritonæum is of a large Diſtention, an Aſcites alone will ſufficiently convince us; and that ſuch a Diſtention as there is generally in the preſent Caſe, without any Rupture, may happen, not only at its Productions in the Groin, or the Navel, w may find ſufficient Proof in the Writers of Surgery. *Barbett* gives Inſtances of ſuch Hernias in the Back, above the Navel, below the Navel, *longe ſupra Ilia*, he ſays, which have been by Miſtake cut for an Abſceſs. *Paulus* indeed diſtinguiſhes th Inteſtinal Hernia, as it proceeds either from a Rupture, or Diſtention of the Peritonæum; and ſays expreſly, that th Operation by the Knife is only to be attempted in the latte Caſe. But whoever with Attention conſiders the Anatomy o theſe Parts, muſt, I think, be of a quite contrary Opinion for in a Rupture of the Peritonæum, if the Operation be per form'd, and the Gut once reduced, we may conceive how a the Parts of the Peritonæum, as well as the reſt, may be healed and united, as not to give way to any Deſcent the Gut for the future. But in the Caſe of Diſtention, i after the Operation, the Peritonæum remains diſtended, as muſt, how is the Return of the Hernia prevented? To for a right Notion of ſuch a Diſtention, one ought to ſee the cu rious Preparations of that diligent and accurate Anatomiſt D *Douglaſs*, who is the firſt who has given us any true Idea the Peritonæum, a Part which is ſo much concern'd, an whoſe Structure ſhould be ſo much conſider'd, not only this Operation, but in the High-way for cutting for the Ston *Freind's Hiſtory of Phyſic.* See the Account of the *Hern Cruralis*, in the latter Part of this Article.

A Tumor proceeding from the Falling down of the In ſtines, or Omentum, or both together, through the Proceſ of the Peritonæum, towards the Groin, is called by Phy cians a *Bubonocele*, taking its Name from *Bubo*, as reſembli that Diſeaſe. Some, with *Celſus*, have called it a Rupture the Groin, or a *Hernia inguinalis*. Others have named it *incomplete* Hernia, diſtinguiſhing it from that perfect Her which in Men is form'd by the Falling down of the Inteſti into the Scrotum; tho', to ſpeak the Truth, the former theſe Diſorders wants nothing to make it a *complete* He Commonly there is a Prolapſus, or Falling down, of the Inteſtine only; but ſometimes it is attended with that of *Colon*, and the *Cæcum*, eſpecially on the Right Side of Groin, of which I have known ſome Examples. And only Men, but Women alſo, are frequently affected with ſuch Ruptures, and that to ſo great a Degree, that the prolapſed Inteſtines have ſometimes penetrated to the very Labia Pudendi. And not only *Ruyſch*, but *Petit* and *Arnaud*, have obſerv'd a Prolapſus of part of the Bladder; and *Hildanus*, as well as *Ruyſch*, mention a Falling out of the Uterus into the Groin. We ought therefore to be extremely cautious, leſt by miſtaking a Bubonocele for a Bubo, or any other like Tumor or Abſceſs, we make an Inciſion in the Part, and ſo, by perforating the Inteſtine, deſtroy the Patient. This is a Caution given by *Fabricius ab Aquapendente*, as well as by many modern Authors.

A Bubonocele ariſes from two different Cauſes; for ſometimes the Perforations in the Muſcles of the Abdomen, through which the Proceſſus of the Petitonæum, and the ſpermatic Veſſels, paſs, or thoſe which tranſmit the Crural Vein and Artery, are by Degrees, and almoſt inſenſibly, by various Cauſes, relaxed, in ſuch a manner, as to give occaſion for the Inteſtines, together with the internal Membrane of the Peritonæum, to break through. Sometimes on a ſudden, and by violent means, as Leaping, a Fall, a Blow, Overſtraining in moving or lifting great Weights, or any other way, a Cough, Vociferation, blowing a Wind-inſtrument, Riding, violent Geſtation, eager and immoderate Venery, Vomiting, or any other forcible Way, the Peritonæum, in the Places before deſcribed, is either lacerated, or, according to the general Opinion of the Moderns, ſo far diſtended, as to make way for a Falling thro' of the Inteſtines, ſometimes with, and ſometimes without the Omentum. Sometimes only one Side of the Inteſtine, oppoſite to that which joins the Meſentery, is engag'd in the Perforations or Rings, as *Morgagni* and *Ruyſch* obſerve, and of which Mr. *Littre* relates a Hiſtory in the Memoirs of the Academy of Sciences for 1700.

When this Diſorder comes on ſlowly, and by Degrees, the Patients for the moſt part feel no great or frequent Moleſtations or Inconveniencies; but if they become ſenſible of the Diſtemper on a ſudden, or, after they have long been afflicted with it, expoſe themſelves too much in the Cold, uſe violent Motion or Straining, fall into a violent Fit of Anger, as I have obſerv'd, or make too plentiful a Meal, eſpecially on groſs Aliments, and ſuch as are of bad Juice, they commonly ſuffer very ſeverely from it. For not only the Inteſtines are miſerably diſtended by the Fœces, but ſometimes the Openings or Perforations, through which the Inteſtines fall, are ſtreighten'd to ſuch a Degree, as to compreſs the Inteſtines in an extraordinary manner, ſo as to hinder them from tranſmitting any of their Contents, and even to ſtop the Circulation of the Blood in their Veins. Such a Caſe muſt almoſt neceſſarily be attended with a great Inflammation of the Inteſtines, Pains, Inquietude, violent Vomitings, and the Iliac Paſſion, commonly called the *Miſerere mei*, juſt in the ſame manner as theſe Symptoms are excited by an *Omphalocele*, or *Gaſtrocele*; and ſo there is form'd a ſort of *Hernia incarcerata*, as Phyſicians call it. Here take Notice by the way, that they who labour under a Hernia of the Scrotum, are often expoſed to the ſame Inconveniencies; for which Reaſon all Perſons afflicted with a Hernia, whether it be of the Navel, the Groin, or the Scrotum, ought never to go without a proper Girdle, Fillet, Bandage, Bracers, or Truſs; and, after they have worn them, ſhould be very cautious of leaving them off, for fear of expoſing themſelves to the Danger of a *Hernia incarcerata*, which very often deſtroys the Patient; tho' it cannot be deny'd, that ſuch Diſorders may ſometimes happen to thoſe who are ſecur'd by Bandage or Truſſes, on occaſion of hard Rideing, or any other violent Commotion of the Body, by which the Truſs is broken, or mov'd out of its right Place, or looſen'd in ſuch a manner, that the Inteſtines force a Paſſage out of the Abdomen. Such an Accident once happen'd to the Duke *de Villeroy*, a Marſhal of *France*, while he was hunting, as *Dionis* tells us in his Book of Surgery, where he treats of Hernias. Perſons therefore under ſuch an Affliction, ſhould either ride not at all, or be very cautious in riding.

A *Bubonocele*, or *Hernia Inguinalis*, is commonly known by the following Signs: There is a Tumor in the Groin, which extends itſelf to the Ring of the Muſcles of the Abdomen, and, when it is not incarcerated, is ſometimes viſible, and then again diſappears, according to the different Situations and Motions of the Body. When we apply our Hand, we plainly perceive an equably hard Prominence, not unlike an inflated Inteſtine. As the Diſorder gradually increaſes, the Tumor, when gently depreſſed with the Hand, and eſpecially when the Patient lies upon his Back, quite vaniſhes, retiring into the Abdomen with a ſort of rumbling Noiſe. But when there is only a Prolapſus of the Omentum, the Tumor is commonly ſofter, and like Fat to the Touch, and not mutable in Bigneſs, like that of the inteſtinal Hernia, but, for the moſt part, conſtantly appearing the ſame. When there is a Prolapſus of both the Omentum and Inteſtines, there is almoſt conſtantly a ſoft kind of Tumor, which remains after the Inteſtines are replaced. A *Hernia* which happens ſuddenly, and an incarcerated *Hernia*, are known by the following Symptoms: The external Tumor, ſometimes when only excited by the Omentum, is remarkably red, with a Hardneſs and Inflammation. The Patients ſuffer moſt intenſe Pains, both internal and external, attended with a vehement Heat, or a Fever; and commonly violent and obſtinate Vomitings quickly ſucceed, firſt of the Aliments, and natural Contents, and at laſt of the Excrements, with extreme Anguiſh and Agitations, under which the Patients are very much weaken'd, and faint at every Turn, till, falling into a cold Sweat, and Refrigeration of the whole Body, they at laſt expire, unleſs ſeaſonably reliev'd.

As *Hernias* in general are accounted ſhameful Diſeaſes, ſo eſpecially are thoſe which affect the Pudenda regarded as ſuch, and therefore uſually kept ſecret. The Event alſo of this Diſtemper is uſually doubtful and dangerous, eſpecially when it is degenerated into an incarcerated *Bubonocele*. If the Inteſtines are not as yet intercepted or engag'd, and the *Hernia* comes on gradually, the Diſeaſe is the milder, and leſs dangerous, eſpecially when the Inteſtines, after being replaced, are ſecur'd and reſtrain'd by ſome proper Truſs or Bandage, which muſt be conſtantly worn for a long while. The Diſorder, however, is very troubleſome, and renders the Patient unfit for many kinds of Buſineſs; beſides, it is to be fear'd, that the *Hernia*, tho' never ſo favourable, ſhould by too ſtreight a Conſtriction of the Tumor by the Truſs by little and little, or perhaps on a ſudden, degenerate into a *Hernia incarcerata*, attended with all the foremention'd dreadful Symptoms. In a *Hernia incarcerata*, if the Inteſtines be not ſeaſonably replaced, commonly after the ſecond or third Day, and ſometimes ſooner, a violent Inflammation ſeizes the Parts, which in a very ſhort time deſtroys the Patient; for which Reaſon we muſt be ſpeedy in our Aſſiſtance, and if the Diſtemper be too ſtubborn to yield to Medicines, and the Symptoms are very threatening, we are not to delay the Operation, but enter upon it ſometimes before the End of four-and-twenty Hours; for when the Strength of the Patient is exhauſted, and red and black Spots appear on the Tumor, a Sphacelus is indicated, and a cold Sweat, and total Refrigeration of the Body bring on Death in a very few Hours. In ſuch Circumſtances, therefore, not only all Aſſiſtance from the Surgeon is uſeleſs, but it is greatly to be feared, leſt the Patient ſhould expire under an Operation ſufficiently dangerous of itſelf, and ſo the Cauſe of his Death, which ought rather to be aſcribed to a Sphacelus of the Inteſtines, ſhould be raſhly and inconſiderately imputed to the Operation. But when the Symptoms are more mild, and leſs urgent, and the Patient is yet ſufficiently ſtrong, the Uſe of the Knife may be deferr'd. When the Omentum falls out with the Inteſtines, there is commonly leſs Danger, than when there is an Incarceration or Coarctation of the bare Inteſtine, tho' ſometimes a Prolapſus of the Omentum alone has excited the Symptoms of a *Hernia incarcerata*, as is obſerv'd by ſeveral Authors in Caſes where after Section they diſcover'd nothing but a *Prolapſus* of the Omentum. But as ſoon as the Tumor, the Redneſs and Hardneſs of it being in ſome meaſure diminiſh'd, begins to grow black, with a kind of Softneſs, or appears with red, livid, or blackiſh Spots, as we ſaid before, and has loſt the Senſe of Feeling, and a continual Vomiting, with a Fever, afflicts the Patient; if the Pulſe be weak, and the Eyes look diſturb'd, and, as it were corneous, we ought to conſider theſe Symptoms as manifeſt Indications, that the Inteſtines are already ſeiz'd with a Sphacelus. If the Inflammation be communicated to the interior Parts, which is conjectur'd by the Diſtention of the Belly, and the Elevation of the Navel, there is little or no Hope of Life. And in the laſt Place, where there is a Coalition of the prolapſed Inteſtines with the other Parts, the Method of Cure by the Knife uſually proves very doubtful and difficult, becauſe the Inteſtines can very ſeldom or never be replaced within the Belly, unleſs by means of the Knife they are ſeparated from the Parts to which they adhere, which is ſometimes impoſſible to be effected, eſpecially in a *Hernia femoralis*, when the Inteſtines have made a Coalition with the Crural Vein or Artery, as *Garengeot* has obſerv'd. They may therefore be thought to be in the right, who are of Opinion, that the Antients never undertook a Chirurgical Operation of this kind; for neither *Celſus*, nor *Paulus Ægineta*, nor any other of the Antients, as far as I know, have mention'd it. However, becauſe this Method of Cure has been often found to be of Service, tho' attended with many and great Difficulties, we think that in due Seaſon it ought by no means to be neglected.

There are, in general, three Methods of Cure, which are to be choſen according to the Degrees and Age of the Diſtemper. Where the prolapſed Inteſtines may be commodiouſly reſtor'd, the Method of Treatment may be as follows: The Patient being laid upon his Back, with his Thighs ſomewhat bended, that the ſtretched Skin may have Liberty to relax, the prolapſed Inteſtines, with all that belongs to them, are to be taken with the Hand in the ſofteſt manner imaginable, and repreſſed into their proper Situation with all poſſible Gentleneſs; after which a glutinous Plaiſter, with a Bolſter, muſt be laid on the Part which tranſmitted the Inteſtines, and faſten'd and ſecured by a fit Bandage, or Truſs, furniſhed with its Bolſter, or Eſcutcheon, various Sorts of which are repreſented *Tab.* 46.

This Inſtrument by keeping the Belly, and the relaxed Parts, in a firm and proper Conſtriction for ſeveral Months together, if the Patient be a Child, and oftentimes in adult Perſons, effects a Conglutination, and a perfect Cure, or at leaſt ſo contracts and ſtreightens the Aperture, that the Inteſtines no more falling out, the Abdomen, and the relaxed Part, are in a great meaſure reſtored to their former Tone and Vigour. It is certain, that Infants, Children, and young Perſons, or ſuch as are not much above twenty Years of Age, may for the moſt Part by this Method, with the greateſt Eaſe and Succeſs, be reſtored to a perfect Soundneſs; and conſequently, there is no Neceſſity of immediately ſubjecting them to a cruel Section under the Hands of ſtrolling Quacks and Mountebanks, ſince a much milder Treatment would have done the Buſineſs; beſides which it ought to be conſider'd, that the ſole Aim of theſe Pretenders is to extort as much Money as they can for the Cure, which coſts the Patient a Teſticle, and oftentimes his Life. Elder Perſons, who have once experienced the Method of Cure by Truſſes, ought to be very cautious how they leave them off during their Lives, unleſs they have a Mind to run over a new Courſe of Pain and Trouble; and they ought no leſs to avoid all violent Agitations of the Body. Numbers of Perſons, who have formerly labour'd under a Hernia, with due Caution, and the Help of a proper Bandage, have been enabled to follow Buſineſs, and live to a good old Age. As for young Perſons of twenty Years of Age, or more, if the Diſeaſe be but newly contracted, I have very often known them to be happily cured by wearing proper Bracers (*Brachería*). *Heiſter. Chirug.*

BUBONOCELE, *or* HERNIA INGUINALIS, INCARCERATA.

If the Hernia be incarcerated, or intercepted, whether it be by the Ring of the Muſcle of the Abdomen, or, as *Le Dran* obſerves, by the upper Part of the Sack itſelf, which contains the prolapſed Inteſtines; and the Circumſtance is ſuch, that not only the Patient ſuffers moſt acute Pains, but the Inteſtines cannot conveniently be reduc'd; ſome immediately betake themſelves to the Knife, for enlarging the Opening thro' which the Inteſtines are thruſt out, in the ſame manner as is directed for the *Omphalocele*. However, becauſe the Cure of a *Hernia incarcerata* principally conſiſts in reſtoring the prolapſed Inteſtines, or Omentum, with all that belongs to them, to their former Situation, it is the Part of a prudent Phyſician firſt to try milder Remedies, before he proceeds to ſo painful and dangerous an Operation. Therefore, beſides Phlebotomy, which is often of very great Service in this Caſe, and the ſame, if neceſſary, repeated, there ought to be frequent Applications of mollifying Oils, Ointments, or Cataplaſms; and the Belly is to be evacuated by Clyſters, till both the Inteſtines, and the Openings thro' which they burſt, being ſufficiently mollify'd, all that is removed from its proper Situation may, by means of the Fingers, be reduced to their proper Place within the Abdomen; and the moſt convenient Way of Operation for this Purpoſe is as follows: The Patient, having firſt made Water, is to lie on his Back, with his Head depreſſed, his Hips pretty much erected, and the Thigh of the affected Side a little bent: then the Inteſtines, by Application of the Fingers upon the Tumor, and, as it were, circularly agitating the ſame, are to be repreſſed towards the Os Ileum, and reſtor'd to their proper Situation. This done, that Part of the Abdomen whence the Inteſtines burſt forth, is to be very carefully held by an Aſſiſtant, that the reduc'd Parts may not break out again; and, in the laſt Place, a proper Bandage is to be made, by applying a glutinous Plaiſter, with a thick ſimple or double triangular Bolſter, upon the defective Part, and ſecuring their firm Adherence, bringing over them a kind of Fillet, which they call *Spica Inguinis*, or Straps of Leather. This Bandage muſt not be left off without the utmoſt Caution, but muſt be worn for a long while, and, if the Age of the Patient requires it, during Life. But if the Inteſtines cannot be reduc'd by the foregoing Method, it will not be amiſs to attempt the Cure by means of a Clyſter of the Smoke of very ſtrong Tobacco, continually injected into the Anus for a ſufficient Time, by Help of a peculiar Machine, repreſented in *Tab.* 55. *Fig.* 13. By Help of this Inſtrument I have cured ſeveral, and, among the reſt, a Man upon whom all other Clyſters had no Effect, and who, for three Days, had ſuffer'd the moſt tormenting Pains from an *Hernia incarcerata*; and, on account of the intolerable Fœtor of his ſtercoraceous Vomitings, and the extreme Weakneſs of his Body, was given over by all who attended him. And I have ſince reſtor'd ſeveral others by means of this Fume of Tobacco, ſo that hitherto I have had no Occaſion to make uſe of the Knife in theſe Caſes. *Clacius* ſuppoſes, that the prolapſed Inteſtines may very commodiouſly be reſtored, by means of frequent Applications of Linen Cloths, dipt in cold Water, to the Tumor. This Method, while the Diſeaſe is recent, I believe, may not be altogether ineffectual; but, where the Inteſtines have contracted any Corruption, I am of the contrary Opinion.

When the prolapſed Inteſtines cannot be reduced by the foregoing Method, which is ſometimes the Caſe, as when the Tumor is grown too hard, and the Inflammation, with the Pains, and ſtercoraceous Vomitings, are come to a great Height, it is the Part of a prudent Phyſician to inform the Friends and Relations of the Patient, of the great Danger of the Caſe, and of the Neceſſity of having recourſe to the Knife, not forgetting to repreſent alſo the Difficulty of an Operation of this kind. And this is to be done in Seaſon, before the Patient be grown too weak, or the Inteſtine corrupted, and the dubious Hopes of Life, by Delay, converted into Fear of preſent Death, that the Deſtruction of the Patient may not be imputed to the Surgeon, when it was impoſſible to ſave him. When, therefore, the Patient, with the Conſent of his Friends, is willing to ſubmit himſelf to the Operation, he is, firſt of all, to empty his Bladder, leſt, being diſtended with Urine, it ſhould hinder the Regreſs of the Inteſtines, or be hurt with the Knife. The Urine, then, being diſcharg'd, the Patient is to be laid on his Back, on a Table, or the Side of a Bed, and the Groin, if hairy, ſhav'd, that the Hairs may not be an Impediment to the Operator. Then, the Head being depreſs'd, and the Hips rais'd, the Patient is to be firmly held by ſome of the ſtrongeſt Aſſiſtants, the Thigh adjacent to the diſeas'd Part being a little bent, in order to avoid too great a Diſtention of the Skin. After this, the Surgeon takes up the Skin, together with all the Fat, on one Side of the Tumor, whilſt an Aſſiſtant does the ſame on the other, and, raiſing it as much as poſſible, makes a ſtrait Inciſion with the Knife thro' the Middle of the Tumor, and afterwards widens the Wound, both upwards and downwards, as much as he thinks ſufficient. But if, by reaſon of the Violence of the Inflammation, the Skin cannot be taken up in the manner aforeſaid, as it ſometimes happens, the Operator takes hold of the Tumor with the Thumb and middle Finger of his Left Hand, and, with the greateſt Caution, and Steadineſs of Hand, drawing the Knife downwards, makes a ſtrait Inciſion over the Middle of the Tumor; but ſo ſlight a one, as only to divide the Skin, which, in theſe ſorts of Tumors, is uſually very thin, for fear of cutting the Inteſtines, which ſometimes happens, and endangering the Life of the Patient. The Skin being a little divided, in the manner directed, a groov'd Probe is to be introduc'd between the Skin thus divided and the Tumor, and the Wound enlarg'd, with the Knife or Sciſſars, above and below. After this, the Lips of the Wound being kept aſunder, by Hooks, on each Side, and the Knife laid aſide, to avoid injuring the Inteſtines, whatever Portion of Fat, or of the Membrana Celluloſa, may be found cohering, muſt be carefully ſeparated, by means of the Probe, the Spathula, the Handle of Knife, or the Nails of the Fingers, till the Inteſtines, or, wha more frequently happens, their Integument, which is a Dilatation of the Peritonæum, and call'd the *Bag*, appears in View The modern *French* Surgeons, as *Garengeot* aſſures us, gentl and warily divide the Laminæ of the Membrana Celluloſa, tha this Part of the Operation may the ſooner be over, not wit a blunt Inſtrument, but with the Inciſion-knife, which the draw along, not in a perpendicular, but oblique, Directio till they come to the Bag before-mention'd, when the utmo Circumſpection is requir'd, in order to avoid wounding the Inteſtines with the Knife. While we are cutting this Integumen or Bag, it ſeems neceſſary, for the Security of the ſubjacent Inteſtines, to pinch it up a little between the Thumb and fo Finger of the Left Hand, and, with the Knife, or Sciſſar warily applied, make a very ſlight Inciſion, or only a ſma Perforation. While this is doing, the Surgeon ought not to terrify'd, if any thing like Serum, or Water, ſhould happ to guſh out, as if he had wounded an Inteſtine, (for ſome ſ of aqueous Liquor almoſt conſtantly occurs) but muſt go with the Operation, in cutting up the Bag, till he comes to t Perforation, or Annulus of the Abdomen, which is do by means of a Pair of Probe-ſciſſars, or a Knife, either ſtrait crooked, introduc'd by Help of a groov'd Probe, or a Kn arm'd with a Button, (ſee *Tab.* 26. *Fig.* 3. 4. and 5.) wh *Garengeot* prefers before all other Inſtruments, or by the Sc ſars, or Knife, introduc'd upon the Finger. If, during t Inciſion, any little Blood-veſſel ſhould happen to be cut, a by bleeding plentifully, hinder the Operation, it muſt be co preſs'd, by an Aſſiſtant, with his Fingers alone, or a Bol under them, or a Ligature may be made on the Veſſel wi Needle and Thread, and the Blood muſt be abſterged wi Sponge, or Linen Rags. This being done according to A the next thing is, by a gentle Compreſſion of the Fingers, force back the Inteſtines, if they have eſcaped ſound, thro' Ring of the Muſcles of the Abdomen. In this Attempt, the Surgeon be hinder'd by the included Fœces or Flatus, muſt firſt try to remove them by gentle means; but, if ſuc Method prove ineffectual, the Place of the Prolapſus, tha the Opening, or Ring of the Muſcles of the Abdomen, muſt be enlarg'd to a ſufficient Breadth with the Knife, but with Caution, and inwardly, or towards the Linea Alba, for fear of cutting the Epigaſtric Artery, which runs along the Outſide, and thereby cauſing an immoderate Effuſion of Blood. But if this ſhould happen, the Blood muſt be ſtop'd by a Pledget of Lint, arm'd with a ſtyptic Liquor, and by Compreſſion againſt the Os Ileum. If there be an Adheſion of the prolapſed Parts externally, they muſt be looſed with the greateſt Caution. The Inſtruments proper for dilating the Annulus are the Knife, or the before-mention'd Inſtruments; and, for Defence of the Inteſtines, are the Probe, with a Plate in the Figure of a Heart, (*Tab.* 45. *Fig.* 8.) or *Morandus*'s Knife, (*Tab.* 45. *Fig.* 9.) or that of *Le Dran*, (*Tab.* 45. *Fig.* 10.) incloſed in a Sheath, as in a ſort of hollow Probe. For ſome time thoſe Knives, which are delineated, (*Tab.* 46. *Fig.* 1. and 2.) and are incloſed in Sheaths, were very much in Requeſt for this Purpoſe. The firſt of theſe is here repreſented, (*Fig.* 1.) conceal'd within its Capſula (A. C.), which, after its being introduc'd into the Place of the Prolapſus, by preſſing the Plate (B.), comes out of its Capſula, as is ſhewn, (*Fig.* 2. A.) and makes an Inciſion in the Place of the Prolapſus, whether it be the Ring of the Muſcles of the Abdomen, or the upper Part of the Bag, in which the Inteſtines ſuffer a Strangulation. But, becauſe the interior Parts are more ſubject to be cut and wounded, when the Point of the Inſtrument firſt comes forth and cuts, than the Part which compreſſes the Inteſtines, the former Inſtruments are now juſtly look'd upon as the moſt convenient. But leſt the Inteſtines, as being remarkably lubricous, ſhould happen to ruſh out, and fall upon the Knife, while we are buſy in uſing the ſimple groov'd Probe, or *Morandus*'s Knife, (*Tab.* 45. *Fig.* 9.) they ought to be carefully repreſſed, and held down by an Aſſiſtant. For the ſame Purpoſe, under the Inſtrument repreſented (*Tab.* 46. *Fig.* 2.) is a Plate (D.), which afterwards Meſſieurs *Petit* and *Le Dran* imitated, and endeavour'd to correct; the firſt in a Probe, repreſented (*Tab.* 45. *Fig.* 8.), and the other is figur'd (*Tab.* 45. *Fig.* 10.). The Place of the Prolapſus being dilated, the Inteſtines are to be replac'd, and ſecur'd with Linen Compreſſes, triangular Bolſters, and the Bandage call'd the *Spica* (ſee FASCIA). Some firſt ſcarify the Annulus, in order to raiſe a firmer Cicatrix, by which the Return of the Hernia is the more eaſily prevented. This Practice I judge not to be altogether amiſs, eſpecially in a lax State of thoſe Parts. And ſome there are who introduce a long Tent into the Opening of the Abdomen, and apply Bolſters upon it; which Method, in a recent and ſimple Diſorder, I think is needleſs, or rather hurtful; as, on the other hand, in an inveterate and complicated Diſeaſe, where the Humours are vitiated and putrefy'd, and there is an inward Abſceſs, it may be convenient to uſe a Tent.

Tho' the prolapſed Inteſtines may be ſucceſsfully replac'd by the Methods before propoſed, it will not be amiſs to give a Deſcription of other Ways, which ſome eminent Surgeons have try'd. Some, in Imitation, and by the Advice, of M. *Arnaud*, a famous Surgeon of *Paris*, having perforated the Skin, gently introduce a groov'd Probe, ſhut at the Extremity, as is repreſented (*Tab.* 22. M. and N.), under the Skin, and, cutting upon it with blunt-pointed Sciſſars, enlarge the Wound to a ſufficient Wideneſs. Then taking hold of the Lips of the Wound with the Fingers of either Hand, with one Finger of the other they gently ſeparate the Skin from the ſubjacent Tumor; and then cutting with the Knife, or Sciſſars, upon the Finger, divide the ſame as the Bulk of the prolapſed Inteſtines requires. After this, putting the middle Finger and Thumb of the Left Hand upon the Tumor, they take a ſharp crooked Knife in their Right Hand, and, holding it a little on one Side, for the ſake of better Light, and the more eaſily to avoid wounding the Inteſtines, or their Bag, they very cautiouſly cut thro' all the Tunics which incloſe the Bag, which are ſometimes more, ſometimes fewer in Number, in proportion to the Inveteracy of the Tumor. If any Blood-veſſels occur, they tie them in two Places before they cut them, that they may have no Impediment from an Hæmorrhage; and whatever Blood happens to flow from the Wound, is carefully wip'd away with Linen Cloths. Whatever Pieces or Scales of the Tunics adhere, on either Side, to the Bag, they are either pull'd off with the Fingers, or cut away by the Probe-ſciſſars, introduc'd upon the groov'd Probe. This done according to Art in every Particular, the next thing is, with the Thumb and fore Finger, to take firm hold of the upper Part of the Coat of the Tumor, or the Bag of the Inteſtines, and diſtend it upwards. Near this is, ſeparated from whatever adheres to it, and left entirely perforated, the famous M. *Petit* introduces his groov'd Probe with a ſheathed Point, under the Annulus, by which the Inteſtines fall out, and enlarges the Paſſages by the Method before deſcrib'd. Then, taking hold of the lower Part of the Bag with his Hands, he gently depreſſes the Inteſtines therein contain'd towards the Os Ileum, and ſo, by Degrees, reduces them to their former Situation. The Inteſtines being thus reduced, for their better Security againſt a future Hernia, he repreſſes alſo the Bag, being firſt doubled, thro' the ſame Opening, (in which, as he aſſures us, it afterwards hardens by Degrees, and firmly cloſes it up) applying upon it a Linen Ball, made of Linen Thread, and cover'd with Linen Cloth, call'd by the *French* M. *Petit*'s Pellet, which is firſt well moiſten'd with the White and Yolk of an Egg, beaten up with a little Spirit of Wine, and afterwards ſqueez'd, and roll'd within the Hands into a cylindrical or oval Figure. By the Sides of this Ball, and alſo upon it, are plac'd other very ſmall Linen Balls, or Lint; and, in order to their firm ſupporting and keeping in the diſeas'd Parts, they are cover'd with three or four triangular Bolſters, one larger than another, moiſten'd with Spirit of Wine; and the Whole is very exactly ſecur'd with the Bandage call'd *Spica inguinalis*.

But, if we may ſpeak the Truth, this laſt Method of Cure, which does not permit the Bag to be open'd, is not approv'd of by me, nor by thoſe who are better Surgeons than myſelf; and that, firſt, Becauſe there is commonly a Coaleſcence on all Sides of this Bag with the Spermatic Veſſels, which are eaſily injur'd in their Separation from it. (2.) Becauſe the prolapſed Omentum, or Inteſtines, frequently contract a Corruption, which, if the Bag be left cloſed within the Abdomen, can neither be known, nor conveniently remedy'd, and, conſequently, may be the Cauſe of the Patient's Death. (3.) Sometimes the Bag includes a large Quantity of fetid Ichor, which cannot be repell'd into the Abdomen without moſt manifeſt Injury; for *Cheſelden*, a modern and very celebrated *Britiſh* Surgeon, writes, that he has found about two Pints of fetid Matter, like Lees of Oil (*Amurca*), in a Hernia of this kind, which, if repel'd, and clos'd within the Belly, would doubtleſs have prov'd mortal. (4.) The Inteſtines, and Omentum, in theſe Caſes, often grow to the external Parts, and, if the Bag be not open'd, can neither be ſeparated, nor reduced within the Belly. (5.) The Bag left entire, eſpecially if it be large, may eaſily give Occaſion to a new Hernia, and be a fit Receptacle for it. (6.) This Method, in caſe of a Rupture of the Peritonæum, is altogether unſucceſsful. Theſe, and other Reaſons, were very fitly objected to M. *Petit* by *Manchartus*, Profeſſor of Phyſic in the Univerſity of *Tubingen*, and formerly a Pupil of ours. And *Le Dran*, ſo often quoted, a Surgeon of *Paris*, does not at all approve of this Method; firſt, becauſe no particular Advantage can be perceiv'd to attend it; and, ſecondly, becauſe, if the Hernia be incarcerated for ſeveral Days, the Inteſtine is often corrupted with a Sphacelus, in which Caſe the vitiated Parts of the Inteſtine are ſeparated, and fall off, as it often happens, or at leaſt ought to happen, if the Patient recover; and the Chyle and Excrements would then be diſcharg'd into the Cavity of the Abdomen, and ſo neceſſarily deſtroy the Patient. For theſe Reaſons I think it a better Way, for the moſt part, eſpecially if the Diſeaſe be inveterate, and the Tumor large, to open the Bag, than to leave it entire; and I am of Opinion, that *Petit*'s Method can ſafely be uſed only when the Diſeaſe is recent, and where there is no Corruption of the Inteſtines, no Concretion, and no Abſceſs; and *Garengeot* himſelf, in the ſecond Edition of his Chirurgical Works, confines this Method of Cure within the Limits of theſe Obſervations.

Cyprianus, an eminent *Dutch* Phyſician and Surgeon, who ſpent the laſt Part of his Life in *England*, and to whom I am oblig'd in Gratiude, for what I there learn'd of him, practiſed much in the ſame manner as I have directed above for this Diſtemper, by opening the Skin, and Bag of the Peritonæum; but, inſtead of a Probe, or Conductor, he us'd his Finger as the beſt Conductor, in order to enlarge the Wound in the Bag and the Skin. But when the Opening, or Ring of the Muſcles of the Abdomen, was not large enough for reducing the prolapſed Inteſtines, he firſt introduc'd a groov'd Probe, with a Knife, for dilating the Ring; and then cutting upon his Finger with the Sciſſars, divided the Skin, Fat, Muſcles, and Peritonæum, till he had made a Paſſage wide enough for reducing the Inteſtines without any manner of Violence. For he much recommended wide Inciſions in this Caſe, ſo far as were ſufficient for reſtoring the Inteſtines without much Trouble, and almoſt without any Preſſure; ſince, if the Dilatation were too narrow, there would be too great a Compreſſion and Colliſion of the Inteſtines, in our endeavouring to reduce them; which might eaſily give Occaſion for dangerous Inflammations, Gangrenes, and Death itſelf. Whenever he diſcover'd a Coalition of the great and ſmall Inteſtines with the external Parts, he very dexterouſly ſeparated them with the Knife, and then replac'd them in the Belly; after which he cloſed and conglutinated the Wound, by means of the knotted Suture, as is practiſed is Gaſtroraphy. And not only *Celſus* has recommended this Suture in the Cure of this Diſeaſe, but the famous *Rouſet* has directed it in a Hernia incarcerata; and the very learned *German* Phyſician and Surgeon *Roolfincius*, a hundred Years ago, practiſed the ſame with Succeſs, in the like Diſeaſe.

That celebrated *Britiſh* Surgeon, *Cheſelden*, after the Example of *Rouſet*, in curing an *Hernia incarcerata*, where the Inteſtines and Omentum were fallen out, open'd the Belly, that is, the Skin, Fat, Muſcles of the Abdomen, and the Peritonæum, with the Knife, by making a great and ſtrait Inciſion above the Ring of the Muſcles of the Abdomen, as far as the Place of the Prolapſus, and thro' this Wound introduc'd the prolapſed Inteſtines with his Finger. As for the Omentum which adher'd, he perforated it with a Needle carrying a double Thread; then ty'd it, and cut it off, and, by theſe means, happily reſtor'd the Patient. He has publiſh'd the whole Proceſs in his Book of Anatomy, and illuſtrated it with Cuts; but whether he conglutinated the Wound by a Suture, as I ſuſpect, or by any other Way, he does not inform us; and it were to be wiſh'd, for the ſake of the Public, that he had given a fuller Deſcription of ſo extraordinary an Operation and Cure, for the Improvement of the Art of Surgery.

The Inteſtines being, by ſome way or other, reſtor'd to their former Situation, as was directed, ſome uſe to make frequent Inciſions and Scarification with the Knife, or Sciſſars, in the upper Part of the Ring, with this View, that a more firm and ſolid Cicatrix may be rais'd upon the Wound, in order to prevent a new Hernia; but a great deal of Care is to be taken, during this Operation, that the Inteſtines do not fall out afreſh, or be cut. For avoiding theſe Accidents, they ought, in the firſt place, to be carefully held, and kept in with a warm Towel; after this, the Remains of the Tunic of the Bag are to be ſeparated, then ty'd with a Thread near the Ring, and cut off below the Ligature; what is ſuperfluous in the Skin muſt alſo be taken away. The Wound is then to be dreſs'd with Pledgets of Lint, and particularly the Ball or Pellet of *Petit*; and theſe are to be ſecur'd with thick triangular Compreſſes, and the Bandage call'd *Spica inguinalis*. When the Wound is thus dreſs'd, the Patient ſhould be put to Bed, and ſome Hours after he ſhould loſe ſome Blood, unleſs already very weak. During the whole Courſe of the Cure, the Patient ſhould lie very ſtill, with his Head ſomewhat low, and his Diet ſhould be ſpare, and eaſy of Digeſtion, as in other large Wounds. Then, if the Patient ſhould not have ſufficient Stools naturally, they ſhould be every Day procur'd by emollient Clyſters; and, if the Patient ſhould continue without any bad Symptom for four or five Days after the Operation, we may reaſonably expect a Cure will ſucceed; to promote which, it will be prudent to purge the replaced Inteſtines of all vicious Humours, by ſome proper laxative Medicine, adminiſter'd during the firſt Days; but if Hiccoughs, and a Fever, ſupervene, we may be certain, that the Patient is in imminent Danger, and, perhaps, not to be ſav'd by the moſt effectual Remedies, tho' immediately apply'd.

With reſpect to the Dreſſings, the following Cautions are to be obſerv'd: Firſt, the Dreſſings ſhould not be remov'd, without urgent Neceſſity, during the two or three firſt Days, unleſs any noxious Humours contain'd within, or any other ſufficient Cauſe, render it proper to open it the ſecond Day; but when the Wound is open'd, it may be cleanſed of its Sordes with warm Wine, or Spirit of Wine; and the Remainder of the Cure is to be perform'd as in other Wounds: But care ſhould be taken at every Dreſſing, which ought to be but once a Day, or once every other Day, to place the Patient with his Hips elevated, and his Head depreſſed, whilſt an Aſſiſtant compreſſes the upper Part of the Wound, to prevent the Inteſtine from falling out again, and this till the Cure is perfected. When the Wound is heal'd, if the Patient be young, he ſhould wear a proper Truſs for a Year or two; but if an Adult, or old Perſon, the Truſs ſhould be wore during Life. But I muſt not omit taking Notice, that ſome think fit, immediately after the Operation, before the Wound is dreſs'd up, to anoint the whole Abdomen with warm Oil of Roſes, and then to cover it with warm Linen Cloths, which does not appear to be abſolutely neceſſary.

Many of the moſt conſiderable Surgeons of *Paris*, as *Dionis*, *Mery*, *Arnaud*, *Thibot*, and others, adviſe the Uſe of a large Linen Tent, after the Operation and Reduction of the Inteſtine, which being of a conſiderable Length and Thickneſs, and faſten'd to a Thread, is to be introduced into the Abdomen, to keep open a Paſſage for the Vent of ſuch Humours as may be contain'd within. *Widenman*, a modern *German* Surgeon, and *Dionis*, direct the Tent to be made about an Inch and a half long, and an Inch thick; and tell us, that it ought not to be extracted, but to be left in till it falls out ſpontaneouſly by Suppuration; but *Petit* condemns the Uſe of them as pernicious, by irritating the Parts, and admitting the external Air, which may do Injury in the Abdomen: Yet I cannot forbear thinking the Uſe of them very proper, when there is, as it frequently happens, a Diſcharge of putrid Humours to be made from the Abdomen, in which Caſe *Le Dran* alſo approves them; otherwiſe the Tent may be omitted, and it may be ſufficient to apply, according to *Petit*'s Method, a thick Pallet or Ball only, for the more ſpeedy Agglutination of the Wound, together with the above-mention'd Bolſters and Bandage.

If in the Operation, upon opening the Bag, the Omentum appears to be ſuppurated or enlarged, ſo that it cannot be replaced, a Needle, with a double Thread, is to be paſs'd round the ſound Part, and tied on each Side, and the vitiated Part afterwards is to be cut off; but the ſound is to be returned, leaving the Thread hanging out of the Wound. The reſt of the Treatment muſt be the ſame as in other Wounds of the Abdomen, attended with a Suppuration of the Omentum. But if the Omentum is only corrupted, but not thicken'd, the corrupted Part may be left out of the Wound without a Ligature, and the ſound return'd; and the corrupted Part will ſeparate, and fall off ſpontaneouſly by Suppuration.

But if the prolapſed Inteſtine itſelf be found already mortified or corrupted, as ſometimes happens when the Operation has been too long delay'd, the Patient is then in the utmoſt Danger; for, under theſe Circumſtances, the Patients generally die either under the Operation, or ſoon after. For this Reaſon they are uſually deſerted by the Surgeon, upon a Suppoſition of the Impoſſibility of doing any Service, and the Apprehenſion of putting them to farther unneceſſary Pain: But as it is better to attempt a doubtful Cure, than abandon the Patient to certain Deſtruction, and as replacing the Inteſtine in this mortified State would be attended with certain Death, the Surgeon ſhould cut off the mortified from the ſound Part of the Inteſtine, and ſtitch the ſuperior Part of the latter to the Edge of the Wound, in the manner ſpecified for Wounds of the Abdomen; by which means many have been known to ſurvive the Diſorder, and regain Health, tho' there was little or no Hope of their Recovery. We are encouraged to this Practice, not only by our own Experience, but alſo that of others: Beſides, we are told by *Mery*, that a Man was happily cured, who had four or five Feet of his Inteſtine cut off, which was mortified in this kind of Rupture, and the ſound Part joined to the Lips of the Wound in the abdominal Muſcles. *Garengeot* alſo takes Notice of a Man, whoſe Inteſtine being found mortified upon opening the Sack, and return'd by the Surgeon, in that Condition, into the Abdomen, he had ſoon after a Diſcharge of his Excrement by the Wound; and a Month afterwards the Flux, by the Wound, not only leſſen'd, but the Lips of the Wound itſelf, being ſtopp'd with a Pellet or Ball, tied with a Thread, gradually heal'd in ſuch a manner, that by untying the ſame, when there was Occaſion, the Man ſurvived, and had the natural Function of the Parts perform'd as uſual, with but little more Trouble.

Le Dran obſerves, that it is a common Calamity among poo People, who have had the Misfortune of an incarcerated Rupture, to miſtake it for an Abſceſs, and to treat it accordingly without calling in the Aſſiſtance of any Phyſician or Surgeon by which means they bring the Part to Suppuration, after intolerable Pains; and upon its diſcharging Fœces or Worms, whic I have ſometimes obſerved, they then implore the Help of th Surgeon. Theſe, he ſays, generally require nothing more tha the Ulcer to be cleanſed daily, and treated with ſome vulnerar Medicine, cover'd with a Plaiſter of the ſame Kind; by whic means many ſuch Patients have been recover'd, more by Natu than Art, the Ulcer being entirely agglutinated and heal'd whereas in others it has left an Aperture in the Groin, throug which the Fœces, and ſometimes Worms, are diſcharged, as were, by a new Anus. In Imitation of Nature therefore, wh in this Caſe, often produces a happy Effect of her own Acco *Le Dran* (*Obſ.* 60.) does not return the corrupted Inteſti into the Abdomen; ſince by this means the corrupted Part and the Fœces, falling into the Abdomen, would bring on t moſt dreadful Symptoms, and perhaps Death itſelf: Nor do he cut it off, but only, by Inciſion, dilates the Place, who Narrowneſs occaſions the Strangulation, that the Blood m have a free Courſe; and opens the corrupted Part of the In ſtine, that the contain'd Sordes may have a free Diſcharg Thus having applied vulnerary Medicines, Cloths dipp'd camphorated Spirits of Wine, and proper Bandages, to Parts, he waits a Separation of the corrupted Parts, and ſpo taneous Agglutination of the ſound Inteſtine with the Lips the Ulcer, ſince by this means a great deal of needleſs Labo may be avoided; but if the Surgeon ſhould have injured ſound Inteſtine in the Operation, he then thinks it neceſſary ſtitch the Inteſtine to the Lips of the Wound, which, infla ing, will more intimately unite with each other.

That the Parts will thus agglutinate, or join together confirm'd by a late Obſervation of *Ramdohr*, preſent Surg to his Serene Highneſs the Duke of *Brunſwick*, who, fo Years ago, cut off a large Part of a mortified Inteſtine Woman, who had an incarcerated Rupture, which broke itſelf; and, joining the two ſound Parts of the Inteſtine t ther, he inſerted one into the other, and tied them toge looſly with a String; and, replacing them in the Abdom drew them by the String to the Mouth of the Wound which means the divided Inteſtine inflamed, and ſurpriſi united, the Woman diſcharging her Fœces afterwards not the Wound, but by the Anus, as before. The Woman wards lived in a State of Health, till, in about a Year's ſhe died of a Pleuriſy; and, upon opening her, the di Inteſtines appear'd to be united with each other, of whic made a Preſent to me, together with Part of the Abdomen which they adhered; and I now keep them in Spirits, to vince ſuch as are incredulous, and of a different Opinion.

If the Inteſtine ſhould be prolapſed into the Scrotum, and ſo contorted or intercepted, that it cannot be reduced or return'd into the Abdomen, the Surgeon muſt, in this Caſe, have recourſe to the Operation. The Reader may be furniſh'd with more uſeful Obſervations upon this Subject in *Saviard, Obſ. Chir.* 19. and 20. *Courtial, Obſ. Pag.* 150. alſo in *Le Dran, Obſ. Chir.* and three other Diſſertations or Deſcriptions of Caſes, in *Commerc. Literar. Norimb. Ann.* 1735. *Pag.* 3. by *Werlhof*, Phyſician to the King of *Great Britain*, which are very learned, and worthy of the Reader's Peruſal. *Heiſter.*

Mr. *Sharp* informs us, that the *Hernia Inguinalis*, and *Hernia Scrotalis*, are both call'd by the common Name of *Bubonocele*, tho' this Appellation is only proper to the firſt. As this Author makes ſome Obſervations not taken Notice of above, and as the Opinion of our own Country Surgeons, whoſe Judgment is, I believe, inferior to none, will have ſome Weight in ſo nice an Operation as that now treated of, I ſhall give his Sentiments; and am perſuaded, that the few Repetitions of what has been ſaid before will be of no Diſſervice to whoever reads this with a View of being inform'd.

The Rupture of the Groin, or Scrotum, is the moſt common Species of Hernia, and in young Children is very frequent; but it rarely happens in Infancy that any Miſchiefs ariſe from it. For the moſt part, the Inteſtine returns of itſelf into the Cavity of the Abdomen, whenever the Perſon lies down; at leaſt, a ſmall Degree of Compreſſion will make it. To ſecure the Inteſtine, when return'd into its proper Place, there are Steel Truſſes now ſo artfully made, that, by being accommodated exactly to the Part, they perform the Office of a Bolſter, without galling, or even ſitting uneaſy on the Patient. Theſe Inſtruments are of ſo great Service, that were People who are ſubject to Ruptures always to wear them, I believe very few would die of this Diſtemper; ſince it often appears, upon Inquiry, when we perform the Operation for the *Bubonocele*, that the Neceſſity of the Operation is owing to the Neglect of wearing a Truſs.

In the Application of a Truſs to theſe kinds of Swellings, a great deal of Judgment is ſometimes neceſſary; and for want of it we daily ſee Truſſes put even on Buboes, indurated Teſticles, Hydroceles, *&c.* But, for the Hernias, I ſhall endeavour to lay down two or three Rules, in order to guide more poſitively to the Propriety of applying or forbearing them.

If there is a Rupture of the Inteſtine only, it is eaſily, when return'd into the Abdomen, ſupported by an Inſtrument; but if of the Omentum, notwithſtanding it may be return'd, yet I have never found the Reduction to be of much Relief; for the Omentum will lie uneaſy in a Lump at the Bottom of the Belly, and, upon Removal of the Inſtrument, drop down again immediately; upon which Account, ſeeing the little Danger and Pain there is in this kind of Hernia, I never recommend any thing but a Bag-truſs to ſuſpend the Scrotum, and prevent, poſſibly by that means, the Increaſe of the Tumor. The Difference of theſe Tumors will be diſtinguiſh'd by the Feel; that of the Omentum feeling flaccid and rumpled, the other more even, flatulent, and ſpringy.

Sometimes, in a Rupture of both the Inteſtine and Omentum, the Gut may be reduced; but the Omentum will ſtill remain in the Scrotum, and, when thus circumſtanced, moſt Surgeons adviſe a Bag-truſs only, upon a Suppoſition, that the Preſſure of a Steel one, by ſtopping the Circulation of the Blood in the Veſſels of the Omentum, would bring on a Mortification: But I have learnt, from a Multitude of theſe Caſes, that, if the Inſtrument be nicely fitted to the Part, it will be a Compreſs ſufficient to ſuſtain the Bowel, and at the ſame time not hard enough to injure the Omentum; ſo that, when a great Quantity of Inteſtine falls down, tho' it is complicated with a Deſcent of the Omentum, the Rupture will conveniently and ſafely admit of this Remedy.

I have, as yet, conſider'd the Rupture as moveable; but it happens frequently, that the Inteſtine, after it has paſs'd the Rings of the Muſcles, becomes inflamed; which, enlarging the Tumor, prevents the Return of it into the Abdomen; and, becoming every Moment more and more ſtrangled, it ſoon tends to a Mortification, unleſs we dilate the Paſſages, through which it is fallen, with ſome Inſtrument, to make room for its Return; which Dilatation is the Operation for the Bubonocele.

It rarely happens, that Patients ſubmit to this Inciſion before the Gut is mortified, and it is too late to do Service; not but that there are Inſtances of People ſurviving ſmall Gangrenes, and even perfectly recovering afterwards. I myſelf have been an Eye-witneſs of the Cure of two Patients, who, ſome time after the Operation, when the Eſchar ſeparated, diſcharged their Fœces through the Wound, and continued to do ſo for a few Weeks in ſmall Quantities; when, at length, the Inteſtine adher'd to the external Wound, and then was fairly heal'd.

In Mortifications of the Bowels, when fallen out of the Abdomen into the Navel, it is not very uncommon for the whole gangrened Inteſtine to ſeparate from the ſound one; ſo that the Excrement muſt neceſſarily, ever after, be diſcharged at that Orifice: There are likewiſe a few Inſtances where the Rupture of the Scrotum has mortified, and become the Anus, the Patient doing well in every other reſpect. Theſe Caſes, however, are only mention'd to furniſh Surgeons with the Knowledge of the Poſſibility of ſuch Events, and not to miſlead them ſo far as to make favourable Inferences with regard to Gangrenes of the Bowels, which generally are mortal.

Before the Performance of the Operation for the Bubonocele, which is always to be done in Extremity of Danger, the milder Methods are to be tried; theſe are, ſuch as will conduce to ſooth the Inflammation; for, as to the other Intent of ſoftening the Excrements, I believe it is much to be queſtion'd, whether there can be any of that Degree of Hardneſs in the Ileum, which is the Bowel diſeaſed, as to form the Obſtruction: And, in Fact, thoſe Operators who have unluckily wounded the Inteſtine, have proved, by the thin Diſcharge of Fœces which has follow'd upon the Inciſion, that the Induration we feel is the Tenſion of the Parts, and not the harden'd Lumps of Excrement.

Perhaps, except the Pleuriſy, no Diſorder is more immediately relieved by plentiful Bleeding than this. Clyſters, repeated one after another, three or four times, if the firſt or ſecond are either retain'd too long, or immediately return'd, prove very efficacious: Theſe are ſerviceable, not only as they empty the great Inteſtines of their Excrements and Flatulencies, which laſt are very dangerous, but they likewiſe prove a comfortable Fomentation, by paſſing through the Colon, all around the Abdomen. The Scrotum and Groin muſt, during the Stay of the Clyſter, be bathed with warm Stoops wrung out of a Fomentation, and with theſe on the Part you muſt attempt to reduce the Rupture: For this Purpoſe let your Patient be laid on his Back, ſo that his Buttocks may be conſiderably above his Head; the Bowels will then retire towards the Diaphragm, and give way to thoſe which are to be puſh'd in. If, after endeavouring two or three Minutes, you do not find Succeſs, you may ſtill repeat the Trial. I have ſometimes, at the End of a Quarter of an Hour, return'd ſuch as I thought deſperate, and which did not ſeem to give way in the leaſt, till the Moment they went up; however, this muſt be practiſed with Caution, for too much rough Handling will be pernicious.

If, notwithſtanding theſe Means, the Patient continues in very great Torture, tho' not ſo bad as to threaten an immediate Mortification, we muſt apply ſome ſort of Pultice to the Scrotum: That which I uſe, in this Caſe, is equal Parts of Oil and Vinegar, made into a proper Conſiſtence with Oat-meal: After ſome few Hours the Fomentation is to be repeated, and the other Directions put in Practice; and if theſe do not ſucceed, I am inclin'd to think it adviſeable to prick the Inteſtine in five or ſix Places with a Needle, as recommended by *Peter Lowe*, an old *Engliſh* Writer, who ſays, he has often experienced the good Effects of this Method in the Inguinal Hernia, when all other Means have fail'd.

After all, ſhould the Pain and Tenſeneſs of the Part continue, and Hiccoughs and Vomitings of the Excrements ſucceed, the Operation muſt take place; for if you wait till a languid Pulſe, cold Sweats, ſubſiding of the Tumor, and emphyſematous Feel come on, it will be moſt likely too late, as they are pretty ſure Symptoms of a Mortification.

To conceive rightly of the Occurrences in this Operation, it muſt be remember'd, that in every Species of Rupture the Peritonæum falls down with whatever makes the Hernia; for the Contents of the Abdomen being immediately inveloped in this Membrane, they cannot puſh thro' any Orifice, but they muſt likewiſe carry a Part of it along with them: So that, in the Bubonocele, the Situation of the Tumor will be in the Cavity of the Scrotum, upon the Tunica Vaginalis, and Spermatic Cord.

The beſt way of laying your Patient will be on a Table of about three Foot four Inches high, letting his Legs hang down; then properly ſecuring him, you begin your Inciſion above the Rings of the Muſcles, beyond the Extremity of the Tumor, and bring it down about half the Length of the Scrotum, thro' the Membrana Adipoſa, which will require very little Trouble to ſeparate from the Peritonæum (call'd the Sack of the Hernia), and conſequently will expoſe the Rupture for the farther Proceſſes of the Operation; but I cannot help, once more, recommending it as a thing of great Conſequence, to begin the external Inciſion high enough above the Rings, ſince there is no Danger in that Part of the Wound; and for want of the Room this Inciſion allows, the moſt expert Operators are ſometimes tedious in making the Dilatation. If a large Veſſel be open'd by the Inciſion, it muſt be taken up before you proceed further.

When the Peritonæum is laid bare, you muſt cut thro' it carefully, to avoid pricking the Inteſtines; though, to ſay the Truth, there is not quite ſo much Danger of this Accident as is repreſented; for, generally ſpeaking, the Quantity of Water ſeparated in the Sack of the Peritonæum raiſes it from the Inteſtine, and prevents any ſuch Miſchief. This Diſcharge of Water, which follows upon wounding the Peritonæum, and the Ignorance of the Structure of the Tunica Vaginalis, have made it ſo generally thought, that Ruptures were received into the Cavity of that Tunic.

It has lately been conſider'd by ſome as an Improvement in the Operation, to forbear wounding the Peritonæum, and to return the Sack entire into the Abdomen, thinking by this means to make a firmer Cicatrix, and more ſurely to prevent a Relapſe for the future: But, beſides that this Practice is not founded on Reaſon, in the very Particular it is recommended for, the ſeeming Neceſſity there is of letting out the Waters, that are frequently fetid, of taking away the mortified Part of the Omentum, which we cannot come at without the Inciſion; and laſtly, to leave an Opening for the Iſſue of the Excrements out of the Wound, in caſe an Eſchar ſhould drop from the Inteſtine; put out of Diſpute, in my Opinion, the Impropriety of this new Method.

The Peritonæum being cut thro', we arrive to its Contents, the Nature of which will determine the next Proceſs; for, if they be Inteſtine only, it muſt directly be reduced; but if there be any mortified Omentum, it muſt be cut off; in order to which, it is adviſed to make a Ligature above the Part wounded, to prevent an Hæmorrhage; but it is quite needleſs, and in ſome meaſure pernicious, as it puckers up the Inteſtine, and diſorders its Situation, if made cloſe to it. For my Part, I am very jealous, that Wounds of the Omentum are dangerous; on which Account I cannot paſs over this Part of the Operation without cautioning againſt cutting any of it away, unleſs it is certainly gangrened; and, when that happens, I think it adviſeable to cut off only ſome of the mortified Part, and leave the reſt to ſeparate in the Abdomen, which may be done with as much Safety as leaving the ſame Quantity below a Ligature.

When the Omentum is removed, we next dilate the Wound; to do which with Safety, an infinite Number of Inſtruments have been invented; but, in my Opinion, there is none we can uſe, in this Caſe, with ſo good Management as a Knife; and I have found my Finger, in the Operation, a much better Defence againſt pricking the Bowels, than a Director which I intended to employ: The Knife muſt be a little crooked, and blunt at its Extremity, like the End of a Probe. Some Surgeons, perhaps, may not be ſteady enough to cut dexterouſly with a Knife, and may therefore perform the Inciſion with Probe-ſciſſars, carefully introducing one Blade between the Inteſtine and Circumference of the Rings, and dilating upwards. When the Finger and Knife only are employ'd, the manner of doing the Operation will be by preſſing the Gut down with the fore Finger, and carrying the Knife between it and the Muſcles, ſo as to dilate upwards about an Inch, which will be a Wound large enough.

The Opening being made, the Inteſtine is gradually to be puſh'd into the Abdomen, and the Wound is to be ſtitch'd up; for this Purpoſe ſome adviſe the quill'd, and others the interrupted Suture, to be paſs'd thro' the Skin and Muſcles; but as there is not ſo much Danger of the Bowels falling out when a Dreſſing and Bandage are applied, and the Patient all the while kept upon his Back, but that it may be prevented by one or two ſlight Stitches thro' the Skin only, I think it by all means adviſeable to follow this Method, ſince the Stricture of a Ligature in theſe tendinous Parts cannot but be dangerous.

Hitherto, in the Deſcription of the Bubonocele, I have ſuppoſed it looſe or ſeparate in the Sack and Scrotum; but it happens ſometimes in an Operation, that we find not only an Adheſion of the Outſide of the Peritonæum to the Tunica Vaginalis, and Spermatic Veſſels, but likewiſe of ſome Part of the Inteſtines to its internal Surface; and in this Caſe there is ſo much Confuſion, that the Operator is often obliged to extirpate the Teſticle, in order to diſſect away and diſentangle the Gut; tho', if it can be done without Caſtration, it ought. I believe, however, this Accident happens rarely, except in thoſe Ruptures that have been a long time in the Scrotum without returning; in which Caſe the Difficulty and Hazard of the Operation are ſo great, that, unleſs urged by the Symptoms of an inflamed Inteſtine, I would not have it undertaken. I have known two Inſtances of Perſons ſo uneaſy under the Circumſtance of ſuch a Load in their Scrotum, tho' not otherwiſe in Pain, as to deſire the Operation, but the Event in both proved fatal; which, I think, ſhould make us cautious how we expoſe a Life for the ſake of a Convenience only, and teach our Patients to content themſelves with a Bag-truſs, when in this Condition.

The Operation of the Bubonocele in Women ſo exactly reſembles that perform'd on Men, that it requires no particular Deſcription; only in them the Rupture is form'd by the Inteſtine or Omentum falling down thro' the Paſſage of the Ligamentum Rotundum into the Groin, or one of the Labia Pudendi, where cauſing the ſame Symptoms as when obſtructed in the Scrotum, it is to be return'd by the Dilatation of that Paſſage. *Sharp.*

Of the HERNIA CRURALIS.

What bears a very near Reſemblance to the *Bubonocele*, is the Diſeaſe which modern Phyſicians uſually call a *Hernia Cruralis*, or *Femoralis*; for it is ſeated in the upper and exterior Part of the Thigh, near the Groin, where the Crural Vein and Artery deſcend from the Belly to the Thigh. And tho' this Diſorder be pretty common, eſpecially to the weaker Sex, yet, which is ſtrange, very few have taken the Pains to examine or deſcribe it; but it has almoſt univerſally paſs'd, without Diſtinction, for a *Bubonocele*, or *Hernia Inguinalis*. *Verheyen* was the firſt, that I can find, who wrote any thing about a *Hernia Cruralis*; tho' *Barbette* has ſome obſcure Indications of the ſame thing. After *Verheyen*, *Palfyn* treated this Subject in a more explicit and copious manner; as did alſo, after him, *Garengeot*, in his Chirurgical Works, Chapter of the *Hernia*; *Koch*, in his Diſſertation on the *Hernia Cruralis*; and *Le Dran*, in his Chirurgical Obſervations, Tome the ſecond. *Garengeot* pretends, that *Paulus* was long ago acquainted with this Diſtemper, but does not tell us the Place in that Author where it is deſcribed; and, for my Part, I could never find any thing in him about it. On the ſame Occaſion he adds ſome Words, as taken from *Barbette*, which yet I do not find in that Author's Chapter of an *Hernia*.

For the better underſtanding the genuine Nature and Properties of this Diſeaſe, it will not be amiſs briefly to remark, from Writers of Anatomy, that the Place where the *Muſculus Pſoas* and *Iliacus*, and over them the Crural Vein and Artery, paſs from the Abdomen to the Thigh, is not ſufficiently fortified to ſuſtain the Renitency of the Inteſtines, being incloſed only with the Peritonæum, the Faſcia Lata, and with the Fat and Skin. Moreover, in viewing a Sceleton, we may obſerve in the Os Ileum, above the Acetabulum, a ſmall Depreſſure, which is cover'd by the lower Part of the *Muſculus Obliquus Deſcendens*, in manner of a Ligament extended archwiſe, which ſome call the Ligament of *Veſalius*, others the Ligament of *Poupart*. Thro' this ſmall Opening, or Arch, the Inteſtines or Omentum ſometimes force their Way, and ſo excite a peculiar Kind of *Hernia*. *Garengeot* is of Opinion, that this Species of *Hernia* happens more frequently than others; but, for my Part, I have ſeen and cured Multitudes of *Hernias* of all kinds, but ſcarce ever met with two Inſtances of a *Hernia Cruralis*.

Tho' there be a very conſiderable Agreement between the *Hernia Inguinalis* and the *Hernia Cruralis*, it is eaſy enough to diſtinguiſh them by a careful Inſpection of the peculiar Places in which they are ſituated: For a *Hernia Inguinalis* is form'd not far from the Pudenda, where the Ring of the Muſcles o the Abdomen, and the *Proceſs* of the Peritonæum, the Anatomy of which Parts is neceſſary to be known, deſcend to th Scrotum, and the Tumor extends itſelf from the Ring toward the Scrotum. But a *Hernia Cruralis* affects the outer Parts o the Groin, uſually ariſing in the uppermoſt, outer, and for Part of the Thigh, above the *Acetabulum*, or at the Juncture o the Thigh with the *Acetabulum*. This Species of *Hernia* is alſo for the moſt part, leſſer and rounder than the *Inguinalis*, an conſequently far more ſubject to be confounded with a Bubo for the *Inguinalis* is uſually ſomewhat oblong in Figure. However, ſince the *Hernia Cruralis* has yet no peculiar Word, tha I know of, in *Germany* to expreſs it, I think it would no be amiſs to conſtitute two Species of *Hernia Inguinali* one of which ſhould be the *Hernia Inguinalis interior*, an the other, which would be the ſame with the *Hernia Crurali* ſhould be call'd the *Hernia Inguinalis exterior*.

As to what reſpects the Event and Cure of this Diſorder, very little differs from what has been before obſerved an directed concerning the *Hernia Inguinalis*; only take Notic that thoſe who labour under a *Hernia Cruralis* ſometimes r a far greater Hazard of their Lives than under the *Hernia Ing nalis*. It is to be obſerved alſo, in the Cure of the *Hernia Cr ralis*, that in reſtoring the prolapſed Inteſtines we take care force them gently back more towards the Linea Alba, but no means towards the Os Ileum, as in the Caſe of the *Hern Inguinalis*. If the prolapſed Inteſtines can be replaced by t Hands, the beſt Method to eſtabliſh them in their proper Situ tion is by applying a convenient Plaiſter, with a Bandage o it, as we directed for the *Hernia Inguinalis*: But if the In ſtines are *incarcerated*, or *intercepted*, in ſuch a manner, th neither Oils, nor Ointments, nor Cataplaſms, nor Clyſters, the Fumes of the ſtrongeſt Tobacco injected, nor any ot Medicines of this Kind, which have been before recommend are of any Effect, but dreadful Symptoms begin to appear, muſt next have recourſe to the chirurgical Operation, as direc for the Bubonocele. The Bag being laid open, in the man above deſcribed, the Paſſage by which the Inteſtines burſt fo is to be ſomewhat enlarged; and if the Diſeaſe be recent, Bag itſelf, according to the Example and Advice of *Petit*, to be replaced whole and untouch'd, together with the prola Inteſtines and Omentum, as gently as poſſible. It is not d cult, for the moſt part, to force back and reſtore the Inteſti

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becauſe, as *Verheyen* in his Anatomy rightly obſerves, moſt commonly a very ſmall Portion of them, and ſometimes only the outer Side, or even but a ſort of *Appendicula*, appear prolapſed about the Thigh. The Inteſtines being thus replaced, the Wound muſt be very exactly bound up, in the ſame manner as after the Operation for the *Bubonocele*, which is the ready way to have it happily and ſpeedily conglutinated. If a more conſiderable Part of the Inteſtines be fallen out, if there be a Coalition of the prolapſed Inteſtines with the next adjacent Parts, or if there be any other Circumſtance which hinders the convenient Reſtitution of the prolapſed Parts, without Inciſion of the Bag; or if the Diſorder, by its long Continuance, has occaſion'd a Corruption of the Inteſtines; in theſe Caſes we muſt proceed, but with the greateſt Caution, to cut the Bag in the manner above directed; then, if the Inteſtines are ſound, they muſt be gently put back in their proper Place; and if they are connected with the adjacent Parts, a Separation muſt be made, tho' with great Circumſpection, for fear of wounding the ſubjacent Crural Vein and Artery, and ſo expoſing the Patient to the Danger of preſent Death. When the Inteſtines or Omentum are found to be corrupted, you are to proceed in the manner above directed in that Caſe. *Heiſter*, *Chirurgi.* See HERNIA.

BUBULA is uſed as a Subſtantive, that is, without *Caro*, by *Scribonius Largus*, N°. 188, 189. and by *Celſus* in ſeveral Places, particularly, *Lib.* 2. *Cap.* 18. where he ſays, *Inter domeſticas Quadrupedes leviſſima Suilla eſt, graviſſima Bubula*: "Of tame Quadrupeds, Swines Fleſh is the lighteſt, and Beef "the heavieſt."

Sir *Theodore Mayence* recommends the following Preparation of the Fleſh of the Ox, in Caſes where obſtinate Gonorrheas have degenerated into habitual Stillicidiums.

> Take, ſays he, Beef indurated by the Smoak of a Fire; and after having taken off the external black Part, divide it into Filaments, which muſt be carefully freed from the Salt by repeated Waſhings. Then cleanſing them well with a Towel, let them be put into an Oven, when the Bread is taken out of it, and dried till they are capable of being reduced to a Powder; of which let two Parts be intimately mix'd with one Part of the Powder of ripe Ivy-berries: Let one Dram of this Powder be taken for many Mornings ſucceſſively, drinking a Glaſs of ſimple Hydromel, or a Draught of the Decoction of Eryngo-root. For Conſtitutions abounding with Phlegm, it is ſufficient to dry the Beef without waſhing it at all.

BUBULCA, in *French*, *Bouvier*, or *Peteuſe*, is a ſmall River-fiſh, three or four Fingers-breadth in Length, and one nd a half in Breadth, flat, and of the Colour of Silver. It ommonly keeps in the Mud, and is always dirty when taken. t is cover'd with large broad Scales, has a ſmall Mouth, and o Teeth, and has a forked Tail.

The Fleſh is aperitive. *Lemery des Drogues.*

BUCCA, γνάθος. The Part that lies under the Ball of the Cheek. *Galen*, *Com.* 2. *de Artic.*

It is alſo taken for the Cheek itſelf, and ſometimes for the Mouth.

BUCCACRATON, βυκκάκρατον. A *Buccea*, or *Buccella*, at is, *Morſel*, of Bread ſopp'd in Wine, which ſerved, in d Times, for a Breakfaſt. *Caſtellus.*

BUCCATUM, Glaſed. *Ruland.*

BUCCEA, BUCCELLA, βύκκα, ψωμός. A *Græco-barbarous* Word, ſignifying ſuch a Fragment of any thing as a an can put in his *Bucca*, or *Mouth*, and eat at one Time. *ſtellus.* See BOLUS.

Paracelſus calls by the Name of *Buccella* the carneous Exſcence of a Polypus in the Noſe; becauſe he ſuppoſes it to a Portion of Fleſh parting from the *Bucca*, inſinuating itſelf o the Noſe. *Lib. de Apoſtem. Cap.* 20.

Buccellare, in *Rulandus* and *Johnſon*, is to feed or cram with ts and Morſels.

BUCCELATON, *Buccella purgatoria*, *Buccellatus purgatius*, βυκκέλατον. A purging Medicine, made up in Form of oaf, conſiſting of Scammony prepared, with its Correctives, put in fermented Flour, and ſo baked in an Oven, according to *Aetius*, *Tetrab.* 1. *Serm.* 3. *Cap.* 100. But *Paulus Ægineta* directs it to be made into a ſolid Kind of Electuary with ney, or like a Cheeſecake, after it is baked, conſiſting of ted Scammony, with the Seeds of Smallage, Aniſe, Fenel, Pepper, *Lib.* 7. *Cap.* 5.

BUCCELLA. See BUCCEA.

BUCCELLARE. See under BUCCEA.

BUCCELLATUS. See BUCCELATON.

BUCCINA, κήρυξ. The ſame as BUCCINUM, which ſee.

BUCCINATOR. The Name of a Muſcle, which, by its ſtance, conſtitutes the *Buccæ* or Cheeks.

This Muſcle is ſo call'd, becauſe, in Trumpeters, it forces Breath. This Muſcle does not ſpring from the Gums of upper, and end in thoſe of the nether Jaw; nor is it of that Figure which vulgar Anatomiſts would perſuade us; or interwoven with various Orders of Fibres, as others pretend. It ariſes broad and fleſhy, from the fore Part of the *Proceſſus Coronæ* of the lower Jaw-bone; from hence proceeding with direct Fibres, it adheres to the Gums of both Jaws, and is ſo inſerted to the Angle of the Lips.

Through the Middle of this Muſcle paſſes the *Ductus Salivalis ſuperior*, which *Placentinus* obſerved, and call'd *Vinculum robuſtum* (as *Caſpar Bauhine* writes). Beſides the Uſe Trumpeters make of this Muſcle, it alſo pulls the Lips or Mouth to one Side. *Cowper.*

BUCCINUM, Offic. *Buccinum album læve maximum, ſeptem minimum ſpirarum*, Liſt. Hiſt. A. A. 135. *Buccinum roſtratum majus craſſum, orbibus paululum pulvinatis*, Ejuſd. Hiſt. Conch. 4. Sect. 14. N. 4. THE WHELK. *Dale.*

Whelks, calcin'd, work the ſame Effects as the Purple-fiſh, but are of a more cauſtic Quality. Fill'd with Salt, and then burnt in a crude earthen Pot, they make a good Dentifrice, and are applied with Succeſs in Combuſtions, where it muſt be left alone to harden like a Shell; for, as ſoon as the burnt Place is brought to a Cicatrix, this Medicine falls off of itſelf. A Quicklime is made of them. *Dioſcorides*, *Lib.* 2. *Cap.* 5.

The Whelk is a Sea Shell-fiſh, of which there are many Sorts; but they all ſeem to agree exactly as to their Medicinal Virtues, being Alcalies and Abſorbents; and, by Calcination, they are converted into Lime; and theſe Properties they poſſeſs in common with all other Shell-fiſh.

BUCCULA. The fleſhy Part under the Chin. *Caſtellus.*

BUCELLATIO. A way of ſtopping the Blood, by applying Lint upon the Vein or Artery. *Caſtellus.*

BUCERAS, BUCEROS, βύκερας, βυκέρως. See BOUCERAS.

BUCRANION, βυκράνιον, from βοῦς, an Ox, and κράνιον, a Head. The Herb *Antirrhinum*, ſo call'd becauſe the outer Face of the Flower reſembles an Ox's Head. *Blancard.*

BUCTON. A Name in *Severinus Pinæus*, *de Notis Virginitatis*, *Lib.* 1. *Cap.* 5. for that Part in Virgins, otherwiſe call'd HYMEN, which ſee.

BUFFELI. A Ring made of the Horn of a Buffalo, which, being worn upon the Ring-finger, is ſaid to cure the Cramp. *Johnſon.*

BUFO. The Toad. A well-known Animal, thus diſtinguiſhed.

BUFO, Offic. Schrod. 5. 272. Mer. Pin. 169. Rondel de Aquat. 2. 221. Aldrov. de Quad. Ovip. 609. Jonſ. de Quad. 131. Charlt. Exer. 27. *Bufo ſive Rubeta*, Raii Synop. A. 252. Ind. Med. 23. *Bufo terreſtris major*, Schw. Rept. 159. *Rana rubeta, tum paluſtris, tum terreſtris*, Geſn. de Quad. Ovip. 64. THE TOAD. *Dale.*

This Animal was by the *Latins* alſo called *Rubeta*, by the *Greeks* φρῦνος and φύσαλος, and by the *Engliſh* a *Toad*. It is among the Number of thoſe Animals which have only one Ventricle in their Heart, and is of the Frog-kind, tho' ſomewhat larger; for which Reaſon it is by ſome called *Rana terreſtris, omnium maxima, & venenoſa.* Its Body is thick, its Back flat and broad, its Belly turgid and inflated. Its Skin is full of Tubercles of an unequal Bulk; and ſo ſtrong and tough, that it can hardly be pierced with a ſharp-pointed Piece of Wood. It is of a cineritious Colour, with brown, blackiſh, and yellowiſh Spots intermixed. This Animal moves ſlowly, is of the amphibious Kind, copulates and diſpoſes of its Eggs in the ſame Manner with other Frogs, if we except that *American* Species of *Surinam*, call'd the *Pipa*, the Female of which lays her Eggs on the Back of the Male, in order to be nouriſh'd. The Toad lives upon Inſects and Vegetables, but not Earth. It does not croak like the Frog, but makes an indiſtinct, obſcure kind of Noiſe, ſomewhat reſembling the Word *Gru*, or rather *Bu*; from which Circumſtance, ſome are of Opinion, it received the Name *Bufo*. In the Winter, and in the Daytime, eſpecially when the Sun ſhines, it is found lurking in ſhady Places, Fens, Stables, Collections of Stones, and in Garden-beds, eſpecially under Sage. It is alſo ſometimes found in the Hearts of Stones, but theſe are Circumſtances which come more properly under the Conſideration of the Natural Hiſtorian, than of the Phyſician. The Toad is by ſome affirmed to be a very long-liv'd Animal. Some are of Opinion, that the Toad is called *Rubeta*, from *Rubus*; becauſe they are found among the Bramble-buſhes in Nurſeries and Hedges. Others think it receiv'd the Name *Rubeta* from the reddiſh Spots ſometimes found on its Belly. But theſe are Controverſies of too trifling a Nature to deſerve our Attention or Regard.

The Toad is killed by being covered over with Tar, by ſprinkling Salt of Tartar upon it, or by being laid upon common Salt; ſee *Oligerus Jacobæus de Ranis*, *Eph. N. C. D.* or by the Juice of Tobacco. *Etmuller* obſerves, that Toads, upon having Oil of Tartar per Deliquium apply'd to them, expreſs the moſt exquiſite Senſe of Pain by their Geſticulations, and ſoon after die. Gardeners commonly baniſh Toads from their

Ground, by burning old Leather upon it; ſee *Jo. Baptiſta Ferrarius, de Florum Cultura.* Concerning the Antipathy between Toads and Serpents; ſee *Eph. N. C. D.* 1. *a.* 1. *o.* 137. The Antipathy between them and Spiders is ſo commonly known, that it is ſufficient only to mention it; but it will not be improper to add a Circumſtance mentioned by *Helmont*, which is, that when the Toad perceives itſelf wounded by the Spider, and begins to ſwell, it has immediate Recourſe to the narrow-leav'd Plantain, in order to prevent its own Death. But *Valſinerus* ſeems to doubt of the Truth of this Obſervation. See ARANEA.

Whether it is owing to this Antipathy, that the Toad, in dry Weather, and when the Sun ſhines, does not come Abroad without being arm'd with Rue, for fear of meeting with the Spider, as *Kircherus, Mund. Subt. T.* 2. aſſerts, I leave others to determine; only of this we are certain, that moſt Gardeners think Rue diſagreeable to the Toad, ſince they plant their Sage in alternate Rows with Rue, in order to ſave it from the Poiſon of that Animal. It is repugnant to Experience, that Toads are produc'd from the Bodies of Ducks when buried, as is reported; becauſe, when alive, they were fond of eating Toads; ſee *Kircherus.* From this Circumſtance, however, we learn, that Toads devour'd by Ducks do not prove poiſonous to them. Neither do Ants ſuſtain any Harm from them, ſince, according to the ſame Author, a Toad thrown into a Neſt of theſe Inſects is ſoon conſumed and eat up by them. Now 'tis certain, that neither Ducks Fleſh, nor Ants, are poſſeſs'd of a poiſonous Quality; but that the *Toad* proves hurtful and poiſonous to Mankind is ſufficiently plain, from numberleſs Inſtances; and the Toad which lives in dry Places is ſaid to be more hurtful and poiſonous than that found in moiſt and marſhy Places; and thoſe found in dark and cold Places are thought to be more noxious than others. Authors inform us, that Strawberries, and other Vegetables, contaminated by the Saliva or Urine of the Toad, have, if uſed in Food without being waſh'd, produced very bad Conſequences by their poiſonous Quality; ſee *Franciſci Joelis Opera Medica.* Concerning the poiſonous Effects produc'd by frequently handling a Stone, with which a Toad had been ſtruck, ſee *Eph. N. C. D.* 2. *a.* 1. *o.* 134. *a.* 5. *App. p.* 29. *a.* 6. *o.* 113.

That the Water in which Toads live, when warm'd, produces poiſonous Effects on the Perſons who bathe in it, we are told in *Eph. N. C. Cent.* 3. *p.* 256. That the Air alſo in Places much frequented by Toads, does Harm to the Lungs, we are told by *Valentinus*, in his *Pandectæ Medico-legales.* When the Toad is enraged, he is ſaid to diſcharge his Urine in the Eyes of his Perſecutor; and by that means make Repriſals for the Injury done him, ſince it is thought to be poſſeſs'd of a Quality highly prejudicial to the Eyes. But *Brown* doubts of the Truth of this Fact, and is of Opinion, that the Toad cannot properly be ſaid to piſs, but, like Birds, diſcharges its Urine and Fœces from one and the ſame Paſſage; *Brown's Vulgar Errors.* According to *Valliſnerus*, the Toad diſcharges its Urine, which is yellow and oleous, from a Paſſage allotted ſolely for that Purpoſe. But 'tis known from inconteſted Facts, that this Urine is not of a poiſonous Quality, whether exhibited internally, or apply'd externally. Beſides, an Ophthalmic Virtue is aſcrib'd to the Urine of the Toad; and this a certain Phyſician informs us he experienc'd on himſelf; for, whilſt he look'd at a large Toad, which he had run through with his Sword, the Toad, with a violent Impetus, diſcharged his Urine in his Face and Right Eye, by which Accident a troubleſome Itching was excited for about the Space of half an Hour; after which his Eye was not only as well as it was before, but rather clearer, and its Sight ſtronger; for it had formerly been ſubject to Redneſs and Dimneſs; ſee *Eph. N. C. D.* 3. *a.* 7. *o.* 59. Another Phyſician calls the Ophthalmic Virtue of the Toad's Urine in Queſtion; becauſe the Quack at *Venice*, who provok'd a Toad to piſs in his Mouth, paid for his Folly, by loſing his Life half an Hour after, though he immediately made uſe of his boaſted Antidote, in order to prevent the fatal Conſequences that might enſue; and this Phyſician is of Opinion, that the Liquor diſcharged by Toads, when attack'd by Men, is not their Urine, but a Liquor darted from their Eyes, which, when a certain Perſon who had ſtruck a Toad, receiv'd into his Left Eye, he immediately felt an Itching in that Eye, which was ſoon after ſeiz'd with a burning Heat, an Inflammation, a Swelling, and a kind of Blindneſs, accompany'd with a darting Pain. But theſe Symptoms were at laſt removed by repeated Inſtillations of the expreſs'd Juices of the greater Houſleek, and the broad-leav'd Plantain; ſee *Eph. N. C. Cent.* 4. *o.* 107. Others aſcribe a venomous Quality both to the Blood, and to the Saliva, of the Toad, but more eſpecially to the latter; ſee *Foreſt, Obſ. Med. L.* 30. *Obſ.* 6. & 7. *in Schol.* Some are of Opinion, that Nature herſelf has wiſely diſtinguiſh'd venomous Animals by their ghaſtly and horrid Colour. Some have alſo aſſerted, that the Perſon who gazes long on an ill-colour'd Toad of an horrid Aſpect, becomes pale, and aſſumes an icteritious Colour. If 'tis true, that this Circumſtance really happens, I am of Opinion, that it is not to be accounted for from any Effluvia paſſing from the Animal to the Perſon, but from his being ſtruck with Terror upon reflecting on the poiſonous Nature of the Toad, and his entertaining a Notion, that it can exert its hurtful Qualities at a Diſtance; for a Toad is commonly call'd the *Magnetic Purſe* of Poiſon, and contagious Virulence. *Dioſcorides, L.* 6. *C.* 31. ſays, that a Toad ſwallowed excites Tumors; and that by ſuch a Misfortune the Skin becomes pale, and at laſt as yellow as Box-wood; the Patient is rack'd with a Difficulty of Breathing, his Breath becomes ill-ſcented, he is afflicted with the Hiccough, and ſometimes an involuntary Effuſion of the Semen enſues. The Patient is reliev'd by Vomiting, by liberal Draughts of Wine, and by takeing two Drams of the Root of common Reed, or an equal Quantity of the Cyperus. By-and-by the Patient muſt be forc'd to walk hard, or run, in order to carry off the Torpor with which he is ſeiz'd. He muſt alſo be waſh'd every Day.

Paulus Ægineta, L. 5. *C.* 36. ſays the ſame things. *Caſpar Caldera* affirms, that the Eggs of the Toad, ſwallow'd, kill very ſuddenly, and produce moſt violent Pains of the Stomach; and that ſuch as have the Misfortune to ſwallow them die, with their Bellies prodigiouſly inflated. According to *Bartholine*, in *Act. Haffn.* a Toad held in the Hand cures it, after it has been hurt by another Toad. *Boerhaave*, in his *Inſtitutiones Medicæ*, § 1144. claſſes Toads among the heteroclite Poiſons, deſtructive of Life, whoſe Virtues are not as yet ſufficiently underſtood, which kill in a manner not eaſily to be accounted for; and which, beſides the general Antidotes, ſuch as Vomits, aqueous, emollient, laxative and oleous Subſtances, call for ſpirituous Acids, ſaline Subſtances, and ſuch as reſiſt Putrefaction. Among the Poiſons moſt remarkably poſſeſs'd of a deleterious Quality, is the *American* Toad, by the *Braſilians* call'd *Cururu*, and by the *Portugueſe Capo*, which has Excreſcences from both Sides of its Head, reſembling large Warts. This Species is very large, and ſwell'd as big again as the *European* Toad. It is of a cineritious or bay Colour: Its Urine and Saliva produce diſmal Conſequences, whether internally uſed, or externally applied; but ſtill more terrible Effects are brought about by ſwallowing its Blood, its Fat, and eſpecially its Gall. The moſt wicked and abandon'd of the Inhabitants, and ſome others afte their Example, torrify theſe Toads, and reduce them to a Powder, of which they prepare poiſonous Draughts, which, exhibited in the ſmalleſt Quantity, immediately bring on Inflamma tions, and Dryneſs of the Fauces and Throat, Difficulty o Breathing, Hiccoughs, Vomitings, Dyſenteries, Faintings Dimneſs of Sight, Convulſions, Deliriums, and Paleneſs. I there is room left to hope any thing from Medicines, Evacua tions are to be made by Vomit and Stool; and the Remains o the Poiſon are to be eliminated by Exerciſe and the Bath, an by putting the Patient into an hot Oven, or into the Belly o a freſh-kill'd Animal. The general compound Alexipharmic are to be exhibited for ſome Days, and the Patient order'd t drink Infuſions or Decoctions of ſuch Roots as are produced i the Country, and look'd upon as Antidotes againſt Poiſon. B above all, the Herb by them call'd *Nhambi* is to be exhibite ſince it ſeems to have received from bountiful Nature a Quali capable of curing, or at leaſt allaying and mitigating, ſo form dable a Diſorder. The moſt profligate and wicked of th *Barbarians* hang up this Species of Toad in the Sun, collect Spume and Gall, and keep them as ſecret and ſlow-killing Po ſons, *Piſo, L.* 5. *C.* 15. The Figures of the *American* To may be ſeen in *Albinus Seba.*

Turner gives the following Account of the Toad.

Among us, ſome believe, we are more afraid of them th there is Occaſion for; and there have been found thoſe w have been very familiar with them; and that upon ſome Wa or Frolick have eat them, and commend them for as great Da ties as the Frog. But let not Peoples fooliſh Preſumption, w have by ſome ſingular Accident, as a full Stomach beforeha or ſome Idioſyncracy, eſcaped freed, induce others to take like Freedom, leſt they pay dearly for their Folly, as did a P ſon I knew many Years ago, who putting the Head of one them into his Mouth for ſome time, whether by the Bite, Slaver only, of the Creature, communicated to his Tongue Lips, had that Night, and the next Day, both ſo ſwell that he could not pronounce any Word plain for ſeveral D after, and was in no ſmall Danger of being famiſh'd, by re of the ſaid Tumor affecting the back Parts of his Throat, w the Muſcles ſubſervient to Deglutition.

Redi, inſtancing in ſome who eat theſe Creatures with Harm, ſubjoins, that though the Toad may happen to prov Poiſon in the Whole, yet may it envenom outwardly; an ample whereof he gives in a Boy, who ſtumbling on a T and after throwing Stones at it, ſome Juice from the br Toad chanced to light upon his Lips, whereupon they ſw each to about the Thickneſs of two Thumbs; and he neg ing to uſe what might be proper to reſtore them, they continued in that miſ-ſhapen Size ever ſince, *Philoſ. Tranſ. Vol.* 2.

Ardoynus obſerves, that as he came from the Univerſi *Bologna* in *Italy*, (where he had newly taken his Doctor's gree) to *Peſaro*, he ſaw a young Man, who having killed a large Toad with his Lance, he fell into an abſolute Stupor of his whole Body, and lay ſnorting for two Days together without Pulſe. Had I known, ſays he, as much then as now, I make no doubt, but I could have recovered him. From whence we may ſuppoſe the young Man dy'd.

As remarkable is that of *Ferdinandus Pontellus*, of a Perſon going over his Grounds with a Reed in his Hand, and therewith transfixing all the Toads he met with, throwing them out into the Highway: When, on his Return home to Dinner, he threw up all he eat; nor did his Vomiting leave him 'till he fed himſelf with the other Hand, that had not held the ſame Inſtrument. But more tragical yet is the Story which *Mizaldus*, in his firſt Century of Remarkables, recites, of a Gentleman ſporting with his Sweetheart in the Garden, near a large Bed of Sage, who, inadvertently pulling off ſome Leaves, fell to rubbing of his Gums and Teeth; which ſo ſoon as he had done, he dropt down dead. The young Gentlewoman, being carry'd before the Magiſtrate, upon Suſpicion of poiſoning the Man, told the Judge he had only rubb'd his Teeth with ſuch a Leaf as ſhe had brought with her, and deſperately in the Court began to uſe the ſame, with the like Event, ſhe dying alſo thereupon, that ſhe might not be thought to have deprived him of Life, without whom ſhe could not live herſelf. Upon which, by Order of the Magiſtrate, the Sage was order'd to be dug up and burnt; when, turning the Ground, behold, a large and ghaſtly Toad appears; which Creature is ſaid to be much delighted with this Plant; and which he, ſays our Author, ſhould have firſt conſider'd, who compil'd that Verſe,

Cur moriatur Homo, cui Salvia creſcit in Horto?

This Effect of Sage is however more rationally attributed to the poiſonous Eggs of Inſects lodg'd on the Leaves.

Though Toads want Teeth, ſaith *Parey*, yet with their hard and rough Gums they ſo ſtreightly preſs the Part they take hold on, that they will force their Poiſon thereinto, and ſo over the whole Body, by the Pores of the preſſed Part. Moreover they caſt forth their Venom by Urine, Spittle, Vomit, or Slaver, upon Herbs, but chiefly upon Strawberries, which they are reported greatly to affect. Hence many have ſuddenly and ignorantly caught their Deaths. A ſad Inſtance whereof he lays down, in the Caſes of two Merchants near *Tholouſe*, who, whilſt the Dinner was getting ready, walking into the Garden belonging to their Inn, and gathering ſome Sage-leaves, put them unwaſh'd into their Wine. After which, before they d fully din'd, they were ſeized with a Vertigo, and loſt their ght, fainted, and had Convulſions; they ſtammer'd with ir Lips, and their Tongues appeared black, looking frightlly, continually vomiting, with cold Sweats, the Forerunners Death, which quickly enſued, their Bodies becoming terwards exceedingly ſwell'd, by reaſon whereof there was t Suſpicion, that they had been poiſon'd; and the Hoſt, with the Servants and Gueſts at that Time in the Houſe, were prehended; and, being examin'd, they all conſtantly, and ith one Voice, aſſerted their Innocence; affirming, that they d all the ſame Proviſion with the dead Parties, of which they d eat and drank, only the Deceaſed had put Sage into their ine. A Phyſician was aſk'd the Queſtion, whether Sage ght be poiſoned: He anſwered affirmatively. But, to me to the Purpoſe, it muſt appear whether any venomous eature hath poiſoned the Plant with her Spittle or Sanies. his, which was lightly pronounced, and only by Conjecture, by the Eye found true; for, at the Root of this Bed of e was found a Hole in the Ground, full of Toads, who ing out upon pouring in hot Water, made it credible, that Herb was poiſoned by their Slaver, or venomous Urine. hereby you are to underſtand how indiſcreetly they act, who our either Herbs or Fruits freſh gather'd, without well hing or rinſing of them.

arey, amongſt the Symptoms conſequent upon receiving the on of a Toad, reckons the turning Yellow, Swelling, diffi- Breathing, Vertigo, Convulſions, cold Sweats, Syncope, to which *Sennertus* joins a growing pale and wan, Vomit- involuntary Diſcharges of the Semen, falling of the Hair, ſometimes dropping out of the Teeth, with great Stupor, *Haffenreffer*, which ſhe communicates not only by her e, Spittle, or Vomit, but her very Breath or Halitus ted will affect thoſe who ſtand too near her.

s to the Cure, if the Poiſon was receiv'd inwardly, Vo- ng is propoſed for the immediate Diſcharge of the ſame, to- r with proper Clyſters; and afterwards the common Alexi- acs, ſuch as Venice-treacle diſſolved in a Glaſs of good e, whereby the Patient may be diſpoſed to ſweat; for h others propoſe ſome briſk Exerciſe, or the Uſe of warm s. *Sennertus* treats the Hurt outwardly much the ſame with *Parey*, ordering the Part to be well waſhed with 's Urine, Water, and Salt, after anointing with Oil of the s of Eggs, or Oil of Roſes. The reputed Antidotes are of Betony, of Plantain, and Mugwort. *Pliny* writeth, their Heart and Spleen reſiſt Poiſon; but the bruiſed Toad, or ſome Preparation thereof, like thoſe of other venomous Animals, rightly apply'd, will ſympathetically (as reported) extract their own Poiſon.

Rondeletius, in his *Tract. de Piſcibus*, affirms the ſame things of the deleterious Property of this Creature, with others; yet he ſays they ſeldom bite, but caſt forth either their Urine, which they gather in a large Quantity in a great Bladder, or elſe their venomous Spittle, or even Breath, againſt thoſe they meet with, or aſſail. Beſides, the Herbs which they taint with their ſaid Breath, but much more ſuch as are imbued with the Slaver or Urine, are ſufficient to deſtroy thoſe who eat them.

The aforeſaid *Haffenreffer* aſſerts, in general, that the Bites and Stings of the *Reptilia* are to be treated much alike with thoſe of the Viper, and ſerpentine Kind. The Spittle, Urine, or Sanies of the Toad, ſays he, muſt be cleanſed well away with Urine, or Salt-water; or if the Poiſon was taken inwardly, you are to procure Vomiting; and farther, to take off all the Symptoms, he extols the *Confectio Diaſulphuris*, thus deſcrib'd by *Serapio*:

> Take of yellow Sulphur, of the Seeds of white Henbane, of Cardamoms, Storax, and Myrrh, each one Ounce; of Opium, and Saffron, each two Drams; of Caſſia Lignea, ſix Drams; and of white Pepper, two Ounces: Let them be triturated, paſs'd through a Sierce, and made up into a Confection with Honey.

For this Uſe he alſo takes Notice of the *Cray-fiſh*, and *Gentian-root*, exhibited internally, whilſt the Place is dreſs'd externally with the following Medicine:

> Take three Heads of Garlick; and of Caſtor, one Dram: Let them be triturated, mixed with old Oil, and apply'd by way of Plaiſter: Or,

> Take of Gum Sagapenum, Caſtor, Aſa fœtida, Pigeon's Dung, Calamint, and Penyroyal, each three Drams; Oil of Olives, and Pitch, each a ſufficient Quantity: Make up into a Plaiſter.

> Squills alſo boiled with Meal, and Meal of the Orobus mix'd with Vinegar, are properly apply'd to the Part: Or,

> Take Nitre, Muſtard, common Salt, and Sal Ammoniac; make into a Liniment, with ſtrong Vinegar: Or,

> Take Garlick, Salt, and Pigeon's Dung, each equal Parts: Mix all together, and apply by way of Plaiſter. *Turner, de Morbis Cutaneis.*

Since from what has been ſaid 'tis obvious, that in all Nations Toads are look'd upon as poiſonous Animals, it now remains, that we take Notice of ſome other Circumſtances relative to this Animal. That Toads, then, may be ſafely eaten, provided their Sweat, Spit, or Urine, are not ſwallow'd, is aſſerted by *Borelli*, *Cent.* 2. *Obſ.* 37. People who have had the Misfortune to eat boil'd Toads inſtead of Frogs, have felt no more terrible Conſequences from the Uſe of ſuch a diſagreeable Food, than a gentle Excoriation of the Lips, Palate, Tongue, and Fauces; from which Circumſtance *Valliſneri* concludes, that the Fleſh of Toads is by no means of a poiſonous Quality, but abounds with a volatile diuretic Salt, which, when reduc'd to Powder, may be of excellent Service in the Dropſy. *Mundius* affirms, that the Toad, that hated Animal, has Fleſh not altogether uſeleſs; for, ſays he, by eating Toads, and by the natural Salubrity of the Air, the Lues Venerea is in ſome *American* Iſlands moſt infallibly cured. In *Eph. N. C. D.* 2. *a.* 7. *o.* 167. we have an Account of a certain Quack, who affirm'd, that the Whole of a Toad's Body might ſafely be eaten, provided the Head was only thrown away, aſſigning this Reaſon for his Aſſertion, that the Toad, at once enrag'd and terrify'd at the the Sight of any Perſon, calls together the Force of his Poiſon to his Eyes, and the anterior Parts of his Head, by which means no Parts of the Poiſon are left in the reſt of his Body. If this is true, Impoſtors and Strollers have no occaſion to counterfeit Toads, by filling the Skins of theſe Animals with Wine, in order to make the gazing Croud believe they have devour'd real Toads, as we are inform'd they do by *Borelli*, in *Cent.* 2. *Obſ.* 74. *Valliſneri* alſo informs us, that the Excrements of this Animal are not of a poiſonous Nature, but endow'd with a highly diuretic Quality. Upon the Whole, *Etmuller* concludes, that the poiſonous Quality conſiſts entirely in its Fury, or in its Excrements, eſpecially the Urine, which is impregnated with an acrid, cauſtic, volatile Salt, whoſe acrimonious Quality ſeems to be deriv'd from the Aliments on which the Animal lives, that is, the ſmall Beetles found in its Stomach and Throat. If inſtead of the Urine, which, from the Circumſtances already mention'd, does not ſeem to be poiſonous, we ſubſtitute the venomous Liquor deriv'd from the Body to the

Head, and eſpecially the Eyes, this Concluſion does not ſeem improbable. But the Toad does not for this Reaſon ceaſe to be properly claſſed among the venomous Animals; for tho' the Viper is not only eaten, but applied to medicinal Purpoſes, when the Head, which about the Teeth contains a Bag filled with a deleterious Liquor, is thrown away, yet the Viper does not on this account ceaſe to be a poiſonous Animal.

In what Caſes the Toad is uſed for medicinal Purpoſes, I now come to conſider. *Etmuller*, then, informs us, that a live Toad, bruiſed, proves an effectual Medicine for the Bite of the Viper, and other poiſonous Serpents, when applied to the wounded Part. In *Velſch. Hecat.* 1. *Obſ.* 53. we have an Account of a Country-man bit by a Serpent, and that in ſo violent a manner, that his Hand and Arm immediately ſwell'd to a prodigious Bulk; and the Poiſon reaching his Heart, he was ſeized with frequent Faintings, ſo that he ſeem'd to be on the very Brink of Death. But, after having tried all the ordinary Methods to no Purpoſe, he was ſpeedily reſtored by the Application of entire Toads dried, which ſwelled wonderfully by the Poiſon they extracted. The Patient in the mean time had internal Alexipharmics exhibited to him. Some Authors, as *Helmont* informs us, order live Toads to be applied over both Kidneys, for removing the Dropſy, by a plentiful Diſcharge of Urine. *Paracelſus* affirms, that Toads are of ſingular Service in the Cure of peſtilential Buboes in the Groin, and ſuch as Women are afflicted with. His Method of preparing them is, to thruſt a Piece of Wood thro' their Heads, to hang them up till dry, and then to macerate and mollify them in Roſe-water, after which they muſt be applied to the Bubo; and he affirms, that they extract the peſtilential Venom, ſince by applying four or five of them ſucceſſively they all become wonderfully tumid by the Poiſon they have imbib'd. *Helmont*, when making mention of theſe Circumſtances, confeſſes, that he has applied Toads to Buboes and Eſchars in the Heads, Breaſts, and other Parts of Men and Women, and that he always found they afforded a ſpeedy Relief and Mitigation of the Pain; but could never obſerve, that a Toad applied in this manner became in the leaſt tumid. I ſhall here enumerate the anti-peſtilential Virtues of the Toad, in the Words of the learned *Kramerus*: “ I know, *ſays he*, ſeveral “ Country-people, as alſo Mr. *Steikarte*, a Phyſician at *Vienna*, who, by attending People infected with the Plague, “ have, if we except Carbuncles, been ſeized with all the “ Symptoms of that Diſorder, eſpecially beginning Buboes. “ And for a Cure they uſed no other Means than covering “ themſelves lightly with Bed-cloaths, and applying whole “ Toads dried in the Air, and wrapt up in Cloths, to both “ Arm-pits, to the Thighs, and to the *Perinæum* between “ the *Scrotum* and the *Anus*. They kept themſelves eaſy alſo during the Tranſpiration of the Matter, and, for carrying “ it on more effectually, they kept the Toads at the above-mention'd Parts till they would ſwell no more by the Poiſon they extracted. After which they remov'd them, and “ in their ſtead put other Toads three or four times ſucceſſively, till they felt themſelves reliev'd.”

Franciſcus Joel affirms, that a Toad run thro' with a ſharp Probe, dried in the Air, and moiſtened in Vinegar, if applied to peſtilential Carbuncles, extracts all the Poiſon from the Body. *Helmont* alſo from the Toad prepared an Amulet for the Plague; and others, as *Etmuller* informs us, prepare Amulets for the ſame Purpoſe of the Bones of Toads, or whole Toads mixed up with Iſing-glaſs, which they ſay extract the Poiſon, and prove a Preſervative, if hung about the Neck. Others bruiſe whole Toads, boil them in Vinegar of Roſes or Rue, and with Mucilage of Tragacanth make them up into Troches, which they wear about the Neck. Others order the Toad itſelf, thruſt thro' in *June* or *July*, and hung up till dry, to be hung on the Region of the Heart, as an Amulet againſt the Plague. But the laſt Author immediately ſubjoins, that he was told by a certain ſkilful Phyſician, that in the Application of Toads there was a Neceſſity for diſtinguiſhing Plagues: That if the Plague ariſes from a terreſtrial and incoercible *Gas*, exhaling from the Mines and Caverns of the Earth, in ſuch a Caſe Amulets prepared of Toads were proper, becauſe the Toad attracts ſuch a Gas as a proper Aliment: But that, when the Plague ariſes from an unlucky Influx of the Stars, the moſt proper Amulet was prepared from Spiders, ſince they attracted the Poiſon of the Air. See ETMULLER.

The learned *Valliſneri* thinks it probable, that a Toad, or its Skin, applied to Buboes, or other hard Tumors, may contribute conſiderably to their Reſolution, and alſo to the deterging ſordid Ulcers; but he does not believe, that it can defend the Perſon who wears it againſt the Plague. Beſides, by *Etmuller* we are told, that a dried Toad hung about the Neck, or in the Pit of the Stomach, or applied to the Arm-pits, or even held in the Hand, moſt effectually ſtops and cures all kinds of Hæmorrhages, and more eſpecially ſuch as happen in malignant Fevers, Small-pox, and ſome other Diſorders of a like Nature.

Willis in his *Pharmaceutice Rationalis*, has theſe Words: “ A Silken Bag, in which a dried Toad is contained, ſeems “ to be an empirical and fooliſh Medicine, when wore on the “ Pit of the Stomach in order to ſtop Hæmorrhages, and prevent their Return: unleſs perhaps, according to the Theory of “ *Helmont*, that Application ſo frights the *Archæus*, that the “ Blood ſhall forthwith be forced to recoil, or altogether deſiſt “ from flowing.” The *Pulvis Bufonum ſiccatorum*, or the Powder of Toads dry'd in the Sun, directed in the *Brandenburg* Diſpenſatory, when carefully preſerv'd in a dry and temperate Place, is, according to the Teſtimonies of a great Number of celebrated Authors, an excellent Remedy in ſeveral Diſorders, whether exhibited internally, but cautiouſly, and in ſome proper Vehicle; or externally uſed when incloſed in Bags, or mixed with proper Plaiſters, Ointments, or Cataplaſms. Thus the Powder of dry'd Toads was the celebrated Secret of *Kyperus*, for the Cure of the Aſcites. He prepar'd them in this manner.

> Take Toads, and after having cut off their Heads, an pulled out their Inteſtines, dry them in the Sun, and re duce them to a fine Powder; of which the Patient is t take ten or fifteen Grains, in an equal Quantity of Sugar This Medicine may be exhibited three or four differen times, but in ſuch a manner, that three or four Days ma intervene betwixt each time; for it is a very draſtic Preparation.

Theſe Toads may alſo be dry'd in an Oven, and reduc'd a fine Powder. *Etmuller*, that the Medicine may produce i Effects the more infallibly, adviſes, that the Toads ſhoul be killed in the Month of *July*. A dry'd Toad incloſed in Silken Bag, with a proper Quantity of the Moſs of the Slo tree, when applied to the Navel of a Woman afflicted with terrible Hæmorrhage of the Uterus, ſtopp'd the Flux as ſoo as it was warm on the Part, as we are told in *Eph. N. C. D. a.* 9. *p.* 366.

The *Bufonum Cinis* of the *Brandenburg* Diſpenſatory, t *Bufo præparatus* in that of *Edinburgh*, and the *Pulvis Æthi picus* of *Bates*, which he calls ſo on account of its Blackne are no more but large live Toads burn'd to Aſhes, in a ne earthen Veſſel. The Doſe, according to *Bates*, is half a Dra and upwards, in the Small-pox. He affirms of it, that it lieves the Patients, tho' at the Point of Death; and ſays, th ſome highly extol it for the Cure of the Dropſy.

It is by other Authors recommended to be put into a Silk or Linen Bag, and hung upon the Breaſt for Incontinencies Urine, ariſing from a Violence done to any of the Par *Eph. N. C.* vol. 1. *o.* 227. *Muſitanus* preſcribes a Toad into the Oven alive, that it may become dry gradually as it di to be reduc'd to Powder, and form'd into a Poultice, w Barley-meal and human Saliva or Urine. This Poultice he ders to be laid on a Cloth, and applied to peſtilential Carb cles or Buboes. In a Quarter of an Hour after the Appli tion, he ſays, the Pain will be entirely remov'd, and in t Hours a perfect Suppuration will be brought about.

The ſame Author propoſes another very ſingular Bene which would accrue to the Inhabitants of *Naples* from the of this Cataplaſm, which was, that by its means they mi know whether Diſorders that appear'd like the Plague w really peſtilential or not. “ In dubious Caſes, *ſays he*, le “ be applied to the Carbuncles, the Buboes, or any o “ Tumors which ſhall happen to appear; and, if they are r “ ly of the peſtilential kind, the Pain of them will be “ mov'd in a Quarter of an Hour; within two Hours a “ fect Suppuration will be form'd, and the Bubo or Carb “ cle being open'd, all the peſtilential Venom diffuſed t “ the whole Body will be drawn forth, if the Phyſician “ duly careful. On the contrary, if the Tumor is not “ ſtilential, but malignant, tho' not of the contagious k “ the Application of the Plaiſter will produce no Remiſſi “ the Pain, neither will any Suppuration appear; but the “ mor will remain in its former State, and be attended “ the ſame Symptoms that generally accompany other m “ nant Tumors, which are not of the contagious kind.”

With regard to the Preparation of this Cataplaſm, *Kr rus* affirms, that the Urine of the Perſon to whom it is apply'd, is moſt properly uſed in its Compoſition. A wards he goes on to inform us, 1ſt, That he was induc make Trial of the Cataplaſm of *Muſitanus*, by obſer that peſtilential Buboes with Difficulty yielded to other pics. 2dly, That this Cataplaſm immediately on its firſt plication to Buboes, produced ſuch intolerable Pains, many Patients entirely refuſed to bear them. 3dly, Tha Cataplaſm, as it becomes dry, adheres ſo ſtrongly to th boes, and Parts adjacent, that it can ſcarce be torn from with the Finger. 4thly, That when it is once becom it ceaſes to produce any further Pain. 5thly, That th boes do not ſuppurate by its means in twenty-four H 6thly, That they require three or four Days for that Pu whereas by other Topics the very ſame Buboes could n ſoften'd, and brought to a Suppuration, in leſs than a night, or perhaps three or four Weeks. 7thly, That as ſoon as the Cataplaſm becomes dry upon the Buboes, and ceaſes to produce burning Heats, it is to be immediately renew'd, and its Renovation continued, till the Buboes are ſoften'd, at which time they are to be laid open. 8thly, That by the ſame Cataplaſm, as *Kramerus* once obſerv'd in a robuſt old Man, of a thick Skin, tho' the peſtilential Buboes were not ſoften'd, and brought to a Suppuration, yet their Surfaces were ſo corroded, as to give a free Diſcharge to a certain Ichor. 9thly, That this Cataplaſm, in Venereal and other Buboes, neither excites the above-mention'd Pains, nor brings on a Suppuration. From all theſe Circumſtances *Kramerus* thinks he has juſt Reaſon to declare in Favour of the ſpecific anti-peſtilential Virtues of the Toad. He recommends this Affair to the diligent Conſideration of other Phyſicians, and refers his Reader to an Appendix he wrote to *Behren*'s Treatiſe on the Plague, publiſhed in the *German* Language in 1713, in which Work he from his own Experience warmly recommends a topical Preſervative prepar'd of Toads, and Roots of the Carline-thiſtle reduc'd to a Powder, and incloſed in a proper Bag.

In the Cure of a Cancer, ſays *Etmuller*, and more particularly unexulcerated Cancers in the Breaſts of Women, Toads are of ſingular Service, either calcin'd alone, or dry'd to ſuch a Degree, that they may be reduc'd to a Powder. The Method of applying this Powder is to ſprinkle it on the Part affected. This Powder may alſo be mix'd with Orpiment and Soot, and apply'd, when ſpread, upon a Pledget moiſten'd with *Saliva*. We are alſo told, that many Patients labouring under epidemical Dyſenteries have been happily recover'd by the Uſe of this Powder, which operates as a Sudorific. Some preſcribe half a Dram of it and upwards in the Small-pox. *D. Carlius* recommends the Powder of calcin'd Toads, mixed with the Powder of blue Linen Cloth burnt, in Epilepſies of adult Perſons attended with an Inſpiſſation of the Juices; and affirms, that as much of it as may be taken at twice upon the Point of a ſmall Knife, has in ſome epileptic Patients produc'd the moſt happy and ſurpriſing Effects. He alſo informs us, that a Doſe from ten to twenty Grains of the Powder of calcin'd Toads, exhibited internally, wonderfully mitigates arthritic Pains, and more eſpecially thoſe with which Wounds are attended. *Com. Lit.* for the Year 1733. *p.* 210.

In the ſame Work for the Year 1735, we have an Account of two Boys, who towards the latter End of a peſtilential Diſorder, in which they had been long afflicted with Carbuncles and Buboes, together with an univerſal Anaſarca and Dropſy, were cured by a plentiful Diureſis excited by the Powder of Toads, mixed with Salt of Wormwood daily exhibited.

The diaphoretic Virtue of this Powder, by which it muſt of courſe contribute to the Cure of a Dropſy, was accidentally diſcover'd, as *Boecler* from *Solenander* informs us in the following Hiſtory. At *Rome* a certain Man had the Misfortune to be afflicted with a Dropſy, and his Wife, thinking much of the Expences laid out for his Cure, maliciouſly reſolv'd to poiſon him; for which Purpoſe ſhe gave him a Doſe of the Powder of a Toad calcin'd in an earthen Veſſel, by which means a very plentiful Diſcharge of Urine was occaſion'd. But the Wife, heartily wearied of ſo uſeleſs and expenſive a Husband, was exceedingly deſirous to put an End to his miſerable Life by a ſudden Death. With this View ſhe exhibited the ſame Powder a ſecond time, by which means the Waters were plentifully diſcharg'd by Urine, and the Patient cured. Thus the Views of Luſt and Avarice were diſappointed, and what was helliſhly intended for a Poiſon, happily prov'd a noble and efficacious Medicine.

As for the Powder and Aſhes of the Toad, 'tis highly probable, that the Effects they produce in the Conſtitution, are to be aſcribed to an acrid Stimulus of a reſolvent Quality, and of a ſalino-alcaline Nature. Hence Diſcharges of Urine or Sweat are excited according to the Conſtitution of the Patient, or the particular Regimen he uſes. For this Reaſon many preſcribe two Drams of the Powder of Toads to be taken by thoſe who have the Misfortune to be ſeized with peſtilential Diſorders. Some Authors of undoubted Learning and Veracity alſo affirm, that the ſame Powder is an excellent Medicine for expelling Poiſon. Hence the Powder of incinerated Toads is by *Helvetius* called the Sudorific Powder. The ſudorific Quality of the Toad is ſufficiently confirm'd by the Caſe of a certain Countryman, who, when ſeized with the Plague, boiled a Toad with all its Inteſtines in Vinegar; and, after he had boiled it, he eat the Whole of it, and drank the Broth. However terrible this Medicine might appear, it was followed with very happy Effects; for by its means incredible Diſcharges of Sweat and Urine were excited; and theſe continuing for a whole Day, the Cauſe of the Peſtilence was expelled, and the Patient's Strength gradually returning, a thorough Cure was brought about.

From theſe Qualities, I think, we are alſo to account for the Efficacy of the Toad's Heart, which, when dry'd, reduc'd to Powder, and exhibited an Hour before the Paroxyſm, has in ſome Caſes cured quartan Agues. I muſt not on this Occaſion forget to mention another Cure of the ſaid Fever, which is ſaid to be an infallible one, and conſiſts in drinking the Milk in which a dry'd Toad has been boil'd. By this Medicine the febrile Matter is powerfully evacuated by Vomit, Urine, and Sweat. *Eph. N. C. D.* 2. *a.* 8. *o.* 104. *a.* 5. *app. p.* 40. The ſmall Bones either of the fore or hind Legs of the Toad, which, when exhibited internally, produce, according to *Etmuller*, ſo ſurpriſing and happy Effects in the Cure of the Epilepſy, ſeem alſo to act by means of their reſolvent Quality. To this Quality it is alſo probably owing, that dry'd Toads are by ſome applied to the Soals of the Feet, by way of Epiſpaſtics in Fevers, and Diſorders of the Head. In *Eph. N. C. D.* 2. *a.* 5. *o.* 114. a dry'd Toad, applied to the Crown of the Head, is ſaid to have allay'd the Violence of Madneſs, and at laſt to have cured the Patient. But how the Aſhes of the Toad, uſed as an Amulet, can cure Incontinence of Urine, I muſt with *Schulzius*, in his *Prælectiones*, frankly acknowledge to be far beyond my Comprehenſion, I am equally in the Dark, and equally incredulous, with regard to an Effect of which *Helmont* affirms that he was an Eye-witneſs, and which is, that the Bone of the fore Leg of a Toad removes the Tooth-ach, immediately upon its touching the Part affected. Neither can I give an implicit Aſſent to a Story of *Etmuller*'s, who tells us, that the ſame Bone, apply'd to the Pulſe in the Wriſt of a Child ſeized with an Epilepſy, in conſequence of having ſuck'd the Milk of its Mother after ſhe had receiv'd a terrible Fright, inſtantaneouſly allay'd and mitigated the Paroxyſm. The medicinal Efficacy of the ſame Bone, apply'd in the ſame manner in intermittent Fevers, is alſo what I do not well comprehend.

The *Oleum Bufonum*, in the *Brandenburg* Diſpenſatory, is prepar'd of Toads infuſed and boiled in Oil of Olives, or Oil of ſweet Almonds. 'Tis generally believ'd, that Toads, by a kind of magnetic Quality, attract and draw the Poiſon out of the Body; for which Reaſon the now-mention'd Oil is made an Ingredient in Cataplaſms, intended for the Maturation of peſtilential Buboes. The *Oleum Bufonum* in *Bates*'s Diſpenſatory is thus prepar'd.

> Boil four live Toads in two Pounds of Oil of Olives, for the Space of an Hour, or till they burſt; then, ſtraining off the Oil, keep it for Uſe.

This Oil is of great Service in Puſtles of the Lips, and Cancers of the Breaſt. In Dropſies it is of ſingular Service, by exciting a plentiful Diſcharge of Urine, if the Region of the Kidneys be anointed with it. According to *Schulzius*, in his *Prælectiones*, this Oil is highly beneficial in the Cure of poiſonous Wounds. *Muſitanus* aſſerts, that it is a ſingular Secret in curing the Falling-off of the Hair, and other Diſorders to which it is ſubject. The Method of uſing it is to anoint the Head often with it, having firſt purged the Body, and cut off the Hair. *Jacobæus* aſſerts, that it cleanſes old Ulcers, removes Spots of the Face, and, more effectually than any other Medicines, carries off ſtrumous Swellings. Concerning the Uſe of this Oil, in ſtrumous Caſes, *Borelli* writes thus: “ The Scrophulæ are firſt to be excoriated by the Application of Arſenic; after which they muſt be corroded with Sublimate; “ and, laſt of all, this Oil muſt be uſed, which will become “ ſtill more efficacious by an Addition of the Salt of Toads. “ Hence, perhaps, it was, that, according to many Authors, “ the antient Arms of *France* were three Toads, ſince the “ Kings of that Nation undertook the Cure of the *King's-evil*, “ for which Toads are accounted ſo efficacious and powerful a “ Remedy.” Others warmly recommend this Oil in Leproſies, and cutaneous Foulneſſes. *Etmuller* gives us the following Account of it: Some, ſays he, prepare an excellent anodyne Oil, by infuſing Toads in common Oil. Such an anodyne Oil is alſo prepared by putting live Toads into Water, in which ſea Salt, or common Salt, has been diſſolved, and allowing them to remain in it till they are dead. The Liquor is ſtrain'd off, and then coagulated; but the Toads themſelves are to be calcin'd with Salt, and fuſed with Lime; and, after the Fuſion, the Lime is to be diſſolved in Water, that the Fœces may be carried off. After this it is to be mix'd with Oil of ſweet Almonds; this wonderfully removes Tumors, and mitigates Pains of every Kind, if the Parts affected are anointed with it. The *Oleum Bufonum Compoſitum*, alſo recommended for diſcuſſing Tumors, and removing Dropſies, is, in *Schroder's Pharmacop.* directed to be prepared thus:

> Take of the Oil of Sheeps Feet, any Quantity at Pleaſure; boil it with Sulphur reduced to Powder, till the Oil aſſume a reddiſh Colour: Then ſeparate the Sulphur from the Oil, in which, whilſt as yet warm, let Toads be immerſed and ſuffocated; and, after Expreſſion, ſubject to Diſtillation.

The *Emplaſtrum ex Bufonibus* of *Knoffelius* is prepared thus:

> Take of the Powder of the beſt Amber, half an Ounce; and of Toads dried, and reduced to a Powder, one Ounce: Mix theſe together in an Alembic, and add as much Spirit of Wine as riſes a Finger's Breadth above them. Draw off the Spirit *in Balneo Mariæ*, till what is left in the Alembic acquires the Conſiſtence of a Magma. Freſh Spirit of Wine muſt be added three different times; and the Quantity remaining is moſt commodiouſly reduced to the Conſiſtence of a Plaiſter, by being mix'd with Melilot-plaiſter.

This Medicine is of ſingular Service, when applied in proper Caſes to any of the Emunctories. When applied to the Throat, it alſo contributes to the Cure of ſpurious Quinſeys. Others prepare a *Cerate of Toads*, for curing Incontinence of Urine. Their Method of preparing it is thus:

> Take one Pound of Toads, half a Pound of Oil of Olives, and three Ounces of Wax; let them boil, in a Pot, to the Conſumption of half, or till it is of the Conſiſtence of a Cerate, which is to be ſpread upon a Linen Cloth, and applied to the Region of the Kidneys.

Some ſuffocate live Toads in Spirit of Wine, or in *Malmſey* Wine; after which they take them out of the Liquor, put them into a Retort, in order to obtain a Spirit, a volatile Salt, and an Oil. This Spirit, rectified with the volatile Salt, is an excellent Sudorific and Diuretic, and a Medicine highly commended in the Plague. The Spirit of Wine, on the other hand, or the *Malmſey* Wine, in which the Toads have been drowned, is accounted an excellent Alexipharmic, if uſed internally. The volatile, and not rectified, Spirit of Toads, applied tepid, twice or thrice a Day, with two or three Folds of a Linen Cloth, to cancerous Tumors, is, in *Eph. N. C. Cent.* 4. *o.* 179. ſaid to have cured many of that Diſorder. *Faber*, in his *Myrothecium*, recommends

> One Dram of the Salt of Toad-aſhes, calcined to Whiteneſs, extracted either with the Water of Carduus Benedictus, or Scabious, or that of Lemon-peel, and mix'd with Treacle-water; to be taken in the Morning faſting, with Cinnamon-water, as an Antidote againſt all Poiſons, whether convey'd into the Conſtitution by poiſon'd Draughts, or owing to the Impurity of the Air. Externally uſed, this Preparation is ſaid ſafely to cure peſtilential Carbuncles and Cancers, if anointed with it.

As for the volatile Salt obtain'd by Diſtillation, I can't think, that, when it is duly depurated, it differs from the Salts of other Animals of a like Claſs and Nature; but that a Salt can poſſibly be elixiviated from the Aſhes of Toads, is what I very much doubt. As for the Salt of Toads, and other Secrets prepared from them, *Daniel Ludovicus*, in his Treatiſe *de Pharmacia*, thinks, that ſuch Preparations are, for the moſt part, handed down by Tradition, without having the Countenance and Sanction of Experiment to ſupport them.

There is an anatomical Deſcription of a Toad in *Valentinus*'s *Amphitheatrum Zootomicum*. It is much diſputed, whether Toads can be form'd in the Stomachs of Men: Some maintain the Affirmative, and aſſert, that they are generated from the Sperm or Eggs of Toads drank in Water; or rather, that they are enlarged and nouriſh'd in the Stomach, and afterwards thrown up by Vomit, or diſcharged by Stool. But *Valliſneri* not only calls theſe Relations in Queſtion, but openly pronounces, that Animals cannot be generated in the Stomachs of Men, by the Sperm of theſe Animals being convey'd into them; for thus, ſays he, according to *Ariſtotle*, the *Primordia Genituræ, or firſt Stamina of Generation, would be concocted.* However curious and ſubtile the ſeveral Reaſonings on this Subject may appear, 'tis yet certain, that the Eggs of Animals, laid and impregnated with their Embryos, may be farther perfected without the concurring Care and Nouriſhment of the Mother; as is obvious not only from oviparous Fiſhes, but from moſt Inſects, from whoſe Eggs, nouriſh'd in a proper Place, perfect Animals are brought into the World, without the Help and Aſſiſtance of the Mother. That Worms are generated in our Inteſtines, in conſequence of the Eggs or Sperm of theſe Animals being convey'd into the Stomach, is an Opinion univerſally received in our Days: Neither, if we argue from Analogy, ſhall we find it improbable, that the Eggs of Toads, ſwallow'd in impure and marſhy Water, have proved the original and immediate Cauſe of thoſe Toads which have been generated in the Stomachs and Inteſtines of Men, and afterwards diſcharged; unleſs, with *Valliſneri*, we aſſert, that the Worms found in human Bodies are nouriſh'd and propagated in us by the Worms communicated to us in the Uterus. The Obſervations concerning a live Toad, found in an Abſceſs of the human Body, would not only favour, but abſolutely confirm, this Opinion; unleſs we had Hiſtories of ſome Parts of Vegetables, and other Subſtances formerly ſwallow'd, being found in Abſceſſes of the Body. See *Eph. N. C. D.* 1. *a.* 2. *o.* 103. There are Caſes of live Toads ſwallow'd during Sleep, and Accounts of the Symptoms ariſing thence, in *Eph. N. C. Cent.* 3. *o.* 163. and *Cent.* 8. *o.* 84.

BUFONITES, or *Bufonius Lapis.* It is alſo call'd *Lapis Rubetæ*, and *Myoxolithus*, and *Batrachites*; but the *Engliſh* have no other Name for it than the *Toad-ſtone.*

Some affirm, that theſe Stones are found in the Heads of old Toads, which have lived in dry Places; and that the Stone is far more valuable when taken from the Toad immediately kill'd, than when it has been dead for a great while. The common People affirm, that an old Toad, if laid upon a red Cloth, will vomit up this Stone. Others, for obtaining the Stone, order a Toad to be expoſed to the Heat of the Sun till it be parch'd with Thirſt; upon which they maintain it will vomit its Stone, as too great a Burden to its Head. Others, in order to procure the Stone, order a very large live Toad to be put into an earthen Veſſel, full of ſmall Holes; and the Veſſel, when cloſe ſtopp'd, is to be buried among a large Collection of Ants, for the Space of a Month; for then they affirm, that the Fleſh of the Toad being deſtroy'd by the Ants, nothing remains but the Bones, and the Stone which was lodged in the Head. I cannot forbear looking upon theſe Accounts as ſo many Lyes, too palpable and glaring to deſerve our Attention, much leſs our Aſſent. Our learned Countryman, Mr. *Brown*, in his *Vulgar Errors*, thinks, that People have ſome Reaſon to ſeek for Stones in the Heads of Toads, becauſe ſtony Concretions are often form'd in the Heads of many other Animals, but more eſpecially Fiſhes and Snails; but he doubts whether ſuch a Stone is really found in the Head of the Toad; and, if it is really there, he thinks it is the Cranium indurated or petrified. Others have aſſerted, that this Stone was produced from the viſcid Spume depoſited upon the Head of a large Toad by a Collection of Toads, lodged in a Cave in the Winter Seaſon. Hence *Chriſtophorus Salveldenſis* informs us, that in *France* and *Spain* this Stone is only produced by a certain Species of horned Toad call'd *Borax*, and mark'd with Saffron-colour'd Spots, and blackiſh livid Streaks. *Lanzonus*, from *Alb. Seba*, informs us, that the Origin of the Toad-ſtone is very uncertain, and involved in a kind of impenetrable Obſcurity; ſince, notwithſtanding the large Number of Authors who have wrote concerning them, and endeavour'd by Examination to diſcover their Natures, not one has hitherto dar'd to aſſert, that he has, with his own Hands, extracted a Stone of this kind from the Head of a Toad, or even pretended to ſhew one obtain'd in that manner; for *Valliſneri*, after all the Pains he could take, could by no means obtain any Stone from the Toad; from which Circumſtance, he thinks, he has Reaſon to conclude, that this Stone being found in the Toad is a Story, which, like ſome other Pieces of Impoſture, has met with a kindly Welcome from the Credulity of Mankind. *Merret*, in his *Pinax Rerum Naturalium*, affirms, that the Stones call'd Toad-ſtones, and accounted Gems, are only certain Teeth, call'd the Grinders, in the *Lupus marinus*, or Sea-wolf.

Schroder, as *Dale* informs us, recommends the Toad-ſtone as a moſt valuable Medicine againſt the Plague, and all kinds o Poiſons.

Some affirm, that the *Bufonites*, or Toad-ſtone, carrie about any Perſon, preſerves him againſt all kinds of Poiſon, an changes its Colour upon its coming near to a poiſon'd Cup. But as theſe things are not found to hold in Fact, I think it enoug juſt to have mention'd them; only I muſt obſerve, with *Boecler*, that the *Bufonites*, in conſequence of its being an alcalin Subſtance, may abſorb Acids, and contribute to the Cure o Fluxes.

BUGANTIÆ, Chilblains. *Caſtellus.* See PERNIO.

BUGLOSSUM, Offic. Park. Parad. 249. *Bugloſſum vulgare*, Raii Hiſt. 1. 495. Chab. 515. *Bugloſſum vulgare majus* J. B. 3. 578. *Bugloſſum anguſtifolium majus*, C. B. Pin. 25 Tourn. Inſt. 134. Boerh. Ind. A. 188. *Bugloſſum perenne ma jus ſativum*, Hiſt. Oxon. 3. 438. *Bugloſſa vulgaris*, Ge 655. Emac. 798. BUGLOSS. *Dale.*

Bugloſs is like Mullein, but has a rough and blacker Lea like the Tongue of an Ox, ſpread on the Ground. This, p into Wine, is ſuppoſed to promote Chearfulneſs. *Dioſcorid* *Lib.* 4. *Cap.* 128.

Bugloſs, from a long, thick, brown Root, ſends forth larg rough, hairy Leaves, leſs prickly than *Borrage*, half a Fo long, narrow, and ſharp-pointed. The Stalks ariſe to t Height of two or three Feet; full of ſhort ſtiff Hairs, on whi grow long narrow Leaves, ſet on without Foot-ſtalks. T Flowers grow ſeveral together, at the Top of the Branches, long rough Calyces, of a ſingle Leaf, cut into five round P titions, of a purple Colour at their firſt appearing, and turn to a bright Blue as they ſtand, and are ſucceeded by fo corner'd rough Seed.

Buglofs is uſually planted in Gardens, and flowers in *June* and *July*. The Leaves, Flowers, and ſometimes the Root, are uſed.

Buglofs is much of the Nature of *Borrage*, being accounted cordial, and good to exhilarate the Spirits, and drive away Melancholy; and is uſeful againſt Hypochondriac and Hyſteric Diſorders.

The Flowers are among the Number of the Four Cordial Flowers. *Miller's Bot. Off.*

The Roots are very glutinous, and give a deep Tincture of Red to blue Paper; the Flowers give it but very little, and the Leaves hardly any at all: So that probably the Sal Ammoniac in this Plant is involved in a glutinous Juice, in which the Earth and Sulphur predominate. The *Buglofs* moiſtens, cools, and gives great Relief to melancholy Perſons; it is good to diſſipate the Defluxions of the Breaſt, and an obſtinate Cough. The Juice is drank from three Ounces to ſix. The Ptiſan is taken by Glaſsfuls. The Roots and Leaves are uſed in cooling Broths, and this Plant cools no otherwiſe than by reſtoring the Motion of the Blood, which ſtagnates and heats the Parts wherein its Circulation is retarded. *Buglofs* Flowers are uſed after the manner of Tea. A Conſerve is made of the Flowers. The Syrup made with the Juice of the Leaves of *Buglofs* gives great Relief to melancholy Perſons: This Juice is employ'd in the ſimple *Byzantine* Syrup, and the compound one of *Meſue*. It enters alſo as an Ingredient in *Fernelius*'s Syrup of Spleenwort. *Martyn's Tournefort.*

The Conſerve, Syrup, and diſtil'd Water of Bugloſs, are all highly extol'd by *Faber* in his *Myrothecium*. *Etmuller* is of Opinion, that, from the Leaves or Flowers of Bugloſs, an ophthalmic Liquor may be prepared, not inferior to that obtain'd from the Flowers of the Blue-bottle, or any other Liquor of the ſame Intention. *Foreſtus* tells us, from *Augerius*, that People who have uſed a Decoction of Bugloſs for thirty Days, purging off the Superfluities, every ſeventh Day, with Caſſia ſometimes alone, and ſometimes with an Addition of the *Confectio Hamech*, have been cured of the *Lues Venerea*. The *Pulvis Diabugloſſi Mynſichti*, in *Lemery's Pharmacop.* is prepared of Stimulants and Abſorbents, the Aurum Potabile of *Mynſicht*, and Sugar, mix'd with the Bark of Bugloſs-root. This Powder is ſaid to be poſſeſs'd of a cordial and chearing Quality, and may be exhibited to the Quantity of a Dram.

BUGLOSSUM SYLVESTRE, Offic. *Bugloſſum ſylveſtre minus*, C. B. Pin. 256. Park. Theat. 765. Tourn. Inſt. 134. Boerh. Ind. A. 188. Elem. Bot. 110. *Bugloſſum ſylveſtre aſperum minus annuum, foliis undulatis*, Hiſt. Oxon. 3. 439. *Bugloſſa ſylveſtris minor*, or, SMALL WILD BUGLOSS, Ger. Emac. 799. Raii Hiſt. 1. 494. Synop. 3. 227. Merc. Bot. 1. 24. Phyt. Brit. 17. Mer. Pin. 17. *Echium Fuchſii ſeu Borago ſylveſtris*, J. B. 3. 581. WILD BUGLOSS. *Dale.*

This is a much leſs Plant than the Garden Kind, growing not above a Foot high, with a ſmall whitiſh Root, which dies yearly: The Leaves are long and narrow, but broader, and roundiſh-pointed at the End, rough and prickly, like *Borrage*. The Stalks are thick, ſucculent, and prickly, cloathed with narrow and ſharp-pointed Leaves, ſet on without Foot-ſtalks. The Flowers grow on the Tops of the Stalks, in Shape like the Flowers of *Garden Bugloſs*, but leſs, and of a light-blue Colour; the Seeds are alſo like the Seeds of that. It grows by Hedges and Way-ſides, and among the Corn; and flowers in *May*.

This *Wild Bugloſs* is but ſeldom uſed, tho' it is ſaid to have the ſame Virtue with the Garden, but in a lower Degree, and, for want of that, may ſerve to ſupply its Place. *Miller's Bot. Off.*

Tragus made uſe of this Plant inſtead of *Borrage*; and the Apothecaries of *Antwerp* uſe it (according to *Lobel*) in the room of *Bugloſs*. *Martyn's Tournefort.*

The other Species of *Bugloſs*, taken Notice of by Authors, are,

The *Bugloſſum latifolium ſempervirens, B. Bugloſſum folio Boraginis, Hiſpanicum: Borrago ſempervirens*, or the evergreen Borrage.

This Plant is ſaid to be poſſeſs'd of an aſtringent Quality, which is ſtronger in the Root than in the Leaves, which, if drank in Wine, ſtop Fluxes.

Bugloſſum radice rubra.

Bugloſſum ſylveſtre, cauliculis procumbentibus.

Bugloſſum orientale, flore luteo, T. Cor. The Eaſtern Bugloſs, with yellow Flowers.

Bugloſſum Creticum verrucoſum perlatum quibuſdam, H. R. Par. Warted Bugloſs from *Crete*.

Bugloſſum anguſtifolium majus, flore albo, C. B. P. Greater narrow-leaved Bugloſs, with a white Flower.

Bugloſſum anguſtifolium majus, flore rubro aut variegato, C. B. P. Greater narrow-leaved Bugloſs, with a red or variegated Flower.

Bugloſſum foliis ſinuoſis, C. B. P. Bugloſs with ſinuated Leaves.

Bugloſſum ſylveſtre majus nigrum, C. B. P. Greater wild black Bugloſs.

Bugloſſum Creticum majus, flore cæruleo purpurante, H. R. P. Greater Bugloſs of *Candy*, with a blue Flower, inclining to a purple Colour.

Bugloſſum Luſitanicum, Echii folio undulato, Inſt. R. H. *Portugal* Bugloſs, with an undulated Viper's Bugloſs-leaf.

Bugloſſum Creticum minimum odoratum, flore vario eleganti, H. R. Par. The leaſt ſweet-ſcented *Candy* Bugloſs, with an elegant Flower of various Colours.

Bugloſſum Creticum humifuſum acaulon perenne, Echii folio anguſtiſſimo, Tourn. Cor. Perennial *Candy* Bugloſs, lying ſpread upon the Ground, without Stalks, and with a very narrow Viper's Bugloſs-leaf.

Bugloſſum Samium fruteſcens, foliis roriſmarini obſcure virentibus, lucide hirſutis, Tourn. Cor. Shrubby Bugloſs from the Iſland of *Samos*, with Roſemary-leaves, of a ſhining dark-green Colour, and hairy.

Bugloſſum orientale erectum, foliis undulatis, flore amœne cæruleo, Tourn. Cor. Upright Eaſtern Bugloſs, with undulated Leaves, and a Flower of a beautiful blue Colour.

Bugloſſum orientale anguſtifolium altiſſimum, Tourn. Cor. The talleſt Eaſtern Bugloſs, with narrow Leaves.

BUGLOSSUS. A kind of Fiſh. The ſame with the Sole. *v.* SOLEA.

BUGONES, *βουγόνες, βουγενεῖς*, from *βοῦς*, an Ox, and *γίνομαι*, to be bred or generated of. An Epithet for Bees, in Uſe among the Antients, who ſuppoſed theſe Inſects to be bred of the Putrefaction of an Ox. *Varro de Re Ruſtica, Lib.* 2. *Cap.* 5.

BUGULA, CONSOLIDA MEDIA, Offic. *Bugula*, MIDDLE CONSOUND, Ger. 500. Emac. 631. Merc. Bot. 1. 24. Phyt. Brit. 17. Raii Hiſt. 1. 575. Synop. 3. 245. Mer. Pin. 17. Dill. Cat. Giſſ. 49. Buxb. 46. Rupp. Flor. Jen. 187. Tourn. Inſt. 208. Elem. Bot. 177. Boerh. Ind. A. 184. Rivin. Irr. Mon. *Bugula vulgaris ſylvatica cærulea*, Hiſt. Oxon. 3. 391. *Bugula vulgaris, flore cæruleo*, Park. Theat. 525. *Bugala Conſolida media pratenſis cærulea*, C. B. Pin. 260. *Conſolida media, quibuſdam Bugula*, J. B. 3. 430. *Conſolida media, ſymphytum medium, Bugula*, Chab. 474. BUGLE. *Dale.*

Bugle has a ſmall ſtringy Root, ſending forth ſeveral Stalks of different Forms; ſome roundiſh, and lying along, and creeping on the Ground, ſending out fibrous Roots from the Joints; the other, which grow erect, and bear the Flowers, are ſquare, beſet with but few Leaves, ſtanding in Pairs oppoſite to one another; the lower on long Foot-ſtalks, the upper on very ſhort ones; they are oblong, ſomewhat crenated about the Edges, an Inch and half long, and an Inch broad, of a dull-green Colour, and oftentimes with a Daſh of Purple: The Stalks are eight or nine Inches high, having the Flowers growing at the Top, in looſe Spikes, whorle-faſhion, with two ſmall browniſh Leaves under each Whorle. They are of a blue Colour, and labiated, but have the Galea ſo ſmall, that it is hardly diſcernible. When the Flowers are paſt, they are ſucceeded by ſmall longiſh Seeds, in five-pointed Calyces. It grows in Woods and Hedges, and flowers in *May*.

Bugle is a noted vulnerary Plant, and us'd inwardly and outwardly for all kind of Bruiſes, Wounds, and Contuſions, as likewiſe for Sores and Ulcers, for ſpitting of Blood, and Hæmorrhages from any Part. It is alſo aperitive and diuretic, and good to open Obſtructions of the Kidneys, and provoke Urine. *Miller's Bot. Off.*

This Plant is bitter, deterſive, and gives a faint-red Colour to blue Paper. It is employ'd in vulnerary Potions, Ptiſans, and Apozems; the Dyſentery, Fluor Albus, and Diſeaſes of the Throat, Ulcers and Thruſhes in the Mouth. The clarify'd Juice of *Bugle* has the ſame Virtues; it is us'd in Plaiſters. *Camerarius* and *Dodonæus* preſcrib'd it for Obſtructions of the Liver. It contains ſome Sal Ammoniac involv'd in Sulphur. *Martyn's Tournefort.*

On account of its abſtergent Qualities, it is accounted an excellent Vulnerary, and is very much us'd not only in vulnerary Potions, but alſo in Plaiſters, particularly among the *French*, with whom it is a Proverb, that the Perſon who has Bugle and Sanicle has no Occaſion for a Surgeon. In conſequence of its abſtergent Virtue, it is alſo ſaid to be a preſent Remedy in ſpreading Aphthæ, and Ulcers of the Mouth: That an Ointment made of the Leaves of Bugle, Scabious, and Sanicle, bruis'd, boil'd in Lard till they become dry, and then expreſs'd, is excellent for the Cure of all Ulcers, Contuſions, and Wounds, we are told by *Parkinſon*, who recommended the Uſe of it to thoſe charitable Ladies, whoſe Compaſſion for their Fellow-creatures prompts them to relieve the Diſorders of the Neceſſitous. *Konigs* affirms, that, by means of its Bitterneſs, he has known it to heal ſcrophulous Ulcers in the Neck. From what has been advanc'd, we may eaſily perceive the Reaſon why this Plant is ſaid to be diuretic, and why it is recommended in Spittings of Blood, Dyſenteries, and the Fluor Albus; for, when coarſe, tenacious, and viſcid Subſtances are attenuated, and Obſtructions remov'd, in order to make way for a free Circulation of the Juices, the Emunctories are not only open'd, but the ſpaſmodic Contractions, which are the immediate Cauſe of the morbid Fluxions, being remov'd, theſe Diſorders are cur'd. The Herb Bugle is moſt properly us'd in Decoctions, or its expreſs'd Juice may be us'd, which is highly ſaponaceous and opening. The diſtil'd Water is not poſſeſs'd of very eminent Medicinal Qualities.

Poterius recommends a Decoction of Bugle, made with Mutton-broth, as an excellent Medicine in a *Phthiſis*, and internal Ulcers; affirming that it gently relaxes the Belly, wonderfully recruits the Liver, and fortifies other Parts. *Etmuller* informs us, that the *Italians*, in the Spring, cleanſe the Root and Leaves of Bugle, and uſe them as a Sallad, which is not only grateful to the Palate, but acceptable on another Account, which is, that it ſeems calculated to prevent Cachexies. The ſame Author alſo informs us, that its Juice is an excellent Medicine in malignant Ulcers. *Rieger*.

The ſeveral Species of Bugle mention'd by Authors, beſides the preceding, are

Bugula flore cinereo vel albo, Inſt. R. H. Bugle with a white or aſh-colour'd Flower.

Bugula Alpina maxima, Inſt. R. H. The greateſt Bugle of the *Alps*.

Bugula ſylveſtris villoſa, flore cæruleo, Inſt. R. H. Hairy Wood-bugle, with a blue Flower.

Bugula ſylveſtris villoſa, flore ſuaverubente, Inſt. R. H. Hairy Wood-bugle, with a fine red Flower.

Bugula ſylveſtris villoſa, flore albo, Inſt. R. H. Hairy Wood-bugle, with a white Flower.

Bugula Samia verna, boraginis folio, flore inverſo, & cæruleo flaveſcente, Tourn. Cor. *Samian* Spring Bugle, with a Borrage-leaf, and an inverted Flower of a yellowiſh-blue Colour.

Bugula orientalis villoſa, flore inverſo cæruleo, alba macula notato, Tourn. Cor. Hairy Eaſtern Bugle, with an inverted blue Flower, ſpotted with White.

Bugula orientalis villoſa, flore inverſo candido, cum oris purpureis, Tourn. Cor. Hairy Eaſtern Bugle, with an inverted white Flower, edg'd with Purple.

Bugula orientalis, flore ex violaceo purpuraſcente, Tourn. Cor. Eaſtern Bugle, with a purpliſh violet-colour'd Flower.

Bugula orientalis longifolia, flore majore intenſe cæruleo, Tourn. Cor. Eaſtern Bugle, with a long Leaf, and a larger Flower of an intenſe blue Colour.

BULAPATHUM, βȣλάπαθον, from the intenſive Particle βȣ̃, and λάπαθον, a Dock. A Species of Dock. See LAPATHUM.

BULBASPHODELUS. An Aſphodel with a bulbous Root. See ASPHODELUS.

BULBINA, BULBINE. Diminutives from BULBUS, which ſee.

BULBOCASTANUM, Offic. J. B. 3. 30. Ger. 906. Phyt. Brit. 17. Buxb. 47. Raii Hiſt. 1. 440. Synop. 3. 209. Chab. 385. Mor. Umb. 5. *Bulbocaſtanum majus & minus*, SMALL AND GREAT EARTH-NUT, Ger. Emac. 1065. *Bulbocaſtanum minus*, Mer. Pin. 17. *Bulbocaſtanum majus, folio Apii*, C. B. Pin. 162. Hiſt. Oxon. 3. 274. Boerh. Ind. A. 70. Tourn. Inſt. 307. Elem. Bot. 257. *Nucula terreſtris major & minor*, Park. Theat. 893. EARTH-NUT, KIPPER-NUT, PIG-NUT, and HAWK-NUT. *Dale*.

This Plant has a Root as big as a large Nutmeg, hard and tuberous, of a whitiſh Colour, ſhooting out Fibres from the Bottom and Sides; the lower Leaves are wing'd, cut into ſeveral Diviſions of Leaves, finer and ſmaller than thoſe of Meadow-ſaxifrage; the Stalk grows to be more than a Foot high, having one Leaf about the Middle, which is as fine and ſlender as Fennel, having the like Leaves at every Diviſion of the Branches; on the Tops of which grow thin Umbels of ſmall white Flowers, each of which is ſucceeded by two ſmooth long Seeds. It grows in ſandy gravelly Places, and flowers in *May*.

The Root, which is only us'd, and either roaſted or raw, is of a pleaſant ſweetiſh Taſte, and is accounted nouriſhing, and to be a Provocative to Venery. It is likewiſe commended againſt the Strangury and bloody Urine. *Miller's Bot. Off.*

The Root of this Plant, when the Skin of it is taken off, proves a nouriſhing Food, but is ſubject to produce Crudities and Flatulences, in conſequence of its being with ſome Difficulty concocted. It is alſo emollient, and inſpiſſates the Juices; for which Reaſon the Uſe of it is often recommended to thoſe whoſe Fluids are too thin, and to ſuch as are phthiſical, conſumptive, and extenuated. *Alexander Trallianus, L. 7. C. 2.* informs us, that the Bulbocaſtanum, or Earth-nut, is of great Service, prepar'd in the Food of thoſe who are afflicted with a Spitting of Blood. *Bauhine*, from *Tragus*, tells us, that the excorticated Root of the Earth-nut, boil'd in Fleſh-broth, with a little Pepper, is a Food which is not only ſweet and nouriſhing, but alſo proves a Stimulus to Venery. The Seeds of this Plant are ſaid to be poſſeſs'd of a diuretic Quality.

Miller enumerates ſix Species of the *Bulbocaſtanum*.

BULBOCODIUM *vulgatius*, J. B. *Bulbocodium*, Theophr. *Codianum vel Codiaminum flore codii*, i. e. *Campanulæ*, Geſn. Hor. *Bulbus ſylveſtris et Codiaminum*, Geſn. Hor. *Narciſſus luteus ſylveſtris*, Dod. *Pſeudo-narciſſus*, Offic. *Et Anglicus*, Ger. 115. Emac. 113. *Pſeudo-narciſſus Anglicus vulgaris*, Park. Parad. 100. *Narciſſus luteus*, Merc. Bot. 1. 53. Phyt. Brit. 79. *Narciſſus ſeu Pſeudo-narciſſus Anglicus*, Mer. Pin. 83. *Narciſſus ſylveſtris pallidus, calyce luteo*, C. B. Pin. 52. Raii Hiſt. 2. 1131. Synop. 3. 371. Dil. Cat. Giſſ. 40. Tourn. Inſt. 356. *Bulbocodium*, Chab. 2. 2. WILD DAFFODIL. *Lemery*. *Dale*.

Bulbocodium is a Species of wild Narciſſus, about half a Foot high, with long ſtrait Leaves, bearing on the Top of its Stalk a beautiful, monopetalous, bell-ſhap'd, pale Flower, in a yellow, gold-colour'd, ſhining Calyx, which is incloſed in a membranaceous Sheath, and ſurrounded with ſix pale pointed Leaves. The Flower is ſucceeded by a round Fruit, with three Eminences; and its Inſide divided into three Capſules, which contain black, and almoſt round, Seeds. The Root is bulbous, and viſcid to the Taſte and Touch, with a kind of Sweetneſs, mix'd with a little Acrimony. It grows by the Sides of Fields, in Meadows and moiſt Places, and in Woods and Gardens. The Plant abounds with Oil, and eſſential Salt.

The Root is purgative and aperitive, and evacuates viſcid Phlegm. The Doſe is two Drams in an Infuſion. *Lemery des Drogues*.

It has the ſame Virtues as the Narciſſus, or common pale Daffodil. *Dale*.

The Root is emetic, and hurtful to the Nerves; but, outwardly, is ſaid to be good for Ambuſtions, Wounds, and Hernias. *Cluſius* aſſures us, that the Root of every Species of Narciſſus excites Vomiting, as he has often experienc'd; and *Lobel* ſays, that the Peaſants uſe to vomit themſelves with the Root of Bulbocodium. M. *Herman* ſays, the bruis'd Leaves are good for an Eryſipelas. *Raii Hiſt. Plant*.

BULBONACH, Offic. Phyt. Brit. 18. *Bulbonac annuum, ſiliqua rotundiore*, Rupp. Flor. Jen. 70. *Bulbonac vulgatiſſimè, viola lunaris, viola latifolia*, Phyt. Brit. 129. *Viola lunaris ſive Bulbonach*, Ger. 377. Emac. 464. Park. Theat. 1366. *Viola lunaris vulgaris*, Ejuſd. Parad. 265. *Viola lunaria major, ſiliqua rotunda*, C. B. Pin. 203. Raii Hiſt. 1. 787. *Lunaria major, ſiliqua rotundiore*, J. B. 2. 881. Tourn. Inſt. 218. Elem. Bot. 187. Boerh. Ind. A. 2. 5. *Leucoium lunatum, ſeu Lunarium latifolium majus annuum, ſiliqua rotunda, flore violaceo ſeu ſubcæruleo*, Hiſt. Oxon. 2. 245. Herm. Cat. 368. SATTIN or HONESTY. *Dale*.

The Stalk of it grows to the Height of a Cubit and a half, or more, and ſometimes to the Thickneſs of the little Finger, of an azure or dark-red Colour, and hairy. The Leaves are like the Nettle, but ſometimes twice or thrice as large, hairy, ſerrated, ſituated ſometimes oppoſite, and ſometimes ſingle, where the Branches divide, and taſting like Pot-herbs. The Branches, and the Summit of the Stalk, are laden with Flowers, diſpoſed almoſt in the ſame Order as in the Cabbage, of a purpliſh or carnation Colour, of the Size of thoſe of the common Cabbage, and leſs than thoſe of the *Leucoium*, but like them in other reſpects, of a faint Smell, with a whitiſh and remarkable *Unguis* on the Inſide. Four greeniſh Stamina, with yellow or pale Apices, but juſt emerge out of the Calyx, which is of an oblong Form, red, and compoſed of two larger and two ſmaller Leaves, being like the Calyx of the *Leucoium*. The Pods are wide, roundiſh, flat, bivalv'd, a ſilver-colour'd Rim paſſing between the exterior Laminæ on both Sides. They ſhoot forth a Filament at the upper End, and contain a double Row of flat orbicular Seeds. The Root is ſtrumous, or glandulous, whence it takes its Name, *Bulbonach*. The Seed i of a dark Red, and very large for the Kind, and of a very acri Taſte, mix'd with ſome Bitterneſs. It keeps its Leaves during Winter. The ſecond Year of its Planting, the Stalk drops, and falls to the Ground, and, when the Seed is ripe, periſhes. It grows plentifully in ſeveral Parts of *Germany* and *Hungary* in *England* it is cultivated in Gardens.

It is of a hot, bitter, and acrimonious Taſte, eſpecially th Seeds, tho' the Roots are eaten in Sallads. It abſterges moderately heats, and provokes Urine, like the *Rapunculus* The Powder of the bittereſt Seed is given, in a Water appropriated to the Diſtemper, for the Epilepſy. A Surgeon of *Switzerland*, with the bruis'd Leaves of the perennial *Lunaria*, or Bulbonach, and Sanicle, prepar'd a vulnerary Ointment of no contemptible Virtue. *Raii Hiſt. Plant*.

BULBUS.

The *Bulbus eſculentus*, being commonly eaten, is known t every Body. The reddiſh Sort, which is brought from *Africa* is agreeable to the Stomach and Belly; but the bitter and ſqui laceous Kind is more friendly to the Stomach, and helps Co coction.

The *Bulbi* are all acrimonious and heating, ſtimulating Venery, inducing a Roughneſs on the Tongue and Tonſi nutritiv nutritive, and increaſing the Fleſh, but they generate Inflations. They are effectual, in Cataplaſms, for Luxations, Contuſions, Darts, or other ſuch Weapons, lodg'd in the Fleſh, and for Pains of the Joints. They are good alſo in a Gangrene, and for the Gout, either alone, or mix'd with Honey. A Cataplaſm of Bulbi, with Honey and pounded Pepper, is ſucceſsfully apply'd to the œdematous Tumors of hydropical Perſons, and to the Bite of a Dog. They reſtrain Sweating, and mitigate the Pain of the Stomach. Mix'd with roaſted Nitre, they abſterge the Scurf and *Achores* of the Head. Alone, or mix'd with Egg-ſhells, they take off the Marks of Blows, or Spots (ἰόνθυς) in the Face; and, with Honey or Vinegar, they clear the ſame Part of Freckles. Mix'd with *Polenta*, they heal Fractures (θλάσματα) about the Ears, and Contuſions of the Nails. Roaſted in hot Cinders, and apply'd, with the Aſhes of the calcin'd Heads of Mænæ, (the Cackarel Fiſh, *Dale*) they remove a Ficus. Burnt, and mix'd with *Alcyonium*, it clears the Skin of Sun-burning, and black Cicatrices, if rubb'd on the Parts expoſed to the Sun. Boil'd in Vinegar, and eaten, they are effectual in Ruptures. It is adviſeable to abſtain from a plentiful Uſe of them, becauſe they affect the nervous Syſtem. *Dioſcorides*, *Lib.* 2. *Cap.* 200.

There is a Plant of the bulbous Kind, which, as *Alpagus*, in his Lexicon, obſerves, is call'd, by the *Arabians*, *Arzi Alnil*, or *Arz Arnil*. What it is, he explains from ſome *Arabian* Expoſitors, who ſay it is a Bulb of the Onion-kind, of a ſweet Taſte, grows in the Mountains, and is call'd, by the People of *Damaſcus*, *Arzi Alnil*, or *Haſnil*; and that it is eaten in the Spring, on account of its Sweetneſs. *Alpagus* adds, That this Bulb was of the Shape and Size of the Pear commonly call'd the Muſcadel, and was ſurrounded with a fine hairy Tegument, in manner of a Net, from which proceeded many long and fine Leaves; that it grows on Mountains, and was call'd by the *Arabian* Naturaliſts *Bulbus*. This is the *Bulbus* which *Aviſena* call'd by that Name, and ſays is the ſame as the *Bulbus eſculentus* of the *Greeks*, and that it is of the Shape and Size of the Bulb of the Narciſſus, has a Leaf like a Leek, and a Flower like a Violet.

Dioſcorides has given no Deſcription of the *Bulbus eſculentus*, nd, by that means, has put all our Botaniſts to the Trouble of earching it out, and they have not yet found it. *Aviſena* akes it for what we have ſaid above; tho' he ſhews, at the ſame ime, that the Matter is no leſs doubtful among the *Arabians*. ome, he ſays, think it to be the *Azzir*, which is a kind of Onion, which has the ſame Virtues, he tells us, as another Onion call'd *Baſſal Alfar*, that is, the *Mouſe-onion*. Others, e ſays, take it for the *Cepe Althalcair*; for ſo *Alpagus*, in his Lexicon, reads the Words, and expounds them of a ſmall obng Species of Onion, which the *Venetians* commonly call *Scalogna*, and is the *Cepa Aſcalonica* of the Antients.

Since there are ſo many Species of Bulbs, it is no wonder at the *Arabians* are not certain on which to fix for the βολϐὸς ώδιμος, "*Bulbus eſculentus*," of the *Greeks*. *Aviſena* takes as above, and calls it alſo *Baſal Macul*. *Baſal* is a Name com- on to all the cepaceous Kinds, from the *Hebrew* בצל, which gnifies an Onion. *Serapio* takes the *Baſal Azzir* for the *Bul-* s, and quotes the Place of *Dioſcorides*, concerning the *Bulbus*, der that Head, which he expounds by an *Onion without* *ats.* But the *Arabian* Interpreters, whoſe Opinion is given by *Alpagus*, have confounded the Bulb of the *Egyptian* Lotos, Nymphæa of *Nile*, which was call'd *Arz Elmil*, or *Haſnil*, ith that eatable Bulb, which was call'd by the *Arabians* abſoely *Bulbus*.

Dioſcorides ſeems to make two Sorts of the *Bulbus eſculentus*; e ſweet, and the other bitter, and ſavouring of the Sea- ion, or Squilla. *Aviſena*, in his Chapter of the *Bulbus eſcu-* *us*, towards the End, quotes the Words of *Dioſcorides*, and, ike manner, makes two Kinds, the ſweet, and the bitter; e ſweet, which is red, is good for the Stomach, but the bitter nd is better. *Pliny* tells us, that the *Bulbi* differ in Bigneſs, our, and Sweetneſs. Some Sorts are eaten raw, which, that Reaſon, muſt be ſweet; theſe grow, he ſays, in the *rica Cherſoneſus*. Next in Goodneſs, of the ſame kind, the *African*, and, after them, the *Apulian*. The *African*, refore, muſt be ſweet. *Dioſcorides* makes the *African* bi red and ſweet; on the contrary, *Heraclides Taren-* s, in *Athenæus*, ſays they were white and bitter. ſe are Contradictions; yet *Dioſcorides* mentions *Heraclides* *entinus* as one of his Authors. The antient *Greeks* highly mend the Bulbus of *Megara*. *Theophraſtus* writes, that s, in ſome Places, are ſo ſweet, that they are eaten raw, n the *Taurica Cherſoneſus*. At preſent we are ignorant of *Bulbus eſculentus* of the Antients, as well of the ſweet as itter Kind; nor have our Botaniſts obſerv'd, that *Dioſ-* *es* makes two Sorts of *Bulbs*, beſides the *Bulbus vomitorius*, h are the ſweet and red, brought out of *Africa*, and the on bitter Sort, which were known to every body.

here was alſo a ſweet *Bulbine*, which *Theophraſtus* does not n among the βολβοὶ, (*Bulbi*) but the βολβώδη (*Bulbodea*). indeed, the βολβίνη is ſo call'd, from its Similitude to the βολβός. Thus we meet with καρδαμίνη, ἑλλεβορίνη, (*Cardamine*, *Helleborine*) and the like. *Heraclides Tarentinus*, before quoted in *Athenæus*, ſays, that what we call the *Bulbine* is of better Juice than the *Bulbus*, but not ſo agreeable to the Stomach, becauſe it had ſomewhat of a pinguious Sweetneſs. Perhaps this *Bulbine* was the ſweet *Bulbus* of *Dioſcorides*, which, he ſays, was leſs agreeable to the Stomach than the bitter Sort.

Pliny, *Lib.* 20. *Cap.* 9. writes, that the *Greeks* call'd by the Name of *Bulbine* an Herb which had the Leaves of a Leek, and a red Bulb. On the contrary, *Matron*, in *Athenæus*, makes it have a Bulb whiter than Snow; and *Theophraſtus* reckons the *Bulbine* among thoſe bulbaceous Plants which were white, and not inclos'd within ſeveral Coats; ſuch, he ſays, grew in the *Taurica Cherſoneſus*.

They who take the *Cepa Aſcalonica* for the *Bulbus* of the Antients, are utterly in the wrong. The Antients plainly diſtinguiſh between what was properly call'd βολβὸς, and every thing of the cepaceous Kind; and *Theophraſtus* even reckons among the βολβώδη ſome things which were different from the βολβοὶ, properly ſo call'd. He calls them *Bulbodea*, from the Similitude, becauſe they had a round Root like the *Bulbus*, tho' not inclos'd in Scales or Coats. The *Bulbus*, therefore, conſiſts of ſeveral Coats, one within another. In another Place he ſays, of the Root of the Narciſſus, that it was much like the *Bulbus*, πλὴν ȣ λεπαρώδης, "but not conſiſting of Scales or "Coats." The *Arabians* knew no more of the *Bulbus* than the Moderns, as appears from the Chapter of *Aviſena* on the *Bulbus eſculentus*; and they retain'd the *Greek* Term βολβὸς, becauſe they knew not how to give a Name to a thing of which they were wholly ignorant. *Salmaſius de Homonym. Hyl. Iatr. Cap.* 114.

Paulus Ægineta, *L.* 1. *C.* 76. informs us, that the "Bulbs "are of an aſtringent abſtergent Quality, and procure an Ap-"petite; that they ſtrengthen the Stomach, and promote the "Expectoration of viſcid Humours; that, when twice boil'd, "they become more nouriſhing, but loſe their emollient Qua-"lity, ſince, by that means, their Bitterneſs is deſtroy'd; "that they increaſe the Quantity of the ſeminal Fluid, and, "conſequently, prove a Stimulus to Venery, if us'd in large "Quantities; that they excite Inflations and Gripes; but that, "if eaten with Oil, Garum, and Vinegar, they are very "grateful to the Palate, eaſily digeſted by the Stomach, ceaſe "to prove flatulent, and nouriſh very much."

Matthiolus informs us, that *Galen* accounted the *Bulbus eſculentus* cold; and thought that it render'd the Juices viſcid, was with Difficulty concocted, produc'd Flatulences, and prov'd a Stimulus to Venery; but that, when it was apply'd by way of Ointment, it cleanſed and agglutinated, in conſequence of its Bitterneſs, and aſtringent Qualities. *Celſus*, *L.* 2. *C.* 18. reckons all the Bulbi among the Pot-herbs *valentiſſimi generis*, by which, in all Probability, he means ſuch as afford a great deal of Nouriſhment; and, in the twenty-third Chapter of the ſame Book, he aſſerts that they generate a thick Phlegm. 'Tis no difficult Taſk to aſſign a Reaſon for the *Bulbi* being thought of hard Digeſtion, and calculated to inſpiſſate the Humours, ſince they themſelves abound with a tough and viſcid Juice. That they were us'd by the Antients in Food, as a Stimulus to Venery, is a Circumſtance not to be doubted. Accordingly *Martial*, in the ſeventy-fifth Epigram of his third Book, gives them the Epithet *Salaces*, in conſequence of the Effects they produc'd in the Conſtitution; and, in the thirty-fourth Epigram of the ſame Book, he gives the following Advice:

> *Cum ſit anus conjux, & ſint tibi mortua membra,*
> *Nil aliud bulbis quàm ſatur eſſe potes.*

And *Ovid*, when preſcribing for the Cure of Love, he enumerates ſuch things as are to be abſtain'd from, he ſings thus:

> *Daunius an Libycis bulbus tibi miſſus ab oris,*
> *An veniat Megaris, noxius omnis erit.*

Bulbus vomitorius, Offic. *Muſcari Cluſii*, ASH-COLOUR'D GRAPE-FLOWER, Ger. 105. Emac. 120. *Muſcari obſoletiore flore*, Tourn. Inſt. 348. *Muſcari majus, obſoleto flore*, Elem. Bot. 288. *Muſcari obſoletiore flore ex purpura virente*, Boerh. Ind. A. 2. 114. *Hyacinthus racemoſus moſchatus*, C. B. Pin. 43. Raii Hiſt. 2. 1162. *Hyacinthus racemoſus ſeu botryoides major, ſeu Muſcari majus, obſoleto albo flore*, Hiſt. Oxon. 2. 372. *Hyacinthus botryoides major moſchatus, ſive Muſchari flore cinericeo*, Park. Parad. 112. *Hyacinthus odoratiſſimus, dictus Tibcadi & Muſcari*, J. B. 2. 578. *Hyacinthus odoratiſſimus, Dipcadi & Muſcari dictus*, Chab. 207. MUSK-GRAPE-FLOWER. *Dale.*

The *Bulbus* called *vomitorius* has a Leaf as flexible as Leather, and much longer than thoſe of the *Bulbus eſculentus*; its Root indeed is like the Root of that Bulbus, but cover'd with a black Rind.

This Root eaten alone, or a Decoction thereof drank, is a Remedy for Defects of the Bladder, and provokes Vomiting. *Dioſcorides, Lib.* 2. *Cap.* 201.

It produces five or ſix oblong Leaves, which ſpread themſelves on the Ground in a diſorderly manner, and are obliquely inflected, chanelled, and ſufficiently ſubſtantial and juicy, being very like the Leaves of the larger tufted Hyacinth, and ſhewing their fine Stamina, even when they are broken, but not ſo abundantly as the Leaves of the *Hyacinthus Eriophorus*, which, when firſt they bud, turn purple or whitiſh, and ſometimes become of a very beautiful Red. From the midſt of the Leaves in the Spring-time ſhoots up a pretty thick, round, and naked Stalk, very weak in proportion to its Thickneſs, and ſurrounded with Cluſters of Flowers, from the Middle almoſt to the Top. Theſe Flowers pretty well reſemble a ſmall Drinking-cup, and are at firſt purpliſh or green, afterwards of a Purple inclining to Green, or of a whitiſh-green, ſometimes of a ſort of Sea-green Colour; ſometimes they are black in the Beginning, or of a deep Purple, and afterwards turn pale or yellowiſh; or they are pale at firſt, and grow yellow afterwards, and, when they begin to wither, turn black, or dark-colour'd; and this kind are more bluntly mucronated than others. Sometimes, when they begin to wither, they emit a moſt grateful Odour, almoſt like that of Muſk or Spices. There are ſome found of a Snow-white Colour, and of a moſt lively Red, but I had never the Fortune to meet with any ſuch. They are all ſucceeded by very large, triangular, and as it were pinnated Heads, containing black round Seed, of the Size of the *Orobus*. The Root is large, whitiſh, perennial, and compoſed of many Coats like the Onion, and ſtrengthen'd with many thick Fibres, which proceed from its Baſe, and are perennial, not withering and periſhing every Year, like the Fibres of the Hyacinths, Narciſſuſes, Tulips, Lilies, and many other bulbous Plants. The Flowers being to unfold from the Baſe, as in other Plants of the bulbous kind, which bear their Flowers in Spikes or Cluſters.

It grows in the Gardens about *Conſtantinople* plentifully, and beyond the *Boſporus* in *Aſia*, from whence according to *Cluſius*, it was originally imported into *Europe*. *Raii Hiſt. Plant.*

It flowers in the Month of *April*, and its Root is only in Uſe. When chew'd, or drank by way of Decoction, it cures Diſorders of the Bladder.

See Bulbus, in the Explication of Botanical Terms in Botany.

BULEUMA, βούλευμα. The ſame as *Conſilium*, which ſee.

BULIMIA, BULIMIASIS, BULIMUS. The ſame as Boulimos, which ſee.

BULITHOS, βούλιθος, from βοῦς, an Ox, and λίθος, a Stone. A Stone often found not only in the Gall-bladder, but alſo in the Kidneys and Bladder of an Ox; ſo that *Ariſtotle* ſeems to be miſtaken, *Sect.* 10. *Prob.* 42. where he labours to give a Reaſon, why Man only is afflicted with the Stone. *Caſtellus*. See Bos.

BULLA, πομφόλυξ. A Bubble. It is generated, according to *Galen, Com. in Lib.* 7. *Aph.* 34. "by a Flatus included "within a humid Subſtance." This happens moſt frequently when this Humid has ſomething of Tenacity, which renders the Bubble more ſtable, and leſs liable to Diſſolution. Πομφόλυγες (Bubbles) in *Heſychius* are expounded αἱ ἐν τῷ ὕδατι γινόμεναι οἰδήσεις, ἢ φυσήματα ὕδατος, "Tumors generated in "the Water, or flatulent Swellings of the Water." In *Hippocrates, Lib.* 7. *Aph.* 34. ὁκόσοισι δ' ἐπὶ τοῖσιν οὔροισιν ἐφίστανται πομφόλυγες, νεφριτικὰ σημαίνουσι, καὶ μακρὴν ἀῤῥωστίην ἔσεσθαι. "Bubbles ariſing in the Urine indicate Nephritic Diſorders, "and a long Diſeaſe."

Bullæ is uſed to ſignify Puſtules ariſing in the Eye, or proceeding from Combuſtions in any Part. *Galen. de Simp. Fac. Lib.* 6. & 9.

BULLIMENTA. A Word uſed by ſome Chymiſts to ſignify Gold and Silver Veſſels, as they appear after Waſhing and Scouring, that is, with a glittering Brightneſs. *Caſtellus.*

BUMELIA, βουμελία, from βοῦ, a Particle adding Greatneſs, and μελία, an Aſh. A Species of Aſh. See Fraxinus. *Blancard.*

BUNA. See Coffee.

BUNIAS, *Napus dulcis*, Offic. *Napus*, J. B. 2. 842. Chab. 272. Raii Hiſt. 1. 801. Park. Parad. 509. *Napus ſativa*, C. B. Pin. 95. Hiſt. Oxon. 2. 114. Rupp. Flor. Jen. 65. Buxb. 231. *Bunias*, Ger. 185. Emac. 235. NAVEW-GENTLE. *Dale.*

The boiled Root of the Bunias generates Inflations, and affords but little Nouriſhment. The Seed drank prevents the ill Effects of Poiſons, for which Purpoſe it is mixed in Antidotes. The Root is preſerv'd as a Pickle. *Dioſcorides, Lib.* 2. *Cap.* 136.

Thoſe Leaves of the *Garden-navew*, which lie on the Ground, are long and large, deeply cut in, and in Shape like a Turnep-leaf, but leſs, and very little hairy. The Stalks grow to be two or three Foot high, beſet with ſmaller Leaves, ſmooth as well as the Stalk, and little or nothing jagged, eſpecially thoſe which grow higher upon the Branches, which are round and broad at Bottom, and encompaſs the Stalk, ending in a narrow Point of a bluiſh-green Colour. The Flowers grow many together on the Tops of the Stalks, made of four bright yellow Leaves, and are ſucceeded by long cylindrical Pods, containing ſmall round black Seed; the Root is white, longer and ſlenderer than a Turnep, but much like it in Taſte. It is ſown in Gardens, and flowers in *April*; the Root is uſed in Food, and the Seed in Phyſic.

The Seed is commended by the Antients as good againſt all kinds of Poiſons, and the Bites of venomous Creatures, to provoke Urine, and the Menſes. *Matthiolus* extols it againſt all kinds of infectious Diſtempers, to expel Malignity, and chear the Heart, as alſo to drive out the Small-pox and Meaſles. It is an Ingredient in the *Theriaca Andromachi*. *Miller's Bot. Off.*

Theſe Seeds are ſaid to be heating, drying, abſterging, aperitive, and digeſtive; and to be Enemies to Venery.

Napus Sylvestris, Offic. C. B. Pin. 95. Raii Hiſt. 1. 802. Synop. 3. 295. J. B. 2. 843. Chab. 272. Hiſt. Oxon. 2. 114. Rupp. Flor. Jen. 65. Dill. Cat. Giſſ. 5 Buxb. 232. *Napus, Bunias*, Merc. Bot. 1. 52. Phyt. Bri 79. *Bunias ſylveſtris Lobelio*, Ger. 181. Emac. 235. *Bunias ſive Napus ſylveſtris*, Park. Theat. 865. Mer. Pin. 1 RAPE.

It grows amongſt Corn, and on the Sides of Ditches. flowers in Summer. The Seed is in Uſe. It agrees with th former in Virtues, but is ſomewhat more acrid. *Dale.*

This is a much leſs Plant than the Garden Navew, havin a long, ſlender, whitiſh, ſticky Root, full of Fibres at th Bottom; the lower Leaves are leſs, and much jagged, a round at the Ends. The Stalks are ſmooth, and beſet wi the like ſmaller Leaves; the Flowers and Seed are much alik *Miller's Bot. Off.*

Pseudo-bunium, Offic. *Napus ſylveſtris Cretica*, B. Pin. 95. Park. Theat. 865. CANDY WILD N VEW.

The Herb is only in Uſe, and is found in the Iſland *Crete*. According to *Dioſcorides* it cures Gripes, Stranguri and Pains of the Sides. It alſo diſcuſſes ſcrophulous Tumo if mix'd with Salt and Wine, and apply'd to them by way Ointment.

'Tis a Controverſy hotly agitated among the Literati, w ther the Seeds of the *Napus dulcis*, or thoſe of the *Napus veſtris*, ought to be uſed in the Compoſition of the Treacle. The Seeds of the former are for this Purpoſe in our Shops. In this they imitate the *Greeks*; for *Dioſcor* makes not the leaſt mention of any of the *Napus ſylveſt* *Andromachus* the elder, alſo, orders the Seeds of the *dulcis*; and *Matthiolus*, in the fifth Book of his Epiſtles *Balthaſerus*, affirms, that the Seeds of the *Napus dulcis* Poiſon more powerfully than thoſe of the *Napus ſylveſt* *Andromachus* the younger, when enumerating the ſeveral ples which enter the Compoſition of the *Theriaca*, comme the Seeds of the *Napus ſylveſtris*, as being more acrid, an Conſequence more efficacious in promoting the Intention the Medicine. But *Galen*, in his firſt Book *de Antidotis*, fers from both theſe Opinions, and recommends the Seeds the *Pſeudo-Bunium*, as moſt proper for compoſing the *The ca. Dale.*

BUNITES *Vinum*, βουνίτης οἶνος, Wine of *Bunium*, is by putting two Drams of *Bunium* into two Quarts of and letting it ſtand for a Quarter of a Year, and then ing it off.

It is good in Diſorders of the Stomach, and relieves ſu are fatigu'd with Riding or Fencing. *Dioſcorides, Cap.* 56.

BUNIUM, βούνιον. Wild Parſley. See Apium.

BUPEINA, βούπεινα, from βοῦ the augmentative Part and πεινάω, to hunger. The ſame as Boulimos, ſee.

BUPHAGOS, βούφαγος. The Name of an Antidot *Marcellus Empiricus, Cap.* 29. againſt the Colic.

BUPHTHALMUM, Offic. Chab. 364. *Buphthal cotulæ folio*, C. B. 134. Raii Hiſt. 1. 341. *Buphthal peregrinum*, Alp. Exot. 221. *Buphthalmum alterum, folio*, Park. 1371. *Buphthalmum peregrinum Alpino*, 1371. *Buphthalmum verum*, Ger. 607. Emac. 746. *phthalmum tenuifolium, folio Millefolii fere*, J. B. 3. 124. Oxon. 3. 16. *Chryſanthemum cotulæ folio*, Her. Cat. *Chryſanthemum folio cotulæ*, Flor. 2. 46. *Chryſanthem terum, cotulæ latiori folio*, P. Al. *Cotula flore luteo* Elem. Bot. 396. Tourn. Inſt. 495. OX-EYE.

The *Buphthalmum*, by ſome called *Cachlan*, ſends fort der, and ſomewhat ſlender Stalks, with Leaves like th Fennel, and yellow Flowers, larger than thoſe of the *An* and reſembling an Eye, whence it took its Name. in Fields, and about Cities and Towns.

The bruiſed Flowers with Cerate diſcuſs œdematous Tumors and Hardneſſes. They ſay, that *Buphthalmum*, drank after coming out of the Bath, reſtores, after ſome time uſing it, a good Complexion to thoſe who are diſcolour'd with the yellow Jaundice. *Dioſcorides*, *Lib*. 3. *Cap*. 156.

Ox-eye is a Plant which has a great many ſhrubby Branches, whereon grow fine winged Leaves, like Yarrow, but ſhorter, ſtiffer, and ſomewhat white and hoary: Each Stalk is terminated by one pretty large corymbiferous Flower, of a deep yellow Colour like a Marigold, but that the middle Thrum is larger in proportion, and the Petala are much ſhorter and firmer. The Root is ſmall and fibrous. It grows wild in ſome Parts of the North of *England*, and flowers in *June* or *July*. It is ſeldom or never uſed: But that which is called the Ox-eye in the Shops, is the *Bellis major*. *Miller's Bot. Off.*

There is another Sort of *Buphthalmum* thus diſtinguiſh'd.

BUPHTHALMUM GERMANICUM, Offic. *Buphthalmum vulgare*, Raii Hiſt. 1. 341. Synop. 3. 18. Ger. Emac. 747. *Buphthalmum tanaceti minoris folio*, C. B. Pin. 134. Chomel. 2. 692. Boerh. Ind. A. 106. Tourn. Inſt. 49. Elem. Bot. 396. Rupp. Flor. Jen. 136. Dill. Cat. Giſſ. 159. Buxb. 47. *Buphthalmum Matthioli ſive vulgare, millefolii foliis*, Park. Theat. 1370. *Chamæmelum Chryſanthemum quorundam*. J. B. 3. 122. *Chamæmelum Chryſanthemum quorundam: Buphthalmum multis*, Chab. 363. *Chryſanthemum perenne, brevioribus & incanis foliis tanaceti inſtar alatis*, Hiſt. Oxon. 3. 20. COMMON OX-EYE.

This Herb is ſaid to be aperitive, vulnerary, and to be good for a Jaundice; but it is ſeldom met with in our Shops.

Miller takes Notice of five Species of this Plant.

BUPLEUROIDES, βουπλευροειδὴς, from βούπλευρον, Bupleuron, and εἶδος, a Form or Shape, that is, a Plant much of the Figure of the *Bupleuron*. It is thus deſcribed.

The Leaves grow together by Twos and Threes in the ſame Place. The End of the Foot-ſtalk bears an oblong Ovary, the Apex of which is crown'd with a naked, herbaceous, pentapetalous Flower, the Petals being rolled up, incloſing five Stamina. The Ovary has a Tube cleft in two, the Apices of which are backwards, and rough. When ripe, it paſſes into two longiſh Seeds; the Flowers are diſpoſed in the Form of an Umbel or Umbrella. It is an Evergreen. *Miller's Dict.*

I find no Medicinal Virtues aſcrib'd to it.

BUPLEURON, βούπλευρον, from βοῦς, an Ox, and πλευρὸν, a Side, becauſe it is ſaid to cauſe a Crepitation of the Side of an Ox, but more probably, becauſe it affords the Ox a Bed: Or it may be ſuppoſed to be ſo called, becauſe the Leaves bear ſome Reſemblance to the Ribs of an Ox; or of βοῦ, great, and πλευρὸν, Side, as the *large Rib*. *Miller's Dict.*

The Plant uſually underſtood by this Name is thus diſtinguiſhed.

BUPLEURUM, Offic. Ind. Med. 23. *Bupleurum folio ſubrotundo, ſive vulgatiſſimum*, C. B. Pin. 278. Rupp. Flor. Jen. 226. Raii Hiſt. 1. 473. Tourn. Inſt. 309. *Bupleurum anguſtifolium herbariorum*, Elem. Bot. 259. *Bupleurum anguſtifolium*, Buxb. 47. *Bupleurum perenne anguſtifolium*, Mor. Umb. 26. *Bupleurum perenne, longis & anguſtis foliis incurvis*, Hiſt. Oxon. 3. 300. *Auricula leporis umbella lutea*, J. B. 3. 200. Chab. 409. HARES-EAR.

It grows in hilly Places; flowers in *July* and *Auguſt*. The Herb is in Uſe. It is accounted a good Drier, Aperitive, and Diſcutient; it expels Urine and Sweat, and mundifies Wounds. *wing. Theat. Dale.*

Its under Leaves are ſometimes oval, and much larger than e others: Both they and the Root are well drawn in *Tragus*'s igure. This Plant is very well deſcribed in *Cordus*, who lls it *Hyſophyllon*, and makes uſe of *Tragus*'s Figure. The igures of other Authors repreſent only the Leaves which acompany the Stalk of this *Bupleurum*, and reſemble thoſe of ogs-graſs: Which is the Reaſon, that they very well expreſs other Plant alſo of the ſame Family, which grows in *Provence* and *Languedoc*, but is annual. *M. Magnol* has named *Bupleuron annuum anguſtifolium Bot. Monſp.* He obſerves, t it is the *Auricula Leporis Monſpelienſium, Plantaginis minoris folio*. *Geſn. Dodonæus*'s Figure repreſents it not amiſs. *C. Bauhine* has confounded *Geſner*'s Plant with that of which are ſpeaking. *Martyn's Tournefort.*

BUPRESTIS, Offic. Aldrov. de Inſect. 487. Jonſ. de Inſ. 78. Mouff. Inſect. 141. Charlt. Exer. 48. THE BURNOW. *Dale.*

The Bupreſtes, which are a kind of Cantharides, are cured Uſe like Cantharides, and ſo are the *Erucæ* of Pine-trees. theſe laſt muſt be roaſted a little while in a Sieve hung r hot Aſhes, before they are repoſited.

They are all, in common, of a ſeptic, exulcerating, and ing Quality; for which Reaſon they are mix'd up with dicines adapted to the Cure of a Carcinoma, Lepra, and gnant Lichen. Mix'd in emollient Peſſaries, they provoke Menſes. Some affirm, that Cantharides mix'd with Antes help the Dropſy, becauſe they provoke Urine; and others have written, that their Wings and Legs taken internally are an Antidote. *Dioſcorides*, *Lib*. 2. *Cap*. 66.

Bupreſtis, βούπρηστις, is deriv'd from the intenſive Particle βοῦ, and πρηστὴρ, a Burner, from πρήθω, to burn, becauſe it is an Inſect of a very inflammatory Quality; or, as ſome will have it, from βοῦς, an Ox, and the aforeſaid Word; for if an Ox, they ſay, ſwallow this Inſect, he dies of an Inflammation and Tumor of the Abdomen. *Caſtellus*. *Blancard.*

Pliny, *Lib*. 30. *Cap*. 4. ſays, "It is rarely found in *Italy*, "and is like a long-legged Beetle, and is moſt pernicious to "Black Cattle, who devour it among the Graſs, whence "it takes its Name; for it ſo affects their Gall, as to cauſe "an Inflammation and Rupture of the Bladder." And the ſame Author, *Lib*. 22. *Cap*. 22. ſays, "that the *Greeks* by a "ſtrange Inconſiſtency commend it in Food, and preſcribe "Remedies againſt it as a Poiſon, which its very Name ſhews "it to be at leaſt to Black Cattle, which, they confeſs, will "burſt upon eating of it." *Vegetius*, *Artis Veterinariæ Lib*. 3. *Cap*. 78. ſays, "That if a Horſe chance to eat a *Bupreſtis* "in his Hay, or at Graſs, his Belly becomes inflated, he ſtarts "back from his Fodder, he dungs little and often, in which "Caſe you muſt immediately ſaddle him, and put him upon a "Courſe."

Βούπρηστις in *Galen*'s Exegeſis is expounded, *τό τε ζῶον τὸ τῇ κανθαρίδι παραπλήσιον, ἔτι δὲ καί τι λάχανον ἄγριον, οὗ μέμνηται Διοσκορίδης ἔν τε τῷ πρώτῳ τῶν ὑγιεινῶν, καὶ ἐν τῷ περὶ λαχάνων·* "The *Bupreſtis* is an Animal much like Cantharides, and al"ſo a wild Green, mention'd by *Dioſcorides*, in his Book of "wholſome Things, and in his Book of Greens." The Bupreſtis, Animal, is often uſed by *Hippocrates*, *Lib*. 1. περὶ γυναικ. and *Lib*. περὶ γυναικ. φύσ. in Peſſaries, for a Strangulation of the Uterus, and to provoke the Menſes. *Theophraſtus* mentions the Bupreſtis among Greens. *Hiſt. Plant. Lib*. 7. *Cap*. 8.

The Bupreſtis, βούπρηστις, is a kind of little Animal like the Cantharis, which if an Ox happens to eat, he immediately ſwells and dies; and from this Effect it takes its Name. Βούπρηστις is alſo a kind of Green. *Heſychius*, βούπρηστις λαχάνου εἶδος, "The Bupreſtis, &c." This Green took that Name not from cauſing Inflations in Black Cattle, but becauſe it was a large Sort of *Preſtis*, a Green ſo called, for what Reaſon I know not. So βουλάπαθον (Bulapathum) is a great Lapathum; and βουσέλινον (Buſelinum) is a large Sort of Apium; and βούσυκα (Buſyca) large Figs. *Pliny* did not imagine, that Bupreſtis was a common Name for two different Things; and therefore ſays, *Lib*. 22. *Cap*. 22. *Bupreſtim magna inconſtantia Græci in laudibus ciborum etiam habuere, iidemque remedia tanquam contra venenum prodiderunt. Et ipſum nomen indicio eſt boum certe venenum eſſe, quos diſſilire deguſtata fatentur.* "The *Greeks* with great Inconſiſtency, &c." (See before). Here the want of Conſideration in *Pliny* is much to be admir'd for blaming the Inconſiſtency of the *Greeks* with reſpect to the Bupreſtis; for the Bupreſtis, which is Poiſon to Black Cattle, is quite another thing from the Bupreſtis, which the *Greeks* commend in Food: This is a Green, that a poiſonous Animal. When they therefore preſcribe Remedies againſt the Bupreſtis, it is againſt the Animal; when they commend it in Food, they mean the Herb or Green of that Name; ſo that there is the ſame Name, but not the ſame thing, nor perhaps the ſame Etymology of that Name. But the *Greeks* very clearly diſtinguiſh the Bupreſtis by the Words following, βούπρηστις τό τε ζῶον, &c. (See before). But *Pliny* confounds together not only Things which are really homonymous, but ſometimes ſuch as have ſome Similitude of Names, or where they differ only in Accent. Thus he makes ἀδίαντον (Adiantum) a Topiarian Plant, when he intended ἄκανθα (or Acanthum); and the Herb ἑλξίνη to be the ſame with the ἰξίνη of *Theophraſtus*, with an infinite Number of other ſuch Miſtakes. *Salmaſii Prolegom. in Homonym. Hyl. Iatr. p*. 3.

It ſeems to belong to the kind of Cantharides, but it is more oblong in Body; and the cruſtaceous Integument of its Wings appears outwardly of a green, inclining to yellow, or rather is of a Gold-colour; it has alſo longer Legs, and ſomewhat thicker. The Eyes are globous and prominent, and from the Forehead, near the Eyes, proceed two oblong articulated Horns. The Head is but ſmall, but the Mouth wide, hard, ſtrong, forcipated, and armed with Teeth, with which it wounds and bites cruelly; the Belly is not round, but runs out in Length. *Dale.*

BUR. A Term in *Helmont*, the Meaning of which may be beſt known by giving the entire Paſſage in which it occurs, which runs thus. "Water putrefying (*fracaſcens*) in the "Earth acquires either a local or a native (*inſitum*) Seed; for "which Reaſon it either paſſes into a Liquor, which I call "*Leſſas*, for the furniſhing of all Plants, or into a mine"ral Juice called *Bur*, according to the Species choſen by "the Direction of the Seeds." *Elementa*, 13.

BURAC. All kinds of Salts; but ſome diſtinguiſh them into *Baurac*, *Denequat*, *Borago*, *Borax*, *Uritar*, and *Angar*. *Rulandus*.

BURDO, *Burdus*. A Colt, or young Mule, the Liver and Teſticles of which laſt are recommended by *Aldrovandus, de Quad. L.* 1. *C.* 4. for their Medicinal Virtues. *Caſtellus.*

BURDUNCULUS. The Name of an Herb in *Marcellus Empiricus*, otherwiſe, as he ſays, called *Lingua Bovis.*

BURINA. Pitch. *Rulandus.*

BURIS. A Name given by *Avicenna* to a ſcirrhous Hernia, cauſed by the Lapidoſity of a hard Abſceſs. *Caſtellus.*

BURNEA. Pitch. *Johnſon.* I ſuppoſe he means BURINA.

BURRHI SPIRITUS MATRICALIS, or *Burrhus* Spirit for Diſorders of the Matrix, is thus prepar'd:

> Take of Maſtich, Myrrh, Olibanum, and Amber, each two Ounces: Bruiſe them together, and add twenty-four Ounces of rectify'd Spirit of Wine: Digeſt for four Days, and afterwards diſtil to three Fourth-parts. *Pharmacop. Leydenſ.*

Boerhaave us'd this much in his Preſcriptions.

BURSA PASTORIS, Offic. Ger. 214. Emac. 276. Mer. Pin. 17. *Burſa paſtoris major vulgaris*, Park. Theat. 866. *Burſa paſtoris major*, Merc. Bot. 1. 24. Phyt. Brit. 18. *Burſa paſtoris major, folio ſinuato*, C. B. Pin. 108. Rupp. Flor. Jen. 68. Tourn. Inſt. 216. Elem. Bot. 185. Boerh. Ind. A. 2. 9. Buxb. 48. *Burſa paſtoris major, capſula cordata, foliis laciniatis*, Hiſt. Oxon. 2. 304. *Burſa paſtoria*, J. B. 2. 936. Chab. 295. Raii Synop. 3. 306. Dill. Cat. Giſſ. 45. *Thlaſpi fatuum, Burſa paſtoris dictum*, Raii Hiſt. 1. 838. Synop. 2. 176. SHEPHERD'S-PURSE. *Dale.*

The lower Leaves of *Shepherd's-purſe* lie flat on the Ground, in a round Compaſs, three or four Inches long, narrow, and cut into ſeveral Gaſhes, a little hairy. The Stalk is ſlender, about a Foot high, branch'd towards the Top, beſet with a few whole Leaves, which are ſharp-pointed, and ſet cloſe on, without Foot-ſtalks. The Flowers are ſmall, white, and four-leav'd, and are ſucceeded by three ſquare Seed-veſſels, in Shape of a Purſe, containing very ſmall reddiſh Seed. The Root is whitiſh, woody, and full of Fibres, but little Taſte. It grows every-where among Rubbiſh, Banks and Walls, and flowers all the Summer. *Miller's Bot. Off.*

It is of an herby Taſte, a little ſaltiſh, and deterſive. The Juice of its Leaves gives a faint-red Colour to blue Paper, which gives us Reaſon to imagine, that, in this Plant, the Sal Ammoniac, which is natural in the Salt of the Earth, predominates over the other Principles; this Sal Ammoniac is diſſolv'd in a conſiderable Quantity of Phlegm, and is temper'd by a good deal of Earth, and a little Sulphur.

This Plant does not yield much Acid, by a Chymical Analyſis; almoſt all that is extracted from it is Alcaline.

There are but few Plants which yield more concrete volatile Salt, fix'd lixivial Salt, and Earth. Theſe Principles, mix'd together, render the *Shepherd's-purſe* proper to diſſolve the Blood, when it is thicken'd by foreign Acids, which hinder it from paſſing, with its ordinary Velocity, from the Arteries into the Veins; to which we may refer the greateſt Part of Defluxions. Beſides, the Earth, which is in this Plant, eaſily imbibes the Seroſities, which occaſion a Relaxation of the Fibres; thus, by the Conſent of all Authors, it is vulnerary and aſtringent; it is alſo believ'd to be febrifugous and lenitive. The Juice of its Leaves drank, from four Ounces to ſix, is an excellent Remedy in all Loſſes of Blood, and in Defluxions attended with an Inflammation. They boil a Handful of it in lean Broth, and employ it in Ptiſans, Glyſters, and Cataplaſms. Its diſtil'd Water has little or no Virtue; it is nothing but the Phlegm ſeparated from the other Principles.

It is found almoſt all the Year; for it propagates itſelf by Seed towards the End of the Summer. *Martyn's Tournefort.*

Thoſe People are miſtaken, who imagine that the ſtyptic and aſtringent Qualities of the Shepherd's-purſe are owing to its Coldneſs; for, like *Alcohol* of Wine, it acts by a hot and acrid Quality, either ſtrengthening and conſtricting the Veſſels, by burning them, or coagulating the Juices by its Heat; when it is either bruiſ'd, and apply'd to Wounds in the Surface of the Body, or when, in Hæmorrhages of the Noſe, its expreſſed Juice is drawn up the Noſtrils, or a Tent dip'd in it put up, and retain'd in them. In diſcuſſing Cataplaſms, and febrifuge Preparations, to be apply'd to the Wriſts, the Shepherd's-purſe is uſed in the ſame Manner, and with the ſame Intention, that other hot and ſtimulating Medicines are. When *Borelli, Cent.* 3. *Obſ.* 27. affirms that the Bulk of a common Nut of bruiſ'd Shepherd's-purſe, put into the Ears, is an excellent Medicine for removing the Tooth-ach, I ſhould think, that this Effect was not to be aſcrib'd to the Coldneſs, but rather to the Heat of the Plant, which ſtimulates the Nerves, and diſſipates the Cauſe of the Diſorder. But whether, when apply'd to the Nape of the Neck, or to both Arm-pits, or preſſed pretty hard in the Patient's Hand till it becomes warm, or put under the Tongue, it ſtops Hæmorrhages of the Noſe, are Points which can only be determin'd by Experience. The learned *Pauli* tells us he knew a Man cur'd of a Spitting of Blood by means of this Plant, which, during the Paroxyſm, he uſed to graſp hard, and afterwards putting it between the Soals of his Feet and his Stockings, he walk'd upon it. But 'tis to be obſerv'd, that, at the ſame time, the Patient receiv'd the Fume of the beſt native Sulphur into his Mouth and Throat. Shepherd's-purſe, applied to the Soals of the Feet, is ſaid to be an approv'd Remedy for Head-achs. According to *Etmuller*, its Juice, put into Ears from which purulent Diſcharges are made, heals them; and, when mix'd with Vinegar and Houſleek, it allays Inflammations of all kinds, the Gout ariſing from a hot Cauſe, inflammatory Tumors of the *Pudenda*, and Eryſipelas. Four or ſix Ounces of its expreſs'd Juice are recommended as a Medicine to be taken internally in Spittings of Blood, immoderate Fluxes of the Menſes, Diſcharges of bloody Urine, Diarrheas, Dyſenteries, Lienteries, and Gonorrheas. Decoctions of it are alſo us'd, made with Red-wine, or common Water in which red-hot Steel has been extinguiſh'd; as alſo with lean Fleſh-broth. Clyſters of the above Decoctions are alſo ſaid to contribute to the Cure of Fluxes. In Gonorrheas *Etmuller* recommends one Ounce of the expreſſed Juice, or two Ounces of the Decoction of Shepherd's-purſe, to be drank, with three or four Grains of Camphire. The *Aqua burſæ paſtoris ſtyptica*, ſo much extol'd in Fluxes, and Hæmorrhages of the *Uterus*, Mouth, and Noſtrils, as alſo for cleanſing Ulcers, and allaying Heat, is, by *le Mort, L.* 2. 37. prepar'd thus:

> Take of the Herb Shepherd's-purſe, as much as you will; cut it ſmall, and to each Pound of it add of crude Alum, and Vitriol of Mars, each half an Ounce; and of Water, a ſufficient Quantity. Infuſe for ten or twelve Days, and then diſtil in the common Manner.

The *Burſa paſtoris major, folio non ſinuato*, agrees with the former in its Medicinal Virtues.

BURSA TESTIUM. The Purſe or Bag of the Teſtes. See SCROTUM.

BURSALIS MUSCULUS, μῦς βυρσοειδής. The purſe-like Muſcle, a Name given to the *Muſculus obturator internu femoris. Caſtellus.* See MARSUPIALIS.

BUSELINUM, βυσέλινον. The common Daucus ſo call'd, the Word importing a large kind of *Apium. Blancard.*

BUSSII SPIRITUS BEZOARTICUS. Bezoartic Spir of *Buſſius.*

This Spirit takes its Name from its Inventor, *Buſſius*, a eminent Phyſician of *Dreſden*; and the Medicine itſelf is o univerſal Uſe in *Saxony*, and well deſerves our Notice; for is a powerful Sudorific and Diuretic, with due Management and is an excellent Antiſpaſmodic, eſpecially when mix'd wi our anodyne Liquor (See VITÆ BALSAMUM). Beſides, recommends itſelf on account of its grateful Flavour, havin nothing of a nauſeous empyreumatic Smell.

The Foundation of the Preparation conſiſts in mixing th volatile, urinous, and oily Spirits of Animals with high rectify'd Spirits of Wine, and, with an Addition of balſam Species, diſtilling them over a proper Fire; by which means w obtain a Spirit well impregnated with a volatile Salt, an emp reumatic Oil, and reſinous, ſulphureous, balſamic Particle and of no unpleaſant Smell and Taſte. Tho' there are man different Preparations of this Spirit, our way of making it is follows:

> We take of Spirit of Ivory, ſaturated with a ſubtile Oil, a volatile Salt, about two Ounces; Sal Ammoniac, fo Ounces; Pot-aſh, firſt diſſolv'd in Water, eleven Ounc Amber, finely pulveriz'd, half a Pound; genuine Oil Cedar, or of Juniper, half an Ounce: All theſe Ing dients, being exquiſitely mix'd in a Glaſs Cucurbit, to be diſtil'd in a Sand-heat, by which we extract a Spir endu'd with the aforeſaid Virtues. A volatile Salt fi riſes in the Alembic, which is afterwards ſucceſſively ſolv'd by the Spirit.

It is here to be obſerv'd, that the *Peruvian* Balſam, or freſh Peel of Lemons or Oranges, or Juniper-berries, or other balſamic and aromatic Powders, may be uſ'd inſtea the Ingredients before-mention'd.

In the Proceſs, a limpid Spirit, like Water, comes ov but the longer it is kept in a Veſſel expoſed to the Air, more yellow it turns, till its Colour be heighten'd almoſt Redneſs. If the Glaſs be filled with this Spirit, and cove with the Stopple, it will continue clear, and ſuffer no Alt tion of Colour; whence we are plainly taught, that the C of this Change is in the Air. And I am of Opinion, tha original, and moſt ſimple, Acid of the Air, which is of derful Virtue in exalting the Colour of Sulphur and Oil, curs in this Alteration.

This Spirit abounds with an oily volatile Salt; for the a volatile Salt is impregnated and intimately mix'd with an the more eaſily and readily it unites with highly rectify'd S of Wine; and that Salt may immediately be precip from this Spirit, by mixing a few Drops of Oil of Vitriol with it, which produce a Coagulation and Precipitation of the Salt to the Bottom, where it firmly adheres to the Sides of the Glaſs. It is worthy our Obſervation, that this volatile Spirit of *Buſſius* is endu'd with an almoſt incredible Virtue, in ſubverting and expelling all kinds of Acids, tho' never ſo ſtrong; and theſe Effects are attended with different Circumſtances and Events. Thus, if one Part of Spirit of Nitre, or Aqua-fortis, be pour'd to three Parts of this Spirit, all the Acidity is ſoon taken off, without any remarkable Ebullition, and nothing is precipitated to the Bottom; the Mixture acquires a mild nitrous Taſte, and, being put into a Silver Spoon, and evaporated by the Heat of a Candle, leaves a Salt of an exquiſitely nitrous Flavour. This Mixture alſo, on account of the volatile Nitre which it contains, is endu'd with excellent Medicinal Virtues; for, in acute Diſtempers, where volatile Medicines are of no Effect, becauſe of the violent Motion and Efferveſcence of the Blood, this Spirit, mix'd with Spirit of Nitre, and render'd more temperate, gives all the Relief that can be wiſh'd, by gently carrying off the morbific Matter.

If this Spirit of *Buſſius* be mix'd with Spirit of Salt ſtrongly concentrated, there ariſes a greater Ebullition than in the former Caſe; but all the Acid is, in like manner, in a very ſhort time, ſubdu'd, and the Liquor turns ſalt, which, in Diſorders of the Stomach, where the Appetite is loſt, may be given with Succeſs, for diſſolving viſcid Crudities. When this Spirit is mix'd with diſtil'd Oil of Vitriol, there immediately ariſes an Efferveſcence, the Mixture becomes turbid, and all the volatile Salt is precipitated to the Bottom; the Taſte of the Mixture has nothing of Acidity, but has a grateful Smell.

The Reaſon why there is a Concretion and Precipitation of the volatile Salt at the Mixture of concentrated Oil of Vitriol, but not with other Acids, ſeems to be as follows.

Oil of Vitriol, as being a very ſtrong Acid, unites with inflammable Spirit of Wine, which is an oily Subſtance; hence the volatile Salt, which it contains, is precipitated; but, from other acid Spirits, which are weaker, and incapable of ſo intimate a Combination with the inflammable Spirit of Wine, there follows no Precipitation.

From theſe Experiments we may draw this Concluſion, which is very uſeful in Practice: That this Spirit, which abounds with an oily volatile Salt, may be given in large Doſes, without inconvenience, in Diſtempers, eſpecially chronical ones, where a ſtrong and copious Acid is lodg'd in the Sinuſes of the Stomach and Inteſtines, and creates Diſturbances in thoſe Parts, as it does more remarkably in Hypochondriacal Affections. *Fred. Hoffman, Obſerv. Phyſico-chy.*

BUSTA. Boil'd with Poiſon. *Rulandus.*

BUTEO, Offic. Jonſ. de Avib. 11. Charlt. Exer. 72. Geſn. de Avib. 39. Raii Ornith. 70. *Buteo vulgaris*, Will. Ornith. 29. *Buteo ſive triorchis*, Aldrov. Ornith. 1. 363. Bellon. des Oyſe. 109. Mer. Pin. 171. *Buteo vulgaris ſive triorchis*, Raii Synop. A. 16. *Accipiter*, *Buteo*, Schw. A. 87. THE BUZZARD. *Dale.*

The Teſticles of this Animal are only us'd for Medicinal urpoſes.

A Decoction of them, with Spring-water and Honey, is ſaid prove a Stimulus to Venery. *Dale* from *Johnſ.*

BUTIGA. An Inflation of the whole Face; call'd alſo *utta ruonia*, or *rubea*. *Rulandus.*

BUTLER, an *Iriſhman*, the Inventor of a Stone of wonder l Efficacy in the Cure of very dangerous Diſeaſes, in a very eedy Manner; he is alſo ſaid to have been excellent at aking Gold out of Lead and Quickſilver. However, it is tain, that he was in great Eſteem with our King *James* I. d *Van Helmont* did him the Honour to intitle one of his Tracts TLER, in which he relates ſeveral ſtrange Cures perform'd, all Appearance, by means of his Stone; particularly, that en *Butler* was a Priſoner in the Caſtle of *Vilvorden* in *Brant*, he took Notice, one Evening, of one *Bailly*, a *Francan* Monk, and a very celebrated Preacher of *Bretagne* in *ance*, who was his Fellow-priſoner, and had his Arm affected h a terrible Eryſipelas; and, taking Pity of the Man, he k a ſmall Stone, and haſtily dip'd it in a Spoonful of Alnd-milk, immediately taking it out again; then ſaid to the eper, “Give this to that Monk, and, whether he takes more or leſs of it, within the Space of one Hour, at fartheſt, e ſhall be a ſound Man.” This actually came to paſs, to Aſtoniſhment of the Keeper, the Sick not knowing by what ns he came to be ſo ſuddenly reſtor'd to his Health, or that ad taken any thing for that Purpoſe; but his Left Arm, ch was ſwell'd to an immenſe Degree, immediately fell to a Pitch as ſcarce to be diſtinguiſh'd from the other. The Day, ſays *Helmont*, I came to *Vilvorden*, at the Requeſt ome Perſons of Quality, that I might be a Witneſs of theſe ons, where I contracted a Friendſhip with *Butler*; and, after, obſerv'd an old Waſher-woman, who, for about en Years, had labour'd under an intolerable Hemicrania, d in an Inſtant, while I was preſent. For he took the ſame Stone, and careleſly dipp'd it in a Spoonful of Oil of Olives; then taking it out immediately, lick'd it dry, and put it into his Breaſt-pocket; the Spoonful of Oil he pour'd into a little Flaggon of the ſame Liquor, and then order'd only one Drop of it to be put upon the Head of the old Woman, who recover'd her Health that Moment, and has remain'd well from that Time, which is ſome Years ago. I could not help being vaſtly ſurpris'd; but he look'd at me with a ſmiling Countenance, and ſaid, “My dear Friend, unleſs you can arrive to ſuch a Degree as to be able to cure all Diſeaſes with only one Remedy, you are ſtill but a Novice in the Art, how many Years ſoever may have paſs'd over your Head.” I eaſily acquieſced in what he ſaid, becauſe I had learn'd as much from the *Arcana* of *Paracelſus*, and was further convinc'd of it by what I now ſaw, and expected to ſee; but this new Method of Curing, I freely confeſs'd, was utterly ſtrange and unknown to me. I told him then, that there was a young Prince in our Court, Viſcount *Ghent* by Title, and Brother to the Prince of *Epiſnoy*, who was ſo over-run with the Gout, that he was able to lie only on one Side, and was quite miſerable, and deform'd with a Multitude of nodous Swellings. Says he, taking me by the Right Hand, “Are you willing that I ſhould cure this young Prince? I will cure him for your ſake.” “But, ſaid I, he is ſo ſtubborn, that he will rather die than take one Doſe of Phyſic.” “No matter, anſwer'd *Butler*; all I require of him is, only every Morning to touch this little Stone, which you ſee, with the Tip of his Tongue; for, after three Weeks from that Time, let him but waſh the painful, and the not-painful Nodes with his own Urine, and, in a very ſhort time, you ſhall ſee him upon his Feet, and a ſound Man. Go, and tell him with Joy what I ſay.” So I returned to *Bruſſels* with theſe glad Tidings, and told what *Butler* had ſaid. The Nobleman anſwer'd, “Go tell *Butler*, that if he makes me ſound, he ſhall have whatever he will aſk; let him but name his Price, and I will freely depoſit the ſame in Pledge for his Security.” When I return'd to *Butler* the next Day with this News, it put him in a great Heat, and he ſaid, “Your Prince is mad and miſerable, for which Reaſon I ſhall never do him any Good; for I do not want his Money, but am as good as himſelf.” Nor could I ever afterwards prevail with him to perform what he had promis'd. Wherefore I began to doubt whether what I had ſeen before ought not to be regarded as Things paſſed in a Dream. But it happen'd, ſome time after, that a Friend of *Butler*'s, who was Maſter and Overſeer of a Glaſs-houſe in *Antwerp*, and of a very groſs Habit of Body, earneſtly begg'd of *Butler* to be freed from the Burden of his Fat. *Butler* offer'd him a little Bit of his Stone to lick once, that is, to give it one quick Touch with the Tip of his Tongue every Morning; and, within three Weeks, I ſaw him ſhrunk a full Span at the Breaſt, and yet never the worſe in Health. This Event inclin'd me to believe, that he could have made good his Promiſe, and perform'd a Cure upon the gouty Perſon before ſpoken of. But, in the mean time, finding myſelf poiſon'd by ſome ſecret Enemy, I ſent to *Butler*, at *Vilvorden*, for a Remedy. I was in a very languiſhing Condition, pained in all my Joints, my Pulſe beat double, (*dicrotus*) and, at laſt, was intermittent, attended with a Lipothymy, and an utter Decay of Strength. *Butler*, who was ſtill a Priſoner, immediately order'd the Meſſenger, my Servant, to bring him a little Pot of Oil of Olives, and, dipping his Stone therein, as uſual, ſent the Oil to me, with Directions to put only one Drop of Oil upon one, at leaſt, of the pained Parts, or one Drop upon each of them, if I pleaſed. I did according to his Orders, but receiv'd no Benefit thereby. In the mean time, my Enemy, being taken ſick, and upon his Death-bed, ſent to aſk my Pardon for the Injury he had done me, and ſo confirm'd my Suſpicion, that I was poiſon'd. I had then no more to do but to uſe the beſt means I could to put a Stop to the Operations of this ſlow-working Poiſon, and wholly to ſubdue it; and, by the Grace of God, I eſcap'd. But my Wife, for ſome Months, had been afflicted with a Pain in her Right Arm, ſo that ſhe could not ſo much as lift her Hand, much leſs lift up a Weight, and, with Sorrow and Concern on my Account, contracted at laſt a dangerous œdematous Tumor in both her Legs, which, by Degrees, extended itſelf from the Foot as high as the Groin, as appear'd from the Pits left by the Impreſſion of the Fingers; and, becauſe her Diſtemper was owing to Grief and Concern for my Troubles, ſhe would take no Phyſic while her Sorrow laſted. In this Condition, my Wife finding that *Butler*'s Oil had no Effect upon me, and being willing to paſs a Joke upon my Credulity before ſome Ladies, put only one Drop of this Oil upon her Right Arm; the immediate Conſequence of which was, contrary to all Hope, the Reſtoration of that Arm to its free Motion, and former Soundneſs. We were all ſtruck with Wonder at ſo ſudden and miraculous an Event, and ſhe was encourag'd to anoint her Ancle-bones with the ſame Oil, on each of which ſhe put only one Drop, drawing it round the Eminence of the Bone, and, within a Quarter of an Hour, the Œdema quite vaniſh'd, and ſhe is ſtill living in good Health, tho' nineteen Years are paſt ſince this extraordinary Event.

Van Helmont proceeds to relate two more ſuch prodigious Cures; one perform'd on a Maid-ſervant of his, who, from an Eryſipelas, which had thrice afflicted her, and been as often ill cur'd, had her Right Leg of a leaden Colour, and ſwell'd from the Knee to the Toes; the other was on a Widow Gentlewoman, who, for ſome Months, had not been able to lift her Hand.

After this, ſays *Helmont*, I aſk'd *Butler* why ſo many Women could be ſuddenly cur'd, and I, who lay even at Death's Door, oppreſs'd with Pains in every Limb and Joint, could not receive the leaſt Relief. He deſir'd to know what was my Diſtemper, and, when he underſtood, that it was the Effect of Poiſon, he ſaid, "That, ſince the Cauſe had betaken itſelf from "the inward to the outward Parts, the Oil ſhould have been "taken, or the Stone dip'd; that Pain, internally confin'd "and nouriſh'd, could not be topical or external." I obſerv'd alſo, ſays *Helmont*, that this Oil, by Degrees, loſt its Efficacy, becauſe the Stone, which was ſlightly dip'd therein, did not make a thorough Alteration in its Subſtance, but only imparted to it a Fragrancy, which in time went off. For this Stone, to the Sight, and on the Tongue, was like melted Sea-ſalt; and it is well known, that Salt cannot be intimately mix'd with Oil. *Butler* alſo cur'd an Abbeſs of ſufficient Note, who, for eighteen Years, had her Right Arm ſwell'd, with a deprav'd Motion, with the Fingers extended and immoveable; and this only with a Touch of the Tongue upon the Stone. Multitudes of thoſe who were Witneſſes of theſe ſtrange Events, preſently ſuſpected there muſt be ſome Witchcraft, or diabolical Compact, in the Caſe; for it is uſual with the Vulgar, and has been ſo of old, to refer thoſe Events, in which they think it ſhameful to confeſs their Ignorance, to the cunning Wiles of evil Spirits. But I am not inclin'd to their Opinion, becauſe the Remedies are ſuppoſed to be natural, and have nothing unuſual beſides the Quantity; for no Ceremonies, Words, nor any other ſuſpected Thing, was requir'd. Nor, indeed, is it lawful, as far as human Underſtanding can perceive, to transfer the Glory of God, manifeſted in Nature, to an evil Spirit. For none of the Women, who were thus cur'd, ever conſulted *Butler*, as one in the leaſt ſuſpected of Necromancy; and even his firſt Eſſays met with Laughter, inſtead of Faith and Confidence. However, the Facility and Celerity of ſuch a way of Curing will, I know, remain ſuſpected by many; for the fickle and lazy Diſpoſition of the Vulgar, in arduous and unuſual Events, prompts them to judge of all alike, becauſe it is the eaſieſt Way; and they had rather aſcribe the Benefit of ſo great Cures to diabolical Deceit, than to the Divine Goodneſs, to the Author, Lover, Saviour, and Reſtorer of human Nature, and the Father of the Poor. And, in this vain and weak Opinion, they are follow'd by thoſe among the Learned, who take a wrong Method of inveſtigating the firſt Principles of curing Diſeaſes, who are not yet inſtructed, or obſerve the common fooliſh Rules. *Helmont*.

Theſe Relations, ſtrange as they are, Mr. *Boyle* ſeems not to diſbelieve. He tells us, That a Gentleman in *France* was reported to have ſome Portion of this Stone, and to have cured ſeveral inveterate Diſeaſes, by ſuffering the Patients to lick it; and Sir *Kenelm Digby*, upon Inquiry when in *France*, found no Reaſon to diſbelieve theſe Reports. He farther ſays, That *Helmont*'s Widow, many Years after her Huſband's Deceaſe, confirm'd to a Friend of his the Story told above relating to herſelf. Theſe Particulars, adds he, receive Confirmation from two remarkable Circumſtances; for, firſt, *Helmont* is the more to be credited here, becauſe he mentions Cures not perform'd by himſelf, but by a ſecond Perſon, and that too with Remedies unknown to him. Secondly, our famous Countryman Dr. *Higgins*, who lived familiarly in the ſame Houſe with *Butler*, gives a ſtrange Atteſtation to his Secrets.

BUTOMUS, Offic. Mont. Ind. 65. Cæſ. 553. Raii Synop. 3. 273. Elem. Bot. 235. *Butomus flore roſeo*, Tourn. Inſt. 271. Boerh. Ind. A. 299. Buxb. 49. Rupp. Flor. Jen. 124. Dill. Cat. Giſſ. 97. *Juncus floridus*, J. B. 2. 524. Park. Theat. 1197. Raii Hiſt. 1. 701. *Juncus floridus paludoſus*, Chab. 198. *Gladiolus paluſtris Cordi*, WATER GLADIOLE, Ger. 27. Emac. 29. Mer. Pin. 46. *Gladiolus aquaticus ſive paluſtris Cordi*, Merc. Bot. 1. 38. Phyt. Brit. 47. *Sedo affinis juncoides umbellata paluſtris*, Hiſt. Oxon. 3. 468. WATER GLADIOLA.

It has two Roots; the more ſlender and black of which deſcends, whilſt the thicker ſpreads itſelf tranſverſly almoſt at the Surface of the Earth, with ſome Shoots, and many Fibres, adhering to it. The Roots have a ſweetiſh Taſte, and are glutinous in the Mouth. The thicker Root is, in my Opinion, the laſt formed Part of the Root, and of one Year's Growth only. As this Root grows, it ſends out Leaves above, and thruſts large white Fibres downwards. It raiſes many ſoft Leaves with a ſpongy or porous Medulla; and theſe Leaves are triangular, long, concave at their Origins, and embracing ſome Part of the Stalk with membranous Appendices; but they are more flat towards their Points. The Stalk is two Cubits and more in Length. It is round, ſmooth, and ſpongious, but not concave; bare of Leaves; and on its Top bears ſeveral Flowers diſpoſed in the Form of an Umbel, and ſupported by ſlender naked Pedicles, about half a Handbreadth in Length. The Flowers are hexapetalous, and of a carnation Colour, ſomewhat inclining to Purple. The three exterior Petals are carinated and largeſt, and ſeem to belong to the Calyx; but the three interior ones are leſs. The ſmall ſeminal Veſſel conſiſts of ſix purple-coloured Capſulas, corniculated at the Top, and containing within them very ſmall Seed. About nine Stamina ſurround this Seed-veſſel in the Middle of the Flower. Theſe Stamina are furniſhed ſometimes with long purple Apices, and ſometimes with ſhorter. They ſtain the Fingers of thoſe who handle them with a yellowiſh Kind of Powder. Three remarkable acute ſmall Leaves ſtand round the Baſis of the Umbel.

According to *Cordus*, it grows in fat, ſlimy, and moiſt Places, which are overflow'd by Rivers. With us it is, for the moſt part, found in the Channels of Rivers among the Mud near the Edges. *Raii Hiſt. Plant.*

It flowers in *June*, and the Herb is only in Uſe.

It is of an aperient and deobſtruent Quality. *Dale*, from *Joſephus Monti*.

BUTYRUM, βȣ́τυρον, or βȣ́τυρος, Butter, from βȣ̃ς, an Ox, or Cow; and τυρὸς, Coagulation of Milk, or Cheeſe.

Good Butter is made of the fatteſt Milk; ſuch as that of Sheep; it is alſo made of Goat's-milk, by ſtirring it in a Veſſel, till the pinguious Part be ſeparated.

It is of a mollifying Nature, and has the Qualities of Oil; hence taken in large Quantities it looſens the Belly; and is uſed as an Antidote againſt Poiſon, where Oil cannot be had. Mixed with Honey for a Litus it promotes Breeding of Teeth, and cures Itching of the Gums, and the *Aphthæ* of Infants. Outwardly uſed it renders the Body ſmooth and florid, and free from Pſydracia [*little puſtulous Eminences*]. Provided it be neither old, nor contract a rank Smell, it is effectual alſo in Inflammations and Hardneſſes of the Uterus. It is alſo adminiſter'd in Clyſters for a Dyſentery, and Ulcerations of the Colon. It is an uſeful Ingredient in ſuppuratory Medicines, and eſpecially in Wounds of the Nerves, Meninx, Bladder, and Neck. Moreover it fills, cleanſes, and incarns; and is apply'd wi Succeſs to the Bite of an Aſp. While recent, it ſerves wi Meats inſtead of Oil, and for Paſtry inſtead of Fat.

They collect the Soot from Butter in the following manner:

> They pour Butter into a new Lamp, and ſetting it on Fire, cover it with an earthen Veſſel, made like a Tube, which is narrow in its upper Part, and perforated at the Bottom with Holes like an Oven [κλίβανος]; there they let it burn; and as ſoon as it is conſumed pour more Butter, and continue ſo to do, till they have obtained as much Soot as they pleaſe; after which they take it off with a Feather, and apply it to a proper Uſe.

It is a ſerviceable Ingredient in Medicines for the Eyes, bein of a drying and aſtringent Quality. It ſtops Defluxions, an brings Ulcers ſpeedily to cicatrize. *Dioſcorides, Lib.* 2 *Cap.* 81.

Hippocrates, in his fourth Book *de Morbis*, informs u that the *Scythians* make Butter of Mares Milk.

There are as many Sorts of *Butter*, as there are different Milk of Animals whereof to make it; that of the Cow is moſt i Uſe. You are to make Choice of that which is freſh, of good and pleaſant Taſte, ſuch as has been well made; but Ma Butter is eſteem'd the beſt.

Butter is nouriſhing and pectoral; it opens the Body, alla the Sharpneſs of corroſive Poiſons, is of a diſſolving and digeſt ing Nature, and good to eaſe Pains, and remove Inflammation It is uſed in Clyſters againſt bloody Stools, and the Dyſenter They rub the Gums of Children with it, in order to the Breeding of Teeth the eaſier.

The too frequent Uſe of Butter relaxes and debilitates th Stomach, takes away the Appetite, provokes Reachings Vomit, and heats much, eſpecially if it be old.

Butter contains much Oil, and a little volatile Salt.

It agrees at all times with any Age and Conſtitution; thoſe however, who have a weak Stomach, ought to uſe it mod rately, as well as young People of a hot and bilious Natur becauſe it inflames, and in theſe laſt eaſily turns into Choler.

Butter is nothing but the Cream of Milk, or the fatteſt a moſt oily Part thereof, which is ſeparated from the Serum Whey by Churning; the more fat or oily Parts the Milk co tains, the more Butter it yields; and therefore you have m from Cows Milk than any other.

Every body knows, that Butter is uſed every-where; there is hardly any Sauce made without it. The Northern Pe ple make more uſe of it than any; and 'tis pretended, that Butter which makes them look ſo freſh and well.

The newer Butter is, the more pleaſant and wholſome you will find it; and the Reaſon is, becauſe its oily and ſaline Principles are then ſtrictly united together; whereas, on the other hand, when Butter is a little too old, it has undergone a ſort of internal Fermentation; which has exalted and diſengaged theſe ſame Principles, which makes it a little ſharp, and, at the ſame time, oily and unpleaſant. Now, in order to prevent this Fermentation, and the better to make the Butter keep, they ſalt it; and the Acid of the Salt preſerves its Texture.

The good Effects produced by Butter proceed from its oily and balſamic Principles, which are proper to reſtore the ſolid Parts of the Body, by ſticking to them; to qualify and embaraſs the ſharp Humours they meet with, and ſeveral other the like Uſes. When they uſe Butter to Exceſs, theſe ſame Principles ſo much moiſten the Fibres of the Stomach, that they loſe their elaſtic Virtue.

Laſtly, it is obſerved, that Butter uſed immoderately heats much; and the Reaſon is, becauſe the oily and fat Parts wherewith it abounds are eaſily inflamed; and therefore this is not good Food for bilious Conſtitutions.

Buttermilk is a kind of Serum that remains behind, after the Butter is made. It is very cool and moiſtening. *Lemery on Foods.*

Butter, by the Texture and Nature of its Subſtance, tends to relax the Solids, and ſupplies the Juices with Particles light and adheſive. Upon the firſt Account it may be good in dry and coſtive Conſtitutions; but muſt be hurtful in lax, moiſt, and corpulent ones. By the Levity and Tenacity of its Parts, it is alſo very ſubject to ſtop in the Glands and Capillaries, whereby it fouls the Viſcera, but particularly the ſmall Glands of the Skin; hence it is ſubject to produce Blotches, and all cutaneous Deformities. And this Opinion is much confirm'd by the Experience of all whoſe Buſineſs has made them converſant with young Children, they having much of this in their Diet, whereby they have been obſerv'd to grow weakly, corpulent, big-belly'd, and very ſubject to Breakings-out, and to breed Lice, and ſuch-like Uncleanlineſſes; but upon reſtraining them from it, without any other viſible Means, they have outgrew all thoſe Inconveniences. *Quincy.*

Boerhaave, ſpeaking of expreſs'd Vegetable Oils, thus mentions their bad Qualities, and compares them with Butter.

Theſe Oils have one ſtrange Property, whereby, with the Heat only of ſeventy Degrees, they preſently degenerate, without any foreign Body being mixed with them, and thus become thin, ſharp, bitter, rancid, yellow, corroſive, and inflammatory; whereas they were before thick, mild, ſweet, almoſt inſipid, white, anodyne, and relaxing. And theſe ſurpriſing Changes happen in a few Days in the Summer's Heat. Is it not therefore ſtrange, that freſh-drawn Oil of Almonds ſhould prove healing and ſuppling to the parched rough Mouth and Jaws in the Quinſey, and the ſame Oil in a few Days afterwards ſuddenly inflame the Jaws of a Perſon in Health? And the ſweeter it was when freſh, the ſharper it proves when old and rancid. Hence Almonds, Walnuts, and Piſtachos, become exceedingly nauſeous when rancid, and ſubject to occaſion a ſudden Quinſey in the Throat, and excite a Fever, through the burning Effect they have upon the Mouth, Throat, Stomach, and Inteſtines. Phyſicians, therefore, ſhould be cautious when they order Oil of Almonds in acute Diſtempers, that it be freſh-drawn from Almonds that were not rancid; and, in the Heat of Summer, not kept above twenty-four Hours. The ſame thing is alſo found in Butter, Animal Fat, Bacon, Marrow, and the more perfect Oils hereof; all which, though innocent when freſh, become highly nauſeous by ſtanding unſalted in a hot Air, where they turn yellow, blue, or green, become rank, corroſive, and fatal in the Plague. Thus a great Acrimony is ſometimes found in Cheeſe that has been long kept, whereby I have ſeen the whole Mouth violently inflamed. Whence we may eaſily conceive what Effects it may have upon the Viſcera. It is an obvious Experiment, that Oil, by boiling, will ſoon turn yellow, red, black, bitter, ſharp, and unwholſome. And this ſhews us how Oils may in ſix Hours time become extremely bitter in the Stomach; and, when vomited up, be erroneouſly taken for the Bile; for this Matter takes Flame at the Fire. Theſe Obſervations upon the Nature of Oil may lead us to underſtand many Particulars in Natural, Medicinal, Pharmaceutical, and Culinary Hiſtory. *Boerhaave.*

Buttermilk is eſteemed an excellent Food, in the Spring eſpecially, and is particularly recommended for Hectic Fevers.

Butter has been recommended as an excellent Application for the Teeth, in order to make them white.

In the Edition of *Sebookins de Averſatione Caſei*, printed at *roningen* 1664. 12*mo*. there is a Treatiſe expreſly upon Butter.

The Chymiſts have ſeveral Preparations which they ſtyle *utters*; as the *Butter* of Antimony, the *Butter* of Arſenic, the *Butter* of Wax, the *Butter* of Lead, and the *Butter* of in.

The Proceſs for making the Butter of Antimony is deſcrib'd under the Article ANTIMONIUM.

BUTYRUM ARSENICI, *Butter of Arſenic*, is thus prepar'd:

Take of Arſenic, and corroſive Sublimate, equal Parts; reduce them to a Powder; and after mixing them, put them into a Glaſs Retort plac'd in a Sand-heat; adapt a proper Receiver to the Retort; and having luted the Joinings, diſtil by a ſmall Fire a Butter-like Liquor reſembling the Butter of Antimony. When no more of this Liquor can be obtained, take away the Receiver, and in its Place put another full of Water; augment the Fire, and you will ſee the Mercury deſcend in the Water, Drop by Drop. Continue the Diſtillation till no more can be obtained.

This Mercury, when ſufficiently waſh'd and dry'd, may be uſed for all the Purpoſes to which other Mercury is apply'd.

The *Butter of Arſenic* is a very ſtrong Cauſtic, and produces an Eſchar ſooner than the *Butter of Antimony*.

REMARKS.

In this Operation the ſame thing happens as in the Operation for obtaining the Butter of Antimony; which is, that the Spirits of the corroſive Sublimate quit the Mercury, in order to unite with the Arſenic, which they carry along with them in a gummous Liquor. The Mercury being afterwards diſengaged, and not finding Sulphur for fixing itſelf, it comes over in Vapour, and is condenſed in the Water. *Lemery Cours de Chymie.*

BUTYRUM STANNI is thus made.

Put a Mixture of one Part of Tin, and three Parts of corroſive Sublimate, both reduc'd to Powder, into a Retort; and by the ſame Proceſs uſed for obtaining the Butter of Antimony, we ſhall have the Butter of Tin, which is a thick Liquor, and has this peculiar to it, that it fumes perpetually. *Lemery Cours de Chymie.*

BUTYRUM CERÆ. See CERA.

BUTYRUM SATURNI. See SATURNUS.

BUXTON. A Place in the Peak of *Derbyſhire*, celebrated for warm Medicinal Waters, the hotteſt in *England* next to *Bath*. As I have not had an Opportunity of examining theſe Waters accurately myſelf, I muſt give the fulleſt Account I can meet with, which is that of Dr. *Short*, who begins properly enough with an Account of the uſual Strata of Earth and Minerals, in the adjacent Parts.

In the Coal-pits, a Mile and an half South-weſt of *Buxton*, the Strata of Earth lie thus: Firſt, Peat-moſs; then blue Clay; then Shale full of Marcaſites of Iron, and Iron-ſtone; then ſundry Beds of Iron-ſtone; laſt of all a Seam of Coal, five Feet thick, mixt with much Sulphur and Braſil, ſeveral Lumps of Ocre and Rubric; this Seam of Coal dips a Yard in three; its upper Part is very ſoft, open in its Texture, and fit only for burning of Lime-ſtone; its loweſt Part is harder, though ſtill a very indifferent Coal, which melts on the Fire, and is form'd into a Cake; ſometimes a Vein of Lead an Inch thick croſſes the Coal. It is more beautiful than other Ore, and ſparkles like fined Silver; but bring it to the ſmelting Furnace, and you have little beſides Sulphur; the Acid of the Coal having conſumed the Lead till it reach its kindly Soil the Lime-ſtone and Greet-ſtone below the Coal. Fifty Yards below the Surface of the Ground is a ſtrong thick Bed of blue Clay, whoſe upper Part is of a deep Ocre, or reddiſh Colour, full of black Lumps like ruſty Iron, which, put into Aqua fortis, raiſe neither Heat nor Fermentation; but in a little time ſeveral ſmall Bubbles riſe, and the Liquor turns green, which is occaſioned by a Diſſolution of the Copper contained in it; all the Water in the Coal-pits is very cold; nor can Lime-ſtone and Coal conſiſt together.

The Strata of Earths in the Lead Mines next to *Buxton* are firſt a thick-ſet fine Turf, a Foot and an half deep; then betwixt a Sand and a red Clay, or a reddiſh ſandy Clay, or a hard Soil, half a Yard thick; thirdly, brown Clay, from half a Yard to two Yards thick; fourthly, fine white Sand, half a Yard thick; fifthly, a very hard Rock of white Lime-ſtone, two Fathoms thick; ſixthly, redder Sand, from ten to twenty Fathoms; this is of a hard Subſtance, and accompanies the Ore; ſeventhly, a black Lime-ſtone, from ſix to eight Yards thick; then they come to the ſame Sand as before, if there is Ore; but if no Ore, there is a reddiſh-yellow Bed of Clay, of the Nature of Marl. If they purſue this through the Clay, they come to a yellow Sand with Ore. Theſe Strata lying in ſeveral degrees of Thickneſs, are from ſixteen to eighty Fathoms deep: Here is very much white Spar, but none of the green nor yellow; it breaks into Rhomboids. If this be without a Lime-ſtone, there is very little or no Ore. But if under the Lime-ſtone Clay appears, the Vein is ſaid to be out, and there remain no more Hopes of Ore, except they ſoon find the Lime-ſtone again below the Clay. Moſt of the Ore lies in Cauke-ſtone three or four

Feet thick. Here is very little Shale or *Braſil*: Where a Chink happens between the Greet-ſtone and Lime-ſtone, it is fill'd up with Petrefactions, between a yellow and a white Colour, and very hard, as Spar. The Workmen, afraid of Damps, are always well provided with Drifts or Levels, that they may be ſupplied with freſh Air, which, cauſing a free Ventilation, prevents both the Stagnation of the Air, and a Collection of Sulphur, which might be fired with the Candles. The Lime-ſtone, in working, ſmells ſtrong of Sulphur; and their Blaſts, (which are Bores made in the Stones, fill'd with Powder, and blown up) being ſo very ſtrong of Sulphur, extinguiſh the Smell of the Gun-powder. They have here Spar-ore and Cauke-ore; the laſt is much the richeſt. In digging for Stone near the warm Waters, you find ſeveral ſurpriſing Maſſes of mix'd Minerals, as tho' they had been artfully melted together, as of Lime-ſtone, Iron-ſtone, and Copper-ore, of Sulphur, Iron-ocre, of Lead-ore, Iron-ſulphur, and Lime-ſtone.

The warm Waters, which I have obſerved there at preſent, are, firſt, the Bath, which takes in ſeveral warm Springs. Thirty-two Yards and a half North-eaſt of it, is St. *Anne*'s Well, which is chiefly ſupplied from a Spring on its North-ſide, riſing out of a Rock of black Lime-ſtone, or Baſtard Marble, under a ſhelving Stone laid ſo on Purpoſe. Twenty Yards South-eaſt of St. *Anne*'s, in another Cloſe, is a hot and cold Spring, both riſing up into the ſame Receptacle. About ſixty-three Yards, South and South-eaſt of St. *Anne*'s, in the ſame Cloſe with the hot and cold Spring, is *Bingham* Well, ordinarily call'd Mr. *Leigh*'s Water, a worthy Gentleman ſeven Miles diſtant, who has made this Spring his Favourite for ſeveral Years, and reap'd great Benefit by it. A little Way, Eaſt of this, on the Eaſt-ſide of a Stone Wall, is another ſmall ſlow hot Spring, which mixes with a beautiful purling cold Spring, that riſes up cloſe by it. Another plentiful warm Spring riſes up in the Stream of the Level, that carries the Water from the Bath: This is thirty-four Yards Eaſt of St. *Anne*'s. Four Yards farther Eaſt, on the South-ſide of this Stream, riſe two or three other warm Springs.

Bingham, or Mr. *Leigh*'s, Well is a very ſtrong Spring, riſing out of the black Lime-ſtone, in a very dry Ground; ſometimes it throws forth ſix times more Water than at other times. *October* 6. 1732. after much Rain, both on that and the preceding Day, this Spring threw forth a prodigious Quantity of Water, whoſe Warmth raiſed the Spirits in the Thermometer only four Inches and ſix Eighths in the Forenoon; but it fell yet half an Inch lower in the Afternoon. But St. *Anne*'s Well raiſed the Spirits five Inches above *Bingham* Well; but the ſmall Spring beyond the laſt, loſt very little of its Heat: So that *Bingham* Well is rather an uncertain than perennial Spring. But the above two Springs never alter by Viciſſitudes of Weather, or Seaſons; nor yet that Spring which riſes up in the Canal from the Bath, all which three boil up with an impetuous Force in large Bubbles of heated Air, which break on the Surface. I tried theſe Waters with the Hydroſtatical Balance, by immerſing the Glaſs Bubble, whoſe Bulk was equal to the Bulk of fifteen Drams and a half of common Water, that is, one eighth Part of fifteen Ounces and a half. I found ſeveral Variations; for, certainly, to try the Weight of Water, is the moſt difficult and uncertain Experiment that attends a ſtrict Examination of Waters; it is never a whole Day the ſame exactly, but differs according to the Expanſion or Condenſation of the Air in them, the Quantity of Water contain'd in the ſubterraneous Chanels, the Rapidity or Slowneſs of its Motion, whereby it brings more or leſs foreign Matters along with it, its Stagnation, and ſome other Circumſtances. *September* 15. being a very clear hot Day, with a ſmall Breeze of Wind, till Two o'Clock of the Afternoon, then, at Three o'Clock, Thunder, Lightning, and a prodigious hot ſultry Air, St. *Anne*'s and *Bingham* Well weigh'd three Grains and a half lighter than the River-water; that is, near twenty-nine Grains in a Pint; the Bath was four Grains lighter than theſe, that is, thirty-three Grains in a Pint. I put ſome of each of thoſe Waters into three different Glaſſes, ſet them into the Air-pump, exhauſted the Air out of the Receiver; but ſcarce had we the leaſt Bubble, only it was whitiſh, as if a little Flour had been mix'd with it; and tho' I made what haſte I could, leſt the Water ſhould cool in the Bath-room, yet it weigh'd two Grains heavier when I had done, that is, ſixteen Grains in a Pint. *March* 17. early in the Morning, being a hard Froſt, ſtrong Eaſt Wind, and ſome Hail, I made a freſh Trial, and the Bath was ſeven Grains lighter than the River-water, that is, near fifty-eight Grains in a Pint. St. *Anne*'s and *Bingham* were each ſix Grains lighter than the River, that is, about forty-nine Grains lighter than common Water, and nine Grains in a Pint heavier than the Bath.

April 17. the Air being pretty temperate, the laſt two weighed only four Grains and a half lighter than common Water, that is, thirty-ſix Grains in a Pint. I took up a Pot of each of thoſe Waters, and a Pot of common Water, ſet them upon a Table in my Room, that they might be of an exact Temperature; next Morning all three weighed a Grain and a half lighter; the laſt, when taken up, and allow'd to ſtand ſtill, it ſettled, and let fall all its groſſer Parts; being heated to the ſame Degree of Warmth with the Bath, both were nearly of the ſame Weight.

As to the Warmth of theſe Waters, I took a Thermometer whoſe Tube was fifteen Inches long, and the Diameter of its Bore one Twenty-third of an Inch, and fill'd it only ſo high with Spirits, that on the fifteenth of *September*, (as above) when the Thermometer was ſet in *Buxton* River, the Spirits were two Inches and one Fourth above the Ball. This Tube being ſet in the Bath one Quarter of an Hour, the Spirits roſe four Inches and ſix Eighths higher, that is, to ſeven Inches. St. *Anne*'s Well brought the Spirits down one Fourth of an Inch in the Tube; *Bingham* Well brought them ſtill five Eighths of an Inch lower. On the ſame Evening the Sky clear'd again, and all Eaſt, North-eaſt, and North-weſt, up to the Zenith, was cover'd with *Auroræ Boreales*, or Streamers, the Air at the ſame time being very calm: Next Morning there was a gentle Froſt, and the Spirits in the Thermometer were only one Inch above the Ball, that is, one Inch and one Fourth lower in the Tube than they were the Day before. I ſet the Thermometer in the Bath-room for half an Hour, and the Steam raiſed the Spirits one Inch and ſeven Eighths higher: Then I ſet them in the Bath-room for half an Hour, upon which the Steam raiſed the Spirits one Inch and ſeven Eighths higher: Then I ſet them in the Bath for thirty-five Minutes, and they mounted up to the ſame Height they were the Day before. *December* 27. 1731. being, perhaps, the coldeſt Day that has been known in *England* this Age, (for a ſtrong North Wind blow'd, and the clear Froſt was ſo violent, that in ſeven Hours time the Ice bore Horſe and Rider, tho' it rain'd and ſnow'd the Night before, till Two o'Clock in the Morning) the Spirits in the common Thermometers were at exceſſive Cold, tho' the Glaſs, I obſerved, hung in a Stair-caſe between two Rooms, with continual great Fires, and the Door of one Room was never ſhut, nor was there any outer Door near. The Spirits in my ſmall Thermometer were more, within the Ball, than would fill an Inch of the Tube: Both Thermometers being ſet in a Pitcher of River-water that Moment taken up where the River was moſt frozen, the Spirits in the firſt Thermometer preſently roſe ſix Minutes or Degrees, and thoſe in mine juſt fill'd the Ball. Three Fourths of a Pint of boiling Water, put to three Pints of this River-water, raiſed the Spirits in my Thermometer to the exact Height the *Buxton* River did, on *September* 15. and one Pint and a Quarter more of boiling Water, being added, brought it juſt to the Warmth of *Buxton* Bath; that is, it raiſed the Spirits in the Thermometer to the very ſame Height. So that I take theſe two for the great Extremes of Cold and Heat, all the reſt being intermediate Degrees. *January* 10. being cloudy Weather, ſharp Froſt, and ſome Snow, the Spirits in my Thermometer fill'd not the Ball: I put it into *Bingham* Well, and the Spirits roſe a little above the ſixth Inch; but being removed thence into St. *Anne*'s Well, they aſcended one Eighth above the ſeventh Inch; and when carried thence, and ſet in the Bath, they roſe to ſeven Inches five Eighths, and there ſtopp'd. *May* 27. being a very ſtormy Day, with a raging Wind, and great Rain, I tried two new Thermometers with freſh Spirits; the Bore of the larger Tube was one Twenty-third of an Inch; that of the leſſer was one Twenty-ſeventh of an Inch: I put both in the River, which was then in a Flood; the Spirits in the ſmaller were hid within the Ball, thoſe in the larger were one Inch and three Eighths above the Ball: I removed both into the ſmall Spring beyond *Bingham* Well; upon which the Spirits in the ſmall Tube roſe eight Inches, and thoſe in the larger Bore ſeven Inches, that is, to eight Inches three Eighths. When both were taken out of this, and put in *Bingham* Well, the Spirits in the ſmaller Bore roſe to eleven Inches, and thoſe in the larger to nine Inches; but when both of them were ſet in St. *Anne*'s Well, the Spirits in the ſmaller Tube roſe to fourteen Inches five Eighths; and when both were put into the Spring beyond the hot Bed, which riſes up in the Level that carries the Water from the Bath, the Spirits in both Thermometers roſe one Eighth. I carried them thence, and ſet them in the Bath; upon which the ſmall Bore roſe to fourteen Inches three Eighths; with this laſt I ſtripp'd, and went into the Bath, and put it upon the Spring at Bottom, next the Pump, and it roſe to fourteen and a half: Then I removed it into the ſecond Spring, which riſes out of the black Rock, and it yet aſcended one Sixth of an Inch higher; but here the Tube being but fifteen Inches long, the Air above the Spirits was compreſs'd into ſo narrow a Compaſs, that its Reſiſtance was too forcible for the Aſcent of the Spirits. Then I ſuſpended the Spirits upon the Surface of the Bath, and the Spirits fell down to fourteen Inches one Tenth; ſo that, when the Bath is full, the ſecond Spring is a one hundred and ſeventeenth Part warmer than the firſt, even in this whole Mixture of Water; and the Bottom of the Bath is one fifty-ſixth Part warmer than its Surface. is pleaſantly ſurpriſing to ſtand in the full Bath, and ſee the Exhalation of the compreſs'd and rarefied Air, and ſulphureous Steam, continually playing on the Surface of the Water; like the Tranſition of the fiery Particles in ſcalding Water before it boil, and is yet calm and clear; or juſt as if a Cloud of ſmall Flies were riſing up, whoſe Feet raiſed a ſmall, but general, turbid Motion on the Top of the Water: Common Water, when made of the ſame Warmth with that of the Bath, during the firſt thirty Minutes, cool'd faſter than that of the Bath by an hundred and twelfth Part; but, after that, the Bath-water cool'd ſooner by an hundred and eleventh Part.

Neither Dr. *Liſter*, Sir *John Floyer*, Dr. *Leigh*, nor *Allen*, in their treating of theſe Waters, have once attempted to give us the Quantity of Water theſe Springs throw out in any given Time. This I endeavour'd to ſatisfy myſelf in, and I find it as follows: St. *Anne*'s Well throws out three hundred and ninety Gallons of Water in an Hour, or nine thouſand three hundred and ſixty Gallons in a natural Day and Night, or three millions four hundred ſixteen thouſand and four hundred Gallons in a Year.

Bingham Well varies in its Stream, being ſometimes higher, ſometimes lower; but when I examin'd it, in a great Drought, it diſcharged ſeventeen hundred and fifty-eight Gallons of Water in an Hour. Six Quarts of this Water, exhaled, left thirty-three Grains of Sediment, twenty whereof were ſalt: So that this Spring ſends out thirteen millions ſix hundred and forty-ſeven thouſand one hundred and eighty Gallons of Water in a Year, which carries in it forty-eight thouſand three hundred and ſixty-eight Pound of fix'd Sediment; near two Thirds of which being ſalt, it muſt of courſe afford thirty-two thouſand two hundred forty-five Pounds five Ounces two Drams and two Scruples of Salt in that Time; the reſt is Earth, beſides a Fragment of twelve Ounces and a half of Sediment. The little Well of warm Water, thirteen Yards Eaſt of *Bingham* Well, affords ſeventy-eight Gallons and a half of warm Water in an Hour, or ſix hundred eighty-ſeven thouſand ſix hundred and ſixty in a Year.

All theſe four warm Springs together throw forth, in a Year, ninety-ſeven millions ſix hundred and eighty-one thouſand eight hundred and ſixty Gallons of Water; beſides the waſte Water that gets out of the Bath, and the ſtrong Spring riſing up in the Middle of the Bath-level, beyond St. *Anne*'s Well, and the warm Water which riſes up in the hot and cold Spring; and laſtly, the two ſmall warm Springs which riſe up in the low Ground, between the hot and cold Spring, and the large Spring in the *Sough*, with ſeveral other Ouſings of warm Water in ſundry other Places; ſo that the Whole, added together, will be near double this Computation.

All theſe Waters brighten the Solution of Gold; and firſt make the Solution of Silver white, then turbid; after which it ts fall a large white Sediment. They turn Solution of Iron nd Mercury yellow. Solution of Sublimate turns them firſt f a faint Pearl Colour, and clear; but, by long ſtanding, they ecome muddy and blackiſh. They preſently become white by olution of Sugar of Lead, and then let fall a large Sediment. Oil of Tartar makes them firſt of a bluiſh White; and, in one Night and a Day, you have a Sediment of the ſame Colour, lf an Inch high. Spirit of Vitriol, and the Oils of Salt and ulphur, turn the Water rather clearer and finer, tho' they raiſe viſible inteſtine Commotion, and the Sides of the Glaſſes hang ll of Air-bubbles. Spirits of Hartſhorn, or Sal Ammoniac, ange it to a whitiſh Clear; and, upon ſtanding twenty-four ours, leave a ſmall Sediment like Wool or Cotton. Syrup of iolets made it firſt blue, then greeniſh. Syrup of Cloves ade it of a whitiſh Blue, and muddy; Tincture of Fuſtic, f a pale Sack Colour; Tincture of Logwood, of a beautiful ed; Tincture of Galls, of a muddy yellowiſh Colour, which four Days time turn'd green. Green Tea alter'd it not. incture of red Roſes gave it a Brandy Colour. Rum, Bran-y, Balauſtian Flowers, Pomegranate-peel, and Oak-leaves, oduced no Change in it.

The Water of *Bingham* Well, upon being mix'd with the oreſaid Ingredients ſeparately, in ſundry Glaſſes, and allow'd ſtand all Night, next Morning that Portion mix'd with Solution of Silver was of a Pearl Colour, clear at Top, and let ll a large Sediment. With Tincture of Rhubarb it aſſumed yellowiſh-brown Colour. With Solution of Sublimate the quor remain'd clear, but the Sides and Bottom of the Glaſs re blackiſh. With Spirits of Hartſhorn it was changed into bluiſh Green. With Tincture of Fuſtic it became yellowiſh. ith Tincture of *Braſil* it was changed into a light faint Red. ith Tincture of Logwood it aſſumed a deep reddiſh-brown lour. With Tincture of Galls a deep purple Scum appear'd its Surface; it was yellowiſh in the Middle, and of a bluiſh rl Colour at Top and Bottom. With *French* Brandy it was r, but darker than common Water.

The Differences between this and St. *Anne*'s Well were very ll; the former made Solution of Silver of a bluer White, afterwards of a more purple Colour, than the latter. It retain'd its reddiſh Colour longer with Syrup of Cloves; it fall more Sediment with Solution of Lead; and its Sediment, left after Exhalation, was more pungent and ſaline, and at the ſame time very white. Eleven Quarts of it, at another time, left thirty-three Grains of Sediment; twenty-four of which were a white Salt, which changed Syrup of Violets to a beautiful light-green Colour; but the Salt of St. *Anne*'s Well made little Alteration upon it. The former alſo turn'd Solution of Sublimate a little Orange-colour'd; and, mix'd with Sal Ammoniac, ſent forth an urinous Smell. It crackled a little on a red-hot Iron, but did not ſwell much. It fermented ſtrongly with Acids, but not with Alcalies.

Bingham Well-water being fetch'd ſixteen Miles, and kept five Nights, I compared it with common Pipe-water, which had ſtood two Nights in a Leaden Ciſtern. Tincture of Rhubarb turn'd common Water of a light-yellow Colour; but *Bingham* Water was by it changed into a reddiſh, or reddiſh-brown Colour. Solution of Sublimate changed not common Water, but produced a Pellicle on its Surface of a Red, Blue, and Yellow, according to the various Directions of the Rays of Light. *Bingham* Water became whitiſh, and had a Scum of Yellow, Red, Green, and Blue. Oil of Tartar made no Alteration on this common Water; but the other was firſt white, then curdled, and depoſited large and whiter Flakes at the Sides and Bottom of the Glaſs. The acid Spirits raiſed a greater inteſtine Motion, and more Bubbles, in the Mineral Water than in the other. Spirits of Hartſhorn had no Effect on the latter, but changed the other white, which became alſo greener with Syrup of Violets than the common Water. After ſtanding four Days longer, Tincture of *Braſil* Wood had turn'd the *Bingham* Water of a deeper Red than the other; and Tincture of Galls and Sumach had changed the former green throughout. Solution of Silver had made it of a light Purple, but the common Water was a pale Pearl Colour.

When I had kept the Bath-water, that of *Bingham* Well, and that of the hot and cold Spring, for a long time, then, with Tincture of Nephritic Wood, they all became whitiſh firſt, then pale, laſtly curdled, and became green. The ſecond of theſe, with Solution of Silver, was reddiſh; but ſoon chang'd to a Pearl Colour. With Tincture of Galls, both it and the third were firſt of a muddy Clay Colour, then of a Leaden Colour, and cover'd with a variegated Scum; but that of the Bath, with Tincture of Sumach, became wholly green in five Days. Syrup of Violets turn'd *Bingham* Well very green in two Days.

I exhaled each of thoſe Waters ſeveral times, and always found ſome Difference in the Quantity, but never in the Nature of their Sediments, which was always the ſame: The former, that is, the Quantity, was varied, ſometimes by the Water, ſometimes by the Fire, and ſometimes by the Veſſel. Not only the Sediment, but alſo the Salts, fermented with Oil of Vitriol; they alſo crackled in the Fire, and ſwell'd a little. But, finally, to be ſatisfied of both their Kind and Proportions, I ſet them to cryſtallize: The Bath-water afforded both Sea-ſalt and Nitre, but moſt of the former. The Salts of St. *Anne*'s Well were the ſame in Kind, only they yielded more Nitre than that of the Bath. *Bingham* Well-water contains moſt Nitre of any of them, and leſs Marine-ſalt. I took the Cryſtals of Nitre from the Marine-ſalt, diſſolved them, and ſet them to project into regular Cryſtals, that I might obtain their true Figures.

From the preceding Hiſtory we draw the following Obſervations:

That tho' there is Plenty of Ocre, Iron-ſtone, and Sulphur, in the Coal-pits here, which are generally reputed the Cauſe of hot Springs; yet the Water is ſo far from being warm, that it is intenſely cold; ſo that, in order to cauſe Warmth, there muſt either be ſome other Materials, or there is a Mixture of other Ingredients, which prevent their Effect in warming the Water; or theſe Ingredients are mix'd in undue Proportions.

Again, ſince we find the Veins of Lead, croſſing the Coal, corroded, it is plain, that Vitriol acts upon and conſumes Lead as well as other Metals.

Since Lime-ſtone and Coal cannot agree, we ſee, that the alcaline Earth of the former is as hurtful to the Acid of the latter, as this Acid is prejudicial to Lime-ſtone; for, that it is not the Nitre in the Lime-ſtone that is hurtful to the Coal, appears from this, that moſt of the Chalybeate or Vitriolic Waters contain alſo a fix'd Nitre.

However homogeneous *Buxton* Waters may appear, or however ſimilar in their Nature to common Water, in all other reſpects, beſides their greater Heat; yet ſeeing ſeveral of the above-mention'd tincturing Ingredients, produced in them Phenomena differing from thoſe produced in common Water by them, it muſt therefore contain ſome other Principles than thoſe of common Water.

Tho' it cannot be denied, that this Water has a Mixture of different Principles; yet ſeeing it is ſtill eight or ten Grains in a Pint lighter, when cold, than common Water, this ſhews, that it has fewer earthy or other groſs Parts in it than River-water.

Since common Water, made equally hot with *Buxton* Bath-water, cools ſooner at firſt, but ſlower than it toward the latter End, *Buxton* Mineral Water muſt of courſe either have leſs groſs and foreign Matter in it, or this Matter muſt exiſt in ſmaller Particles in the Water, and ſo give leſs Reſiſtance to the flying off of the leſs rarefied Particles of Heat.

Seeing *Buxton* Water is ſo much lighter and warmer than common Water, before it has received any culinary or artificial Fire into its Pores, to rarefy the Air contain'd in it, it is plain, It brings ſomething along with it, which is equivalent to the fiery Particles in heated Water; which being occaſion'd by this Water's waſhing Mixtures of ſeveral Minerals in its Courſe, we ſhall therefore call that a Mineral Vapour.

Since this Water waſhes ſo many Ingredients abounding with Sulphur, and ſince we find, that even groſs Sulphur, by the Mediation of Lime-ſtone, communicates ſome of its Parts to Water; and alſo ſeeing there is conſtantly ſuch a viſible ſulphureous Halitus upon the Surface of *Buxton* Water; it is reaſonable to think, that this Water, whilſt warm, is impregnated with a ſulphureous Steam or Vapour, as one Part of its Mineral Spirit.

From the whole Proceſſes and Experiments made on *Buxton* Waters, it is plain, that the Minerals, warming and impregnating theſe ſeveral Springs, are the ſame; only differing ſomewhat in the Proportion of their Ingredients.

Theſe Minerals lie in a Stratum, or Bed, from Weſt to Eaſt.

Since *Bingham* Well increaſes or decreaſes upon Viciſſitudes of Weather or Seaſons, 'tis hence probable, that its Spring is not ſupplied from any great Depth in the Earth, but chiefly from the Surface of the Ground, and the ſmall Hill above; and ſeeing both it, and the ſmall warm Spring beyond it, (which I have ſeen quite dry) are ſo ſuperficially provided, and yet warm, the impregnating Ingredients ſeem not to lie very deep in the Earth.

Since theſe Waters continually bring up ſo large and numerous Bubbles, with an impetuous Force, from the Bowels of the Earth, then muſt their Interſtices be richly ſtored with a fine Air, which produces this Effect.

Seeing St. *Anne*'s was known to be of the ſame Nature, and threw forth the ſame Quantity of Water before the Bath-level was made, that it does ſince; and ſince, from this Well to the Bath, there is a continued Rock of firm black Lime-ſtone, or a Subſtance between Marble and Lime-ſtone; and eſpecially, ſeeing the main Spring, which ſupplies this Well, riſes up thro' a black Lime-ſtone on that Side next the River, and not on that next the Bath; and, in the laſt place, ſince we find two conſiderable Differences in its Contents from thoſe of the Bath-water; it is ridiculous to ſuggeſt, that this Spring has any Communication with the Bath.

Since there is ſuch a Difference at ſundry times in the Weight of theſe Waters, it follows, that there is no certain Standard for determining their ſpecific Gravities; only this, in the general, is certain, that they are lighter than other common Water, and that the lighter they are, ſo much the more are they impregnated with the Mineral Spirit, and the fewer extraneous Bodies they bring along with them; and the lighter they are, the warmer; and the warmer, the more medicinal.

The more the Pores of the Earth are lock'd up by Froſt, or fill'd with Water, provided theſe affect not the Springs, the warmer and lighter is the Water; and the warmer it is, ſo much ſtronger is its Mineral Vapour, and therefore the more powerful are its Virtues.

From the Uſe of the Thermometer we ſee, firſt, The different Degrees of Heat contain'd in the ſeveral Waters. Secondly, We find that there are different Degrees of Heat contain'd in the ſame Water in the ſeveral Seaſons of the Year, and according to the various Temperatures of the Air. Thirdly, That theſe Waters are not relatively, but abſolutely, warmer in Winter than in Summer, in Froſt than when there is none, in a cold than in a hot Seaſon, the Bath at leaſt being one twentieth Part warmer in Froſt or Winter, than in warm Weather. Fourthly, That, in a great Froſt, four Fifths of the coldeſt Water not frozen, and one Fifth of boiling Water mix'd, make the juſt Warmth of common River-water in hot Weather about the Autumnal Equinox. Fifthly, That a Quart of boiling Water added to three Pints of ſuch cold Water, in an earthen Veſſel, at two ſundry times, about ſeven Minutes Diſtance from each other, gives the true Warmth of *Buxton*.

Or five Eighths of a Quart of boiling Water, added to three Pints of common River-water in Summer, gives the exact Heat of *Buxton* Bath in that Seaſon; and then whatever raiſes ſuch a Thermometer five Eighths of an Inch higher, ſhews you the Warmth of *Buxton* Water, in a ſtrong Winter Froſt.

By theſe Experiments we have the Quantity of Water each Spring ſends forth in a given time. Secondly, The Proportion that the Vehicle and fix'd Parts have to each other. Thirdly, The Proportions of the Earth and Salts ſeparately. And, laſtly, Which of the different Salts exceeds the others in Quantity.

From the ſmall Proportion of the fix'd Parts in thoſe Waters to their Vehicle, eſpecially conſidering the ſmall Quantity that ſhould be drank, it is plain, theſe Parts can do little to the Removal of any obſtinate Chronical Diſeaſe. Suppoſe, for Example, a Man daily drinks four Pints of Water, at moſt he ſwallows not, with this Doſe, above five Grains of Lime-ſtone Powder, which we ſhall call an Alcali or Abſorbent, and two Grains and an half of Marine-ſalt, and as much Nitre, which let us ſuppoſe ſtimulant: What can theſe do? If he ſhould drink half that Quantity of common Water that comes from the white Lime-ſtone Hills, he ſhall have as much alcaline Earth, if not ſome fix'd Salt, beſides a vegetable Salt: Yet who would call theſe Medicinal Waters? Hence it is plain, that the Virtues of our Waters conſiſt, firſt, In the pure, ſmooth, fine, common Vehicle; and, ſecondly, In their Warmth and Mineral Spirit.

Is the Bath, when its Doors and Windows are ſhut, warmer than when open'd? Is the Bath that is ſhut up on all Sides, warmer than St. *Anne*'s Well, which is only ſhut up on three Sides? Is this warmer again than *Bingham* Water, that is wholly expoſed to the open Air above and on all Sides? Then it is plain, that were theſe Waters kept cloſe cover'd, and their Heat reverberated, they might ſtill be much warmer.

From the Experiments made with the Mixtures, we ſe firſt, from the inteſtine Motion excited by the acid Spirits, That the Water contains an Alcali. Secondly, That this Alcali being precipitated by a Solution of Sugar of Lead, or the Water thrown into an Alembic and diſtilled, and that which comes over with a ſlow Fire tried, neither of theſe Waters ferment with Acids. Thirdly, Not only the alcaline Nature o this Earth, but its Whiteneſs, ſhew it to be Lime-ſtone Powder, tho' it warm not the Water after Calcination. Fourthly, This Earth being calcined in a Furnace, which quickly melts Iron, and then applied to the Load-ſtone, it attracted this Duſt or Powder briſkly; therefore I conclude it contains alſo Iron-ſtone. Fifthly, Seeing the Water precipitates the Solution of Silver, and a Part of its Salts runs into Cryſtals of a cubic Figure, like a Dye, a Part of its Salt muſt be Marine-ſalt. Sixthly, Since it lets fall a Sediment with Oil o Tartar, and Spirit of Hartſhorn, and alſo affords ſome lon Cryſtals with ſix unequal Sides, terminating at each End i a Pyramid under ſeveral Triangles; we conclude, it contai alſo Nitre. Seventhly, Seeing neither Galls nor other Aſtrigents alter'd this warm Water, we cannot trace any Vitri either volatile or fix'd, in it, nor does it taſte chalybeate however the Credulity of ſome People may impoſe upon the Taſtes, and tho' the Load-ſtone attracts ſome of its calcine Earth, it does the ſame with moſt other Earths, which neve afforded any Solution of Vitriol, nor any Appearance of i Eighthly, Did *Bingham* Well, when putrified, and its Sulphu ſpent, become red with Galls, and purple with Solution Silver? Then it muſt not only partake more eminently of N tre, but alſo have more of the Chalybeate Principle in it, tha any of the reſt.

Did theſe Waters afford ſundry Proportions of Sediment different times? Then they are not alike fraught with their fix mineral Principles at all times. Secondly, We may hereb obſerve, that when their fix'd Contents are leaſt, their vol tile Principles are moſt, as in Winter and very cold Weathe and when their volatile Spirit is ſmalleſt or weakeſt, their fix Parts are proportionably increaſed, as in very dry and h Weather. Thirdly, Have ſeveral Authors examin'd the ſa Waters at ſeveral times, and found their Contents to diff in Quantity, but not in Kind? Then are they not to be raigned and accuſed about ſmall Differences, as is too or nary.

Does Dr. *Liſter* tell us, that St. *Anne*'s Water proves em tic upon ſwilling down large Quantities of it? This is nothi peculiar, but what it has in common with all other Wat Secondly, Does he aſſert a Quantity of Pit-coal to lie imm diately under the Lime-ſtone, out of which this Water ſpring It is ſurpriſing how ſo good a Naturaliſt could make ſuc Blunder; for, firſt, Lime-ſtone and Coal are found incon ent with each other in the Peak-country. Secondly, W ever found warm Water in Coal? Thirdly, Tho' the Se ment of thoſe Waters be very ſmall, yet it at leaſt afford Scruple to a Gallon; tho' he obtained but one Scruple or t out of four Gallons, this muſt have been owing to ſome N lect or Miſmanagement. Fourthly, He ſays the Sediment all Salt, and no Stone Powder, whereas the *Bath* yields ab one Half, and ſometimes two Thirds of Stone Powder to of Salt. Fifthly, The Salt, he ſays, is chiefly marine. T this be true of the *Bath*, yet St. *Anne*'s Well contains as m Nitre as Marine-ſalt, and *Bingham* Well more than eith them. Nor, ſixthly, Can I here overlook *Allen*'s Acco of this Water. For, firſt, He will have but three w Springs here, *viz.* two for Bathing, and one for drink

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Now the outer Bath is no Spring, but ſupplied from the inner Bath. Secondly, He ſays, that it is as warm as Blood newly let out of the Veins ; but, had he uſed a Thermometer in examining both, he would have found the former much ſhort of the Heat of the latter. Thirdly, He will have Lead, Iron, and Sulphur to be the Principles that medicate this Water ; but how can Lead communicate any of its Parts to the Water, without it be diſſolved ? Where is the Solvent and Menſtruum ? And, if it had a Solvent, it would be Vitriol, which would long ago have corroded and conſumed the Lead, and left only a bright Sulphur ; and ſince Lead is the chief medicating Principle, the Springs would now be no more than other common Springs. But allowing (contrary to Reaſon and Experience) that the Lead did ſtill impregnate this Water, it would be Poiſon inſtead of Phyſic, as we ſee from the Accidents that happen to thoſe who ſmell, and to the Animals that drink the Waters wherein there is Lead, how ſoon they are ſeized with a *Bellon*, and from the Effects of Sugar of Lead taken inwardly. Nor, thirdly, Has the Water a ſulphureous Taſte or Smell, as he alledges. Nor, fourthly, Do Galls give this the ſame Colour as they do the *Bath* Waters, nor a Leaden Colour, which he will have to ariſe from Lead. The Sulphur he will have to be that of Lead. *Jones* is much more in the Right, when he thinks the Water is too pure, delicious, and fine, for any ſuch Principles as Lead, Copper, or Alum; and contents himſelf with an impalpable Sulphur.

Now let us ſee what Medicinal Uſes theſe Experiments and Obſervations will help us to make of theſe Waters : In this we ſhall receive ſome Aſſiſtance from Mr. *Martin*'s Account of the Effects of warm Bathing, whereby it is plain, firſt, That, by the Waters penetrating the Pores of the Skin, it gets nto, and mixes with, the Blood, and other Juices, on the Sur- ice of the Body, and thereby increaſes its Weight. Second- y, That, by this Inſinuation of the tepid Steam into the Pores, he Skin is relaxed, its Pores dilated, the Fluids in the Capil- ry Veſſels thinned, their Motion made eaſier, and their vacuation promoted. Thirdly, Tho' the Addition to the Veight of the Body by Bathing may ſeem ſmall, yet we muſt low a conſiderable Diſcharge by Perſpiration during Bathing, oth from the Preſſure of the Water, added to that of the Air, pon the Body, and the warming relaxing Nature of the Vater. But to proceed.

Since theſe Waters contain ſo much Air in their Inter- ices, they muſt greatly promote Digeſtion, except they be drank o long; and then, from their very Warmth and Nature, ey muſt relax the Stomach, and retard all the Digeſtions, leſs the Uſe of them is left off. But the Waters being armed by Bodies of a different Nature, either brought to- ther, diſſolv'd, or ſet in Action, by the Water, this Action nnot be without the Communication of ſome of their Parts, hich little Parts muſt be lodged, together with the Air, in Interſtices of the Water; then not only does the Air nſider'd as a ſimple Ether) promote Digeſtion and Atte- ation ; but being ſpringy, and full of thoſe ſubtile, inviſi- , intractable Particles of Mineral Bodies, or Subſtances, of at a diluting, opening Nature muſt they be in Animal dies ? How near in Smallneſs and Subtilty do they approach the Particles of Light and Heat, ſince we have no Veſſels t retain one more than the other ? And ſince they are not inable in the cold Water, wherein we ſuppoſe the Air in tagnant, compreſſed State, how trifling is it to imagine or empt procuring of them by Force of Fire in Diſtillation, ereby the Air is heated, rarefied, and expanded, and even ir Vehicle, the Water, ſo rarefied, that it riſes up in a oak, in both which they are at greater Liberty than be- to make their Eſcape !

ince theſe Particles are ſo much leſs, and more ſubtle, than moſt volatile Spirits obtainable by Art, ſuch as thoſe of rtſhorn and Sal Ammoniac, which may be ſhut up and ſerved in ſo porous a Body as Glaſs, how impoſſible is it, the ſmalleſt Veſſels in human Bodies, tho' never ſo much ructed, (if not grown up, and become tendinous) ſhould der their progreſſive Motion! Will they not even find a age between the Interſtices of the Fibres that conſtitute Sides of the Veſſels, and, *a fortiori*, much more in their ities? How well then muſt ſuch a Water at the Spring- , thus fraught with its ſubtile mineral Principle, be diſ- d to carry on the Work of opening and clearing the mi- ſt Veſſels in the remoteſt Extremities of Animal Bodies, or e ſmalleſt Veſſels of the Perioſteum, in either of the Coats e Brain, or Spinal Marrow, or in the Brain or Marrow it- which contain the ſmalleſt Veſſels comprehenſible by an Conception ? From this it follows, that theſe Waters etter adapted to Obſtructions from the twentieth-rate els, to the ſmalleſt in the whole Body, than to thoſe of arger and firſt-rate : No Wonder then, if they produce ſurpriſing Effects in Gouty, Rheumatic, Arthritic, and utic Pains, all which have their Seat in Veſſels ſo ſmall, arce to be come at by Medicines. Again, if we conſider pirit as wrapt up in Air, it is not only ſubtle and penetrating, but alſo elaſtic or ſpringy, ſo that, when the Heat of the Body is added to its Warmth, it will be ſo much the more ſpringy, and expand the ſmalleſt Veſſels, relaxing them, and ſo making room for the obſtructing Matter either to be expelled from the Body, or ſo attenuated as to be thrown back into the larger Veſſels, till it is more attenuated, digeſted, and fitted for Evacuation by ſome of the common Outlets. But is the Water attenuating, and the Spirit elaſtic ? Then, not only does the former diſſolve the groſs Humours, but the Particles of the latter being got between them, and dilating themſelves like a ſpringy Wedge, will turn the attractive Force of theſe Humours into a Repulſive, whereby they are gradually ſeparated, broken, and mix'd with the intercurrent Fluid; but as the Humours cannot be attenuated, and divided into ſmaller Particles without increaſing their Bulk, eſpecially when at the ſame time there is a Quantity of this Water thrown into the Body, and mix'd with them, this Fuſion of the Blood diſpoſes ſome of its Parts to get into improper Veſſels; for one Globule being hereby divided into two or three, they are then capable of entering Veſſels that before would not admit nor receive them when only one ; and theſe Veſſels being conical, the globular Parts thus divided muſt ſtop, before they can reach the Extremity of the Veſſel ; hence new Obſtructions of another kind muſt be produc'd by this powerful Diluter, which muſt remain, except either the Veſſel relax, and give way, or the ſtopp'd Globule muſt be ſplit into two or three others ; but, by this neceſſary Force, the Action of the Veſſel is increaſed, whereby the Blood's Motion becomes briſker : And now both the Quantity and Velocity of the Blood are increaſed, but the Coats of the Veſſels not being hereby ſtrengthen'd, but weaken'd, according to their greater Dilatation or Stretch, if they were weak before, and full of Blood, then Hæmorrhages muſt neceſſarily follow, except prevented by due and timely Evacuation, or Reduction of the Humours to their former Standard, that the Veſſels may again be reſtor'd to their natural Dimenſions, Strength, and Reſiſtance. But if we are aſſur'd from Fact and Experience, that there is a mineral Spirit in theſe Waters, and want to know the Nature of this mineral Spirit, let us get acquainted with the Minerals waſh'd by the Water, and conſider which of them are capable of having ſome of their Parts ſeparated by the Water, and which theſe Minerals are that can neither have their Parts ſeparated nor diſſolv'd ; and we are ſure, that this Spirit muſt be from the former, and not from the latter of theſe : But what theſe Materials are, we have ſeen before; therefore the Spirit muſt be of the ſame Nature, as its Effects, as well as Theory, prove.

From the Whole we ſee, that the Intention and Effects of thoſe Waters are Relaxation and Dilution; and where-ever theſe are indicated, this Water will be of the greateſt Service; which is, when the natural and neceſſary Secretions are leſſen'd, from whence ariſe Obſtructions in the ſmall Veſſels; but it is of the greateſt Benefit in thoſe Obſtructions which ariſe from a Sharpneſs, Saltneſs, or Earthineſs of the Blood and Lymph, or from an accidental (where there is no natural) Diſpoſition to a Rarefaction of the Blood, ſome of whoſe Parts have miſtaken their common Road, in all which Caſes we ſuppoſe a Stimulus in the Veſſels from Pain; ſince it is impoſſible the fix'd Parts of this Water ſhould prove a powerful Stimulus. Its Efficacy extends particularly to all Contractions, Stiffneſs, or Criſpation of the Solids and Veſſels, when their Parts are ſo cloſe, that the Fibres are inflexible by ſuch Cauſes as in a natural and healthy State ſhould bend them : Or where there is a Difficulty and Indiſpoſition ſometimes in the Fibres and Veſſels, preventing their ready and eaſy Diſtention and Contraction, as is moſtly the Fate of old Age, and hard Labourers; which is evident from a more difficult bending and contracting of their Joints and Muſcles, and from their greater Liableneſs to Rheumatic and Arthritic Pains; and if young People be hard plied betimes in Life, their Fibres are ſooner ſtiffened, become ſtronger, and are at their Growth, or prevented of their full Growth, ſooner ; for by whatever means Growth is haſtened and finiſhed, the Period of Life is ſo much ſhorten'd. Hence ſuch as are of the ſloweſt Growth, provided they live regularly, and eſcape Accidents, live longeſt, for the ſame Space of Time they take to Growth, they ſtand ſtill as long, and decline the like Time ; for ſhould one Man grow till thirty Years of Age, from that he is at a Stand to ſixty, and grows back again or declines to ninety; then dies : If we ſuppoſe another, who has unnaturally haſtened his Growth at ſixteen, he cannot outlive forty-eight or fifty at moſt : Hence it is plain, that ſuch as rejoice at their Childrens early Growth, and ſuch as are uneaſy at their ſlow Growth, are equally fooliſh. It is judiciouſly obſerved by *Sanctorius*, that from the time Men begin to decline and grow old, Perſpiration is diminiſhed, and the groſs Parts of the Blood are retain'd; which, being gathered to the Thorax or Breaſt, are expectorated by Coughing, or they are heaped up at the Extremities of the Veſſels, the increaſing Stiffneſs of the Parts ſtill occaſioning a Waſte of the more ſubtle Parts, and a Collection of the groſſer : Hence Diſeaſes from mucous or ſizy Humours, laid up in one

Part or other of the Body, as Catarrhs, Rheumatiſms, Pains of the Joints, Atrophies, Maraſmus, and a gradual diminiſhing of the Actions depending on the ſmall Fibres, as Hearing, Seeing, Memory and Judgment; for the Veſſels of the Brain being then partly ſhut up, and partly become callous, ſo as to be unfit for the more noble and elevated Actions, then the Perſon becomes childiſh, and wears out of Life without much Pain or Uneaſineſs, and all from a Stiffneſs induced on the Fibres, and diminiſhed Perſpiration.

Upon the Whole, *Buxton* Water being warm, highly impregnated with a mineral Steam, Vapour, or Spirit, containing a moſt ſubtle and impalpable Sulphur, and being the Product of Lime-ſtone, it is therefore rarefying, heating, relaxing, attenuating, ſweetening, and a little drying; hence it is ſignally beneficial, and ſurpriſingly ſucceſsful, in the Gout, Rheumatiſm, ſcorbutic and arthritic Pains, wandering or fix'd Pains inveterate or recent; Cramps, Convulſions, dry Aſthmas without a Fever or quick Pulſe, bilious Colic, want of Appetite, and Indigeſtion from Intemperance and Hard-drinking, as alſo in Contractions, Stiffneſs and Lameneſs ariſing therefrom in any Part, Barrenneſs from a Conſtriction and Indilability of the Fallopian Tubes and Uterus; Painfulneſs, a total Want or other Irregularities of the Menſes from the ſame Cauſe; in all Stoppages, and beginning Obſtructions, and in preternatural Rigidities of the Veſſels, or where external Tumors compreſs the ſmall Veſſels, or where there is an Over-growth, or too great Strength, of the Veſſels reſiſting the Fluids; in St. Antony's Fire, Tetters, Ring-worms, Scab, Itch, and Morphew; it is alſo uſeful in the Beginning of the Swellings on the Bones or Perioſteum, which are ſoft, yielding to the Touch, or of the Conſiſtence of ſoft Wax called Gummata and Tophi, as alſo in Nodes, in chalky Tumors in any Part of the Body, inward or outward. In all hard callous Swellings it eaſes the Pain, and ſoftens conſiderably; in old Strains or Pains afflicting People upon Change of Weather, whether they be originally from broken or disjointed Bones, Diſtortion of the Parts, or pulling them out of their natural Poſition; in any Withering or Pining of the Parts; in want of Perſpiration from Cold, without a Fever, or Load of Humours; for Heat, Stranguries, and Stoppage of Urine; in too great a Contraction of the Urinary Paſſages and Strainers; for ſcouring off Sand, Gravel, and Mucus, out of the Kidneys; in Hicoughs and Vomiting, from a ſaline Matter, ſtimulating and contracting the Stomach or Midriff; in a Dyſentery, from ſalt Humours, raiſing violent Gripes, and convulſive Pains.

I might here ſubjoin ſeveral ſecondary Uſes of this Water; but the common Vehicle being the only Phyſic in them, in this Caſe I ſhall adviſe both drinking and bathing; but by no means the laſt in a Fit of the Gout, inward Inflammations, Fevers, Dyſentery, large inward Tumors, Vomiting or Purging of Blood, or where-ever an outward Preſſure of the Body may do Miſchief.

As to the Age, Sex, and Conſtitution of the Patient, the particular Lightneſs and Purity of thoſe Waters recommend their Uſe, as ſafe and ſucceſsful, to all Ages and Sexes, Children, Youth, Men, Women with or not with Child, except in the firſt and laſt Months. No Caution or Difference is here to be regarded; only I would not adviſe young Perſons, very full of Blood and Juices, which run with a rapid Courſe in their Veſſels, to be too free with them, from the twenty-third Year of their Age, till the thirtieth. Bilious or choleric Conſtitutions, phlegmatic, and melancholic, may uſe them at Diſcretion, provided they do not overdo the Matter; but the Sanguine muſt be a little more upon the Watch; for, ſince they rarefy the Blood, and increaſe both its Bulk and Motion, as well as add ſomewhat to its Quantity by bathing; ſo that their Veſſels, being pretty well fill'd already, as often appears from their low briſk Pulſe, and florid Countenance, here the Waters may diſtend the Veſſels more, drive the Blood forward till it cauſe Obſtructions, Stagnation, Inflammations, Fevers, or a Diſcharge of Blood, by ſome Evacuation, from a Rupture of the ſtretch'd and weaken'd Veſſels. Neither ſhould I be fond of adviſing phlegmatic groſs Bodies, after the Meridian of Life, to continue it long, except for a few Days bathing, to open the Pores of the Skin, attenuate the ſizy Humours in its ſmall Veſſels, and diſcharge a Part of them, and ſo fit them for a colder Bath, of greater Preſſure and Stimulus; not that I am fond of Cold-bathing in old Age, when the Spring of the Fibres is almoſt worn out, but I mean between the Meridian of Life, and old Age. As to the Seaſon of the Year for uſing theſe Waters, after ſo ſtrict an Examination and Inveſtigation of their Parts, excuſe me if I differ from the common Opinion, and prefer early in the Spring, and late in the Autumn: For, if we conſider, firſt, the Luxury of the Age in Eating and Drinking, ſimple plain Food, that was the delicate Diſh of our long-liv'd healthy Anceſtors, is no longer reliſh'd; our Meat muſt be higher ſeaſon'd; we cannot dine but upon ſeveral Diſhes; weak plain Liquors are no longer us'd for Drink; we muſt have Wine, or, which is worſe, (as it is more viſcid) ſtrong Ale, or perhaps Brandy and Water. Do not all theſe heat and inflame the Body? Secondly, Does not the Water of itſelf rarefy the Blood, and relax the Veſſels? And, thirdly, Are not the Juices of the Body more rarefied? Take they not up more Bulk, and are not the Veſſels more relaxed, in Summer than in Winter? Is this then a fit Seaſon to ſend young People of plethoric and ſanguine Conſtitutions to thoſe Waters? Either they muſt uſe them for ſome time, or not; if the latter, why come they to them? What Deſign will a mere complimenting Viſit of the Waters, and, perhaps, taſting them, or going into them, anſwer? Sure no valuable End. If they uſe them for any conſiderable Time, are they not expoſed to the Mercy of Inflammations, Faintneſs, Palpitations, and Fevers, eſpecially of the hectic Kind? And will not the Waters anſwer the ſame Intention, with much greater Safety, from the latter End of *March* to the Middle of *May*, and from the firſt of *September* to the firſt of *November*? It is true, the Coldneſs of the Place may be objected; but is there not a good Houſe, dry warm Rooms, Plenty of Coals, for the moſt part ſome Company, and a pleaſant dry Country? Where then is the Harm, even in the Middle of Winter, upon urgent and neceſſary Occaſions? Are not the Waters conſiderably warmer? Does not their Efficacy chiefly depend upon their Warmth, and what cauſes it? And, the warmer they are, are not they the more efficacious and ſucceſsful? Nor is the Blood ſo apt to be rarefied, ſeeing the Air contain'd in it muſt be *in æquilibrio* with the external Air. This is not Speculation; I mention it from Experience, having order'd Patients there in *March* in great Froſt and Snow, and never obſerv'd better Succeſs than the Water had upon them all.

As to the Method of uſing the Waters, except the Body be coſtive, and the firſt Paſſages furred up with groſs Humours, I declare myſelf a profeſs'd Enemy to what is call'd preparing the Body for them, by ſtrong Purging, which often cauſes Pain in the Bowels, Windineſs, Looſeneſs, and Dejection of the Appetite, the chief thing to be regarded, and kept up, in a Coruſ of Mineral Waters, eſpecially of the warm Kind. Therefore I content myſelf with ſimple plain Laxatives, which unloa the Inteſtines without Sickneſs, Pain, Confinement, or Proſtration of Strength or Appetite, as Lenitive Electuary, Rhubarb Manna, and Cream of Tartar: Or, if the Stomach is loade with Phlegm, pall'd and relax'd, to prevent this being ſen down, and carry'd into the Body with the Water, and then doing a great deal of Miſchief, I would give a gentle Vomit, a of the Infuſion of Ipecacuanha, or that in Subſtance to ſtron Bodies, and neither order Drinking nor Bathing for thirt Hours after at leaſt. Young People, full of Blood, or wh have a meagre and quick Pulſe, I would order to be bloode before they begin. Such as are liable to the Gout ſhould neithe be blooded nor vomited, except there were ſtrong Indication to the contrary; but let them have *Tinctura Sacra*, or *Elixi Salutis*, for a Purge. When they begin to drink the Waters, Pint before Breakfaſt, and as much after, is ſufficient for th firſt two or three Days; then half a Pint more for the two Day following, and, at moſt, three Pints in a Forenoon; for th Water, not being an Evacuant, but an Alterative, muſt no be thrown into the Body in large Quantities, whereby a gre deal more Hurt may be done than the Good we expect. A beſt, we thereby turn it to an Evacuant by Urine, or recei certain Miſchief. As to Diet, if it be ſeaſonable, healthy and temperate before, I would have no great Change to b made in it, from what was the Perſon's ordinary way of Life only, as the Water heats and rarefies, beware of Pepper, Mu tard, Onions, Shallots, Horſe-radiſh, and all aromatic a hot Seaſoning, and of all inflaming Liquors; Claret, or Whit wine, and Water, for Drink, are beſt; and, when the Deſign to relax, I would allow Fiſh, but no ſalt Meats, eſpecially tho dry'd in the Smoak, nor ſalt Fiſh, Gooſe, nor Duck. Ta Breakfaſt between Eight and Nine o'Clock in the Mornin Dinner at one, and Supper at Seven; let the Supper be ligh and eaſy of Digeſtion. Go to Bed at Ten, riſe at Five or Six the Morning. Go into the Bath, continue there from ſeve Minutes to half an Hour, according to the Strength and C of the Patient. When you come out, if you go not to Bed ſweat, (which is ſeldom us'd) dry the Body well, and dr preſently; and, if the Weather is cold, go to a warm Roo uſe gentle Exerciſe, walking about, and drink your Wat Beware of ungovernable Paſſions, Moroſeneſs, ſitting up la Revelling, and unſeaſonable Hours; ſhun violent Exerciſe a Intemperance; be chearful. If the Body is coſtive, drink T marind-broth, or take a Clyſter. If the Stomach is wea raw, and belching, take a little bitter aromatic Wine bef you begin your Water-drinking; and, when you have dra ten or twelve Days, intermit for four or five Days. Let add, once for all, that, as this Water is of ſuch a Nature a have mention'd, ſo it is not to be trifled with; for, if it be u neceſſarily us'd, it will certainly do harm.

But it may, with Juſtice, be objected, if theſe Waters bad for nothing, they are good for nothing. We ſhall, therefo give not only their Advantages, but Diſadvantages. Their U therefore, is unſafe and unadviſeable, where there is too great

Impulſe of the Fluids into the lateral Veſſels; as they relax the latter, and make more way for the former, and rarefy them: Nor are they to be meddled with in Tumors from an Impulſe of the Fluids, with a Dilatability of the Solids beyond all Recovery of their natural Tone, and in Swellings from an Extravaſation of Blood, Serum, or Lymph, into any of the Cavities of the Body, or Interſtices of the Muſcles or Membranes; nor are they ſafe in a natural Fulneſs of Juices, and a Diſpoſition of the Body to generate Blood too quickly; nor are they adviſeable in any inward Inflammations, as of the Stomach, Liver, Lungs, Kidneys, or Pleura; nor ought they to be drank in large outward Inflammations of the Glands, ſince they both increaſe the Motion and Quantity of the Blood, and diſpoſe it to run more impetuouſly upon thoſe Parts, whoſe Spring and Reſiſtance is impaired or loſt; nor is it to be liberally us'd in outward Impoſtumes. They are of no Effect in thoſe Tumors call'd Meliceris, Steatoma, Atheroma, and Talpa. They are alſo miſchievous in Conſumptions attended with a rapid Motion of the Blood, and weak pulmonary Veſſels, and in too copious Perſpiration. Or, in a Word, where-ever ſtrengthening and bracing up the Solids, and thickening and cooling the Fluids, are indicated, theſe Waters muſt be refrain'd from, or where the animal Secretions are to be leſſen'd.

Hence obſerve the following Miſtakes in the Uſe of theſe Waters: Firſt, Does their chief Efficacy depend on their volatile Parts, which only conſiſt of a Steam or Vapour; and are they better adapted to Diſeaſes of the ſmaller than of the larger Veſſels? Then it is an Error to imagine, that all the Buſineſs is done by drinking large Quantities of them, and ſo turning them to Evacuants, at leaſt powerful Diuretics; whereby they are hurry'd out of the Body before they have done their Work, which lies in much ſmaller Veſſels, and requires longer Retention. Secondly, Is Evacuation inconſiſtent with all the Intentions of the Waters? Then how imprudent are thoſe who uſe evacuant Medicines along with the Waters, whether Purgatives or Diuretics, which expeditiouſly carry off the Waters, and, together with them, the thinner Parts of the Blood, out of the larger Veſſels, and the Lymph, which is pour'd into the chylopoetic Organs for diluting the Chyle! But allow they ſhould drink ſo much more Water in proportion to the Increaſe of the Drains: In this mending the Matter, and not making it worſe? For hereby there is a greater Preſſure and Quantity of Water laid upon the Inteſtines, or Organs deſtin'd for the Secretion of the Urine, the Fluids in theſe Glands thinn'd, and their excretory Ducts widen'd and laid more open, and all every way fitted for a larger and freer Vent of the more ſerous Parts of the Blood, which ſhould dilute the groſſer in the ſmalleſt Veſſels. Hence Obſtructions are more riveted there, or at leaſt not removed,

Thirdly, Does the Water heat and rarefy the Blood? Is it then rational to ſend young Perſons thither, eſpecially in the Heat of Summer, whoſe Blood is capable of Rarefaction, when the Warmth of the Water, by the Preſence of its mineral Principle, join'd to the Heat of the Blood, and the hot Seaſon, has relax'd the Solids, and widen'd the Veſſels, and the Blood is in its greateſt natural Rarefaction? One would think this Caution needleſs, to ſuch eſpecially as conſider the fatal Conſequences of a very rarefied State of the Air, by Lightning, to animal Bodies; for the Atmoſphere being ſuddenly rarefy'd by the Flaſh, the ſudden Expanſion of the Air in the Blood, to a Balance with this Atmoſphere, quickly burſts the Veſſels, mingles Solids and Fluids together, as in a Mortification; and the hardeſt Parts, which give the greateſt Reſiſtance to this violent Expanſion, are burſt into a thouſand Pieces, the Spring of the Air being ſo much ſuperior to the Coheſion of the Parts. Fourthly, Does the Water rarefy the Blood? Then how inconſiſtent is violent Exerciſe with their Uſe, as Dancing and Revelling to unſeaſonable Hours, ſtrong Bowling in the Heat of the Day, galloping on Horſeback, inſtead of an eaſy Trot, or an ambling Pace! Theſe violent Exerciſes heat the Blood too much, and are often of bad Conſequences. Fifthly, Is the Deſign of this Water Relaxation and Dilution? Then how do ſuch promote thoſe Ends, who deal all the while in Drams, Spirits, and Punch, all which contract and ſhrivel up the Solids, as the firſt two very remarkably coagulate the Fluids! Sixthly, Do the Waters rarefy the Blood, and increaſe its Bulk and Motion? And is it ſafe and adviſeable for thoſe who have a natural Fulneſs or Superfluity of the Juices, or for ſuch as have naturally a quick Pulſe, large Secretions, thin Bodies, and weak Veſſels? For once more give me Leave to ſay, that theſe Waters are not to be trifled with; ſince, if their Uſe is not wanted, and does no Good, they certainly do Miſchief; and whoever ſays the contrary, votes theſe Waters good for little or nothing; and, if he underſtands the Waters rightly, may as well adviſe the *Peruvian* Bark in continual Fevers, or during the Fit of Intermittents, or Steel Medicines in a Plethora, or Sugar of Lead in a Dropſy or Palſy, or Camphire in the Declination of a hot Fever, which has parched up and dried the Body, and almoſt worn out the Spring of the Veſſels. But, Seventhly, Are theſe Waters warm, and impregnated with a very volatile penetrating Part, wherein lies their chiefeſt Efficacy? And is this Principle gone when they are cold? Then they muſt be drank warm at the Spring to anſwer any End; for, when they are cold, they only ſerve inſtead of common Water, being purer and better than that. Eighthly, Is the Nature of theſe Waters relaxing and attenuating? Then ſpecial Care muſt be taken, that a ſuitable Diet, both in Meat and Drink, be obſerv'd, and that the Patient refrain from every thing that is oppoſite to their Uſe, and gave Birth to his Diſtemper, tho' never ſo much his Favourite, and ſeemingly oppoſite to Nature. Ninthly, Is the chief Deſign of theſe Waters Relaxation and Dilution? Then are they improper in Obſtructions from a Sizineſs of the Juices, and a Relaxation of the Veſſels, as in Cachexies and Dropſies. Tenthly, But, ſay ſome prejudic'd Perſons, if you can find out the Nature of this Mineral Spirit, in which you aſſert the Efficacy of theſe Waters to conſiſt, why may they not be imitated, and ſo People ſav'd much Labour, and Loſs of Time, and Expences? Anſwer. Firſt, Imitate it with what? Whether with fix'd or volatile Bodies? Where will you furniſh me with Matter divided into, and exiſting in, ſuch ſmall, ſubtile, incoercible Particles? Or where is the Art that can reduce Mineral Subſtances to ſuch a volatile, fugitive, Mineral Spirit, a Spirit that cannot be retain'd? A Subſtance of almoſt as minute Parts as thoſe of Light and Heat? A Steam fitted to paſs the ſmalleſt Crannies in Nature? But, ſecondly, So exquiſite is the Mixture, and ſo great the Difference between divine and human Compoſitions, that the former are inimitable. What Anatomiſt, that knows the Structure of a human Body the beſt, will undertake to make another like it? Or what Chymiſt, that can ſeparate the Principles of a Plant to the greateſt Exactneſs, will yet have Aſſurance to boaſt of his Capacity ſo far, as to reunite even the ſame Parts again, in the ſame Form and Condition, with a vegetable Life? Even ſo different are the Compoſitions of God and Man. Hence we ſee, that he who made theſe Bodies and Veſſels at firſt, is beſt able to judge of their Diameters, and knows beſt how to prepare Subſtances ſuited to their Dimenſions and Diſeaſes. Therefore, could we pretend to mimic theſe Waters, yet the Counterfeit would be ſo much inferior to the Natural, as a Piece of Painting, tho' never ſo fine, is to the original Life. *Short's Hiſtory of Mineral Waters.*

BUXUS, Offic. Ger. 1226. Emac. 1410. J. B. 1. 496. Raii Hiſt. 2. 1693. Synop. 3. 445. Chab. 38. Mer. Pin. 18. Merc. Bot. 1. 25. Phyt. Brit. 18. *Buxus arboreſcens*, C. B. Pin. 471. Tourn. Inſt. 578. Elem. Bot. 450. Boerh. Ind. A. 2. 172. Rupp. Flor. Jen. 264. *Buxus arbor vulgaris*, Park. Theat. 1428. THE BOX-TREE. *Dale.*

Box ſeldom grows to be a Tree of any great Bigneſs in *England*; the Wood is hard, ſolid, and ponderous, of a yellow Colour, cover'd with a whitiſh Bark. The Leaves are ſmall and roundiſh, of a firm Texture, and a ſhining green Colour; it is perennial, keeping always green: The Flowers are ſmall, of a yellowiſh Colour, each compoſed of five Leaves. The Fruit is ſmall, roundiſh, and tricapſular, with three Points or Horns on the Top. It grows wild in ſome Parts of *Kent* and *Surry*, as about *Boxhill* near *Darking*. *Miller's Bot. Off.*

The Leaves of the *Box* are bitter, have an ill Smell, and give a faint Red to blue Paper. We obtain from the Wood a little acid Spirit, and a fetid Oil. *Quercetan* eſteems this Oil very much for the Epilepſy, the Vapours, and the Tooth-ach. Being rectified, and circulated afterwards with a third Part of good Spirit of Wine, it is very ſweetening and aperitive. They give fifteen or twenty Drops of it, mix'd with Sugar or Liquorice-powder. They mix this Oil, unrectified, with melted Butter, to anoint Cancers. A Liniment is made of it, with Oil of St. John's-wort, for the Rheumatiſm and Gout. *Etmuller*, and ſeveral other Authors, maintain, that one may ſubſtitute the *Box* in the room of the Guaiacum, Juniper, or Saſſafras, and the Roots of Butterbur and Bennet, in the room of the Sarſaparilla. *Martyn's Tournefort.*

Blegny, in his *Zodiacus Medico-Gallicus*, *An.* 2. tells us, that he knew three Perſons, who, from their own Experience, had found, that a large Quantity of tender Box-leaves, infuſed in three Quarters of a Pint of White-wine, proved an infallible Cure for pituitous and flatulent Colics, if the ſtrain'd Liquor was drank warm. *Dale*, in his *Pharmacologia*, informs us, that it is at preſent little uſed in Medicine; but that, according to *Schroder*, ſome from the Wood diſtil an Oil, which is highly narcotic, and which they wonderfully extol in Epilepſies, Tooth-achs, and Rottenneſs of the Teeth. He alſo tells us, that *Fernelius* claſſes the Leaves of the *Box* among the Purgatives. In *Eph. N. C. D. 2. a. 2. o.* 155. we are told, that a Lotion, prepared of a Lixivium in which the Leaves and Branches of Box have been boil'd, not only makes the Hairs grow, but alſo gives them a yellowiſh Colour. A Decoction of the Flowers of Box is by ſome ſaid to be ſudorific; and others inform us, that one Dram of them proves a violent Purge. *Rondelitius*, in *Foreſt. Obſ. Med.* ſays, he by no means doubts, but that the Shavings of Box, in conſequence of their ſudorific Quality, would cure the *Lues Venerea*; but that they are not uſed for that Purpoſe, becauſe they excite Head-achs, and are of a fetid Smell, and diſagreeable Taſte. However, *Amatus Luſitanus* uſed a Decoction of this Wood, more than once, with wonderful Succeſs. The ſame Author, *Cent.* 3. *Cur.* 36. by a Decoction of Box-wood, after all other Medicines had proved ineffectual, in the Space of twenty Days cured an *Hemicrania*, brought on by a Conſent of the Parts. A Decoction of the Wood, in Red-wine, has by ſome been found to do great Service in Tooth-achs ariſing from cold Defluxions. Beſides, a ſingular anodyne Quality is aſcribed to the Wood, for which Reaſon many recommend Tooth-pickers made of it. The Oil alſo, diſtil'd from the Box-wood, is accounted excellent againſt the Tooth-ach, Fevers, Vertigoes, the Falling-ſickneſs, and the Hæmorrhoids. *Schulzii Prælectiones*, and *Simon Paulli's Quadripartitum Botanicum.* The Wood alone, ſubjected to Diſtillation from a Retort in a Sand-heat, yields an acid Spirit, and a fetid empyreumatic Oil, juſt like thoſe yielded by Guaiac-wood, when treated in a like manner. That this acid Spirit, when rectified, diſſolves Coral, and produces other Effects, which prove the Similarity of its Nature to that of penetrating Acids, may be ſeen in *Boyle's Chymiſta Scepticus.* If this empyreumatic Oil, which is by ſome thought to be the *Oleum Heraclium* of *Rulandus*, is put into the Hollow of a carious Tooth, and applied immediately to the Nerves, it removes the Tooth-ach, by burning them, juſt like Oil of Cloves, or any other acrid and cauſtic Oils. When mix'd with melted Butter, it is recommended to be uſed by way of Liniment in Cancers; and, when mix'd with Oil of St. John's Wort, it is uſed in the ſame Form in the Rheumatiſm and Gout. But if it is rectified, and digeſted for ſome time, with a third Part of good Spirit of Wine, it affords an anodyne and aperient Medicine for internal Uſes, of which fifteen or twenty Drops may be exhibited with Sugar or Liquorice-powder. The Smoak of the kindled Box-wood ſeems to be juſtly recommended againſt the Plague, not ſo much on account of its highly fetid Smell, which at once induced *Bauhine* to the Affirmative, as becauſe it abounds with an acid Salt, which, when drawn in with the Air, reſiſts that Putrefaction of the Juices, to which, during the Time of the Plague, they are always diſpoſed. It is worth while to inquire into the Origin of the Perſuaſion of ſome, that the Virtues of the Box-tree may not only contribute to extinguiſh the Senſe of Venereal Pleaſures, but alſo to baniſh the Devil himſelf. All fetid Subſtances, then, poſſeſs a Power of ſtimulating the Nerves into Motion, removing the diſorderly Sallies of the animal Spirits, and conſequently of curing thoſe hyſteric Indiſpoſitions produced by ſuch a Cauſe. Now, hypochondriac and hyſteric Paſſions are generally attended with ſurpriſing ſpaſmodic Motions, by ignorant People aſcribed to the *Devil*, and his Influence on the human Body; but the Box-tree is poſſeſs'd of a Quality capable of removing theſe Diſorders, and their concomitant Symptoms. Therefore, ſay they, it baniſhes the Devil, whom they as falſly as fooliſhly ſuppoſe to be the immediate Author of theſe Symptoms.

It is alſo poſſible, that this Perſuaſion of the Power of the Box-wood to baniſh the Devil may have been owing to a Cuſtom of conſecrating its Leaves on *Palm-ſunday* in ſome Countries; where, at that Seaſon, no other Leaves are to be found: Whether it is really ſo or not, 'tis nevertheleſs certain, that, from this Circumſtance, the *Dutch* call the Box-tree *Palmboom*, and its Wood *Palm-hout*. I muſt not, on this Occaſion, forget a Story told by *Levinus Lemnius* in theſe Words: "I am "acquainted, ſays he, with a certain Prieſt in our own Coun-"try, who has the Misfortune of a weak Judgment, and a "whimſical Mind, who exhibited the Aſhes of burnt Box-"wood, conſecrated on *Palm-ſunday*, a Ceremony uſed in the "*Roman* Church, to a young Boy, to be drank in holy Wa-"ter, performing at the ſame time a certain ridiculous Exor-"ciſm. All this Apparatus, as he told the By-ſtanders, was "to remove the Fever, and diſlodge the Worms with which "the Boy was afflicted. Soon after, indeed, the Fever was "carried off, but the Patient unluckily died; upon which I "adviſed my Countryman to beware of the like Practice for "the future; ſince the Leaves of the Box-tree are poſſeſs'd of "a deleterious Quality, highly prejudicial to the human Con-"ſtitution, as is obvious from their rank and diſagreeable "Smell, and their harſh and bitter Taſte, ſo ungrateful to the "Palate."

Miller enumerates ſeven Species of the *Buxus*, of which the *Buxus humilis* is poſſeſs'd of the ſame Medicinal Virtues with the *Buxus arboreſcens.*

BUYO BUYO. The Name of a ſort of Pepper, ſo call'd in the *Philippine Iſland.* *Ray* calls it *Piper Longum Monardi.*

BYNE, βυνὴ, Malt, which *Aetius* thus deſcribes.

Barley moiſten'd with Water, then ſuffer'd to germinate, and afterwards dried in a Kiln, with the Shoots upon it, is call'd *Byne.*

BYRETHRUM. An arbitrary Word coin'd by *Foreſtus*, to expreſs a ſort of *Cucupha*, or Cap, prepared with Cephalic Ingredients.

BYRSA, βύρσα. A Skin of Leather, frequently uſed to ſpread Plaiſters upon.

BYRSODEPSICON, βυρσοδεψικὸν, from βύρσα, a Skin, and δεψέω, to curry Leather. *Cælius Aurelianus*, *Chronic. L.* 4. *C.* 3. recommends, for thoſe Perſons whom he calls *Ventriculoſi*, or *Cœliaci*, amongſt other Applications to the middle Parts of the Body, Wool ſprinkled with *Rutherginarium*, which the *Greeks* call βυρσοδεψικὸν, meaning SUMACH, which ſee.

BYSAUCHEN, βυσαύχην, from βύω, to hide, and αὐχὴν, the Neck. People are properly call'd by this Name, who hide, as it were, their Necks, by elevating their *Scapulæ*, Shoulder-blades. But it is uſed, in general, to expreſs a Perſon who labours under a morbid Stiffneſs of his Neck.

BYSMA. See BYZEN.

BYSSUS, in Botany, is the loweſt Species of Moſs, of which twelve different Sorts are mention'd in the laſt Edition of *Ray's Synopſis.* See the Explication of Terms under the Article BOTANY.

BYSSUS alſo ſignifies the *Pudendum Muliebre.*

BYSSUS, moreover, imports a fine ſort of Linen, wore by People of Condition among the Antients; but applied to no Medicinal Purpoſes that I know of. Some are of Opinion, that our fine Cotton, imported from the *Eaſt Indies*, is the true *Byſſus* of the Antients.

BYSTINI ANTIDOTUS. An Antidote frequently mention'd by *Aretæus*, of much the ſame Virtues, as it ſhould ſeem, with the Mithridate.

BYTHOS, βυθὸς, Depth, Profundity. Thus it ſignifies in that Paſſage of *Hippocrates* (ἐν παραγγελ.) ἐν βυθῷ ἀτεχνίης ἐόντες "(Phyſicians) who are in the Depth of Ignorance of "the Art." And thus, in ſeveral Places of his Epiſtles, particularly in that from *Democritus* to *Hippocrates*, περὶ φύσιος ἀνθρώπου, or concerning the Nature of Man. (Βρόγχος) εἰς βυθὸν κοιλίης τροφὴν προπέμπει "(The Œſophagus) conveys the "Aliment to the Depth or Bottom of the Stomach."

BYZEN, βύζην, in *Galen's Exegeſis*, is expounded ἀθρόως πυκνῶς, "in a Heap, in a Croud, or Throng." The Word is uſed by *Hippocrates*, *Lib.* 1. περὶ γυναικ. ſpeaking of the Catamenia, χορέοντα βύζην, "flowing in abundance," or, as it were, thronging for Paſſage. Again, (*Lib.* περὶ φύσ. παιδίου) αἷμα βύζην ἀπίον κατὰ μῆνα ἕκαστον, "flowing abundantly "every Month;" for βύζην, in *Heſychius*, is expounded alſo by ἱκανῶς, and δαψιλῶς, "abundantly, plentifully." The Word βύζην is derived from the Verb βύζω, or βύω, which is, to fill by ſtuffing, to condenſe. Thus, (*Lib.* 1. περὶ γυναικ.) εἷμα καθαρὸν ϗ βεβυσμένον, is a clean Garment of a denſe or cloſe Contexture; to which are there oppoſed τὰ εἵματα ἀραιά τε ϗ μαλθακὰ, "thin and ſoft Woollen Cloaths." And in the ſame Book, εἷμα πλῆρες ἐὸν ϗ βεβυσμένον, is a full well-ſtuffed Garment.

From βύω alſo, or βυῶ, which ſignifies to ſtop up, to obſtruct, fill up, ſtuff, conſtipate, comes the Word βύσμα *Byſma*, in the Expreſſion βύσματα ἀπὸ ἐλαιηρῶν κεραμίων "the Covers or Stopples of Oil-veſſels." Theſe *Byſmata* are order'd to be mix'd with the Sordes, or Filth, collected from Fullers Shops, in order to make a Suffumigation in a particular ſort of Hæmorrhage mention'd, *Lib.* 2. περὶ γυναικ. Some take the *Byſma* to be the ſame with the *Amurca*, which is recommended by *Dioſcorides*, *Lib.* 1. *Cap.* 135. as uſeful in an Infuſion for Exulcerations of the Anus, Pudenda, and Uterus. The *Byſmata*, before quoted, are probably ſuch things as, by Intruſion, ſtop, fill, or cloſe up Oil-veſſels, as appears from thoſe Expreſſions of *Hippocrates*, (*Lib.* περὶ ἐπικυήσιος) διαβύσας τὸν δάκτυλον, "thruſting in the Finger," and διαβύσας ἐς τὸ ſτόμα, "intruding it into the Mouth."

C.

C, in the Chymical Alphabet, ſignifies Salt-petre.

CAA-APIA.

Some People having imagined, that our grey Ipecacuanha was the ſame with the *Caa-apia* of *Piſo*, Mr. *Geoffroy*, as the moſt natural way of deciding the Queſtion, and removing the Doubt, compares theſe two Roots with the Deſcriptions Authors have given of them.

The *Caa-apia Piſonis, Hiſtor. Braſilienſ. Caa-api Braſilienſibus dicta, G. Marcgravii*, is a ſmall low Plant, with a Root about a Finger's Breadth or two long, as thick as a Swan's Quill, and ſometimes as large as one's little Finger. This Root is knotty, and has its Sides, and its Extremity, furniſh'd with Filaments three or four Fingers Breadths in Length. It is of a yellowiſh-grey Colour externally, but white internally. It is inſipid when firſt put into the Mouth, but afterwards diſcovers a Taſte ſomewhat acrid and pungent.

From this Root ariſe three or four Stalks or Pedicles, which are ſlender, round, and three or four Finger-breadths in Length. Each of theſe Pedicles bears a Leaf, about a Finger-breadth in Broadneſs, and three or four Finger-breadths in Length. This Leaf is of a ſhining-green Colour on the ſuperior, but a little whitiſh on the inferior Side. It is furniſh'd with a Nerve throughout its whole Length, and interſected with ſmall riſing Veins on its inferior Side.

The Flower has a Pedicle peculiar to itſelf, and is round, radiated, and reſembling that of the Bellis. It is compoſed of ſeveral Stamina, and bears round Seeds ſmaller than thoſe of Muſtard.

The Root of this Plant is poſſeſs'd almoſt of the ſame Virtues with the Ipecacuanha, which has induced ſome to call it by that Name, tho' without any Ground, as *Piſo* himſelf informs us in theſe Words: "It is, ſays he, of the ſame Worth and Efficacy with the *Pecacuanha*, for which Reaſon it is by ſome falſly call'd *Pecacuanha*." It ſtops Fluxes, and is as good an Emetic as Ipecacuanha, tho' not ſo ſtrong; for which Reaſon it may be exhibited in larger Doſes. The Doſe is from half a Dram to one Dram, in Powder, in Wine, Broth, or any other proper Liquor.

The *Braſilians* bruiſe the whole Plant, expreſs its Juice, and at it. This Juice they alſo uſe with Succeſs in the Cure of Wounds, made by poiſon'd Darts, and the Bites of Serpents. Their Method of applying it is to pour it into the Wounds.

Piſo adds, that there is another Species of the *Caa-apia*, ery like this, excepting that its Leaves are ſomewhat denticuated about their Edges, and villous as well as the Stalks.

From this Deſcription of the *Caa-apia*, from the Deſcripions of the white and brown Ipecacuanhas, which *Piſo* and *Markgrave* gives us in their natural Hiſtory of *Braſil*, and from he expreſs Obſervation of *Piſo*, that ſome call'd the *Caa-apia* pecacuanha, it is obvious, that *Piſo* did not intend to deſcribe he *Caa-apia* under the Name of Ipecacuanha. It is much nore probable, that what he calls white Ipecacuanha is a Species eſembling the grey Kind brought by the *Spaniards* from *Peru*, nder the Name of *Bexuguilli*; and that the Ipecacuanha Fuſca s that Species of brown Ipecacuanha which is at preſent ſo ommon, and comes from *Braſil* by the Way of *Portugal*. *Memoir. de l'Acad. R. des Sciences, A.* 1700.

CAA-ATAYA *Braſilienſibus*, Marggr. *Euphraſiæ affinis, raſilienſis ſiliquoſa.*

From a ſlender white Root it ſhoots up a ſquare Stalk a Foot Height, of a pale Green, ſlender, geniculated, partly erect, nd partly incumbent on the Ground, and taking Root where touches it at the Joints. At every Joint grow two ſmall eaves, oppoſite to one another, of the Size and Shape of hoſe of the *Nummularia*, (Moneywort) or rather of Germaner, or Male Speedwel, of a pale Green, and ſerrated at the dges. At every Pair of Leaves comes forth a very ſmall white lower, in a manner galeated, which is ſucceeded by a Pod, of e Size and Figure of the Grain of Oats, which, opening ontaneouſly, ſheds a very ſmall round Seed, of a dark-yellow olour, and leſs than the Seed of the ſmalleſt Poppy. The ant has no Smell, but a bitter Taſte.

The Plant bruiſed, and boil'd in Water, and the Decoction ank, purges much, both upwards and downwards.

In its oppoſite ſerrated Leaves, its galeated Flowers, and its ed incloſed in Veſſels, it agrees with the *Euphraſia*, whither might have been referr'd. *Raii Hiſt. Plant.*

CAACHIRA. See ANIL.

CAACICA *Braſilianis, Herba Colubrina Luſitanis*, Margave.

From a ſmall Root, and full of Filaments, it ſends forth merous Stalks, near to one another, half a Foot, and ſometimes a Foot in Length, of a reddiſh Green, a little hairy, geniculated at Intervals, of a Finger's Breadth, and having at each Joint two Leaves finely ſerrated, much of the Size and Shape of thoſe of the *Veronica*, (Male Speedwel) ſomewhat hairy, green above, and whitiſh underneath. At the Joints between the Leaves proceed Multitudes of little Flowers, of a green Colour, mix'd with a very little Red, and diſpoſed in the Form of an Umbella. The whole Plant is full of a milky Juice.

The Herb bruiſed, and applied, is a moſt effectual Remedy againſt the Bites of Serpents; and is good alſo for other Wounds. *Raii Hiſt.*

CAACO. A Sort of æſchynomenous Plant, which grows in *Braſil*, of which Mr. *Ray* mentions two. The firſt is the

Caaco Braſilienſibus, Herba Viva vulgo, Marggrav. *Æſchynomene ſpinoſa* 2. *ſeu foliolis Acaciæ latioribus, ſiliquis longis hirſutis*, Breyn. *An Mimoſa ſpinoſa Fernambucenſis*, Zanoni. THE SENSITIVE PLANT.

The ſecond is the

Caaco ſeu Herbæ Vivæ tertia ſpecies, Margg. *Æſchynomene ſpinoſa tertia, ſive foliolis Acaciæ anguſtioribus, ſiliquis parvis echinatis*, Breynii.

I find no Virtues attributed to either of them.

CAAETIMAY *Braſilienſibus*, Marcgr. *Senecio Braſilienſis, folio anguſto ſerrato.*

It grows to the Height of three Feet, with a green Stalk, full of a medullary Subſtance, and, at its firſt ſpringing up, ſurrounded with numerous Leaves, four or five Fingers Breadth in Length, narrow, jagged at the Edges, ſomewhat hairy, as is alſo the Stalk, and a little hoary, with a ſoft Down. The upper Part of the Stalk ſpreads itſelf into four, five, ſix, or ſeven Branches, cover'd with ſmall Leaves, like thoſe of Hyſſop. The ſmall Branches bear Multitudes of Flowers, like thoſe of Groundſel, and ending in Down, which is blown away with the Wind.

The Leaves of this Plant have a hot and acrimonious Taſte; and being boiled, or bruiſed, and the Part rubb'd or waſh'd with the ſame, cure the Itch, where-ever it breaks forth. *Raii Hiſt. Plant.*

CAAGHIYUYO *Braſilienſibus*, Marcgr. Piſ. *Frutex baccifer Braſilienſis, fructu racematim congeſto Myrtilli.*

It is an Under-ſhrub, of the Bigneſs of the Raſpberry-buſh. The Stalk is quite woody and hairy; the Leaves grow in Pairs, and always oppoſite, are hairy, ſoft to the Touch, ſlightly ſerrated, diſtinguiſh'd by three eminent Fibres running lengthwiſe, and interwoven with many ſmall Veins, which run acroſs, are greener above than underneath, and are alſo ſet with Tubercles over the whole upper Surface, but underneath are full of little Pits; every Tubercle has a whitiſh Hair. It bears two, three, four, or five white pentapetalous Flowers, which cluſter together, and, falling off, are ſucceeded by black Berries of the Bigneſs of Juniper-berries, of a ſweet Taſte, which are eaten by the Negroes, and yield a Juice much like Myrtle-berries. It grows in ſeveral Parts of *Braſil*.

The Leaves pulverized, and ſprinkled upon Ulcers proceeding from a hot Cauſe, are an excellent Cure for them. *Raii Hiſt. Plant.*

CAAGUA-CUBA *Braſilienſibus*, Marcgrav. *Arbor baccifera Braſilienſis, floribus umbellatis tiliæ.*

It is a ſmall Tree, with an upright Trunk, not thick, but without Branches, and having its Top cover'd with numerous large Leaves, a Foot and half in Length, and above a Foot in Breadth; and conſpicuous for Fibres, which are ſoft to the Touch, and hairy, and greener above than underneath. It bears ſmall Flowers, diſpoſed in the Form of an Umbella, reſembling the Flowers of the Lime-tree, white, pentapetalous, with a yellow *Umbilicus* in the Middle, and ſmelling alſo like the Flowers of the Lime-tree. The Bark of the Tree is of an Aſh Colour, and the Wood brittle: The Fruit is black when ripe, and is eaten by the Birds.

I have met with no phyſical Virtues aſcribed to this Tree. *Raii Hiſt. Plant.*

CAA-OPIA, Marcgrav. Piſon. Pao de Lacra. *Luſitanis. Arbuſcula gummifera Braſilienſis, fructu cerasi magnitudine gummi, Gutta Jemou, ſimili.*

It is a Tree of no great Bigneſs, with a Bark of an Aſh Colour, inclining to Red, with brown Striæ, of a tough kind of Wood, and ſpreading itſelf into many Branches. The Leaves are ſolid, of a Green, inclining to reddiſh in the under Part, and of a paler ſhining Green above. The Flowers, which form an Umbella, take their Beginning from brown Globules of the Size of Lentils, which, in Proceſs of Time, protrude Flowers compoſed of five Petals, of a Green inclining to yellow, cover'd on the Inſide with a white woolly Subſtance, and well ſtock'd with fine yellow Stamina. The Flowers are ſucceeded by Berries, which are firſt green, of the Size of a Cherry, round, cover'd with a ſoft Shell, out of which, being cut, they diſcharge, by Exſudation, a liquid Subſtance of an elegant yellow Colour. Within the Bark it contains a white Pulp, compoſed merely of cylindrical Bodies, placed near, and adhering to one another. At the Extremity of the fructiferous Branches there are always two acuminated brown Leaves, which are compacted, and, as it were, half glued together, in ſuch a manner as to repreſent the Figure of a Spear or Hunting-pole, and, being cropt from their Pedicle, emit a Saffron-coloured Juice.

It generally flowers in *November* and *December*, and the Fruit is ripe in *January* and *February*.

If an Inciſion be made in the Bark of this Tree, eſpecially when it begins to bloſſom, and let alone for a Day or two, it will diſcharge a Tear of a Saffron-colour, inclining to Red, which coagulates at firſt into a ſoft Maſs, which hardens by Degrees. It agrees in Colour and Conſiſtence with the *Gutta Gamba*, and diſſolves and purges in the ſame manner; it is a little redder, almoſt of a Saffron-colour, and gives a Tincture of a little deeper Gold-colour. It is diſſolved in Spirit of Wine, and gives it a Saffron-colour'd Tincture.

Formerly they cured the *Impetigo* by rubbing the Part with this Reſin, diſſolved in Water. Tho' it be not ſo effectual as *Gutta Gamba*, which *Piſo* knows not whether to impute to its natural Want of Virtue, or to the Way of preparing it, yet from half a Dram to a Dram of it, macerated a whole Night in Vinegar of Squills, or Spirit of Wine, and given in Wine, is a ſtrong Purge. It is better taken in Pills than in a liquid Form, becauſe it is very difficult to be diſſolved, on account of its Tenacity. *Raii Hiſt. Plant.*

CAAPEBA. A Name for the PAREIRA BRAVA, which ſee.

CAAPOMONGA. The Name of a Plant which grows in *Braſil*. Mr. *Ray* calls it *Caapomonga Braſilienſibus dicta*, *Luſitanis Erva de Vina*, Marggr. *Campanula Braſiliana*, *floribus minimis*.

I find no medicinal Virtues attributed to it.

CAAPONGA. The *Braſilian* Name for a ſort of Samphire, call'd alſo *Trifolii Spica Crithmum maritimum non ſpinoſum Braſilienſe*, Piſon. *Perexyl Luſitanis*, Marcgrav.

The Leaves and young Stalks of this Plant are boil'd, and pickled with Vinegar, and eat with Fleſh or Fiſh. They are ſaid to excite an Appetite, to provoke Urine, and to open Obſtructions of the Viſcera.

Piſo alſo mentions another *Caa-ponga*, which is a ſort of *Braſilian* Purſlane, which is uſed, like Samphire, for a Pickle.

CAAPO-TIRAGUA *Braſilianis*, Marcgr. *Rubia Braſilienſis*, *floribus verticillatis albis*.

Ray informs us, that this Plant agrees with the Rubea in ſome reſpects, but is not a true and genuine Species of *Rubia*.

CAAROBA, *Piſon*. A Tree very common in *Braſil*.

It is found, in the greateſt Perfection, in the richer Soils about *Parnambuc*; but where it grows in leſs fertile Ground, it ſcarce exceeds a ſmall Shrub in Bulk. Its Flower, which it ſends forth in the Month of *June*, is of an azure-blue Colour, with a purple Caſt. Its Seeds, which are ripe in the Month of *September*, are of a blackiſh Colour. Its Pod, tho' rare, is yet of no Uſe. It reſembles the largeſt Species of the Kidney-bean, and, when ripe, it opens, and remains empty.

Its Leaves are oblong, ſhaped like a Tongue, and of a faint-green Colour: They have a Nerve running thro' all their Length, with oblique prominent Ribs diſtributed from it.

They are of a bitter Taſte; and, when dried and bruiſed, are ſaid to be highly proper for Fomentations and Baths. The Medicines prepared of them, when exhibited internally, are of a drying, cleanſing, and healing Nature; which *Piſo* ſays, he has happily experienced in the Cure of many chronical and arthritic Diſorders, but more particularly in that of the *Lues Venerea*. The Leaves, when triturated, form'd into a Plaiſter, and applied to Ulcers, are of ſingular Service, and often remove them entirely; eſpecially if, after due Purgation, a Decoction of them is drank for ſome Days, and a Diaphoreſis promoted. Of the Flowers a Conſerve is alſo prepared for anſwering the ſame Intention. *Ray* from *Piſo*.

CAB ſignifies Gold. *Rulandus.*

CABALA, or CABBALA; call'd alſo Kabbala, Kabala, Cabalia, Cabaliſtica Ars, Cabula, and Gaballa.

This is deriv'd from a *Hebrew* Word, which ſignifies *to receive by Tradition.* It ſignifies a Science which conſiſts in the myſterious Explication of the Scripture, either receiv'd by Tradition, communicated by Angels, or learn'd from ſome imaginary Import of Words or Letters. This is the *Jewiſh Cabala*; but the Word, from this Original, has been apply'd to any ſort of myſterious or magical Knowledge or Explication of Things. Thus the Medicinal or Hermetical *Cabala* is a Science which diſcovers the moſt conceal'd Knowledge of Bodies, and Myſteries of Nature, either by a Communication with incorporeal Beings more knowing than ourſelves, or by their myſtical Characters. In this *Paracelſus* ſeems to repoſe a great deal of Faith.

CABALATOR, or CABULATOR. Nitre. *Rulandus.*

CABALLI, CABALES. I take theſe to be the incorporeal Beings, mention'd under the Article CABALA. *Rulandus* ſays, they are the aſtral Bodies of Men, who come to an immature Death before their predeſtin'd Period, and which are ſuppos'd to wander about the Earth, as incorporeal Spirits, ſo long as they were to have liv'd upon it embody'd. As theſe, probably, only exiſt in the Imaginations of the Mad or Whimſical, and as the Doctrine which depends upon a Suppoſition of their Exiſtence is highly extravagant, a farther Account of them would be ſuperfluous.

CABBALLICA *Ars*, καββαλλική, according to the *Lacedemonian* Dialect, for καταβλατική, from καταβάλλω, to throw down. This is a Term in Gymnaſtics, importing, amongſt Wreſtlers, the Art of foiling, or throwing down an Adverſary. *Galen*, *Lib. ad Thraſybulum.*

CABEBI, or CABEB. Scales of Iron. *Rulandus.*

CABELIANUS. A Sort of Fiſh, of the Cod or Pike Species. *Caſtellus.*

CABULATOR. See CABALATOR.

CABUREIBA PISON. This Mr. *Ray* thinks the Tree which affords the Balſam of *Peru*.

CACAGOGA, χεζανάγκα. Ointments, which, apply'd to the Fundament, procure Stools. *Paulus Ægineta*, *Lib.* 7. *C.* 9. directs to take Alum, mix it with Honey, and boil till they acquire a tawny Colour. With this, ſays he, anoint the Fundament; it procures a great many Stools, but not without Pain.

CACALIA, Offic. κακαλία, Dioſ. *Cacalia quibuſdam*, J. B. 3. 569. *Cacalia incano folio*, Ger. Emac. 815. Raii Hiſt. 1. 291. *Cacalia folio rotundo incano*, Park. 1221. *Cacalia foliis craſſis hirſutis*, C. B. 198. Hiſt. Oxon, 3. 94. Tourn. Inſt. 452. *Cacalia ſive Leontice veterum quibuſdam*; *aliis vero Tuſſilaginis ſpecies*, Chab. 513. STRANGE COLTSFOOT. *Dale.*

The Characters are;

It hath a floſculous Flower, conſiſting of many Petals, divided into four Parts, ſitting on the Embryo, and contain'd i an almoſt cylindrical Empalement. The Embryo afterwar becomes a Seed, furniſh'd with Down.

It grows by the Sides of Woods, and amongſt Shrubs i ſhady Places.

Cacalia, which ſome call *Leontice*, has very large whit Leaves, from the Middle of which there ſhoots up a ſtrai white Stalk, bearing a Flower like that of Bryony; it grow on Hills.

The Root macerated in Wine, like Tragacanth, and mad into an Eclegma, or chew'd by itſelf, cures Coughs, an Roughneſs of the *Aſpera Arteria*. The Berries, which ſucceed the falling off of the Flowers, pulveriz'd, and made into Cerate, and the Face anointed therewith, renders the Ski ſmooth, and free from Wrinkles. *Dioſcorides*, *Lib.* 4 *Cap.* 123.

I find no other Virtues attributed to it by the Moderns.

Miller takes Notice of ſeven Species of this Plant.

CACALIANTHEMUM. A Plant originally brought fro the *Canary Iſlands*, but now common in the Gardens of th Curious. It has been call'd the Cabbage-tree, and Carnation tree, and Dr. *Dillenius* gave it the Name of *Cacalianthemum* becauſe the Flower and Seeds nearly agree with the *Cacalia* *Miller* has added a ſecond Species.

The Characters are;

It hath a floſculous Flower, conſiſting of many Florets, lik thoſe of Groundſel; but the Florets are cut into four Segments whereas thoſe of Groundſel are divided into five Parts: Th Cup of the Flower is alſo ſlenderer than that of the Groundſel.

The firſt of them is call'd the

Cacalianthemum folio nerii glauco, Hort. Elth. *Cacalianthe mum* with a glaucous Oleander-leaf, commonly call'd the Ca bage-tree.

Cacalianthemum Africanum, *ficoidis folio*. *African Cacalian themum*, with a Ficoides-leaf.

This Sort was originally imported from the *Cape of Go Hope* into *Holland*.

The Leaves, when broken, emit a ſtrong Scent, ſomewh like Turpentine; from whence ſome Perſons have given it th Name of Balm of *Gilead*, tho' very improperly.

It has been commonly known by the Name of *Senecio*. *Mi ler's Dictionary.*

CACAMOTIC TLANOQUILONI, *ſeu Battata Pe grina*, Hernandez. The Cathartic Potato.

This grows ſpontaneouſly in the warmer Countries *America*.

The Roots, taken in the Quantity of two Ounces going Bed, purge with great Gentleneſs and Safety. It is ſaid to ſweet, and of a very agreeable Taſte, not inferior to our Pea

CACANGELIA, κακαγγελία, and, in *Hippocrates*, κακαγγελὶν. This, according to the Derivation, ſhould ſignify a Meſſage conveying bad News; but, by *Hippocrates*, it is us'd in a different Senſe, in his Treatiſe περὶ τέχνης,

"There are ſome, ſays he, who make it their Buſineſs to "ſpeak ill of Sciences, without any other View than that of "making a Parade of their Knowledge. But, in my Opinion, "the Tendency and Uſe of Knowledge is to diſcover things of "ſome Uſe, when found out; or to perfect Diſcoveries al- "ready made; to which thoſe do not in the leaſt contribute, "who endeavour to traduce the Diſcoveries of the Skilful be- "fore the Ignorant, without making the leaſt Amendment. "Theſe, inſtead of acquiring the Reputation they aim at, "only betray their own Malevolence (κακαγγελὶν) and Igno- "rance."

This, amongſt many other Paſſages, ſhews *Hippocrates* to have been a Gentleman, and an honeſt Man; for Candor is one of the Characteriſtics of theſe, as the Malevolence here ſpoken of is that of a Scoundrel and a Villain.

I muſt remark, that in all the Copies I have ſeen of *Hippocrates*, this Word is printed καταγγελὶν· but *Galen*, in his Exegeſis, explains κακαγγελὶν by κακολογία· and moſt of the Commentators are of Opinion he has a View to this Paſſage.

CACANUM, κάκαινον. The Name of a Plant mention'd by *Paulus Ægineta*, in his Catalogue of ſimple Medicines, *L.* 7. *C.* 3. As he aſcribes the very ſame Virtues to the Root, which *Dioſcorides* attributes to the *Cacalia*, I ſuppoſe he means the ſame Plant.

CACAO, Offic. Ger. 1364. Emac. 1550. Raii Hiſt. 2. 1670. Cat. Jam. 134. Hiſt. 2. 15. Ind. Med. 24. Mont. Exot. 9. *Cacao ſive Cacavate*, THE PEAR-BEARING WHOLSOME ALMOND-TREE, Park. Theat. 1642. *Cacao Americæ, ſive Avellana Mexicana*, J. B. 291. *Amygdalis ſimilis Guatimalenſis*, C. B. Pin. 442. *Arbor Cacavera*, Piſ. Mant. A. 197. *Cacava Quahvitl ſive Arbor Cacari cacavifera*, Hern. 79. *Cacava ſeu Arbor Cacai, Nieremberg. ſeu Arbor cacarifera Mexicanorum*, Jonſ. Dendr. 124. *Cacava Quahvitl, ſive Arbor Cacai*, Nieremb. 344. *Arbor cacarifera, Camel. Syllab. Cacao America, ſeu Avellana Mexicana, Cacavata quorundam*, Chab. 19. *Cacao fructus*, Calceol. Muſ. 606. Worm. 191. *Arbor cacavifera Americana, cujus fructus folliculo incluſus amygdalorum ſpeciem refert*, Pluk. Almag. 40. Phytog. 268. f. 3. THE CACAO-TREE. *Dale*.

The Tree which bears the Chocolate-nut, grows to be pretty big, full of large Leaves, ſtanding on long Foot-ſtalks, broad and round next the Stalk, growing narrower, and ending in a Point, among which grow large five-leaved yellow Flowers, follow'd by a roundiſh Capſula, or Pod, of the Bigneſs of a ſmall Melon, but growing narrower at the End, which terminates in a long ſharp Papilla. It is pretty tough, of a reddiſh-brown Colour, and incloſes about twenty or thirty of the *Cacao-nuts*, cloſely compacted together.

This Tree grows in ſeveral Parts of the *Weſt-Indies*, as *Martinico*, *Jamaica*, and ſome others; but the beſt come from *Caraccao* in *New-Spain*.

The Nuts are of a browniſh Colour on the Outſide, about s big as an Almond, but rounder and thicker, cover'd with a hin Shell, under which lies the Nut, of a dark reddiſh-brown Colour, eaſily crumbling into ſeveral Parts, of an oily and omewhat bitteriſh Taſte. Of theſe, roaſted, and ſeparated rom the Shells, is made Chocolate, ſo much us'd of late, and hich is made either with, or without, Sugar; ſome adding Vanelloes, or what elſe they like. *Miller's Bot. Off.*

The Juice, expreſs'd from the mucilaginous Pulp contain'd n the Huſk of the *Cacao-nuts*, is a Subſtance reſembling Cream, f a grateful Taſte, and cordial Quality. It is of a detergent Nature, and, when us'd externally, very proper for removing utaneous Spots and Roughneſſes. The Nuts themſelves, inuded in the Huſk or Shell, are ſaid to be of ſo nutritive a Quality, that one Ounce of them contains more real Nouriſhent than a whole Pound of Beef. But, that we may at once eive the greater Light, with regard to the Truth of this Aſrtion, and be enabled to form a juſter Judgment of the Medinal Virtues of *Chocolate*, of which this *Nut* is the Baſis, we uſt inquire what Subſtances it yields, and of what Principles it ems to be compos'd, when ſubjected to a Chymical Analyſis.

Two Pounds, then, of crude Cacao yielded various Liquors, ix'd with an acid and acrid Salt; that is, fourteen Ounces and half, and half a Dram of Oil, and half an Ounce and ten rains of a lixivial Salt. *Du Hamel Hiſt.* and *Hiſt. Ac. R. Sc.* 2. *p.* 26. The pinguious and oleous Part of the Cacao was, Mr. *Hornberg*, ſeparated from the reſt, in three different anners: Firſt, by Diſtillation, he obtain'd from one Pound *Cacao* three Ounces and a Quarter of Oil, which is much ut the fifth Part of a Pound. Secondly, from one Pound of *Cacao*, made hot, and bruis'd in the ordinary Manner, he ain'd, by Expreſſion, two Ounces of Oil; and from the eces, afterwards, boil'd in Water, he expreſſed half an nce of a like Oil; from the ſame Fœces, mix'd with comn Water, and ſubjected to Diſtillation, he obtain'd two Ounces and an half more; ſo that the whole Oil, obtained, amounted to five Ounces and an half. Laſtly, grinding the *Cacao* with a warm Stone, as when the Chocolate is prepar'd of it, he mix'd thirteen Ounces of this ſubdu'd Maſs with eight Pounds of boiling Water, which, when cold, exhibited no kind of pinguious Subſtance on its Surface. But after this Matter, put into the Water, was boil'd, and inſpiſſated to the Conſiſtence of a thick Poultis, then a pinguious Subſtance was obſerv'd to float on the Surface, which, being collected by little and little, till no more appear'd, became gradually ſo thick and tenacious, that it could not commodiouſly be handled with a Spoon, and was, at laſt, indurated like Tallow, but retain'd the Smell of the *Cacao*. Six Ounces and ſomewhat more of this Fat were taken off, and, by Diſtillation, the Fœces yielded an Ounce and three Drams more; ſo that from thirteen Ounces of the Maſs ſeven Ounces and three Drams of Oil and Fat were, by this Method, extracted. The Reaſon of this Difference, according to the Conjecture of Mr. *Homberg*, is, that the *Cacao* brought from the *Indies*, being much dry'd, and long kept, loſes much of that native Humour, from which Part of the Fat is obtain'd. For this Reaſon, when put into the Retort dry, in the firſt Analyſis, by a ſimple Diſtillation, it yields little Oil; but, in the ſecond Operation, the Fat being ſeparated by Expreſſion, and the Fœces being impregnated with warm Water, the pinguious Matter remaining in the Fœces, and which had, by being too much dry'd, loſt a Part of its Moiſture, recovers it again, and then yields as much Oil by Diſtillation, as it had before done by Expreſſion. In the third Proceſs, after a large Quantity of Water had been added to the *Cacao*, reduc'd to a kind of Maſs, and, after they had boil'd together, on a gentle Fire, for five or ſix Hours, the pinguious Particles being, by this time, ſufficiently impregnated with Moiſture, united, and thus, by this Method, more than three times as much Oil was extracted, as was obtain'd by the firſt Diſtillation. *Hamel Hiſt.*

Ray gives us the following Analyſis of *Cacao-nuts*: Eight Ounces, ſays he, of undecorticated Cacao-nuts, reduc'd to a Powder, and committed to the Retort, diſcover'd themſelves to be of a Subſtance ſo fix'd and difficultly reſoluble, that, by a moderate Fire, they yielded nothing but a ſmall Quantity of a certain whitiſh Liquor, clear and tranſparent like Water, and which was taken for Phlegm. Then, increaſing the Fire to that Degree which is requiſite for extracting the Spirit of Vitriol, in the Space of ſeventeen Hours, there was a Spirit rais'd in the Form of Exhalations, of a milky Whiteneſs. This Spirit, contrary to the Cuſtom of all others, ſubſided in Phlegm to the Bottom of the Receiver. At laſt, upon the Application of the moſt violent reverberating Heat, a Practice not uſual in the Diſtillation of Vegetables, there aſcended an Oil highly red, and, as it were, of a Blood-colour, but, at the ſame time, pretty tranſparent. This Oil, when cold, thickens like other Oil, or like Butter of Wax; the Caput Mortuum weighed two Ounces ſeven Drams, the Spirit two Ounces, the Oil three Ounces and a half. The Spirit was not very hot, but highly penetrating, neither was it ungrateful to the Smell, as thoſe Spirits generally are which are drawn from Blood or Fleſh. The Oil is, in like manner, wonderfully pungent and penetrating, before it is ſeparated from the volatile Salt, of which it contains a large Quantity; it is alſo highly aromatic and cordial. The Spirit ſoon becomes acid, a Circumſtance which ſufficiently proves, that it contains a great deal of an acid Principle. From what has been ſaid, 'tis obvious, that the *Cacao* contains a large Quantity of Oil, and this Oil is found, from Experience, to be highly excellent for ſome Medicinal Purpoſes, when it is neither alter'd by Diſtillation, nor ſpoil'd by Expreſſion, but obtain'd pure, only by boiling in Water. For this Reaſon the *Oleum e Nucleis Cacao* is one of the Oils in the *Pharmac. Pariſ.* For obtaining this Oil, the Nuts, when roaſted, and clear'd of their Huſks and Buds, are levigated upon a Stone with Fire under it, and then boil'd in Water, till the Oil appears on the Surface, which, when the Water is cold, may be gathered from it concreted and thick like Suet, of a browniſh Colour, which is chang'd into that of white, by waſhing it with warm Water whilſt liquid. But it ſeems to be a preferable Method, by which the Oil is extracted from the Nuts by boiling, after having taken off their Huſks and Buds, and bruis'd them without roaſting them. Sixteen Ounces of the Nuts, thus treated, yielded three Ounces and an half of a very beautiful Butter, of a white Colour, with a Caſt of green and yellow. This Butter, as to its Conſiſtence, had a nearer Reſemblance to Suet than to Oil; but it had a moſt fragrant and delicious Taſte. *Comm. Lit.* for the Year 1737. From its Conſiſtence it is call'd *Butyrum Cacao*, or Butter of Cacao. In *America* this native Oil, when ſeparated and pure, is ſaid to have no Smell, but a pretty grateful Taſte. 'Tis alſo ſaid, that, in Proceſs of Time, it acquires the Conſiſtence of Cheeſe, which may be kept for a long time without becoming rancid or corrupted, and which may afterwards be liquified with a very gentle Heat. A certain Quantity of this Oil, diſtil'd from a Cucurbit, plac'd in the Heat of Aſhes, yielded an unctuous Liquor, which concreted as it drop'd, and ſeem'd to differ in nothing from the Butter or Oil itſelf, except in its being ſomewhat empyreumatic, and depoſiting in the Bottom of the Receiver a few Drops of a clear Liquor, of a ſomewhat acid, and highly grateful, Taſte. This Butter of Cacao, when not rectify'd, may not only ſupply the Place of the beſt Oil of Olives in Food, but 'tis alſo extol'd as a highly anodyne Medicine, and proper for correcting the acrimonious Humours which prove uneaſy to the *Aſpera Arteria*. The Method of uſing it is, to make it up into Troches with Sugar-candy, to be held in the Mouth to melt gradually. Painful Hæmorrhoids are alſo much reliev'd by being anointed with it, when reduc'd to the Form of a Liniment, with pounded Scoriæ of Lead, or mix'd with Powder of Millepedes, Saccharum Saturni, Pompholyx, and a ſmall Quantity of Laudanum. Some, with Succeſs, apply a Linen Cloth, dipp'd in the Oil, warm, to the Parts affected with arthritic Pains, applying a warm Cloth over it. It is alſo recommended as a proper Baſis for the apoplectic Balſams; and may be ſubſtituted, if not preferr'd, to the Oil of Nutmegs. It is alſo highly proper for anointing Inſtruments of Steel or Iron, in order to preſerve them from Ruſt. In *America* the Women uſe it for rendering the Skin ſmooth and even, without leaving any ſhining unctuous Gloſs behind it. But ſince, in *Europe*, it is of too firm and hard a Conſiſtence for this Purpoſe, it may be mix'd with Oil of Ben, or with Oil of ſweet Almonds, expreſs'd without Fire. Where the Butter of Cacao, prepar'd of unroaſted Nuts, is to be us'd internally, 'tis to be dreaded leſt it prove of too hard Digeſtion, and bring on thoſe Symptoms mention'd in *Comm. Lit.* where we have an Account of a Woman, who, after a *Hæmoptoe*, became phthiſical. This Patient, in the Space of ſeven Days and an half, us'd fourteen Drams of the Butter of *Cacao*, taking ſcarce a Dram for each Doſe, Morning and Evening; but, next Day after the Uſe of it, ſhe was afflicted with Head-achs, and Loſs of Appetite; to which, on the ninth and tenth Days, were added Weakneſſes, and Faintings; and, upon injecting a Clyſter, the Patient diſcharg'd indurated Globules, of a greeniſh Colour, form'd by the Coagulation of this Butter of *Cacao*.

But the Circumſtance which, of all others, renders the Cacao-nut moſt celebrated, is, its being the Baſis of Chocolate, a factitious Subſtance, firſt brought from *America*, into *Europe*, by the *Spaniards*, about the Beginning of the laſt Century. It is a ſolid Maſs, form'd either into round or ſquare Plates, or made up into Cylinders of a dark-brown Colour. This Subſtance is friable, and, for the moſt part, of a grateful aromatic Smell. It is ſometimes diſſolv'd in Water, ſometimes in Wine, and ſometimes in Milk; at other times 'tis eaten dry, or mix'd with other Food. It is drank either with a View to nouriſh, or regale the Stomach, to provoke to Venery, or to anſwer ſome Medicinal Intention. The Effects of Chocolate on our Bodies, whether produc'd by its nutritive or ſtimulating Quality, ought to be determin'd from a joint Conſideration of the aromatic Ingredients which enter its Compoſition, and of the Nature of the Liquor in which it is diſſolv'd for Uſe. Its nutritive Quality is diminiſh'd by the Addition of a large Quantity of Aromatics, ſince by that means it becomes too hot. It is alſo too hot when diſſolv'd in Wine, except in thoſe remote Northerly Regions, where the Inhabitants are accuſtom'd to a hot Regimen. When prepar'd with Milk, it nouriſhes more than in any other Form; but it ſeems, at the ſame time, to load the Stomach too much. By the Addition of an Egg or two, which is the Cuſtom with ſome People, its nutritive Quaility is augmented. Water, therefore, ſeems, of all others, to be the beſt Vehicle for Chocolate, ſince, by its Dilution, it muſt, of courſe, promote the Diſtribution of its nutritive Principles. In the hotter Countries of *Europe*, it is generally prepar'd with Water; and, becauſe it is drank hot, and muſt, of courſe, relax the Tone of the Stomach, it is cuſtomary to take a Draught of cold Water either before or after it, with a View to aſſiſt the Contraction of the Stomach. The *Americans* drink Chocolate, as a Cooler, at their Feaſts and Entertainments. Many alſo of the *Italians* and *Spaniards* drink it, cool'd with Ice or Snow. Chocolate is particularly proper for cold Conſtitutions, for old People, for ſuch as have their Strength impair'd by continual Watchings, and for thoſe who travel in cold Mornings. It is alſo, by ſome, commended in Caſes where the Digeſtion is weak; but the *Cacao-nut* is of too oily and tenacious a Nature, to be digeſted by a weak Stomach. For which Reaſon *Cheyne* thinks, that the Weak and Infirm ſhould not uſe it, either as Food, or as a Medicine; but rather recommends to them, for common Food, farinaceous Subſtances, ſuch as Peaſe, Beans, Millet, Oats, Barley, Rice, Wheat, and other Subſtances of a like Nature, boil'd in Water or Milk; but he owns, that Chocolate may produce all the ſalutary Effects of a wholſome Food, in vigorous and robuſt Conſtitutions; in which it may alſo be us'd, as an anodyne Medicine, in Colics, and Nephritic Pains; ſince, by its Viſcidity, it ſheaths up and blunts the ſalt, acrid, and irritating Humours, that thus, by the lively Impetus of the Viſcera, they may be diſcharg'd thro' proper Paſſages. *Cheyne's Eſſay on Health.*

It is confirm'd, by the Experience of many practical Phyſicians, that, in hectic, ſcorbutic, and catarrhous Diſorders, Atrophies, malignant Itches, and Chin-coughs, Chocolate has prov'd a divine and miraculous Remedy; and that, in theſe Diſorders, when other Remedies have prov'd ineffectual, the Phyſician has been oblig'd to have recourſe to Chocolate, as the laſt and moſt effectual Medicine.

According to *Meiſner*, in all Diſorders ariſing from an acrid Salt, whether bilious or acid, auſtere or muriatic, Chocolate may afford the miſerable Patients a ſingular Relief. From this Claſs of Diſorders we do not exclude the *Lues Venerea*, the Gutta Roſacia, the Gout, and wandering arthritic Pains. *H. J. Konig* aſſerts, that a ſmall Quantity of Chocolate, with a few Aromatics in its Compoſition, wonderfully relieves the Hypochondriac, and corrects the Acrimony of their Juices, eſpecially if exhibited with the Spices Diatragacanthi frigidi; and the celebrated *Hoffman*, in his Conſultations, aſſerts that Chocolate, prepar'd with Water, and drank at proper Times, may conduce very much to the Cure of melancholic Diſorders, ariſing from too weak and lax a State of the Nerves, eſpecially if a few Drops of the Eſſence of Amber are mix'd with it; for he affirms, that he had, from Experience, found it to contain a kind of Oil, highly friendly to the nervous Syſtem. But becauſe Chocolate is frequently recommended in Weakneſs of the Stomach, we muſt obſerve, that, according to *Meiſner*, "Chocolate is only proper in ſuch Weakneſſes of the Stomach "as ariſe from Inanition or Defect, either in Conſequence of "uſing ſuch Aliments as afford little Nouriſhment, like thoſe "in *America*, in Conſequence of the Conſtitution and Sto"mach being too much exhauſted by ſome previous Evacua"tion, or in Conſequence of the Aliments being too ſpeedily "diſſipated by the exceſſive Subtilty of the Atmoſphere, as "generally happens in cold and mountainous Countries, where "the Appetite is always keen. But, in ſuch Weakneſſes of "the Stomach as ariſe from other Cauſes, Chocolate is far "from being proper." Thus we find Chocolate poſſeſſed of two Qualities which it derives from the *Cacao-nut*; that is, a nutritive Quality, and that by which it corrects the Acrimony of the Juices. Hence 'tis obvious, that the learned *Stubbs* was in the right, when he affirm'd, that well-prepar'd Chocolate was an excellent Diet, not only for ſuch as are ſcorbutic, afflicted with arthritic Pains, or the Stone; for Women in Labour; and for preventing Convulſions, and expelling the Meconium of Children; but alſo for hypochondriacal and chronical Diſorders. *Philoſoph. Tranſact.* Its alexipharmic or poiſon-reſiſting Quality, or rather its oleous Nature, adapted to obtun and ſheath up the Spiculæ of Poiſon, is ſufficiently conſpicuou from a Caſe in *Eph. M. C. D.* 1. *a.* 3. *o.* 40. *D.* 3. *a.* 5 *app. p.* 102. where, thro' a Miſtake, Arſenic was us'd inſtea of Sugar, for edulcorating roaſted Cherries, and, at the ſam time, for ſweetening Chocolate; and it was obſerved, tha thoſe who drank the Chocolate were afflicted leſs terribly, an ſtruggled longer with the Poiſon, than thoſe who eat the Cherries. That Chocolate contains a large Quantity of Oil, i alſo plain from this Circumſtance, that it does not keep lon before it acquires a kind of Rancidity. *Caldera* is of Opinio that Chocolate juſtly deſerves a Place among the aperient M dicines; and, indeed, 'tis certain, that every nutritive Sub ſtance, whether eatable or drinkable, adds thoſe Degrees Strength to the Body which are neceſſary to carry on Perſpir tion. Beſides, Chocolate muſt be uſeful for opening Ob ſtructions, on account of thoſe Ingredients, which, being of a aromatic and ſtimulating Nature, increaſe the oſcillatory M tions of the Veſſels, and promote the Circulation of the Juice ſo that it muſt, of courſe, contribute to carry on the prop Secretions, and excite the various Excretions, in proportion the Regimen us'd, provided the Patient is not too mu accuſtom'd to drink it; for ſuch Subſtances as we are not ha tuated to, only operate as Medicines on our Conſtitutions.

It would be too tedious to give an Account of the differe Methods uſed by different Nations in preparing the Chocola *Benzo*, in his *Nov. Orb.* gives us the Recipe commonly f lowed by the *Americans*. *Le Fevre* gives us an Account of Method uſed by the *Mexicans*; and, in ſhort, different Auth inform us of the various Methods uſed by different Natio According to *Herman*, the richer and more opulent Inhabita of *Spain* prepare it in the following manner:

Take of excorticated clean and roaſted Cacao, ſix Poun of Cinnamon, half a Pound; ſeven Vanelloes, diſſol in Syrup; ſix or ſeven Cloves; Meal of *Indian* C half an Ounce; of *Spaniſh* Pepper, one Dram; of Arno in order to give it a reddiſh Colour, two Drams, diſſol in Roſe-water, or Syrup of Roſes; of Sugar, a ſuffic Quantity, or about three or four Pounds: Beat and all together in a Veſſel placed over a gentle Fire; them conſtantly, till they are intimately mix'd; reduc a M a Maſs ; and if you have a Mind, add a proper Quantity of Muſk, or of the Eſſence of Amber.

In *Meiſner* we have the Receipt of *Barthol. Marradon*, that celebrated *Spaniſh* Phyſician, which is as follows :

> Take ſeven hundred Cacao Nuts ; of the fineſt white Sugar, half a Pound ; of Cinnamon, two Ounces ; of *Mexican* Pepper, fourteen Grains ; of Cloves, half an Ounce ; of Vanilloes, half a Scruple ; or, in their ſtead, two Ounces of Aniſe-ſeeds ; and of Arnotto, the Bulk of a Nut : To theſe ſome add a little Orange-flower Water, and one Grain of Muſk or Ambergriſe.

In the Memoirs of the Royal Academy of Sciences at *Paris* we are told, that Chocolate is prepared of

> A Pound of Cacao, roaſted after the Huſks are taken off, with an equal Quantity of Sugar, two Drams of Cinnamon, and half a Dram of Vanilloes.

This Compoſition, when ſubjected to Diſtillation, yielded eight Ounces and four Drams of Oil ; and what remained after Diſtillation yielded two Drams and eight Grains of a lixivial Salt. *Hamel. Hiſt. Reg. Scienc. Academiæ.*

Le Fevre prefers the following Recipe, taken from *Lemery*, to all the other Methods of preparing Chocolate, uſed in *France*.

> Take two Pounds of Cacao Nuts decorticated, roaſted, and reduced to a Paſte ; with theſe mix one Pound and an half of Powder-ſugar ; to theſe are added a Scruple and an half of Vanilloes, four Cloves, half a Dram of Cinnamon, one Grain of Amber, and half a Grain of Muſk, reduced to Powder. *Lemer. Alim.*

At preſent the Pepper and *Indian* Corn are for the moſt part rejected by the *Europeans* in making Chocolate ; and in *Spain* and *Italy*, that Species, which is prepared without the Vanilloes, is called *Chocolata Sanitatis*, becauſe it is thought leſs hot than the other Kinds. In the *American* Iſlands belonging to the *French*, the Vanilloes, though there produced in great Plenty, are not uſed in preparing Chocolate. But becauſe many love Chocolate of a pungent Taſte, ſome in the room of the Vanilloes ſubſtitute other acrid Aromatics, ſuch as Pepper, Ginger, and others of a like Nature. The moſt ſimple of all the Methods of preparing Chocolate uſed in *Europe*, is directed in the *Pharmacop. Auguſtan.* thus :

> Take Cacao Nuts, gently roaſted, decorticated, and reduc'd to a fine Powder ; let two Parts of this Powder be reduced to a Paſte, with one Part of white Sugar, and dry'd in a gentle Heat.

Whoever has a mind to inform himſelf more fully of the various Ingredients uſed in preparing Chocolate, let him conſult *Meiſner*, *Caldera*, *Du-Four*, and *Piſo*. As for the Goodneſs of the Chocolate commonly ſold, that is generally thought beſt which is intirely diſſolved in the Liquor with which it is made, without leaving any Sediment. In *Spain* the Chocolate is thought beſt which is pierc'd by Worms, who are ſaid to be fond of none but what is good. *Reaumur.*

It now remains, that we ſay ſomething concerning the Method of reducing Chocolate to a proper Liquor for drinking. The moſt ordinary manner of doing this is to put boiling Water, or, in its ſtead, Milk or Wine, in a proper Veſſel ; then the Chocolate, being cut down, is added to the Liquor ; and, during the boiling, the Mixture is well agitated with a denticulated or notched Piece of Wood, commonly called a *Mill*, 'till it froths ; then the frothy Liquor is poured into a Cup or Bowl, and drank warm or tepid. It is alſo a Cuſtom with many to eat toaſted Bread or Biſcuit ſoak'd in it. What remains of the Liquor is, before it is poured into the ſecond or third Cups, to be again agitated as before, till at laſt the Whole is converted into Froth. Some allow the Chocolate to boil for ſome time with the Liquor, before they attempt to raiſe it into a Froth. But 'tis to be fear'd, that, by this Method, it may loſe too much of the ſubtile Aromatic it contains. They who do not think the Chocolate before ſufficiently impregnated with Sugar, add of that Ingredient whatever they have a mind. The Proportion of the Chocolate to the Liquor, with regard to Weight, ought, according to *Mundius*, and ſome other Authors, to be as one to eight. But the Proportion is always varied, according as the Chocolate is wanted ſtrong or weak.

As for the Doſe or Quantity of Chocolate to be drank at a time, it is commonly determined by the Perſon who drinks it. *Colmenero de Ledeſma*, a celebrated *Spaniard*, affirms, that between five and ſix Ounces of it may be drank, without doing any injury to the Conſtitution. And that larger Quantities are not prejudicial to ſuch as are not accuſtomed to it, is plain, from daily Experience, eſpecially in Caſes where the Stomach becoming empty requires freſh Supplies. They who drink the groſs Subſtance which ſubſides to the Bottom, imagining it to be the moſt nutritive Part of the Chocolate, are groſly miſtaken, and by that Practice conſiderably injure their Health ; ſince, according to the laſt quoted Author, it is only the terreſtrial Part of the *Cacao*, which, by creating Obſtructions, diſpoſes to melancholic Diſorders. The Doſe or Quantity muſt alſo be conſiderably varied, according to the Strength or Weakneſs of the Chocolate, and according as it is made with Milk or Wine. A Man in perfect Health may drink as much as he has an Appetite for, provided he finds himſelf refreſh'd, and his Stomach not overloaded by it. But he ought to remain in a State of Reſt for half an Hour, or an Hour, after he has drank it, leſt Concoction and Digeſtion ſhould be interrupted, or irregularly carried on. He ought alſo to abſtain from Food for ſome time after he has drank Chocolate, leſt by a contrary Practice he ſhould injure his Stomach ; for Chocolate is itſelf very good Matter of Nouriſhment. For this Reaſon the moſt proper Time for uſing it is when the Concoction is finiſh'd, whether in the Morning, or in the Afternoon. And ſince in a hot Air the Powers of Digeſtion are fainter and more languid than in a cold State of the Atmoſphere, 'tis hence obvious, that Chocolate ought to be uſed in ſmaller Quantities, and leſs frequently, in Summer than in Winter, as *Colmenero* has juſtly adviſed ; though he adds, "That in *America*, and even in *Spain*, Chocolate may be drank at all times ; and that this is owing, firſt, to Cuſtom ; and, ſecondly, to the exceſſive Heat of theſe Countries, by which, in Conjunction with an abundant Humidity, the Pores of the Inhabitants are open'd, and a great Diſſipation of the Subſtance of the Body is cauſed ; ſo that Chocolate may there be ſafely drank, not only in the Morning, but at any Hour of the Day. Now, ſince by the intenſe Heat the natural Heat of the Body is diſſipated ; and ſince the Heat of the Stomach, and other Viſcera, retires to the Circumference of the Body, the Stomach muſt of courſe be rendered conſiderably weakened ; ſo that the *Americans* and *Spaniards* find themſelves refreſh'd, and the Tone of their Stomachs reſtor'd, not only by Chocolate, but alſo by pure and unadulterated Wine." The aromatic Ingredients of the Chocolate recruit the languid Stomach ; as alſo generous Wine, by reſtoring a due Degree of Contraction to the nervous Syſtem, and raiſing the Spirits to a proper Motion. But leſt, in Conſequence of a Diſſipation of the aqueous Liquids, the parched Veſſels of the Body ſhould receive a Heat which would farther inflame the Humours, to the no ſmall Detriment of Health, *Caldera* adviſes, "That if, during an exceſſive Heat, the Perſon who intends to drink Chocolate is thirſty, he ſhould a little before take a ſmall Draught of cold Water, leſt the Chocolate produce a freſh Degree of Thirſt, and render it more intenſe than it was before. But any Liquor drank after Chocolate generally produces the moſt terrible Symptoms, whether it be Wine or Water. I myſelf ſaw a Vertigo produc'd by this imprudent Practice in a Citizen of *Seville* ; the Colic in another ; and a Privation of Voice in many others." Phyſicians are not fully agreed, whether without any Prejudice to Health cold Chocolate may be uſed as a Cooler. *Gage* affirms, "That it is ſo exceſſively cold, that few can uſe it ſafely ; ſince it excites Pains of the Stomach, and other Diſorders, eſpecially in Women." According to *Caldera*, when this Liquor is cooled with Ice or Snow, it is equally virulent and dangerous with cold Poiſons : For, ſays he, when a ſudden Cold ſeizes the Organs of Reſpiration, it affects them with ſuch a Numbneſs and Torpor, that they can no longer perform their proper Motions ; and this Motion ceaſing, a ſudden Death enſues. Now 'tis evident, not only from Reaſon, but from daily Experience, that the ſame fatal Conſequences muſt be produced, when an intenſe and preternatural Cold has ſeiz'd the Stomach, the Liver, the Uterus, and the extreme Orifices of the Veins ; becauſe ſuch a Cold, by obſtructing theſe Orifices, puts a Stop to the Circulation of the Blood, which in this Caſe is ſo coagulated in the Extremities of the Veins, that the Functions of Life ceaſe, Syncopes enſue, and the Patient dies ſuddenly, without any apparent Cauſe. To ſuch as object, that all who daily drink Chocolate thus cool'd do not die ſuddenly, *Caldera* makes this Reply, That neither do all who are ſeiz'd with a Plague die of it ; becauſe, though the *Fomes* of this Diſeaſe is an Agent of wonderful Force and Efficacy, yet it only operates on Subjects properly diſpoſed for yielding to its Virulence ; ſo that every one ought to take care of himſelf, and become cautious, by an Obſervation of the Fates of others. *Colmenero*, according to *Meiſner*, is of Opinion, that Chocolate drank in the Dog-days by People of hot Conſtitutions, and ſuch as are afflicted with a Weakneſs and Debility of the Stomach, is moſt conducive to Health, when made with Endive-water. But ſince in Diſtillation what riſes in the Alembic from the Endive does not partake of its ſaponaceous Qualities, and ſince that Plant is found to contain no aromatic and volatile Parts, I ſee no Reaſon why Endive-water ſhould be more proper for this Purpoſe than pure common

mon Water, or diſtil'd Water. Corroborating and ſtomachic Virtues are in vain ſought for in Endive-water; but theſe may much more probably be found in a little Wine added to the Chocolate, if no Circumſtances concur to contraindicate ſuch a Practice. When Chocolate is preſcribed as a Medicine, the Phyſician muſt determine the Quantity, and fix the proper Seaſons of Exhibition. Such as are become weak, in Conſequence of Inanition, may judge of the Quantity from the Senſe of Refreſhment they feel; but at the ſame time they ought to uſe it more ſparingly than thoſe who are vigorous and robuſt.

Having thus conſidered Chocolate as a Drink, we now come to view it in another Light; that is, when uſed in preparing Victuals. Many, then, add powder'd Chocolate to certain Foods, as an Aromatic, for the ſake of a more grateful Smell, and delicious Taſte. They alſo mix it with Broths, and other Diſhes. But 'tis obvious, that the more of it is uſed for theſe Purpoſes, the Food becomes not only more fragrant to the Smell, and grateful to the Taſte, but alſo more nutritive. Others, eſpecially on a Journey, in the Morning, eat Chocolate dry, without any foreign Mixture; this ſupplies the Place of an aromatic Confection, and defends them from the Injuries of the cold and damp Air; ſince, by ſtimulating the Juices into a ſomewhat briſker Motion, it in ſome meaſure prevents thoſe unlucky Conſequences which are generally produced by an obſtructed Perſpiration. Beſides, as Travellers are ſometimes reduced to Streights for want of Food, this Defect may, in ſome meaſure, be ſupply'd by Chocolate; of which are alſo made Sweetmeats, and other Delicacies, very grateful to the Taſte, whoſe Virtues may be judg'd of from what has already been ſaid of Chocolate, and a Conſideration of the other Subſtances which enter their Compoſitions. The *Royal Chocolate*, for Inſtance, prepar'd for *Uladiſlaus* the Fourth, King of *Poland*, and preſerved among the *Arcana Cnöffeliana*, is made thus:

> Take four Ounces of *Indian* Chocolate, reduc'd to a Powder, and paſs'd through a Sierce; of powder'd *Canary* Sugar, one Pound; twelve ſweet Almonds decorticated, and well beat in a Marble Mortar: Let theſe be ſufficiently mix'd, incorporated with Whites of Eggs, and by a long Agitation converted into Foam; then add between half a Dram and a Dram of Ambergriſe, triturated with *Canary* Sugar; and of Muſk diſſolved in Sugar of Roſes, half a Scruple. Reduce the Whole into a Maſs, of which form ſmall Cakes an Inch ſquare, to be laid upon Paper, and dry'd over a ſmall Iron Furnace.

The Rob of Chocolate, prepared with Saffron and Oil of Almonds, is by *Bruckman* recommended as a Specific in Coughs. The *Confectio Pacifica de Succolata Inda*, in *Mynſicht*, is an Electuary, which, beſides Chocolate, conſiſts of a great Number of Aromatics, and other ſtimulating and nutritive Ingredients. It is recommended as a Secret of wonderful Efficacy in the Cure of Venereal Impotence, if, after proper Evacuations, a Piece of the Bulk of a Cheſnut is daily uſed.

I muſt here alſo obſerve, that 'tis cuſtomary for ſome to mix purgative, antifebrile, and other Medicines, with Chocolate, in order to render them more grateful and agreeable to the Patient; but whether, and in what Caſes, it is a proper Vehicle for other Medicines, muſt be judg'd from what has already been ſaid concerning it.

From what has been advanc'd, we muſt be guided in our Judgment, whether Chocolate is proper for all thoſe to whoſe Palates it is agreeable. When moderately uſed, it ſeems to contribute to the Health of thoſe who are in no Danger of having their Juices ſtimulated into too briſk a Motion, or their Conſtitutions overheated by the Uſe of Aromatics; as alſo of thoſe whoſe Stomachs are able to concoct and ſubdue the pinguious and tenacious Subſtance of the Cacao Nut. Hence 'tis obvious, that thoſe People muſt abſtain from the frequent and immoderate Uſe of it, who are in the full Vigour of Youth; whoſe Juices are eaſily put into preternatural Commotions; who have ſpare dry Conſtitutions; and whoſe *Primæ Viæ*, in conſequence of having loſt their Tone, are unfit for a due Concoction of the Aliments. The Expreſſions then of *Piperus*, *Corall. ad Mynſ.* where he calls Chocolate a *Panacea*, and an univerſal Medicine; and thoſe of *Caldera*, when he aſſerts, that, like the Apples of the Tree of Life, it preſerves from Death, and the Infirmities of Age, are evidently hyperbolical and extravagant; ſince by one Medicine many Diſeaſes may be remov'd, but no one is found capable of eradicating all the Diſorders to which Mankind is ſubject, as has been demonſtrated by the incomparable *Boerhaave*. Leſt this ſhould appear a random Aſſertion concerning Chocolate, I ſhall, from *Caldera*, who beſtows the higheſt Encomiums upon it, enumerate the ſeveral Caſes in which the Uſe, and much more the Abuſe, of it is to be avoided. "*Chocolate*," ſays he, "is prejudicial to all
" thoſe who labour under Fevers, or any other acute Diſorders;
" ſince in theſe it is converted into Bile. It is alſo hurtful to
" the Stomach, when diſordered with Crudities, in Conſe-
" quence of Indigeſtion. It is highly improper in all Diar-
" rheas, eſpecially thoſe of the bilious Kind; though it ſome-
" times proves ſerviceable in Lienteries, by promoting the Di-
" geſtion of the Aliments. It is hurtful after Dinner and Sup-
" per, eſpecially after Feaſting in a luxurious manner. Be-
" ſides, Chocolate is attended with this Inconvenience, that it
" carries the crude and unconcocted *Chyle* along with it to the
" Blood-veſſels, which, if it there becomes putrid, lays a
" Foundation for the moſt terrible Diſorders; and either
" creates new, or augments old Obſtructions, before too obſti-
" nate to be conſiſtent with a State of Health." Then ſubjoining ſome things relative to the bad Conſequences ariſing from the Abuſe of Chocolate, he adds theſe Words: "If it is
" uſed in larger Quantities, or more frequently than is conſiſt-
" ent with preſerving the native Heat of the Stomach; it in
" this Caſe creates a great deal of Trouble to the ſtrongeſt and
" moſt vigorous Digeſtion. The habitual Drinking of it proves
" a Burden to the Stomach, when already full, eſpecially when
" it is drank with a View rather to provoke, than to remove
" Hunger: For by ſuch a Practice, Paleneſs of Colour is pro-
" duc'd, and Crudities are generated, which bring on a Tre-
" mor of the Nerves, and an extreme Leanneſs. By this
" Cuſtom the Belly is diſtended, the Countenance diſcoloured;
" and ſometimes Vertigoes, Head-achs, creeping Pains of the
" Brain, and perhaps long-continued Fevers, and inſuperable
" varicoſe Obſtructions, are form'd. From this Cauſe, and
" the various Crudities inſeparable from it, ariſe hypochondriac
" Melancholy, and an incredible Complication of Diſorders.

" If, ſays *Baglivi*, any one, eſpecially of a ſanguine and
" hot Conſtitution, drinks Chocolate immoderately, ſince it
" inſpiſſates the Blood, and renders it unfit for Circulation,
" probably in Conſequence of the viſcid and tenacious Nature
" of the Cacao; it produces Inflammations of the Viſcera,
" long Meſenteric Fevers, and Apoplexies; the Frequency of
" which is perhaps owing to the too liberal Uſe of Chocolate,
" which too much inſpiſſates the Blood; for which Reaſon the
" Drinkers of it become exceſſively fat, as I have obſerved in a
" great many Inſtances."

According to *Meiſner*, "Chocolate not only generates Ob-
" ſtructions in thoſe who drink it to Exceſs, but alſo when
" uſed moderately in every Conſtitution previouſly diſpoſed to
" them by the lacteal Veſſels being too ſmall, depreſſed, or
" ſtuffed with a viſcid Humour; ſince, in theſe, the terreſtrial
" Parts of the Chocolate ſtop, and either form or augment
" Obſtructions. For this Reaſon young Girls labouring under
" a *Chloroſis*, and all others ſubject to Obſtructions, ought to
" abſtain from it." For this Reaſon alſo Mr. *Juſſieu* diſapproves of its being uſed by Students, ſince its oleous and pinguious Subſtance being of difficult Digeſtion, diſpoſes to Obſtructions of the Viſcera. He alſo obſerves, that Colics, Suffocations, and intenſe hæmorrhoidal Pains, are produced by it.

Hoffman affirms, that the more of it is drank by hypochondriacal Patients, the greater Injury they ſuſtain; ſince Eructations, Loſs of Appetite, Pains and Uneaſineſs of the *Præcordia*, are produced by the Inflation and Diſtention of the Stomach occaſioned by it; for the ſtrong Acid with which the Primæ Viæ of the Hypochondriac always abound, meeting with the earthy and oleous Parts of the Chocolate, produces a tough, viſcid Maſs, which, adhering ſtrongly to the Foldings of the Stomach and Duodenum, lays a Foundation for the above-mentioned Diſorders. In this Caſe I have obſerv'd, that a gentle Emetic has afforded preſent Relief, reſtor'd the Strength, and eas'd the Patient, by bringing up a large Quantity of a blackiſh ſordid Matter, which had been generating for ſome time. This happens moſt readily in Caſes where the Tone of the Stomach is loſt, and the Patient is coſtive. Such as indulge themſelves to Exceſs in drinking Chocolate, ſhould according to *Konig*, take care, leſt, like King *William* the Third, as appears from the Hiſtory of his Diſeaſe, by an Accumulation of Viſcidities, they deſtroy the Tone of the Primæ Viæ, and raſhly bring on a Flux. That drinking Chocolate to Exceſs alſo contributes very much to the Formation of Stones, eſpecially in the Gall-bladder, has been atteſted by the Obſervations of ſome of the beſt practica Phyſicians. Thus at *Paris*, according to *Carolus Sponius*, the Body of a certain Man who indulg'd too liberally the Uſe of Chocolate, being laid open, in the Gall-bladder were found above twenty ſmall Stones, which, according to *Meiſner*, were juſtly aſcrib'd to his immoderate Uſe of Chocolate. On accou of the large Quantity of Sugar which enters the Compoſitio of Chocolate, its Uſe, and much more its Abuſe, ought to b ſhun'd by Women labouring under uterine Diſorders, and b thoſe who are ſubject to hypochondriacal Flatulences; not much becauſe the viſcid and tenacious Humours, lodg'd in th *Primæ Viæ*, and which are the immediate Matter of hypocho driacal Obſtructions, are increas'd by the Sugar, as becauſe th Sugar, meeting with a peccant Acid, increaſes the troubleſo Flatulencies. The Diſadvantages ariſing from the Abuſe of Chocolate, conſider'd as made up of warm Water, are abu dantly plain to every one who will allow himſelf to reflect, th the too frequent Uſe of warm Water relaxes the Organs of Digeſtion, and all the Solids in general, and muſt, conſequently, be pernicious.

'Tis much diſputed, whether a Compoſition reſembling Chocolate may not be made in *Europe*, without the Aſſiſtance of *Cacao*. Some maintain the Affirmative, ſince, in the *European* Climates, Vegetables are produc'd of highly nutritive Qualities, which is the principal Property of the *Cacao*, and which, being reduc'd to Powder, and mix'd with other Subſtances, may be form'd into a Maſs, and made up like Chocolate. Beſides, the *European* Vegetables, among many others, have this remarkable Advantage above the Cacao, that they are leſs heavy and burdenſome to the Stomach. *Grew* expreſly affirms, that Almonds, well triturated, and ſufficiently mix'd with a due Proportion of Sugar and Aromatics, make a Maſs as pleaſant to the Palate as the fineſt *Chocolate*; concerning which Compoſition *Valentini* affirms, " That, in *Batavia*, he knew a Landlord who ſold no " other kind of Chocolate than what was prepar'd after this " manner. " *Roſinus Lentilius*, when ſpeaking on this Subject, has theſe Words: " *Blancard* orders a Subſtance, re- " ſembling Chocolate, to be made of our own Almonds, " ſufficiently triturated, with an Addition of Cinnamon, Cloves, " Aniſe, Sugar, and a ſmall Quantity of the Balſam of *Peru*. " This Compoſition he extols very much, and affirms that its " Taſte is not greatly different from that of Chocolate; nor " do I in the leaſt doubt, but a moſt elegant Compoſition, " poſſeſs'd of the ſame Virtue with Chocolate, may be pre- " par'd in the following manner.

> " Take one Pound of excorticated ſweet Almonds, Pine- " nuts well clean'd, and freſh Piſtache-nuts, each half " a Pound; the beſt Cinnamon, half an Ounce; Cloves, " two Drams; choice Manna, four Ounces; of Sugar, " a ſufficient Quantity. Make into a Confection like " Chocolate, to which you may, if you pleaſe, add a little " Muſk and Amber. This Confection drank in Milk, " with the Yolk of an Egg, is a celebrated Analeptic; " the Confectio Alkermes may alſo be added to it for " anſwering particular Intentions." *Eph. N. C. D.* 3. *a.* 5. *app.*

" In like manner, according to *Bruckmann*, the Chocolate " of *Brunſwick* is prepar'd of that ſort of Ale called *Mum*, " with ſome Yolks of Eggs, and Aromatics; and this is cer- " tainly no deſpicable Liquor. Beſides, a Drink reſembling " Chocolate is prepar'd of the fine Wheat-flour of Halle, " roaſted and mix'd with Yolks of Eggs, Sugar, Cinnamon, " and Milk."

The learned *David Friedel*, in a Treatiſe which he calls, *Medicíniſche Bedencken*, prefers to Chocolate a Liquor prepar'd of equal Quantities of bitter and ſweet Almonds decorticated, and bruiſed with Sugar and Aromatics. To theſe muſt be added a proper Quantity of warm Milk. Or thus:

> Take of ſweet and bitter Almonds, each an Ounce; after having roaſted them in an Iron Pan till they have aſſum'd a browniſh Colour, and wip'd them with a Linen Cloth, bruiſe them in a Mortar, and with a Spatula mix them with four Meaſures of boiling Milk, and to this Mixture add the Yolk of one or two Eggs, broken in a little cold Milk; and, laſt of all, add a little Cloves, Cinnamon and Sugar.

CACAOTETL. An *Indian* Stone, otherwiſe called *La- corvinus*, which when heated, is ſaid to give a Crack like under.

CACATORIA FEBRIS, a Name given by *F. Sylvius* a kind of intermittent Fever, attended with copious Stools. *ſtellus.*

CACAVI, Monard. *ſive Cazabi*, Cluſ. in *French*, *Caſ- ve*, or *Pain de Madagaſcar*, is a kind of Bread which the *ians* make of the Root of a Plant called *Yuca*. *Caſpar uhine* calls it the *Manihot* of the *Indians*, or the *Yuca* with pen Leaves; and *John Bauhine*, the *Manihot Theveti*, *a*, & *Caſſavi*; in *French* they call it *Manioc*, or *Manio-* It is a Shrub which grows to the Height of five or ſix t; the Stalk is woody, wreathed, abounding with Joints Bunches, brittle, and full of Pith. The Leaves are of Breadth of a Man's Hand, divided each into ſeven or eight s, always green, and reſembling the Leaves of Hemp; Flowers are monopetalous and Bell-ſhap'd, near an Inch Diameter, and indented with five deep Jags. The Poin- n the Middle becomes a Fruit almoſt round, and nearly g as a Haſel-nut; it is compoſed of three Capſules, or ng Cells join'd together, which incloſe each a Stone or ng Seed, a little bigger than the Kernel of a Pine-apple. Root is of the Size and Figure of a large Turnep, of a Colour without, and white within. This Plant is culti- in ſeveral Countries of *America*, where they ſet it in ows; it is very fruitful, but its Virtues are very different according to the Climates where it is produc'd. Thus what grows on the Continent is wholſome, and good to eat raw or dreſſed; but that of *St. Dominica*, *Cuba*, *Hayri*, and other Iſles, is very pernicious, and a violent and ſpeedy Poiſon, if it be eaten raw; and yet it is of this laſt that they make the Bread called *Cacavi*, or *Caſſave*, in Manner following.

They peel the Roots of the *Yuca*, raſp them, and, putting them into Bags made of the Leaves of the Palm-tree, preſs out the Juice. After this, they take the Dregs, or preſſed Matter, and fry it in a Pan over a ſmall Fire, toſſing and turning it from one Side to another, that it may thicken. When it is ſufficiently dreſſed, they make it into thin Cakes, which they dry in the Sun, or over a Fire; and this is the Bread called *Caſſave*, which is very nouriſhing, and, when it is dry, will keep as well as Biſcuit, without corrupting. The *Savages* of the *Antilles*, and all the Inhabitants of the *Weſt-Indies*, feed on it.

The Uſe of this Bread contracts the Gullet by its Aſperity, and cauſes a Strangulation, if care be not taken to ſteep it in Broth or Water, or mix it with other Aliments: They who have not taken that Precaution, and are willing to eat it dry, ought always to have a Bottle of Water at Hand, to moiſten every Mouthful they take.

The expreſſed Juice of this Root would kill any Animal which ſhould ſwallow it crude; but if it be boiled to the Conſumption of half, and ſuffer'd to cool, it will be converted into a ſour Liquor, of the Taſte, Uſe, and Qualities of Vinegar; being inſpiſſated to a *Sapa* over the Fire, it becomes ſweet, and ſerves the *Indians* inſtead of Honey.

The *Yuca* Root of the Iſlands, in order to produce the different Effects before-mention'd, muſt contain an acrimonious and corroſive volatile Salt, which is diſſipated by Boiling, ſo that nothing remaining but a fixed Salt confounded and entangled with the Oil, it has only Strength enough to make an Acid like Vinegar; and even that Acidity is for the moſt part deſtroy'd by Evaporation, and inſpiſſating the Liquor to a *Sapa*, becauſe the Oil, being then much more collected together, ſtreightly binds and encompaſſes the Salts, and hinders them from making any other Impreſſion upon the Nerves of the Tongue, than a ſort of Titillation called Sweetneſs.

The Juice of the *Roucou* is ſaid to be a Counter-poiſon to the *Manioque*. *Lemery des Drogues.*

CACCIONDE. The Name of a Pill, which has for its Baſis the *Terra Japonnica*, or *Catechu*, and is commended by *Baglivi* againſt a Dyſentery. *Caſtellus.*

CACEDONIUS *Tartarum*, is peccant Matter in the human Body, generated from Separations by the ſecretive Faculty, which are not immediately ſucceeded by the Operation of the expulſive Faculty. *Rulandus.*

CACHECTICUS. One who labours under a *Cachexia*.

CACHEXIA, καχεξία, from κακὸς, ill or bad, and ἕξις, a Habit. A Cachexy, that is, an univerſal bad Habit of Body, proceeding from a Defect in Nutrition, which muſt ariſe, either from a Depravation of the nutritious Juices; a Defect in the Veſſels which ought to receive theſe Juices; or a Deficiency in that Action of the Animal Oeconomy, by which a Part of the circulating Juices is apply'd to the Solids for their Nutrition.

The nutritious Juices are deprav'd by Aliments which are ſuperior to the Powers of Digeſtion, that is, which cannot be digeſted, and aſſimilated by the proper Organs. Of this Sort are all crude, farinaceous, and leguminous Vegetables, which on a weak Stomach are ſubject to form a kind of tenacious Paſte. Add to theſe, all Sorts of Food, which are hard, fibrous, fat, acrid, aqueous, and viſcid. Among theſe may juſtly be reckon'd ſome indigeſtible Subſtances, which deprav'd Appetites ſometimes covet, as Cinders, Chalk, Sand, or Lime.

It muſt, however, be remark'd, that the Aliments abovemention'd will not be ſubject to induce a Cachexy, provided the Organs of Digeſtion are ſufficiently ſtrong, and proportional Exerciſe is uſed by the Perſon who takes them. Hence other Cauſes of the Depravation of the nutritious Juices muſt be join'd to the preceding; as a Deficiency with reſpect to Animal Motion or Exerciſe, and a Debility of the digeſtive Organs; tho' a too great Tenſion thereof may have the ſame Effects, if ſufficient to interfere with the Solution and Aſſimilation of the Aliment. If the general Maſs of Blood alſo happens to be vitiated extremely in any manner whatever, the nutritious Juices muſt in Proportion be deprav'd. Theſe Defects in the Organs of Digeſtion are brought about in various manners; as by all profuſe Secretions of what kind ſoever, as violent Vomitings, Diarrhœas, Dyſenteries, or Hæmorrhages; by a ſcirrhous Diſorder of any of the Viſcera; or by a Retention of ſomething in the Body which ought to have been excreted.

It is evident, that theſe Cauſes united act either by diminiſhing the Solids, or by diſtending them with Fluids not adapted to circulate thro' them. Hence ariſe two Sorts of Diſeaſes, that is, a Conſumption, and what is uſually called a *Leucophlegmatia*, or an *Anaſarca*.

According to the different Colour, Bulk, Tenacity, Acrimony, and Fluidity of the ſtagnating Liquids, various Appearances ariſe, which may be eſteem'd Symptoms of a Cachexy. Thus the Skin appears white, pale, yellow, livid, red, green, black, or tawny; the Patient perceives a Senſation of Gravity; Tumors ariſe under the Eyes, and affect the more thin Parts of the Body. Add to theſe, Flatulencies, œdematous Tumors of the Parts remote from the Heart; Palpitations of the Heart and Arteries, which are augmented by the leaſt Motion; crude and thin Urine; ſpontaneous, and evidently watery Sweats; all which are ſucceeded by Emaciation, or a *Leucophlegmatia*, and Dropſy.

No univerſal Defect of the Veſſels which ought to receive good nutritious Juices can be aſſign'd; but their too great Contraction or Laxity, and the Conſequences thereof, may be admitted as Cauſes of theſe Defects.

There is a Deficiency in that Action of the Animal Oeconomy, by which a Part of the Juices is applied to the Solids, whenever the Force of the Circulation is either too languid, or too violent.

From what has been ſaid, a Cachexy may be eaſily diſtinguiſh'd. And as to the Conſequences thereof, they may be foreſeen by carefully conſidering the Cauſe, Standing, Effects, and Degrees of the Diſorder.

To theſe alſo the Method of Cure muſt be carefully adapted; for it is evident, that a Mitigation, and moderate Inſpiſſation, of the too acrid and too fluid Juices are ſometimes requir'd; and, in other Caſes, the tenacious and adhering Juices muſt be diſſolv'd, and render'd fluid. And as a Diſſolution, and an Inſpiſſation, of the Juices may be induc'd by various Cauſes, it will be neceſſary to vary the Medicines, and the Manner of applying them, as the different Cauſes ſhall determine.

But the principal Rules to be obſerv'd in the Cure are,

Firſt, To adminiſter ſuch Aliment as approaches nearly to the Nature of the healthful Fluids of the Body, which are eaſily digeſtible; which are in their Nature oppoſite to the Cauſe of the Diſorder; and which are agreeable to the Patient.

Secondly, To promote the Digeſtion of ſuch Aliments, by ſeaſoning them with proper Aromatics; by drinking proper Quantities of generous Wine; and by Exerciſe and Air.

Thirdly, To diſpoſe the Organs of Digeſtion to perform their Duties, by proper gentle Digeſtives, Vomits, Purges, and Corroborants.

Fourthly, As ſoon as the Paſſages are relax'd, and the morbid Matter is attenuated, to promote its Expulſion, by attenuating Diuretics and Sudorifics.

Laſtly, To complete the Cure by Chalybeates, alcaline and ſaponaceous Subſtances, together with Walking, Riding, or other proper Exerciſes, Frictions, and Baths.

The Cauſe however of the Diſtemper only can determine the Choice of all theſe, and the Manner of applying them.

When a Cachectic Conſumption ariſes from too great an Acrimony of the Juices, the particular Species of Acrimony muſt, if poſſible, be diſcover'd.

Firſt, By inveſtigating the Cauſe of the Cachexy.

Secondly, By examining into the Nature of the Diſeaſe, and the Conſtitution of the Patient.

Thirdly, By the Symptoms.

Fourthly, By the Excretions.

And, when the Nature of the prevailing Acrimony is known, it muſt be corrected by Subſtances of a contrary Nature. *Boerh. Aph.* See ALCALI and ACIDUM.

This Account, which *Boerhaave* gives of a Cachexy, is very diſtinct, and has the Appearance of being juſt. But for the farther Illuſtration of the Subject, I ſhall explain how I apprehend that a Cachexy may be, and generally is, produc'd.

Suppoſe then, a Perſon of any Conſtitution whatever has his Stomach and Organs of Digeſtion impair'd by any Accident; and that this Perſon takes one or more hearty Meals of any Aliment which is ſuperior to the Force of the digeſtive Organs; and that moreover, he uſes little or no Exerciſe. Upon this Occaſion it is not likely, that the Aliment ſhould be digeſted and aſſimilated, ſo as to produce good Blood; but in proportion, as the Aliment is more or leſs diſſolv'd, the partially diſſolv'd Portions will ſtagnate in the firſt, or more remote Series of Veſſels, that is, in the larger or ſmaller Veſſels; and will cauſe various Diſorders, according to the Uſes and Importance of the Parts which they obſtruct.

Suppoſe the Aliment ſo little diſſolv'd, that the largeſt Particles which the Lacteals can poſſibly admit, are by theſe convey'd to the Receptacle of the Chyle, and from thence to the Maſs of Blood, with which circulating till they arrive at the Lungs, they either paſs not at all, or with Difficulty, thro' the minute Veſſels of that Organ, on account of their Bulk: Hence Difficulty of Breathing, and Palpitations, ariſe. And as the Blood ſhould be farther elaborated, and receive its red Colour in the Lungs, this Impediment will in ſome Degree prevent both: Hence the Blood will be pale, and the Particles of which it conſiſts, will not be ſo perfectly mix'd and united together, as to form a Fluid adapted to the Exigencies of the Animal Oeconomy. For this Reaſon the watery Particles readily ſeparate from the reſt, and loiter, or ſtagnate in different Parts, where they cauſe ſoft Tumors, as under the Eyes, and in the Parts remote from the Heart. As theſe large Particles muſt, moreover, ſtagnate in the Glands, and obſtruct them, the Secretions of their reſpective Fluids muſt be impair'd. For this Reaſon many of the aqueous Particles, which ſhould either be ſeparated for Expulſion, or apply'd to particular Uſes, are retain'd in the Maſs of Blood; the Bile alſo, a Fluid of the utmoſt Importance in Digeſtion, as well as the Pancreatic Juice, becomes defective, inert, and languid; and all the Solids are farther relax'd, and, amongſt them, the Organs of Digeſtion; whence every ſubſequent Meal lays a new Foundation for an Increaſe of the Diſorder, and all its Symptoms. The Conſequences of all this are, all the Symptoms related above from *Boerhaave*.

I muſt add, That when Women have acquir'd ſuch a Habit, the watery Particles of the Blood loiter, or ſtagnate; and the other Particles are too large to paſs thro' the minute Uterine Veſſels, and form the *Catamenia*.

From what has been ſaid, the Reaſons are evident, why the eating Chalk, Cinders, Dirt, unfermented farinaceous Vegetables, as Oatmeal, and other indigeſtible Subſtances, induce a Chloroſis.

I cannot conceive it poſſible to adapt any Method of Cure to ſuch a Diſorder as has been deſcrib'd, more likely to ſucceed, than that which conſiſts in ſupplying the Organs of Digeſtion with Aliments the moſt eaſy of Digeſtion, and which approach the neareſt to the Nature of the ſound and healthful Juices; in due and prudent Evacuations of the firſt Organs of Digeſtion; in corroborating theſe Organs, and ſupplying the Deficiencies of Bile, by Aromatics, Bitters, and at laſt by Steel; in directing proper Exerciſe; and in expelling the Matter ſtagnating in the Glands, and other Parts, by the proper Emunctories, when once ſufficiently reſolv'd, in the manner ſpecify'd above.

CACHIMIA. See CACHYMIA.

CACHLEX, κάχληξ. A little Stone or Pebble, particularly ſuch as is found in Waters, or by the Sea-ſhore, according to *Suidas*, who alſo makes it the Name of an Animal. *Galen*, *Lib.* 10. *de S. F.* ſays, that *Cachleces*, κάχληκες, heated in the Fire, and quench'd in Whey, endue it with an aſtringent Virtue againſt a Dyſentery. *Caſtellus.*

CACHOS, J. B. *Solanum pomiferum folio rotundo tenui*, C. B. It grows only on the Mountains of *Peru*, being a Shrub of an extraordinary Greenneſs, and bearing a round thin Leaf. The Fruit is like a Mad-apple, ſeſſile on one Part, and turbinated on the other, of an Aſh-colour, of a grateful Taſte, and void of Acrimony, containing a very ſmall Seed.

It is in great Eſteem among the *Indians*, for its extraordinary Virtues. For it provokes Urine, expels the Stone in the Kidneys, and, what is better, they ſay that the Uſe of it diminiſhes the Stone in the Bladder, while it is yet ſoft, and capable of yielding to any Medicine. *Raii Hiſt. Plant.*

CACHOU. See TERRA JAPONICA.

CACHRY.

Cachry is of a heating and vehemently drying Quality, fo which Reaſon it is a proper Ingredient in Smegma's, [exter nal deterſive Medicines] and makes a good Plaiſter for th Head in Defluxions upon the Eyes, provided it be taken o at the End of three Days. *Dioſcorides*, *Lib.* 3. *Cap.* 88.

CACHRY is the Seed of the *Libanotis*, which Mr. Ra calls *Libanotis Cachryophora*. It is not uſed in the preſen Pharmacy; but is by ſome of the Antients recommended f its heating and drying Qualities; and if taken with Pepper an Wine, is ſaid to be good for the Epilepſy. *Pliny* ſays, it the Seed of one Sort of Roſemary; I ſuppoſe by Miſtak becauſe Roſemary is ſometimes called *Libanotis*. See LIBA NOTIS.

CACHRYS ſignifies ſometimes roaſted or parch'd Barle as *Galen* explains it.

CACHUNDE.

This is the Name of a Medicine highly celebrated amon the *Chineſe* and *Indians*; but as the Deſcribers of Aromatic and the later Authors, had made no mention of it, *Zacut* *Luſitanus* gives us the following Method of preparing i which he ſays was with great Difficulty obtain'd of celebrat Phyſicians, who had the Health of the *Eaſt-Indian* Vic roys, and other Princes, for many Years committed to the Care.

Take, *ſays he*, of the Terra Cimolia, or of any oth proper Earth, two Pounds; of Amber, one Pound; Muſk and Ambergriſe, each three Ounces; of the b Aloes-wood, by the *Portugueſe* called Calambac, Ounces; of prepar'd Pearls, three Ounces; of prepar Rubies, Emeralds, Granats, and Iacinths, each f Ounces; of red Sanders, four Pounds; of yellow S ders, three Ounces; of Maſtich, ſweet Flag, Galanga Cinnamo

Cinnamon, Aloes waſh'd with the Juice of Roſes, the beſt Rhubarb, *Indian* Mirobalans, Belleric Mirobalans, Wormwood, red Coral, and *Armenian* Bole, each two Ounces; and of calcin'd Ivory, three Pounds and a half. The Ingredients to be pounded muſt be reduc'd to a very fine Powder, and after having ſprinkled them with odoriferous Wines and Balſams, and Water diſtilled from the Flowers of the Cinamon-tree, they muſt be dry'd in a Shade, and mix'd up with a ſufficient Quantity of the fineſt white Sugar; then with a Mucilage of Gum Tragacanth, and Gum Arabic, the Whole is to be reduc'd to a very tenacious, viſcid Maſs, which is of a pretty red Colour.

Of this Maſs various Figures are form'd, which the Merchants convey to ſeveral Parts of the World, but principally to *Liſbon*, the moſt celebrated Emporium of the whole Earth. The *Indian* Princes, and the Grandees of *China*, uſe this Antidote in the following manner: In the Day-time they keep a ſmall Portion of it, about the Bulk of a Lentil, in their Mouths; from this Portion a ſweet and fragrant Liquor gradually and inſenſibly drops from the Fauces to the Stomach, and gives the Breath ſo agreeable a Flavour, that all who come near them are ſenſible of it. This Medicine is truly worthy to be uſed by Kings and Grandees, for the Preſervation of the natural Heat; for it preſerves and defends the Body from Corruption, prevents the bad Conſequences of a peſtilential Air, removes Melancholy and Flatulencies, and wonderfully relieves thoſe who labour under melancholic Diſorders. It removes Palpitations of the Heart, cures the Cardialgia, the Apoplexy, and the Epilepſy. It refreſhes the animal and vital Spirits, invigorates all the Faculties, ſtrengthens the Stomach, and reſiſts Poiſons of every Kind. It corroborates the Brain, and is the moſt ſovereign Remedy in the World againſt a ſtinking Breath. It proves an Incentive to Venery, for which Intention it is much uſed by both Sexes in the *Indies*. In ſhort, it is a truly royal Medicine; for it protracts Life, puts Death at a Diſtance, and is conſequently ſold at a high Price. Whoever uſes it, cannot help admiring the happy Effects produced by it. *Zacutus Luſitanus de Medicor. Princip. Hiſt. Lib.* 1. *Obſervat.* 37.

CACHYMIA, *Cachimia, Kakimia.* A Term in *Paracelſus*, by which he intends an imperfect metallic Body, or an immature metalline Ore, which is neither a ſaline Subſtance, nor Metal; but almoſt metalline, ſince it has the firſt metallic Matter, and derives its Original from the three firſt Metallics.

CACHYMIÆ may be divided, firſt, into *ſulphureous*, as Marcaſites, Biſmuths, and Cobalts; ſecondly, into *mercurial*, or arſenical, orpimental, and ſuch-like; and, thirdly, into *ſaline*, ſuch are all Talcs. *Caſtellus.*

CACIA *ferrea.* An Iron Spoon. *Rulandus. Johnſon.*

CACOA. See CACAO. *Blancard.*

CACOALEXITERIUM, κακοαλεξιτήριον, from κακὸς, evil, and ἀλεξιτήριον, a Remedy or Medicine. The ſame as ALEXITERIUM, which ſee.

CACOCHOLIA, κακοχολία, from κακὸς, ill, and χολὴ, Bile. An Indiſpoſition of the Bile. *Blancard.*

CACOCHROI, κακόχροοι, from κακὸς, ill, and χρόα, Colour. Such as are ill-colour'd in the Face, in which reſpect they differ from the *Achroi*, ἄχροοι, colourleſs. *Galen. Comm. de R. V. I. A. Caſtellus.*

CACOCHYLIA, κακοχυλία, from κακὸς, ill, and χυλὸς, Chyle. A depraved Chylification. *Blancard.*

CACOCHYMIA, κακοχυμία, from κακὸς, ill, and χυμὸς, Humour. A depraved State of the Humours. See CACHEXIA.

CACODÆMONUM *Magia*, from κακὸς, evil, and δαίμων, a Spirit. Diabolical Magic, which uſes the Aſſiſtance of evil Spirits; and is oppoſed to natural Magic, which is promoted only by natural Means. *Caſtellus.*

CACODES, κακώδης, from κακὸς, ill, and ὄζω, to ſmell. Ill-ſmelling, fetid. Thus κακώδης ἔμετος, in *Coac.* is ill-ſcented Matter diſcharged by Vomiting, which, in *Prognoſt.* is expreſs'd εἰ ὄζει δυσῶδες, "if it has an offenſive Smell."

CACOETHES, κακοήθης, from κακὸς, ill, and ἦθος, a Word, which, when uſed with reſpect to Diſeaſes, ſignifies Quality or Habitude, and is expounded in *Galen* by τρόπος, Manner, Diſpoſition. An Epithet applied by *Hippocrates* to malignant and difficult Diſtempers. *Galen, Comment.* 1. *in Prorrhet.* ſays, κακοήθη νοσήματα καλοῦμεν ὅσα κίνδυνον ἀπειλοῦντα τοῖς κάμνουσιν, οὐκ ἀποκόπτει τὴν τῆς σωτηρίας ἐλπίδα· "We give "the Name of *Cacoethes* to Diſeaſes, which, tho' they threaten "Danger to the Patients, do not cut off all Hope of Recovery." Κακοήθης, when applied to Signs or Symptoms, imports what is very bad, and threatening. Thus *Galen, Comment.* 3. *in Prorrhet.* expounds κακόηθες by μοχθηρὸν, "laborious," under which the Patient labours hard for Life. And in the following Paſſage, 1. *Prorrhet.* τοῖσιν ἐξισταμένοισι μελαγχολικῶς ὅσοι τρόμοι ἐπιγίνονται, κακόηθες· "If a Trembling ſeizes thoſe "who rave thro' Melancholy, it is *Cacoethes.*" *Galen, Comment.* 1. *in Prorrhet.* explains the Word by ἐσχάτως ὀλέθριον, "fatal to the laſt Degree." In *Coac.* in the ſame Caſe, κακὸν is uſed inſtead of κακόηθες. The Word, applied to a Tumor, Ulcer, or Eryſipelas, or any other like Affection, denotes Malignity, as in *Galen*, *Paulus*, and thus in *Epidem.* 3. κακοήθεα (ἐρυσιπέλατα) πολλοὺς ἔκτεινεν, "a malignant (Eryſipelas) "proved fatal to Multitudes." Oppoſite to κακοήθης is εὐήθης (Euethes).

CACONIÆ, κακονίαι. A corrupt Word for CANONIÆ, which ſee. *Caſtellus.*

CACOPATHIA, κακοπαθίη, from κακὸς, ill, and πάθος, an Affection. An ill Affection, an Affliction. The Word occurs in *Hippocrates*, περὶ ἀρχ. ἰητρ.

CACOPHONIA, κακοφωνία, from κακὸς, bad, and φωνὴ, Voice. A Depravation of the Voice, of which there are two Kinds, ἀφωνία, and δυσφωνία, that is, Dumbneſs, and Difficulty of Speech. *Gal. de diff. Sympt. Cap.* 3.

CACOPHRASTUS. A Name of *Theophraſtus Paracelſus*, beſtow'd upon him, as he complains, by malevolent Perſons, tho' he calls himſelf by the ſame, *Præfat. ad Paragranum. Caſtellus.*

CACOPRAGIA, κακοπραγία, from κακὸς, ill, and πράττω, to do or act. A Depravation of the Viſcera, by which Nutrition is perform'd. *Blancard.*

CACORRHEMOSYNE, κακορρημοσύνη. The ſame as CACANGELIA, which ſee.

CACORRYTHMUS, κακόρρυθμος, from κακὸς, ill, and ῥυθμὸς, Order. An Epithet of a diſorderly Pulſe. The ſame as ARYTHMUS, which ſee.

CACOS, κακός. Evil, bad. The Word is very frequently uſed by *Hippocrates* in prognoſticating; and, 2. *Aph.* 33. is oppoſed to ἀγαθός. But whether it always ſignifies the ſame as *lethalis*, "deadly, mortal," is, with good Reaſon, doubted by *Galen. Caſtellus.*

CACOSINON, κακόσινον, ſignifies the ſame as κακὸς, evil, hurtful. Thus κακοσινώτατα, in *Galen*'s *Exegeſis*, is expounded by ἐπιβλαβέστατα, "moſt pernicious." In the ſame Senſe is κακοσινώτερον uſed in *Hippocr. Lib. de Fracturis.*

CACOSIS, κάκωσις, from κακόομαι, to be indiſpoſed, or diſorder'd. An Indiſpoſition. Thus we read, in *Hippocr. de internis Affect.* κάκωσις τοῦ σώματος, "a Diſorder or Indiſpo"ſition of Body."

CACOSITIA, κακοσιτία, from κακὸς, ill, and σιτίον, Food. A Loathing of Food. *Caſtellus.*

CACOSPHYXIA, κακοσφυξία, from κακὸς, ill, and σφύξις, from σφύζω, to leap, or beat, like an Artery. A Diſorder of the Pulſe in general. *Galen. de diff. Sympt. C.* 4.

CACOSTOMACHUS, κακοστόμαχος, from κακὸς, ill, and στόμαχος, the Stomach, is ſpoken of ſuch Food as is diſagreeable or hurtful to the Stomach, and is oppoſed to εὐστόμαχος, *(Euſtomachus)* "grateful to, or good for, the Stomach." *Gorræus.*

CACOTHYMIA, κακοθυμία, from κακὸς, ill, and θυμὸς, the Mind. Any vicious Diſpoſition of the Mind in general.

CACOTROPHIA, κακοτροφία, from κακὸς, ill, and τροφὴ, Nutriment. Any ſort of vicious Nutrition in general. *Galen. de diff. Sympt. Cap.* 4.

CACTOS, Offic. *Carduus eſculentus*, Park. Parad. 519. *Carduus ſpinoſiſſimus elatior Chardone dictus*, Hiſt. Oxon. 3. 158. *Cinara ſpinoſa, cujus pediculi eſitantur*, C. B. 383. Raii Hiſt. 1. 300. Tourn. Inſt. 442. Boerh. Ind. A. 139. THE CHARDON. *Dale.*

This is a Species of the Artichoke. It is a culinary Plant, which is blanched like Celery, and, like that, eaten raw with Pepper and Salt in *Italy*. In the Medicinal Virtues it agrees with the Artichoke, CINARA, which ſee.

CACUBALUM *quibuſdam vel Alſine baccifera*, J. B. *Alſine baccifera*, Ger. *Scandens baccifera*, C. B. *Repens baccifera*, Park. BERRY-BEARING CHICKWEED.

It is diſtinguiſh'd from the other Species of Alſine by its Berries, which are of the Size of a Grain of Pepper, or an ordinary Juniper-berry, are green when young, and black when ripe, and full of ſmall, black, ſhining, round Grains. It grows in *Italy*, and the Southern Parts of *France*; but I find no particular Virtues aſcribed to this Plant. *Raii Hiſt. Plant.*

CACUMEN, ἄκρον. The Top of any Thing. See ACRON.

CADAVER, νεκρόν. A Carcaſe.

CADEL AVANACU. A Species of Ricinus, growing in *Braſil*, and flowering and bearing Fruit twice in the Year, that is, in *January* and *July*.

The Leaves, bruiſed, and drank in Water, are purgative: They help the Bite of the Serpent call'd *Cobra Capella*, if reduced to Powder, and put into the Wound. The ſame, mix'd with the Leaves of the *Pandi Avanacu*, the Flowers of *Schem Pariti*, (a ſort of *Indian* Alcea) and Honey, make a proper Unction for Puſtules of the Head. One Seed of the Fruit, bruiſed, and taken in Water, is the uſual Doſe for a Purge. In general this Shrub, in its tricoccous Fruit, agrees with the Ricinus, but differs from it in other reſpects. *Raii Hiſt. Plant.*

CADMIA.

The beſt ſort of Cadmia is the *Cyprian*, which is call'd *Botryitis*, (cluſter'd) and is of a denſe Subſtance, moderately ponderous, or rather inclining to Lightneſs, cluſter'd on the Superficies, of an Aſh Colour, and, when broken, appears cineritious and æruginous on the Inſide. The next in Goodneſs to the fore-mention'd, is pretty much of an azure Colour on the Outſide, but whiter within, and diſtinguiſh'd by Veins, like thoſe Onyx-ſtones which are digg'd out of old Mines [Hence it is call'd *Onychitis*]. There is alſo a ſort of Cadmia call'd *Placitis*, (cruſty) which is ſurrounded with Veins in the manner of Zones or Girdles, whence it is alſo call'd *Zonitis*. There is yet another Sort, which is call'd *Oſtracitis*, (teſtaceous) which is of a thin Subſtance, and, for the moſt part, black and earthy, or teſtaceous, on the Outſide; but the white is good for nothing.

The *Botryitis* and the *Onychitis* are uſeful Ingredients in Medicines for the Eyes; and the other Sorts are put in Plaiſters, or among Powders, [ξηρὰ] for cicatrizing of Ulcers. The beſt for theſe Purpoſes is the *Cyprian*; for what is brought from *Macedonia*, *Thracia*, and *Spain*, is of little Value.

Cadmia has an aſtringent Virtue, fills up hollow Places, and deterges Filth, is an Obſtruent, Dryer, and Eſcharotic, reſtrains carnous Excreſcences, and cicatrizes old and malignant Ulcers [τὰ κακοήθη τῶν ἑλκῶν].

There is alſo a ſort of *Cadmia* which is made of the Soot that ſticks to the Walls and Roof of the Furnace, in boiling of Copper. Theſe Furnaces, which conſiſt of Iron, and are very large, and call'd by the Workmen *Aceſtides*, are cloſed at Top, in order to intercept and detain the Corpuſcles which fly off from the Copper; and, after adhering in great Quantities, they at laſt thicken, and unite into one Body, conſtituting ſometimes one, ſometimes two, and ſometimes all the ſorts of *Cadmia*.

Cadmia is alſo made by burning the Stone *Pyrites*, which is digg'd out of a Mountain which overlooks the City of *Soli*. In the ſame Mountain are found, as it were, Veins of *Chalcitis*, *Miſy*, *Sory*, *Melantery*, *Cæruleum*, *Chryſocolla*, *Vitriol*, and *Diphryges*. Some ſay, that Cadmia may be found in Quarries of Stone, miſtaking for it a Stone which is much like it; ſuch a Stone may be found at *Cumæ*, but void of all Virtue, and may be diſtinguiſh'd from the *Cadmia* by its being lighter, ungrateful to the Taſte, and offenſive to the Teeth; whereas the *Cadmia*, readily yielding to the Impreſſion of the Teeth, may be chew'd without Offence. They may be diſtinguiſh'd alſo by the following Experiment: The *Cadmia*, when levigated in Vinegar, and dried in the Sun, concretes; which the Stone, after the like Management, does not. Beſides, the Stone bruiſed, and thrown into the Fire, hops, and ſends up a Smoak nothing different from that of the Fire itſelf; but the *Cadmia* remains quiet, and emits a yellowiſh Fume, reſplendent like Braſs, and curl'd and variegated like a Girdle. Moreover, the Stone heated in the Fire, and afterwards cool'd, changes its Colour, and becomes lighter; but the *Cadmia* ſuffers no Alteration, except it be kept in the Fire for many Days together.

Cadmia is alſo produced from the Silver Smelting-furnaces, but it is whiter, and leſs ponderous, and not ſo efficacious. They burn the fore-mention'd Cadmia by covering it with Coals, till it becomes tranſparent, and bubbles like the Scoria of Iron; and then quench it in *Aminæan* Wine, but, for the Pſora, in Vinegar. Some, after it is thus burnt, levigate it with Wine, and torrefy it afreſh in a crude earthen Pot, till it appears like Pumice-ſtone; then levigate it again with Wine, and burn it the third time, till it be quite reduced to Aſhes, retaining not the leaſt Roughneſs, and ſo uſe it inſtead of Spodium. It is waſh'd by pounding it in a Mortar, and throwing away the Water till no Droſs ſwims at Top; and is then made into Troches, and repoſited for Uſe. *Dioſcorides, Lib.* 5. *Cap.* 84.

The Name *Cadmia* has been applied to ſeveral Things. *Dioſcorides* underſtood by καδμεία, the Recrements which ariſe from Braſs, while melting in the Furnace. *Galen* applied it to two Subſtances, one which comes from Braſs, which is the ſame with the Cadmia of *Dioſcorides*; the other a native Subſtance in the Iſland of *Cyprus*, which he terms λιθώδης, or ſtony. *Pliny*, beſides the factitious Cadmia of *Dioſcorides* and *Galen*, mentions another by the Name of *Lapis Æroſus*, which, he ſays, was an Ore out of which Copper was made; and this is, perhaps, the ſame with the Cadmia Lapidoſa of *Galen*. The Dealers in Metals call by the Name of *Cadmia* the *Lapis Calaminaris*, uſed in making Copper into Braſs; and the *Germans* have given the ſame Name to *Cobalt*; and therefore *Agricola*, and the more modern Writers, diſtinguiſh three Kinds of Cadmia, one metallic, one foſſil, and the third that of the Furnaces, which Diviſion we ſhall here retain.

The metallic *Cadmia* is a foſſil Subſtance, containing ſome Portion of Copper, Silver, or of both, and is of two Kinds: Firſt, the native *Cyprian Cadmia*, which is a foſſil Subſtance, or Copper-ore. It is likewiſe found in ſeveral Places of *Aſia* and *Italy*; and is probably the ſame which *Galen* found in the Iſland of *Cyprus*, tho' he does not mention, that Copper was obtain'd from it by Fuſion. It is now altogether unknown, or at leaſt confounded with other Copper-ores. The other kind of metallic *Cadmia*, or the Cobalt of the *Germans*, is a metallic Subſtance, from which *Arſenic*, (ſee ARSENICUM) *Zaffera*, and the *Encauſtum Cæruleum*, are prepared.

This is diſtinguiſh'd, by Authors, by the Names

Cobaltum, Offic. *Cadmia Metallica*, Worm. Muſ. 128. Charlt. Foſſ. 51. Aldrov. Muſ. Metal. 256. Matth. 1338. Kentm. 74. Woodw. Att. 2. P. 1. p. 50. *Cadmia Metallaris aliis*, *Cobaltum metallicis*, Schw. 370. *Cadmia foſſilis, ex qua præp. Zaffera*, Woodw. Att. COBALT.

The foſſil *Cadmia* of *Agricola*, ſtony Cadmia of *Schroder*, *Lapis Calaminaris*, or Calamine of the Shops, is a foſſil Subſtance, of a middle Conſiſtence between Stone and Earth, of different Colours, ſuch as a pale Colour inclining to White, Yellowiſh, and a blackiſh Red. This laſt is full of ſmall ferruginous Globules, like Grains of Pepper, and mark'd with white Veins; and is found in great Quantities about *Bourges*, near *Saumur* in *Anjou* in *France*, and in many Parts of *England*. The others are dug in *Germany*, near *Aix la Chapelle*; and all Kinds of it ſeem to partake of an Iron-ore, becauſe the greateſt Part is attracted by the Load-ſtone. This Species of *Cadmia* was probably unknown to the antient *Greeks*, or at leaſt was not uſed by them in Phyſic, ſince it is not mention'd either by *Dioſcorides* or *Galen*. It is now preſcribed, by ſome Phyſicians, to dry running Ulcers, to heal the excoriated Parts of Children, either in a fine Powder by itſelf, or mix'd with Ointments. It is an Ingredient in the Ophthalmic Ointment of *Renodæus*, and in the red drying Ointment, the Plaiſter call'd *Manus Dei*, and in the ſtyptic Plaiſter of *Charas*.

The *Lapis Calaminaris* is much uſed in cooling and drying Cerates; and is, in Powder, frequently ſprinkled upon Sores and Ulcers, with a View of drying them, and diſpoſing them to cicatrize. I have been told, that the Surgeons have lately obſerved, that *Lapis Calaminaris*, reduced to a very fine Powder, operates as an Eſcharotic; whereas in a more groſs Powder it acts as a Dryer.

Preparation of LAPIS CALAMINARIS.

Take any Quantity of *Lapis Calaminaris*, and levigate it upon a hard Marble, with Roſe-water; dry it, when reduced into an impalpable Powder, in little Drops, as it will fall from a Spatula upon a Chalk-ſtone.

In the ſame manner are prepared Tutty, and all hard friable Subſtances of the like Kind.

MAGISTERIUM LAPIDIS CALAMINARIS: *Magiſtery of Calamine.*

Take Calamine, four Ounces; beat it into fine Powder, or levigate it as above: Put it into a Matraſs, and pour upon it, of Spirit of Salt, one Pound. Let them digeſt upon warm Sand forty-eight Hours; filtre the Diſſolution, and precipitate the Magiſtery with Spirit of Urine; free it from its Salt by ſeveral Ablutions, and dry it gently for Uſe.

It is emetic and cathartic, and given in the like Caſes as Antimonial Emetics. Its Doſe is from three to ſeven Grains.

CALAMINARIS DIAPHORETICUS: *Diaphoretic Calamine.*

Beat four Ounces of Calamine into fine Powder; put it into a Matraſs, which place in a Chimney; and put to it, by three or four Ounces at a time, of Spirit of Nitre, one Pound: Let it there ſtand, cover'd from Dirt, for twenty-four Hours; then decant the Liquor, which put into a Retort ſet in a Sand-furnace, and give it a gradual Heat to the third Degree, and ſo keep it till no Drops fall from it. When all is cold, take it out of the Retort, and keep it for Uſe.

Some ſay it is a good Sudorific, but it is little uſed. Its Doſe is from ten Grains to half a Dram. One Ouhce of it, infuſed in half a Pound of Spirit of Wine, makes an admirable Collyrium, and does great Service, by dropping it into the diſorder'd Eye three or four times a Day. Some likewiſe make a good Collyrium by quenching a Lump of Calamine, of about four Ounces, ten or twelve times in one Pound of White-wine. *Quincy.*

CERATUM DE LAPIDE CALAMINARI: *Cerate of Lapi Calaminaris*, commonly call'd *Turner's Cerate.*

Take of freſh-made unſalted *May* Butter, and of the be yellow Wax, ſufficiently defecated, each three Pound an and an half; of pure and newly-prepared Oil of Olives, four Pounds; and of the beſt Calamine-ſtone, ſufficiently triturated, and paſs'd thro' a Sierce, two Pounds and ten Ounces: Let the Wax and Butter be put into a proper Veſſel, with the Oil, and melted over a gentle Fire; then ſtrain them thro' a Linen Cloth into another Veſſel, and immediately ſprinkle the Powder of the Calamine-ſtone into it by Degrees, continually agitating the Mixture, and ſtirring it from the Bottom of the Veſſel, till it begins to cool, and becomes ſo thick, that the Powder, in conſequence of its Weight, can no longer ſubſide to the Bottom of the Veſſel.

Turner gives the following Encomium of this Cerate:

> As I have had ample Experience of this Cerate, I may be allow'd, I hope, to judge of its ſingular Properties, and good Effects, in all cutaneous Ulcerations and Excoriations, either from Scalding, Burning, or Fretting of the ſaid Parts by means of ſalt, acrid, or ſharp Humours; upon which Accounts, not ſtraining a tittle beyond its deſerved Eulogy, I am bold to affirm, it will do more in all theſe ſuperficial Hurts of the Body, than either *Unguentum Tutiæ*, *Diapompholyx*, *Nutritum*, *Deſiccativum Rubrum*, *Album de Calce*, *Roſatum*, or all the Epulotic Medicines now in Uſe; and for which Cauſe I can, for the public Benefit, ſincerely recommend it to all the Profeſſors of the Art; and do wiſh, that the Apothecaries would keep it made up in their Shops, to deliver, at a ſuitable Price, to indigent or poor People, inſtead of their ridiculous *Lucatellus*'s Balſam, and other improper Medicines, which they call for ignorantly to heal their Skin-deep Maladies.
>
> I know the Medicine has been imitated by ſeveral, and I have ſeen ſomewhat like it in ſome Gentlemens Salvatories; but I know not more than two Perſons I ever communicated it to, as I was wont to prepare it for my own Uſe.
>
> The Medicine, thus prepared, is of a good Conſiſtence, and a true *Cerate*, ſerving both for Pledget and Plaiſter, neither ſticking troubleſomely, nor running off, or about, by the Heat of the Parts; but keeping its Body, and performing Things incredible. Whoever thinks fit to take it into Practice, will never repent it, nor perhaps (when he has experienced it as I have done) think I have ſaid too much in its Commendation. This is the Medicine I have ſo often taken Notice of, under the Name of *Ceratum de Lapide Calaminari*, which, that I might contribute my Mite to the Surgeon's Treaſury of Medicine, I here have publiſh'd, and leave it to take its Fate: I am ſure no ingenious Perſon will deſpiſe it for its being leſs compounded, and conſequently leſs pompous, than ſome others, or for that it is only a *Tetrapharmacum*. *Turner*.

Tho' the above quoted Author claims the Invention of this *Cerate*, I have, as I remember, met with it in a very old *Engliſh* Chirurgical Author.

The greateſt Quantity of Calamine is conſumed in making Braſs; and *Agricola* deſcribes two Ways of doing this, in the following manner:

> They take ſome Pieces of the beſt Copper and Calamine, firſt calcin'd, and finely powder'd; lay them in Strata in large Pots, each of which holds about fifty Pounds. Some add Glaſs likewiſe; and ſome uſe the *Cadmia* of the Furnaces, inſtead of the foſſil Kind. Theſe Pots are ſet in an arched Furnace, on Iron Stands, placed in the Middle of it, and the Fire is kindled below them. In the upper Part of each Furnace is a round Hole, cover'd with a Stone, by which they regulate the Fire. When the Mixture in the Pots has been thus expoſed to a very great Degree of Fire, and continued in Fuſion, for eight or nine Hours, it is changed to Braſs, and increaſed very much in ſpecific Gravity, tho' it has not yet the Gold-colour. The Pots, being cool'd, are taken out of the Furnace; and the Braſs, which is now of the Colour of white Embers, and cavernous like a Pumice-ſtone, is melted a ſecond time, and thrown into a Mould, the Sides of which are Stone, and the Wideneſs or Diſtance between theſe Sides equal to the Thickneſs that the Braſs-plates, now become of a yellow or gold Colour, are deſired to be of. Theſe Plates are afterwards beat upon the Anvil, to make them perfectly uniform.

The other Way of making Braſs is to

> Take a Veſſel in which Silver is uſually melted, to coat it on the Outſide with Clay, mix'd with Filings of Iron; and to line the Inſide with the pureſt Honey. Small Copper-plates, of about a Finger's Breadth, are likewiſe rubb'd over with the ſame Honey, and then cover'd with fine Powder of Calamine, crude Tartar, and Charcoal made of the Lime-tree, mix'd in equal Quantities. The Plates, thus prepared, are thrown into the Veſſel, and the Veſſel cover'd with a Brick, over which the Coat of Clay is likewiſe carried, a Hole being made in the Middle large enough to admit an Iron Rod, to ſtir the melted Metal. The Veſſel is then ſet in ſuch a Furnace as the Refiners uſe; and, as ſoon as the Calamine begins to mix with the Copper, a red Smoak aſcends, which afterwards becomes partly red, and partly blue, and laſt of all yellow; and this ſhews, that the Mixture is now perfected. The Veſſel being then taken out of the Furnace, the Braſs is found of a perfect Gold-colour. In this Operation the Copper takes up a third Part, or at leaſt a fourth Part, of its Weight of Calamine, and yet remains as ductile as before; for it may be drawn out into very fine Wire, or beat into very thin Leaves.

A much better Way of making Braſs is now practiſed at *Briſtol*, which, I am inform'd, conſiſts principally in granulating the Copper, before it is fuſed, with the *Lapis Calaminaris*; but I am not acquainted with the preciſe Method of doing it.

Dale mentions two Kinds of *Lapis Calaminaris*, which do not ſeem to differ in any thing, except that the firſt is got from the *Mendip* Hills, and other Places in *England*; the ſecond, in *France*.

The firſt is thus diſtinguiſh'd.

LAPIS CALAMINARIS, Offic. Mer. Pin. 211. Dougl. Ind. 50. Schrod. 348. *Cadmia foſſilis, alias Lapis Calaminaris*, Worm. 128. Charlt. Foſſ. 51. *Cadmia foſſilis*, Aldrov. Muſ. Metall. 256. Worm. 128. Math. 1338. *Cadmia Lapis*, Calc. Muſ. 460. CALAMINAR-STONE.

The ſecond is call'd

Calaminaris Lapis Biturigum, ſeu Cadmia foſſilis, Ind. Med. 24. CALAMINE OF BERRY.

Cadmia Fornacia, or of the Furnaces, is of two Kinds; the factitious *Cadmia* of the Antients, and *Cadmia* of the Moderns, or the Tutty of the Shops. But the firſt Kind of factitious *Cadmia*, *Dioſcorides*, *Galen*, and *Pliny*, underſtood to be only the Recrements of Copper-ore, which is blown off by the Bellows in melting Copper, and ſticks to the Sides of the Furnace; of which there are different Species according to the different Figures into which it is concreted, and the Fineneſs and Variety of its Colours. The fineſt Kind, ſays *Pliny*, ſticks in the very Edge or Border of the Furnace; and is as light as Wood-aſhes or Embers. The beſt is that which hangs down from the Arch of the Furnace, and is call'd βοτρυώδης, from the faint Reſemblance it bears to Grapes hanging on the Vine. This is of a middle Weight between the foregoing Kind and the following, being of two Colours, one whitiſh like Wood-aſhes, which is leaſt eſteem'd, the other purple, which is more valued. It is very brittle, and much uſed in Medicines for the Eyes. The other Kind ſticks to the Sides of the Furnace, as being too heavy to riſe to the Top. It is properly a Cruſt, and is uſed to deſtroy Cicatrices, or the remaining Marks of Wounds. From this, two other Kinds are obtain'd; one of a bluiſh Colour and ſpotted, the other red. The beſt *Cadmia*, according to *Pliny*, was found in the Furnaces of *Cyprus*; and he informs us further, that a *Cadmia* was likewiſe found in the Silver Furnaces lighter and whiter; but, however, much inferior to the *Cadmia* from Copper. *Galen* ſays, that a Sort of *Cadmia* was made from one Kind of Pyrites. But all theſe Kinds are now unknown in the Shops, neither do they ſeem to have been known to the *Arabians*, who were ſo little ſolicitous about the Subſtances called by the Name of *Cadmia* by the Antients, and which were only to be found in the melting Furnaces of the Iſland of *Cyprus*, that they gave the ſame Names without Heſitation to other Subſtances; whence a great deal of Confuſion has ariſen, and eſpecially, becauſe ſome of the latter *Arabians*, as well as thoſe who have come after them, have endeavour'd to apply to theſe other Subſtances, what the Antients ſaid of their true *Cadmia*; and thus *Avicenna* ſays of the Litharge of Silver all that *Dioſcorides* has ſaid of *Cadmia*.

The modern *Cadmia*, *Cadmia Fornacum* of *Agricola*, Tutia of the Shops, is a Recrement of Calamine melted with Copper, and not of Copper alone, as was that of the Antients. The officinal Tutty therefore may be defin'd a Sublimation of Calamine from melting Copper to the upper Part or Roof of the Furnace, where it concretes round Iron Rods placed there, into a ſolid Cruſt, which is afterwards beat off into Pieces, like the Bark of Trees, of a yellowiſh Colour, ſmooth on the inſide, and ſonorous; of a bluiſh Aſh-colour on the Outſide, and powder'd, as it were, with very ſmall Grains of the ſame Subſtance.

This is perhaps the ſame with the Tutty of the *Arabians*; for *Serapion* deſcribes a kind of Tutty, which is produced and collected in the Furnaces in which Copper is turn'd to a yellow Colour. But it is not certain, whether they might not likewiſe mean the *Calamine* itſelf by that Word.

The *Cadmia Fornacia* is uſually thus diſtinguiſh'd.

Tutia, Offic. Dougl. Ind. 92. *Lapis Tutia*, Woodw. Att. T. 2. P. 1. p. 50. *Cadmia Fornacia*, Geoff. Prælect. 182. Schw. 370. Worm. Muſ. 134. Charlt. Foſſ. 55. Agricola.

Cadmia Botryitis, Aldrov. Muſ. Metal. 16. *Cadmia Capnitis*, Kentm. 43. *Cadmia Factitia*, Schrod. 3. 458. TUTTY. *Dale.*

Tutty is reckon'd among the principal ophthalmic Medicines. It deterges and dries without Acrimony, and is therefore preſcribed with Succeſs in Ulcers of the *Cornea*, *Adnata*, and Eye-lids; and likewiſe in Itchings of the Eyes, inveterate Ophthalmias, and to ſtop an involuntary Flux of Tears, and fiſtulous Humours.

It is ſeldom uſed without Preparation, which conſiſts in heating it red-hot, and then quenching it three or four times in Roſe-water, and afterwards levigating it according to Art on a Marble or Porphyry.

Take prepar'd Tutty, half a Dram; Mouſe-ear, Eye-bright, and Roſe-water, of each an Ounce; mix them, and make a Collyrium. Or,

Take Succotrine Aloes, and prepar'd Tutty, of each ſix Drams; white Sugar, a Dram; Roſe-water, and any mild White-wine, of each ſix Ounces. Digeſt them in the Sun for forty Days, in a cloſe glaſs Veſſel, and keep the Liquor without ſtraining it. It is apply'd, by dropping a ſmall Quantity of it into the Eyes from time to time. Or,

Take of prepar'd Tutty, a Dram; freſh Butter, half an Ounce; make an Ointment, of which a little is to be apply'd to the Corners of the Eyes, and Edges of the Eye-lids. It is an Ingredient in the ophthalmic Ointment of Charas.

Unguentum Tutiæ, Ointment of Tutty.

Take of prepar'd Tutty, two Ounces; of Calamine burnt and quenched two or three times in Plantain-water, one Ounce; let them be reduc'd to a very fine Powder, and mix'd with a Pound and a half of the *Uuguentum Roſaceum*, ſo as to make them into an Ointment.

Nicolaus was the firſt who gave a Preſcription under this Title, which is in the *Auguſtan* Diſpenſatory; but that is loaded with a great many unneceſſary Ingredients, and differs but little from the *Diapompholygos*: But the College at firſt receiv'd it in this more compendious manner, with the Liberty of making it either with Hog's-lard, or the *Unguentum Roſaceum*. The Tutty is prepar'd by Levigation, but if the Stone upon which it is ground, be not extremely hard, it will carry a good deal along with it into the Medicine: This is not very often referr'd to in Preſcription, but is in great Eſteem amongſt the common People. *Quincy.*

The *Pompholyx* and *Spodus*, or *Spodium* of *Dioſcorides* and *Galen*, are now unknown in the Shops. They tell us, that it was made two ways; the firſt by burning melted Copper to a white, ſmooth Powder; and the other by blowing off with Bellows what can be thus ſeparated from *Cadmia*. *Dioſcorides* mentions two Kinds of *Pompholyx*; one nearly the Colour of Copper, and moiſt and fatty; the other very white and ſmooth. This laſt, he ſays, was made by the Copper-ſmiths, in endeavouring to meliorate that Metal, which they did, by throwing into it a greater Quantity than uſual of powder'd *Cadmia*; but it is uncertain, whether he here means New-ore, or the factitious *Cadmia* already mention'd. However this be, the fine Duſt, or Flour, that aroſe from this Mixture, concreted into *Pompholyx*. It was likewiſe made by burning *Cadmia* alone in Furnaces; for having thrown it in ſmall Pieces into the Fire, near the Nozel of the Bellows, they blow the moſt fine and ſubtile Parts againſt the Roof of the Furnace; and what was reflected from thence was called *Spodium*, which is of a blacker Colour, and heavier, than the *Pompholyx*, and full of Earth, and other Filth; and indeed was no better than the Sweepings of the Shops and Furnaces, and therefore was much leſs eſteem'd than *Pompholyx*. Theſe Subſtances might probably ſtill be had, where great Quantities of Cyprian or red Copper are melted; but they are now unknown in the Shops.

The *Pompholyx* of our Shops, *Nil*, or *Nihil album* of ſome Authors, is a fine white Flour, or Soot, which ſticks to the Arch of the Furnaces and Covers of the Crucibles, in which Calamine and Copper are melted together. It is to be choſen very clean without any Mixture, and has the ſame Virtues with Tutty. It dries, and is gently Aſtringent without Acrimony; it abſorbs the corroding Acrimony of the Fluids, and from thence is reputed a Cooler.

It is uſed with Succeſs to dry old cancerous Ulcers, and to cure Defluxions of the Eyes. From this Subſtance is made the *Unguentum Diapompholygos*, which is thus prepar'd.

Take of Oil of Roſes, twelve Ounces; of the Juice of Garden Nightſhade-berries, ſix Ounces; of White-wax, and waſh'd Ceruſs, of each four Ounces; of Lead that has been macerated three Days in the ſharpeſt Vinegar, and then dried and powder'd, and prepar'd *Pompholyx*, of each two Ounces; and of fine Frankincenſe, one Ounce. Let the Oil and Juice be boiled together to the Conſumption of the latter; then let the Wax be melted in the ſame Oil, and the reſt immediately added in Powder, and continually ſtirr'd about with a wooden Spatula, till the Whole is cold, and form'd into an Ointment.

This is aſcrib'd to *Nicolaus*, and receiv'd into the *Auguſtan* Diſpenſatory, and the firſt of our College, with the Addition of *Nihil* to its Title. The latter hath indeed taken it with ſome Alterations, which are conform'd to in this; but they are of no great Moment. It was deſign'd for ſalt, hot, inflammatory Ulcers; but it is very rarely uſed for thoſe, or any other Purpoſes in the preſent Practice. *Quincy.*

We have already ſaid, That the *Spodus* or *Spodium*, of the *Greeks*, was the Aſhes, or rather the metallic Flour, collected in the Furnaces and Shops of Copper-ſmiths; and that it differ'd from the *Pompholyx* in being more heavy, and not ſo pure. *Pliny* has, however, diſtinguiſh'd ſeveral Kinds of it; the *Spodium* of Copper, which is the beſt of all, that of Silver, called alſo *Lauroſis*, from Mount *Laurus*, where there were Silver Mines; that of Gold, collected in refining that Metal; and that of Lead, which was next in Goodneſs to the Copper *Spodium*, according to *Dioſcorides*.

The *Spodium* of the *Greeks* was never given inwardly, but was applied externally. Beſides theſe Metallic Kinds of *Spodium*, the *Arabians*, abuſing that Name, which in the *Greek* Language is very like the Word which ſignifies Aſhes, added other Kinds, ſuch as the Aſhes of Plants and Animals. Theſe Succedanea to the true *Spodium* were by the *Greeks* term'd ANTISPODA (See ANTISPODA); ſome of which are mention'd by *Dioſcorides*; ſuch as the Leaves, Flowers, and unripe Fruit of the Myrtle, calcined and waſh'd; the Leaves of the wild Olive; Balls Glue; new-ſhorn, rough, greaſy Wool; Pears, or Apples, moiſten'd with Water, and then burn'd, and ſuch-like. The Aſhes of ſome burnt Roots were by *Avicenna* term'd *Tabaſcir*, which Word the Interpreters have render'd *Spodium*; and that *Spodium*, which was brought from the Eaſtern Countries, was undoubtedly a kind of coarſe Sugar, as is prov'd by very ſtrong Arguments, by the learned *Salmaſius*; and therefore it is no Wonder, that by the *Arabians*, and thoſe who follow'd them, the inward Uſe of *Spodium* has been ſo much recommended.

The *Arabians* were deceiv'd by the Aſh-colour of coarſe Sugar, and the Merchants by what was related to them, that it was the Powder of ſome burnt Reeds. Burnt Ivory is now commonly called *Spodium* in the Shops. *Geoffroy.*

The metallic *Spodium* is thus diſtinguiſh'd.

Spodium Græcorum, nihil gryſeum, Offic. *Spodium*, Matth Ed. 1339. Aldrov. Muſ. Metall. 16. *Spodium factitium, qui dam cinerulem vocant*, Worm. Muſ. 135. *Spodos*, Kentm 72. *Spodios factitia, quibuſdam cinerula*, Charlt. Foſſ. 55 PUTTY. *Dale.*

CADUCUS, the Word alone put ſubſtantively, or, as a Adjective, with the Subſtantive *Morbus*, ſignifies the Falling ſickneſs, or Epilepſy. See EPILEPSIA. *Caſtellus.*

CADUS, κάδος, perhaps from χαδεῖν, which ſignifies contain, or from the *Hebrew Cad*, a Meaſure mention'd the Bible, and tranſlated ὑδρία by the *Septuagint*. It is Meaſure equal to the *Metretes* (about ten Gallons two Pint *Engliſh* Wine-meaſure); for what *Dioſcorides*, *Lib.* 5. ca μετρητὴν γλεύκους, *Pliny*, *Lib.* 14. *Cap.* 16. renders *Cadu Muſti*. It is ſometimes writ with a double δ· as in *Pollu Lib.* 9. where he tells, that ἀμφορεὺς was called κάδδος by t Antients. And the ſame Author relates from *Philochoru* that ἡμικαμφόριον *eſſe* ἡμικάδδιον.

Cadus was called κεράμιον. *Heſychius* ſays, κάδος ἐςὶ κεράμι He tells us alſo, κεράμιον τοῦ οἴνου ἢ ὕδατος σαμνίον, "a *Cer* "*mium* of Wine or Water is a *Stamnium*." So *Cadus* a *Stamnium* are the ſame. *Arbuthnot.*

CÆCILIA, Offic. Jonſ. de Serp. 19. Aldrov. Hiſt. Se 243. *Cæcilia Typhlops*, Charlt. Exer. 36. *Cæcilia Typhl Græcis*, Geſn. de Serp. 60. *Cæcilia Typhlinus Græcis*, R Synop. A. 289. *Typhlops Cæcilia*, Mer. Pin. 208. TH BLIND-WORM, or SLOE-WORM. *Dale.*

This is a ſort of Serpent, whoſe Bite has much the ſa Effects as that of the Viper; and is to be cur'd by much ſame Methods.

Dale, from *Geſner*, gives an Account of a Theriaca be prepar'd of this Serpent, and Treacle-water, for a Sudor in the Plague.

CÆCUBUM. Old *Aminæan* Wine. *Oribaſ. Med. lect. L.* 9. *C.* 6. See AMINÆUM.

CÆCUM *Inteſtinum*. What we now call the *Appendi Cæci*, is by *Rufus Epheſius* called the *Cæcum*. But mo Anatomiſts divide the large Inteſtines, which form one co nu'd Canal, into three Portions. This Canal begins kind of Sacculus or Bag, which is reckon'd the firſt of the three Portions, and called *Cæcum*.

The *Inteſtinum Cæcum* is then only a round ſhort Bag, the Bottom of which is turn'd downward, and the Mouth and Opening upward. It lies under the Right Kidney, and is hid by the laſt Convolution of the *Ileum*. It is about three Fingers-breadth in Length, and its Diameter is more than double that of the ſmall Inteſtines.

Through the membranous or common Coat of the *Cæcum*, we ſee three white Ligamentary Bands, which adhere very cloſe both to the outer and muſcular Coat. One of them is hid by the Adheſion of the *Meſocolon*; and all the three divide the *Cæcum* longitudinally into three Parts, more or leſs equal.

They all unite on the *Appendicula Vermiformis*, and cover its whole outer Side, immediately under the common Coat. Tho' they appear exteriorly on the *Cæcum* to be Ligamentary, they are made interiorly of fleſhy Fibres, which accompany and ſtrengthen the longitudinal Fibres of the muſcular Coat.

The villous Subſtance of the inner Coat of the *Cæcum* is very ſhort, and furniſh'd in ſeveral Places with glandular Lacunæ, or ſolitary Glands, broader than thoſe of the ſmall Inteſtines.

Theſe glandular Lacunæ, or Folliculi, are flatten'd and depreſſed in the Middle like the Puſtules of the Small-pox. When we blow through a Pipe into theſe Lacunæ without touching them, the Folliculi are inflated, and repreſent little Caps with a Hole in the Middle of their convex Side. *Winſlow*. See INTESTINA.

CÆMENTUM.

Cement. This is a Name given by Architects to that Subſtance put betwixt the Stones of Buildings for fixing and ſecuring them. That tenacious Matter or Paſte commonly uſed by Mechanics for making one Body adhere to another, is alſo called *Cement*. In a Word, Artiſts of different kinds have their different *Cements*, prepar'd in ſuch a manner as beſt to anſwer their reſpective Intentions; but theſe are foreign to our Deſign. The Matter uſed by Chymiſts for the Joinings of their Veſſels, is by ſome alſo called *Cement*; but as that Subſtance is more generally known by the Name of *Lute*, ſee the Article LUTUM.

It now remains, that I conſider the *Cement* uſed by the Metallurgiſts, and Aſſayers of Metals, ſince by its Aſſiſtance the *Cementatory Calcination* of Metals, as it is called, is perform'd. This *Cement* then is prepar'd of the Duſt of the reddeſt Bricks, Crocus of *Mars*, Crocus of *Venus*, plumous Alum, Vitriol, Salt, Blood-ſtone, Nitre, Sulphur, Sal Ammoniac, Sal Gemmæ, and ſome other Ingredients. This Powder, either dry, or moiſten'd with Vinegar, Urine, or ſome other Liquor of a like Nature, is alternately ſprinkled upon Plates of Metal, either with an Intention of corroding, depurating, or exalting. Theſe Metal Plates, together with the *Cement*, are committed to a Box or Pot, which from its Uſe has the Epithet *Cementatory* affix'd to it. A Crucible may alſo be uſed for this Purpoſe. The Veſſel carefully cover'd, is put upon the Fire, which is not to be raiſed to that Degree of Heat as to melt the Metal, but only increaſed ſo far as to put the corroſive Salts in Action, for corroding the prepar'd Metal from which the *Laminæ* are intended to be purg'd.

Hence 'tis obvious, that ſeveral Salts are proper for forming Cements; that is, thoſe Salts which are of ſuch a Nature, as to act like a Menſtruum upon the particular Metal to be corroded and ſeparated from the reſt of the Metallic Maſs, on which they ought to have no Influence. *Cements* are uſed in the Depuration of the nobler Metal, and the *Cement* uſed in the Depuration of Gold is called *Cæmentum Regale*; becauſe it ſpares Gold alone, and deſtroys all other Metals. What, in *Schroder*'s *Pharmacopœa*, is called *Cæmentum vulgare*, is prepar'd thus.

Take of Brick-duſt, eight Ounces; of common Salt prepar'd, four Ounces; of Nitre and Verdegriſe, each half an Ounce: Mix together.

For depurating Silver from Copper, *Beguinus*, in his *Tyrocinium Chymicum*, gives a Receipt under the ſame Name, and conſiſting preciſely of the ſame Ingredients, except that there is an Addition of two Ounces of white Vitriol. *Stahl*, in his *Opuſcula*, excellently accounts for the Manner in which *Cements* act upon Gold. “ When, ſays he, Gold is adulterated by an Intermixture of other Metals, eſpecially Silver, tho' in a very ſmall Quantity, by the Addition of corroſive Salts, reduc'd to a kind of Vapour by the Influence of the Fire, it is ſo thoroughly acted upon, that the Particles of the heterogeneous Metal are corroded, whilſt thoſe of the Gold are not in the leaſt affected, by which means its Compages becomes very porous; and if a little more of a foreign Metal was added, it by that means becomes ſufficiently friable. For this Purpoſe Nitre is choſen, together with ſuch Subſtances as free its acid Spirit from its alcaline Parts, that the Spirit “ may have Acceſs to corrode the Silver or Copper mix'd with “ the Gold. Subſtances of this kind are Brick-duſt, Bole, “ and Vitriol; ſometimes a little Verdegriſe is added, and “ ſometimes Blood-ſtone, or Crocus of Mars. But this is “ done principally with a View of heightening the Colour of “ the Gold, rather than promoting the Efficacy of the Corro- “ ſion. But, that this Buſineſs may ſucceed the better, the “ Gold muſt be prepar'd, that it may be fitly diſpos'd for the “ Reception of theſe corroſive Steams. This is done by “ beating the Gold into pretty thin Plates, that the Vapours, “ which are not able to penetrate very far, may pervade them “ ſo much the ſooner.”

But 'tis to be obſerv'd, that many now diſapprove of the Uſe of *Cements* in the Depuration of Gold, becauſe it generally happens, that they carry off ſome of the precious Metal with them. The Reaſon of this ſeems to be, that ſome Quantity of common Salt, which is the Menſtruum of Gold, is often lodg'd in the Nitre. 'Tis now obvious, that to *cement* is the ſame as to *ſtratify*; that is, for ſome time to expoſe a metallic Body to the Fire, along with *Cement*, Layer above Layer. Hence the Reaſon is plain, why *Cementation* is call'd corroſive Calcination. From what has been ſaid, we likewiſe underſtand, why that Operation is call'd *Cementation*, in which Antimony, mix'd with Nitre, and, pounded, is calcin'd, in order to obtain the Liver of Antimony; and upon what Account *Kircher*, in his *Mundus Subterraneus*, affirms that the *Crocus of Mars* is prepar'd by Cementation; ſince, in that Preparation, Plates of Steel are laid, *Stratum ſuper Stratum*, with a Paſte made up of Quick-lime and Urine, and calcin'd in a cementatory Veſſel. *Rieger*.

CÆRULEUM. A Name for the CYANUS, which ſee.

CÆSALPINA. This Plant was ſo nam'd by Father *Plumier*, who diſcover'd it in *America*, in Honour to *Andreas Cæſalpinus*, who was an eminent Botaniſt, and one of the firſt Writers on a Method of claſſing Plants.

We have no *Engliſh* Name for this Plant.

The Characters are;

It hath a Flower of an anomalous Figure, conſiſting of one Leaf, which is divided into four unequal Parts; the upper Part is large, and hollow'd like a Spoon. From the Bottom of the Flower ariſes the Pointal, amongſt many incurv'd Stamina, which afterwards becomes a Pod, including oblong Seeds.

We have but one Sort of this Plant, which is, *Cæſalpina polyphylla, aculeis horrida*, Plum. Nov. Gen. Many-leav'd *Cæſalpina*, with large Thorns.

I find no Medicinal Virtues attributed to this Plant. *Miller's Dictionary*.

CAESAREA SECTIO.

By the *Ceſarean Section* the Moderns mean no more than *that chirurgical Operation, whereby the Fœtus, which can neither make its Way into the World by the ordinary and natural Paſſage, nor be extracted by the Attempts of Art*, whether the Mother and Fœtus are as yet alive, or whether either of them is dead, *is, by a cautious and well-tim'd Section, taken from the Belly of the Mother, with a View to ſave the Lives of both, or either of them.* This Operation is, by ſome, call'd ὑστεροτομία, or ὑστεροτομοτοκία, tho' theſe Words are not to be found in the Writings of the *Greek* Phyſicians. In order to draw an *Odium* upon this Practice, we are told, that ſome of the moſt expert and knowing Phyſicians and Surgeons have not only cenſur'd the Operation as unſafe and cruel, but abſolutely condemn'd it, as neceſſarily and unavoidably productive of Death. The Authors commonly alledg'd as favouring this Opinion, are *Paré*, *Guillimeau*, *Rolfincius*, *Hoorn*, *Mauriceau*, *Solingen*, and ſome others, who are aſſerted to be *ſworn Enemies to the Cæſarean Section*. But, upon a careful Peruſal of the Works of theſe Authors, I find none of them promiſcuouſly condemning the Operation in all Circumſtances, but only in certain dangerous Caſes; when, for Inſtance, *the Fœtus is to be cut from the Uterus of the Mother, as yet alive*; in which Caſe, and others of a like dangerous Nature, the above-mention'd Authors have obſerv'd the moſt fatal Conſequences reſulting from the Operation. But, for the ſake of Accuracy, I muſt here obſerve, that there are three Caſes in which the *Cæſarean Section* is neceſſary.

The firſt is, when a pregnant Woman dies, either before the ſtated Time of Delivery, eſpecially in the laſt Months, when the Fœtus is perfect, and ſuppos'd alive; or when ſhe dies in Labour; or is cut off by a violent Death, and the Fœtus is perceiv'd alive in the Uterus, or at leaſt is, upon good Grounds, preſum'd to be ſo.

The ſecond Caſe is, when the Mother is ſtill alive, and the Fœtus dead, but, at the ſame time, ſo unnaturally ſituated, as that it cannot come into the World in the natural Way, either by the Efforts of the Mother, or the Art and Skill of the Midwife or Phyſician, in which Caſe the Life of the Mother is in the higheſt and moſt evident Danger.

The third Caſe is, when both the Mother and Fœtus are ſtill alive; but the Fœtus, as in the former Caſe, can neither be expel'd in the natural Way, by the Efforts of the Mother, not extracted by the Art of the Midwife, ſo that both the Mother and the Fœtus muſt be in the moſt imminent and unavoidable Danger of Death, unleſs they are ſav'd by the *Cæſarean Section.*

In the firſt Caſe, that is, when the Mother is dead, and the Fœtus reaſonably preſum'd to be alive, I find few or none of the more noted Phyſicians and Surgeons, who diſapprove of the Operation, ſince, without it, the Fœtus muſt neceſſarily die, as well as the Mother. And, as Delays in this Caſe are highly dangerous, they univerſally agree, not only that the deceas'd Mother ſhould be laid open, but alſo that the Operation ſhould be perform'd as ſoon as is poſſible; becauſe, generally ſpeaking, the Fœtus does not long ſurvive the Death of the Mother; tho' *Doleus*, in *Encyclopæd. Lib.* 4. *Cap.* 5. informs us, that he perceiv'd the Fœtus to move in the Belly the Day after the Death of the Mother. In conſequence of the Operation being perform'd in this Caſe, we have ſeveral Inſtances, not only in the remoter, but alſo in the latter Ages, of the Fœtus being taken alive from the Belly of the Mother. Accordingly, among the Antients, this memorable Circumſtance is recorded of *Lycas*, mention'd by *Virgil*, of *Æſculapius*, of *Scipio Africanus*, thence denominated *Cæſar*, of *Manlius*, and, according to ſome, of the Emperor *Julius Cæſar*; and, in latter Ages, of *Edward* the Sixth, King of *England*, of *Sanctius*, King of *Navarre*, and ſeveral others mention'd by different Authors, and from that Circumſtance call'd *Cæſares* or *Cæſones*. When, therefore, the Mother is already dead, or when the Surgeon perceives her to be ſtruggling with the Agonies of Death, he ſhould take care to have every thing prepar'd for the Operation, that, when ſhe is actually dead, he may be ready to ſave the Fœtus, either by making a crucial Inciſion in the Abdomen, as in ordinary Diſſections; or, which is a ſafer and more cautious Method, by a large longitudinal Inciſion, and not a crucial one, as moſt adviſe, made on either Side, with a Razor or Inciſion-knife, without any Regard to the Direction of the muſcular Fibres, or the Courſe of the Blood-veſſels. The Operation may be perform'd either in the Bed, or upon a convenient Table. If the Fœtus has fallen into the Cavity of the Abdomen, either in conſequence of a Rupture in the Uterus, or by ſome other Cauſe, it muſt, in this Caſe, be taken out as ſoon as poſſible; and ſince, on the like Occaſions, the Fœtus is generally very weak, a little *Hungary* Water, or ſome other Liquor of a like Nature, may be held to its Noſe, for the ſake of the Steam. The Breath alſo, either ſimply, or after having drank a little Wine or Brandy, is to be blown into its Mouth and Noſtrils, in order to chear it. The Navel-ſtring muſt be ty'd in the ordinary Manner, and, for Decency's ſake, Baptiſm adminiſter'd. But if the Fœtus remains conceal'd in the Uterus, that Body muſt be cautiouſly laid open, the Child extracted, the Navel-ſtring cut, and, if it is ſtill alive, proper Methods muſt be us'd to cheriſh and ſupport it; and thus the Operation is at an End. If the Fœtus is lodg'd in the Fallopian Tube, or the Ovary, which ſometimes happens, the Abdomen is firſt to be laid open, and the Child carefully extracted; proceeding in other reſpects as before directed. But, in an Affair of ſuch vaſt Importance as the *Cæſarean Section*, the Surgeon ſhould carefully obſerve whether the Mother be really dead, or only in a Deliquium, leſt he raſhly perform the Operation on a live Woman, as we are told *Veſalius* did. He ſhould rather be thoroughly ſatisfy'd of the Mother's Death, by obſerving whether there be any Motion of the Parts left, eſpecially of the Heart, Arteries, and Lungs; and have the joint Concurrence, if poſſible, of the By-ſtanders, as to the Propriety of the Operation, before he attempts the leaſt Inciſion; tho', at the ſame time, we have no Inſtances of the Mother reviving under the Operation, after ſhe has been taken for dead; and tho' ſuch an Accident ſhould really happen, the Surgeon has no Reaſon to think, that he commits Murder, ſince, in conſequence of his believing the Mother to be dead, his Attempts to ſave the Fœtus not only flow from a Principle of Humanity, but are alſo authoriz'd by the Laws of the Land. In ſuch a deplorable Caſe, as there are ſtill ſome faint Remains of Hope, eſpecially if the Operation has been perform'd by a ſimple longitudinal Inciſion on one Side, the Surgeon muſt ſtitch up the Wounds, and treat them in the moſt ſkilful Manner he poſſibly can, ſince live Perſons, who have voluntarily ſubmitted to have the Fœtus extracted in this Manner, have ſometimes happily recover'd; for, if the Surgeon ſhould delay too long, from a miſtaken Terror of murdering the Mother, the Fœtus may be loſt, and the Operation perform'd in vain. Some condemn the Operation altogether, becauſe, ſay they, after the Death of the Mother, we are not certain whether the Child is ſtill alive; for which Reaſon they are not, in the Phraſe of the Vulgar, for diſturbing the poor Mother, after ſhe is dead. Tho' I do not deny, that it is often a hard Taſk to determine certainly whether the Fœtus be dead or alive, and that, in conſequence of this, the Operation muſt often be perform'd in vain; yet, in my Opinion, it is ſtill more adviſeable to open ten, or even an hundred dead Mothers in vain, than to loſe one live Fœtus for want of the Operation.

My Advice, in general, is, that the Operation ſhould be perform'd as ſoon as poſſible on all Women, who die either a little before, or in the very Pangs of Delivery; partly that the Fœtus may be extracted alive, baptiz'd, and reſcu'd from the Jaws of Death; and partly for the better Information of Phyſicians, Surgeons, and Midwives, to acquaint them with the Figure, Bulk, and Structure of the Uterus in pregnant Women, with the Poſture of the Fœtus in it, the State of the Membranes, the Diſpoſition of the Secundines, and their Connexion with the Uterus, that they may, at other times, be the better qualify'd for affording Relief in Circumſtances of a like Nature; and partly, according to *Deventer*, that it may be diſcover'd whether the Death of the Mother was owing to the Unſkilfulneſs of the Midwife or Surgeon, or to ſome other Cauſe; that they may be puniſh'd or acquitted accordingly, and arrive at a greater Knowledge in their Profeſſion. We muſt not then delay performing the Operation upon a Woman who dies in theſe Circumſtances, much leſs muſt we bury her with the Fœtus in her Belly, which is too often the Caſe; ſince, on ſome Occaſions, the Child may remain alive in the Uterus a long time after the Death of the Mother; for I think it barbarous and inhuman, repugnant to Chriſtianity, and inconſiſtent with Mercy, to bury the Child, as yet alive in the Uterus, with its dead Mother. I therefore think, that not only among Chriſtians, but alſo where-ever Humanity and Compaſſion have the leaſt Regard paid them, Princes and Rulers ſhould enact the ſevereſt Laws, injoining that all Women, who have died during Pregnancy, ſhould not only be laid open before they are bury'd, but alſo that this ſhould be done immediately after the Death of the Mother, by ſkilful Phyſicians and Surgeons, leſt, by a Delay, the Fœtus ſhould be allow'd to die in the Uterus, or, by omitting the Operation altogether, it ſhould be bury'd alive with its dead Mother; ſince, in this Caſe, they might juſtly be ſaid to be murder'd, according to that eternal, immutable, and unalterable Law of Nature, *Whom thou didſt not ſave from Death, when it was in thy Power ſo to do, him thou haſt kill'd.* The moſt antient of the *Roman* Kings, tho' deſtitute of the Light of Reveal'd Religion, were mov'd with the higheſt Compaſſion for Infants in this Condition, ſince they made a Law in their Favour call'd the *Lex regia*, which may be juſtly dignify'd with the Epithets *Chriſtian* and *Divine*, injoining, *That no Woman who died pregnant, ſhould be bury'd before the Fœtus was extracted from her, and making it a capital Crime to do otherwiſe*; adding this as a Reaſon, *That he ſeems, by ſo doing, to have deſtroy'd the Life of the Fœtus.* Their Intention in this Law, doubtleſs, was, that the Operation ſhould be perform'd in due Seaſon, that is, ſoon after the Death of the Mother; becauſe the Fœtus, as we know by Experience, does not long ſurvive. But, tho' moſt of our Lawyers acknowledge the Equity and Sanctity o this Law, yet, by ſome unhappy Fate, it is ſeldom or neve minded any-where among Chriſtians in our Times, but a much neglected, as if there were nothing relating to it inſerted in the Body of the Law. *Hildanus*, indeed, tells us, that thi Royal Law was, for the moſt part, obſerv'd in his Country, that is, in *Switzerland*; but in other Countries, as far as could learn, they make no Scruple to bury their dead pregnan Women without Section. Princes and Magiſtrates, indeed, convict and puniſh Whores, when their Infants periſh for wan of a Ligature of the Navel-ſtring, or for ſome other Neglect and, in my Opinion, juſtly; for which Reaſon I cannot bu the more wonder, that they inflict no Puniſhment on thoſe b whoſe Fault, or Negligence, the Children of thoſe who di pregnant, periſh in the Womb, when they might often hav been preſerv'd; ſince the Life of a Child is as much concern' in one Caſe as the other, and the Guilt in both Caſes is alike Pertinent to this Purpoſe is what *Mauriceau*, *Obſerv.* 345. relates of a Man who would not ſuffer his Daughter's Womb who dy'd without Delivery, to be rip'd open, and ſo wilfull occaſion'd the Death of the Child; a Crime which deſerves t be ſeverely puniſh'd: So here, at *Helmſtadt*, a Man would no ſuffer me to make an Inciſion in his dead Siſter, but threaten' to ſhoot me, if I came into his Doors upon ſuch an Account and ſo the Child alſo periſh'd. I cannot but think, that Legiſlator would do nothing improper, or unbecoming their Office, b taking all due Care, and iſſuing ſtrict Orders, that no pregnan Woman, who dies before or in the Time of Travel, ſhould b interred before Inciſion of her Belly and Uterus.

When the Mother is ſtill living, but her Child dead in th Womb, without any Hopes of its coming away, or being extracted by the natural Paſſages, as uſually is the Caſe; wh there are Indications, that the Child ſticks in the Tuba Fall piana, or the Ovarium, or in the Cavity of the Abdomen, o perhaps, in a kind of Hernia without the Belly, of which *Se nertus* and *Hildanus* have given us each an Example; or if t Paſſage be obſtructed by a Callus, a Scirrhus, a Tumor, or Exoſtoſis about the Os Uteri, or in the Vagina; or if there too great a Streightneſs of the natural Parts, occaſion'd either an incurable Coalition of the Vagina, or a Callus, or an Conformation of the Bones of the Pubes, which is incid eſpecially to Women of a dwarfiſh Stature, and thereby Fœtus is render'd incapable of Expulſion; and the Moth thro' the Vehemence of the Pains, or Convulſions, or a violent Hæmorrhage, or ſome other conſiderable Cauſe, ſhould have her Strength exhauſted, and, by that means, her Life endanger'd, I judge the *Cæſarean Section*, tho' never preſcrib'd by the Antients for living Perſons, and condemn'd by many of the Moderns, to be abſolutely neceſſary for preventing the Death of both the Mother and the Child; for, in theſe Caſes, an Extraction by the natural Ways, which *Mauriceau* adviſes before a *Cæſarean Section*, in every preternatural Birth, can have no Place. Therefore, in all ſuch Circumſtances as render it impoſſible to extract the Fœtus by the ordinary Ways, (for about theſe are we principally concern'd) Inciſion of the Belly is, indeed, a ſevere and dangerous, but the only Remedy to deliver the Mother from the Fœtus, and from imminent Death; and we are not without Examples, in various Authors, of this Section being happily perform'd; ſo that *Mauriceau* ſpeaks againſt Reaſon and Experience, when he aſſerts, that this Section is always mortal to the Mother; for which Reaſon he is alſo reprehended by *La Motte*, who was himſelf no Friend to this Operation, but rejected it on ſome very proper Occaſions.

However, tho' there be many Examples of this Operation being perform'd ſucceſsfully, and tho' there are very few but will admit of a Section of the Belly and Uterus, when the Mother is dead, and even while ſhe is alive, if Nature points out the Way, by ſome Tumor, Pain, or Abſceſs, in ſome Part of the Belly, as on one Side, or about the Navel, in which Caſe this Operation is uſually perform'd with Succeſs, as ſeveral Authors have obſerv'd, becauſe it is follow'd by little or no Hæmorrhage, and the Fœtus, on theſe Occaſions, generally ſticks in the Fallopian Tube, the Ovary, or the Cavity of the Abdomen; yet there are ſome very eminent Phyſicians and Surgeons, who will by no means admit of it, and not only diſſuade from the Practice of it, but utterly condemn it, as cruel and barbarous, and always deſtructive and fatal to the Mother, when the Fœtus is detain'd in the Uterus, and no Abſceſs manifeſts itſelf. Some of the principal Gentlemen of this Opinion are *Guillemeau*, *Mauriceau*, *Rolfincius*, and *Solingen*; and for this Reaſon, becauſe they always obſerv'd it to be ſucceeded by the Death of the Mother; tho' that might often happen from ſome other Cauſe. And ſome of them do not ſtick at branding thoſe Phyſicians, who adviſe or undertake this Operation while the Fœtus is in the Uterus, and no Abſceſs is diſcover'd, with the Titles of *cruel* and *raſh*; becauſe, ſay they, the Fœtus ſhould rather be extracted, by the natural Paſſage, with the Hand, or by the Help of Inſtruments, and not by ripping up the Belly and Uterus, with the utmoſt Danger of the Mother's Life, by the *Cæſarean Section*. But theſe Gentlemen are ſufficiently confuted, both by Reaſon, and the Experience of ſome of the moſt ſagacious and approv'd Phyſicians and Surgeons, ſuch as *Roſſet*, *Bauhine*, *Sennertus*, *Hildanus*, *Fienus*, *Scultetus*, *Scipio Mercurius*, *Roonhuyſen*, *Ruleau*, *Lanciſi*, *Saviard*, *Jobert*, *La Motte*, *Teichmeierus*, and others, who all aſſure us, that the Mother has ſometimes happily ſurviv'd the Operation.

I confeſs, with reſpect to the Mother, the Operation is very dubious and hazardous, eſpecially when the Fœtus is to be cut out of the Uterus, and no Abſceſs appears; and, therefore, I am of Opinion, that it ought not to be undertaken without abſolute Neceſſity; tho', from what has been ſaid, and what will further be remark'd, I cannot but think it, on ſome Occaſions, uſeful and neceſſary. *Gouey*, indeed, one of the lateſt Writers of Surgery among the *French*, *Roſſet*, *Scipio Mercurius*, and *Welſchius*, endeavour to prove, that the *Cæſarean Section* has no more of Difficulty or Danger in it, than cutting for the Stone; and, if dexterouſly manag'd, ought to be frequently undertaken, as appears from Examples which they bring. But, for my part, I cannot conſent to ſo great a Length, and that for weighty Reaſons, added to the Obſervations of *Paré*, *Guillemeau*, *Rolfincius*, *Mauriceau*, and *Solingen*, ſhewing the frequent unhappy Events which attend ſuch an Operation; and, particularly, becauſe of the Danger of an immoderate Hæmorrhage, or a Gangrene, and the Hazard which accompanies Wounds of the Uterus, eſpecially in pregnant Women, as was ong ago well obſerv'd by *Celſus*, *Lib.* 5. *Cap.* 56. *Mauriceau*, with ſome others, as I obſerv'd, is for extracting the dead Fœtus lways by the natural Paſſages, with the Hands, or by the Help f Inſtruments, rather than have recourſe to ſo dangerous an Operation as the *Cæſarean Section*. I heartily agree with this eir Opinion, as often as the thing is practicable; and utterly ſapprove the Raſhneſs of thoſe Surgeons, who have ventur'd pon a Section of the Belly, when the Fœtus might have been tracted by the Vagina, tho' the Operation was ſometimes atnded with Succeſs. However, ſince Caſes often occur, ſuch I mention'd above, where it is impoſſible to extract the œtus by the uſual Paſſage, and the Mother is in utmoſt Dan- r of periſhing, on account of its Detenſion in the Uterus, I ok upon it as a barbarous and impious thing to leave the unppy Woman, who earneſtly implores our Aſſiſtance, or at leaſt tremely wants it, without Help; and am of Opinion, that, in ſes of Extremity, the laſt or moſt deſperate Remedies are to be us'd; and certainly, according to the Judgments of *Hippocrates* and *Celſus*, the venerable Fathers of Medicine, a dubious Remedy is better than none, and preferable, in ſuch Caſes, to leaving the poor Woman helpleſs in that moſt deplorable State, under the greateſt Torments, and giving her up to inevitable Death, while there is ſtill Hope of ſaving her, as appears from happy Examples. Therefore I think thoſe Phyſicians much in the wrong, who had the Care of the Woman mention'd by *Saviard*, *Obſerv.* 114. who, when they found the Birth was impoſſible, becauſe of the Narrowneſs of the Paſſages, would not undertake a Section, but left both Child and Mother to periſh together. And in his *Obſerv.* 60. we have an Inſtance of a Woman who beg'd for Section, but could not obtain it. Some there are, as *Mauriceau*, *Lamotte*, and others, who acknowledge, that there are Caſes in which it is impoſſible for the Fœtus to be brought away by the ordinary Paſſage; and yet adviſe, in ſuch a Circumſtance, to leave the Conduct of the Matter wholly to Nature, rather than expoſe the Patients to ſo dangerous a Section; becauſe Nature often finds out Ways, by means of an Abſceſs in the Belly, Navel, Groin, or *Inteſtinum Rectum*, to expel the putrefy'd Fœtus with leſs Danger than it could be extracted by Section of the Belly. In this I agree with them, as often and as long as the Mother is in no Danger of her Life from this Forbearance, which is ſometimes the Caſe: But when the Danger is urgent, when by too long waiting we hurt, and in a manner kill the Mother, I think we ought to have recourſe to the laſt Remedies, eſpecially ſuch as have been known to ſucceed, rather than give up the Patient, who might be under a Poſſibility of being helped, tho' by a dubious Remedy, to an unavoidable and moſt miſerable Death. For, certainly, a Phyſician ſeems to me then only to have diſcharg'd his Duty to the full, and ſatisfy'd his Conſcience, when he has done all things, and omitted nothing that he knows to be ſerviceable, and which he is ſenſible has done Good in other Caſes of the like kind, without regarding what ſome, perhaps, may object againſt his Proceedings, eſpecially when the Patient herſelf, whoſe Life is dear to her, and who had rather try a dubious Remedy than none at all, deſires it of him. Others there are, who confeſs that the Reaſon why they will not undertake this Operation, is the Diſgrace they are like to undergo, if it ſhould not ſucceed: But this ſeems to me a very vain and trifling Excuſe in ſo ſerious an Affair, and hardly becoming a good Man, much leſs a Chriſtian Phyſician, who, in the way of his Duty, ought to ſtand in Awe of no Man, much leſs to be deterred by the Cenſures of the Vulgar, or the Calumnies of the Malicious. In ſhort, all things are to be done by a Phyſician for the Preſervation of his Patients in general, and eſpecially thoſe of the weaker and tender Sex, in this their moſt miſerable and helpleſs Condition. And *Lamotte* himſelf has ſeveral times perform'd Operations on Women, and particularly the Extraction of the Fœtus, even againſt the Mother's Conſent; to accompliſh which, he order'd Women in ſuch a Circumſtance to be held by ſtrong Men, that he might by Force extract the Child, when in an ill Situation, in what manner he thought fit. Now, if he thinks ſuch a Proceeding to be fair and lawful, why may we not, with a ſafe Conſcience, uſe the ſame violent Means for extracting the Child by a Section of the Belly, that, if the Mother will not voluntarily ſubmit to what ſkilful Phyſicians ſhall judge neceſſary for her Preſervation, ſhe may be compel'd by Force to undergo it? For my part, I ſee no Reaſon to the contrary. How much more then are we to lend our Aſſiſtance in the former Caſe, when it is not only voluntarily deſir'd, but earneſtly intreated!

If, then, the unhappy Woman conſent to ſubmit to Section, or voluntarily deſire it, the firſt thing to be conſider'd is, whether ſhe has ſufficient Strength to undergo the Operation. For if ſhe be very weak and low, be cold in the extreme Parts, and in a cold Sweat, it is to be fear'd, that ſhe will die ſoon after the Section, and ſo the Cauſe of her Death, by ignorant and malicious Perſons, may be imputed to the Operation, and the Surgeon. It is beſt, therefore, in this Circumſtance, to forbear ſuch an Undertaking, leſt, as *Celſus* ſays, *Lib.* 5. *Cap.* 16. we might be thought to kill the Woman, who, in reality, dies of the Violence of her Diſtemper. But if ſhe be in good Strength and Heart, and there is Hope of ſaving the Mother, or Child, or both, the Operation is to be readily undertaken; for the right Performance of which, we are to conſider, firſt, what is to be done before the Operation; ſecondly, what is to be done under the Performance; and, thirdly, what after it. Before the Operation the proper Inſtruments are to be laid ready, which are, a ſtrait Knife, firmly ſet in the Handle, and ſuch as is repreſented (*Tab.* 52. *Fig.* 8.); or ſuch a one as is commonly uſed in anatomical Diſſections, or elſe a Razor, or ſome ſuch Inſtrument; or one of the blunt Inſtruments, repreſented (*Tab.* 26.); alſo a blunt-pointed Pair of Sciſſars, with crooked Needles, threaded with ſtrong Threads, or Cords, as for Gaſtroraphy; a clean Sponge or two; hot Wine, or ſome hot vulnerary Decoction in a Veſſel; with the proper Apparatus of Bandage, conſiſting of Lint, Plaiſters, Bolſters, and Fillets; not forgetting internal corroborative Medicines, and external ones, to be apply'd, if needful, to the Mouth and Noſtrils. All theſe Things being fitly diſpoſed out of the Woman's Sight, ſhe is firſt to make Water, leſt the Bladder, being diſtended with Urine, might be expoſed to the Knife; ſhe is then to be placed in a proper Situation, either on a Table, or Bed, in the midſt of the Chamber, on her Back, in ſuch a manner as that the Attendants may have convenient Acceſs; and her Spirits are to be kept up by pleaſing and pious Words, her Face being cover'd, that ſhe may not be terrify'd at the Sight of the Inſtruments; and her Arms and Legs are to be held by at leaſt four robuſt Perſons, that ſhe may lie immoveable; or, if you think fit, they may be ty'd.

The Surgeon then, ſtanding at that Side of the Woman which ſeems moſt convenient, enters a ſtrait Knife by the external Side of the Muſculus Rectus, or in the Space between the Navel and the upper and fore Eminence of the Os Ileum, where Perſons are now uſually tap'd for the Dropſy, (which ſeems to me, as yet, the fitteſt Place) making a ſtrait Inciſion, firſt thro' the Skin and Fat, about eight or ten Fingers-breadth in Length, after that, thro' the *Muſculi Obliqui* and *Muſculus Tranſverſus*, and, laſtly, with the utmoſt Caution, thro' the *Peritonæum*; where the principal thing to be obſerv'd by the Surgeon is, to make but a very ſmall Wound, or Aperture, with this firſt Knife, for fear of hurting ſomething withinſide. Then with another Knife, probe-pointed, (*Tab.* 26.) or with the Sciſſars, he is to dilate the Wound; or, if he has not the laſt Inſtruments in Readineſs, or thinks fit to uſe but a few, he may introduce his Finger thro' the Wound into the Belly, and by the Aſſiſtance and Direction hereof, with the firſt Knife, or with the Sciſſars, inlarge the Wound, till it ſeems wide enough for the Extraction of the Fœtus, taking all poſſible Care, that he hurts nothing elſe withinſide, which may be readily avoided, by dexterouſly following theſe Directions: A ſufficient Aperture being made in the Belly, the Situation of the Child, and where it ſticks, is to be thoroughly inſpected. If it be found to lie without the Uterus in the Cavity of the Abdomen, as it ſometimes happens, you are immediately to extract it, together with the Secundines. If it be ſituated in the Fallopian Tube, or in the Ovary, an Inciſion is to be cautiouſly made in theſe Parts, and the Fœtus, with the Placenta, to be extracted thence. If the Fœtus be detain'd in the Womb, the Caſe is more hazardous, for fear of an immoderate Hæmorrhage, or dangerouſly hurting the Uterus, the Wounds of which Part have, from all Antiquity, been obſerv'd to be very pernicious, eſpecially in pregnant Women. However, ſince the Child cannot be otherwiſe extracted, an Inciſion is here alſo to be made, and afterwards in the Membranes of the Fœtus, wide enough for accompliſhing the Extraction. This done, and the Fœtus and Secundines being brought away, the extravaſated Blood in the Belly is to be deterg'd with Sponges expreſſed out of warm Wine, or ſome warm vulnerary Decoction; and if the Effuſion of Blood be immoderate, it ſhould be reſtrain'd by Lint moiſten'd with highly rectify'd Spirit of Wine, and introduc'd into the Wound of the Uterus; and the divided Orifices of the larger uterine Veſſels are to be compreſſed with the Fingers upon Lint, till the Hæmorrhage ceaſes, or, at leaſt, is very much abated. We have here Occaſion to take Notice, that Women, in Child-birth, and after it, often loſe a vaſt Quantity of Blood without Danger of Death; and, therefore, the Surgeon ought not, on a ſudden, to be terrify'd at a pretty copious Hæmorrhage on this Occaſion, eſpecially if his Patient continues to preſerve her Strength and Spirits. After ſome reaſonable Space of Time allow'd for the Woman to recollect her Spirits, and to be refreſh'd with ſome corroborative Medicine, the Lint is to be gently remov'd from the Wound, and the Belly again deterg'd with warm Sponges. The Wounds of the internal Parts are not to be ſew'd, as ſome heretofore directed; but, after an Application of Balſam of Capivi, or ſomething like it, are to be left to Nature; for, as the Uterus gradually contracts itſelf, the Lips of the Wound come together, and, at laſt, if nothing intervene to prevent the Cure, are conglutinated.

But the Wound in the Belly is to be ſew'd up with two or three Sutures, in the ſame manner as has been directed for Wounds of the Abdomen (See ABDOMEN); and a Tent, Pipe, or Canula, of conſiderable Bigneſs, is to be adapted to the lower Part of the Wound, in order to keep it open; for thro' this Aperture not only the noxious Humours, diſcharg'd from the Wound in the Uterus, and remaining within, and thoſe which continue to diſcharge themſelves, may find a Vent, but by the Help of Injections, as is practis'd in other Wounds of the Breaſt and Abdomen, they may alſo be brought away. And this Method muſt be continu'd till the Lips of the Wound are conglutinated, and all Efflux of Pus, or any other Humour from the external Wound, ceaſes; an Indication that the internal Wound is heal'd. After the Threads us'd in the Suture are cut and extracted, omitting the Tent or the Pipe, the exterior Wound is alſo gradually conglutinated by vulnerary Balſams, and agglutinating Plaiſters. Moſt, indeed, adviſe ſewing the Wound of the Belly; but, after conſidering the Matter with myſelf, and obſerving that other ſtrait, or, as they are commonly call'd, longitudinal Wounds of the Abdomen, for the moſt part, need no Suture, and, by the more modern Surgeons, are excepted from thoſe which are to be ſew'd, ſince their Lips may, for the moſt part, be commodiouſly join'd, and retain'd in Contact, by proper Plaiſters, and a large uniting Bandage, I am of Opinion, that, in theſe Caſes, we do not often ſtand in need of Suture, if proper Bandage is carefully apply'd. *Rouſſet*, taught by Experience, declares that, in this Caſe, he did not think Suture very neceſſary: But, if Bandage ſhould be thought abſolutely inſufficient for the Purpoſe, then Suture is to be us'd. Some, before the Section is made, mark with Ink not only the Part where it ſhould be made, but alſo where, and in what Places, Suture ſhould be perform'd; but, as theſe Marks are quickly obliterated, and effac'd by the Effuſion of Blood, I think this Advice altogether trifling and uſeleſs. As for the Situation of the Patient in Bed after the Operation, moſt Authors adviſe, that ſhe ſhould lie continually on her Back; but, to me, it appears more proper, eſpecially if the Wound has been made on the Side, that the Patient ſhould, as much as poſſible, lie with the Wound undermoſt, that ſome Part of the noxious Humours collected within may not only flow continually, and, as it were, inſenſibly ouſe from the external Wound, but alſo that the Lips of the Wound may be the more eaſily agglutinated; which Advantage is more eaſily procur'd when the Section is made in the Side, than when the Operation is perform'd in the middle or anterior Part of the Belly. *Rouſſet* alſo adviſes, that a hollow Peſſary ſhould be introduc'd into the Uterus, that the Blood may be the more eaſily convey'd from it. Beſides, the Phyſician muſt preſcribe a proper Regimen, and ſuitable internal Medicines, ſuch as are, on other Occaſions, order'd for thoſe who have receiv'd large Wounds; and theſe are to be perſiſted in, till the Patient is thoroughly recover'd, which, in *Lanciſi*'s Patient, happen'd in ſix Weeks.

From what has been ſaid, 'tis obvious to every one, that this Operation, eſpecially when a very large Aperture is made in the Uterus, muſt be attended with the greateſt Danger. But ſince there are many Inſtances of Mothers being preſerv'd by this Operation, who muſt have otherwiſe died very ſoon according to all Appearance, and ſince there is often no better, and indeed no other, Method of relieving the miſerable Woman, I think it adviſeable, rather to attempt this hazardous Operation in Caſes where all other Hopes of Relief are cut off, than to abandon the miſerable Patient, and leave thoſe to the gloomy Proſpect of unavoidable Death, who are often ſo fond of Life, as to ſubmit to the moſt cruel Meaſures for preſerving it.

Enough I think has already been ſaid concerning the common and ordinary Method of extracting the Fœtus from the Uterus. But as certain Caſes now-and-then occur, in which the Operation is to be otherwiſe perform'd, theſe alſo deſerve our Conſideration. When, for Inſtance, the Fœtus can neither be born in the natural manner, nor extracted from the Uterus, there appears any Tumor or Abſceſs in ſome Part of the Belly, eſpecially about the Navel, accompanied with Pains more or leſs acute, as happen'd in the Caſes mention'd by *Rouſſet*, *Bauhine*, *Hildanus* from *Albucaſis*, *Alexander Benedictus*, and others; as alſo in the Inſtance recorded by *Cyprianus*, that celebrated *Dutch* Phyſician, in *Epiſt. de Hernia uterina*; and in the Caſe deſcrib'd in the Annals of the *Julian* Academy, for the Year 1727; in which a Tumor and Abſceſs appear'd in the Muſculus Rectus, hard by the Navel, as happen'd in moſt of the forementioned'd Caſes; and, upon opening the Tumor, all the Bones of a perfect, but putrified Fœtus were extracted. Theſe Bones are in my Cuſtody, and the Mother is ſtill alive.

In Caſes of this Nature, I think the moſt proper Place fo performing the Operation, is that which is indicated and pointe out by Nature itſelf; ſince under it, for the moſt part, ar lodg'd both the Fœtus, and the corrupted Humours, whic create ſuch intolerable Pains to the miſerable Mother. I then, ſuch an Abſceſs ſhould be already broken, as ſometim happens, and if the Aperture in it ſhould be too ſmall, it is, a in other Abſceſſes, to be ſufficiently inlarg'd, either with groov'd Probe, and proper Knife; or, inſtead of the Prob with the Finger and Knife, or with Sciſſars, or with that Kni delineated in *Tab.* 26. *Fig.* 3.

Then the Bones of the Fœtus left after the Putrefaction the ſoft Parts, or whatever of a corrupted Nature is foun in it, are to be extracted, either with the Fingers, or with Pair of Forceps; the vitiated Humors are to be evacuated, t Ulcer is to be deterg'd by proper Medicines, and then co glutinated by ſuch Balſamics as are in like Caſes directed ſkilful Surgeons. If there is as yet no Aperture in ſuch a T mor of the Belly, but if Pains, and other bad Symptoms in a about it afflict and weaken the Patient; and eſpecially if to t Touch there appears to be Pus in the Tumor as in Abſceſ leſt the Patient ſhould ſuffer thereby, we muſt, after co ſulting with other ſkilful Practitioners, make a ſufficiently la Inciſion in the Abſceſs or Tumor, extract the Fœtus, or Bones, if the Fleſh be putrified, diſlodge every thing of a c rupted Nature, deterge the Ulcer, and agglutinate it in

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manner already directed. In the above-mention'd Caſes, there was no Occaſion for Suture, but the Wounds gradually united and healed in the ſame manner other Abſceſſes do.

If the Fœtus ſhould be lodg'd in a certain uterine Hernia, which rarely happens, tho' it occurr'd in the Caſe related by *Sennertus* and *Hildanus*; a ſufficiently large Inciſion is to be made in the Hernia or Tumor itſelf, firſt thro' the Integuments, then thro' the Uterus, and, laſt of all, thro' the Membranes of the Fœtus. Then the Fœtus is to be extracted, and the Secundines are to be taken from the Uterus, which is to be replac'd in the Belly, either immediately, if it can be done, or a few Days after, when it becomes leſs by its Contraction. The other Steps to be taken are the ſame with thoſe already directed. In the Caſe related by *Sennertus* and *Hildanus*, the Surgeon did not replace the Uterus, but immediately ſtitch'd up the Skin: Hence I believe it happen'd, that the Uterus could not afterwards be replac'd, but the Mother died a Month after, tho' the Fœtus was alive and ſound. It had therefore been better to have omitted the Suture, and replac'd the Uterus in the Belly ſome Days after, when it had become leſs by Contraction; for by this means the Mother might have poſſibly been ſav'd.

If Pieces of Bones belonging to a corrupted Fœtus ſeek a Paſſage by the *Inteſtinum Rectum*, and *Anus*, which they ſometimes do, as is evident, not only from the Caſes already mention'd, but alſo from one which happen'd a few Years ago in a neighbouring Village; upon ſuch an Emergency, the Splinters which come not away ſpontaneouſly are to be extracted cautiouſly, either with a proper Hook or Forceps; and the Wound of the *Inteſtinum Rectum* is afterwards to be agglutinated with Balſamics. But theſe are Circumſtances which do not properly belong to the *Cæſarean* Section. But if Caſes of this Nature ſhould occur, I adviſe the Surgeon to read and compare what has been advanc'd upon this Subject, by the above-quoted Authors, that he may at once be appris'd of the Variety of Caſes of this kind, and qualified for treating them with the greater Skill and Judgment.

In the third Place, the *Cæſarean* Section is to be perform'd when the Mother and Fœtus are ſtill alive, but at the ſame time the Fœtus, on account of ſome Impediments, can neither be born in the ordinary Manner, nor extracted, eſpecially when a bad Conformation of Parts in the Mother prevents the Introduction of the Surgeon's Hand for her Relief. In this deplorable State of Things, both Mother and Fœtus muſt unavoidably periſh, unleſs reliev'd by the Operation. Tho' in Caſes of this Kind, many Phyſicians and Surgeons are too timorous, tho' many Women from a falſe Principle of Compaſſion, or miſtaken Notions of Religion, condemn the Operation in theſe Circumſtances as impious, tho' by it the Fœtus, or the Mother, and often both, might be preſerv'd; yet I think it more prudent, and more agreeable to the Precepts of Chriſtianity, to undertake the Operation, where no other Means of Relief can be found, than to deſtroy both Mother and Fœtus, for want of it; eſpecially on Queens and Princeſſes, where the Peace and Safety of Kingdoms and Nations depend on the Production of a Succeſſor, without which there would be an unavoidable Foundation laid for the moſt cruel Wars, Devaſtations of Cities, Robberies, Murder, and the Subverſion of States; for, by this Operation ſeaſonably undertaken, either the Mother, or the Fœtus, or both, but moſt frequently the Fœtus, is preſerv'd. The Lives of a great Number of Soldiers are often expoſed in the Field of Battle for the Good of the State, without any Heſitation or Reſerve; and, if Circumſtances require it, why ſhould not the Life of one Woman be riſqu'd for the ſame End? If therefore we think juſtly on the Point, we ſhall have Reaſon to condemn as cruel, barbarous, and inhuman, thoſe very Phyſicians and Surgeons, who thro' miſtaken Views either delay the Operation, or diſſuade from it; eſpecially when the Women themſelves deſire it ſhould be perform'd.

Mauriceau, tho' a ſkilful Man-midwife, and an inveterate Enemy to the *Cæſarean* Section, yet gives an Inſtance of the Fœtus being preſerv'd alive by it, tho' the Mother died; whereas, without it, both Mother and Child had unavoidably periſh'd; for, upon the Principles of common Senſe, it is far more eligible to ſave one, than to deſtroy both. The Operation is to be perform'd in the ſame manner, as when the Mother is alive, and the Fœtus dead; only greater Caution is to be uſed, leſt, in opening the Uterus and Membranes, the Fœtus ſhould be hurt or injur'd.

But, tho' I have only perform'd this Operation on dead Women, yet I am ſo fully appriſed of the Danger that attends it, that I am far from adviſing it in Caſes where there is the leaſt Probability of bringing the Fœtus away by the natural Paſſages. *Mauriceau*, and others, ſeem to think, that ſome Phyſicians adviſe the *Cæſarean* Section, where the Fœtus can be extracted thro' the common Paſſage; and, ſo far as I can underſtand, they ſeem to believe, that ſome Phyſicians prefer this Operation to the other gentle and natural Method. But it is ſcarce credible, that a prudent Phyſician or Surgeon ſhould either adviſe, or actually perform, the *Cæſarean* Section, which is ſo dangerous on a live Woman, when there is a Poſſibility of extracting the Fœtus thro' the Vagina, tho' it ſhould only be brought away in Pieces, except in ſome particular Caſes upon Queens or Princeſſes, where Intereſts of State, and the manifeſt Good of the Community, require it. Whenever it happens then, that the Fœtus, either on account of its unnatural Situation in the Womb, its exceſſive Bulk, eſpecially that of the Head, the monſtrous Conformation of its Body, or ſome other Cauſe, cannot be born, tho' at the ſame time it is contain'd in the Uterus, and when there is an evident Danger of the Mother's Death, as well as that of the Fœtus, in conſequence of her Strength being exhauſted; if on ſuch Occaſions there ſhould ariſe a Diſpute, whether, in order to preſerve the Fœtus, the Operation ſhould be perform'd on the Mother, or whether the Fœtus ought not rather to be extracted with Inſtruments, if it cannot otherwiſe be done; I think the Mother is to be preſerv'd, and the Fœtus, even tho' alive, to be extracted by any Means. In this Sentiment I am ſupported by the Judgments of many Phyſicians, Surgeons, and Divines, who, in Caſes of difficult Births, where 'tis impoſſible to ſave both Mother and Fœtus, lay it down as a Maxim, that the Life of the Mother is to be preferr'd to that of the Child; or, as they expreſs it, the Tree before the Branch. I am alſo of Opinion with *Solingen* and *la Motte*, that if a Callus of the Vagina, or Mouth of the Womb, be the Cauſe why the Fœtus cannot be brought away, and if theſe Parts can be ſufficiently dilated, either by Section or Dilaceration, that this latter Method ſhould be prefer'd to the *Cæſarean* Section; becauſe by this Method the Belly and the Uterus itſelf are left entire, and the Blood diſcharg'd flows all thro' the Vagina, but in the other Caſe is thrown into the Abdomen, and conſiderably endangers Life. Beſides other Advantages attending this Method, the Wound is alſo more eaſily agglutinated in it than in the other. I alſo think, that when the Vagina is ſhut up by the Hymen, or any other Membrane, theſe are to be cut rather than the Belly and Uterus: But when the Vagina is cover'd with too large and hard a Callus to admit of a ſufficient Dilatation, and eſpecially where there is an originally bad Conformation of the Bones of the Pelvis, then the *Cæſarean* Section is to be had recourſe to as the only Method of Relief.

In like manner, if, by the Pains and Efforts made during Labour, the Uterus ſhould be broken, and the Fœtus ſlip into the Cavity of the Belly, as ſometimes happens, the Belly is in this Caſe to be laid open, ſince without ſuch an Operation the Fœtus could not be extracted, and conſequently neither it nor the Mother preſerv'd. It may be known by the following Signs, when this happens to be the Caſe: If violent Pains, by which the Child is not forc'd into the World, are remitted, or ceaſe all of a ſudden, the Mouth of the Uterus in the mean time not being open, or at leaſt not ſufficiently open for the Purpoſe; a Circumſtance which denotes the preternatural Situation of the Child; if a certain Rupture or Fragor is perceiv'd in the Belly; if a Shivering ſucceeds; if a large Tumor afterwards appears, and the Fœtus is perceiv'd to be ſituated higher in the Belly than before; if the Parts or Members of the Fœtus are more diſtinctly felt than when it was in the Uterus, eſpecially if it is felt in either of the Hypochondria, with Pains in another Part of the Belly than before; as alſo, if the Patient is ſeiz'd with fainting Fits, convulſive Motions, or perhaps Alienation of Mind. When theſe Symptoms attend a difficult Birth, when no Part of the Fœtus appears externally, and when, upon paſſing the Finger thro' the Vagina, it is not found to preſs ſo ſtrongly on the Mouth of the Uterus, we may conclude, that the Uterus is burſt, and the Fœtus ſlipt into the Cavity of the Abdomen. If this ſhould happen to be the Caſe, the Belly of the Mother is to be open'd in the moſt prominent Part, where the Child is found to be lodg'd, with a View to ſave the Lives, if not of both, yet at leaſt of the Fœtus. When the Arm hangs out of the Rupture of the Uterus, 'tis a bad Symptom, and a Cure is in this Caſe very difficult, if not impoſſible; however, we muſt prognoſticate from the concomitant Symptoms. I am ſurpris'd, that the Phyſicians and Surgeons belonging to the *Straſburg* Hoſpital, in which a Patient had been in Labour for five Days, and whoſe Caſe is recorded by *Piſtor*, ſhould have delay'd laying her open, ſince even during her Life they had the moſt manifeſt and inconteſtable Proofs, that the Uterus was burſt; or, if they were afraid to perform the Operation on a live Woman, why did they not lay open her Belly after her Death, in order, if poſſible, to ſave the Life of the Fœtus? The Caſe of *Saviard* is alſo worthy of our Attention, when in the *Hôtel Dieu* the Fœtus, in conſequence of a Rupture of the Uterus, had fallen into the Abdomen, the Secundines in the mean time hanging out of the Vagina. This he knew to be the Caſe, as he himſelf informs us, by introducing his Hand into the Uterus by the Navel-ſtring. Notwithſtanding theſe Circumſtances, he did not open the Woman alive, in order to ſave the Child, and perhaps the Mother too, but ſuffer'd them to die together.

If the Fœtus ſhould happen to be generated in the Cavity of the Belly, and not in the Uterus, (a rare Caſe) which may be known from the preceding general Signs of Pregnancy, from the Fœtus being ſituated higher in the Belly than is uſual, and from the Mouth of the Uterus being cloſed at the expected Time of Delivery, even when there are Pains, and ſome other Symptoms already mentioned; in this Caſe the Cæſarean Section ought to be performed, becauſe the Fœtus cannot otherwiſe be preſerved; and, beſides, the Mother is in leſs imminent Danger, becauſe there is no Neceſſity for making an Inciſion in the Uterus. Sometimes, in difficult Labours, the Uterus is burſt in ſuch a manner, that not the whole Fœtus, but only ſome Part of it, falls into the Abdomen, the reſt remaining in the Uterus. The Arm, for Inſtance, may hang out of the Vagina, whilſt the Head or Feet are fallen through the Rupture of the Uterus into the Cavity of the Abdomen; in this Caſe the Cæſarean Section is not neceſſary. Thus I myſelf found the Arms of a Fœtus out of the Uterus, whilſt the Head was in the Abdomen, and the reſt of the Body in the Uterus. *Albinus* and *La Motte* ſaw a Caſe, in which the Head of the Fœtus was duly lodg'd in the Vagina, whilſt its Feet had perforated the Uterus, and ſtuck in the Belly near the Diaphragm. Another Caſe they make mention of, where the Arm was hanging out of the Vagina, whilſt the Feet were in the Abdomen. In both Caſes the Patients were exceſſively weak. *La Motte* brought away the Fœtuſes in the natural manner; but both Mothers died a few Days after. But an Inſtance directly oppoſite to theſe was told me by *Rungius*, a Surgeon of *Bremen*, in which, after having brought away the Fœtus, though, through the Rupture of the Uterus, he plainly felt the Inteſtines of the Patient, and with his Hand kept them for ſome time from ruſhing into the Uterus till it contracted itſelf, yet the Patient happily recover'd.

But I muſt not forget to make mention of the Difference between *Hyſterotomy*, and what is commonly called *Embryulcia*; or between extracting the Fœtus, eſpecially if unnaturally ſituated, from the Uterus, through the natural Paſſage, and cutting it out, by making an Inciſion in the Belly and Uterus; becauſe often by the Vulgar, and even, which is more ſurpriſing, by ſome of the Learned, as alſo by Phyſicians themſelves, theſe two Operations are confounded, and taken for each other, tho' nothing can be more different; for when the Fœtus is extracted from any Woman, nothing is more ordinary than to ſay, that her Child has been cut from her, though there was no manner of Section made, either on the Belly or the Uterus; but only the Child, on account of its unnatural Poſition, or its exceſſive Bulk, has been brought away by the Vagina, either by the Hands of the Surgeon, or ſome proper Inſtruments. This Operation, therefore, by which the Fœtus is extracted through the natural Paſſage, is called *Embryulcia*; but that whereby it is cut from the Belly *Hyſterotomy*, or the *Cæſarean Section*. And if in this Senſe *Embryulcia*, or the Extraction of the Fœtus through the natural Paſſage, is falſly taken for *Hyſterotomy*, it is, perhaps, in ſome meaſure, true, which is advanced by *Scipio Mercurius*, "That Exſection of the Fœtus was, in his "Time, as cuſtomary in *France*, as Veneſection in *Italy* for "Head-achs." Thus, when I was lately peruſing the Obſervations of *Franciſcus Valleriola*, I found one, concerning Mothers, who were happily cured, and lived after the Fœtus had been cut from them by the Hand of the Surgeon. I expected to find many remarkable Inſtances of the Cæſarean Section being happily and ſucceſsfully performed, and perhaps a particular Method of performing it, not mentioned by others. But after I had run over the whole Obſervation, I found, indeed, ſeveral Caſes where the Fœtus had been extracted by Hooks, or the Hand of the Surgeon; but not a ſingle Inſtance of the true Cæſarean Section being once performed. So that 'tis plain, that not only the Vulgar, but alſo learned Men and Phyſicians, have often miſtaken one of theſe Operations for the other, as did alſo *C. Baubine*, though they differ very widely from each other. But by this unjuſt and unaccurate Way of ſpeaking, a falſe Horror is often excited in Patients, as if the Belly was to be laid open, ſo ſoon as the Surgeon applies his Hand, in order to aſſiſt in a difficult Birth, though he ſometimes performs his Buſineſs, without creating much Pain to the Patient.

As the monſtrous Fœtuſes, with two Heads, or two Bodies, cannot, for the moſt part, be born entire, without performing the Cæſarean Section on their Mothers, 'tis diſputed whether, for their ſakes, the Cæſarean Operation ought to be performed, and the Life of the Mother thereby expoſed to imminent Danger; or whether the Fœtus, if it cannot be had entire, ought not rather to be cut in Pieces, and brought away piece-meal, through the natural Paſſages. In this Caſe, becauſe theſe Monſters are either not alive, or, for the moſt part, horrid and uſeleſs Loads and Incumbrances to the Earth, I think the Mother is to be ſpared, and the monſtrous Fœtus to be extracted by Inſtruments of whatever Kind. *Melli*, a late *Italian* Writer, condemns the Cæſarean Section on a living Mother; and not ſufficiently viewing the ſeveral Reaſons that may induce to this Operation, he inconſiderately aſks, whether, for the ſake of a Monſter, the Life of the Mother ought to be expoſed to the greateſt Danger; but for this very Reaſon he juſtly adviſes, that the Monſter ſhould be brought away by any means, thro' the natural Paſſage. But ſince there are other Caſes which require this Operation, where the Fœtus cannot be brought away through the natural Paſſages, I think it cannot, with a ſafe Conſcience, be neglected, as I have already ſhewn.

If the Head of the Fœtus, either by its own Largeneſs, or the Narrowneſs of the natural Paſſage, ſticks in the internal Mouth of the Uterus, or in the Vagina; if from its long Continuance there the Fœtus dies, which generally happens in three Days, though it ſometimes lives longer; and, in conſequence of this Accident, the Lives both of the Mother and Fœtus are expoſed to imminent Danger, becauſe the Hand of the Surgeon can neither be introduced to alter the Poſition, nor the Fœtus expel'd; this is juſtly look'd upon as the moſt difficult and important Caſe in Midwifery. As the Head of the Fœtus cannot be held, in conſequence of its Slipperineſs, and the Narrowneſs of the Paſſage, as the Hand cannot be introduced to alter its Poſition in the Uterus, and as no Inſtrument can lay hold of it without killing the Fœtus, it is by ſome made a Queſtion, whether the Cæſarean Section ought to be performed, in order to preſerve the Fœtus; for unleſs the Child is quickly relieved from this Impriſonment, it muſt not only die very ſoon, but the Life of the Mother muſt be expoſed to certain Danger; ſo that with *La Motte*, and *Sigiſmunda*, I muſt own this to be at once the moſt deplorable and intricate Caſe that can poſſibly occur to a Surgeon. 'Tis the Opinion of moſt of the abovementioned Authors, that neither the Cæſarean Section ought to be performed, nor the Child diſmember'd, whilſt either Mother or Fœtus are alive; but, with the ſuperſtitious Caſuiſts of the *Roman* Church, they are for allowing both to periſh, rather than for preſerving one at the Expence of the other. In this Caſe they abſolutely condemn the Cæſarean Section, notwithſtanding the many Inſtances recorded of both Mother and Fœtus ſurviving the Operation, which, we are told, by *Roonhuys*, was performed ſeven times by *Sonnius*, a Phyſician at *Bruges*, upon his own Wife, and both Mother and Fœtus were preſerved each time. The celebrated *Olaus Rudbeck* is alſo ſaid to have performed the Operation with Succeſs on his own Wife, the Fœtus alſo ſurviving. *Heiſter's Surgery.*

In the Caſe laſt-mentioned, there is no Poſſibility of a Neceſſity for the Cæſarean Section. The Methods of extracting the Fœtus under theſe Circumſtances are ſpecify'd in the proper Place.

Heiſter proceeds to inform us, that, in his Opinion, it is both prudent and lawful to bring the Fœtus away, in order to ſave the Mother's Life, though it ſhould not be really dead. It, however, requires great Judgment to determine when this is to be attempted, and when not; though, to ſpeak Truth, there ſeldom can be any Neceſſity of deſtroying the Child in this Situation.

There is ſomething extremely ridiculous, in the Advice given by ſeveral Medicinal Authors, of the Catholic Religion, as well as Divines, which is, to baptize the Child in the Womb, by the Help of a Syringe, when any Danger is apprehended of its dying in the Birth; as if it was worth while to keep the Mother in Torture a ſingle Inſtant, for fear the Supreme Being ſhould puniſh the Child for the Omiſſion or Crime committed by the Midwife, whether Phyſician, or old Woman. With whatever good Intent ſuch Fooleries were originally introduced, I am afraid, that the Intereſts both of Religion and Phyſic are not much promoted by them.

CÆSIUS. A Colour frequently apply'd by Medicinal Authors to the Eyes, and to the Excrements, as the Urine. It is the ſame as GLAUCUS, which ſee.

CAFA, CAF, CAFAR. Camphire. *Rulandus. Johnſon.*

CAFFE. See COFFEE. *Caffe* ſeems to be the right Word; but as *Coffee* is more in Uſe amongſt us, I chuſe to refer this Article thither.

CAGASTRUM. A Term uſed by *Paracelſus* to ſignify the morbific Seed, which is not innate or hereditary, but adventitious from Corruption; and, upon that Account, diſtinguiſhed from the *Iliaſtrum*. Diſeaſes from the *Cagaſtrum* are the Pleuriſy, Peſtilence, Fever, and the like. *Paracelſus Labyrinth. Med.*

CAHOS. A Term in *Paracelſus*, by which he intends not only the univerſal Maſs, or *Chaos*, but the Air, and the *Iliaſtrum. Johnſon.* See ILIADUS.

CAJACIA. The ſame as CAACICA, which ſee.

CAJAHABA. An *Indian* Plant, which adheres to Trees like Ivy. The Natives bruiſe it, and bind it upon Fractures. *Raii Hiſt. Plant.*

CAJAN *Arbor Indica, foliis trifolii bituminoſi, ſiliquis orobi*, Breyn. Prod. *Phaſeolus Arbor Indica incana, ſiliquis toroſis, Kayan dicta Thora Paerou*, H. M. *Piſum arboreſcens quibuſdam.*

It is a ſhrubby Plant, bearing Pods which contain four reddiſh Peas, which are good to eat. An Apozem of the Leaves reſtrains the immoderate Flux of the Hæmorrhoids. The Leaves bruiſed with Pepper cleanſe the Gums, and eaſe the Tooth-ach. The Seeds boiled in the Waſhings of Rice, and made into a Liniment with Butter, are a Relief to painful Laſſitudes of the Joints; and they prepare of the ſame a wholſome Liquor againſt the Small-pox. *Raii Hiſt. Plant.*

CAJEPUTI OLEUM. An aromatic Oil, imported from the *Eaſt-Indies* into ſome Parts of *Europe*. It is mentioned by *Hoffman* in his *Obſervationes Phyſico-chymicæ*, *L.* 1. *Obſ.* 4. But he does not tell us from what Plant it is procur'd.

CAINITO, [this is the *American* Name by which the *Indians* called this Tree, according to *Oviedo*] Star-Apple, *vulgo*. It hath an open Bell-ſhap'd Flower, conſiſting of one Leaf, and cut into ſeveral Segments towards the Top, from whoſe Cup ariſes a Pointal, which afterwards becomes a globular or Olive-ſhaped, ſoft, fleſhy Fruit, incloſing a Stone of the ſame Shape. *Miller* reckons but two Species of this Tree, which are the Star-apple *vulgo*, and the *Cainito* with Olive-ſhaped Fruit. I find no medicinal Virtues aſcribed to it.

CAJOUS. See ACAJAIBA.

CAIRION, *καίριον*, in *Hippocrates*, ſignifies mortal, or very dangerous. Thus *Lib. de Art.* καίριοι πληγαὶ αἱ κροταφίτιδες, "Wounds in the Temples are very dangerous, or "deadly." The Word is uſed in the ſame Senſe by *Homer*, as *Iliad* θ', (Verſe 84. and 326.) μάλιστα δὲ καίριόν ἐστι, "is "moſt mortal." He ſpeaks of the Top of a Horſe's Head, where a Wound is moſt dangerous or deadly.

CAIROS, *καιρὸς*, in the ſame Author, ſignifies the Seaſon and Opportunity for doing a thing; as *Aph.* 1. *Lib.* 1. καιρὸς ὀξὺς, "Opportunity is fleeting;" and the ſame Senſe it bears in many other Places.

Καιροὶ alſo ſignifies the proper Seaſons and Opportunities for taking of Remedies; as καιροὺς μὲν τοιούσδε ἔχει, "the proper "Seaſons for uſing it are as follow;" where *Galen*, on the Place, ſays, τοὺς καιροὺς ἤτοι, *&c.* "He (*Hippocrates*) ſpeaks "of the proper Seaſons of Uſe, according to Cuſtom, or the "proper Seaſons for receiving Benefit; for in this latter Senſe "he ſometimes uſes the Word καιρὸς, as I have ſhewn." Sometimes καιρὸς means the ſame as τὸ προσῆκον, "conve"nient." Thus, *Lib. de Rat. Vict. in Morb. acut.* ἔστι δὲ ὅτε κατακορεστέρων μᾶλλον τοῦ καιροῦ καὶ ἀφρωδεστέρων, "ſometimes "they (the Excrements) are deeper ting'd, and more frothy, "than is convenient, or than might be ſuſpected." So alſo in another Place of the ſame, where *Galen* obſerves, that μᾶλλον τοῦ καιροῦ is put ἀντὶ τοῦ μᾶλλον προσήκοντος, "inſtead of more than convenient."

Καιροὶ alſo ſignify the Times or Stages of Diſeaſes, univerſal and particular, the different Ages of human Life, and the Seaſons of the Year.

CAKILE. A Name for the ERUCA MARINA, which ſee.

CAL. Yellow Arſenic; alſo Vinegar. *Rulandus. Johnſon.*

CALABA, *Indian* Maſtich-tree.

It has a roſaceous Flower, conſiſting of ſeveral Petals, which are placed in a circular Order, from whoſe Flower-cup ariſes the Pointal, which afterwards becomes a ſpherical, fleſhy Fruit, including a Nut of the ſame Form.

This Tree grows to a great Magnitude in the warm Parts of *America*, where it is a Native. From the Trunk and Branches iſſues out a clear Gum, ſomewhat like Maſtich, from whence it received its Name, the Gum being uſed in thoſe Countries as Maſtich.

CALAE, *Calaëm*, *Calaëmum*. A kind of *Indian* Tin, which being ſubjected to the Fire, is tranſmutated into a kind of Ceruſs, ſuch as is made of Lead and *European* Tin.

CALAF. See CALLAF.

CALAMAGROSTIS, CALAMOGROSTIS, from λαμος, a Reed, and ἄγρωστις, Agroſtis. A reedy kind of Graſs. *Blancard.* See ARUNDO.

CALAMBAC. A Name for the Lignum AGALLOCHUM, hich ſee.

CALAMBOUR. See AGALLOCHUM.

CALAMEDON, καλαμηδὸν, from κάλαμος, a Reed. A pecies of Fracture, which runs along the Bone in a Right ine, but is lunated at the Extremity. It is otherwiſe called ς ὄνυχα.

CALAMINA. Lapis Calaminaris. *Johnſon.*

CALAMINARIS (*Lapis*). See CADMIA.

CALAMINTHA.

Calamintha montana, Offic. *Calamintha*, Chab. 417. *Camintha vulgaris*; Park. Theat. 36. Raii Hiſt. 1. 569. Synop. 243. *Calamintha vulgaris officinarum*, Ger. Emac. 687. er. Pin. 18. *Calamintha vulgaris vel officinarum Germaniæ*, B. Pin. 228. Tourn. Inſt. 194. Elem. Bot. 169. Boerh. d. A. 175. Rupp. Flor. Jen. 187. Volck. Flor. Nor. 75. *alamintha montana vulgaris*, Hiſt. Oxon. 3. 413. Merc. t. 1. 25. Phyt. Brit. 19. *Calamintha flore magno, vulgaris*, B. 3. 228. CALAMINT. *Dale.*

The Stalks of this *Calamint* grow to be a Foot high, hairy, and four-ſquare, having at each Joint two broad, ſomewhat roundiſh, Leaves, hairy, and a little indented about the Edges, ſcarce an Inch long, and about the ſame Breadth. The Flowers grow upon the upper Part of the Branches, on each Side the Stalks, but few in Number, ſeveral growing on one common Foot-ſtalk; beſides which, they have each a ſhorter of their own; they grow in long hairy Calyces, and are of a pale-purple Colour, labiated and galeated; and are ſucceeded each by four ſmall Seeds, lying at the Bottom of the Calyx. The Root is ſmall and fibrous. The Leaves and Flowers have a pleaſant aromatic Smell, ſomewhat like wild Mint. We have two Species of this *Calamint*, whereof one has Flowers almoſt as big as the other. They are both found together by Hedges, and Highway Sides, eſpecially in *Kent*; and flower in *June* and *July*.

This Plant is full of an aromatic, oily, volatile Salt. It is ſtomachic, diuretic, aperitive, and provokes the Menſes. It muſt be uſed after the manner of Tea. The Decoction of it, given in a Clyſter, aſſwages the Colic, reſolves œdematous Tumors, and ſtrengthens the Parts. *Martyn's Tournefort.*

This Herb probably has its Name from the two *Greek* Words καλὰ μίνθη, which ſignify *good Mint*; for the *Calamintha vulgaris*, or *common Calamint*, not only agrees with Mint in its Virtues, but alſo reſembles it pretty much in Smell. *Calamint* is an aromatic Herb, which, by the grateful Fragrance of its Effluvia, rouſes the Spirits, and gently warms the Nerves of him who ſmells it. What grows in the Mountains has not only a more agreeable Smell, but is alſo thought more proper for medicinal Purpoſes, than what is produced elſewhere. The Antients extol'd it for its heating, alexipharmac, reſolvent, and diſcutient Qualities; and preſcrib'd not only the external, but alſo the internal, Uſe of it, aſſerting, that it kill'd Worms. It is an Ingredient in the *Theriaca*, and ſuch other Preparations, as go under the general Name of Antidotes. Internally, it is moſt properly uſed in Infuſions, in Caſes where a Stimulus is required. It is proper for phlegmatic Conſtitutions, and ſuch as are afflicted with Flatulencies; but it is principally conducive to the Relief of Women labouring under Obſtructions of the Uterus, a violent *Fluor albus*, or a catarrhous Diſorder of the Womb. According to *Etmuller*, it is ſo powerful a Provoker of the Menſes, that it even excites them in Women big with Child, and kills the Fœtus. It is alſo ſaid to expel the Lochia, Secundines, and Fœtus. It is an excellent and a mild Diuretic, cleanſes Ulcers of the Kidneys, and cures Diſcharges of bloody Urine. In Aſthmas and Orthopnœas, whether ariſing from a Defect of the Stomach, or Ulcers of the Lungs, it is of excellent Service, if boiled with Oxymel. But it ought not to be exhibited to ſuch as have no Occaſion for an additional Stimulus; for it acts by producing a Heat, which, though ſmall, is nevertheleſs often found prejudicial to the Aſthmatic, to ſuch as diſcharge a bloody Urine; nor will it always agree in Ulcerations of the Lungs. But where the languid and relaxed Fibres are to be ſtimulated, or the ſluggiſh Humours rouſed into a briſker Motion, *Calamint* will be found of ſingular Uſe and Importance; and, upon theſe Conſideratſons, it is juſtly rank'd among the ſeveral Claſſes of cordial, alexipharmac, ſtomachic, carminative, uterine, and emmenagogue Medicines; for this Reaſon 'tis alſo uſed in Clyſters, Cataplaſms, Fomentations, and ſuch Baths as are intended for the Purpoſes of Reſolution, Diſcuſſion, and provoking the Menſes. An Ounce, or an Ounce and an half, of the diſtil'd Water of *Calamint*, may be given for the ſame Intentions with the Herb itſelf; but 'tis rarely uſed, on account of its ungrateful Taſte. The *Syrupus de Calamintha* of *Meſue*, in the *Pharmac. Auguſt.* together with Calamint, conſiſts of other Aromatics, and Raiſins, with which, after they are boiled in Water, Honey is mixed. This Syrup, being of an aperient Quality, is recommended in Obſtructions of the Viſcera; and its Doſe may be an Ounce and an half. Beſides this Syrup, there are other two Preparations of *Calamint*, in *Meſue*. The *Species Diacalaminthæ*, of the *Brandenburg Diſp.* and of the *London Pharmacop.* are in the *Pharmac. Auguſt.* aſcribed to *Galen*; and in the *Pharmac. Antverp.* call'd *Diacalaminthum Galeni*. They are, indeed, Compoſitions, differing in the Proportions of their Ingredients, but agree in this, that they conſiſt almoſt of the ſame Aromatics, or at leaſt Aromatics of the ſame Virtues, pounded with Calamint, as are required for preparing the *Electuarium de Calamintha*; in which Caſe they receive an Addition of a ſufficient Quantity of Honey, or diſſolved Sugar. This Medicine is, by *Galen*, highly extol'd in many Paſſages of his Works, not only as ſerviceable to the Stomach and Inteſtines, but alſo as uſeful in provoking Urine and the Menſes; and curing chronical Diſeaſes, by correcting the Chyle, and conſequently purifying the Blood. But our Deſcriptions of this Medicine differ from that of *Galen*, the Copies of whoſe Works ſeem to be corrupted in this Particular, ſince they require an exceſſive Quantity of Pepper. I do not doubt, but the continued Uſe of this Medicine may be of ſome Service to old Men, and to phlegmatic and pituitous Conſtitutions. Theſe Species to me appear pretty much to reſemble the *Pulvis Ari compoſitus*. One Scruple may be given for a Doſe. *Schulz. Prælect.* What in

Lemery's Pharmacop. is call'd *Pulvis Diacalaminthes Nicolai Alexandrini* has a ſmaller Quantity of Pepper; for which Reaſon two Scruples of it may be given for a Doſe. The *Species Diacalaminthes Meſuæ*, in the *Pharmac. Auguſt.* by *Meſue* call'd *Diacalamintum Deſcriptione Galeni*, differs very little from thoſe above-mention'd.

There is another Species of Calamint call'd

CALAMINTHA MAGNO FLORE, Cod. Med. 24. Hiſt. Oxon. 3. 412. C. B. Pin. 229. Tourn. Inſt. 194. Elem. Bot. 165. Boerh. Ind. A. 175. *Calamintha montana præſtantior*, THE MORE EXCELLENT CALAMINT, Ger. 556. Emac. 687. THE GREATEST CALAMINT, OR MOUNTAIN-MINT, Park. Theat. 37. MOUNTAIN-CALAMINT, WITH A LARGE FLOWER, Raii Hiſt. 1. 569. *Calamintha montana, flore magno ex calyce longo*, J. B. 3. 229. *Calamintha montana, flore magno ex calyce magno*, Chab. 416. MOUNTAIN CALAMINT.

This Plant is of a ſweet and grateful Smell, and is cultivated in the Gardens of ſome, not only on this Account, but alſo becauſe this Sort is recommended for the *Theriaca*. In its other Virtues it agrees with the *Calamintha vulgaris*.

Another Species of Calamint is the

CALAMINTHA, Offic. *Calamintha odore Pulegii*, Ger. Emac. 687. Raii Hiſt. 1. 569. Synop. 3. 243. Mer. Pin. 18. *Calamintha flore minore, odore Pulegii*, J. B. 3. 229. Chab. 416. Hiſt. Oxon. 3. 413. *Calamintha altera, odore Pulegii, foliis maculoſis*, SPOTTED CALAMINT, Park. Theat. 36. *Calamintha Pulegii odore ſeu Nepeta*, C. B. Pin. 228. Tourn. Inſt. 194. Elem. Bot. 169. Boerh. Ind. A. 175. Rupp. Flor. Jen. 188. *Calamintha Pulegii odore, Nepeta vera Antiquorum*, Merc. Bot. 1. 25. Phyt. Brit. 19. FIELD CALAMINT.

This *Calamint* ſomewhat reſembles the *Calamintha montana*; but the Difference between them is, that the Branches of this Sort incline more to the Ground; the Leaves are ſmaller, and not ſo broad, but more triangular. The Flowers are much alike; and the Smell comes pretty near that of Penyroyal. It grows in the like Places with the *Calamintha montana*; but flowers rather later.

This agrees with the *Calamintha montana* in its Virtues, eſpecially as to the opening, deobſtruent Qualities, and they are uſed promiſcuouſly: But this Species being to be had in greater Plenty than the mountain Sort, the Apothecaries Shops are moſtly ſupplied with it. *Miller's Bot. Off.*

This Plant is of a more acrimonious Nature than the *Calamintha vulgaris*, or common Calamint. When bruiſed, and applied to any Part of the Body, it acts like a Veſicatory; for which Reaſon it is by ſome uſed for removing rheumatic Pains. Others boil the Plant in Water, and apply it, by way of Cataplaſm, for the ſame Purpoſe, in which Caſe it acts more mildly. This ſame Cataplaſm is of Uſe for reſolving Tumors, and preventing Anchyloſes.

CALAMINTHA PALUSTRIS, Offic. *Calamintha aquatica*, Ger. Emac. 684. Merc. Bot. 1. 25. Phyt. Brit. 18. Mer. Pin. 18. WATER CALAMINT, WITH WHORLED CORONETS, Raii Hiſt. 1. 530. *Calamintha arvenſis verticillata*, C. P. Pin. 229. *Calamintha arvenſis verticillata ſive aquatica Belgarum, Lobelio*, FIELD CALAMINT, WITH WHORLED CORONETS, Park. Theat. 36. *Mentha ſeu Calamintha aquatica*, Raii Synop. 3. 232. *Mentha arvenſis verticillata hirſuta*, J. B. 3. 217. Chab. 413. Hiſt. Oxon. 3. 369. Tourn. Inſt. 189. Boerh. Ind. A. 185. Dill. Cat. Giſſ. 145. Rupp. Flor. Jen. 185. Buxb. 213. *Mentha alba Officinarum*, Volck. Flo. Nor. 287. WATER CALAMINT.

Dale imagines this to be the *Polycnemon* (πολυκνήμων) of *Dioſcorides*.

This *Calamint*, or rather Water-mint, grows to be about a Foot high, or more; with ſquare and ſomewhat hairy Stalks, on which, at every Joint, are ſet two Leaves, oppoſite, on ſhort Foot-ſtalks, roundiſh, ſharp-pointed, larger and longer than the common *Calamint*, indented about the Edges. The Flowers grow in very thick Whorles, with the Leaves on the upper Part of the Stalks; they are labiated and galeated, being ſmall and purple. The Roots are ſmall, ſlender, and creeping. The whole Plant has a ſtrong Smell, like Water-mint. It grows in moiſt Places, and where Water has ſtagnated in Winter; and flowers in *June*.

As the Scent of this Plant comes near Penyroyal, or the ſecond *Calamint*, ſo it is concluded to partake of their Qualities. This is very rarely uſed. *Miller's Bot. Off.*

CALAMINTHA INCANA, *ocymi foliis*, B. *Calamintha folio & flore parvo, incana.* Hoary Calamint, with Leaves like Baſil.

This Species is poſſeſs'd of the ſame Virtues with the *Calamintha magno flore*, or Mountain Calamint, with a large Flower.

Tournefort calls the *Hedera terreſtris* by the Name of *Calamintha humilior, folio rotundiore.*

Some few other Calamints are taken Notice of by *Boerhaave*, as the

Calamintha Hiſpanica fruteſcens, mari folio, T. 194. *Satureia Hiſpanica fruteſcens, mari folio*, Elem. de Botan. H. R. D.

Calamintha montana prealta, Pulegii odore, dentatis foliis, floribus dilute cæruleis, ex longo ramoſo brachiato pedunculo prodeuntibus, Bocc. Muſ. 2. 45.

Calamintha prealta, pulegii odore, Ejuſd. T. 40.

Calamintha prealta, pulegii odore, Icon. *Altera ex Sabaudia.*

CALAMITA. An Appellation for the dry ſort of Styrax, to diſtinguiſh it from the liquid. See STYRAX.

CALAMITAS, ἀποτυχία, from ἀποτυγχάνω, to be diſappointed or unproſperous, ſignifies any calamitous or unfortunate Event. Thus the Word ἀποτυχία is uſed by *Galen*, *Comm. 2. in R. V. I. A.* and applied to the Effects of Cathartics; and *Calamitas* by *Scribonius Largus*, Nº. 231.

CALAMITIS, καλαμῖτις. An Appellation of that ſort of factitious *Cadmia*, which, by adhering to Iron Rods, acquires the Figure of a Reed; but the Word is uſed to expreſs either *Pompholyx*, or *Lapis Calaminaris*. *Agricola* alſo gives this Name to a marine ſtony Plant, from its Form.

CALAMOCHNUS. A Name for the ADARCES, which ſee.

CALAMUS. The Reed, of which the following Species are omitted under the Article ARUNDO.

ARUNDO FARCTA ATRO-RUBENS, Offic. *Arundo farcta maxima atro-rubens*, C. B. Pin. 17. Theat. 274. Raii Hiſt. 2. 1286. Hiſt. Oxon. 3. 220. *Arundo naſtos ſive farcta, craſſa & major*, J. B. 2. 487. *Arundo naſtos ſive farcta, craſſa & major, Calamus Toxicus Theophraſti*, Chab. 193. *Arundo farcta decima*, Park. Theat. 1210. *Naſtos Cluſii*, Ger. 34. Emac. 37. THE WALKING-CANE.

It is brought from *India* and *Syria*. *Dale.*

ARUNDO FARCTA FLAVA, Offic. C. B. Pin. 17. Theat. 277. Raii Hiſt. 2. 1277. Hiſt. Oxon. 3. 221. *Arundo farcta*, Ger. 33. Emac. 37. *Arundo farcta nona*, Park. Theat. 1210. *Arundo naſtos ſive farcta, ſeu toxica, & gracilis plicatilis*, J. B. 2. 487. *Arundo naſtos, ſeu farcta, ſive toxica gracilis & plicatilis Indica*, Chab. 193. THE DART-WEED.

It is brought from *Syria*. *Dale.*

ARUNDO FARCTA INDICA, Offic. *Arundo farcta India Orientalis ſanguinem Draconis manans*, Hiſt. Oxon. 3. 220. Raii Hiſt. 3. 615. THE DRAGON's-BLOOD CANE.

It grows in the *Eaſt-Indies*. The Juice of the Fruit is call'd DRAGON's-BLOOD IN DROPS.

The Method of making this ſort of Dragon's-blood is to macerate the Fruit in warm Water, till the red Matter ſubſides to the Bottom of the Veſſel; then the Water is either evaporated, or pour'd off, and the red Subſtance remains concreted in the Veſſel. Of this the *Chineſe* are ſaid to make an excellent Varniſh. *Dale.* See SANGUIS DRACONIS.

CALAMUS AROMATICUS. See ACORUS VERUS.

CALAMUS ASIATICUS. See ACORUS ASIATICUS.

CALAMUS ODORATUS, Offic. Κάλαμος, Dioſc. *Calamus Aromaticus*, Chab. 199. *Calamus Aromaticus verus quibuſdam*, J. B. 2. 528. *Calamus Aromaticus Syriacus*, C. B. Pin. 17. Theat. 255. *Calamus Aromaticus Matthioli*, MATTHIOLUS's AROMATICAL REED, Park. Theat. 138. *Arundo Syriaca aromatica, foliis ex adverſo ſitis*, Hiſt. Oxon. 3. 221. *Calamus odoratus*, Camel. Syllab. 22. AROMATIC REED. *Dale.*

Some imagine this to be the true *Calamus Aromaticus* of *Dioſcorides*, of which he gives the following Account.

It grows in *India*; and the beſt is of a tawny Colour, full o Joints, and, when broken, flies abroad into many thin Splinters, has its Cavity full of Cobwebs, is of a whitiſh Colour and, being chew'd, is of a viſcous, aſtringent, and ſomewha acrimonious Taſte.

Calamus Aromaticus, taken in a Potion, provokes Urine for which Reaſon, being boiled with Couch-graſs, or the Seed of Smallage, and the Decoction drank, it is good for the Dropſy, Diſorders of the Kidneys, the Strangury, and Ruptures Drank, or uſed as a Peſſary, it provokes the Menſes. Th Smoak thereof, either alone, or mix'd with Reſin of Turpentine, received into the Mouth through a Reed, cures a Coug The Decoction is uſed for Inſeſſions, and in Clyſters. Th *Calamus* is alſo an Ingredient in Malagmas; and ſerves to gi a Fragrancy to Suffumigations. *Dioſcorides, Lib. 1. Cap.* 17

The true *Calamus*, or rather the bitter *Calamus*, is a Re the Thickneſs of a Quill, of two or three Foot high, compoſed of Joints; from whence grow green Leaves, and lit Cluſters of yellow Flowers. This little Reed grows in ſeve Parts of the *Levant*, from whence it is brought, ſometim whole, but generally in ſmall Bags of about half a Foot lon Chuſe the largeſt which is freſh, cleanſed from the ſmall Ro and the Branches, and made up in Bags. It is of a brown Red without, and whitiſh within, furniſh'd with a white Pi which when it is ſtale, the ſaid Pith will turn yellow; a after the Reed is broke, and you put it into your Mouth, has an intolerable Bitterneſs. It is chiefly uſed for *Venice* Tr cle. *Pomet.*

CALANDRA, *Chalandra*, *κάλανδρα*. A large ſort of Lark, reckon'd among the moſt wholſome Foods. *Aldrovand. Ornith.*

CALATIÆ, from *Caleo*. Wanton and ſhameleſs Perſons. *Johnſon.*

CALAZIA. A precious Stone, with Spots like Hail. *Johnſon.*

CALBIANUM. The Name of a Plaiſter in *Myrepſus*, *Sect*. 10. *Cap*. 29.

CALCADINUM, *Calcatar*, *Colcotar*. Red Ink, Vitriol. *Rulandus.*

CALCADIS. White Vitriol, or, according to others, Sal Alcali. *Ruland. Johnſon.*

CALCANEUM.

The Calcaneum, or Os Calcis, is the largeſt Bone of the Foot, of which it makes the poſterior Part, and, in ſome meaſure, the Baſis. It is oblong, and very irregular, and may be divided into a Body, and two Apophyſes, one great and anterior, the other ſmall, lateral, and internal.

The Body of the Os Calcis has ſix Sides, one poſterior, one anterior, one ſuperior, one inferior, and two lateral.

The poſterior Side is broad, unequally convex, and, as it were, divided into two Portions; one ſuperior, ſmall, and poliſh'd; the other inferior, much larger, unequal, and rough, which, in Children, is an Epiphyſis, and may be named the Tuberoſity of the Os Calcis. The lower Part of it is bent downward, and terminates in two Tubercles, or obtuſe Points, which belong rather to the inferior than to the poſterior Side of the Bone.

The upper Side may be divided into two Parts, one poſterior and unequal, having a ſmall Depreſſion; the other anterior, convex, and cartilaginous, proportion'd to the great inferior Cavity of the *Aſtragalus*. This Side is turn'd obliquely forward, and by this Obliquity becomes Part of the fore Side, the remaining Part of which is loſt in the anterior Apophyſis.

The lower Side is narrow, and behind it lie the two Tubercles, of which the internal is the biggeſt. They both ſerve for the Inſertion of the Aponeuroſis in the Soal of the Foot, but principally the biggeſt.

The two lateral Sides are continued over the anterior Apophyſis. The external is gently convex and unequal, cover'd only by the common Integuments and Ligaments. The internal is hollow'd and depreſs'd.

The great or anterior Apophyſis lies in the ſame Direction with the Body, being a Continuation thereof. It has five Sides, or remarkable Parts; and, were it not for the Body, it would have a ſixth.

The upper Side has an irregular and unequal Depreſſion, which, together with that in the Apophyſis of the *Aſtragalus*, forms a conſiderable Foſſula. At its anterior Extremity there is a ſmall cartilaginous Surface, anſwering to one of thoſe in the Apophyſis of the *Aſtragalus*.

The anterior Side of the Apophyſis is broad, oblique, cartilaginous, partly convex, and partly concave, and articulated with a little Surface of the *Os Cuboides*. This is the fore Side of the whole *Os Calcis*, when conſidered without any Diviſion.

The Outſide of the Apophyſis is very rough, being a Continuation of the outer Side of the Body, with a Tubercle or Eminence at the Place where theſe two Sides meet, which, however, is not found in all Subjects. On the lower Part of this Tubercle is a cartilaginous Surface, for the Paſſage of the Tendon of the *Peronæus Longus*: Sometimes we ſee only ſome ſmall Veſtiges of this Eminence, and often none at all. We ſometimes meet with another ſmall cartilaginous Surface lower down, and more forward, near the anterior Extremity of the Apophyſis, for the Paſſage of the ſame Tendon. The lower Side is a Tuberoſity, continued from the Side of the Body, and deſigned for the Inſertion of Muſcles.

The lateral Apophyſis is almoſt common to the Body, and to he great anterior Apophyſis, and increaſes the Cavity on the nſide of the Os Calcis. On its upper Part it has a very ſmooth artilaginous Surface, articulated with one of the inferior Surces of the Aſtragalus. This Apophyſis is very low down, nd its inferior Part is ſmooth for the Paſſage of Tendons.

The Os Calcis has four Cartilages, of which three are ſupeor, one large, and two ſmall, for its triple Articulation with e *Aſtragalus*; the fourth is anterior, for the *Os Cuboides*. To eſe muſt be added a ſmall thin Cartilage, of a kind of ligaentary Subſtance, under the Tubercle on the Outſide of this one. *Winſlow.*

The large Tendon, call'd the *Tendo Achillis*, is inſerted into is Bone.

CALCANTHOS, *Calcanthum*, in *Rulandus*, are put for *alcanthum*, the ſame as VITRIOLUM, which ſee.

CALCANTUM. A kind of Ink. *Rulandus.*

CALCAR. The ſame as CALCANEUM, which ſee.

CALCARIA. A ſort of calcining Furnace in Glaſs-houſes, ich is uſeful in making of Glaſs-work. *Caſtellus.*

The Calcar, or Fornax Calcaria, is made in the manner of an Oven, ten Foot long, and ſeven broad, where wideſt, and two Foot deep. On one Side thereof they have a Trench about ſix Inches ſquare, the upper Part whereof is level with the Surface of the Calcar, ſeparated only from it at the Mouth, by Bricks ſome nine Inches wide. Into this Trench they put their Sea-coal, the Flame whereof paſſeth into all the Parts of this Furnace, and reverberates from the Roof upon the Frit, over whoſe Surface all the Smoak flieth very black, and goeth out of the Mouth of the Calcar; and the Conciator, or Founder, never ſtirs his Frit till the Smoak is paſt. The Coals burn (as in other Furnaces) on Iron Grates, and the Aſhes fall thence into the Aſh-hole, which is level with the Floor. *Meret's Notes upon Antonius Neri.*

CALCARIS FLOS, is the ſame as *Flos Regius*, or Larkſpur; and ſo call'd becauſe its Flower, in ſome meaſure, reſembles *Calcaria*, or Spurs. *Blancard.*

CALCARIUS LAPIS, Offic. Schw. 370. Geoff. Prælect. 65. Aldrov. Muſ. Metall. 745. Schrod. 348. Mer. Pin. 213. *Saxum Calcarium*, Worm. 45. Charlt. Foſſ. 20. Boet. 522. *Calcaria*, Kentm. 55. LIME-STONE. See CALX.

Caſtellus ſeems to think this Stone is ſometimes call'd *Aſæſtus*, ἄσαιϛος· but I have never met with the Word in any other Author.

CALCATA. Yellow Ink. *Johnſon.*

CALCATAR. See CALCADINUM.

CALCATON. Troches of Arſenic. *Johnſon.*

CALCATREPOLA, *Matth.* The ſame as CALCITRAPA, which ſee.

CALCATRIPPA. The ſame as DELPHINIUM, which ſee. *Dale.*

CALCEDONIUS, for CHALCEDONIUS, which ſee.

CALCENA, *Calcenon*, *Calcenonia*, *Calcinonia*, are Terms in *Paracelſus* to expreſs a morbous tartareous Matter, or tartareous Calx. *Paracelſ. de Tart. Lib.* 2. *Cap.* 1.

CALCEOLUS *D. Mariæ*, *Sacerdotis*, our Lady's, or Prieſt's Slipper, is a Species of *Aliſma*, having, in the Middle of its Flower, a Concavity reſembling that of a *Calceolus*, or Slipper. *Blancard.*

CALCETUS, *Calcenonius*, *Calcenos*. *Paracelſus*, *Lib.* 2. *de Tartar. Tr.* ſays, the Blood is *Calcetus*, by which he means impregnated with tartareous Particles.

CALCHITHIOS, Verdegriſe. Alſo a Marcaſite. *Johnſon.*

CALCHOIDES *Oſſicula*. The ſame as CUNEIFORMIS OSSICULA, which ſee. *Blancard.*

CALCIDICUM. A Medicine prepared of Arſenic. *Rulandus.*

CALCIFRAGA, Breakſtone. An Epithet given to the Herb *Scolopendrium*, or *Spleenwort*, in *Scribonius Largus*, No. 150.

CALCIGRADUS, πτερνοβάτης, from πτέρνον, the Heel, and βαίνω, to go, in *Hippocrates*, περὶ ἄρθρων, is one who, in Walking, lays much Streſs upon the Heels. *Foeſius.*

CALCINATIO. See CALX.

CALCINATUM *majus*, is whatſoever is dulcified by the Chymical Art, which was not ſo by Nature; ſuch are dulcified Mercury, Lead, Anima Plumbi, Salts, and the like Subſtances, which are very ſpeedily conſolidated. *Johnſon.*

CALCINATUM MAJUS POTERII, is nothing but Mercury diſſolved in Aqua-fortis, and precipitated with ſalt Water. This Preparation *Poterius* uſed with great Succeſs in the Cure of obſtinate Ulcers. *Etmuller, Lib.* 1. *ò*. 516.

CALCINATUM *minus*, is any thing which is ſweet by Nature, without Edulcoration, and ſpeedily cures; as Sugar, Manna, Tereniabin, Noſtoch, (ſorts of wild Honey) and the like. *Johnſon.*

CALCINON. *Rulandus* and *Johnſon* ſeem to make it the ſame with *Calcinatio*, when all they ſay of it is, that *Calcinon*, by the Reverberatory, is two-fold; Calcination ſpecially ſo call'd, and Cinefaction.

CALCITARI, Sal Alcali, Alkael. *Rulandus. Johnſon.*

CALCITEA, *Dragantum* (Vitriol). *Johnſon.*

CALCITEOSA, Litharge. *Rulandus.*

CALCITHOS, Verdegriſe. *Rulandus.*

CALCITRAPA. *Dale* takes Notice of two Plants which are call'd by this Name. The firſt is the

1. *Carduus ſtellatus*, Offic. Ger. 1003. Emac. 1166. Schw. 250. Raii Hiſt. 1. 317. Synop. 87. *Carduus ſtellatus, foliis Papaveris erratici*, C. B. 387. Dill. App. 15. *Carduus ſtellatus ſive Calcitrapa*, J. B. 3. 89. Chab. 355. Tourn. Inſt. 440. *Carduus ſtellatus ſive Calcitrapa vulgaris*, Park. 989. *Jacea ramoſiſſima, capite longis aculeis ſtellatim naſcentibus armato*, Hiſt. Oxon. 3. 144. *Jacea ſtellata, folio Papaveris erratici*, Boerh. Ind. A. 140. Herm. Flo. 2. 40. *Crupina capite ſtellato, foliis Papaveris erratici*, Dill. Nov. Plant. Gen. 140. STAR-THISTLE.

The Root of the *Star-thiſtle* is ſingle, about a Finger thick, long, and running deep into the Ground, of a whitiſh Colour, having a pretty thick cortical Part. The lower Leaves grow flat on the Ground, encompaſſing the Root in a Circle, much cut in, or jagged to, the middle Rib. The Stalk is divided into numerous Branches, ſpreading about, and ſeldom ariſing above two Foot high, with a few Leaves here-and-there at the Diviſion of the Stalks. The Flowers grow thick upon the Branches, conſiſting of reddiſh or purple fiſtular Flowers, coming out of Heads, which are compoſed of ſeveral Scales, each ending in a long, ſtrait, hard, and ſharp Thorn. The Flowers paſs away in Down, containing white flattiſh oblong Seed. The *Star-thiſtle* grows near Highways, and upon Commons; and flowers in *June*.

The Root is commended by ſome as a ſingular Remedy againſt the Stone, Gravel, or Colic, by giving it either in Decoction with Wine or Water, or in Powder, with a convenient Vehicle. *Miller's Bot. Off.*

Its Leaves are very bitter, and give a faint Tincture of Red to the blue Paper; the Root gives it a deeper, and has the Taſte of an Artichoke. The *Star-thiſtle* contains a Salt very like that which is natural in the Earth; for its Solution is very bitter, and loaded with Sal Ammoniac and Nitre. It is likely, that the Sal Ammoniac predominates in this Plant; for the Nitre makes no Impreſſion upon the blue Paper, whereas the Sal Ammoniac reddens it conſiderably: That which is found in this Plant is join'd with a conſiderable Quantity of Sulphur and Earth; thus the Star-thiſtle is febrifugous, vulnerary, and aperitive. For an Intermitting Fever they give to drink, at the Beginning of the Fit, four or ſix Ounces of its Juice. It removes the Webs of the Eyes, and cures Wounds.

M. *De Lamoignon*, Intendant of *Languedoc*, has been willing the Public ſhould enjoy the Benefit of a Remedy, by which he was cured of a troubleſome Nephritic Colic, with which he was often afflicted. The Remedy, as it was printed at *Montpelier*, by his Order, is as follows:

> The 28th Day of the Moon, every Month, drink, early in the Morning, a Glaſs of good White-wine, in which has been infuſed a Dram of the firſt Bark of the Root of *Star-thiſtle*, gather'd about the End of *September*. This Bark is a ſmall Skin, very fine, brown without, and white within. It is dried in the Shade, and reduced to a very fine Powder. The Evening before you take this Medicine, put in a Gallon of Water a Handful of Pellitory, a Dram of Saſſafras-wood, as much of Aniſe, and a Penyworth of fine Cinnamon; ſeeth it over a clear Fire for half a Quarter of an Hour; then remove it from the Fire, cover it well with its Lid, and with Paper, and ſet it upon hot Aſhes. The next Day ſet the Pot again before a clear Fire, and make it ſeeth for half a Quarter of an Hour; after which put two Ounces of powder'd Sugar-candy in a Silver Porringer, and pour upon it the Infuſion, ſtrain'd thro' a Linen Cloth, with the Expreſſion of the Fœces; when the Sugar is diſſolved, let the Patient drink it as hot as he can, and take nothing elſe for three Hours; which muſt be obſerved alſo after taking the firſt Medicine. The Uſe of theſe Medicines requires no particular Regimen.

Camerarius affirms, that at *Francfort* they make uſe of the Root of *Star-thiſtle*, inſtead of that of Eryngo: It is employ'd in aperitive Ptiſans and Broths. One Dram of the Seed of *Star-thiſtle*, infuſed in a Glaſs of White-wine, takes away the viſcid Matter which obſtructs the Urinary Paſſages. *Martyn's Tournefort.*

A Water diſtil'd from the Flower, or the Seeds in Powder, are ſaid to expel the Stone. The Root is ſaid to be good in ſlow Fevers, and to purge the Body of ill Humours. *Dale.*

2. *Calcitrapa*, Offic. *Carduus ſtellatus luteus, foliis Cyani*, C. B. Pin. 387. Raii Synop. 3. 196. Tourn. Inſt. 440. Elem. Bot. 349. *Carduus Solſtitialis*, Ger. 1003. Emac. 1166. Mer. Pin. 21. *Carduus Solſtitialis Dodonæi*, Park. Theat. 989. *Spina Solſtitialis*, J. B. 3. 90. Raii Hiſt. 1. 317. *Jacea ſtellata, Spina Solſtitialis dicta, foliis Cyani*, Herm. Flor. 2. 40. Boerh. Ind. A. 141. *Jacea lutea, capite ſpinoſo minori*, Hort. Lugd. Bat. 332. *Leucacantha veterum, Carduus vel Spina Solſtitialis*, Chab. SAINT BARNABY's THISTLE. *Dale.*

Geſner affirms, that it is good for the Jaundice: *Camerarius* ſays the ſame thing; and commends it in all ſorts of Obſtructions, for the Cachexy, Dropſy, Pleuriſy, and Sciatica. *Martyn's Tournefort.*

It is eſteem'd aperient, deobſtruent, lithontriptic; and is ſaid to aſſwage the Fervor of the Blood. *Dale.*

CALCOCOS, Braſs. *Rulandus.*

CALCOIDEA *Oſſicula.* Three little Bones belonging to the Ancle, ſo call'd by *Fallopius*, and are the ſame with the *Oſſicula Cuneiformia.*

CALCOKEUMENOS, Burnt Copper. *Rulandus.*

CALCULIFRAGUS, λιθοντριπτικός. Stone-breaking, Lithontriptic.

CALCULOSUS. Afflicted with the *Calculus*, or Stone.

CALCULUS.

The *Lithiaſis* in *Greek*, *Calculus* in *Latin*, the Stone in *Engliſh*, is uſually underſtood of the Stone in the Kidneys, Ureters, or Bladder. Yet theſe are not the only Parts in which Stones are generated; for we find Stones, and ſtony Concretions, in many of the Cavities of the Body, and ſometimes in other Parts. Thus *Hippocrates* takes Notice of a Stone in the Uterus, which render'd the Woman barren, and was brought away with great Pain when ſhe was Sixty: *See the Article* AMPHIPOLOS. Thus alſo it is notorious, that Stones are frequently generated in the Gall-bladder. *Liſter* takes Notice of Stones generated in the *Veſiculæ Seminales*; and I have taken ſmall ones out of the *Proſtatæ*, to the Number of twenty or thirty.

Alexander Trallianus relates a Caſe of a Perſon who cough'd up a Stone; and I know a Lady, now alive, who was thought many Years ago to be in a deep Conſumption; but, upon coughing up a Stone, near as large as a ſmall Nutmeg, ſhe recover'd her Health perfectly. Dr. *Freind* ſays, That of ſuch Stones, cough'd up, he had ſeen ſeveral, and ſome as big as a Filbert, where no Signs of a Conſumption appear'd, only there continued an inveterate Cough. One he knew, who had brought up four or five ſuch, at long Diſtances of Time.

We may therefore conceive, that if any ſmall indiſſoluble Subſtance is fix'd in any Part of the Body whatever, a ſtony Cruſt ſoon forms itſelf upon it, either more or leſs. If ſuch a Concretion of the earthy Parts of the Blood happens at the Extremities of the Urinary Ducts, where they open into the Kidneys, and forms a ſmall Grain of Sand, hence ariſes the Stone in the Kidneys, which, increaſing daily, in time grows conſiderable enough to incommode and obſtruct the Kidneys, and bring away a Part of its Subſtance in the Form of grumous Concretions, Pus, Caruncles, or Skins, till at laſt it corrupts the Whole, exciting bloody, purulent, and fetid Urine; and ſometimes an Inflammation, and conſequent Exulceration, of the adjacent Parts.

When this is by any Cauſe whatever remov'd from its native Place into the Pelvis of the Kidney, and from thence into any Part of the Courſe of the Ureter, or its Entrance into the Bladder, it frequently intercepts the Urine, and cauſes an acute inflammatory Pain.

When the Stone is convey'd into the Bladder thro' the Ureters, it is often expel'd from thence, and diſcharg'd by the Urethra. But, if it remains in the Bladder, the earthy Parts of the Urine adhere to it, and increaſe its Bulk, forming upon it various Strata, which are ſometimes red, ſometimes white, aſh-colour'd, or azure, the Nucleus which fell from the Kidneys always remaining red. And it appears, by Chymical Experiments made upon Stones, that thoſe of an Azure-colour are the moſt indiſſoluble, the Aſh-colour'd next, the White next, and that the Red are moſt eaſily diſſolv'd.

The Symptoms of a Stone in the Kidneys are, an obtuſe Pain at the Region of the Kidneys; a Diſcharge of bloody Urine after any conſiderable Motion of the Body, eſpecially in a Coach upon ſtony Roads; gravelly ſmall Stones, Caruncles, or Filaments, diſcharg'd with the Urine. *Boerh. Aph.*

As the Account *Aretæus* gives of Nephritic Complaints is, perhaps, inferior to none, I ſhall give it in this Place, in order to make up the Deficiencies of *Boerhaave*'s.

The Kidneys are of a glandulous Conſiſtence, and of a red Colour, in which reſpect they are more like the Liver than the Breaſts or Teſticles; for theſe, tho' glandular Subſtances, are more white. The Shape of the Kidneys is like that of the Teſticles, only flatter, and more incurvated. Within them are ſmall narrow Sinuſes, which ſerve for the Percolation o Urine; and from them proceed two nervous Ducts, one from each Kidney, like Pipes, which are inſerted into the Bladder one on each Side, and convey the Urine, by equal Paſſages, o each Side, from the Kidneys to the Bladder.

The Kidneys, and their Canals, or Ducts, before-mention'd are ſubject to many and various Diſorders, ſome of which ar acute, and deſtroy the Patient in a ſhort time; ſuch are Hæ morrhages, Fevers, and Inflammations; others are chronical but mortal and incurable, and, after long waſting the Body come to one common Period with the Life of the Patient. O this kind are Abſceſſes, Ulcers, Stone, and, from hence bloody Urine. Ulcers proceed from Abſceſſes, but are alway extremely tedious, and difficult of Cure.

The Generation of Stones is very ſlow, but the Fit ve painful, from the Obſtruction of the Paſſages; and, which the moſt diſmal Circumſtance, the Urine is ſuppreſſed. many ſmall Stones, compreſſed together, or but one gre Stone, ſtop up the Paſſage, and this be the Caſe with reſpe to both Kidneys, Death muſt neceſſarily follow in a few Day from the Suppreſſion of the Urine, and the Diſtention of t Parts. Nature, indeed, has taken care to form the Sinuſes the Kidneys of an oblong Figure, and of equal Capacity w the Ureters, and larger than ſmall Stones, with an Intent t if ſuch Concretions ſhould be generated in the upper Pa they might find an eaſy Deſcent into the Bladder. For t ſame Reaſon the Stones are of an oblong Figure, ſince they generally found ſticking in the Ureters; and ſuch as are of uneven Bigneſs, are ſlender in the fore Part, becauſe of the Narrowneſs of the Ureters, but thicker in the hinder Part, becauſe the Kidneys diſcharge themſelves downwards. The Stones are generated only in the Kidneys, and that when very much diſtemper'd with Heat, and have no Seat in the Ureters; into which, however, the Gravel falling, is both a Sign, and the Matter, of the Diſeaſe. If the Sinus of the Kidney be obſtructed with a Stone of conſiderable Bigneſs, there ariſes a Pain in the Loins about the Muſcles call'd *Pſoæ*, which extends itſelf to the middle Rib, ſo as to cauſe the Diſeaſe to be oftentimes miſtaken for a Pleuriſy; there is a Senſe of Weight upon the Hip; the Patient bends forwards with Difficulty, and can ſcarcely move his Back; he labours under ſevere Gripings, which are attended with a Senſation of Heavineſs, and remove from one Place to another, becauſe of the Convolutions of the Inteſtine. If there be a Redundancy of Urine, the Parts are diſtended, and the Patient is tormented with a Deſire to make Water, like a Woman in Travail. He becomes fill'd with Flatulencies, which are not readily diſcharg'd; a biting and dry Fever ſeizes him; his Tongue is parch'd, his Belly conſtipated, and his Body waſted; he loaths all Food, or, if he takes any Suſtenance, it is with great Difficulty that he digeſts it, or receives any Refreſhment from it. If a Stone falls into an Ureter, it raiſes a Shivering, as from Cold, and the Progreſs of the Stone is felt, attended with a violent Pain. If a Stone falls into the Bladder, there is a plentiful Diſcharge of aqueous Urine, the Belly is evacuated, Flatulencies are expel'd, the Stomach is eaſy, there are Eructations, and the Patient is freed from thoſe Evils which before moleſted him. If the Ureter be lacerated by the Stone, Blood ſometimes paſſes off with the Urine. Another Pain commences, when the Stone paſſes thro' the Urethra; for, if it is larger than that Canal, it is there detained for a long time; mean while the Bladder is fill'd, and there is a total Suppreſſion of the Urine, attended with a moſt tormenting Pain; for even the Ureters are full. The crooked Stones are moſt painful in their Paſſage; for I have ſeen ſome which have bended like a Hook, and have obſerv'd Calloſities in the Urethra; but theſe Stones are, for the moſt part, form'd into an oblong Figure, according to the Shape of the Paſſage. As to the Colour of theſe Stones, ſome are white, like Chalk, and theſe are commonly found in Children; others are yellow, like Saffron, and generally afflict old Perſons, who are alſo moſt ſubject to the Stone in the Kidneys, as Children are to the Stone in the Bladder. There are two Cauſes of the Concretion of theſe Stones: In aged Perſons, the Coldneſs of their Bodies, and the Thickneſs of their Blood; for Cold ſooneſt cauſes a Concretion of thick Matter. A Proof of this is, that the Waters of naturally hot Springs are by Cold congeal'd into a callous ſort of Stone. In Children, the Generation of the Stone is owing to much ſlimy Matter, which the Blood, like Fire, torrefies, and reduces to a ſtony Conſiſtence. Such are the Diſorders which are conſequent to the Generation of a Stone.

Some, at certain Seaſons, make bloody Urine, in which reſpect this Diſeaſe is like the Hæmorrhoids, and induces a like Habit of Body. Perſons thus affected are of a pale Colour, azy, unfit for Buſineſs, and have neither Appetite nor Digeſtion. After their periodical Hæmorrhage, they become lanuid and paralytic in their Limbs, but lighter and freer in their Heads: But, if they miſs their uſual Evacuation, they are oubled with a Pain in the Head, a Dimneſs of Sight, a Scoomia, and Vertigo; whence many become epileptic, others oated, blind, and hydropical; others grow melancholy, or ralytic: And theſe are the Effects which proceed from a Rention of the Blood which uſed to be evacuated. If the Blood ows from the Kidneys, it is uſually diſcharg'd pure, and unix'd with the Urine, out of the Bladder. Sometimes it ruſhes a ſudden, in a full Stream, from a Rupture of the Kidneys, d congeals into Clots; ſometimes it congeals in the Bladder, if it were out of the Body, and thereby cauſes a terrible Supeſſion of Urine. A Rupture is ſucceeded by inveterate and bborn Ulcers. The Signs of an Ulcer are, the voiding of a at, or thin reddiſh Membrane, like a Spider's Web, or white s with the Urine, ſometimes pure and unmix'd, and, at other mes, mix'd with the Urine. The Signs of the Formation of Abſceſs are, a Fever and Shiverings in the Evening, with ins and Itchings about the Loins. An Abſceſs is known to broken by the coming off of purulent fleſhy Clots, and ite Pus. The Ulcers are of the biting Kind, and ſometimes e, ſometimes foul, which is known by the Pus, and from Urine having ſometimes an ill Smell, at other times none ll.

he Spring generates Hæmorrhages and Abſceſſes; the nter and Autumn, the Stone and Gravel. If an Ulcer ceeds the Stone, the Diſeaſe becomes incurable, and the ent falls into a Conſumption, which ſoon terminates in th. *Aretæus περὶ αἰτ. ϗ σημ. χρον. παθ. Lib. 2. Cap. 3.*

From ALEXANDER TRALLIANUS.

tones in the Kidneys are generated of a thick and viſcid tter, too much bak'd or torrefy'd by the igneous Heat of thoſe Parts; ſo that the material Cauſe of the Stone is a groſs Matter, but the efficient Cauſe an igneous Fervency; for of ſuch Matter, with the Help of Fire, do Potters make their Veſſels, in ſuch a manner as to be indiſſoluble by Water. This being the Caſe, we muſt endeavour to prevent the Generation of this groſs Matter in the Kidneys, and to preſerve thoſe Parts free from that igneous and intemperate Heat; for, without either of theſe, no ſuch thing as a Stone can be generated.

You ought to be very careful in your Examination, whether a Pain proceeds from the Stone, or not; for the ſame Symptoms happen to thoſe who are afflicted with the Colic, as to thoſe who labour under the Stone; and it is no eaſy Matter, eſpecially in the Beginning, to diſtinguiſh one from the other by the Signs. In both Affections the Patients are moleſted with Vomiting and Coſtiveneſs, with Flatulencies and Diſtentions, which extend ſo far as to affect even the Stomach and Liver. But tho' they have the ſame Symptoms in common, a Man who is Maſter of his Buſineſs will know how to diſtinguiſh them; for, in the Colic, the Vomitings are more, and the Matter ejected crude and pituitous; the Belly alſo is more bound, and the Flatulencies more retain'd: But, in the Stone of the Kidneys, it is otherwiſe; for oftentimes they have the Benefit of a Stool by the Uſe of proper Remedies, and ſometimes break Wind, and evacuate downwards, without the Help of Medicine, which never happens in the Colic. The Urine ought alſo to be nicely inſpected, in which you will perceive a very conſiderable Difference; for, in the Colic, it has a more pituitous, as well as more copious, Sediment; but, in the Stone of the Kidneys, it has leſs Sediment, and, upon a careful Examination, you may diſcover ſandy Particles therein, which are not found in the Urine of thoſe affected with the Colic. The Pain alſo under a Fit of the Stone is not only more ſevere, but fix'd principally in one Place, which does not happen in the Colic. *Alexander Trallianus, L. 9. C. 4.*

From LOMMIUS.

The Pain proceeding from the Stone in the Kidneys may be known by the following Signs: There is a moſt ſevere and pungent Senſation in the Kidney, as if a Thorn were fix'd in it, which ſettles in that Part, without ſhifting, except that ſometimes it communicates itſelf thro' the Groin towards the Hip, or the neighbouring Teſticle: There is no external Tumor: The Patient cannot bend his Back without Difficulty: The Leg on the ſame Side with the affected Kidney is ſometimes contracted, ſometimes, as it were, benumb'd: There are frequent Eructations, with a great Loathing of Food. When the Pains are very intenſe, the Patient is ſeiz'd with Vomiting; firſt of Phlegm, ſoon after of yellow Bile, and, at laſt, of æruginous Bile; after which the Pain is mitigated. The Belly, in this Diſorder, is conſtipated, and, by preſſing upon the Kidney with the contain'd Fœces or Flatulences, augments the Pain: But, if it happens to be evacuated, a ſort of bilious Matter, together with Wind, is diſcharg'd. When the Patient lies on the affected Part, or while he is faſting, the Pain is mitigated; but, when he lies on the contrary Side, or after a full Meal, when the Food begins to deſcend towards the Inteſtines, the Pains and Diſorder are exaſperated.

At the Approach of the Fit, the Urine is little in Quantity, thin, and aqueous; and ſoon after, as the Pain increaſes, is frequently utterly ſuppreſs'd, till the Stone being diſcharg'd from the urinary Paſſage, which the *Greeks* call οὐρητῆρα, *(Ureter)* a great Quantity of thick Urine comes off, which depoſits a good deal of Sand, and ſometimes large rough Stones, or Fragments of Stones; ſometimes the Urine appears with Bubbles, and has an ill Smell; ſometimes comes away frequently, and in ſmall Quantities, attended with a ſcalding Heat; oftentimes it brings away what is like Blood with it, eſpecially after Labour, or hard Riding. They who are obnoxious to this Diſeaſe, have, for a long time, diſcharg'd a thick reddiſh Urine, with a denſe and tenacious Spume, which ſometimes depoſits a red, ſandy, and ſomewhat viſcous Sediment; ſometimes it continues foul, and, if ſtrain'd thro' a Woollen Cloth, leaves a Subſtance like the Sediment before-mention'd. This kind of Urine often paſſes off, for many Years together, without any Inconvenience, without any Pain in the Kidneys, or any other Symptom of the Stone; when, unexpectedly, and all on a ſudden, the Kidney is ſeiz'd with a moſt acute Pain, and, at the ſame time, the Belly is conſtipated, and the Leg on the ſame Side with the affected Kidney taken with a Numbneſs. The Pain often remits, and returns at pretty long Intervals, and ſometimes without diſcharging any Stone, but a thick and turbid Urine, and, perhaps, after hard Riding, a bloody one. And, indeed, the voiding bloody Urine often ſhews the Stone in the Kidneys, when there is no Pain, nor any other Mark by which it can be known, or ſo much as ſuſpected.

When the Pain is ſucceeded by an Excretion of the Stone from the Kidney, the ſame, falling into the Head of the *Ureter*, cauſes a Diſcharge of thin wateriſh Urine, in a ſmall Quantity; or, which often happens, totally ſuppreſſes the ſame. But if the Stone ſhould happen to be repreſſed into the Cavity of the

Kidney, or, at leaſt, if it penetrates into the Bladder, there follows an Evacuation of ſuch Urine as was before deſcrib'd; ſo that I am of Opinion, that *Hippocrates* was in the right, when he ſaid, that a ſudden Pain of the Kidneys, with a Suppreſſion of Urine, prognoſticated a Diſcharge of Stones or thick Urine. The Stone is often ſo big as not to be expel'd from the Subſtance of the Kidneys, in which it was generated, into their Cavity; and, during that time, the Patient feels little or no Pain, but makes a thick, foul, reddiſh Water, as above deſcrib'd. But after violent Exerciſe, or hard Riding, not only ſuch kind of Urine is diſcharg'd, but a bloody Urine, which depoſits a grumous Concretion of a Subſtance like Blood. When the Stone is remov'd into the void Space, or Cavity, of the Kidney, if it be large, and tend downwards, it ſtops the Ureter, and intercepts the Paſſage of the Urine, in ſuch a manner that but very little, and ſuch as is of a thin and aqueous Subſtance, can be diſcharg'd; ſuch a Stone, at the ſame time, excites a very ſharp Pain. But when the Stone, tho' deſcended into the Ureter, is too ſmall to cauſe a conſiderable Stoppage of the Urine, or when large, and newly remov'd from the Subſtance into the Cavity of the Kidney, and it has not yet applied itſelf to the Beginning of the Ureter, there paſſes off a thick, foul, red, or a dark, and ſomewhat livid Urine.

Smooth and round Stones are not ſo difficult to be diſcharg'd, as oblong and rough ones; but all are not of the ſame Bigneſs, Figure, or Roughneſs. Perſons who have been long troubled with Pains in the Kidneys, and have their urinary Paſſages pretty open, are, for that Reaſon, tormented with large Stones, but not with thoſe of a moderate Size; whereas thoſe who are but newly affected with this Diſorder, or, at leaſt, have ſeldom been pain'd, ſuffer ſeverely from the leaſt Stone.

The Stones of the Kidneys are, almoſt all of them, of a reddiſh Colour, tho' purulent Kidneys diſcharge alſo white ones; black and pale Stones have alſo been obſerv'd. In this Affection, the more aqueous the Urine is, and the longer it ſo continues, and the leſs Sediment it has, the harder, you may aſſure yourſelf, are the Stones in the Kidneys, the more confirm'd, and the more obſtinate in reſiſting Remedies; tho' Urine ſeldom comes off clear from thoſe who are ſubject to great Pains of the Kidneys. Fat and aged Perſons are moſt frequently afflicted with this Diſtemper; it ſeldom or never happens to Children, and rarely to adult Youth. It ſeldom alſo moleſts thoſe who frequently vomit, and are not ſubject to be coſtive. As all Diſorders in old Perſons are very difficult to be cur'd, ſo this, of which we have been ſpeaking, admits of no Cure at all. The ſame is hereditary to a greater Degree than all other Diſtempers; ſo that a Man ſeldom or never eſcapes the Torment of the Stone, who was, on account of his Parents, by Nature ſubjected to this Diſeaſe from his Birth. *Lommius, Med. Obſ.*

From HOFFMAN.

The Word *Calculus*, among the antient *Romans*, had a great many different Ideas affix'd to it: Thus it ſignify'd a ſmall Pebble or Gravel-ſtone, a Cheſs-man, a Counter, and, by a Metonymy, an Accompt or Computation, a Doubt or Difficulty, a Sentence of Abſolution or Condemnation, as alſo a Vote or Suffrage; but, by Phyſicians, this Word is appropriated to Stones form'd and generated in the human Body. Theſe are produc'd in various Parts; in the Stomach, for Inſtance, in the Gall-bladder, in the Liver, in the Lungs, and in the Interſtices of the Muſcles in almoſt every Part of the Body; but no-where do they produce ſuch terrible Conſequences, or excite ſuch intolerable Pains, as when lodg'd in the Kidneys, the Ureters, and urinary Bladder.

As the Pain, riſing from a Stone ſlipping from the Kidneys into the Ureters, is the moſt intenſe and racking that can poſſibly afflict Mankind; ſo, upon its firſt ſeizing the Patient, it often happens, that it is with Difficulty diſtinguiſh'd from other acute Pains of the lumbar Region.

'Tis a Notion as falſe and abſurd, as 'tis common and popular, that when any one is ſeiz'd with Pains about his Loins, he muſt therefore be afflicted with the Stone in the Kidneys; ſince, in that Region, there are ſeveral Parts highly ſenſible of Pain, and ſuſceptible of Injury; ſuch as the external and internal Muſcles of the Loins, the nervous Ligaments of the lumbar Vertebræ, the ſuperior meſenteric Plexus of Nerves, a Branch of the ſuperior meſeraic Artery, and, in their Neighbourhood, the winding Extremity of the Inteſtinum Duodenum, and the Sigmoide Flexure of the Colon; in all which Parts, when either too much diſtended, or compreſſed, by the Stagnation of an impure bloody, or ſerous Humour, very terrible Pains are excited. Sometimes alſo a Rheumatiſm, ſeizing theſe Parts, produces Pains ſo racking and intolerable, that the miſerable Patient, as if his Loins were cut in the Middle, bends forward, and cannot raiſe himſelf up. The ſame Symptom may alſo be produc'd, if by a Fall, or lifting any great Burden, the Vertebræ and Nerves are remov'd ever ſo little from their natural and proper Situation. Too large a Quantity of Blood ſtagnating about the meſenteric Plexus, and emulgent Arteries, in plethoric Habits, and in thoſe who are ſubject to the Hæmorrhoids, or, in other People, in conſequence of neglecting Veneſection, when they have been habituated to it, frequently excites a violent Pain in the Region of the Loins, which is commonly, tho' falſly, aſcrib'd to the Stone; ſince it is often ſuddenly remov'd, either by Veneſection in the Foot alone, or by diſcutient nitrous Powders.

But it very often happens, that the Colic is miſtaken for a Pain produc'd by the Stone; for, when the Flexure of the Colon, which lies near the Loins, is either too much diſtended with Flatulencies, or ſpaſmodically conſtricted, a violent Pain is not only produc'd in the Region of the Loins, but alſo paſſes to the Præcordia, excites a Nauſea and Reaching, prevents the Diſcharge of Urine, renders the Patient coſtive, and racks the whole Abdomen with Pains as ſevere as thoſe generally ariſing from the Stone. But ſince this ſpaſmodic Pain is not conſtant and fix'd, but rather wandering, and of ſuch a Nature as to be greatly reliev'd by the Injection of emollient Clyſters, the ſkilful Phyſician may, from theſe Circumſtances, eaſily diſtinguiſh it from the Pain ariſing from the Stone, which bears down more powerfully, does not waſte the Strength ſo much, and remits at Intervals, ſo that the Patient can frequently riſe, and walk about, which does not happen in the Colic. Beſides, if the Pain ariſes from the Stone, the Vomiting and Nauſea are greater when the Stomach is empty than at other times; a Titillation, and pricking kind of Pain, are alſo felt in the Urethra and Glans; the Urine is loaded with Sand, the Teſticle is retracted, the Thigh ſeiz'd with a Stupor, and the Side itſelf contracted; none of which Symptoms are obſerv'd to attend the Colic.

'Tis to be obſerv'd, that Stones of a very large Size, with conſiderable Branches riſing from them, may be lodg'd in the Subſtance of the Kidneys for ſome Years, without creating any great Pain or Uneaſineſs to the Patient; but, as ſoon as they are remov'd from their former Seat, and falling into thoſe narrow, nervous, and muſcular Ducts, call'd the Ureters, ſeek a Paſſage thro' them into the Bladder, the moſt terrible Symptoms forthwith appear: So that the Ureters themſelves may be the fix'd and genuine Seat of Pains ariſing from the Stone; but theſe Pains are more or leſs intenſe, according as the nervous Coats of theſe Canals are more or leſs diſtended by the Bulk, or irritated by the Roughneſs, of the Stones which ſhall happen to be lodg'd in them. Theſe Pains are ſometimes ſo ſevere and intenſe, that, beſides a Shivering and Refrigeration of the Extremities, they alſo excite a Nauſea, a Vomiting, a ſpaſmodic Conſtriction of the Præcordia, a difficult Diſcharge of th Urine, a Stricture of the Belly, an Uneaſineſs in Breathing, Stupor of the Leg, a Retraction of the Teſticle to the *Os Pubi* Reſtleſneſs, incredible Loſs of Strength, a Syncope, and eve epileptic Fits; at other times they bring on a Suppreſſion Urine, which proves fatal to the Patient. I have ſometime obſerv'd Patients complain, that they felt ſuch a Pain as if on was continually inflicting a deep Wound all along the Spine near the Bladder; and, in theſe Caſes, when the Patients wer laid open after their Death, the Ureters appear'd diſtended an turgid like a Pudding, by the large Quantity of Urine whic had been deny'd a Paſſage into the Bladder, on account of a Ston lodged in the Ureter, near its Inſertion into that Organ.

'Tis confirm'd by Obſervation and Experience, that a Ston has ſometimes been lodg'd for a long time in the Ureter withou creating any great Pain, or intercepting the Paſſage of the Urin after which the Pain has ſeiz'd the Patient unexpectedly, a brought along with it Loathing of Food, Nauſea, Vomitin and Interception of Urine. This Phenomenon has, in all Pr bability, been owing to the Situation of the Stone bei chang'd by ſome Accident, ſo as, by its Roughneſs and Inequ lity, to prove more offenſive to the nervous Coat of the U ter. Nor is this Diſorder univerſally accompanied with ſame Train of Symptoms; for, as *Eraſmus* ſays of the Sto with which he himſelf was afflicted, in his Epiſtle to *Per meyerus*, "It transforms itſelf into Shapes ſo unlike thoſe "formerly bore, that one would really believe it to be anoth "Diſorder; one Set of Symptoms attends its Beginning "another appears in its Progreſs; it ſometimes remains fix "and ſometimes changes its Seat."

'Tis a Circumſtance worthy our Attention, that Stones more frequently lodg'd in the Left, than in the Right Kidne hence it happens, that Pains ariſing from the Stone in the K neys are obſerv'd to happen more commonly in the Left in the Right Side. This is confirm'd by *Carolus Piſo*, *in Tr de Morbis ex ſeroſa colluv. oriund.* where he affirms, " "among an hundred labouring under the Stone of the "neys, eighty and more have the fatal Cauſe of their "order lodg'd in their Left Kidney." Nor is the Reaſo this Phenomenon ſo much a Myſtery as at firſt it may app for in the Veſſels of the Right Kidney, which is cover'd that large Organ the Liver, and cheriſh'd with a more co derable Warmth than the Left, the Circulation of the B is quicker, and the Separation of the urinous Serum ſpeedily perform'd. Hence a Stagnation of the Blood Urine cannot ſo readily happen in this as in the Left Kid which, being encompaſſed by the Flexure of the Colon, is more compreſſed in conſequence of a frequent Stagnation of Flatulencies. Hence it happens, that the intercepted Courſe of the Blood thro' the compreſſed Veſſels renders the Percolation of the Urine thro' the ſmall Tubes more difficult, brings on a ſpeedy Stagnation in them, and conſequently lays a Foundation for the Separation and Concretion of a tartareous or calcareous Matter.

'Tis equally remarkable, and equally confirm'd by Experience, that a Stone which has long remain'd in the Parenchyma of the Kidneys, or in the Pelvis, may be remov'd from its former Seat, and thruſt into the Origin of the Ureters, by various Cauſes; the principal of which are, violent Perturbations of Mind in conſequence of indulging the Sallies of Paſſion; vehement and ſudden Commotions of the Body, by Geſtation or Riding; and particularly the penetrating Cold of Northerly Winds admitted to the Loins; as alſo a too liberal Uſe of Diuretics, ſuch as Preparations of Turpentine and Juniper, generally, tho' abſurdly, preſcrib'd by ſome Phyſicians, as Preſervatives againſt the Stone. I have alſo often obſerv'd, that flatulent Colics, and the Spaſms with which the Hypochondriac, the Hyſteric, and ſuch as are ſubject to the Hæmorrhoids, are commonly afflicted, do by protruding the calculous Concretions lodg'd in the ſmall Papillæ of the Kidneys, frequently lay a Foundation for intenſe and violent Gravel Pains.

As for the remote, or, as they are called, the natural Cauſes, which contribute to the Generation of Stones in the Kidneys, and the Production of the ſubſequent Pains ariſing from them, the principal and moſt conſiderable is what we call a ſanguine Conſtitution; for Bodies of a ſoft and ſpongy Texture, eſpecially thoſe of the Female Sex, whoſe Veins are filled with Blood, who live delicately, and drink Wine, who indulge themſelves in Idleneſs, and lead a ſedentary Life, and who wantonly uſe Cheeſe, Milk, and Sweet-cakes, are, eſpecially after the fiftieth Year of their Age, when the Monthly Evacuations ceaſe, ſubject to Pains ariſing from the Stone, with which for the moſt part they are not afflicted ſo long as the Monthly Diſcharges are duly and regularly carried on. Among Men, they who in their Youth have been ſubject to Hæmorrhages of the Noſe, and frequent Head-achs, as alſo they who, having been accuſtom'd to hæmorrhoidal Diſcharges, have them either entirely ſtopt or diminiſh'd, are in a more advanc'd Age moſt ſubject to be afflicted with arthritic and nephritic Pains. Experience convinces us, that old Age is of all others moſt ſubject to the Stone, both in the Kidneys, and in the Bladder; becauſe then the Humours are more inſpiſſated, the Aliments become aceſcent in the Stomach, the Belly is leſs open, and Eaſe, which at that Period of Life is generally more indulg'd than in Youth, contributes not a little to the Generation of Stones. This Circumſtance *Eraſmus* in all Probability had in View, when he paſſes the following Jeſt upon his own Misfortune. "It may, ſays he, appear wonderful that "Women ſhould become barren by Age, which has render'd "me more fruitful; for from Day to Day I bring forth more "frequently."

It alſo happens, that ſcarce any Diſorder whatever is ſo frequently obſerv'd to be convey'd from Parents to their Children, as the Stone and the Gout, another Diſorder of a near Affinity to it in conſequence of a peculiar Diſpoſition of the Fluids and Solids; for both theſe Calamities not only afflict thoſe Men who are full of Blood, and are ſaid to be of ſanguine Habits, but they alſo both draw their Origin from a natural Weakneſs, and want of Tone, in the Solids; with this Difference, that in the nephritic Patient the Kidneys are the Seat of the Weakneſs; and in the arthritic, the Ligaments of the Joints. We alſo frequently obſerve, that rheumatic and arthritic Diſorders are eaſily transform'd, and converted into thoſe of the nephritic Kind; which in their turn are, by a Tranſlation, as readily chang'd into the former; ſo that when a Perſon naturally ſubject to the Gout has been long free from that Diſorder, he very readily becomes afflicted with the Stone in the Kidneys, and *vice verſa*. It alſo frequently happens, that both theſe Calamities in Conjunction rack the miſerable Patient at one and the ſame time.

As for the Generation of Stones in the Kidneys, we may account for it in this manner: When, in conſequence of too large an Impulſe of Blood, which with Difficulty returns by the Veins, the Blood-veſſels of the Kidneys are too much diſtended and ſtuff'd; hence it happens, that the minute Arteries, where they become ſmall Papillæ, and ſlender urinary Ducts, are burſt and forc'd open; thus, by a Stagnation the extravaſated bloody Serum, ſmall Abſceſſes and Ulcers are at firſt form'd, and afterwards gradually enlarg'd. When the urinous Serum, which is impregnated with many tartarous and ſlimy Parts, ſtops in theſe Abſceſſes and Ulcers, the more weighty and acuminated Particles are ſeparated from the reſt, and form themſelves into Concretions, which at firſt have the Appearance of a thick and coarſe ſabulous Matter; afterwards Grains of a cloſer and more compact Texture are generated, which by the Aſſiſtance of a plentiful Secretion of Urine are eaſily waſh'd away; and often not totally diſcharg'd without Pain. Where-ever, then, ſuch a groſs and heavy Sand ſubſides in the Urine, it is an infallible Sign of Stones being lodg'd in the Kidneys. But when theſe calculous Concretions form'd in the ulcerated Subſtance of the Kidneys become gradually larger and harder, and are either by the Urine, which is impregnated with tartarous Parts, or by ſome other Cauſe, convey'd into the Pelvis, or the Beginnings of the Ureters, more terrible Pains are excited, and a formidable Train of Symptoms appear; becauſe the calculous Concretions muſt make their Way thro' theſe narrow Ducts, of exquiſite Senſation, to the urinary Bladder, into which when they have fallen, the Symptoms are entirely remov'd, and Strength is reſtor'd, to the no ſmall Joy of the Patient

That Stones may alſo be generated in the Parenchyma of the Kidneys, by the Stagnation of an ichorous, bloody, or purulent Humour, is, among other Circumſtances, plain from theſe, that in nephritic Patients, as was long ago obſerv'd by *Celſus*, ſomething of a bloody or purulent Appearance is diſcharg'd with the Urine; that Patients afflicted with the Stone frequently diſcharge a bloody Urine; and that their Kidneys have, after their Death, been found to be large, flaccid, and exulcerated. This is alſo obvious from a Conſideration of the Cure, which is moſt happily brought about by abſtergent, vulnerary, conſolidating, and gently aſtringent Remedies. Nor do I deny, that without the Subſtance of the Kidneys being previouſly injur'd, a tartarous Matter, or Concretions of Sand of a very ſurpriſing Bulk, may be gradually form'd in the Pelvis, and larger Ducts of the Kidneys, in conſequence of a Stagnation of the Urine. But in proportion, as this Matter, whether ichorous, or tartarous, differs with regard to Colour, Craſis, and Conſiſtence, and according as the Accretion is greater or leſs, ſo various Kinds of Stones are generated and form'd; for ſome conſiſt of a Subſtance ſo hard, that they appear almoſt to be of the Nature of a Stone; others are friable, and leſs firmly compacted; ſome are of a pale, and others of a cineritious Colour, whilſt others are red, or of the Colour of Sandarach; ſome are larger, and others ſmaller; ſome are more angular and rough, whilſt others are much leſs ſo.

That all nephritic Diſorders, ſuch as Infarctions of the Kidneys, Inflammations, Exulcerations, and Pains ariſing from the Stone, are more difficultly cur'd in old, than in young People, is a Truth not only confirm'd by Experience, but eſtabliſh'd by the Authority of *Hippocrates*, in the ſixth Aphoriſm of his ſixth Section; for as Wounds and Exulcerations of the internal Parts are in an advanc'd Age difficultly cur'd, by reaſon of an increaſed Intemperies of the Humours, and an abundance of the Excrements; ſo the Wounds and Exulcerations of the Bladder are in that Period of Life cur'd with the greateſt Difficulty, by reaſon of the exceſſive Acrimony of the Urine.

When violent nephritic Pains do not remit for ſeveral Days and Nights, but inceſſantly rack the Patient, and reſiſt the moſt approv'd Remedies; and when at the ſame time a total Suppreſſion of Urine comes on, accompanied with Coldneſs of the Extremities, and a kind of Convulſion of the Tendons; theſe Symptoms pronounce the Death of the Patient to be near. But Pains ariſing from the Stone preſage the moſt particular and imminent Danger to thoſe, who, thro' a long continued Courſe of Grief and Sorrow, have had their Strength previouſly impair'd; ſince, immediately upon their being ſeiz'd, a greater Loſs of Strength, and a Gangrene of the internal Parts, enſue. Nor is it a good Symptom, when a Stone lodges long in one of the Ureters; for by this means the Appetite is loſt, and the Digeſtion deſtroy'd, whilſt the Nauſea, the ſtrong Efforts to vomit, and the Uneaſineſs remaining for a conſiderable time, a ſlow hectic Fever comes on, waſtes the Strength, conſumes the Fleſh, and puts a ſpeedy End to the Patient's Life.

After the Death of ſome Patients, Stones of a ſurpriſing Bulk, conſiderably compact, and furniſh'd with large Branches, have been found in their Kidneys, which appear'd to be totally exulcerated, and cover'd with a hard Membrane, tho' they were never known to complain of any Pain during their Lives; and theſe Patients are cut off by a Diſorder which we call *Tabes Renalis*. Some are, ſoon after their being ſeiz'd with nephritic Pains, cut off by an acute Diſtemper, whilſt an Inflammation of the Stomach or Inteſtines at laſt ſucceeds the racking Pains they have endur'd. Others, by reaſon of a total Suppreſſion of Urine, fall into a Dropſy of the Breaſt, a Lethargy, or Convulſions. *F. Hoffman.*

The CURE, *as propoſed by* ARETÆUS.

To prevent the Generation of Stones in a Conſtitution naturally diſpoſed to breed them, is a Thing impoſſible; for it is more eaſy to prevent the Conception of Children in the Womb, than breeding of Stones in the Kidneys; our only Way therefore is to endeavour to expel them. For this Reaſon I ſhall give Directions in Caſes of Difficulty, where the Stone pertinaciouſly adheres to the afflicted Part, which is a Circumſtance attended with a violent Pain, and ſometimes the Patient ſinks under a Complication of Gripes, Colic, and a Suppreſſion of Urine; for the Kidneys and Colon are contiguous. In a Fit of the Stone, therefore, attended with Gripes, and a Suppreſſion of Urine, open the Vein of the Ancle, on the ſame Side with the affected Kidney; for an Effuſion of Blood from the Kidneys relaxes that Conſtriction, which is the Effect of the Stone; and an Inflammation having ſeiz'd all the Parts, it is moſt readily reſolv'd by an Exinanition of the Veſſels. Embrocations alſo of the Loins near the Seat of the Kidneys are to be uſed with old or new Oil, in which Rue has been infuſed, or Diuretics, ſuch as the Tops of Dill, Roſemary, or Sampſuchus; with theſe let the affected Parts be embrocated, as with Water; for ſimple Unctions are of little Service. Beſides theſe, foment the Parts with Oil of Chamomile in Ox-bladders, and let Cataplaſms be made of the ſame Materials, mix'd with Meal. Sometimes Cupping without Scarification relieves in a Fit of the Stone; but the beſt Way under an Inflammation is to ſcarify. If none of theſe move the Stones, let the Patient bathe in Oil, which is inſtead of all Remedies; for the Warmth thereof relaxes, and in ſome meaſure lubricates the Parts, and its Acrimony ſtimulates to Excretion. Theſe then are the topical Medicines which promote the Expulſion of the Stones. Simple Medicines are Potions of the Roots of Valerian, Spignel, and Aſarabacca; or of the Herbs Prionites, Parſley, or Sium; compound Medicines are, Ointments compoſed of Spikenard, Caſſia, Myrrh, Cinnamon. *Aretæus περὶ θεραπ. χρον. παθ. Lib.* 2. *Cap.* 3.

From ALEXANDER TRALLIANUS.

The Cure of the Stone in the Kidneys, at the time of the Fit, muſt be attempted by ſuch Medicines as are of relaxing and lenitive Qualities, and are, beſides, endu'd with the Virtue of diſſolving and expelling the Stone. The beſt Remedy for theſe Purpoſes is Bathing; becauſe it not only mitigates, but has Virtue ſufficient to cure the Diſtemper. It frequently indeed mitigates the Pain of the Colic, without curing it; but, under a Fit of the Stone, it not only mitigates the Pain, but wholly relieves the Patient. For the more effectually anſwering this End, let the Parts be anointed with Oil of Chamomile while in the Bath, and let the Patient ſit for a good while together in the Solium, or Bathing-chair, in plenty of hot Water; and not only uſe the Bath once every Day, but two or three times. In the Summer Seaſon let him often uſe the cold Bath; after which, being well wrapt in Linen, let him drink the Decoction of Carduus, with Smallage, or a little Aniſe. If the Pain continues, and the Expulſion of the Stone does not ſucceed, let him drink the Decoction of Cinquefoil, with his Cloaths ſtill wrapt about him. This is a very grateful as well as effectual Medicine, and ought to be taken out of the Bath, either alone, or with Oxymel. If the Root of Cinquefoil be wanting, a Decoction of Eryngo, or Eryſimum, and Prionites, being drank, is very effectual for the ſame Purpoſe. Outwardly may be apply'd Bags of frumentaceous Meals, with Decoctions of Chamomile, Marſhmallows, Melilot, and Oil of Chamomile, often changing them. If frumentaceous Meals be wanting, you may uſe Woollen Rags, moiſten'd with ſweet Oil, or Oil of Chamomile, often warming and changing them. Clyſters alſo are to be adminiſtred, but ſuch as are not very acrimonious, but have a good Quantity of Oil in them, and are endu'd with a laxative and diſſolvent Virtue. Such are Decoctions of Marſhmallows, Fenugreek, dry'd Figs, Chamomile, and Oil of Chamomile; and in Conſtitutions where Heat much abounds, Cremor of Ptiſan, mix'd with Oil of Roſes, Chamomile, and Yolks of Eggs. Theſe Medicines being of a lenitive Quality, by reſtoring the Parts to a good Temperature, leſſen the Cauſe of the Diſeaſe, and prevent thoſe who have always the Stone in the Kidneys from having a Fit. If the Diſeaſe be ſtill obſtinate, we muſt have recourſe to more powerful Medicines; ſuch is Goat's Blood, which muſt be thus prepar'd:

> When Grapes begin to be ripe, take a new earthen Pot, and put Water in it, and boil it, in order to take off the earthy Quality of it; then take a He-goat, in the Vigour of his Age, which is about the fourth Year, and fed for ſome time with Fennel-leaves, Amomum, and ſuch-like ſweet-ſcented Herbs; cut his Throat, and receive the middle Part of the Blood, rejecting what comes out firſt and laſt, in the Pot. After it is coagulated, mince it ſmall in the Pot, and expoſe it to the Air, under the Covert of a fine Sieve, or a thin Linen Cloth, that the Sun and Moon may ſhine upon it, and that it may be dry'd, taking care that it receives no Moiſture. When it is dry, reduce it to Powder, of which give a Spoonful at a time in *Cretan* Wine.

This is a moſt powerful and efficacious Remedy, as I know by long Experience. I have given it with burnt Troglodytic Myrrh in the ſevereſt Pains, and by that means brought away a large Stone piece-meal by Urine. This Medicine, beſides diſſolving the Stone, mitigates the Pain, and prevents the Generation of Stones for the future; for which Reaſon it is called, *The Hand of God.*

Anodynes are to be uſed only in the time of the Fit, and under extreme Pain, but avoided at other times, for fear of creating a Diſtemperature in the Kidneys. But if there be any Danger of the Patient's ſinking under the continual Pain, and want of Sleep, we muſt have recourſe to ſuch Remedies, as have not only the Virtue of mitigating Pain, but of procuring Sleep.

As to Bleeding, if the Patient be full of Blood, or the Fit be attended with an Inflammation, you ought to begin with breathing a Vein; by means of which, the Parts being relaxed, and the Paſſages open'd, the Remedies to be adminiſter'd will have the more room to exerciſe their Virtue.

Amidſt a Plenty of Medicines for this Diſeaſe, ſome indeed diminiſh the Stone, but at the ſame time promote the Generation of other Stones, by increaſing their efficient Cauſe, which is the igneous Heat and Diſtemperature of the Kidneys. To prevent this Effect, avoid ſuch Medicines as are very hot and acrimonious; or, if you are neceſſitated to uſe them once or twice, deſiſt from them after you have obtain'd your Purpoſe, and do not uſe them, as is too commonly done, for the ſake of Preſervation. But all our Intentions muſt be directed to the procuring of a good Temperature, for which End we muſt make uſe of ſuch Medicines as are attenuating without any conſiderable Degree of Heat. Such are Oxymel, Maiden-hair, a Decoction of Marſh-aſparagus, and Couch-graſs, the Roots of Smallage and Eryngo, and the Herb Cinquefoil, the Root and Leaves of Plantain, but eſpecially its Seed, the Broth of Chiches, and Seeds of Peony and Almonds. But theſe are not to be uſed continually, but only when you are apprehenſive of a Collection of groſs Matter in the Kidneys. You would do well, always, before you eat, to drink warm Water; for nothing ſo well cleanſes the Reins from Recrements, or brings them to a juſt Temperature, ſo as to be indiſpoſed for generating the Stone; for in Length of Time their fiery Heat is extinguiſh'd by the Tepidneſs of the Water. They are in the Right therefore, who in the middle of their Meals drink Water, or Wine cool'd, or prepar'd with the Juice of Roſes or Violets. All ſeaſon'd Meats, of what Kind ſoever, Pickles, and every thing that has Pepper in it, are to be avoided. And not only acrimonious Food, but ſuch as yield a groſs Juice, are to be prohibited, ſuch as ſalted Meats, prepar'd Swines Udders, fine white Bread, hard Eggs, Cakes, and all other things prepar'd with Milk, as well as Milk itſelf, and Cheeſe, together with very black and auſtere Wines. The Patient alſo muſt never lie upon a Feather-bed, for theſe heat the Kidneys to a great Degree; he ought alſo not to ſtand much, but to keep himſelf ſitting, or in Motion. He muſt avoid eating late, and Meats of hard Digeſtion, ſuch as Sauſages, all Fiſh of the cetaceous Kinds, as the Tunny, Mackrel, Pollard; and all teſtaceous Fiſh, except the Scallop and Sea-urchin, which laſt he would do well frequently to eat; for, beſides inducing a good Temperament, it has a Faculty of provoking Urine. Lobſters and Whelks may ſometimes, tho' ſeldom, be eaten; but Oyſters are wholly forbidden, as well as all fat Beaſts and Birds, and the continued Uſe of ſuch as live in Marſhes: But the Wings of Geeſe, and ſmall Birds, which are not fat, as green Sparrows, and ſuch as build in Towers, and the like; of Fruits, Cucumbers, eſpecially the inner and medullary Part, Melons, dry'd Figs, thick-rinded Apples, and Pears in moderate Quantities, but not for Continuance, are allow'd. *Trallian, Lib.* 9. *Cap.* 4.

From HOFFMAN.

The whole Secret in curing Nephritic Pains ſeems to conſiſ in bringing away the Stones eaſily, and with as little Trouble a poſſible; and in preventing and hindering the freſh Formatio of that Sand or Matter which proves the immediate Cauſe o the Diſorder, and all its concomitant Symptoms; for the Method of Cure, under an actual Paroxyſm, differs widely from the Meaſures to be taken when the Patient is in a State of perfect Eaſe; in which Caſe, Preſervation or Prevention ought t be the Intention of the Phyſician.

In the Paroxyſm itſelf, where the Symptoms are violent and the whole Œconomy of the vital Functions diſorder'd b the exquiſite and intolerable Pain, the firſt Step to be taken i by proper Medicines, to allay the Vehemence of the Pain; an by well-choſen Remedies, to ſooth, and, if poſſible, remov the ſpaſmodic Strictures, which not only rack the adjacent Part but, in conſequence of that mutual Conſent which prevails b tween any one Part and all the others, the whole nervo Syſtem. This is ſo much the more neceſſary, becauſe, und ſuch a violent Attack of Spaſms, which conſtrict and brace u the Urinary Ducts, the Progreſs of the Stone thro' the Uret

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into the Bladder is, with the greateſt Difficulty, promoted. Among the moſt celebrated Medicines for anſwering this Intention, I muſt, above all others, recommend my own anodyne Mineral Liquor, on account of its Efficacy and Safeneſs; for, when exhibited in ſmall, but frequent Doſes, by allaying the Spaſms of the *Primæ Viæ*, it wonderfully removes the uneaſy Senſation there felt, the Nauſea, and the Vomiting. If a ſufficient Quantity of this Medicine cannot be had, the moſt proper Succedaneum to it is Spirit of Nitre, carefully prepared, in the manner directed by me in *Obſervat. Phyſico-chym.* See NITRUM. For this Spirit, being now diveſted of its acid Quality, by its mild and ſulphureous Exhalations diſpels Flatulencies, and relaxes ſpaſmodic Strictures. The Spirit is, for this Intention, moſt properly exhibited with ſedative Waters; ſuch as that of black Cherries, and thoſe of the Flowers of *Egyptian* Thorn, Elder, red Poppies, Lime-tree, Primroſe, Lily of the Valley, Meadow-ſweet, and eſpecially the Waters of Chamomile-flowers, and the Tops of Yarrow, with the Addition of a little of the Syrup of red or white Poppies. It may alſo be exhibited in Fleſh-broth, with a few Spoonfuls of pure and new Oil of Almonds, obtain'd without Fire. This Intention is alſo anſwered by Emulſions of ſweet Almonds, the Four cold Seeds, and thoſe of Poppy, Gromwel, and Carrot-ſeeds, prepared with the above-mention'd Waters, and edulcorated with a ſufficient Quantity of the *Syrupus Albus*. But when theſe mild and gentle Medicines are not ſufficient for mitigating the Pain, we muſt have recourſe to thoſe which are ſomewhat more powerful, ſuch as Opiates, corrected, and render'd ſafe, by the Addition of other Subſtances; of this Kind are the Pilulæ Wildeganſii, the Pilulæ Starkii, *Sydenham*'s Liquid Laudanum, the Theriaca Cœleſtis, and the Trochiſci de Alkekengi; all which, on account of their Efficacy, and the Tendency of their Ingredients to ſooth and allay Pain, deſerve the higheſt Encomiums.

Beſides theſe Remedies already mention'd, nitrous Preparations, and among theſe Nitre alone, purified and cryſtallized, or an artificial Compoſition of the Spirit of Nitre, and Salt of Tartar, or antimoniated Nitre, are ſuperior, both in Efficacy and Safeneſs, to all other Remedies in allaying intenſe and acute Pains, accompanied with violent and raging Commotions of the Blood and Humours; and muſt, of conſequence, be of all others the moſt proper in Nephritic Diſorders. Theſe Preparations are moſt commodiouſly mix'd with Powder of Crabs-eyes, with Cinnabar, or the *Pulvis Marchionis*, and a few Grains of the *Trochiſci Alkekengi*, or the *Pilulæ Wildeganſii*, and ſo drank off in an Emulſion, or in ſweet Whey.

But when the Pains and Spaſms become ſo violent as to be intolerable, internal Medicines alone are not ſufficient for ſoothing and allaying them; but external Applications muſt alſo be called in to the Relief of the Patient; and, among theſe, none produce more happy and ſalutary Effects than Clyſters prepared of emollient Flowers, eſpecially thoſe of the Garden Mallows, Elder, red Poppies, Yarrow, common Chamomile, and Mullen, boiled with Whey; adding ſome of the *Syrupus Dialthææ* of *Fernelius*, Nitre, and *Epſom* Salt. When the inferior Part of the *Rectum* and *Colon* is ſo violently conſtricted, that the Flatulencies cannot be tranſmitted, but, riſing to the ſuperior Parts, increaſe the Uneaſineſs they already labour under, I have, in this Caſe, often obſerved very ſingular Relief afforded by Clyſters of Oil, and pinguious Subſtances. The Belly being thus rendered ſoluble, and a Paſſage open'd for the Flatulencies, the Reachings to vomit, and the uneaſy Senſation of the Præcordia, forthwith diſappear.

In mitigating Pains of this Kind, as the Method of *Hippocrates* is the moſt antient, ſo I think it the beſt and moſt efficacious of any; for, ſays he, in his fifth Book *de intern. Affection.* "when a Pain has ſeiz'd the Kidneys, waſh in a large Quantity of hot Water; and apply tepid Fomentations, eſpecially to the Part affected." The ſame Remedy is recommended by *Trallian*: And it muſt be owned, that no Remedies whatever are equal to Baths, and Semicupiums of pure Water, eſpecially Rain-water moderately warm, in removing the moſt violent Pains of this Kind; and the Effect may be the more certainly depended upon, the oftener they are repeated. In Caſes of this Nature I have alſo often ſeen ſingular Relief afforded, by applying to the Part affected, Liniments of human Fat, or that of a wild Cat, a Dog, or Beaver, made up with Unguentum Dialthææ; or a Bladder fill'd with a Decoction of the above-mention'd emollient Flowers, prepared with Milk.

When, in conſequence of a due and careful Uſe of theſe Medicines, a remarkable Remiſſion and Alleviation of the Spaſms enſues; when the Pulſe becomes more calm and gentle; when a moiſt and equable Heat is felt over all the Surface of the Body; and when the Flatulencies are ſucceſsfully diſcharged by the Anus; then the Protruſion of the Stone is to be attempted, with proper Remedies, and due Caution. I have ſeen this Intention ſpeedily anſwer'd by various Remedies, and, among theſe, none affords a more remarkable and inſtantaneous Relief than liberal Draughts of an Infuſion prepared of Paul's-betony and Parſley, or of the Seeds of wild Carrot, Celery, and Fennel, Winter Cherries, Liquorice-root, and Yarrow-tops; eſpecially if a Glaſs of Liquor ſomewhat ſpirituous, ſuch as *Malmſey* Wine, or Geneva, is drank immediately after the Exhibition of the Infuſion. I have alſo obſerved, that in Conjunction with the Motion of the Body, a large Draught of *Foreſtus*'s Antinephritic Infuſion has proved of ſingular Efficacy in bringing Stones from the narrow Ducts in which they were lodged. But there is, in ſome Caſes, a Neceſſity for more powerful Propellers, the ſafeſt and moſt efficacious of which are, Mother of Pearl, or the Shells of Eggs calcined, and exhibited with Lemon-juice, in ſome proper Vehicle.

The PRESERVATIVE METHOD.

As, in the Beginning of this Diſeaſe, Preſervation is, comparatively ſpeaking, an eaſy Taſk; ſo in its Progreſs, when, in conſequence of any conſiderable Fault or Exulceration of the Kidneys, a large Quantity of Stones is form'd, and the Paroxyſms return frequently, the Diſorder is attended with the greateſt Difficulty of Cure, and a Set of the moſt perplexing Circumſtances; for ſince, as I have already obſerved, many are afflicted with Nephritic Pains, either in conſequence of a preternaturally large Quantity of Blood, or from its being render'd crude and thick, by the Uſe of a Variety of incongruous, viſcid, and acid Aliments; hence nothing can be more proper for removing this terrible Calamity, than taking a ſufficient Quantity of Blood, uſing due Motion and Exerciſe, drinking diluting Liquors, eſpecially the medicinal *Selteran* Waters; as alſo freſh, but acidulated, Whey.

In Caſes where Stones are continually diſcharged, there is a Neceſſity for having recourſe to Medicines of a vulnerary, gently conſolidating, and aſtringent Quality; for which Reaſon it has long ago been obſerved by many, and confirmed by the Practice of the common People, that, by a long Uſe of Decoctions, or Infuſions of vulnerary Herbs, prepared with Water or Ale, and mix'd with ſweet Butter or Honey, many have been entirely freed from this Diſorder. The principal Herbs proper for this Purpoſe are Horſetail, Golden-rod, Ground-ivy, Strawberries, white Horehound, Paul's-betony, Pellitory of the Wall, Yarrow with its Tops, Mallows, Bark of *Egyptian* Thorn-root, Club-moſs, torrefied Juniper-berries, Strawberries dried, the Stones and Fruit of roaſted Hips; of which Powders an Electuary may be prepared, with white *Pruſſian* Honey, which, by its conſolidating and balſamic Quality, is very proper againſt Diſorders of the Kidneys; and half a Spoonful of it, taken in the Morning, drinking Tea after it, has been obſerved to afford very ſingular Relief to thoſe who, for many Years, have laboured under theſe Diſorders.

There is alſo another Method of preſerving from the Stone by alcaline Medicines, which ſubdue and deſtroy that acid and glutinous Matter, which is the principal Foundation and Ground-work of the calculous Concretions: Hence it is, that Crabs-eyes, Mother of Pearl, Shells of Eggs, Shells of Fiſhes, and Snails, either ſimply prepared, or calcined; as alſo Thunder-bolts, Jews-ſtone, and the celebrated Powder of *Volkhammer*, which is thought to conſiſt of calcined precious Stones; or ſimple Oil of Tartar *per Deliquium*, or of Potaſh, or fixed Nitre, Tinctures of Tartar, and the acrid Tincture of Antimony, frequently uſed, prevent the Generation of Stones, and conſequently free the Patient from the violent Pains produced by them.

There are ſtill more Remedies, whoſe Efficacy is obſerved to be equally beneficial to Nephritic Patients; and theſe are ſuch as, conſiſting of oleous, pinguious, mild, and ſomewhat anodyne Particles, prevent that Union of the ſaline Spiculæ, which is neceſſary to the Formation of a ſolid Concretion; for it is known, from Chymical Experiments, how ſmall a Quantity of any pinguious Subſtance retards Cryſtallization. To this Claſs we may alſo juſtly refer thoſe Seeds and Fruits which abound with a mild and ſweet Oil; ſuch as the Four greater cold Seeds, thoſe of Gromwel, Saxifrage, white Poppy, and Ladies-thiſtle, ſweet and bitter Almonds, Stones of Cherries and Peaches, which, either when reduced to a Powder with Sugar, or made up in the Form of an Emulſion, and frequently uſed, prove of ſingular Service to thoſe who are frequently afflicted with this Diſorder. We may alſo reckon, among the beſt Remedies for Diſtempers of the Kidneys, Liquorice-root, the Powder or Infuſion of which is of ſingular Efficacy, in obtunding and correcting the acrid Particles of the Salts, and waſhing off mucous Subſtances. Among other valuable Medicines of this Claſs we may alſo juſtly reckon Yarrow, with its Tops; an Infuſion or Decoction of which is, in Diſorders of this Kind, of the moſt ſingular and ſurpriſing Efficacy, if uſed daily for a conſiderable time. By the Uſe of this ſingle Herb, I have obſerved ſome Patients entirely freed from Nephritic Pains, to which they had been long ſubject; for it is proper in Caſes of this Nature, upon ſeveral Accounts, ſince, beſides its conſolidating and mitigating Quality, it abounds with a truly anodyne Oil, which, both in Colour and Virtues, reſembles that of Chamomile; and is highly efficacious in allaying Pains, and relieving Spaſms.

But, as in all Chronical Diſorders, ſo more eſpecially in preventing Nephritic Indiſpoſitions, we are to take particular Care, that the Stomach and Digeſtion, as alſo the Diſcharge of the Fœces, be kept in a due and natural State. *Aetius*, in his ſixteenth Chapter, has a memorable Paſſage to this Purpoſe. "A moderate Quantity of Food, of an eaſy Digeſtion, preſerves againſt the Stone; for Crudities not only exaſperate the Diſorder, but even lay a Foundation for it where it was not before: Let ſuch as are ſubject to the Stone, therefore, abſtain from eating to Exceſs, and from Supper altogether; let them vomit frequently, and daily drink Liquors impregnated with Wormwood. Let them alſo be purged at certain times; and live upon Food which can neither create Surfeits, nor generate Crudities. Let them alſo uſe ſuch Subſtances as provoke Urine, daily eating well-boil'd Parſnips, Fennel, Penyroyal, and Calamint; and, among Sea Subſtances, the Strombus, *(a kind of Shell-fiſh)* the Lobſter, and the Crab. Let them alſo drink, for many Days, a Decoction of Eryngo-roots, and alſo of Dittany. The Water they drink ſhould be of the pureſt Kind, and ſtrained: Their Wine ſhould be ſmall and white, ſo that it may provoke Urine. They ſhould uſe moderate Exerciſe, and Frictions in a Bath, impregnated with calcin'd Nitre, calcin'd Dregs of Wine, and Pumice-ſtone." *Trallian* is alſo very full and circumſtantial, as to the Regimen of Nephritic Patients: See his Sentiments above.

The celebrated Secret of *Zecchius*, recorded in his Conſultations, was undoubtedly borrow'd from *Trallian*, ſince it conſiſts only of about a Pint of warm Water, drank before Dinner. And *Carolus Piſo*, many Years before the Days of *Zecchius*, recommended warm Water, affirming, that after the firſt Stone was diſcharged, none would ever after be form'd, if the Uſe of warm Water was perſiſted in.

CAUTIONS *and* PRACTICAL OBSERVATIONS.

But as in the Cure, as well as the Prevention, of this Diſorder, the chief Buſineſs of the Phyſician conſiſts in adjuſting his Medicines to different Conſtitutions, Ages, and Temperaments, and accommodating them to the particular Functions injured, and the ſeveral concurring Cauſes of the Diſorder, I ſhall ſubjoin ſome Cautions and Obſervations, which will be found to be not only uſeful, but neceſſary in Practice. Firſt of all, then, we are diligently and carefully to conſider, that the Medicines uſed in the Cure of this Diſorder are not equally fit and proper for all Conſtitutions; nor do they always produce the ſame Effect, or afford the ſame Relief, on account of the different and mutable State of the Fluids, and the peculiar Texture of the Solids depending upon that Difference, which is, by the *Greeks*, call'd *Idioſyncraſia*. For this Reaſon Medicines ſhould ſometimes be varied; ſince, in Proceſs of Time, Nature becomes ſo habituated to one Medicine, that it often ceaſes to produce the ſame Effect it formerly did.

It has often happen'd, that Nature herſelf, without the Concurrence of Medicines, has unexpectedly diſcharged the Stone. Something analogous to this happens in Child-birth, when, in ſome Caſes, Medicines are of no manner of Efficacy, till Nature herſelf come in to their Aſſiſtance: Hence it ſometimes happens, that Quacks, with their inſignificant Medicines, have acquired the Reputation of performing a Cure which was wrought by Nature herſelf. The Phyſician ought therefore to advert to this, that Nature alone often puts a Period to theſe violent Spaſms, Pains, and Commotions; which is not to be aſcribed to the Force of Imagination, ſince it may be accounted for from real phyſical Cauſes; for the great Art of Phyſic conſiſts in making a due Eſtimate, with regard to the preciſe and lucky Moment in which Nature begins to act, and exert her Force for the Relief of the Patient: Hence it is ſometimes adviſeable, eſpecially when Medicines have for ſome time been exhibited without Succeſs, to deſiſt from their Uſe, that Nature may be allow'd to take her own Meaſures, ſince ſhe often ſpontaneouſly, and unexpectedly, produces more happy Effects than the Phyſician can poſſibly do, by diſturbing her Operations with his forcing and ſtimulating Preparations.

Tho' the more acrid and vehement Diuretics, and Provokers of Urine, ſuch as the Preparations of Turpentine, Juniper, Amber, Garlick, Onions, and Parſley, are neither uſeful in preſerving from the Stone in plethoric Patients, nor of any Service in a Nephritic Paroxyſm, whether ſimple, or produced by Stones, but render the Diſorder worſe, and heighten the Symptoms; yet the prudent and cautious Uſe of them is not altogether to be condemn'd and laid aſide; ſince in coarſe, robuſt, moiſt, and ſluggiſh Conſtitutions, eſpecially when exhibited with a preſervative Intention, they produce happy Effects, not only by ſtrengthening the Tone of the renal Veſſels, but alſo by diſcharging thro' the Kidneys a large Quantity of impure tartarous Serum.

As ſeaſonable, moderate, and dry Geſtation, or Motion, is highly aſſiſtant to Nature in protruding the Stones, and may be properly uſed after well-choſen Propellents, eſpecially diluting Liquors, ſuch as hot and cold Medicinal Waters, and Whey, which, by their Weight, act ſo powerfully as to remove the Stone from its fix'd Seat; ſo it has been obſerved, that unſeaſonable Geſtation, or Riding, has proved prejudicial to many, ſince, by removing the Stone from the Place in which it created no Uneaſineſs to the Patient, and altering its Poſition, ſo that its rough and pointed Surface more ſtrongly irritated the delicate nervous Coats, Spaſms ſo violent and terrible have been excited as ſometimes to prove mortal.

There perhaps is not a better or a more efficacious Method of preſerving from the Stone than ſeaſonable Veneſection, eſpecially in Caſes where the Body is naturally diſpoſed to diſcharge too large a Quantity of Blood. This Remedy is, in ſome Caſes, alſo highly proper in the Paroxyſm itſelf; when, for Inſtance, a Plethora and quick Pulſe are attended with an intenſe Heat, and a preternatural Thirſt; for ſuch is the Nature of intenſe Pain, that, in conſequence of the violent Spaſms it excites, the free Circulation of the Blood thro' the Veins is retarded, and impetuouſly carried in large Quantities to improper Parts: Hence ariſe Epilepſies, Convulſions, Deliriums, Apoplexies of the ſanguine Kind, Diſcharges of bloody Urine, inflammatory Fevers, and other Diſorders, of which we have too frequent Inſtances; all which might be prevented by a due and ſeaſonable Veneſection.

When Pains, ariſing from the Stone, happen in ſcorbutic Conſtitutions, in ſuch as abound with impure and recrementitious Humours, or in thoſe who are ſubject to a chronical purple Eruption, and when, under the very Nephritic Paroxyſm, a ſcorbutic Impurity exerts its Force, various and highly dangerous Symptoms appear, which require the higheſt Skill and Caution in the Phyſician; nor, in this Caſe, can any thing be ſo properly preſcribed as diluting and Pain-aſſwaging Liquors, ſuch as Whey, either acidulated or ſweet. The Patient muſt alſo abſtain from every kind of Malt-liquor, and Wine of all Sorts; but I have obſerved, that, in ſuch Caſes, Whey moderately warm, and gentle Diaphoretics, were of ſingular Service.

However inſtantaneous Relief Baths may afford, or however neceſſary they may appear, yet they are by no means to be uſed in plethoric, full, and fat Conſtitutions, where there is at the ſame time a Difficulty of Breathing. Before Baths can, in this Caſe, become proper, the Plethora is to be removed, the Belly render'd ſoluble, and the Violence of the Pain mitigated.

Nephritic Pains are often accompanied with a convulſive Colic, ariſing from the Hæmorrhoids: The prudent Phyſician muſt be at the Pains to diſtinguiſh all theſe Circumſtances, and proceed cautiouſly, both in pronouncing the Fate of the Patient, and in the Cure of his Diſeaſe. But what demands our particular Care and Attention, is the racking and intolerable Pain of the Inteſtines, which muſt be mitigated or removed by Veneſection, the Application of Leeches, or by rendering the Body ſoluble by means of proper Clyſters. It often happens, that when the Stone is thruſt, by one continued and violent Impetus, thro' the Ureters, an intolerable Pain, accompanied with Loſs of Strength, is excited in the whole Region of the Back and Abdomen; but the Pain immediately ceaſes when the Stone falls into the Bladder.

When the Pain has continued for a long time, and the Patient has loſt his Strength; when old People are afflicted with this Diſorder; or when it is brought on by Grief, and a Weakneſs of the Pulſe is obſerved, that Opiates are to be ſhun'd like ſo much Poiſon, and none more carefully than the *Pilulæ de Cynogloſſo*, is confirmed both by Reaſon and Experience. In theſe Caſes it is better, and more adviſeable, to recruit and reinforce Nature by analeptic and moderately ſpirituous Waters, ſuch as thoſe of Mint, Baum, Lilies of the Valley, or of Cinnamon, without Wine; adding a Grain or two of Ambergriſe, and of the Extract of Saffron: Wine may alſo be uſed, in Moderation, for the ſame Purpoſe. Externally alſo the weaken'd Tone of the Inteſtines muſt be reſtored, as much as is poſſible, by ſpirituous and balſamic Liniments.

Among the hot and mineral Waters, none, by reaſon of the calcarious Earth with which they abound, more powerfully reſolve and diſlodge the tartarous Matter which is the Cauſe of this Diſorder, than the *Caroline* Springs; which, at the ſame time, muſt be uſed very cautiouſly and circumſpectly. After the internal Uſe of theſe for a Month's time, I have ſeen above five hundred ſmall ſmooth Stones, as large as Vetches or Lentils, diſcharged: But, after an Accident of this Nature, conſolidating and gently-balſamic Medicines are abſolutely neceſſary, in order to unite and incarn the Cavities left in the Kidneys, in conſequence of the ſmall Stones being diſlodged. But I know, from numberleſs Inſtances, that the ſafeſt, both for Preſervation and Cure, is the *Selteran* Spring; which, beſides the Purity of its Waters, contains an alcaline Salt, and is ſuperior to all other Medicines in the Cure of Wounds, and Imperfections of the Bladder. In Caſes alſo where the Humours are fraught with a ſcorbutic Impurity, and the Parts at the ſame time are exulcerated, the Waters of the ſame Fountain, mix'd with Milk, and uſed for a ſufficient time, are very proper.

BOERHAAVE

BOERHAAVE's *Method of Cure of a* STONE *in the* KIDNEYS *or* URETERS.

In order to the Cure of a Stone in the Kidneys, the Phyſician's Views muſt be directed to diminiſh the Stone; to procure its Expulſion; or, at leaſt, to bring it into a Part, where it may reſide, without giving exquiſite Pain, as into the Bladder.

This is principally done by a moiſt, mild, thin, and moderately ſalt Diet; by drinking Liquors of an aqueous Nature, or Fluids of the like Kind; and by the vital Powers.

The Vegetables which *Boerhaave* recommends in this Caſe, and which he adviſes to be taken plentifully, boil'd in Broth, are theſe, and others poſſeſs'd of the ſame ſaponaceous Virtues.

Borrage,
Chervil,
Gum Succory,
Lettuce,
Parſley,
The Roots of Carrots,
The Roots of Turneps,
---------- Skerrets,
Sow-thiſtle,
Vipers-graſs,
Dandelion,
Yellow Goats-beard.

Amongſt Liquors, Whey, Milk, and Buttermilk, of Animals fed on freſh Graſs only, are principally recommended.

The Uſe of theſe is excellent, provided it be perſiſted in till a Diarrhea is brought on, which muſt be continued for ſome time, though it ſhould reduce the Patient to a conſiderable Degree of Weakneſs; for this Method has frequently been known to cure inveterate Diſorders of this Kind.

Boerhaave ſomewhere obſerves, that Oxen, Stall-fed, and kill'd in Winter, have uſually ſtony Concretions found in their Livers, Gall-bladder, and biliary Ducts; and that in Cattle kill'd immediately after a Summer's Graſs, theſe Concretions are ſeldom or never found. And hence he draws an Argument for the Efficacy of the young ſaponaceous Vegetables.

Experience, the Touchſtone of Medicinal Applications, does not want the Confirmation of Reaſon. But it is entertaining, at leaſt, to examine into the Reaſon of Appearances, when attended with any Degree of Abſtruſeneſs. It may not, therefore, be amiſs to examine, why the ſaponaceous Spring Vegetables diſſolve ſtony Concretions in the Body. I have in many Places remark'd, that ſome *Menſtruum* is neceſſary to diſſolve a Portion of the Earth, in order to render it ſmall enough to enter the Pores of the Roots of Vegetables. It is not our preſent Buſineſs to conſider what this Menſtruum may be, having already diſcuſs'd this Subject under the Articles ACETUM, and BOTANY. But whatever it be, we may reaſonably ſuppoſe a Portion of it to reſide in the Juices of the Spring ſaponaceous Vegetables, not ſo much alter'd in its Circulation through them, as to diveſt it of a Power of diſſolving earthy Concretions, when taken into the Body, and aſſiſted by the vital Forces. And as the Milk alſo of Animals, whoſe Food is Graſs only, and Water, is, in a great meaſure, immediately produced from theſe vegetable Juices, may not Milk, Whey, and Buttermilk, be in ſome meaſure endu'd with a diſſolving Power?

Another Method of bringing about the Expulſion of the Stone is, to relax the Parts by Baths, Clyſters, and relaxing Liniments; to lubricate the Paſſages by moiſt, emollient, mild, and oily Medicines; to remove the ſpaſmodic Stricture of the Fibres by Opiates and Anodynes; to propel the Stone cautiouſly by Diuretics, and moderate Motion.

In theſe Views the ſubſequent Forms are recommended by *Boerhaave.*

Take of the Leaves of Mallows, Marſhmallows, yellow Mallows, Mercury, Pellitory of the Wall, Brank-urſine, and Orache, each four Handfuls: Boil in a ſufficient Quantity of Water for a Bath, to reach as far as the Loins.

Clyſters of the ſame Decoction are to be injected, and large Quantities of the ſame are to be perpetually drank; for all theſe contribute to relax, open, mollify, and expel.

An oily Lubricating Decoction.

Take thirty ſweet Almonds; twenty Piſtachio Nut-kernels; Poppy-ſeeds bruiſed, three Ounces: Let the Almonds and Piſtachio Nuts be blanch'd, and then bruiſed with the Poppy-ſeeds; after which let them boil in a ſufficient Quantity of common Water for half an Hour; then let them be ſtrongly beat together for ſome time; and afterwards add of Venice-ſoap, four Ounces; Liquorice, two Ounces. Let all boil together a little, and ſtrain off the Decoction, which muſt amount to three Pints. Let the Patient drink half a Pint of this four times a Day, upon an empty Stomach; and afterwards let him walk gently a little time.

An aperient Anodyne Opiate.

Take of Syrup of the Five opening Roots, an Ounce and an half; of ſolid Laudanum, two Grains; of purify'd Nitre, twenty Grains; of diſtil'd Parſley-water, ſix Ounces: Mix together. Let the Patient take half an Ounce every Hour.

A propellent Diuretic Decoction.

Take of red Chiches contus'd, two Ounces; Parſley-ſeeds, an Ounce; Roots of Quich-graſs, and of Parſley, each four Ounces; Leaves of Agrimony, Golden-rod, Male Speedwell, each half an Handful; Liquorice, an Ounce: Boil for half an Hour, with a ſufficient Quantity of Water for three Pints of ſtrain'd Liquor; to which add of Nitre, two Drams. Let the Patient drink two Ounces every Hour.

Thirdly, Regard muſt be had to the Symptoms. Thus, if there is an Inflammation, it muſt be remov'd, or at leaſt moderated, by Bleeding, relaxing Remedies, and the other Methods ſpecify'd under the Article INFLAMMATIO. The Pain muſt be mitigated by anodyne Emulſions; and the Aſperities of the Stone muſt be guarded by oleous, ſaponaceous, and glutinous Remedies.

Boerhaave is of Opinion, that no Dependence is to be had on Lithontriptic Medicines.

Whilſt the Stone is falling from the Pelvis of the Kidney thro' the Ureter to the Bladder, the above-ſpecify'd Method and Medicines are proper; particularly Bleeding, Clyſters, and Fomentations. *Boerhaave Aph.*

I muſt farther remark, that few Fits of the Stone occur, without inducing an abſolute Neceſſity for Bleeding immediately, which generally gives great Relief.

Laxative and emollient Clyſters, in which Turpentine is an Ingredient, are highly neceſſary; and theſe are to be repeated, or not, according to the State and Conſtitution of the Patient, and the Effects of the firſt; which the Phyſician, who inquires into theſe Circumſtances, can only judge of rightly.

Next to theſe are lenitive Purges, prepared, for Example, of Manna diſſolv'd, and quickened with ſome of the Cathartic Salts, and whatever elſe the Phyſician ſhall think adapted to the Caſe.

Opiates, alſo, are highly neceſſary, in order to take off the ſpaſmodic Contraction of the Parts where the Stone reſides, and to alleviate the Pain; but I think they ſhould ſeldom or never be adminiſter'd, without the above-mentioned previous Evacuations. Amongſt Opiates *Matthew*'s Pill is generally moſt eſteemed in theſe Caſes, on account of the Soap of Tartar, and other opening Ingredients. The uſual Doſe is betwixt ſix and ten Grains. But the Doſe, and Times of Exhibition and Repetition, can only be determined by the attending Phyſician.

As it may be agreeable to gouty People afflicted with the Stone, to know how Dr. *Sydenham*, perhaps the beſt practical Phyſician that any Age has produced ſince *Hippocrates*, treated himſelf under this Circumſtances a Part of his Method is ſpecify'd under the Article ARTHRITIS; the reſt is contain'd in the following Diſſertation.

Though it may ſeem to argue Indiſcretion to publiſh an Obſervation which I have experienced in myſelf alone, yet it is hop'd no equitable Perſon will be diſpleas'd with me, who have ſuffer'd ſo long, and ſo much, from bloody Urine, from a Stone in the Kidneys, for being moved to compaſſionate thoſe who labour under the ſame Diſeaſe, and to communicate thoſe Remedies which have given me Relief, though they may, perhaps, ſeem common, and not worthy of Notice.

In the Year 1660. I had the longeſt and ſevereſt Fit of the Gout I ever had in my Life, ſo that I was conſtrained for two Months in the Summer Seaſon to lie always in or upon a ſoft Bed; whence, towards the Cloſe of the Fit, I began to feel a dull heavy Pain, eſpecially in the Left Kidney; and ſometimes, though very ſeldom, in the Right. And after the Gout went off, the Pain in the Kidneys remain'd, and attack'd me at Intervals, which, though it was not very ſharp, made me fear the Stone; for I had hitherto eſcap'd thoſe Fits which are attended with ſevere Pain along the Ureters, and violent Vomiting. But though theſe Signs of the Stone in the Kidney appear'd not hitherto, yet I had Reaſon to believe I had a large Stone in one of them, which, being too big to paſs into the Ureters, occaſioned the above-mentioned Symptoms. And ſeveral Years afterwards I found I was not miſtaken; for having walk'd conſiderably, and for a long time, in the Winter Seaſon, in 1676. ſoon after the breaking of a ſevere Froſt, I made a bloody Urine directly, and conſtantly did ſo whenever I walk'd much, or was carried in a Coach over the Stones, though the Horſes went ſlowly; but this Symptom did not ſeize me when I travell'd in a Coach in unpav'd Roads, how long a Journey ſoever I made.

The Urine I voided on theſe Occaſions, though it look'd very bad at the time of making, ſo as to reſemble Blood, yet ſoon after it became clear at the Top, like natural Urine, the Blood falling to the Bottom by itſelf in Clots. To relieve this Diſorder, I had a large Quantity of Blood taken from my Arm;

and, after taking ſome Purges, had recourſe to ſeveral Sorts of cooling, incraſſating Remedies, along with a proper Regimen, and carefully forbore all ſharp, pungent, and attenuating Liquors. But having received no Benefit from theſe, and many other Remedies, which it would take up too much Time to enumerate, and fearing to drive the Stone forwards by Steel-waters, as ſuſpecting it was too large to be expel'd thereby, I at length loſt all Hopes of relieving myſelf by this Way, eſpecially having found, that ſome of my Acquaintance haſtened their Death by fruitleſly endeavouring to cure this Complaint by ſuch Medicines; for which Reaſon I reſolved to deſiſt from all farther Trials, unleſs by way of Prevention, by avoiding all Motion of the Body as much as I could.

But happening afterwards to recollect the great Commendations which ſome Perſons have beſtow'd on the Seed of the Aſh-tree, for its Stone-diſſolving or Stone-breaking Virtue, I imagined, that if the Seed had ſo much Virtue, the Manna thereof might probably have more. For the Manna which comes to us, according to Mr. *Ray*, and other earlier Writers, is neither an aereal Honey, nor a certain heavenly Dew, but rather a Liquor ouſing from the Leaves, Branches, or Trunk of the *Calabrian* Aſh-tree; of the Truth of which Mr. *Ray* was farther ſatisfied, whilſt he was on his Travels to *Italy*, by a Phyſician, who frequently gathered Manna from the Branches and Leaves of theſe Trees, firſt cloſely covered with Linen. Accordingly, to make the Trial, I diſſolved two Ounces and an half of Manna in a Quart of Whey, and drank it; and took a little Lemon-juice between whiles, as well to make it operate more ſpeedily, it being ordinarily a ſlow Purgative, as to render it more agreeable to the Stomach. It is hard to expreſs the Eaſe I perceived in the Region of the Kidneys, from this Medicine; for though the Pain was not continual before, yet I felt a troubleſome Weight. Encourag'd by this Succeſs, I took this Purgative every Week, on a ſet Day, for ſome Months, and found a manifeſt Amendment after every Purge, till at length I could bear more ſhaking in a Coach; and indeed continued free from this Symptom till laſt Spring, at the Beginning of which it return'd, occaſioned by my having had the Gout ſeverely all the preceding Winter, and my Inability to Motion, whence I was conſtrained to abate of my ordinary Exerciſe. And now I doubted whether I ſhould have recourſe to Purging again, as finding that the mildeſt Purge certainly occaſioned a Fit of the Gout, becauſe the whole Subſtance of my Body, in theſe latter Years, had, in a manner, degenerated into Nouriſhment for this Diſtemper. But at length I recollected, that I might ſafely reſume my former Method of taking Manna once a Week, provided I took an Opiate in the Evening, after the Operation, to quiet the Tumult raiſed by the Purgative. Accordingly, in the Morning, I drank two Ounces and an half of Manna diſſolved in a Quart of Whey; and at Night took ſixteen Drops of liquid Laudanum in Small-beer; and repeated the Manna and Laudanum in this manner twice a Week, for three Weeks. But afterwards I took the Manna only once a Week, becauſe it diſcharged ſuch Plenty of foul Humours, as to leave little Fear of the Gout. And Reaſon intimating, that if Manna was poſſeſſed of any Stone-diſſolving or Stone-breaking Virtue, its Efficacy, on which I depended, muſt needs be leſſened, in ſome meaſure, by ſo powerful an Aſtringent as Laudanum is, I thought it beſt to omit taking the Opiate, as I only purged once a Week.

I have continued this Method for ſome Months, always purging on the ſame Day of the Week, and would not upon any Account be perſuaded to break it. But though the Pain of my Back abated as formerly, upon taking the firſt Purge, yet ſoon after repeated Purging brought on ſome Symptoms of the Gout, and ſometimes affected the Limbs, and ſometimes the Bowels; but Laudanum effectually check'd theſe Motions of the Diſtemper. This Method, however, having hitherto been ſucceſsful, I judg'd it proper to continue it, both to prevent the Return of the bloody Urine, and to carry off a Part of the Matter which forms the Stone. And, in the End, it anſwered my Expectation, having never had this Symptom ſince my firſt Publication of this Treatiſe, and therefore I left off the Manna entirely.

With reſpect to Purging, therefore, in caſe of bloody Urine, and provided only Manna be uſed according to the Method above delivered, I muſt retract an Aſſertion I formerly publiſh'd in my Treatiſe on the Gout, which is, that it is abſolutely improper to purge gouty Perſons, either at the Beginning, Declenſion, or in the Intervals of the Fits. For I did not then recollect, that the Fit, which I fear'd might be occaſioned by the Purgative, might be prevented by giving an Opiate at Night. Nevertheleſs, if the Gout only be attended to, all manner of Evacuations are very pernicious therein, and therefore not to be uſed, unleſs the above-mentioned Symptom requires them.

To theſe Obſervations I will add a few Particulars relating to the Regimen and Diet, which ſhould ſeem proper in both theſe Diſtempers; for I would not omit mentioning any thing that may be ſerviceable to Perſons in my Condition. In the Morning, after I riſe, I drink a Diſh or two of Tea; then I go out in my Coach till Noon; and, at my Return home, dine moderately upon any kind of Meat I like, that is eaſy of Digeſtion; for Moderation is principally neceſſary. I drink a little more than a Quarter of a Pint of Canary immediately after Dinner every Day, to promote Digeſtion, and drive the Gout from my Bowels. In the Afternoon I go out again in my Coach, and, when Buſineſs permits, take a Turn into the Country, two or three Miles, for good Air. A Draught of ſmall Beer ſerves me inſtead of a Supper; and I drink another Draught after I am in Bed, and about to compoſe myſelf to Sleep, in order to dilute and cool the hot and acrid Humours lodg'd in the Kidneys, which breed the Stone. I always prefer ſmall Beer brew'd with Hops, to that which has none; becauſe, tho' unhopp'd ſmall Beer is ſmoother and ſofter, and ſo better ſuited to bring away the Stone from the Kidneys, yet that which is brew'd with Hops, on account of the Stypticity it receives from the Hops, is leſs ſubject to breed Gravel and calculous Matter, than that which has none, as being more viſcid and ſlimy. On my purging Day I dine upon a Chicken, and, notwithſtanding, drink my Canary as uſual. I go to Bed early, eſpecially in the Winter Seaſon; this being one of the beſt Helps for promoting Digeſtion, and preſerving the proper Order of Nature; whereas, on the contrary, ſitting up late weakens all the digeſtive Faculties in aged Perſons afflicted with any Chronic Diſeaſe, and injures their vital Principle to a Degree not to be eaſily remedy'd. And, to prevent bloody Urine from the Stone, whenever I am oblig'd to go very far in my Coach upon the Stones, (for the longeſt Journey in unpav'd Roads does me not the leaſt Hurt) I always drink a large Draught of ſmall Beer before I ſet out, and another in the Way, if I am abroad a conſiderable time; by which means I ſecure myſelf pretty well from bloody Urine.

Laſtly, we are to take Notice of the great Danger which ſome Perſons, who have the Gout and Stone, run, by unadviſedly taking Manna diſſolv'd in the purging Mineral Waters; for, tho', being taken this way, it works quicker, and ſits eaſier on the Stomach, yet theſe inconſiderable Advantages are no Equivalent for the Miſchief otherwiſe occaſion'd by the Waters. For if the Stone in the Kidneys be too large to be forc'd thro' the Ureters into the Bladder, theſe Waters generally occaſion a Fit, which continues, not without endangering the Life of the Patient, till the Stone gets back again into the Pelvis. Steel Waters likewiſe are unſafe, unleſs it be certainly known beforehand, that the Stone is ſmall enough either to ſlip, or force it Way, thro' the Ureters; which, to the beſt of my Judgment can only be learn'd with Certainty from hence; *viz.* if the Patient hath already had a Fit of the Stone, (which conſiſts in very ſharp Pain in one of the Kidneys, extending thro' th whole Duct of the Ureters, and accompany'd with violen Vomiting) he may be aſſur'd, that the Pelvis, inſtead of havin a large Stone in it, rather contains a Number of ſmall Stone one of which will fall occaſionally into the Ureters, and cau a Fit, which generally laſts till it is forc'd into the Bladder. I this Caſe, I ſay, there is no better Remedy, either to preve the Increaſe of ſmall Stones, or to expel them from the Ki neys, than drinking Steel-waters plentifully every Summer.

But, as Perſons may often be ſeiz'd with a Fit of the Ston when theſe Waters are either not procurable, or at an improp Seaſon for drinking them, they are to be treated according the following ſhort Method. The Patient being ſanguine, a not aged, take ten Ounces of Blood away from the Arm the pain'd Side; then let a Gallon of Poſſet-drink, in whi two Ounces of the Roots of Marſhmallows have been boil' be drank with the utmoſt Expedition, and the following Clyſt injected.

> Take of the Roots of Marſhmallows, and the white Li each an Ounce; the Leaves of Mallows, Pellitory of t Wall, Bear's-breech, and Chamomile-flowers, each Handful; the Seeds of Flax and Fenugreek, each half Ounce: Boil them together in a ſufficient Quantity Water to a Pint and a half; in the ſtrain'd Liquor diſſo brown Sugar, and Syrup of Marſhmallows, each t Ounces: Mix the Whole for a Clyſter.

When the Patient has thrown up the Poſſet-drink, and Clyſter has done working, give a ſufficient large Doſe of liq Laudanum, for Inſtance, twenty-five Drops, or fifteen or teen Grains of *Matthew*'s Pill. But Bleeding is not to be u in aged Perſons, worn out by ſome inveterate chronic Diſe and antient Women, ſubject to the Vapours, eſpecially if t void black gravelly Urine at the Beginning of the Fit. Ne theleſs, in other reſpects, this Method muſt be cloſely follow

But, to return to the Stone, ſuppoſing it a large one, w is our preſent Subject: If the Patient hath never had a Fit, account of the Stone's being too large to quit the Pelvis, S waters will not only do no Service, but cannot be us'd wit immediate Danger, for the Reaſons above-mention'd. No Mineral Waters ſucceed better in gouty Perſons, if they b vanc'd in Years, as ſuch moſtly are, and withal of a weak phlegmatic Conſtitution; the Strength of Nature being ſometimes impair'd to that Degree in ſuch Subjects, as to give great Reaſon to apprehend the total Loſs thereof from ſuch a Quantity of Water. But whether the ill Conſequences, happening to Perſons of this Conſtitution, proceed from this, or ſome other Cauſe, I am thoroughly perſuaded, that abundance of Perſons, who have been extremely debilitated, and in a manner worn out by this Diſtemper, have been deſtroy'd by theſe Waters. *Sydenham.*

The STONE *in the* BLADDER.

From ARETÆUS.

No Diſeaſe affecting the Bladder is of a gentle Nature; for, as to acute Diſorders of that Part, ſuch as Inflammations, Wounds, Convulſions, and acute Fevers, they are all mortal; and an Ulcer, an Abſceſs, the Palſy, or a large Stone in the ſame, are incurable. The Stone is not to be diſſolv'd by any Potion, or lithontriptic Medicine, nor taken out by cutting, with any Safety; for the fine Membranes of the Bladder muſt, at the ſame time, be cut, which Operation kills the Patient on the ſame Day, or carries him off in a few Days with Convulſions and a Fever. If the Stone be not cut out, an Iſchury, Pain, Eever, and Colliquations, deſtroy the Patient; or, if it be of no conſiderable Bigneſs, the Suppreſſion of Urine is the more obſtinate, becauſe it the more eaſily falls into the Neck of the Bladder, and intercepts the Paſſage of the Urine; and tho' ſuch a Stone may be extracted with leſs Danger than a larger, it is neceſſary to cut the Bladder, the Conſequence of which, if not Death, is a continual Efflux of the Urine, which, tho' no dangerous Diſorder, is yet inſupportable to a free Perſon, who knows not how to live under a perpetual Dribbling, which moleſts him whether he ſleeps or wakes, and is very troubleſome in walking; but a Multitude of ſmall Stones may be cut out with Safety.

If a Stone grows to the Bladder, it manifeſts itſelf by the Uneaſineſs, and ſometimes Pain, which it excites, and a Weight which is felt, tho' not accompany'd with a Dyſury; but if it does not adhere to the Bladder, there is alſo a Dyſury. All Stones may be known by the ſandy Sediment in the Urine; the Pudenda alſo project. The Patients void their Urine with Pain, by reaſon of the Obſtruction from the Stone, and handle and attract the Pudendum, as if they would pull out the Stone and the Bladder together; the Anus ſuffers by Conſent, being affected with an Itching. The Inteſtinum Rectum is protruded by the violent Efforts of the Patient, who imagines himſelf on the point of voiding the Stone; for there is ſo near a Vicinity between the Bladder and the Anus, that they mutually affect ach other; wherefore, in an Inflammation of the Anus, the adder labours under a Suppreſſion of Urine; and, in Diſeaſes the Bladder, the Anus will diſcharge nothing, tho' the Belly not coſtive. *Aretæus*, περὶ αἰτ. ϗ σημ. χρον. παθ. *Lib.* 2. *ap.* 4.

From ALEXANDER TRALLIANUS.

The Stone in the Bladder afflicts the Patient by Fits at certain imes, after the ſame manner as the Stone in the Kidneys; the former is more frequent in Children than adult Perſons, does not owe its Riſe to ſo great a Heat, but rather to a oſſer Matter, proper for the Generation of Stones, which dily forms Concretions, by means of the natural Heat. Our in Intention, therefore, muſt be to correct the Groſſneſs of Matter by Attenuants, and to prevent any conſiderable llection of it, which is promoted by nothing ſo much as an dinate Voracity, and ſtirring of the Body after eating.

The Signs of the Stone in the Bladder are, a crude and itiſh Urine, with a ſandy kind of Sediment, reſembling rf. Beſides, the Patients are very ſubject to ſcratch the Pudenda, and violently and frequently to diſtend them; and that t of all, when they have occaſion to make Water. *Alex- r Trallianus, L.* 9. *C.* 7.

From LOMMIUS.

The Pain which proceeds from the Stone in the Bladder is afflicting, becauſe it laſts a long time, and makes frequent rns at certain Intervals. While it holds the Patient, there extraordinary Senſation of a Weight, if the Stone be , and eſpecially when the Body is mov'd, or a ſort of Ti- on about the Pubes and Perinæum. There is a Difficulty rine, with a continual Deſire of making Water, and a kind of gury, ſo that the Urine ſeems hardly poſſible to be reſtrain'd, et, as ſoon as it begins to flow, is on a ſudden quite inter- d; and thus is the Evacuation perform'd with continual ruptions. During this time a Pain is felt throughout the of the Penis, but oftentimes ſeizes only the *Glans*, and ſt tormenting when the Patient has juſt made an End of g Water; at which Time he has alſo a Deſire of going ol. From ſome the Urine comes off more freely when ſtand upright, than when they lie upon their Back, if the be large. Others evacuate bending forward, and endeavour to eaſe their Pain by handling and extending the Pudendum. Women often rub the external Parts of the Pudenda with their Hands, and, by applying a Finger to the Neck of the Bladder, now-and-then feel the Stone. Many Patients, in the Midſt of their Pains, croſs their Feet one over another by turns. The Urine which comes off is white, thick, and turbid, with a purulent or mucous Sediment; ſometimes Blood, or a bloody concreted Matter, is diſcharged with it. This Diſeaſe is more incident to Children than adult Perſons, to Men than Women. The Stone of the Bladder is whiter, larger, and harder, than that of the Kidneys: A leſſer Stone more eaſily ſlides into the Neck of the Bladder, and more pertinaciouſly retains the Urine, than a larger; for the latter, by a proper Poſition of the Body, or by introducing an Inſtrument, may, with no great Difficulty, be remov'd from the fore-mention'd Part. *Lommius, Med. Obſ.*

From BOERHAAVE.

We may know, that a Stone is got into the Bladder, by a Ceſſation of the Signs of a Stone paſſing from the Kidney to the Bladder thro' the Ureter; and by its Effects, when in that Organ; which are, Inflammation, with all its Symptoms; Preſſure upon, and Fretting of the internal Membrane; Ulcerations; purulent Urine; Strangury; entire Obſtruction of the Urethra, inſomuch that the Patient cannot diſcharge his Water, unleſs in a ſupine Poſture; a hectic Fever, and Conſumption; a Pain is felt before, during, and after the Diſcharge of Urine, which does not come away in a full Stream, but, as it were, dribbling, and with many Interruptions; and which is white, and depoſits a mucous, thick, heavy Sediment, in conſiderable Quantities; an uneaſy Itching is felt in the Glans of the Penis; and the Diſcharge of Urine is attended with a *Teneſmus.* But the moſt certain Method of diſcovering a Stone in the Bladder is by ſearching; for the Method of doing which, ſee LITHOTOMIA.

The CURE. *From* ARETÆUS.

If the Suppreſſion of Urine be caus'd by the Stopping of its Paſſage by Stones, they muſt be remov'd by the Inſtrument call'd the *Catheter*, that a Paſſage may be open'd for the Urine to run off, unleſs there be an Inflammation, in which Caſe the Paſſage will not admit an Inſtrument, and, beſides, is ſubject to be wounded by the Catheter. But if this Method be impracticable, and the Pain inſupportable to the Patient, we muſt have recourſe to cutting the *Trichas*, (τριχάδα, ſome read πληχάδα, which, according to *Ruffus*, is the Place between the Scrotum, the Neck of the Bladder, and the Thigh) and the Neck of the Bladder, that the Stones may fall out, and ſo the Urine be evacuated. This done, the Wound muſt be cicatriz'd, if it can be done; if not, it is, however, better for the Patient to be troubled with a running Sore all his Life, than to be ſuffer'd miſerably to expire with Extremity of Pain. *Aretæus*, περὶ θεραπ. ὀξ. παθ. *Lib.* 2. *Cap.* 9.

From ALEXANDER TRALLIANUS.

As for Medicines, the Blood of a Goat, rub'd warm upon the Part, is of excellent Service; but a better way is, to apply the Blood of a He-goat upon the Bladder; tho' the Method which is by far the moſt convenient and effectual, is, to rub the Parts with it in the warm Air of the Bath, and to bind it thereon; and this muſt be done not only once, but often, and at Intervals. *Trallian. Lib.* 9. *Cap.* 7.

From BOERHAAVE.

As ſoon as we have reaſon to believe, that a Stone is paſſed thro' the Ureters into the Bladder, we muſt uſe our utmoſt Endeavours to procure its Expulſion by the Urethra; otherwiſe it will increaſe in Bulk, and become more troubleſome. This is done by the ſame Methods and Medicines that are recommended above for a Stone in the Kidneys and urinary Ducts, except that the Topics are to be apply'd to the Region of the Bladder; to which add Baths, and Clyſters of Oil; Injections of Oil into the Urethra; and it will be of Service to rub the external Part of the Urethra with the ſame Oils.

If a Stone is fix'd in the Urethra, and will not move forwards, the Part is to be relax'd by Injections of Oils frequently repeated, and by the moſt emollient and relaxing Fomentations which can be contriv'd. The *Egyptians* have a Method of diſtending the Urethra by blowing into it, and then inviting the Stone forwards by Suction. It may alſo be preſſed gently forwards, or brought out with an Inſtrument ſhap'd like an Ear-probe; or, if that will not do, the laſt Remedy is to cut the Urethra or Perinæum.

If the Stone ſticks in the Neck of the Bladder, it may be put back by the Catheter. *Boerh. Aphor.*

The Method of extracting a STONE *out of the* URETHRA.

From HEISTER.

Sometimes, in Perſons afflicted with the Stone and Gravel, a ſmall Stone ſlips into the Urethra, or Paſſage of the Urine, and there ſticks, where it excites not only violent Pains, but a great Difficulty of Urine, and ſometimes a total Suppreſſion of the ſame; in which Caſe the lamentable State of the Patient calls upon the Phyſician to uſe his beſt Endeavours to expel the Stone. There are various Parts of the Urethra in which the Stone may be ſeated: Sometimes it lies in the Beginning of the Urethra, behind the Scrotum, about the Perinæum, in the Neck or Sphincter of the Bladder; ſometimes about the Middle of the urinary Duct, before the Scrotum, and ſometimes not far from the End of the Urethra. Sometimes the Stone is lodg'd in a peculiar Expanſion, or Bag of the Urethra; ſuch a one is deſcrib'd by *Le Dran*, *Obſ. Chir.* 79. *Tom.* 2. and *Dionis*, in his Surgery, mentions ſome of the like Kind; and I myſelf, this preſent Year 1737. diſcover'd Stones in ſuch a Bag before the Scrotum; and, what is ſeldom known, cut two out of one little Bag under the Urethra, which are repreſented (*Tab.* 48. *Fig.* 16. and 17.). In what Part the Stone is detain'd, may be judg'd partly from the Pain, and partly from Searches made with the Fingers or Inſtruments. The Cure may be attempted various Ways: Sometimes internal Medicines, which provoke Urine, and, at the ſame time, external ones, as Fomentations, Cataplaſms, Bathing, Clyſters, and the like, are adminiſter'd, and continu'd for ſome time. If all theſe prove ineffectual, the next Attempt is to moiſten and lubricate the Inſide of the Urethra by Injections of Oil of Olives, or Oil of ſweet Almonds, that the Paſſage being render'd ſlippery, the Stone may the more eaſily ſlide off; or the Patient is put into ſome emollient Bath, with the ſame View. Some bind the Penis behind the Stone, and then diſtend the Forepart of the Urethra by ſtrong Inflation, in order to enlarge the Paſſage for the more eaſy Expulſion of the Stone. This Method of Cure is practiſed by the *Egyptians*, as we are aſſured, among other Authors, by *Proſper Alpinus* in his *Medicina Ægyptiorum*, *Lib.* 3. *Cap.* 14.

If the Stone cannot be expel'd by theſe Remedies, but the Difficulty of Urine is rather exaſperated by them, it will be convenient to try ſome other powerful Remedy. Firſt, then, if the Stone be detain'd in the Neck of the Bladder, it may be cut out by making a Section in the Perinæum, where it is perceiv'd by the Touch; but, becauſe many are very much afraid of an Inſtrument which carries an Edge, the Stone may be puſh'd back into the Bladder by introducing the Catheter. However, ſince it is to be fear'd, that the Stone will increaſe in the Bladder, and, by that means, expoſe the Patient to far greater Danger, I ſhould prefer Section. So, alſo, if the Stone ſhould happen to ſtick too faſt in this Place to be repel'd by the Catheter, and ſo reduce the Patient to Extremities, or if we do not think it adviſeable to repreſs it for the Reaſon aforeſaid, it muſt be artfully extracted by the Section call'd the *Apparatus minor*, or *leſſer Apparatus*, one or two Fingers being introduc'd into the Anus, in order to ſuſtain the Stone; for oftentimes there is no other Way to ſave the Patient's Life. If the Stone be detain'd near the Glans, the beſt Method, after uſing the Remedies above propoſed, is, firſt to lubricate and relax the narrow Paſſage, by repeated Injections of Oil into the Urethra, and then, with the Fingers, to preſs the Stone forwards, or attempt its Extraction, eſpecially in Boys, by Suction with the Mouth of ſome Woman, Nurſe, or Aſſiſtant; for, by this means, all Wounds, Cicatrices, and Fiſtulas of the Urethra, are happily prevented. If the Stone ſticks near the End of the Paſſage, it is to be taken with the Forceps, Hook, or ſome ſort of Ear-probe, (ſee *Tab.* 27. *Fig.* 14.) and gently drawn forth. If this be impracticable, it will not be amiſs to try the Inſtrument ſo much recommended by *Marini*, and deſcrib'd by him (ſee *Tab.* 50. *Fig.* 7.). Of this Inſtrument the Part (A) is cautiouſly introduc'd into the Urethra, beyond the Stone, of which it takes hold; then the Operator takes the Part (B) in his Hand, and gently pulling, draws along the Stone, and extracts it. But if either an Inflammation, or the Bulk of the Stone, ſhould, contrary to Expectation, render all theſe Methods ineffectual, we are directed by *Tulpius* and *Garengeot* to make uſe of Section. And *Garengeot*, in ſuch a Caſe, immediately cuts the Extremity of the Glans with the Sciſſars, and then introducing a Probe, or Hook, into the Wound, extracts with it the Stone; after this he waſhes the Wound with Wine, and dreſſes it with Lint and ſome glutinous Balſam.

If none of the Methods before propos'd prove ſucceſsful for extracting the Stone, as it often happens, when it is detain'd in the Middle of the Urethra, and there is Danger, leſt the Difficulty of Urine, with the moſt intenſe Strainings to diſcharge it, and the tormenting Pains, ſhould, in a ſhort time, deſtroy the Patient, there is but one Remedy left, and that is, to make an Inciſion in that Part of the Penis where the Stone lodges, and, by that means, extract it. The Manner of Operation is thus: The Extremity of the Skin, as *Celſus* formerly adviſed, is very much drawn forwards; or, as others adviſe, retracted; and the Glans being by this means cover'd, or laid bare, the Penis is ty'd behind the Stone, in order to prevent the Stone from being forc'd back by the Hands of the Operator, when apply'd upon the Penis. The Operator then ſets the Thumb of his Left Finger againſt the Stone, in ſuch a manner as to hinder it from giving way forwards, and, with his Right Hand, makes a ſtrait Inciſion in the Side of the Penis; and then, with his Fingers, or ſome Inſtrument, as the Forceps, Probe, or Hook, pulls out the Stone. This done, the Skin is ſet looſe, and the Wound, after being anointed with ſome proper vulnerary Balſam, is cover'd with a Plaiſter. By this Way of Management the ſound Part of the Skin comes to cover the Inciſion in the Penis, the Urine flows the natural Way, and the Conglutination of the Wound is promoted. When a Wound requires to be made a little larger than ordinary, the beſt way is to introduce a Leaden Pipe into the Urethra beyond the Wound, and to keep it there for ſome time for the Reception and Emiſſion of the Urine. For if this ſhould be ſuffer'd to flow by the Wound, it is very much to be fear'd, that its Acrimony would excite ſharp Pains, and an Inflammation, by which the Conglutination of the Wound would be conſiderably retarded, and a Fiſtula might be generated in the Urethra. But a very good way to preſerve the Wound from the pernicious Effects of the Urine, is, to drink very ſparingly for ſome Days before and after the Operation. As for making the Inciſion in the Side of the Penis, it is done for very good Reaſons; for, if it were made in the under Part of the Penis, the Wound would be much more liable to be incommoded by the Urine; and to make an Inciſion in the upper Part would be very unadviſed, becauſe of cutting the cavernous Bodies of the Penis; whence an immoderate Hæmorrhage, beſides other pernicious Conſequences, might juſtly be fear'd. *Albucaſis*, formerly a very celebrated Phyſician among the *Arabians*, ſhews a Way to break a Stone which ſticks in the Urethra, by perforating it with a ſort of Terebra, which he delineates; but if he happen'd to fail in this Attempt, he ty'd the Penis on both Sides near the Stone, to prevent its giving way on either Side, and then cut it out.

Thus we have explain'd the common Method of cutting the Urethra for extracting the Stone. We ſhall now give ſome Account of a new Way invented by *Thibaut*, formerly a very celebrated Surgeon of *Paris*, and deſcrib'd by *Garengeot*, which was this: He took the Penis in his Left Hand, and made an Inciſion on the Side; then, with the Knife, he ſeparated the cavernous Body from the Urethra, in which he afterwards made a ſtrait Inciſion in the Place where the Stone was lodg'd, which is commonly under the cavernous Body, and, extracting it with the Hook or Forceps, he anointed the Wound with ſome glutinous Balſam, and then applying Lint and Compreſſes, carefully bound up the Whole with a Fillet. By this Method, the entire Part of the cavernous Body is brought to cover the Inciſion in the Urethra; and the Lips of the Wound, as they aſſert, ſooner unite, and come to a Coaleſcence.

When the Stones are lodg'd in a peculiar Bag, the beſt way, in my Opinion, is, to make an Inciſion in the Place where w can moſt conveniently (and that ſideways) have Acceſs to them for thus, thro' a pretty large Wound, I extracted the Stone above-mention'd, which you ſee repreſented (*Tab.* 48. *Fig.* 16 17.). The Cavity of the Bag I firſt treated with a Digeſtive then with Corroſives, as red precipitate Mercury, an ſometimes cleanſed it with Lapis Infernalis, and at laſt heal' it with Balſam of *Capivi*, and little glutinating Plaiſters. Bu Conglutination, in this Caſe, is ſometimes very difficult, as ap pears from *Le Dran*, *Obſ.* 79. where ſeveral ways of Healin were try'd to no Purpoſe. *Heiſter Chirurg.*

The Caſe referr'd to by *Heiſter*, in *Le Dran*, is very remark able, and deſerves Notice.

Towards the End of the Year 1722. a Lad, ſixteen Years Age, perceived a ſmall Swelling in the *Perinæum*, but gave Attention to it, as it was not painful.

Some time after, he went a Journey on Horſeback, and t Preſſure of the Saddle againſt the Perinæum forced a Stone o of it, of the Bigneſs of a Pea, which paſs'd thro' the Skin a Urethra, both being worn out by the reciprocal Preſſure of t Saddle and the Stone; and the Urine, diſtilling thro' this Ape ture, form'd a Fiſtula.

Soon after, the Patient perceived a Swelling at the Bottom the Scrotum, on the Left Side; and, finding it to incre daily, he ſhew'd it to a Surgeon of his Acquaintance, w look'd upon it as venereal, and propoſed a Salivation: He co ſented to this Propoſal, and went thro' it without receiving leaſt Benefit. During this time the Fiſtula cloſed, and Urine paſs'd no longer that Way, which might perhaps happ from the daily Augmentation of the Volume of the Tumor.

The Occaſion of this Augmentation was a freſh Stone, whi being ſtopp'd in that Place, and perpetually moiſten'd by Urine, was conſiderably increaſed. At length, in *December* 17 the Patient ſtraining to lift a great Weight, he felt a violent P in the Perinæum, and, putting his Hand to the Part, felt ſo thing hard which had pierced the Skin: He uſed his Endeav to extract it with his Nails, but could not ſucceed; but, as Stone was ſoft, he cruſh'd a Part of it in Pieces (whence may judge what Situation it had kept during its Stay the He was much incommoded by it for eight Days, not being to ſit without a violent Pain; and at length, in riſing from

Seat, perceived the whole Stone to come out. He came to *La Charité* the next Day, and gave me an Account of his Diſtemper, producing the Stone, which I preſerve for the Rarity of the Caſe: It weighs an Ounce and fifteen Grains, is almoſt of a triangular Figure, two Inches and a half from one of the Angles to each of the other two, and two Inches from each Angle to the Sides ſubtending them, and three Quarters of an Inch thick.

It ſeems ſurpriſing, that an extraneous Body ſhould lodge ſo long, without cauſing either Pain, or Difficulty in making Water. By examining the Stone you may diſcover the Reaſon: There is a Depreſſion in it, on that Side next the *Os Pubis*, and probably the Urine flow'd freely by it.

Tho' the Lips of the Wound, thro' which the Stone paſs'd, were approach'd, the Hole was ſtill large enough to admit of my Finger. I felt a large Cavity where the Stone had lodged, which was formed by a Dilatation of the Urethra; and I imagined, at firſt, that the Stone, when it was ſmall, came from the Urethra thro' the Hole by which the former had paſs'd, and then had increaſed between the Urethra and the Skin; but my Finger undeceived me, and convinced me, that it had grown in the Urethra itſelf; for, beſides feeling the whole Circumference very ſmooth, as it grew narrow, it guided my Finger almoſt behind the Scrotum, where the Dilatation ended. The dilated Urethra was very thin in that Part where the Stone had lodged, and a Calloſity was to be felt on both Sides, without any Sinus. This Circumſtance proves, that the Urethra was not open'd, but when the Stone came out; for, if it had been open'd before, the Urine would undoubtedly have form'd Sinuſes and Fiſtulas in ſeveral Parts of the Perinæum, and here we had none; from whence I infer, that the Calloſities at the Side were occaſion'd only by the Preſſure of the Stone.

I had recourſe to generous Remedies and Topics to diſſolve them, ſuch as emollient Cataplaſms, applied to the *Perinæum*; and that the Urine, by paſſing that Way, might not wet the Fleſh and the Dreſſings, and that it might not be lodged in the Cavity from whence the Stone proceeded, I introduced an *Algaly* into the Bladder, and there left it. After I had uſed the Cataplaſms two or three Days, I ſubſtituted reſolvent Plaiſters in their ſtead, and put ſmall Doſſils into the Wound, cover'd with melted Diachylon, with the Gums, and the Mucilage-plaiſter. All the Hardneſs decreaſed in leſs than three Weeks; after which I uſed only Injections, with Barley-water, and vulnerary Water, every Day. But my Attempts were fruitleſs, for nothing could cloſe the Urethra, and cicatrize the Fiſtula. *Le Dran.*

An *Algaly* is a ſort of hollow Probe, or *Catheter.*

Dr. *Hale* has obliged the World with an Account of an Inſtrument of his own Invention, for extracting a Stone out of the Urethra.

While I was, ſays he, intent upon theſe Experiments on the Calculus, it occur'd to my Thoughts, that large Gravel-ſtones, which often ſtick for ſeveral Days in the Urethra, to the great Torment of the Patients, and which they cannot ſometimes be delivered from without cutting them out, might be drawn out by the following Inſtrument.

I cut off the lower End of a ſtrait Catheter, which made it a proper Canula for a Stillet or Forceps to paſs thro'; the lower End of the Forceps was divided into two Springs, like Tweezers, whoſe Ends were turn'd a little inwards: Theſe Springs were made of ſuch a Degree of Tenderneſs and Pliancy, as not to bear too hard againſt the Sides of the Urethra, by their Dilatation.

When this Inſtrument is uſed, the Springs are drawn up within the Canula; which being paſs'd into the Urethra, as far as to the Stone, the Canula muſt then be drawn back, ſo far as to give room for the Forceps to dilate; which dilated Forceps being then thruſt down a little farther, ſo as to embrace the Stone, then the Canula muſt again be ſlid down, to make the Forceps take faſt Hold of the Stone, ſo as to draw it out.

I ſent this Inſtrument to Mr. *Ranby* to have his Opinion of it, who tells me, That, upon repeated Trials, he found it extracts theſe Stones with great Eaſe and Readineſs; and that it is ſo well approved of by other Surgeons, that many of them make uſe of it.

This ſtrait Inſtrument will, therefore, ſerve to extract ſuch Stones as are lodged, after they have paſs'd the Turning at the Os Pubis; and I am informed, that they are apteſt to lodge in thoſe Parts of the Urethra which are within the Reach of this ſtrait Inſtrument: But if it ſhould lodge a little beyond the Turn at the Os Pubis, it might probably be practicable to extract them thence by bending this Inſtrument, as the common Catheters are bent: If the Stillet were Silver, it would bend the more eaſily.

Mr. *Ranby* is of Opinion, that this Inſtrument may be farther uſeful, in caſe of a Stricture or Contraction of any Part of the Urethra, *viz.* by thruſting the Forceps into that Stricture, where, by continuing ſome time, the conſtant Tendency of the Springs to dilate will widen the Stricture. *Hale's Vegetable Statics, Vol.* 2.

If the Stone of the Bladder is too large to paſs thro' the Duct of the Urethra, the only Remedy is Lithotomy. *Boerhaave* has the beſt Opinion of the greater Apparatus, as being moſt certain; the Event, however, is always uncertain, on account of many Accidents, which can neither be foreſeen, prevented, nor remedy'd.

In Women the Stone is generally taken away by dilating the Urethra, and ſeldom by Cutting. See LITHOTOMIA.

I do not know why *Boerhaave* has omitted mentioning Honey as a Remedy for, or Preſervative againſt, the Stone. As this is extremely ſaponaceous and detergent, it is, by theſe Qualities, well adapted to ſcour off the calculous Concretions adhering to the Tubes of the Kidneys. And it is poſſible, that, if the Blood, and conſequently the Urine, could be for a long time much ſaturated with Honey, ſmall Stones might be diſſolv'd, and large ones diminiſh'd. But the ſmalleſt Portion of Honey affects ſome Conſtitutions in ſuch a manner, as to render the taking of it as a Medicine, impoſſible; and few can endure large Quantities of it without falling into a violent *Diarrhœa* or *Cholera Morbus.*

As the Bladder is ſubject to many other Diſorders beſides the Stone, which appear with Symptoms not unlike it, I ſhall give the following Treatiſe from *Hoffman*, in which the Reader will find his Account.

The Bladder, as being a nervous and muſcular Part of the Body, is very ſubject to Spaſms; by which Word we underſtand an intenſe and preternatural Conſtriction of the Body of the Bladder, and alſo of the Sphincter; or a Stricture, Coarctation, and Criſpation of the Fibres, to which Diſorder many other morbous Affections owe their Original.

Thoſe tormenting Pains which are excited by the long Continuance of a Stone in the Bladder, together with a perpetual Deſire of making Water, and the very difficult and painful Evacuation of the Urine, are owing to nothing but Spaſms. For a convulſive Stricture, which affects not only the Muſculo-nervous Coat of the Bladder, but alſo its Sphincter, and the Urethra itſelf, in a violent manner, excites a Strangury, and ſo great a Straining in the Pubes, as if it were ſcarce poſſible to ſtop the Urine, which yet, as ſoon as it begins to drop, is quite repreſſed and retain'd. This Diſorder is attended with a Pain throughout the whole Region of the Penis, but oftentimes only with a moſt acute Pain in the Glans, according to the Obſervations of *Hildanus* and *Baglivi.* This extraordinary Senſation of Pain, Itching, and continual Irritation, in the Glans and Extremity of the Penis, is to be accounted one of the Pathognomic Signs of the Stone, both in Boys and Men. But, beſides this, there is alſo a frequent Deſire of going to Stool, or a Teneſmus, becauſe of the ſtrict Connexion of the *Inteſtinum Rectum* with the Bladder, and the Communication of the Nerves. The Urine which comes off in this Dyſury, is, for the moſt part, white and foul, with a mucous Sediment; for the Convulſion of the muſcular Fibres, by a violent Stricture and Compreſſion, ſqueezes out, from the interior mucous Coat of the Bladder, a great Quantity of viſcid glutinous Lymph, which, mix'd with the Urine, ſupplies that mucous Sediment. Oftentimes alſo a thin, aqueous, and almoſt colourleſs Urine comes away from the Patient, while under this racking Pain, and theſe Spaſms, which, by mutual Conſent and Communication of Parts, penetrate to the very Ureters, and are the Cauſe of their tranſmitting nothing but a thin and aqueous Subſtance, convey'd from the Blood by the emulgent Veſſels. Moreover the Patient, in making Water, often ſuffers very ſevere Pains, ſets his Legs acroſs, compreſſes his Hips, bends his Body forwards, and, with one Hand, ſometimes with both, preſſes with all his Might upon his Belly near the Region of the Pubes; and this painful Evacuation of the Urine is attended with Trembling, and, as it were, convulſive Motions of the whole Body, as is well obſerv'd by *Vienſſens* in his *Neurologia*; for the fine Nerves of the Bladder, being vellicated and convulſed in a violent manner, by means of the intercoſtal Nerves, communicate the ſame to the ſpinal Nerves, and ſo to all the other Parts. It is obſerv'd alſo, that, under a Strangury, and a vehement Dyſury, the Belly is conſtipated, and the Fœces, together with the Flatulences, retain'd, which, when the Pain ceaſes, readily reſume their uſual and natural Courſe.

It is certain alſo, from Obſervation, that all theſe recited Symptoms, and even worſe, may be excited not only by a Stone in the Bladder, but by a Stagnation of the Blood within the Blood-veſſels of that Part, the frequent Conſequence of which is a violent Inflammation. For it is a vulgar Error to aſcribe all theſe Symptoms to a Stone in the Bladder, or an Acrimony of Urine, ſince Obſervations and Diſſections of dead Bodies abundantly ſhew, that the Diſeaſed have not only been afflicted with the ſame Symptoms which proceed from a Stone in the Bladder, but have undergone worſe Torments, tho' there has not been the leaſt Sign of a Stone found in them after their Death. For, as when a Check is given to the Courſe of the Menſes or Hæmorrhoids, the Blood regurgitates upon the Veſſels of the Stomach and Inteſtines; and, ſtagnating within their nervous and ſenſible Coats, by ſtretching and compreſſing them, excites violent Gripings, Anxieties, Pains, Convulſions, and ſpaſmodic Motions; ſo alſo, when thro' the Default or Retention of the Hæmorrhoidal Flux, or from any other Cauſe, the Blood is repelled in great Quantities upon the Body of the Bladder, and there ſtagnates, no wonder if, in ſuch a ſenſible Part, it excites Spaſms, and other conſequent Symptoms.

Thus a Suppreſſion of the Hæmorrhoidal Flux is ſometimes follow'd by bloody Urine, which being ſtop'd, the Bladder is ſeized with a Pain, Convulſions, and Inflammation. Sometimes Women of a plethoric Habit of Body, when paſt their fiftieth Year, after a total Ceſſation of the Catamenia, have been taken with terrible Convulſions of this kind, which have ended in a fatal Inflammation. For thoſe who die of Diſeaſes of the Bladder, are deſtroy'd by an Inflammation and Sphacelus, which are owing to a ſtubborn and fix'd Stagnation of the Blood in its Veſſels, whereby their ſmall Ramifications are too much diſtended, and that in ſuch a manuer, that the Inflammation, for the moſt part, affects not only the Bladder, but the *Rectum*; the Truth of which the Hæmorrhoidal Veſſels, being full of black Blood, with the Lividneſs of the Penis, and the Veins in the Neck of the Bladder being very much diſtended, and varicous with Blood, ſufficiently prove.

There is but one principal Cauſe of this mortal Inflammation, and that is a ſtrong Spaſm of the Bladder, which the more violent it is, ſo much the more it increaſes the Stagnation and Detention of the Blood in the Veſſels, and hinders its Reſolution and Diſcuſſion; whence it paſſes at laſt into an Abſceſs and Ulcer, and ſo becomes a chronical Diſeaſe, or degenerates into a Sphacelus, which ſoon deſtroys the Patient. And, indeed, this violent Convulſion of the Bladder, which is increaſed by the preſent Inflammation, is the Cauſe of a Multitude of dreadful Symptoms with which an Inflammation is attended; among which, according to *Ætius* and *Oribaſius*, are a continual Fever, great Heats, Pain, a burning Heat, and Tumor under the Perinæum, and above the Pubes, an Emiſſion of Urine by Drops, with great Difficulty, hard Strainings, and lamentable Cryings-out, a frequent Stimulation to evacuate by Stool, attended at laſt with Vomitings of Bile, a Pain of the Head, Thirſt, Difficulty of breathing, Redneſs of the Face and Eyes, a Tongue black with parching Heat, obſtinate want of Sleep, Delirium, Reſtleſneſs, Refrigeration of the extreme Parts, and at length Death. There is a Paſſage in *Hippoc. Lib. Prænotionum*, concerning the fatal Event of Diſeaſes of the Bladder, which deſerves to be mention'd here. "Hardneſſes and Pains of the "Bladder are dreadful and pernicious in the utmoſt Degree, "eſpecially ſuch as attend a continual Fever; for the Pains "themſelves (theſe are the Effects of Convulſions) are ſufficient "to kill the Patient; and the Belly, at this time, makes no "Excretions, but of a hard ſort of Subſtance, and that forc'd. "A Solution is attended with a Diſcharge of purulent Urine, "depoſiting a white and thin Sediment. But if, after ſuch an "Evacuation, the Pain be not mitigated, nor the Bladder "mollify'd, it is to be fear'd, that the Patient will die in the "firſt Periods (περιόδοισι) of the Diſtemper."

Theſe Symptoms which attend an Inflammation of the Bladder, and diſcover themſelves in various Parts of the Body, are, indeed, very much to be dreaded; and yet all of them, if well conſider'd, can hardly be aſcrib'd to any other Cauſe than a violent Spaſm, which begins in the Bladder, as being the Part affected, and is thence communicated to the whole Syſtem of the Nerves; for when a moſt violent Stricture and Criſpation affect the Fibres of the neighbouring Parts, which are the *Inteſtinum Rectum*, and the *Sphincter* of the *Anus*, there is either a continual Stimulation to Excretion, or ſo great a Conſtriction of the *Anus*, that neither Fœces nor Flatus can be tranſmitted, nor ſo much as a Clyſter can gain Admiſſion. And ſince a ſtrong Spaſm is well known to debilitate the Part it long affects, and leaves it at laſt in a State of Relaxation, the Conſequence is a Falling-out of the Anus, eſpecially in aged Perſons and Infants. Whenever a ſevere Spaſm of the Bladder extends itſelf to the ſuperior Parts, and particularly the Inteſtines, it excites Rumblings and Gripes, and, when it is communicated to the Stomach, Loſs of Appetite, ill Digeſtion, and Vomitings. *Celſus, Lib.* 7. *C.* 27. has a very remarkable Paſſage of the Conſent between the Bladder and the Stomach. "We know "very well, ſays he, that an Ulcer in the Bladder often affects the Stomach, between which two Parts there is a kind of "Sympathy. Hence it is, that the Food is not retain'd, or, if "retain'd, is not concocted, nor the Body nouriſh'd." This Convulſion alſo of the Bladder, which attends an Inflammation, by affecting the Muſcle of the Diaphragm, with the Nerves and nervous Coats of the Lungs and Bronchia, cauſes a difficult and troubleſome Reſpiration, with an Anxiety of the Præcordia; and being communicated to the Muſcles of the Heart, and the muſculo-nervous Coats of the Arteries, makes a hard, contracted, and quick Pulſe, with a continual Fever, and an unquenchable Thirſt, which is, in like manner, owing to a convulſive Stricture of the ſoft and glandulous Parts of the Tongue and Fauces. But the Danger is ſtill greater, if it extends itſelf to the Membranes of the Brain, and the Origin of the Nerves; for then a conſtant want of Sleep, Delirium, Convulſions, Refrigeration, and Horror of the extreme Parts, with an unequal and intermittent Pulſe, are Signs of approaching Death.

Tho' the Symptoms which proceed from a Stagnation and Inflammation of the Blood, whether pure or impure, in the Bladder, are very much to be dreaded, and often mortal; yet thoſe Diſorders which ariſe from a ſalt, impure, and corrupted Serum, obſtinately adhering to, and vellicating the Coats of the Bladder, are milder, and leſs dangerous. Of this Nature are thoſe Pains which attend a Difficulty of Urine, and a Strangury. We often meet with Caſes of this kind among the Obſervations of Phyſicians, particularly *Drawitz*, who deſerves to be remember'd, and who, about an Age ago, wrote an entire Treatiſe, in the *German* Tongue, concerning the Scurvy, which is one of the beſt on the Subject. In this Book he makes ſeveral Obſervations, and deſcribes Caſes of Patients who complain'd of racking Pains in the paſſing off of their Urine, the Cauſe of which was no Defect, or Stone, in the Bladder, but only an impure ſcorbutic Humour. Among others, he relates a memorable Caſe of a Butcher, who had never labour'd under the Stone, and was on a ſudden taken with an intolerable Pain in his Feet; the Diſeaſe, being remov'd from thoſe Parts, was tranſlated upon the Urethra, with an intenſe Heat, and Difficulty of Urine, which ſcarce came away by Drops. This Diſorder yielded to Diſcutients, but return'd into the Feet, the Conſequence of which was a Tumor in thoſe Parts.

We have often obſerv'd, in aged Perſons, Diſorders of the Bladder, and eſpecially a Difficulty of Urine, which have been contracted by a ſedentary Life, or a ſcorbutic Dyſcraſy of the Humours, which, in old Age, is almoſt perpetual; and nothing is more frequent, than, upon a Ceſſation of the rheumatic or gouty Pains, for the Patient to be afflicted with a Dyſury, which, on the Return of thoſe Pains, goes off ſpontaneouſly. It is alſo a uſual Obſervation, that ſcorbutic Perſons, affected with a chronical *Purpura*, or purple Eruptions, a Diſorder very common in our Days, when, by a Cold, or ſome other Cauſe, as, for Inſtance, often repeated Bleeding, the Humour has been retracted inwards, or remains within, are ſeiz'd with a great Difficulty of Urine, an Anxiety about the Præcordia, a Reſtleſneſs, want of Sleep, and an inward burning Heat; all which Symptoms, upon the Expulſion of the *Purpura* to the Superficies of the Body, vaniſh and diſappear.

There is yet another Cauſe of the Spaſms and Pain of the Bladder, which is ſome Diſorder in the Kidneys, whence, ſometimes, a purulent and viſcous Matter, at other times Stones and Gravel, are tranſmitted by the Ureters to the Bladder. In both Caſes, unleſs the foreign Matter be timely expel'd, it is capable of exciting very dangerous Diſorders, and particularly moſt violent Spaſms. If the Matter be more tenacious and acrimonious than ordinary, it adheres to the Inſide of the Bladder, and eſpecially about its Neck, and excites a Strangury, Dyſury, Teneſmus, and Inflammation; or ſecretly and ſlowly corrodes the Membranes of the Bladder, and ſo renders it exulcerated. If this Matter, by the Acceſſion of other Cauſes, become transform'd, and paſs into the Nature of a Stone; or a Stone, already made, deſcends from the Kidneys into the Bladder; it is continually irritating the ſame by its Roughneſs or Weight, and produces the ſame Diſorders as before-mention'd; and, in the latter Caſe, the Bottom alſo, and the Sides of the Bladder, eſpecially where the Stone is large, are exulcerated.

Sometimes the Neck of the Bladder is irritated, ſtretched, and convulſed, by other Cauſes beſides thoſe already mention'd; as, for Example, when a Gonorrhea, whether of the mild or malignant Sort, continues, for a long time together, in its proper Seat, which is in the two Glandulæ Proſtatæ, which are contiguous to the Neck of the Bladder; for the Humour, in this Space of Time, being corrupted with the Venereal Impurity, becomes every Day more deprav'd, and generates Ulcers, ſometimes but ſlight, ſometimes of a more dangerous Nature, or excites Inflammations in the affected Part. And if the Cure of theſe Diſorders happens to be ill perform'd, it is often obſerv'd, that the next adjacent Parts are infected with the Contagion. The Urine then comes off of a purpliſh Colonr, and a Scabies of the Bladder, and even an Exulceration of that Part, eſpecially about the Neck, frequently ſucceed. Hence it is that thoſe who labour under a virulent Gonorrhea, often diſcharge a turbid Urine, which depoſits a good deal of a viſcid and ſanious Sediment.

Among the Cauſes of this dangerous Spaſm of the Bladder, may alſo be reckon'd, an Inflammation or Ulcer of the *Inteſtinum Rectum*, or of the Penis; an Abſceſs in any of the inner Parts of the Abdomen, which breaking, the Pus being diſcharg'd into the Cavity of the Abdomen, makes its Progreſs at laſt towards the Bladder; a Corruption of the Omentum; an Effuſion of Blood, however cauſed, into the Abdomen; the Falling of the Water, in Dropſies, upon the Bladder; an Inflammation and Ulcer of the Uterus, eſpecially its Neck; and other Diſorders of the like kind, of all which you may meet with Inſtances enough in *Bonetus* and others.

As to the external Cauſes of this convulſive Diſtemper of the Bladder, we may ſuppoſe them to be Contuſions, and violent Blows about the *Pubes*, or *Perinæum*; an unſkilful Section for the Stone, in which, thro' want of Dexterity in directing the Knife, or extracting the Stone, eſpecially if it be larger and rougher than ordinary, the Cure of the Wound becomes difficult, and is attempted by improper Means; a too careleſs introducing of the Catheter, in order to ſearch for the Stone, or in a Suppreſſion of Urine, or for any other Reaſon, when the Sphincter of the Bladder happens to be under a cloſe Conſtriction, or the Paſſage ſtop'd by a Tumor, Caruncle, Scirrhus, or any other Cauſe; the Section of a Fiſtula in Ano, where, for want of Caution, the Sphincter of the Anus, which is pretty cloſely connected with the Neck of the Bladder, happen'd to be incautiouſly too much wounded, or due Care was not taken of the Wound. In Women, a Cauſe may be hard Labour in Childbirth, in which the Bladder, and eſpecially its Neck, are often compreſſed and affected in ſuch a manner, as to give Riſe to an Ulcer and Fiſtula in thoſe Parts, according to *Mauriceau*, *Aph.* 285. And here the remarkable Malignity of Cantharides, with reſpect to the Bladder, deſerves our Notice; for whether taken inwardly, or outwardly apply'd, they have been certainly known, from Obſervations, to excite Spaſms, Inflammations, and Ulcers in that Part, of which there are many Examples. It appears alſo, from practical Obſervations, that drinking of cold Water, after Section for the Stone, excites violent Spaſms, or gives Riſe to a mortal Gangrene, or a fiſtulous Ulcer.

Having aſſign'd the Cauſes of this ſpaſmodic Affection of the Bladder, we think ourſelves oblig'd to account for a peculiar Phenomenon, which is, why thoſe Symptoms, ſuch as a Difficulty of Urine, attended with a Pain, and other concomitant Evils, ſhould ſo miſerably afflict the Patient only at Intervals, tho' the material Cauſe, which is the Stone, or a ſcorbutic Dyſcraſy, be always preſent. The Reaſon ſeems to be this: All vehement Pains in a nervous ſenſible Part, if they continue long, induce and leave a Weakneſs and Relaxation, in which State the Pains are no longer felt; but then this very Weakneſs is the Cauſe of a new Collection and Stagnation of impure Humours ſupply'd from other Parts of the Body; whence there is always a Generation and Coacervation of freſh Matter, for rekindling and reviving the Paroxyſm. For Debility, as *Celſus* ſays, is ſubject to all Diſeaſes; and therefore it may be eſtabliſh'd as an univerſal pathological Canon, That thoſe Parts which are debilitated by the preceding Violence of a Diſtemper, are very eaſily ſuſceptible of the morbific Humour, which, after a gradual Collection, either ſpontaneous, or excited by ſome ſlight Cauſe, makes a freſh Attack upon the Patient; and hence may be deduc'd the true Original of periodical Affections.

We have ſeveral times obſerv'd, that a Stone in the Bladder is only at certain Intervals the Cauſe of many Diſorders, ſuch as frequent and difficult Attempts to make Water, attended with a ſcalding Heat and Pain, Gripes of the Belly, Coldneſs of the extreme Parts, and a Decay of Strength, and that principally when the North Wind blows, or after flatulent Food, or Beer not well defecated, or from ſome unuſual Commotion of the Mind, or too great a Refrigeration of the extreme Parts, or cuſtomary Bleeding too long omitted. The general Reaſon to be given for the Return of thoſe Diſorders on ſuch Occaſions, is, that all thoſe things before-mention'd as Cauſes, are of ſuch a Nature, and ſo qualified, as, partly by ſuppreſſing the ſalutary Excretions, partly by augmenting the Quantity of impure Humours, and propelling them towards the weaker Part, to give Occaſion for the Return of the Diſeaſe, with its uſual Train of Symptoms, upon the Patient. It is often obſerved alſo, that Diſtempers of the Bladder are attended with a flatulent Colic, eſpecially when there is a hot and ainful Diſcharge of the Urine; and that all Aliments which enerate Inflations, exaſperate the Diſorders of the Bladder, as, n the contrary, all Carminatives are beneficial.

Among Diſeaſes of the Bladder, which are attended with paſms, may well be reckon'd diſcharging of bloody Urine, hich, however, does not all proceed from the Kidneys or mulgent Veſſels, as Phyſicians uſually imagine, but often ows proximately and immediately from the Blood-veſſels f the Bladder, and eſpecially the ruptur'd Branches of the exrnal hæmorrhoidal Vein. This Hæmorrhage, attending the rine, may be known to proceed from the Veſſels of the Bladr, by a Difficulty of Urine, a burning Heat, and Teneſmus ecting the *Anus*, convulſive Motions about the *Glans*, a punnt Pain from the *Glans* to the *Perinæum*, a rigid Tenſion of *Penis*, with Rumblings and Flatulencies in the Abdomen, ſs of Appetite, and frequent Eructations; as alſo, if the bloody rine, and concomitant Symptoms, after bleeding in the Foot, d Application of Leeches to the Anus, are remitted and ſe. And, indeed, tho' ſuch bloody Urine does not ſo very quently proceed immediately from the Bladder, yet it has n ſometimes obſerved, and particularly by *Hoechſtetter*, *cur.* 1. *Schol. in Caſ.* 2. Sometimes pure Blood comes off with the Urine, or, inſtead thereof, Urine of a brown Colour, like Coffee; as we obſerved in a Man eighty Years of Age, whenever he rode on Horſeback: The Urine, when cold, depoſited a denſe and red Sediment.

Dreadful Symptoms alſo uſually happen from concreted Blood within the Bladder, as *Lommius* obſerves, ſuch as frequent Faintings, a Difficulty of Breathing, a low, ſmall, and quick Pulſe, a great Nauſea, Anxiety of Spirit, and a cold Sweat, with an univerſal Imbecillity, Paleneſs of Countenance, and Refrigeration of the extreme Parts; all which Symptoms are to be aſcribed to a violent convulſive Stricture, communicated to the whole nervous Syſtem. A Condenſation of Blood in the Bladder is alſo the Cauſe of racking Pains, with a vehement Heat at the Bottom of the *Pubes*, and about the *Penis*, which have been obſerved to ceaſe after the Patient had voided large, oblong, grumous Concretions of Blood in his Urine. As to the Cure of bloody Urine, which proceeds from an affected Bladder, *Lommius* rightly judges, that it is more difficult than when it deſcends from the ſuperior Parts.

We muſt not omit to obſerve, that a Spaſm of the Bladder, which excites a Strangury and Dyſury, eſpecially in old, ſcorbutic, and cacochymical Conſtitutions, may proceed alſo from a very ſalt Urine, impregnated with acrid, tartarous, ſalino-ſulphureous, and muddy excrementitious Parts: For the Urine is ſometimes found ſo ſalt as to corrode the Tongue, and, as it diſtils from the Urethra, to excoriate the neighbouring Parts; and therefore, if it ſhould happen to ſtagnate for a conſiderable Time in the Bladder, will, by vellicating the Fibres of the Nerves, cloſe up the Sphincter, and ſtreighten the Urethra, and, by tearing and corroding the Membrane, excite moſt intolerable Pains. If, after a painful Diſcharge of the Urine, there appear in it branny little Maſſes, with Plenty of ſlender Filaments, which ſubſide, the Antients call this Affection a *Scabies* of the Bladder; becauſe it indicates a Corroſion of the mucous and villous Membrane thereof.

We ſaid before, that a Stone, contain'd in the Bladder, is often the Occaſion of ſtrong and painful Convulſions, attended with a Difficulty of Urine, which moleſt the Patient at Intervals; but we are alſo to take Notice, that Spaſms of the Bladder, when proceeding from other Cauſes, frequently lay the firſt Foundation for the Generation and Concretion of the Stone in the Bladder. This principally happens in old Men, who are of a plethoric Conſtitution, addicted to a ſedentary Life, and, on account of a weak Perſpiration, commonly void a high-colour'd Urine, ſaturated with tartarous muddy Scoriæ: For the Spaſm excites a Dyſury; and the urinous Liquor, being retain'd a little longer than ordinary, depoſits a tenacious glutinous Matter, which, being involved in tartarous Salts, may be ſuppoſed the firſt Principles of a calculous Concretion hereafter to be form'd; unleſs the Matter be evacuated by ſome convenient Medicine, and a free Paſſage made for the Urine by removing the Spaſm.

Of all Diſeaſes of the Bladder, a violent Stricture is moſt dangerous, and often mortal, eſpecially when it is attended with a vehement Pain, an acute Fever, with an Hardneſs of the Bladder appearing near the *Pubes*, Coſtiveneſs, and a Suppreſſion of Urine, according to *Hippocrates* in his *Prognoſtics*, and his *Coacæ Prænotiones*, where he ſays, "That a Hardneſs and "Pain in the Bladder are very bad Symptoms upon all Accounts, but worſt when attended with a continual Fever, "for the Pain alone is ſufficient to kill the Patient. There "is but little Evacuation, by Stool, under this Diſtemper."

If the Pain and Hardneſs are but moderate, and without an acute Fever, the Inflammation is of a mild Nature. The Event, in ſuch Caſes, is various; ſometimes the Diſeaſe is critically reſolved, by the cutaneous Eruption of an Eryſipelas; ſometimes it tends to a Suppuration, in which Caſe there comes away purulent Urine, which depoſits a thin white Sediment. If there be a plentiful Diſcharge of the Urine with *Pus*, the Tumor ſubſides, the Bladder is mollify'd, the Fever mitigated, and a free Paſſage made for the Excrements. The worſt Event is, when the Diſtemper degenerates into a mortal Sphacelus. *Hoffman*, *Medic. Rat. Syſtem.*

The CURE.

Having conſider'd the many ſevere and dangerous Diſorders proceeding from painful Spaſms of the Bladder, Urethra, and adjacent nervous Parts, with reſpect to the different Nature of their Cauſes, we now come briefly to propoſe and explain the moſt convenient Methods and Remedies for the Relief of the Patient. If we find the Diſeaſe approaching, or at leaſt are apprehenſive of its coming, and that it proceeds from a Redundance of Blood, eſpecially in old Perſons of a vigorous Conſtitution, who have for a long time paſs'd their Lives without ſufficient Motion of Body; the greateſt Relief, in ſuch a Caſe, is to be expected from ſpeedy and plentiful Bleeding, which becomes the more neceſſary, if the Cauſe is ſuſpected to be a Retention of the Menſes, or a Stoppage of the Hæmorrhoidal

Flux, or an Omiſſion of long accuſtom'd Phlebotomy, or Scarification. This is agreeable to the Advice of *Hippocrates*, *Aph.* 36. *Lib.* 6. where, under a Difficulty of Urine, he orders the inner Veins to be open'd.

In a Redundance of impure Serum, impregnated with ſcorbutic, acrimonious, and ſaline Particles, which, by its Defluxion, and Settlement about the Bladder, and the Parts included within the Pelvis, furniſhes Matter for this Diſorder; or if it be owing to the ſcorbutic Purples, a Diſtemper grown common in our Times, we muſt uſe our beſt Endeavours, that the Maſs of Blood and Humours, which is vitiated by the Mixture of thoſe heterogeneous and impure Particles, may be depurated, and the Redundance of Serum evacuated by the proper Emunctories. For this Purpoſe temperate Diluents, in ſufficient Quantities, and for a convenient Length of Time, are to be uſed: Of this Nature are the temperate kinds of Mineral Waters, which conſiſt of the pureſt and lighteſt Liquid, impregnated with a ſlightly alcaline Salt; ſuch, above all others, are the *Selteran* and *Spaw* Waters; for they are very agreeable, and extremely beneficial, in all the Diſorders and Defects of the Breaſt, Kidneys, and Bladder, which Parts, in particular, they relieve by a ſort of ſpecific Virtue. In the ſcorbutic Purples they exert their Virtues much more to Advantage, when mix'd with Milk, eſpecially Aſſes Milk.

As a Regimen of Diet is of the greateſt Importance, both in preventing and curing a Diſeaſe, ſo that they who live freely, without regarding the Laws of Medicine, or the Rules of Sobriety, can never be relieved from ſuch afflicting Diſtempers; but, at moſt, only procure to themſelves ſome Intervals of Eaſe; for this Reaſon, in ſo chronical a Diſorder, where the Nerves, and moſt ſenſible Parts, are affected, the leaſt Error in Diet muſt, of neceſſity, have a bad Influence upon the nervous Parts. The Patients, therefore, are to be ſtrictly forbidden all ſalt, acrimonious, and ſour Meats, all Vegetables which breed Inflations, or are aſtringent; and they muſt alſo abſtain from all Malt-liquors, and acid and auſtere Wines: But ſweet Wines, and particularly the *Hungarian*, are not only harmleſs, but very beneficial. Here a Paſſage of *Aetius*, *Tetrab.* 3. *Serm.* 3. *Cap.* 22. concerning a Scabies of the Bladder, deſerves to be quoted: “ The Patient, ſays he, muſt abſtain from all “ Things of a biting Quality, and ſuch as render the Humours “ ſalt and acrimonious; but give him ſweet Wines, and “ Milk, with Broths made of Hens, or the Fleſh of Kids or “ Lambs.” And tho' Motion and Exerciſe of the Body have a very good Effect in preventing Diſtempers of this Kind, by giving a Check to the Redundance of Blood, and maintaining a due Circulation of the Humours through the Veſſels; yet, if the nervous Parts at the Bottom of the Belly are affected with Pains and Convulſions, Reſt is better for the Patient than Motion, which, in ſuch a Circumſtance, would be very prejudicial; eſpecially ſuch kinds of Motion as drive the Blood more upon the inferior Parts, as a great Elevation of the Voice, long and earneſt Speaking, Agitations of the upper Parts, Geſtation, and Lifting of Burdens.

While the Patient is under the convulſive Fit, attended with racking Pains, and a Difficulty of Urine, I have learnt by frequent Experience, that there are no better Remedies than oily emollient Clyſters, a Bath, or a Semicupium, which is confirm'd by the Obſervations of Phyſicians, every-where to be met with; and we have an elegant Obſervation of *Drawitz*, in his Book of the *Scurvy*, to the ſame Purpoſe. A Vapour-bath of emollient and anodyne Flowers is alſo beneficial in the Time of the Paroxyſm; ſuch are the Flowers of common Chamomile, Melilot, the Elder-tree, Mallows, Mullein, and Millefoil, boiled in Milk; for, by their lenient and demulcent Virtues, they are of excellent Service in compoſing and mitigating the Pains and Convulſions. Internally may be given our *mineral anodyne Liquor*, either alone, or mix'd with Carminatives; alſo antiſpaſmodic Powders, as the Marquis's Powder, or purified Nitre, with an Addition of a little Saffron and Caſtor, taken in an Emulſion of the Four greater cold Seeds. Theſe Remedies are preferable to all others, and may be uſed even under a Fever, and when an Inflammation is threaten'd, if the Proportion of Nitre be augmented.

When the Diſeaſe of the Bladder proceeds from a Tranſlation of a rheumatic Defluxion from the external Parts upon the Viſcera, Fontanels, cut in the Arms, have been of no ſmall Service. Alſo a demulcent and gently diuretic Decoction of the Roots of Scorzonera, Sarſaparilla, China, the Shavings of Hartſhorn, the Roots of Liquorice, Couch-graſs, Succory, and Fennel ſeeds; or *our mineral anodyne Liquor*, mix'd with the Bezoardic Spirit of Buſſius, are Remedies which never fail of having a good Effect.

If bloody Urine, having its Origin in the Bladder, be attended with a convulſive Affection of the ſame Part, or an Exulceration ſupervene, I have frequently found the good Effects of an Application of the vulnerary Water call'd *L'eau d' Arquebuſade*, (ſee AQUA) in anſwering the Intention of diſcuſſing and corroborating. I alſo uſe repeated Applications of Bags of Mint, Baum, Myrtle-leaves, Bay-leaves, Roſes, with the Flowers of common and *Roman* Chamomile, all boiled in Red-wine, to the Region of the Bladder: And to prevent a Coheſion of any grumous Blood, that may happen to be retain'd in the Bladder, with a tartarous Mucus adhering to the Part, which may produce a Stone, internal, abſterſive, and gentle vulnerary Medicines may very properly be uſed. Some of the beſt of theſe are Golden-rod, Ladies-mantle, the Tops of St. John's-wort, and Millefoil, the Roots of Avens, Marſhmallows, and Liquorice, Figs, and Spleenwort, in the Form of an Infuſion or Decoction, well ſweeten'd with *Pruſſian* Honey, or *Fernelius*'s Syrup of Marſhmallows. The Decoction of *Foreſtu*, and Sperma Ceti, are alſo very good Medicines for diſſolving grumous Blood retain'd in the Bladder.

When the Inflammation is ſucceeded by an Abſceſs, which is known by the Exacerbation of the Symptoms, and a Senſe of Weight in the Region of the *Perinæum* and *Pubes*, it is neceſſary, that it ſhould be timely open'd, and the Pus diſcharged from the Bladder; for the longer it continues, the more acrimonious it grows, and corrodes the adjacent Parts, corrupting them in like manner, and introducing *Fiſtulas*, and other very bad Symptoms. To prevent ſuch miſchievous Effects, Injections of warm Milk, boil'd with emollient Species, are to be uſed: If theſe are of little or no Efficacy, our laſt Recourſe muſt be to the Surgeon, who is to make an Inciſion with the Knife in the ſame Place of the *Perinæum*, as, in cutting for the Stone, with what they call the *greater Apparatus*. Two Examples of this Method in *Bonetus*, *Sepulchr. Lib.* 3. taken out of *Riolanus*, are worth our Notice. In Women the Caſe is otherwiſe; for they ſtand in no need of this kind of Remedy, becauſe in them the Orifice of the Bladder is larger, and the Acceſs to it more open. The Ulcer being open'd, and well cleanſed, is to be treated with the ſame Remedies as were directed in the preceding Paragraph.

PRACTICAL CAUTIONS.

I.

When a Redundance of Blood requires Evacuation, the beſ Method is to open a Vein in the upper Parts, by way of Revulſion; and the next Day, or the Day after, to cut the Vein in the Anus, if they are ſwell'd and prominent, for the ſake o Derivation; or, if this cannot conveniently be done, a Vei may be open'd in the Ancle or Ham. If the Habit of Bod be lax, and full of Blood and Juices, and eſpecially for th Female Sex, Cupping-glaſſes, applied to the upper and lowe Parts, may be very beneficial, by attracting the Blood and Hu mours towards the Superficies.

II.

You are to take Notice, by way of Caution, that tho' r peated Bleeding, as before adviſed, be very ſerviceable in pr venting or removing an Inflammation, or hindering its Increaſe yet where the Blood and Spirits are deficient, and in caſe of a Exulceration, Phlebotomy is rather hurtful than beneficial, b exhauſting the Strength and Spirits of the Patient, which a abſolutely neceſſary for expelling and ſubduing the Diſeaſe.

III.

In all Pains, and convulſive Diſorders, of the Bladder, fro whatever Cauſe they proceed, ſtrong Cathartics are by no mea convenient, neither in the Beginning nor Progreſs of the D temper; for it is to be fear'd, leſt the Humours, being by th means put in Agitation, ſhould be impel'd, and bend th Courſe towards the affected Parts. But under a Remiſſion the Pain and Spaſms, and in the Decline of the Diſorde it is very uſeful, and even neceſſary, now-and-then, to giv Purge, in order to cleanſe and free the Inteſtines from tho ſtercoraceous Recrements and Sordes, of which there is gen rally a Collection and Coacervation in thoſe Parts, during t Time in which the Pain and Convulſions moleſt the Patien But this Intention is to be anſwered by the milder Sort Purges, ſuch as thoſe prepared of Manna, and Rhubarb, a ſolutive Syrup of Roſes, drank in Whey, or Aſſes Milk.

IV.

In order to mitigate the convulſive Paroxyſm, beſides ext nal Remedies, as Liniments and Fomentations, Clyſters co poſed of Lenients and Emollients are to be injected, which, their mild and comfortable Warmth and Influence in relax the rigid and convulſed Fibres of the adjacent Parts, may p bably cauſe a Remiſſion of the Pain, and afford conſidera Relief to the Patient; but theſe are to be adminiſter'd in ſ Quantities, for fear of compreſſing the Sides of the Bladder

V.

If the Bladder, and Parts connected with it, be affected w a conſiderable Exulceration, which is indicated by a cop

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Sediment of viſcid Matter, and a ſlow Fever conſuming the Strength and Fleſh, the Patient muſt abſtain from too free an internal Uſe of the *Caroline* Waters; for the plentiful Drinking of them, as I have learn'd by Experience, is very prejudicial, becauſe both the Corruption and Fever are increaſed by the Stagnation of theſe Waters.

VI.

A ſeaſonable Uſe may be made of anodyne Injections, as well for correcting the Acrimony of the Humours, as for blunting the Senſe of the intolerable Pains. Theſe may be prepared of four Whites of Eggs, beaten to a Water, with an Addition of two Ounces of Woman's Milk, and a Dram of the freſheſt Butter; or an artificial Emulſion may be made of the Seeds of Gourds, and of white Poppy, the Water of Elder-flowers, Roſe-water, and black Cherry-water, for the ſame Purpoſe.

VII.

All acrid Diuretics muſt be carefully avoided in this convulſive Affection; for, in an Exulceration of the urinary Paſſages, the Pain and ſpaſmodic Symptoms muſt, of Neceſſity, be very much exaſperated by the Acrimony of ſuch Medicines.

VIII.

When the Patient is under extreme Pains, which may be of dangerous Conſequence, Anodynes of the greateſt Efficacy may be uſeful, for preventing too great a Diminution of the Strength, with an Increaſe of the Fever and Dyſury, or Madneſs; and I have known half a Dram of Troches of Alkekengi given as a Doſe, with very good Succeſs: But we muſt utterly avoid ſuch Medicines when there is a Decay of Strength, either thro' Age, or ſome Paſſion of the Mind, particularly Sorrow. *Hoffman Med. Rational. Syſt.*

Mr. *Sharp* gives us the following Remarks relative to the Stone, which, for the farther Illuſtration of this important Subject, I ſhall inſert.

Hitherto there has never been given any ſatisfactory Account of the Cauſes of this concreting Diſpoſition in the Fluids; and tho' there may be ſome Propriety in conſidering the Sand of Urine in the ſame Light as the Tartar of Wine, from their Similitude in ſeveral Experiments, yet we cannot infer from thence, what does immediately produce it; at leaſt it is not, with any Certainty, to be imputed to a particular Diet or Climate, which, however, are the Cauſes commonly aſſigned; ſince we ſee, that in all Countries, and amongſt all Ranks of People, as much amongſt the Sober as the Luxurious, the Stone is a frequent Diſtemper; and tho' the great Numbers cut at the Hoſpitals of *Paris*, where the Water of the *Seine* is ſo remarkable for its Quantity of Stone, ſeems to favour the Opinion of its being generated by particular Fluids received into the Blood, yet, I believe, upon Inquiry, this famous Inſtance will not appear concluſive, ſince moſt of thoſe Patients come from the Provinces, or diſtant Villages, where that River does not paſs; and as to the Inhabitants of *Paris* itſelf, by what I was able to learn of the Surgeons there, the Number of thoſe afflicted with the Stone amongſt them is pretty nearly in the ſame Proportion as in *London*. From which Conſiderations, and the Circumſtance of ſo many more Children having the Stone than Men, one would be inclined to think the Diſpoſition is much oftener born with us, than acquired by any external Means.

It is certain, the Urine generally abounds with Matter proper to compoſe a Stone; and, perhaps, if it could grow cold in the Bladder, it would always depoſit the Matter there, as it does on the Sides of the Chamber-pot; tho' the Coats of the Bladder, being cover'd with a Mucilage, make them more unfit than the Sides of the Pot to attract the ſtony Particles; but we ſee, when once a hard Body is inſinuated into the Bladder, it ſeldom fails to become the Nucleus of a Stone, whether it be a large Piece of Gravel, a Needle, a Bullet, or any other firm extraneous Subſtance.

From the monſtrous Increaſe of ſome Stones in a ſmall time, and the Ceſſation of Growth for many Years of others, we may be perſuaded, that the Conſtitution varies exceedingly at different times, with regard to theſe ſtony Separations; and, from the Appearances of moſt Stones when artfully ſaw'd through, we may gather, that this Variation of Conſtitution does not ſhew itſelf only in the Quantity of Gravel added to the Stone, but the Quality of it alſo; ſo that a red uniform Stone, of an Inch Diameter, may perhaps, at half that Size, have been a ſmooth white one, at a Quarter, a brown Mulberry one, and ſo on at different times, altering in its Species. Hence (from the Appoſition of different-colour'd Gravel) ariſes for the moſt part the laminated Appearance of a Stone, tho' ſometimes the Laminæ are very nearly of the ſame Colour and Compoſition; and, in this Caſe, their Formation ſeems to be owing to the want of Accretion in the Stone for a certain time; during which, its Surface, by rubbing againſt the Coats of the Bladder, and its Attrition, from the Stream of Urine, becomes ſmooth and compact; ſo that when more freſh looſe Gravel adheres to it, its different Denſity in that Part will neceſſarily make the Streaks we ſee in a Section of the Stone, which are only the outſide Surfaces of each Lamina.

That the ceaſing to grow gives them this laminated Form, and not any particular Diſpoſition in Sand to ſhoot into ſuch a Shape, is probable from the Examination of ſome other Stones, in which a great Quantity of Gravel is firſt collected without any Nucleus, into a ſpongy uniform Maſs, and after that is cover'd with ſeveral Laminæ.

'Tis no Wonder that Stones are ſo generally form'd in the Kidneys, ſince the Diſpoſition of the Urine will naturally ſhew itſelf as ſoon as it is ſeparated into the Pelvis; that is, the ſtony Particles, having as ſtrong an Endeavour to unite with one another in the Kidneys as the Bladder, will conſequently, from meeting firſt there, generally produce Gravel and Stone in that Part.

Small Stones and Gravel are frequently voided without Pain, but ſometimes they collect, and become very large in the Kidneys; in which Caſe, a Fit of the Stone in that Part is the Cure, from the Inflammation and Pain occaſioning convulſive Twitches, which at laſt expel them. But in this Diſeaſe the Patient is very much reliev'd by ſeveral kinds of Remedies, ſuch as the Mucilaginous, the Saponaceous, *&c.* ſome of which lubricate, and others both lubricate and ſtimulate. The Sand, in paſſing through the Ureters, is very much forwarded by the Force of the Urine, which is ſo conſiderable, that I have ſeen a Stone which was obſtructed in the Ureter in its firſt Formation, perforated quite through its whole Length, and form a large Chanel for the Stream of Urine. The Ureters being very narrow, as they run over the Pſoas Muſcle, and alſo at their Entrance into the Bladder, make the Movement of the Stone very painful and difficult in thoſe Parts: but there is ſeldom ſo much Trouble after the firſt Fit; for, when once they have been dilated, they generally continue ſo: I have often ſeen them as big as a Man's Finger, but they have been found much larger.

The Symptoms of Stones in the Bladder are by no means infallible, ſince a Stone in the Ureter or Kidneys, or an Inflammation of the Bladder from any other Cauſe, will ſometimes produce the ſame Effects; but if the Patient cannot urine, except in a certain Poſture, 'tis almoſt a ſure Sign the Orifice is obſtructed by a Stone; if he finds Eaſe by preſſing againſt the Perinæum with his Fingers, or ſitting with that Part upon a hard Body, there is little Doubt to be made, that the Eaſe is procur'd by taking off the Weight of the Stone; or laſtly, if with moſt of theſe Complaints he thinks he can feel it roll in his Bladder, it is hardly poſſible to be miſtaken: However, the only ſure Judgment to be form'd is from Searching.

That we ſhould not readily diſtinguiſh the Complaints of the Stone from many other Affections of the Bladder, is not very ſurpriſing, when we reflect, that a Fit of the Stone is nothing but an Inflammation of its Coats, which, tho' it be excited by the Stone, requires a Diſpoſition in the Blood to produce it; for, if the Complaints in a Fit were owing to the immediate Irritation of the Bladder, it ſhould follow, that the Stone being always the ſame, the Fit would be continual; but, beſides that all Patients have conſiderable Intervals of Eaſe, (often of many Months) except in thoſe Caſes where the Stone is either very large, or pointed, there are Inſtances of ſome few happy Conſtitutions which have no Pain at all, even after having for a certain time ſuffer'd very much.

To prevent the Violence and frequent Returns of the Fits of the Stone, Bleeding, and gentle Purging with Manna, are beneficial; abſtaining alſo from Malt Liquors, and Exceſs of Eating and Drinking, is very ſerviceable; but a Milk-diet and Honey are the greateſt Preventatives, not only of Inflammation, but perhaps ſometimes, too, of the farther Accretion of the Stone.

From conſidering the Diſorders of the Stone in this Light, and the frequent Intervals of Eaſe which happen without the Aſſiſtance of Medicine, we cannot wonder, that ſo many Patients have believ'd the Stone diſſolv'd, when they have been under any particular Regimen; and that in all Ages there have been many People deceiv'd for a Length of Time, by a ſuppoſed Diſſolvent, tho' hitherto no ſafe one has been diſcover'd. *Sharp.*

Many Authors have pleaſed themſelves with comparing the Animal Calculus with Tartar, and in finding out ſome Reſemblance betwixt them. But I know no two Subſtances in Nature which can differ more widely than theſe two, both with reſpect to their Generation and Analyſis. The only Circumſtances wherein they agree, are their generating alike large Quantities of elaſtic Air, and their containing ſome Earth, tho' Tartar contains but a very little. As to their Generation, Tartar is the Offspring of Fermentation; whereas no ſuch thing can happen in the Animal Fluids. And, whoever compares the Analyſis of Tartar (ſee TARTARUS) with the following Analyſis of a *Calculus*, will readily perceive how different they are in their Compoſition. Tartar is an Acid; but no Portion of an Acid can by any means be diſcover'd in a Calculus.

Dr. *Slare* ſays, We diſtilled one Ounce of human Calculus that was recently cut out of a Body, which afforded about two Drams of a browniſh Spirit, nearer to that of Hartſhorn, than Urine. We put the Caput Mortuum upon the Capel, and reduc'd it to near a Dram; the reſt burning and ſmoaking away. Another time, we diſtilled in a naked Fire a Stone that weigh'd two Ounces; the Vapour came over upon a good Streſs of Fire, and ſettled in the Form of Salt without any Liquor, of which we preſerv'd only a Dram; it appear'd very brown, and taſted bitter, as the fetid Oil of Hartſhorn, and other empyreumatical Oils, do. We examin'd by boiling and evaporating Water from the Caput Mortuum, whether it held any fix'd Salt, but found none. The Caput Mortuum weigh'd one Ounce, and ſix Drams; ſo that it loſt only two Drams in the Diſtillation, that is, only two Drams came over the Helm. We proceeded farther, and placed the Caput Mortuum upon a Teſt in an open Fire, where it burnt away to two Drams forty-four Grains. This we alſo boiled in Water to ſee what Salt it held; but it ſcarce afforded a Taſte of Salt, hardly ſurmounting that we uſually find in the like Quantity of common Water. In this fiery Trial, an Ounce and three Drams of the two Ounces evaporated in the open Fire, (a material Circumſtance, which Chymiſts rarely inquire after) of which we have no Account. *Phil. Tranſ. Abr. Vol.* 3. Dr. *Hale* ſays, That the greateſt Part of this is raiſed into permanently elaſtic Air.

As to the Production of Stones in the Body, if we reflect upon what is ſaid under the Article ARTHRITIS, with reſpect to the Generation of the Gouty Matter, and conſider, at the ſame time, the great Affinity there is betwixt the Gout and Stone, and that either of theſe frequently is tranſmuted into the other, we may perhaps have Reaſon to believe, that the Cauſes of both are a Defect in the Solution of the earthy Particles of our Aliment by the Powers of Digeſtion; and if it happens, that the Sedentary, Luxurious, and Idle, are more ſubject to the Stone, than the Active, Temperate, and Laborious, it will be a farther Confirmation of its being generated in this manner. That Children alſo, who uſe but little Exerciſe, and whoſe Stomachs are lax and weak, are often afflicted with the Stone, ſeems to favour this Opinion.

Upon this Occaſion I cannot omit a beautiful Obſervation of *Boerhaave*, who, ſpeaking of Menſtruums, ſays thus: Tho' earthy Bodies, when corroded by Acids, may be diſſolv'd in Water, Alcalies, when intimately united with Earth, cannot be afterwards diſſolv'd with Water, as plainly appears in Glaſs, which conſiſts of an Alcali, and an Earth, intimately united, and is leſs ſoluble in Water, the cloſer the Union: So great is the Difference between the Solution of Earth by one kind of Salt and another. Alcalies, we ſee, ſubtilely diſſolve Earth into a fix'd, tranſparent, hard Body, which reſiſts the diſſolving Power of Water, more than any other Body; but it appears ſtranger ſtill, that the ſubtile, volatile, alcaline Salts of Animals, intimately united with Earth, ſhould form a Maſs undiſſolvable in boiling Water; for the Stones generated in Animals I take to conſiſt of theſe two Principles and Oil; and in whatever Part of the Body ſuch Stones are generated, they commonly produce terrible Effects; as having a Power of attracting and joining to themſelves a ſimilar Matter, from ſuch Animal Juices as approach neareſt to Putrefaction, as the Bile and Urine; which containing Salts nearly alcaline, theſe Salts unite to themſelves the fine Earth, wore off from the Parts of the Body; and thus lay the Foundation of new Stones, or enlarge the old ones: and hence the daily Increaſe of this monſtrous Production, which brings on terrible Diſorders.

Hence we may perhaps deduce the Reaſon, why the Author of Nature has made nearly all the Aliments of Animals incline to Acidity; for the acid Salts, on this Account, predominating in the Stomach, diſpoſe ſuch Aliments to diſſolve more eaſily, whoſe firmer Parts cohere principally by means of Earth; whence they would otherwiſe with much more Difficulty be diſſolv'd into fluid Chyle. But when afterwards a Matter is to be form'd of this Chyle, fit to bind the Solids together, the Tendency to Acidity, which was neceſſary in the Chyle, is changed, and an alcaline Tendency of the Salts introduced; which, by binding the earthy Particles, forms a Structure indiſſoluble in Water, and fit to reſiſt the Action of the Fluid. At leaſt we know, that Bones remain ſolid and firm, if ſteep'd in Alcalies; but grow ſoft and flexible, if detain'd in Acids; as the ingenious Mr. *Ruyſch* has often aſſur'd me, he found in his Anatomical Experiments. And doubtleſs, when the Power of changing Aceſcents into Alcalies is wanting in the Body, the Bones, Cartilages, Teeth, and Ligaments, become ſoft, weak, looſe, and flexible, as we daily ſee in the Rickets. *Boerhaave's Chymiſtry.*

It would be inexcuſable, if I was to omit taking Notice of Mrs. *Stevens's* Medicine for the Stone, as it was thought of Importance enough to merit the Conſideration of the Legiſlature. I ſhall therefore give it in her own Words, as publiſh'd in the *Gazette*.

Mrs. STEPHENS'S *Medicine for the* STONE.

It conſiſts of a Powder, a Decoction, and Pills.

The POWDER *is thus prepar'd.*

Take Hens Egg-ſhells well drain'd from the Whites, dry and clean; cruſh them ſmall with the Hand, and fill a Crucible of the twelfth Size (which contains nearly three Pints) with them lightly; place it in the Fire, and cover it with a Tile; then heap Coals over it, that it may be in the midſt of a very ſtrong clear Fire, till the Egg-ſhells be calcin'd to a greyiſh White, and acquire an acrid, ſalt Taſte: this will take up eight Hours at leaſt. After they are thus calcin'd, put them into a dry clean earthen Pan, which muſt not be above three Parts full, that there may be room for the Swelling of the Egg-ſhells in flaking. Let the Pan ſtand uncover'd in a dry Room for two Months, and no longer. In this time the Egg-ſhells will become of a milder Taſte, and that Part which is ſufficiently calcin'd will fall into a Powder of ſuch a Fineneſs, as to paſs thro' a common Hair-ſieve; which is to be done accordingly.

In like manner:

Take Garden-ſnails with their Shells, clean'd from the Dirt; fill a Crucible of the ſame Size with them whole; cover it, and place it in a Fire as before, till the Snails have done ſmoking, which will be in about an Hour, taking care that they do not continue in the Fire after that. They are then to be taken out of the Crucible, and immediately rubb'd in a Mortar to a fine Powder, which ought to be of a very dark-grey Colour.

Note, If Pit-coal be made uſe of, it will be proper, in order that the Fire may the ſooner burn clear on the Top, that large Cinders, and not freſh Coals, be plac'd on the Tiles which cover the Crucibles.

Theſe Powders being thus prepar'd, take the Egg-ſhell Powder of ſix Crucibles, and the Snail Powder of one; mix them together, rub them in a Mortar, and paſs them thro' Cypreſs-ſieve. This Mixture is immediately to be put u into Bottles, which muſt be cloſe ſtop'd, and kept in a dry Place for Uſe. I have generally added a ſmall Quantity o Swines-creſſes burnt to a Blackneſs, and rubbed fine, but thi was only with a View to diſguiſe it.

The Egg-ſhells may be prepar'd at any time of the Year but it is beſt to do them in Summer. The Snails ought onl to be prepar'd in *May*, *June*, *July*, and *Auguſt*; and eſteem thoſe beſt that are done in the firſt of theſe Months.

The DECOCTION *is thus prepar'd.*

Take four Ounces and a half of the beſt Alicant Soap, bea it in a Mortar, with a large Spoonful of Swines Creſſe burnt to a Blackneſs, and as much Honey as will mak the Whole of the Conſiſtence of Paſte; let this be form' into a Ball. Take this Ball, and green Chamomile, Chamomile-flowers, ſweet Fennel, Parſley and Burdock leaves, of each one Ounce; when there are not Greens take the ſame Quantities of Roots; cut the Herbs Roots, ſlice the Ball, and boil them in two Quarts ſoft Water half an Hour; then ſtrain it off, and ſweete it with Honey.

The PILLS *are thus prepar'd.*

Take equal Quantities, by Meaſure, of Snails calcin'd as b fore; of wild Carrot-ſeeds, Burdock-ſeeds, Aſhen-key Hips and Haws, all burnt to a Blackneſs, or, which is ſame thing, till they have done ſmoking; mix them gether, rub them in a Mortar, and paſs them thro' Cypreſs-ſieve; then take a large Spoonful of this Mixtu and four Ounces of the beſt Alicant Soap, and beat th in a Mortar, with as much Honey as will make the Wh of a proper Conſiſtence for Pills, ſixty of which are be made of every Ounce of the Compoſition. Wh there is a Stone in the Bladder or Kidneys, the Pow is to be taken three times a Day, *viz.* in a Morning af Breakfaſt, in the Afternoon about five or ſix, and at ing to Bed. The Doſe is a Dram Avoirdupois, or Grains, which is to be mix'd in a large Tea-cup full White-wine, Cyder, or ſmall Punch; and half a Pint the Decoction is to be drank, either cold or Milk-warm, after every Doſe.

Theſe Medicines do frequently cauſe much Pain at firſt, in which Caſe it is proper to give an Opiate, and repeat it as often as there is Occaſion.

If the Perſon be coſtive during the Uſe of them, let him take as much lenitive Electuary, or other laxative Medicine, as may be ſufficient to remove that Complaint, but not more; for it muſt be a principal Care at all times to prevent a Looſeneſs, which would carry off the Medicines; and if this does happen, it will be proper to increaſe the Quantity of the Powder, which is aſtringent, or leſſen that of the Decoction, which is laxative, or take ſome other ſuitable Means by the Advice of Phyſicians.

During the Uſe of theſe Medicines, the Perſon ought to abſtain from ſalt Meats, Red-wines, and Milk, drink few Liquids, and uſe little Exerciſe, that ſo the Urine may be the more ſtrongly impregnated with the Medicines, and the longer retain'd in the Bladder.

If the Stomach will not bear the Decoction, a ſixth Part of the Ball made into Pills muſt be taken after every Doſe of the Powder.

Where the Perſon is aged, of a weak Conſtitution, or much reduc'd by Loſs of Appetite, or Pain, the Powder muſt have a greater Proportion of the calcin'd Snails than according to the foregoing Direction; and this Proportion may be increaſed ſuitably to the Nature of the Caſe, till there be equal Parts of the two Ingredients. The Quantity alſo of both Powder and Decoction may be leſſen'd for the ſame Reaſons. But as ſoon as the Perſon can bear it, he ſhould take them in the above-mention'd Proportions and Quantities.

Inſtead of the Herbs and Roots above-mention'd, I have ſometimes uſed others, as Mallows, Marſhmallows, Yarrow both red and white, Dandelion, Water-creſſes, and Horſe-radiſh Root; but do not know of any material Difference.

This is my Manner of giving the Powder and Decoction. As to the Pills, their chief Uſe is in Fits of the Gravel, attended with Pain in the Back, and Vomiting, and in Suppreſſion of Urine, from a Stoppage in the Ureters. In theſe Caſes, the Perſon is to take five Pills every Hour, Day and Night, when awake, till the Complaints be remov'd. They will alſo prevent the Formation of Gravel, and Gravel-ſtones, in Conſtitutions ſubject to breed them, if ten or fifteen be taken every Day. Thus far Mrs. *Stephens*.

In order to form a juſt Judgment of theſe Medicines, it is neceſſary to know, that Shells by Calcination are converted into a Lime; and that a Lixivium of Lime is a principal Ingredient in Alicant Soap.

I find theſe Medicines are at preſent in much Diſrepute. But as I am to give my Sentiments upon them undiſguiſed, and without being biaſſed by any Authority whatever, I ſhall give my Reaſons for believing them of ſome Efficacy, tho' I have never ſeen any remarkably good Effects from them.

My firſt Reaſon is, That the principal Ingredients in theſe Medicines are recommended for the Stone, by Authors of the firſt Reputation. Thus *Hoffman* ſpeaks of Egg-ſhells and Mother of Pearl; and *Boerhaave* preſcribes Soap, as we have ſeen above.

My ſecond Reaſon is, That they have indiſputably been of great Relief to many Perſons afflicted, before taking them, with the moſt exquiſite Tortures from the Stone. I ſay, indiſputably; becauſe, to doubt it, would be paying a very bad Compliment to the Underſtanding and Honour of many Gentlemen of known Integrity, who were appointed by Parliament to inſpect into, and who afterwards gave their Opinion in Favour of, theſe Medicines.

My third Reaſon is, That I have known in ſeveral Inſtances, great Effects produc'd by a Medicine, which ſeems to be nearly of the ſame Nature with thoſe of Mrs. *Stephens*, as it conſiſts of Lime made of Oyſter-ſhells. The Hiſtory of it, ſo far as I am acquainted with it, is thus. Mr. *Schwemberg*, a *German* Gentleman, extremely well verſed in the moſt abſtruſe Operations of Chymiſtry, has a Method of melting, by the Help of a Flux, calcin'd Oyſter-ſhells, ſo as to make them run like Wax, and to admit of being caſt into Cakes, which diſſolve *per Deliquium* into a Fluid; this, when filtred, is limpid as Rock-water, and extremely alcaline, tho' not corroſive; and, which is pretty ſurpriſing, will, upon the Affuſion of an Acid, be entirely converted into a Snow-white Powder. Twenty-five or thirty Drops of this Liquid, taken twice a Day in Water, I have frequently known to afford great Relief in nephritic Diſorders.

My fourth Reaſon is, That a Lixivium of Lime will diſſolve human Stones, when out of the Body.

My fifth Reaſon is, That Lime ſeems to be, in general, a powerful Diſſolver of Earth, and earthy Concretions. Thus Lime produces a great Fertility, when laid upon the moſt barren kinds of Land, as Gravel; that is, it helps to diſſolve the large Particles of Earth, and prepares it for furniſhing Matter for a ſubſequent Vegetation. Hence it happens, that what *Boerhaave* remarks in the Paſſage quoted above, in regard to Alcalies uniting with Earth, and rendering it indiſſoluble, does not hold good with reſpect to the Salt of Lime, which is an Alcali *ſui generis*, and in many Inſtances different, as to its Properties, from all others. See CALX.

I ſhall conclude this Article with remarking, that, as, in all Caſes whatever, the principal Duty of a Phyſician conſiſts in diſtinguiſhing accurately one Diſtemper from another; ſo, particularly with reſpect to the Stone, he muſt take care not to be deceived; for there are three Diſtempers, which mimic ſo exactly the Stone of the Kidneys, Ureters, and ſometimes even of the Bladder, that it is not eaſy for a Perſon, not well verſed in theſe things, to diſtinguiſh ſome Symptoms of theſe from the genuine Stone; I mean the Gout, latent Intermitting Fevers, and Hyſterics. And, indeed, it is of great Importance, in the Practice of Phyſic, to diſtinguiſh the Symptoms cauſed by theſe three Diſtempers, when they ſeize upon any of the Viſcera, from the genuine Diſorders to which the Part is otherwiſe ſubject; for the Kidneys, Ureters, and Bladder, are not the only Parts ſubject to their irregular Attacks.

As to the Gout, when it fixes upon the Region of the Kidneys and Loins, and imitates the Stone, or when it affects the Neck of the Bladder, it muſt be diſtinguiſh'd from the Stone, by carefully comparing the Patient's Complaints with the Symptoms of the genuine Stone above enumerated; in which I have been deſignedly very full, and given them from different, and thoſe the beſt, Authors, that they may be view'd in every Light. The Conſtitution of the Patient is alſo to be taken into Conſideration, which, if gouty, gives an uſeful Hint to the Phyſician; and the Unſucceſsfulneſs of Remedies, which uſually relieve in the Stone, lay a ſtrong Suſpicion, that the Diſorder may have another Cauſe. *See the Quotation above from* Hoffman.

As to Hyſterics imitating the Stone, *Sydenham* has obſerv'd, and ſince him, I believe, every Phyſician concern'd in much Practice, that ſometimes this Diſeaſe ſeizes one of the Kidneys, where, by the violent Pain it occaſions, it entirely reſembles a Fit of the Stone, not only with reſpect to the kind of Pain, and the Part affected, but likewiſe by the violent Vomiting wherewith it is accompanied, and the Pains extending thro' the whole Duct of the Ureter: So that 'tis hard to diſtinguiſh, whether the Symptoms are from the Stone, or an Hyſteric Diſorder; unleſs, perhaps, ſome Misfortune having depreſſed the Woman's Spirits, a little before the Diſorder came on, or the Diſcharge of green Matter by Vomit, ſhould ſhew that the Symptoms are rather to be aſcrib'd to an hyſteric Diſorder than the Stone. The Bladder alſo is occaſionally affected with this deluſory Symptom, cauſing Pain, and a Suppreſſion of Urine, as in the Caſe of an Obſtruction of the urinary Paſſages from a Stone. This laſt Species rarely happens, but the former more frequently. Both uſually attack ſuch Women as are greatly debilitated by frequent hyſteric Fits. *Sydenham.*

The Conſtitution of the Patient, and the Symptoms, are to be accurately conſider'd in this Caſe, as well as in nephritic Symptoms proceeding from the Gout. This Diſorder I have frequently known inſtantly remov'd by Bleeding, without any ill Conſequences, notwithſtanding the Cautions given by ſome practical Writers againſt bleeding in Hyſterics. See HYSTERICA.

As to intermitting Fevers imitating the Stone, and other Diſorders, it is remarkable, that the general Uſe of the *Peruvian* Bark has introduc'd many anomalous Symptoms of theſe Fevers utterly unknown to the Antients. Theſe Irregularities were, ſo far as I know, firſt taken Notice of by *Morton*, in his moſt excellent Diſſertation, *de Proteiformi Febris intermittentis Genio*; where there are many important Obſervations, ſo ſtrictly genuine and true, that a Phyſician muſt have practis'd to very little Purpoſe, if he has not almoſt daily obſerv'd Caſes which ſtrongly confirm them. It ſeems as if the Bark, by ſtifling, and not carrying off the Diſorder, leaves in the Blood a Portion of the morbific Matter, which cauſes the Fever; or which, to uſe the Language of *Sydenham*, Nature raiſes a Fever, in order to expel. Now this is, in the Courſe of the Circulation, convey'd to, and depoſited upon, one or other of the Viſcera, there cauſing the Symptoms which are raiſed by any other Obſtructions, or ſpaſmodic Conſtrictions, in the ſame Part. Hence Fevers, which have been treated with the Bark, frequently afflict the miſerable Patient for many Years, from time to time, under the Maſk of other Diſorders. But, to do Juſtice to a Remedy now in ſo great Reputation not altogether undeſervedly, I muſt confeſs, that theſe irregular Symptoms ſometimes precede its Exhibition, and even conſtitute the very firſt Scene of the Tragedy, before the Fever has ſhewn itſelf to be what it really is.

In order to diſtinguiſh theſe Caſes, regard is to be had to the genuine Symptoms attending Diſorders of the Part affected, to the Conſtitution, and the Inefficacy of Remedies which uſually relieve. If a Fever has preceded, which was treated with the Bark, tho' many Years before, it lays a Foundation for ſuſpecting that to be the latent Cauſe, eſpecially if it has frequently returned, and as often been treated with the Bark. But if a Sediment of a Pink-colour ſubſides to the Bottom of the Urine, or the Pain is periodical, it puts the Caſe out of Diſpute. It often, however, happens, that tho' a latent Fever is the Cauſe of the Complaints, yet at firſt there is no Separation in the Urine, nor do the Symptoms recur at any regular Periods; but, after prudent Evacuations, the Periods generally become more regular, and the Diſeaſe betrays its Family by the Sediment above deſcribed. The Method, therefore, is to take away ſome Blood; after this, to give one lenient Purge, or more, if neceſſary. The Alteratives ſhould conſiſt principally of neutral Salts, either natural, as Nitre, or artificial, as Juice of Lemons with Salt of Wormwood, diſtil'd Vinegar with volatile Sal Ammoniac, and ſome ſimple Water as a Vehicle, and an Addition of a proper Syrup to make it agreeable; the *Terra Foliata Tartari*, otherwiſe call'd *Tartarus Regeneratus*; *Tartarus Tartariſatus*; but, above all, the *Tartarus Vitriolatus*, perfectly neutraliz'd, according to *Boerhaave*'s Method. Such a Treatment will very ſeldom fail to make the Diſorder, if cauſed by an Intermitting Fever, appear in its proper Form; and then the *Peruvian* Bark, if it ſhould be judged proper, will generally cure it; or a Continuation of the ſame neutral Salts, with lenient Purges, intercalated at proper Intervals, will generally perform a Cure, eſpecially if aſſiſted with Bliſters, if neceſſary, and nothing forbids their Uſe.

END of VOL. I.

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EXPLICATIONS

OF THE

TABLES in Volume the Firſt.

TABLE I.

THE Figures mark'd A, B, C, D, E, F, G, H, L, M, N, O, P, Q, R, S, T, U, W, X, Y, Z, are explain'd under the Article ACETUM. which see.

All the reſt are explain'd under the Article VINUM.

TABLE II.

All the Figures in this Table are explain'd under the Article ACUS. which see.

TABLE III.

The Figures mark'd 1. 1. 1. are explain'd under the Article ADEPS. which see.

2. 3. 4. are explain'd under ALLANTOIS.

TABLE IV. TABLE V.

Theſe Figures are explain'd under the Article ARTERIA.

TABLE VI.

From the Philoſophical Tranſactions.

FIGURE 1.

The Trunks of the Vena Cava, with their Branches, diſſected, from an adult human Body.

A. A. The Orifice of the Vena Cava, as it appears when cut from the Right Auricle of the Heart.

a. The Orifice of the Coronary Vein of the Heart.

B. A. The ſuperior or deſcending Trunk of the Vena Cava.

C. C. A. The inferior or aſcending Trunk; ſo diſtinguiſh'd from the Motion of the Blood in theſe Trunks, which is contrary to their Poſition.

D. D. The Subclavian Veins.

†. That Part of the Left Subclavian Vein, where the Thoracic Duct enters it, and diſcharges itſelf of its Chyle and Lymph.

b. The Vena Azygos, with its Branches going to the Ribs, *t. t.*

c. The ſuperior Intercoſtal Veins.

d. d. The internal Mammary Veins.

E. E. The Right and Left Iliac Branches.

F. F. The internal Jugular Veins.

G. G. The external Jugulars.

H. H. The Veins which bring Blood from the lower Jaw, and its Muſcles.

I. I. The Trunks of the internal Jugulars, cut off at the Baſis of the Scull.

f. The Veins of the Thymus and Mediaſtinum.

g. g. The Veins of the Thyroid Glands.

h. The Vena Sacra.

i. The internal Iliac Branch.

k. The external.

K. K. The Occipital Veins.

L. The Right Axillary Vein.

M. The Cephalic.

N. The Baſilic.

O. The Median Vein.

P. The Trunk of the Veins of the Liver.

Q. The Phrenic Vein of the Left Side.

R. The Right Phrenic Vein.

r. A large Vein from the Left Glandula Renalis, and Parts adjacent.

S. The Left Emulgent Vein.

T. The Right Emulgent, in this Subject very much lower than the Left, which is not uſual.

U. U. The two Spermatic Veins.

X. X. Two communicant Branches between the aſcending Trunk of the Vena Cava and Vena Azygos, by which the Wind paſſes into the deſcending Trunk of the Cava, when we blow into the aſcending at A. P. C. tho' the Trunk at A. P. and C. is firmly tied on the Blow-pipe.

*. An uncommon Branch between the lower Trunk of the Vena Cava and the Left Emulgent Vein.

Y. A Vein which brings Blood from the Muſcles of the Abdomen into the external Iliac Branch.

Z. The Epigaſtric Vein on the Right Side.

l. l. The Vena Saphena.

FIGURE 2.

The Trunks of the Vena Portæ diſſected, and diſplay'd.

A. A. A. The Branches of the Vena Portæ freed from the Liver.

a. The Umbilical Vein.

B. The Splenic Branch.

C. C. The Meſenteric Branches, which are continued from the Inteſtines.

b. The Trunk of the Vena Pancreatica, which receives Branches from the Duodenum.

c. c. The Vena Gaſtrica dextra Coronaria ſuperior.

D. The ſuperior Coronary Vein of the Stomach, on the Left Side.

E. The inferior Coronary Branch of the Stomach, on the Right Side. And,

F. The ſame Coronary Vein of the Left Side, removed from their proper Situations. From theſe two laſt are continued,

1. The Vena Epiploica ſuperior dextra: And,
2. The Siniſtra: With,
3. The Media.

G. The Vein call'd Vas Breve.

d. The Vena Duodeni.

H. The Vena Hæmorrhoidalis, ariſing from the Rectum and Anus; in this Subject emptying itſelf into the Left Meſenteric Branch; but in other Bodies (and particularly in a Preparation of theſe Veins) I find this Trunk of the Hæmorrhoide Veins ending in the Ramus Splenicus.

TABLE VII.

LANCISI's *Explication.*

a. a. The Olfactory Nerves.

b. b. The Optic Nerves cut.

c. c. The common Movers of the Eyes.

d. d. The Pathetic Nerves.

e. Proceſſus Annularis.

f. f. The three Branches of the fifth Pair.

g. g. The ſixth Pair.

h. h. The two Portions of the Auditory Nerve.

i. i. i. i. The Origin of the eighth Pair.

k. k. k. k. Several Ramifications of the Par Vagum, and Intercoſtal Nerves.

l. l. A remarkable Communication betwixt the Phrenic Nerves and one of the Intercoſtals, which helps to form the Brachial Nerves.

m. The Recurrent Nerve on the Left Side.

n. The Left Nerve of the ninth Pair.

o. The Right Nerve of the ninth Pair.

p. p. The Corpora Pyramidalia.

q. q. The tenth Pair cut.

r. r. The ſuperior Extremity of the Nerves, commonly called Intercoſtales; which, according to *Lanciſi*, may be reckon'd an eleventh Pair.

s. s. s. The great Trunks of theſe Nerves.

t. u. u. u. The Nervus Acceſſorius of the eighth Pair, and its Communication with the third Pair of the Vertebrales.

x. x. x. The Phrenic Nerves, call'd alſo the Diaphragmatic Nerves, of which the Left is naturally longer than the Right.

y. The inferior Opening of the Infundibulum.

z. z. The Nerves which go to the Teſtes, Uterus, *&c.*

Additional Explication.

1. 1. The Brachial Nerves.

2. 2. *&c.* The Communications of the Vertebral Nerves, with thoſe commonly call'd Intercoſtals.

3. 3. The Crural and Sciatic Nerves.

TABLE VIII.

1. The Os Sincipitis on the Right Side.
2. The Os Sincipitis on the Left Side.
3. The Os Occipitis.
4. The Os Squamoſum.
5. The Sutura Sagittalis.
6. 6. The Sutura Lambdoidalis.
7. The Proceſſus Mammillaris.
8. Part of the lower Jaw.
9. The firſt Vertebra of the Neck, call'd AXIS.
10. The ſecond Vertebra of the Neck, call'd EPISTROPHÆUS.
11. 11. The Claviculæ.
12. 12. The Scapulæ.
13. 13. The Baſis of the Scapulæ.
13. 14. The Coſta inferior of the Right Scapulæ.
14. The Proceſſus Brevis.
15. 15. The Acromion.
16. 16. The Spina Scapulæ.
17. 17. The Os Humeri.
18. 18. The Head of the Os Humeri.
19. The Aſperities of the Left Os Humeri.
20. The external Protuberance of the Left Os Humeri.
21. The internal Protuberance of the Left Os Humeri.
22. 22. The Radius.
23. 23. The Ulna.
24. The Olecranon, or the Elbow, on the Right Side.
25. 25. The eight Bones of the Carpus.
26. 26. The four Bones of the Metacarpus.
27. The three Bones of the Thumb on the Left Side.
28. The Bones of the Fingers on the Left Side.
29. 29. The back Part of the Os Ilium, or Dorſum Ilii.
30. 30. The Spine of the Ilium on each Side.
31. 31. The Protuberances of the Os Iſchium on each Side.
32. The internal Part of the Os Pubis.
33. The Os Sacrum.
34. The Os Coccygis.
35. 35. The large Sinus of the Iſchium.
36. 36. The Foramen of the Iſchium on each Side.
37. 37. The Femur on each Side.
38. 38. The Head of the Femur.
39. The Neck of the Femur.
40. 40. The Trochanter major, on each Side.
41. 41. The Trochanter minor on each Side.
42. 42. 42. 42. The two inferior Protuberances of the lower Appendix of the Os Femoris.
43. 43. The Tibia on each Side.
44. 44. The Head of the Tibia on each Side.
45. 45. The ſuperior Appendix of the Fibula on each Side.
46. 46. The inferior Appendix of the Fibula on each Side.
47. 47. The Fibula on each Side.
48. 48. The Os Calcis on each Side.
49. 49. The Aſtragalus on each Side.
50. The Bones of the Tarſus.
51. The Bones of the Metatarſus.
52. The Bones of the Toes.

a. b. c. d. e. f. The Spinal Proceſſes of the Vertebræ of the Neck.

n. n. n. n. n. The tranſverſe Proceſſes of the Vertebræ of the Neck.

o. o. o. o. o. o. o. o. o. o. o. The tranſverſe Proceſſes of the Vertebræ of the Back on the Right Side.

P. P. P. P. P. P. Some of the Spinal Proceſſes of the Vertebræ of the Back.

R. R. R. R. R. The Spinal Proceſſes of the Vertebræ of the Loins.

S. S. S. S. S. S. S. S. S. S. The tranſverſe Proceſſes of the Vertebræ of the Loins.

h. i. k. l. m. n. o. p. q. r. s. t. The Ribs on the Left Side, at the Articulation of their ſmall Tubercle with the tranſverſe Proceſſes of the Vertebræ.

u. The laſt Vertebra of the Back.

w. x. y. z. The Bodies of four of the Vertebræ of the Loins.

TABLE IX.

LANCISI's *Explication.*

The Figures of this Plate are of the utmoſt Importance, ſince their principal Deſign is to exhibit various Figures of the human Scull, with which, according to *Hippocrates* in his Book *de Vulneribus Capitis*, every Phyſician and Surgeon ought to be well acquainted; for, ſince the natural and moſt common Figure of the Head reſembles that of an oblong Sphere, its anterior and poſterior Parts are of courſe ſomewhat prominent: But it frequently happens, that Sculls vary from each other, not only in the Number of Sutures, but alſo in the Diverſity of Shapes and Forms.

FIG. 1. repreſents a human Scull, of the natural Form with the Sagittal Suture, continued to the Root of the Noſe, to which it alſo reaches in *Fig.* 10. but in this latter the Coronal Suture is wanting; and tho' this Suture is obſerved in *Fig.* 17. yet the anterior Eminence, which is generally ſeen on the Sinciput, and upper Part of the Forehead, is wanting; but the poſterior Eminence, belonging to the Occiput, remains. Tho' in *Fig.* 8. the poſterior Part of this Eminence is only to be obſerved, yet, on the Occiput, it is a little more depreſs'd than in other Sculls.

FIG. 2. exhibits the Os Petroſum cut through, in order to give a Proſpect of the Concha, the Cochlea, and the Foramina which open into it.

1. The Concha.
2. The Beginning of the Styliform Proceſs.
3. The Maſtoide Proceſs.

FIG. 3. is, by *Euſtachius*, principally intended for the Confutation of thoſe, who, being more ſway'd by Aſſertions than Fact, aſſert, with *Galen*, that the Sagittal Suture is never wanting, but always found in human Sculls; for, ſays *Euſtachius*, "Tho' no Anatomiſt has hitherto adverted to it, I myſelf have "frequently found the Sagittal Suture wanting; and ſome time "ago I exhibited to public View and Examination fifteen "human Sculls, in which there was not the ſmalleſt Appear- "ance of a Sagittal Suture; tho', at the ſame time, all the "other Sutures were to be diſtinctly and eaſily obſerved."

FIG. 5. and 6. repreſent both the Oſſa Petroſa, with the Foramina thro' which the Auditory Nerve enters.

FIG. 12. and 14. exhibit the Sella Turcica, with the Oſſa Cribriformia, and the Proceſſus Criſtati. In the Oſſa Cribriformia are obſerved the Foramina, thro' which the Proceſſus Papillares, or Olfactory Nerves, paſs. In *Fig.* 14. are obſerved the Foramina thro' which the Optic Nerves paſs to the Eyes, the Foramina thro' which the Blood-veſſels are admitted; as alſo the Sella Turcica. And in *Fig.* 12. all theſe Foramina are diſtinctly ſeen.

FIG. 13. repreſents that Side of the Os Cuneiforme which lies next to the Fauces, with its ſmall Foramina, thro' which, according to ſome Anatomiſts, the Air enters, and reaches the Brain itſelf.

FIG. 16. repreſents the inferior Part of the Cranium, below the Os Sphenoides; with the Septum Medium of the Noſe, which, when freed from the other Bones and Cartilages, is of a ſtyliform Shape.

FIG. 17. repreſents a Cranium almoſt entirely round, which Figure is by ſome call'd φοξὸς, or ὀξυκέφαλος, with two preternatural Sutures, one running tranſverſly thro' the Middle of the Head, from the Right to the Left Ear; and the other reaching all along the Head, from that Foramen which gives a Paſſage to the Spinal Marrow, to the Root of the Noſe.

Lanciſi takes no Notice of the other Figures.

FIG. 4. ſeems to be the Os Frontis, ſeparated from the other Bones of the *Cranium*.

FIG. 7. ſeems to be an irregular Portion of the Cranium, alſo ſeparated.

In FIG. 8. there appears an irregular Suture.

FIG. 9. is the Os Occipitis ſeparate.

FIG. 11. ſeems to be another View of the Bone repreſented in *Fig.* 16.

FIG. 15. repreſents a Scull, in which I obſerve nothing greatly anomalous.

TABLE X.

From EUSTACHIUS.

Repreſents the Muſcles which are conſpicuous on the for Part.

1. 1. The Muſculi Frontales.
2. 2. The Orbiculares Palpebrarum.
3. The Attollens Auriculam.
4. The Temporalis.
5. The Maſſeter.
6. Repreſents the Muſcle call'd, by *Lanciſi*, Conſtrictor, o Depreſſor Pinnæ Narium.
7. The Dilatator Alæ Naſi.
8. The Zygomaticus.
9. The Place of the Elevator Labiorum, or Elevator Lab orum

orum communis, called by *Lanciſi* Gracilis; but it is not expreſſed in this Figure.

10. The Elevator Labii ſuperioris proprius.

11. 11. The Conſtrictor or Sphincter Labiorum, or Orbicularis Labiorum; by ſome called Oſculatorius.

12. The Buccinator. The Reference points too low for this Muſcle, which lies exactly betwixt the Conſtrictor Labiorum, Fig. 11. 11. and the Maſſeter, Fig. 5.

13. 13. The Muſculi Maſtoidei. 15. 15. thoſe Parts of theſe Muſcles which ariſe from the Clavicle.

14. 14. The Sternohyoidei.

16. 16. The Coracohyoidei.

17. The Scaleni.

18. Repreſents Part of the Cucullaris on the Right Side.

18. On the Left Side is the Levator or Elevator Scapulæ, otherwiſe called Muſculus Patientiæ.

19. 19. The Place where the Fibres of the Pectoralis unite in ſome meaſure with thoſe of the Deltoides.

20. 20. The Deltoides.

21. The Place in the Carpus, where the Palmaris Longus paſſes thro' a Ring in the Annular Ligament.

22. A remarkable Union of the Tendons of the Extenſors of the three laſt Fingers.

23. 23. The Productions of the Peritonæum, which, perforating the Muſcles of the Abdomen at the Rings, deſcend to the Scrotum.

24. 24. The Place where the three Tendons of the Sartorius, Gracilis, and Seminervoſus, are inſerted into the anterior, and internal Part of the Tibia, juſt under the Knee.

25. 25. The Tendons of the Extenſors of the Toes, which are ſecur'd by a Ligament at the Ancle, as appears on both Sides. But on the Right Side internally another Ligament is repreſented, which fixes the Tendons of the Extenſor longus Digitorum, the Tibiæus Poſticus, and the Flexor Pollicis.

26. 26. The Muſculus Pectoralis.

27. The Triceps Extenſor Cubiti on the Right Side.

28. and 30. The Biceps on the Left Side according to *Lanciſi's* Explication.

29. Part of the Triceps Extenſor on the Left Side.

30. The Biceps on the Right Side. *N. B.* The prick'd Line is not carried far enough by three Lines.

31. The Brachiæus Internus.

32. The Anconæus.

33. The Pronator Rotundus.

34. 34. The Supinator Longus.

35. 55. The Radiæus externus, according to *Lanciſi.*

36. The Extenſor Carpi Ulnaris.

37. 37. The Cubitæus internus, according to *Lanciſi.*

38. The Radiæus internus, according to *Lanciſi.*

39. 39. The Palmaris with its tendinous Expanſion.

40. 40. Tendons of the Muſcles of the Thumb.

41. The Tendon of the Adductor Pollicis.

42. The Extenſor magnus Digitorum.

43. The Ligamentum Carpi.

44. 44. The Tendons of the Iliaci Interni.

45. 45. The Pectinæus.

46. One of the Heads of the Triceps.

47. 47. The Rectus Femoris on each Side.

48. 48. The Vaſtus externus on each Side.

49. 49. The Vaſtus internus on each Side.

50. The Gracilis.

51. The Seminervoſus not well diſtinguiſh'd in the Figure.

52. The Sartorius on each Side.

53. A Part of the Origin of the Vaſtus externus.

54. 54. The Membranoſus.

55. 55. The Tibialis Anticus.

56. The Gemelli.

57. 57. The Solæi.

58. The Tendo Achillis.

59. According to *Lanciſi*, is the Extenſor digitorum longus.

60. 60. The Tendons of the Extenſors of the Toes. The other 60 is inſerted in the Figure by Miſtake.

61. The Tendons of the Extenſor Longus, Tibiæus Poſticus, and Flexor Pollicis.

A. A. Portions of the Latiſſimus Dorſi on each Side.

B. B. The Indentations of the Serratus major anticus.

C. C. The Sternum.

This Explication is principally according to *Lanciſi*, as the Figure is taken from his Edition of *Euſtachius*; but I think it is not very accurate.

TABLE XI. *From* EUSTACHIUS.

1. Two *Muſcles* upon the *Occiput*, called by *Euſtachius Quadrati.*

2. The *Muſculus Cucullaris* on the Left Side, that on the Right Side being remov'd.

3. The *Splenius.*

4. The *Muſculus Maſtoidæus.*

5. The *Muſculus Patientiæ*, or, *Levator Scapulæ proprius.*

6. The *Rhomboides.*

7. The *Articulation* of the *Clavicle* with the *Scapula* on the Right Side.

8. The *Deltoides.*

9. The *Teres Minor.*

10. The *Teres Major.*

11. 11. The *Latiſſimus Dorſi* on each Side.

12. The *Glutæus major.*

13. The *Glutæus medius.*

14. The *Muſculus Pyriformis.*

15. The *Quadratus femoris.*

16. The *Biceps femoris.*

17. The *Semimembranoſus.*

18. The *Membranoſus*, according to *Lanciſi.*

19. 19. The *Vaſti Externi.*

20. The *Gaſtrocnemii.*

21. The *Soleus.*

22. The *Plantaris.*

TABLE XII. *From* RIDLEY.

FIGURE I.

Exhibits the Baſis of the Brain, with Part of the Medulla Oblongata, the Blood-veſſels being injected with Wax.

A. A. The fore Lobes of the Brain.

B. B. The hinder Lobes.

C. C. The Cerebellum.

D. D. The lateral Sinuſes.

E. E. The Vertebral Arteries, as they paſs between the firſt Vertebra, and the Bone of the Occiput.

F. The Vertebral Sinus.

G. G. G. G. G. The Dura Mater on the Right Side taken off from the Spinal Marrow, and remaining on the Left.

1, 2, 3, 4, *&c.* The ten Pair of Nerves belonging to the Brain, with ſeven of the Spinal Marrow.

a. The Foramen that opens into the Pituitary Gland from the Infundibulum.

b. b. The two white Protuberances behind the Infundibulum.

c. c. The two Trunks of the carotid Artery cut off where they begin to run betwixt the fore and hinder Lobes of the Brain.

d. d. The two Arteries joining the Carotids, with the cervical Artery called the communicant Branches.

e. e. Two large Branches of the cervical Artery, ſometimes ſeeming as tho' they came from the communicant Branch on each Side, from the firſt of which the Plexus Choroeides hath its Original in chief, and from the laſt the Plexus Choroeides of the fourth Ventricle.

f. Several little Branches ariſing from the carotid Artery.

g. The cervical Artery compoſed of the two Trunks of the Vertebral Artery within the Cranium.

h. h. The two Trunks of the Vertebral Artery.

i. i. i. The Spinal Artery.

k. A ſmall Branch of an Artery running thro' the ninth Pair, broken off from its other Part thro' Inadvertency of the Graver.

l. l. The Crura of the Medulla Oblongata.

m. m. The annular Protuberance, or Pons Varolii.

n. That Part of the Caudex Medullaris on the Right Side, called by *Willis* and *Vieuſſenius*, Corpora Pyramidalia.

o. That Part on the ſame Side called Corpus Olivare.

P. The foremoſt Branch of the carotid Artery, dividing the fore Lobes of the Brain, conſiſting of two Branches, one of them only appearing here.

q. q. Little Branches of Arteries helping to make the Plexus Choroeides in the fourth Ventricle.

r. r. r. r. Branches of Arteries diſperſed from the cervical Artery upon and thro' the annular Protuberance.

s. s. Part of the ſecond Proceſs, or Pedunculi of the Cerebellum.

*. *. The Spinal acceſſory Nerve, not expreſſed very plain.

FIGURE 2.

Exhibits the Cerebellum cut thro' on its hinder Part, and reclined laterally.

A. A. A. The Cerebellum.

B. B. The arboreous Ramification of the Meditullium of the Cerebellum appearing, being cut right downwards.

C. C. The pathetic Nerves.

c. c. The Nates; the Engraver has by Miſtake made the Letters *e. e.*

d. d. The Teſtes.

e. The tranſverſe Proceſs, whence the pathetic Pair of Nerves have their Original.

f. Glandula Pinealis.

g. g. The firſt Proceſs of the Cerebellum running from it to the Nates, here extended laterally.

h. h. The third or chordal Proceſſes.

i. i. The tranſverſe medullary Proceſs in the fourth Ventricle, from whence the ſoft Branch of the ſeventh Nerve has its Original.

k. k. The medullary Proceſs deſcending from the tranſverſe Proceſs behind the Teſtes, down to the aforemention'd other medullary tranſverſe Proceſs.

l. l. The Originals of that Proceſs a little too low.

m. m. The eighth Pair of Nerves.

n. The Calamus Scriptorius, or Extremity of the fourth Ventricle.

o. The Spinal Marrow.

P. P. The acceſſory Nerves.

q. q. The tenth Pair of Nerves.

TABLE XIII. *From* CHESELDEN.

The Engraver by Miſtake has omitted numbering the Figures in this Plate.

1. in FIG. 1. The Right Ventricle of a Fœtus diſtended with Wax.

2. The Right Auricle.

3. The Left Auricle.

4. 4. Branches of the Pulmonary Veins of the Right Lobe of the Lungs, thoſe of the Left being cut off ſhort.

5. 5. The Arteries of the Left Lobe of the Lungs.

6. The Vena Cava deſcendens.

7. Aorta Aſcendens.

8. Arteria Pulmonalis.

9. Ductus arterioſus.

10. in FIG. 2. The Under-ſide of a Heart of a younger Fœtus.

11. The Right Auricle cut open.

12. The Cava Deſcendens cut open.

13. Tuberculum Loweri.

14. The Foramen ovale cloſed with its Valve.

15. The Mouth of the Coronary Veins.

16. in FIG. 3. The Umbilical Vein.

17. 17. 17. 17. Branches of the Vena Portæ in the Liver.

18. Ductus venoſus. Here the Engraver by Miſtake has omitted a prick'd Line from the 18 to the Veſſel referr'd to.

19. Branches of the Cava in the Liver.

20. 20. Vena Cava.

1. in FIG. 4. Larynx.

2. 2. The internal Jugular Vein.

3. 3. The Subclavian Vein.

4. Cava deſcendens.

5. The Right Auricle of the Heart.

6. The Right Ventricle.

7. Part of the Left Ventricle.

8. Aorta Aſcendens.

9. Arteria Pulmonalis.

10. The Right Lobe of the Lungs, part of which is cut off, to ſhew the great Blood-veſſels.

11. The Left Lobe.

12. 12. The Diaphragm.

13. The Liver.

14. The Ligamentum Rotundum.

15. The Gall-bladder.

16. The Stomach, preſſed by the Liver towards the Left Side.

17. 17. The ſmall Guts.

18. The Spleen.

TABLE XIV. *From* EUSTACHIUS.

FIG. 1.

The Liver, Stomach, and inteſtinal Tube.

a. a. The Liver turn'd upwards, in order to ſhew,

b. The Gall-bladder.

c. The Cyſtic Duct, which uniting with,

d. The Hepatic Duct, forms,

e. The Ductus communis Choledocus.

f. The Vena Portæ.

g. Some ſmall Branches of the Hepatic Artery.

h. The Vena Umbilicalis cut off.

i. i. i. The Stomach, with its coronary Veſſels.

k. The Spleen.

l. l. l. A Portion of the Omentum, with ſome of the Adipoſe Glands.

m. m. m. Windings of the ſmall Inteſtines.

n. n. n. Part of the Colon.

o. o. o. The Faſcia Muſcularis of the Colon, which, being not ſo long as the Colon, contracts that Inteſtine, in ſuch a manner as to form various Cells.

p. The Extremity of the Colon, where it makes a Flexure, in order to form the Rectum.

q. The Rectum.

r. The Anus.

s. The Sphincter Ani.

t. t. The Elevatores Ani.

FIG. 2.

Repreſents the Oeſophagus at A. B. *&c.*

C. C. The Stomach.

D. The Cardia.

E. The Pylorus.

F. The external Membrane of the Stomach, which it borrows from the Peritonæum raiſed.

G. The Muſcular Coat of the Stomach raiſed.

FIG. 3. Repreſents

A. B. The Oeſophagus.

C. C. The Pancreas.

D. The Pancreatic Duct, in its Progreſs to,

E. The Duodenum.

FIG. 4.

A. The Larynx.

B. The Aſpera Arteria.

C. C. The Lungs.

D. The Thymus.

E. E. Two Branches of Nerves paſſing to,

F. F. F. The Diaphragm.

FIG. 5.

A. The Larynx.

B. The Aſpera Arteria.

C. C. C. C. Four Lobes of the Lungs.

D. The Heart incloſed in the Pericardium.

E. The Vena Cava ſuperior.

F. The Subclavian and Carotid Arteries.

TABLE XV. *From* GLISSON.

That the Structure of the Liver may be the better underſtood, *Gliſſon* has given us two Delineations of it, one of which repreſents the Diſtribution of Veſſels in its Cavity, and the other thoſe of its convex Part. But that Author lays down the following general Cautions with regard to both his Repreſentations.

1ſt. That, in a duly prepar'd Liver, there is a far greater number of Ramifications, and capillary Veſſels, than are really expreſſed in his Figures. This, he ſays, was deſignedly done, becauſe by expreſſing the Traces of the ſmall Ramifications diſtributed thro' the Meditullium of the Liver, the Delineation of the larger and more important Veſſels had been too much clouded.

2dly, He tells us, that we are not to expect the ſame Diſtribution of Veſſels in all Livers; that his own Repreſentations are not to be made invariable Standards; that when his Figures were engrav'd, he had four newly prepar'd Livers by him, each of which differ'd in ſome reſpect or other from the reſt; and that Nature, in the Formation of this Organ, delights in that Variety obſervable in all her other Productions.

3dly, He tells us, that the ſmaller Veſſels, the Arteries, fo Inſtance, the Nerves, and the Lympheducts, are not alwa of the ſame Number in all Livers; that their Deficiency, wi regard to Number, was continually compenſated by their Large neſs; that there were ſome Livers which had two hepatic Ar teries, but ſmaller than the uſual Size; that he himſelf ſaw Liver with three Nerves, a ſmall Ramification of one o which ran to the Gall-bladder; that the Lympheduct themſelves varied very much as to their Number in differen Livers; and that, in his own Repreſentation, he had only ex hibited two Lympheducts, becauſe in the Liver delineated when boiled and prepar'd, he found no more, tho' in other L vers he had frequently obſerv'd a larger Number.

FIG. 1. & 2. Exhibit the Liver freed from its Parenchyma

FIG. 1. Repreſents the flat Part of the Liver, togeth with the moſt conſpicuous Veſſels in it.

A. That Part of the Liver which lies next to the Back.

B. Its Right Side.

C. Its anterior Edge.

D. Its Left Side.

E. The Vena Cava, where it paſſes thro' the Diaphragm

E. 1. E. 2. E. 3. E. 3. Its three principal Branches diſtribut almoſt thro' the whole Liver.

F. The Vena Portæ turn'd upwards, that other Veſſ may be the more eaſily ſeen.

F. 1. F. 2. F. 3. F. 4. Four Branches of the Vena P tæ diſtributed to the ſeveral Quarters of the flat Part of Liver, but the fifth Branch is not obſerv'd on this Side.

G. The Gall-bladder.

H. H. The Vena Umbilicalis become a Ligament.

I. The Ductus Communis Choledochus.

K. The Canalis Venoſus, now performing the Office o Ligament.

L. The Trunk of the Vena Cava deſcendens.

a. A ſmall Portion of the Membrane inveſting the Liver

b. That Part of the Diaphragm which ſurrounds the Vena Cava.
c. The Biliary Duct.
d. The Cyſtic Duct.
e. The Place where theſe Veſſels meet.
f. The Hepatic Artery.
o. o. The Hepatic Nerves.
p. p. p. p. The common Capſula laid open.
q. q. The Lympheducts.
m. m. m. &c. The ſmaller Branches of the Vena Portæ.
n. n. n. &c. The ſmall Branches of the Vena Cava.

FIG. 2.

Repreſents the convex Part of the Liver, together with the Veſſels ſituated in it.

A. The ſuperior Part of the Liver which lies next to the Back.
B. Its Right Part.
C. Its loweſt anterior Part.
D. The Left Part of the Liver.
E. The Trunk of the Vena Cava above the Diaphragm.
F. The Sinus of the Vena Portæ.
F. 1. F. 2. F. 3. F. 4. Four Branches of the Vena Portæ diſtributed in four different Directions thro' the Liver.
F. 5. The fifth Branch of the Vena Portæ, which could not be deſcrib'd in the preceding Figure.
G. The Gall-bladder.
H. H. The umbilical Vein.
I. The Ductus communis Choledochus.
a. a. a. a. The ſmall Ramifications of the fifth Branch of the Vena Portæ cut off, that the other Veſſels may be the more diſtinctly ſeen.
b. That Portion of the Diaphragm where it is join'd to the Vena Cava.
c. The Biliary Duct.
d. d. The Cyſtic Duct.
e. The Angle where theſe Veſſels are join'd.
m. m. m. &c. The ſmaller Branches of the Vena Portæ.
n. n. n. &c. The ſmaller Branches of the Vena Cava.

FIG. 3.

A. The convex Part of the Liver.
B. Its Right Part.
C. The concave Part of the Liver.
D. Its Left Part.
E. The Trunk of the Vena Portæ turn'd upwards, that the other Veſſels may be the more eaſily ſeen.
1. 2. 3. 4. 5. The five larger Branches of the Vena Portæ.
F. The Ductus communis Choledochus.
G. The Biliary Duct, and its firſt Diviſion.
H. The Cyſtic Duct.
I. The Gall-bladder.
a. a. a. a. &c. The common Capſula laid open.
b. b. b. b. b. The Subdiviſions of the biliary Duct.

TABLE XVI.

FIG. 1. *From* EUSTACHIUS.

Repreſents the Kidneys, Glandulæ Succenturiatæ, Bladder, nd Male Organs of Generation, with their Veſſels.

A. A. The Kidneys.
B. B. The Glandulæ Succenturiatæ.
C. C. The emulgent Veſſels, together with thoſe which re diſtributed in the Membranes of the Kidneys.
D. D. The hypogaſtric Veſſels, which, branching off from he Iliacs, are diſtributed in the urinary Bladder, and Penis.
E. E. The Courſe of the Ureters.
F. F. The Courſe of the ſpermatic Vein and Artery to e Teſticles. In theſe, ſeveral Branches appear cut off, which re diſtributed in the Peritonæum.
G. The urinary Bladder.
H. H. The Vaſa Deferentia.
I. I. The Teſticles.
K. The Urachus cut off.
L. The Penis.
M. M. The Muſculi Erectores Penis.

FIG. 2. *From* CHESELDEN.

1. The under Side of the Bladder.
2. 2. The Ureters.
3. 3. Vaſa Deferentia.
4. 4. Veſiculæ Seminales.
5. The Proſtate Gland.
6. The urinary Duct.

FIG. 3. *From* DE GRAAF.

A. A Portion of one of the Vaſa Deferentia, in which ere is a conſpicuous Cavity.
B. The Serpentine Flexures about the End of the Epididymis partly unravel'd.
C. A Piece of the Epididymis entirely unravel'd.
D. The Serpentine Flexures about the Middle of the Epididymis partly unravel'd.
E. The ſame Part of the Epididymis entirely unravel'd.
F. Another Part near the Middle of the Epididymis partly unravel'd.
G. The ſame Part of the Epididymis entirely unravel'd, ſo that it appears to be one continu'd Veſſel, which, as it gradually approaches to the ſuperior Part of the Teſticle, becomes proportionably ſmaller.
H. The large Globe or Beginning of the Epididymis.
I. The Belly of the Teſticle.
K. The Arteria Præparans, which aſcends from the inferior Part of the Teſticle thro' its Belly.
L. L. The Ramifications of the Venæ Præparantes.

FIG. 4. *and* 5.

Exhibit the Teſticles of brute Animals, in which the Veſſels belonging to the Teſticles are not only, by the Aſſiſtance of Art, but alſo naturally, more eaſily and diſtinctly obſerv'd.

FIG. 4. *From* DE GRAAF.

A. A. A. The Tunica Vaginalis of the Teſticles laid aſide.
B. The preparing Artery, which, before it approaches to the Teſticle, is twiſted from one Side to the other, upwards and downwards.
C. The Vaſa Præparantia, as yet connected by a certain ſlender Membrane.
D. D. The Arteria Præparans, aſcending thro' the Belly of the Teſticle.
E. The Branches of the Vena Præparans.
F. The Teſticle and Epididymis of a Dog turgid with Seed.
G. The larger Globe of the Epididymis.
H. The leſſer Globe of the Epididymis.
I. The Beginning of one of the Vaſa Deferentia.
K. One of the Vaſa Deferentia ty'd in a Dog before Copulation.

FIG. 5. *From* DE GRAAF.

A. The Vaſa Præparantia cut.
B. The Vaſa Præparantia too confuſedly expreſs'd by the Engraver, as they are alſo in the preceding Figure.
C. The Ramifications of the Vaſa Præparantia going off to the Epididymes.
D. D. The largeſt Branch of the Arteria Præparans running thro' the Belly of the Teſticle.
E. E. The Ramifications of the Venæ Præparantes.
F. The Teſticle of a Dog turgid with the ſeminal Fluid.
G. The larger Globe of the Epididymis turgid with the ſeminal Fluid.
H. The ſmaller Globe of the Epididymis, in like manner diſtended by a large Quantity of the ſame Fluid.
I. The End of the Epididymis, or the Beginning of the Vas Deferens.
K. The Vas Deferens in like manner ty'd in the Groin of a Dog before Copulation, that the ſeminal Veſſels, when fill'd with the ſeminal Fluid, may appear more diſtinctly.

FIG. 6. *From* DE GRAAF.

Exhibits an anterior Proſpect of the genital, and ſome of the urinary, Parts, ſtill cohering with each other.

A. The anterior Part of the urinary Bladder.
B. The Neck of the urinary Bladder.
C. C. Certain Portions of the Ureters.
D. D. Certain Portions of the Vaſa Deferentia.
E. E. Veſſels running off to the Veſiculæ Seminales.
F. F. The Veſiculæ Seminales.
G. G. The anterior Part of the Proſtatæ, or Corpus Glanduloſum.
H. The Urethra, adjoining to its ſpongious Part.
I. I. The ſpongious Part of the Urethra.
K. K. The Muſcles which erect the Penis, call'd the *Muſculi Erigentes*, *Extendentes*, or *Erectores*.
L. L. The Beginnings of the Corpora Nervoſa, which, when the Penis is inflated, protuberate like ſo many ſmall Bladders.
M. M. The Skin of the Penis laid aſide.
N. N. The Duplicature of the Skin, which conſtitutes the Prepuce.
O. O. The Duplicature of the Skin, which forms the Prepuce.
P. P. The Dorſum Penis.
Q. The Glans Penis.
R. The Meatus Urinarius, with which the anterior Part of the Glans is perforated.

S. S. The Nerves running upon the Dorſum Penis.

T. T. The Arteries running upon the Dorſum Penis.

V. The Corpora Nervoſa joining together.

W. W. Two Veins which unite themſelves, and run in one remarkable Branch along the Dorſum Penis.

X. The ſame Vein laid open, that the ſmall Valves may be obſerv'd in it.

FIG. 7. *From* DE GRAAF.

Repreſents both the Venæ Preparantes and Hypogaſtricæ with their Ramifications, as diſtended with Air blown into them, and running off to the Teſtes, the Tubæ, the anterior Part of the Uterus, and its Vagina.

A. The Bottom of the Uterus.

B. The Neck of the Uterus.

C. The Vagina.

D. The Left Teſticle, almoſt in its natural Situation.

E. The Left Fallopian Tube, in its natural Situation.

F. The Right Teſticle, drawn downwards, out of its natural Situation.

G. The Right Tube, drawn upwards, out of its natural Situation.

H. H. The Venæ Præparantes cut.

I. I. I. I. The Anaſtomoſes between the Venæ Præparantes.

K. K. K. K. The Branches of the Venæ Præparantes running to the Teſtes.

L. L. The Branches of the Venæ Præparantes running off to the Tubes, and to their *foliaceous Decoration.*

M. M. The Venæ Præparantes join'd by an Anaſtomoſis to the Hypogaſtric Veins.

N. N. The Hypogaſtric Veins ty'd to the Extremities of Pipes, in order to be inflated.

O. O. O. O. Large Branches of the Hypogaſtric Veins running off to the Sides of the Uterus.

P. P. P. P. P. P. Branches from them going to the Uterus.

Q. Q. Branches of them reaching to the Venæ Præparantes.

R. R. Branches going from them to the Tubes.

S. S. Their Branches, reaching to the Ligamenta Rotunda of the Uterus, cut off.

T. T. Their Branches going to the Ligamenta Lata of the Uterus.

V. V. V. V. Their large Branches going to the Vagina.

X. X. Their Branches going of to the Fat, and membranous Parts adjoining to the Sides of the Vagina.

Y. The urinary Bladder cut about the Neck.

Z. Z. The fleſhy Fibres of the Sphincter Muſcle.

a. The Clitoris.

b. b. Its Crura.

c. c. Its Muſcles.

d. Its Prepuce.

e. Its Glans.

f. f. The Nymphæ.

g. The Orifice of the Urethra.

h. The Mouth of the Vagina.

i. i. The Labia.

k. k. Veins running along the Dorſum of the Clitoris, join'd to each other by an Anaſtomoſis.

l. l. The Branches of theſe Veins running out to all the Parts of the Pudendum.

m. The Perinæum.

n. n. The Anaſtomoſes between the Veins of the Uterus and Vagina.

o. o. o. The Anaſtomoſes between the Hypogaſtric Veins of both Sides.

TABLE XVII.

From SWAMMERDAM, DE GRAAF, *and* CHESELDEN.

FIG. I. The fore Proſpect of the Uterus of a Woman after Delivery.

A. A. The Spermatic Arteries.

B. B. The Spermatic Veins diſtributed thro' the Tubes and Fundus of the Uterus.

C. C. The Corpora Pyramidalia, compoſed of the Spermatic Arteries and Veins.

D. D. The membranous or broad Ligaments of the Womb, thro' which the Blood-veſſels paſs to the Fallopian Tubes, call'd by ſome Alæ Veſpertilionum.

E. E. The Fallopian Tubes well expreſs'd.

F. F. Their Aperture at the Expanſum Foliaceum, on each Side, call'd Morſus Diaboli.

G. G. The round or inferior Ligaments of the Womb.

H. The Origination of the Veins and Arteries of thoſe Ligaments.

I. The Valve in the Vein of the round Ligament, hindering the Relapſe of the Blood to the Uterus.

K. K. The two Hypogaſtric Arteries.

L. L. L. The Hypogaſtric Veins variouſly contorted, and in their Progreſs implicated and perplex'd with the Arteries.

M. Fundus Uteri.

N. The Cervix, or Neck of it, at the End of which is the inner Orifice of the Womb.

O. O. O. The Arteries on the Fundus or Bottom of the Womb, curl'd like the Tendrils of a Vine.

P. P. A great Number of Veins running over the exterior Tunic of the Uterus, in which the Anaſtomoſes are ſingularly remarkable.

Q. The Vagina Uteri.

R. The Bladder of Urine inverted, to ſhew the Tortuoſity of the Arteries of the Vagina, by which means its proper Veſſels are repreſented ſomewhat longer than they ought to be.

S. The Orifice of the Urethra in the Vagina.

T. T. The Ureters.

V. V. Their Inſertion into the Bladder, which is here turn'd downwards.

X. Part of the Urachus.

Y. Y. The Umbilical Arteries.

FIG. 2. *From* DE GRAAF.

Exhibits the anterior Part of the Uterus laid open by a crucial Inciſion.

A. A. A. A. The Parts of the Uterus crucially divided, and ſo diſpos'd, that its Cavities, and the Thickneſs of its ſpongy Subſtance, may appear.

B. The Cavity of the Bottom of the Uterus.

C. The Cavity of the Neck of the Uterus.

D. The Coarctation for the moſt part obſervable between the Cavities of its Bottom and Neck.

E. The Mouth of the Uterus.

F. That Part of the Vagina which adheres to the Mouth of the Uterus.

G. G. Certain Portions of the Tubes.

H. H. Probes introduc'd thro' the Fallopian Tubes to the Bottom of the Uterus.

I. I. I. I. The proper Membrane of the Uterus covering its internal Subſtance.

K. K. The interior leſs ſpongy Subſtance of the Neck of the Uterus.

FIG. 3. *From* CHESELDEN.

1. That Side of the Uterus which is next the Gut.

2. 2. The Fallopian Tubes.

3. 3. The Fimbriæ.

4. 4. The Ovaria.

5. The Mouth of the Uterus.

6. 6. Ligamenta Rotunda.

7. The Inſide of the Vagina.

8. The Orifice of the Meatus Urinarius.

9. The Glans Clitoridis.

10. 10. The external Labia of the Vagina.

11. 11. The Nymphæ which are continu'd from the Præputium Clitoridis.

TABLE XVIII.

This entire Table is explain'd under the Article AURIS.

TABLE XIX.

This Table is explain'd under the Article OCULUS.

TABLE XX. *and* XXI.

Theſe are explain'd in the Tables.

TABLE XXII.

From HEISTER.

A. B. Two Lancets of different Sizes. Theſe are uſed especially the ſmaller Sort, in opening Veins, for which Reaſo the *Greeks* call'd them Phlebotomi; but the larger Sort are uſe for opening Abſceſſes with.

C. A Pair of ſtrait Sciſſars, fit for many Uſes. The Su geon ſhould be furniſh'd with ſeveral Pair of theſe of differen Sizes.

D. A Pair of crooked Sciſſars, proper to be uſed in dividin Fiſtulas, and in many other Caſes.

E. A Pair of Forceps furniſh'd with Teeth at one En Theſe are uſed to remove Dreſſings, and ſometimes to extra Splinters or other Things; they are alſo ſerviceable in anato mical Diſſections. Forceps of this kind are commonly made Steel, but thoſe of Silver are much neater.

F. A Razor.

G. A ſtrait Inciſion-knife.

H. A crooked Inciſion-knife.

I. A ſtrait double-edg'd Inciſion-knife.

K. A Probe, one End of which is broad and thin, for d covering a Fiſſure in the Cranium, and other Uſes; the oth End is rounded, to examine the Depth and Situation of Wound for which Uſes alſo the Probe L. may ſerve. The neat Probes are made of Silver, tho' they are frequently alſo made Steel, Ivory, or Whalebone.

M. A groov'd Probe, or Conductor, to direct the Edge of the Knife or Sciſſars in opening Sinuſes or Fiſtulæ, in order to preſerve the ſubjacent Veſſels, Nerves, and Tendons, from being injur'd; the Ornament at the upper Part of it is for a Handle, tho' ſometimes that End is made in the Form of a Spoon, as you may ſee at N. that it may contain a Powder to ſprinkle upon Wounds or Ulcers; ſometimes alſo it is forked at the End, that it may be uſeful in the Operation for dividing the Frænum of the Tongue, as at O.

P. is a Spatula. The Uſe of this Inſtrument is to depreſs the Tongue, in order to examine the State of the Tonſils, Uvula, and Fauces, when they are affected with any Diſorders; it is alſo uſed to elevate the Tongue, when the Frænum is to be divided; for which Purpoſe it has a Fiſſure at its Extremity, and ſhould therefore be rather made of Silver than of any other Metal.

The following Spatulas alſo at Q. and R. reſemble this. Theſe are principally uſed in ſpreading Plaiſters, Ointments, and Cataplaſms; ſometimes, with their ſulcated Extremity, they are of Service in raiſing up fractur'd Bones of the Cranium.

In this Place alſo it will be proper to deſcribe different ſorts of Needles, ſtrait and crooked, for ſtitching up of Wounds, taking up of Arteries, and many other Uſes. Crooked ones, of different Sizes, are repreſented at S. T. V. X.

TABLE XXIII.

From HEISTER.

A. B. Scrap'd Lint, commonly call'd Pledgets.

C. D. E. Doſſils, which are compoſed of Lint, worked into the Shape of Olives, or Dactyle Stones.

F. G. The ſame, with the Addition of a Thread ty'd round them.

H. I. Larger Pledgets made of Tow.

K. L. M. repreſents Tents of different Sizes made of Lint.

N. A very large Tent, with a Thread annex'd to it.

O. A conical Tent made of Linen.

P. Q. R. S. T. V. X. Tubes or Canulas of different kinds, made of Silver or Lead.

1. 2. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 11. 11. different Forms of Plaiſters.

12. 13. 13. 14. 15. 16. 17. 18. 19. Different ſorts of Compreſſes, amongſt which the *Fig.* 16. repreſents three Compreſſes laid acroſs in the Form of an Aſteriſk.

N. B. The Reference to this *Figure*, in the Original of *Heiſter*, is wrong. I obſerve, however, the *Engliſh* Tranſla- on exactly follows the Original, as to the Reference; but has ade Nonſenſe of the Explication.

20. A Ball of Lint, which is ſometimes us'd as a Compreſs.

21. A ſmall ſquare Compreſs.

22. 22. Several ſmall ſlender Compreſſes.

a. A ſimple Roller, not roll'd up.

b. A one-headed Roller, which is roll'd up at one End.

c. A double-headed Roller, which is roll'd up at both Ends.

d. A four-headed Roller.

e. A ſmall Roller, particularly intended for the Security of Dreſſings, which are applied to one of the Fingers, or the Penis.

f. The uniting Roller, which is perforated in the Middle.

g. The Scapular Roller.

h. *Heliodorus*'s, or the T. Roller.

TABLE XXIV.

From HEISTER.

FIG. 1. A. deſcribes how the grand Capital Roller is to be ply'd after the Operation of the Trepan, or after Wounds of e Head.

B. The Belt, or Napkin, which is to ſurround the Body in ounds of the Thorax or Abdomen.

C. The Scapulary to ſupport the Belt.

D. The Method of making the Ligature after Bleeding in e Arm.

E. The manner of tying up the Foot after Bleeding, which, m the Similitude it has with a Stirrup, is call'd by that Name.

F. ſhews the ſpiral Manner in which the Roller ought to end, when it is applied to the Leg or Arm.

G. A ſerpentile Roller, where the Convolutions are not ſo quent.

H. A large Wound in the Thigh, which requires the true ture.

I. K. The Part where the Tournequet is to be apply'd to the m, and the Manner of applying it.

L. The Manner of applying the Tournequet to the upper t of the Thigh; the Fillet, which is roll'd up, and apply'd Bolſter, lies upon the Crural Artery at M.

N. Shews how the Tournequet is to be apply'd to the lower t of the Thigh, in which Caſe the roll'd Fillet is to be ap'd to the back Part of the Thigh.

O. A large Wound of the Abdomen, with the Inteſtines ing out.

IG. 2. The common Tournequet, before it is apply'd.

FIG. 3. Crooked Forceps, furniſh'd with Teeth at the End, call'd the Crane's-bill.

FIG. 4. A Pair of ſtrait Forceps.

FIG. 5. The Duck's-bill Forceps, furniſh'd with a moveable Ring, A.

FIG. 6. The Gooſe-bill Forceps.

FIG. 7. The Inſtrument invented by *Bartholomæus Maggius*, to extract Bullets which are fix'd in a bony Part.

FIG. 8. A Hook to extract Bullets.

FIG. 9. 10. 11. 12. 13. 14. 15. 16. Different ſorts of Cauteries.

FIG. 17. Shews, in ſome meaſure, the manner of performing the Operation call'd Gaſtroraphy, or the Suture of the Abdomen.

a. a. Deſcribe the Wound.

b. b. Two crooked Needles, with the Threads hanging to them.

c. c. c. c. c. Two Threads drawn thro' the Lips of the Wound, and clear'd from their Needles.

TABLE XXV.

From HEISTER.

FIG. 1. *Petit*'s triangular Needle, for making a Counter-opening in Wounds or Ulcers.

FIG. 2. Another crooked Needle, of *Heiſter*'s Invention, which may be us'd in ſome Wounds and Ulcers, where the preceding is not ſo proper.

FIG. 3. Repreſents a Wound, the Lips of which are united by an adheſive Plaiſter on both Sides.

FIG. 4. Repreſents a Wound, to which two adheſive Plaiſters are apply'd, with Indentations.

FIG. 5. A Wound of the like Nature, to which two adheſive Plaiſters, without Indentations, are apply'd.

FIG. 6. Two Wounds croſſing each other, A. A. A. A. and united by two Plaiſters laid croſſways, B. B. B. B.

FIG. 7. A. A. A Wound to which an adheſive Plaiſter is apply'd, with two Openings in the Middle, B. B.

FIG. 8. A Wound united by the Application of two Plaiſters, with ſtrong Threads fix'd to each of them, which are drawn together, and faſten'd with ſlip Knots, *a. a. a.*

FIG. 9. The ſame Wound, with Plaiſters of the ſame kind, furniſh'd with Hooks, *a. a. a. a. a. a.* inſtead of Threads, by which, with the Aſſiſtance of Threads faſten'd to them, the Lips of the Wound are drawn together.

FIG. 10. Repreſents in what manner, by the Aſſiſtance of the ſmall Eyes, *b. b. b. b. b. b.* uſed inſtead of the Hooks in the preceding *Figure*, Plaiſters of this kind may be form'd, and drawn, or, as it were, laid, together, as ſome of the Antients uſed to do.

FIG. 11. A tranſverſe Wound, A. A. united by a double-knotted Suture, B. B.

FIG. 12. Shews in what manner a croſs Wound is to be ſtitch'd up, and the Lips of it brought together, by drawing the Threads, A. B. C. D. tight.

FIG. 13. Repreſents how the Stitches are to be made in a triangular Wound, A. B. C.

FIG. 14. Repreſents how a Wound with two Angles is to be ſtitch'd with the knotted Suture, firſt at the Angles A. A. and then, if it is neceſſary, on each Side, at B. B.

FIG. 15. A large crooked Needle, with a double Thread, to make the quilled Suture.

A. The Needle.

B. The double Thread.

C. The bow End of the Thread.

FIG. 16. A large tranſverſe Wound, A. A. united by a triple-knotted Suture, B. B. B.

FIG. 17. D. D. The ſame kind of Wound, which, beſides the Threads at *Fig.* 16. is furniſh'd alſo with ſmall cylindrical Rolls of Silk, ſpread with ſome Wax or Plaiſter, A. A. and B. B. The Threads on the upper Lip of the Wound are ty'd in Slip-knots, C. C. C. whilſt the Roll that lies on the under Lip is confin'd between the bow Ends of the Threads, E. E. E. This ſhews *Palfyn*'s Method of making the quilled Suture.

FIG. 18. Shews another Method of making the quilled Suture in large Wounds, particularly in thoſe of the Belly.

A. A. The Wound.

B. B. The upper Roll.

C. C. The lower Roll.

D. D. D. The ſingle Knots which confine the upper Roll.

E. E. E. The Slip-knots which ſecure the lower Roll.

FIG. 19. Repreſents the *Suture of Celſus*, in which he uſed two Needles for ſtitching up tranſverſe and penetrating Wounds of the Abdomen. The Method of performing it is directed in the ſixteenth Chapter of his ſeventh Book. It is generally call'd the *Gaſtroraphia Celſi*, but is now diſus'd, on account of its not anſwering the End ſo well as Sutures of another kind.

A. A. Repreſent the Beginning of the Suture.

B. Its End, where it is ſecur'd by a Knot.

FIG. 20. The Glover's Suture, uſed for uniting Wounds of the Inteſtines.

A. A. The Inteſtine.

B. B. The Wound.

C. The Beginning of the Suture, with Part of the Thread hanging out.

D. The End of the Suture, where it is faſten'd in a Knot.

N. B. The Knot is not repreſented in the *Figure*.

FIG. 21. *and* FIG. 22. The Suture for the Hair-lip, which is made with two or three Needles.

A. A. The Wound.

B. B. B. Needles paſſed thro' the Lips of the Wound.

C. C. C. The Thread twiſted round the Needles.

TABLE XXVI.

From HEISTER.

FIG. 1. Repreſents a blunt Iron Needle, to paſs a fine Rag, or Skein of Silk, thro' gun-ſhot or other pervious Wounds, after the manner of a Seton.

FIG. 2. An Inſtrument to ſtop the Blood in Wounds of the large Arteries.

A. A. A Braſs Plate, ſomewhat bent.

B. B. A ſtrong Braſs Screw.

C. A round Plate, of a Thumb's Breadth, to be fix'd upon the Wound.

D. The Handle by which the Screw is turn'd, and ſo preſſes the Plate C. ſtrongly upon the Wound.

E. E. E. A ſtrong Leather Belt to ſurround the wounded Part.

F. F. Part of the Belt pierc'd with ſeveral Holes, by which it may be fix'd upon the Hooks G. G. and lengthen'd or ſhorten'd, according to the Size of the Limb.

FIG. 3. A crooked Knife, with a round blunt Point, A. to enlarge Wounds of the Thorax or Abdomen, where ſuch an Operation is requir'd.

FIG. 4. A ſtrait Knife, with a Button on the Point.

FIG. 5. A crooked Knife, with a blunt Point.

FIG. 6. A Wooden Tournequet of its proper Size.

A. A. The upper Part.

B. B. The lower Part.

C. The great Screw.

D. Two ſmall Iron Screws, to which a Leather or Silk Belt is to be fix'd.

E. Hooks to faſten the other End of the Belt on, when it is brought round the Limb.

F. F. F. F. The Ends of the upper and lower Part of the Inſtrument hollow'd to receive the Belt, and to keep it ſteady in its Situation.

FIG. 7. Another kind of Tournequet made of Iron; the Repreſentation is leſs by half than the proper Size of the Inſtrument.

For the farther Explication of this and the above *Figure*, ſee the Article AMPUTATIO.

FIG. 8. A broad Roller, call'd the uniting Roller. This is perforated in the Middle, and rolls up with two Heads. It is uſed in treating Wounds of the Abdomen, which are made lengthways.

FIG. 9. A flexible Silver Tube, uſeful to diſcharge the Matter which is collected in Wounds of the Thorax, or in an Empyema.

A. The Openings at the Extremities, and on both Sides.

B. B. The Plate round it, with two Holes to paſs a Thread thro'.

C. The Cavity which runs thro' the Tube A.

TABLE XXVII.

From HEISTER.

FIG. 1. A Braſs Tournequet after *Petit*'s Manner, but with ſome Alterations. The Uſe of this Inſtrument, and Method of applying it, will eaſily appear, upon comparing it with what we have ſaid under the Article AMPUTATIO.

FIG. 2. A Handle to fix Needles in, when Sutures are to be made. See ACUTENACULUM.

FIG. 3. Another of the ſame Sort, from *Garengeot*.

N. B. Theſe two are, by Miſtake, repreſented alſo in *Tab.* 2. *Fig.* 36. and 37.

FIG. 4. *Petit*'s Acutenaculum, or Handle for Needles.

FIG. 5. A Needle to perform Gaſtroraphy.

FIG. 6. Another of a larger Size.

FIG. 7. Another of a new Invention, to perform the ſame Operation.

FIG. 8. A Syringe for various Uſes, furniſh'd with Pipes of different Sorts: By the Help of this you may not only inject Fluids into Wounds of the Abdomen and Thorax, into the Fauces, into Abſceſſes, Ulcers, and into the Uterus; but you may alſo, by the Aſſiſtance of this Inſtrument, draw extravaſated Blood from the Cavity of the Thorax, in which Caſe the Syringe ſhould be twice as large; the Mouth of the Pipe, B. ſhould be triangular, and about two Thumbs Breadth.

FIG. 9. Another Pipe with a round Mouth, intended for the ſame Uſes.

FIG. 10. A ſmaller Pipe, which may be faſten'd to the Syringe, *Fig.* 8. for various Uſes.

FIG. 11. Another ſomewhat curv'd, and perforated on both Sides: This will ſerve to ſuck Blood out of the Cavity of the Thorax, and to throw Injections into that Part, or into the Fauces.

FIG. 12. Another perforated at the End like a Cullender.

FIG. 13. Another like the former, but curv'd, to throw Injections into the Uterus, and for other Uſes.

FIG. 14. An Iron Inſtrument, like an Ear-picker, or Probe, for various Uſes.

TABLE XXVIII.

From HEISTER.

FIG. 1. An artificial Eye, made of Glaſs or Silver: This may be introduc'd into the Orbit, and ſupply the Place of the natural Eye, and prevent the Deformity which will otherwiſe be the Conſequence of the Loſs of an Eye.

FIG. 2. An Awl, or ſharp Inſtrument, to perforate the external Table of the Cranium.

FIG. 3. 4. 5. Different Forms of Rugines, or Raſping-chiſſels, to ſcrape the Cranium, or other Bones.

FIG. 6. Shews how the Depreſſion of the Cranium in Infants may be elevated by ſticking Plaiſters.

FIG. 7. A. A quadrangular or pointed Steel Inſtrument, to perforate the external Table of the Cranium.

B. A Terebra.

C. An Elevator, to raiſe depreſſed Bones of the Cranium.

FIG. 8. Another Elevator, accommodated to the ſame Uſes as the former.

FIG. 9. A ſmall fine Saw; and *Fig.* 10. a ſmall Rugine, which may be uſed with or without the Handle, repreſented in that at *Fig.* 3.

FIG. 11. A Wooden Mallet, the Head of which is fill'd with Lead.

FIG. 12. An Elevator with three Feet.

As the Elevatories at *Fig.* 7. and 8. are ſo contriv'd, that where the neighbouring Bones are depreſs'd or fractur'd, theſe Inſtruments cannot be applied without Danger of increaſing the Complaint, it appear'd neceſſary to the Surgeons amongſt the Antients to invent another Inſtrument for this Purpoſe, which might be apply'd with more Safety. This they call'd, from the Number of its Feet, *Tripes*. It is near twice as big as the *Figure* we have given. The Feet, A. A. A. may be placed at farther Diſtances, or brought nearer to each other, as you ſhall ſee Occaſion. The Manner of applying it is this: The Feet of this Inſtrument are apply'd to the ſound Parts of the Head, and the Screw, B. C. by frequently turning round its Handle, D. D. will preſently lay hold of the depreſſed Part of the Cranium, eſpecially if you have beforehand made a ſmall Hole in the Middle of it with the Awl at *Fig.* 2. upon turning the Screw, E. E. the Terebra, at B. is raiſed by Degrees, and with it the depreſſed Part of the Cranium. You will conceive this more clearly by examining *Fig.* 13. but i any Opening ſhall appear between the fractur'd Parts of the Cranium, it will be better to take off the pointed End of the Inſtrument, and, in its room, fix on the Elevatory, G. by the Screw, H. at the Part about the Letter F. and, by the Aſſiſtance of this, the depreſſed Part may be rais'd.

FIG. 13. Deſcribes the Method of applying this Inſtrument.

FIG. 14. This ſhould be furniſh'd with the Terebra, A. and the Hook, at *Fig.* 15. thro' either of which, according a you ſhall ſee neceſſary, the Lever, B. C. may be paſſed, afte the Inſtrument is fix'd upon the depreſſed Part of the Cranium The Plate, D. is to be plac'd upon the ſound Part of th Head, laying Bolſters under it to prevent Pain; then, by raiſing the End of the Lever, at B. the depreſſed Part of the Cranium will be gently elevated, and reſtor'd to its natural Situation. You will obſerve a Joint at the Extremity of the Lever C. to accommodate the Plate, D. by inclining it to the Convexity of the Head, in ſome Parts of it, which may be alſ raiſed or depreſſed by the Screw, E. If you pleaſe, you ma make the Lever longer than it is repreſented here, which wi add to its Force.

FIG. 15. The Hook belonging to this Elevator.

TABLE XXIX.

From HEISTER.

FIG. 1. Is a Sort of long and ſharp Forceps, proper to cu off the Splinters, or Fragments of Bones, which ſtick out; bu to make them cut the eaſier, the Handles ſhould be two three Inches longer than the Figure.

FIG. 2. Is a ſimple Hook.

FIG. 3. Is a double Hook, ſerving for various Purpoſes Surgery and Anatomy.

FIG. 4. Is a Needle for taking up Arteries, with a Ligatur in Hæmorrhages, and many other Caſes.

A.

A. is its blunt Point.

B. its Eye, tranſmitting the Thread.

C. its little Head.

FIG. 5. is a Caſe to hold the ſubſequent Inſtrument, which is uſed to hold and apply the Lapis Infernalis, or Cauſtic-ſtone.

FIG. 6. The Inſtrument itſelf, made of Steel, for holding and conducting the ſaid Stone.

a. The Nippers which lay hold of the Stone.

b. The little Ring, which ſhuts and holds them faſt upon the Stone.

c. The other End of the Inſtrument, uſed in Chirurgical Sutures to ſupport the Lips of Wounds.

FIG. 7. exhibits the Figure of a Splint, made of thin Wood, or Paſte-board, to be uſed in Fractures of the Arms and Feet: Its Breadth ſhould be about three or four Fingers, and its Length ſuitable to the Size of the Limb.

FIG. 8. is a Paſte-board Splint, ſuch as is ſometimes uſed in Fractures of the Noſe: Its Size is to correſpond to that of the Noſe.

FIG. 9. is a Splint of Paper, ſuited to the lower Jaw, when fractured only on one Side.

FIG. 10. is a double Splint of the ſame Kind, for the lower Jaw, when fractured on both Sides: It is to be applied ſo, that the Aperture *a.* in the Middle, may let in the Chin; but its two Extremities or Wings *b. b.* which may be folded together in the Middle *a.* are to be applied towards the Ears.

FIG. 11. is a Compreſs, in form of an X. to be uſed in Fractures of the Clavicle.

FIG. 12. is a Paſte-board Splint, to be laid over the former Compreſs, in the ſame Fracture.

FIG. 13. is an Iron or Steel Inſtrument in the Form of a T. uſeful to retain the Shoulders in a proper Poſture, in Fractures of the Clavicle.

A. A. its tranſverſe Part, to which are faſten'd Iron Rings, to retain and keep back the Shoulders.

B. its perpendicular Part, going down to the Back.

C. An Aperture in its lower End, by which it is to be faſten'd with a Ligature round the Waiſt, to be tied before on the Belly.

FIG. 14. is a Paſte-board Caſe, in which a fractured Arm is to be lodged, after it has been ſet and dreſs'd: Its Size is to be anſwerable to the Arm.

FIG. 15. is a Polyſpaſton, or compound Pully, uſed to extend fractured Bones.

A. and B. are two Hooks, by which the Inſtrument is faſten'd at both Ends.

C. The Rope, by drawing which an Extenſion is made of the broken Limb.

D. and E. are two Pullies, conſiſting of ſeveral Wheels, by which the Force is very much increaſed.

FIG. 16. is a ſtrong Iron Screw, whoſe Worm or Thread, B. is to be forced by the two Handles into ſome Beam or Rafter; and upon its Ring A. the Pulley E. is to be fix'd, as before ſaid.

FIG. 17. is the Belt of *Hildanus*, ſometimes neceſſary to make Extenſions of the Bones of the Arms and Feet.

A. A. Two Hooks, upon which is hung the Sling or Rope B. B.

C. The Place where the extending Force is to be applied.

TABLE XXX.

From HEISTER.

FIG. 1. is a Compreſs, call'd, by the *French*, *Compreſſe graduée*, to be applied in Fractures of the Thigh, to make its ſmall and inferior Part of the ſame Thickneſs with its other, that the Splints may more equally embrace it, and retain it in its proper Situation.

FIG. 2. Two lunar Plaiſters, to include and hold firm the fractured Patella, after it has been ſet.

FIG. 3. A perforated Plaiſter for the ſame Uſe.

FIG. 4. Is a Fracture of the Leg, with an external Wound to be bound up with the Roller of eighteen Heads B. B. B. B. which commodious kind of Roller ſeems to have been unknown to the Antients.

FIG. 5. Is a Straw Couch or Caſe for a broken Thigh, called by the *French* Fanon. A. A. A. A. repreſent two Sticks cover'd with Straw, bound on with ſtrong Packthread; to both Sides of theſe is alſo faſten'd a ſtrong Cloth B. B. of about two Foot broad, and three long. This Couch is uſually made twice the Length of the Thigh, ſo as to reach from the Groin and Os Ilium, to the End of the Foot.

FIG. 6. Is a Sole of thick Paſteboard, or Wood, fitted to the Size of the Patient's Foot: it is to be applied to the Bottom of the fractur'd Foot, and bound on by the three Tapers *a. a.* to retain or ſtay the Foot in its proper Poſture, whence *lſus* calls it *Mora*.

FIG. 7. Is a quilted Compreſs to be applied between the Foot and the Stay, to be ſoft, and defend it from any rough Action of the Paſteboard or Wood.

FIG. 8. Is a ſoft Linen Ring join'd to the foregoing Compreſs to let in, and hold the Heel; it is to be faſten'd to the Foot by the two Strings *b. b.*

FIG. 9. Is a braſs Trunk for ſecurely retaining a broken Leg; it conſiſts of three Parts, A. B. C. which are join'd by the Hinges 1. 2. 3. 4. 5. 6. The middle Part B. is the Baſis of the Machine, which like an hollow Pipe, receives the bound up Limb: the outer Parts A. C. are as moveable Sides or Wings, which may be turn'd back, or folded together: To each of theſe Sides A. C. are join'd three almoſt ſquare Loops E. E. E. through which are paſſed Strings to draw them tight together, and keep them firm upon the fractur'd Leg. Its Size muſt agree with the Leg.

FIG. 10. Is a wooden Arch to put over a broken Leg, to keep it from being incommoded by the Bed Cloths.

FIG. 11. and FIG. 12. A very uſeful and proper Machine, or wooden Caſe, or Box, for retaining Fractures of the Leg, contriv'd and deſcrib'd by *Petit*, a celebrated Surgeon of *Paris*, firſt in the Memoirs of the Royal Academy of Sciences for the Year 1718. and afterwards in his Treatiſe of Diſeaſes of the Bones, from whence *Garengeot* transferr'd it into his Account of Chirurgical Inſtruments: We chuſe to exhibit the Machine rather from the Memoirs of the Academy, than from the Inventor's Book on the Bones, or *Garengeot*'s of Inſtruments; becauſe, in the two latter, the Inſtrument is repreſented entire only, and with leſs Perſpicuity. I ſhall, therefore, give it entire in *Fig.* 11. and then ſeparated into its component Parts at *Fig.* 12.

The Baſis, or principal Part of the Machine, A. A. A. *Fig.* 12. is to be gently put under the broken Leg, (after it has been firſt ſet, the Wound properly dreſs'd, the Whole bound up with the Roller of eighteen Heads, and defended with Splints, tied on with three Strings, as is uſual) the two lateral Parts of the Caſe B. B. B. B. and its Front C. which ſerves as a Sole to the Foot, are faſten'd together by the Hinges D. D. D. D. and kept ſhut by the Hooks E. E. as may be ſeen at *Fig.* 11. by which means the Foot cannot ſlide or move, but is held firm, and eaſy to the Patient.

F. F. is the lower Part or Foot of the Machine, ſerving as a Foundation to the reſt; at its End, G. G. it is joined by Hinges to the Part on which the Leg is to lie. *N. B.* The Engraver, has by Miſtake, put *one* inſtead of *an* F. In the anterior Part there is a moveable wooden Fulcrum H. fix'd to the ſuperior Part I. by the moveable Pins I. I. But the other Extremity of this Fulcrum at K. is moved backwards or forwards into the Notches or Sulci at L. L. and by this means the Machine, together with the Leg, is elevated or lower'd at pleaſure. The ſuperior Part A. A. is to be lined with ſtrong Girthing and Linen, which are to be nailed tight to the Sides, upon which the Limb reſts more eaſy than upon the Plank or Board. The other Parts of this Caſe ſeeming to be obvious from the Figure, we ſhall, for Brevity, omit any Explication of them, and only obſerve, its Size is to agree with that of the Limb.

But, by reaſon of the vaſt Numbers of Fractures which happen in a War, and the great Scarcity and Cumberſomeneſs of theſe Machines at ſuch Times, the Camp-ſurgeons are generally obliged to ſubſtitute Caſes of Straw in the room of them. At every Dreſſing of the Limb, the Hooks E. E. are to be undone, and the three Sides open'd; but when the Wound and Fracture are dreſs'd, and bound up, the Foot muſt be exactly placed, and the Caſe faſten'd as before.

FIG. 13. is a Compreſs folded at one End, to fill up the Small of the Leg, that the Splints may compreſs the more equally and firmly.

TABLE XXXI.

From HEISTER.

FIG. 1. is a Sling which may be uſed to make an Extenſion in Luxations of the Head.

FIG. 2. is another Sling, to retain the Patient's Body firm in the ſame Caſe.

FIG. 3. ſhews the moſt commodious Method of reducing a recent Luxation of the Humerus.

A. is the Patient, ſeated ready to undergo the Operation.

B. is the Aſſiſtant that holds the Patient firm in his Seat.

C. is the Aſſiſtant that diſtends the diſlocated Humerus.

D. The Surgeon, reducing the diſlocated Humerus.

E. A Napkin, whereby the Surgeon elevates the Arm, in order to its Reduction.

FIG. 4. Is a Machine commonly called the Ambe of *Hippocrates*, uſed formerly to reduce Luxations of the Humerus. It conſiſts of the Fulcrum A. A. to which is faſten'd the moveable Lever B. C. join'd to each other by a Sort of moveable Articulation D. See this under the Article AMBE.

FIG. 5. Shews how the former Inſtrument is to be applied to a Luxation of the Humerus. There is ſome Difference

between the Structure of this and the former, at the Joint C. D. ſome think this is preferable to the other.

A. A. Is the Fulcrum.

B. C. The Lever, to which the luxated Arm is faſten'd by the three Ligatures E. E. E.

D. The Place where the Fulcrum and Lever are faſten'd together by a moveable Joint. When the End of the Lever B. is preſſed downwards, the luxated Arm is extended, and elevated near its Scapula.

Fig. 6. Is *Petit*'s Machine for reducing Luxations of the Humerus, and ſeveral other Luxations.

a. a. Are two Arms or Horns, by which the Patient, and particularly his Scapula, is held firm, from giving way in the Extenſion.

B. The other End of it, reſting upon the Ground or Floor.

C. C. C. C. Pullies of the Machine.

d. d. d. The Rope, by winding up which, an Extenſion is made.

E. The Handle, which, being turn'd round, draws the Rope tight, and extends the Limb.

F. F. The Place where the two Horns are join'd to the Body of the Machine.

Fig. 7. Is a *Retinaculum* or Supporter, to be uſed in a Luxation of the Humerus.

A. An Opening or Slit in the Machine.

B. C. The Form of it at each End.

D. D. Two Apertures, thro' which the two Legs or Horns *a. a.* of the Inſtrument repreſented by *Fig.* 6. are to be paſſed.

Fig. 8. Is a particular Sling of Mr. *Petit*'s, proper for extending luxated Limbs.

A. A. The Part made of Leather.

b. b. b. b. b. A Silk Ligature, ſew'd to the Leather in three Places at 1. 2. 3. The Part A. A. is faſten'd round the Arm.

c. d. e. Is a ſtrong Loop faſten'd to the Silk Ligature at *f. f.* ſo as to be moveable.

Fig. 9. Is an Inſtrument recommended by *Petit* for the Reduction of a luxated Femur, when diſlocated inward. It is to be faſten'd at F. F. in the Machine, repreſented by *Fig.* 6. inſtead of the two Arms *a. a.*

A. Is apply'd to the Os Ilium.

B. To the middle of the Thigh; but C. C. are fixed into the Machine repreſented by *Fig.* 6. at F. F.

TABLE XXXII.

From HEISTER.

Fig. 1. Repreſents an Arm in which a Vein is to be open'd.

A. Denotes the Cephalic Vein.

B. The Baſilic.

C. The Median Vein.

D. The Ligature fixed above the Elbow to make the Veins ſwell.

Fig. 2. Repreſents the ſeveral Forms of cutting a Vein with the Lancet.

A. Shews a longitudinal Inciſion.

B. A tranſverſe one.

C. D. Oblique ones.

Fig. 3. Exhibits the antient *German* Phlebotome or Fleam for opening a Vein.

A. The ſharp Point to be fixed on the Vein.

B. The Handle to be held in one Hand, while the Part C. is to be ſtruck by a Fillip of the Finger of the other Hand, ſo as to drive the Point A. into the Vein.

Fig. 4. Is a Spring Fleam, now in Uſe with ſome.

A. This Part being apply'd to the Vein, and the Part C. being elevated, depreſſes the Spring by the End B. which, by its Reaction or Elaſticity, ſtrikes the End C. upon the Fleam A. ſo as to drive it into the Vein.

D. D. Is a hollow Caſe of Braſs or Silver, in which the Spring Part of the Inſtrument B. is included.

Fig. 5. Repreſents the Inſtrument uſed in Veneſection, commonly called a Lancet, ſo bended into an obtuſe Angle at the Joining A. as that it may be commodiouſly held for performing the Operation for which it is intended.

Fig. 6. Repreſents a certain Arm A. B. at the Bending of whoſe Elbow *Purmannus* found the terrible Aneuryſm C. C. as large as one's Head.

Fig. 7. Shews the manner of applying the Ligatures above and below an Aneuryſm, in the Operation for that Diſorder.

A. B. The Artery.

C. The Aneuryſm.

D. The upper Ligature.

E. The lower Ligature.

Fig. 8. Repreſents an Inſtrument deſign'd not only for preventing, but curing Aneuryſms of the ſmaller Kind.

A. A. A. The Plate of Iron adapted to the Flexure of the Arm.

B. Its Fiſſure.

C. C. D. D. Cords or ſmall Ligatures of Silk fix'd to the Plate at A. A. and extended to D. D.

E. Denotes a moveable Iron Lamina, join'd to the Plate by the Hinge I, and cover'd with a Cuſhion of Cotton or Silk, of a convex Form at F. which is to be apply'd to the Aneuryſm.

G. G. Two ſmall Hooks by which the Inſtrument is fix'd on the Arm, by means of the Cords C. C. D. D.

H. A Screw by which the Plate and Cuſhion E. F. are ſcrew'd down upon the Tumor, that ſo the Aneuryſm may be depreſſed, and the affected Artery ſtrengthen'd.

Fig. 9. Repreſents an Inſtrument of the ſame Kind with the former, ſomewhat varied in its Figure, and with a larger Plate and Cuſhion E. F. and conſequently accommodated to the Cure of larger Aneuryſms. Almoſt the whole Machine is cover'd with Leather, but more particularly the inferior Part of the Plate E. is cover'd with Cotton and Leather. The Cords alſo C. D. are made of Leather, whereas in the former Inſtrument they were made of Silk. The other Letters denote the Parts repreſented by the ſame Letters in the former Figure.

Fig. 10. Shews the Apparatus, with a Bladder and Tube for Injection of Liquors into the Veins.

A. The Bladder and Tube.

B. A Vein of the Arm open'd, in which the Tube is inſerted.

Fig. 11. Repreſents the Method uſed by ſome Phyſicians of the preceding Age, for conveying the Blood from one Man's Arm repreſented by A. to that of another exhibited by B.

Fig. 12. In ſome meaſure repreſents the manner in which a like Conveyance or Transfuſion is made from one Hand to another.

Fig. 13. Shews the Transfuſion of Blood from the crural Artery or Vein of an Animal into the Arm of a Man, by the Intervention of the Tube A.

TABLE XXXIII.

From HEISTER.

Fig. 1. Repreſents the Cupping-glaſs, uſed at preſent in *Germany*, and elſewhere, for dry Cupping, or for extracting Blood after Scarification.

Fig. 2. Is the Inſtrument or Scarificator, commonly uſed by the *German* Cuppers.

A. The Handle.

B. The Edge.

C. The Part which is ſtruck extremely quick by the Finger, ſo as to make the Edge wound the Skin as often as they incline.

Fig. 3. Repreſents the Order or Poſition of the little Inciſions made in the Skin by the Cupper, that they may all be entirely cover'd by the Cupping-glaſs, repreſented by *Fig.* 1.

Fig. 4. Exhibits the modern cubical Scarificator, making ſixteen Inciſions in the Order of *Fig.* 3. by one Stroke upon the Skin, and with very little Pain.

Fig. 5. Exhibits the Shape of a Leech, for the Information of ſuch as may be ignorant of that Inſect.

A. The Mouth or Head by which it bites.

B. The Body and poſterior Parts; but it muſt be obſerv'd, that one and the ſame Leech may, by differently contracting and expanding itſelf, appear in a hundred Shapes, ſo that its Length and Thickneſs are very uncertain.

Fig. 6. Is the Needle uſed by the Inhabitants of *China* and *Japan*, for making their Acupuncture.

A. The Handle.

B. The Point which enters the Fleſh.

Fig. 7. Is the little Hammer uſed by the *Indians* to ſtrik the preceding Needle.

A. The Head of this Hammer.

B. Its Handle.

C. C. A Caſe in the latter to depoſit the Needle in.

Fig. 8. Repreſents the actual and concealed Cautery, uſe formerly for making of Iſſues, and is by ſome denominate Capſula Caſſeriana.

A. Denotes the End of the actual Cautery, or red-ho Iron, protruding itſelf beyond the Caſe.

B. B. B. B. Is the wooden Caſe concealing the red-hot Iro from terrifying the Patient.

C. The Handle, by depreſſing which the Cautery is forc' into the Skin.

Fig. 9. Is a Machine to be uſed as a Bandage for Iſſue in the Arm, and to be made a little longer for thoſe in th Neck or Foot.

A. A. Is a leathern Swath of about two or three Finge Breadth.

B. A ſmall Hook made of Braſs or Copper.

C. Is a Braſs Plate with ſeveral oblong and tranſverſe Apertures, for receiving the Hook B. in the manner of a Claſ in order to fix the Swath on the Foot, Neck, or Arm.

Fi

EXPLICATIONS *of the* TABLES *in Volume the Firſt.*

Fig. 10. Repreſents the ſmall Syphon or Syringe proper for injecting Liquors into the Urethra of Males, and the Vagina of Females, for the Cure of Wounds and Ulcers.

A. A. The Body of the Syringe.

B. Its Extremity, ending with an obtuſe Point inſtead of a ſmall Tube, to prevent the injected Liquor from regurgitating.

C. The Ring or Handle of the Sucker, by which the Liquor is drawn into, and forced out of, the Cylindric Body.

Fig. 11. The Letters A. A. exhibit thoſe Parts in the Soles of the Feet, which the *Italian* Phyſician *Miſtichellius* directs to be cauteriz'd in Apoplexies.

B. The ſquare Iron Cautery for the Operation, which in that Diſorder, he ſays, is highly ſerviceable.

Fig. 12. Repreſents the Method of burning the Part affected in the Gout with the *Indian* Moxa.

A. denotes the Cone of Moxa not yet fired.

B. One that is burning.

Fig. 13. *a. b.* Give a View of ſeveral encyſted Tumors.

c. d. Scirrhous Glands in the Neck.

e. A fleſhy Excreſcence or Mark from the Mother.

Fig. 14. Repreſents the ſmall Knife, which I generally uſe for extirpating ſcirrhous Tumors, or Glands in the Neck, Wens, or even ſcirrhous Glands of the Breaſts.

Fig. 15. Repreſents the Hand of an Infant with ſix Fingers, in which

A. Denotes the ſuperfluous Finger with a Nail like a Cock's Spur, which I took off by a Pair of amputating Sciſſors or Pincers; which Inſtrument I alſo uſe in a Spina Ventoſa, or Caries of the Fingers.

Fig. 16. Is a Hand with the whole Index A. carious and ulcerated, which I amputated cloſe to the Metacarpus, with the Knife repreſented by Fig. 14. but then I alſo removed the Head of the firſt Phalanx, that the Wound might heal the ſooner.

B. Denotes a Spina Ventoſa in the middle Finger, and in the ſecond Internode, which I amputated in the firſt Bone, or Phalanx.

C. Is a large Excreſcence or Protuberance at the End of the little Finger from the ſame Diſorder, which I ſucceſsfully amputated in the ſecond Bone, by the Mallet and Chiſel.

Fig. 17. Shews the Method of amputating the great Toe with the Mallet and Chiſel, uſed by *Roonhuyſe*.

TABLE XXXIV.

From HEISTER.

Fig. 1. Exhibits a ſmall-ſized Knife, more commodious for dividing the Skin and Fleſh in Amputations, than the large crooked one following.

Fig. 2. Is the large crooked Knife, commonly uſed for dividing the Fleſh to the Bone in Amputations of the upper and lower Extremities; though, in moſt Caſes, I prefer the ſmall one, repreſented by *Fig.* 1.

Fig. 3. The double-edged Knife for dividing the Fleſh and Ligament betwixt the Bones of the Arm and Leg, which may be alſo performed by a leſs and ſingle-edged Knife like that in *Tab.* 22. Letter G. This Knife is alſo uſed in the Method of amputating the Leg, when the Calf is to be preſerv'd.

Fig. 4. Repreſents the Saw uſed for amputating Bones of the Limbs. This Inſtrument is by many delineated as large again as our Figure of it; but a Saw of the ſame Size, or but little larger than our Figure, will perform the Operation as well, and even more commodiouſly, than a larger. This, and the two preceding Inſtruments, are uſually embelliſhed with various Ornaments, which may ſerve to encumber them, and enhance their Price, but can add nothing at all to their Uſefulneſs.

Fig. 5. Repreſents a Pair of Pliers, furniſhed with Teeth at one End, and a Spring at the other, for taking hold of the Ends of divided Arteries, in order to ſecure them by Ligature with ſtrong Thread, and ſtop their bleeding in Amputations of the upper and lower Extremities.

Fig. 6. Is another Pair of Pliers for the ſame Uſe, taken from Mr. *Garengeot*; which may be alſo made with very flat or no Teeth at the End, to avoid injuring the Coats of the Artery.

TABLE XXXV.

From HEISTER.

Fig. 1. Shews the Manner in which the Patient, Surgeon, and Aſſiſtants are to be placed, for amputating the Hand or Arm.

A. Denotes the Patient.

B. The Surgeon amputating with the Saw.

C. The Aſſiſtant extending the Hand.

D. Another Aſſiſtant holding the Arm.

E. The Aſſiſtant who holds the Patient's Body, and takes Care of the Tournequet.

F. Denotes the Diſh or Veſſel placed underneath to receive the Blood.

Fig. 2. Repreſents the Poſition of the Patient, Surgeon, and his Aſſiſtants, in amputating the Leg.

A. Denotes the Patient ſeated in a Chair.

B. The Surgeon.

C. The Aſſiſtant who holds the Foot below the Calf.

D. The Aſſiſtant who holds the Leg above the Knee.

E. A Veſſel placed on the Floor, to catch what little Blood may be ſpilt in the Operation.

Fig. 3. A. denotes the moſt convenient Part for amputating the Leg; and

B. That moſt proper for amputating the Thigh. But when the Diſorder has extended itſelf higher up in the Thigh, it muſt be amputated proportionably above this Mark, though the Operation is then ſo much the more dangerous.

Fig. 4. A. Repreſents the Thigh, with the Leg, B. amputated. In the Thigh may be ſeen the Part for fixing the Tournequet C. D. The Tournequet, thus apply'd, may ſerve for amputating the Tarſus or Metatarſus; as alſo for amputating the Leg, though not ſo conveniently. In this Figure you have alſo a View of the divided Artery extended a little by the Pliers E. and about to be ſecured by the Ligature and Knot F. Some indeed do not approve of this manner of tying the Ligature; but I have often experienced, that it anſwers very well.

Fig. 5. Deſcribes the Manner of amputating the Leg, ſo as to preſerve the Calf.

The Line A. B. denotes the firſt Inciſion to be made by the Knife in *Tab.* 34. by *Fig.* 1. or *Fig.* 3.

The Line B. C. is the Courſe of the ſecond Inciſion, by which the Fleſh of the Calf is ſeparated from the Bones of the Leg.

C. D. The Place where the reſt of the Fleſh being remov'd, the Amputation is to be perform'd. Some reverſe this Courſe of Inciſion, and firſt perforate the Calf with a double-edged Knife, *Tab.* 34. *Fig.* 3. at C. and then they direct the Knife in the Courſe B. A. but the former Method is, in my Opinion, more eligible.

Fig. 6. A. Repreſents the Manner of turning back the Calf of the Leg towards the Ham, after it has been ſeparated from the Bones of the Leg by a double Inciſion; which done, the Surgeon next cuts the Integuments, Fleſh, and Perioſteum, in the Line B. and then ſaws off the Bones there.

Fig. 7. Denotes a Leg juſt amputated, with the Calf A. hanging down, to ſee the Ends of the two Bones.

B. The Extremity of the Os Tibiæ.

C. The Extremity of the Os Fibulæ.

Fig. 8. Shews the Leg thus amputated, with

A. The Calf brought over, and joining to the Stump.

B.

C. Denotes Part of the Thigh.

Fig. 9. Repreſents the Method of applying the Screw Tournequet (*Tab.* 26. *Fig.* 6. or *Tab.* 27. *Fig.* 1.) above the Knee, for amputating the Leg.

C. C. The Tournequet, with its ſubjacent Pillow.

D. The Place where the leathern or ſilken Strop E. E. is faſtened by Studs on one Side, and by two ſmall Hooks, F. on the other Side.

G. The Screw, by turning which the ſubjacent Artery is compreſſed in the Ham.

Fig. 10. Is a large crooked Needle for making a Ligature on the Brachial Artery, before the Arm is amputated in its Articulation with the Scapula, though the ſame may be alſo performed by the ſtrait Needle, *Tab.* 39. *Fig.* 12. either of which Needles will alſo ſerve for making Setons in the Neck.

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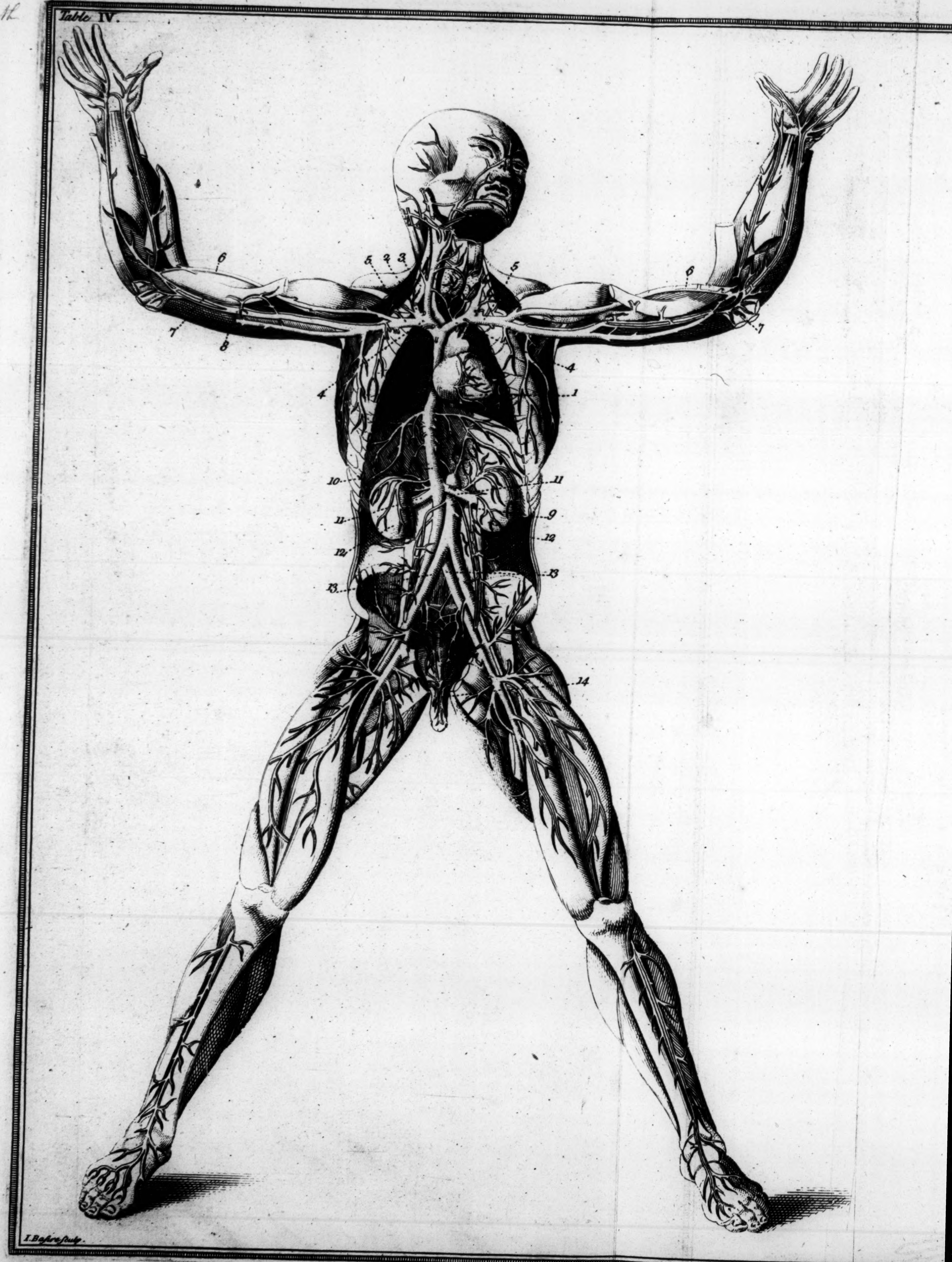
The Tables I, II & III
be found with
Articles.
I. Acetum
II. Acus
II. Adeps

Table IV.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I. Basire sculp.

Table V.

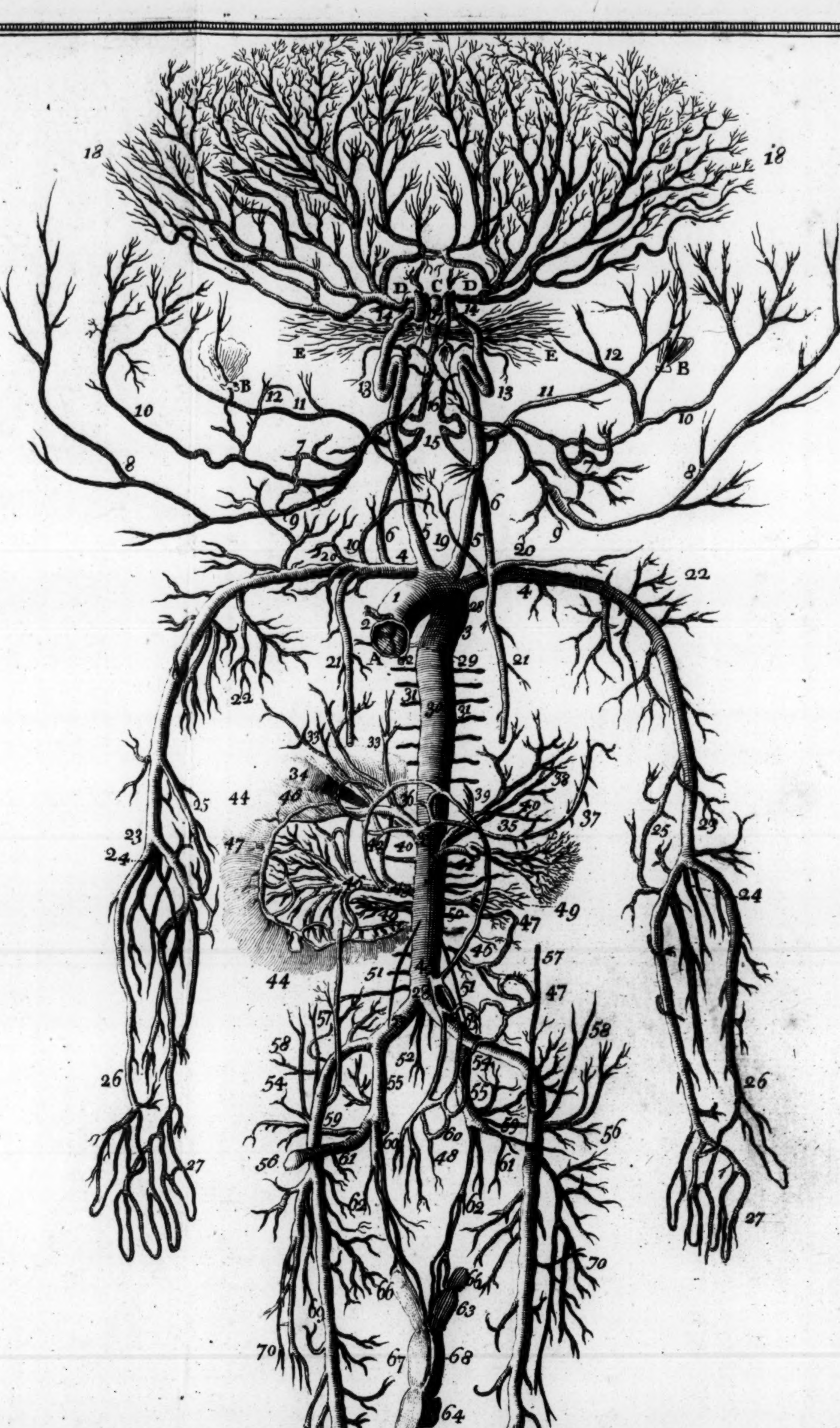
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Table VI.

Fig. 1.

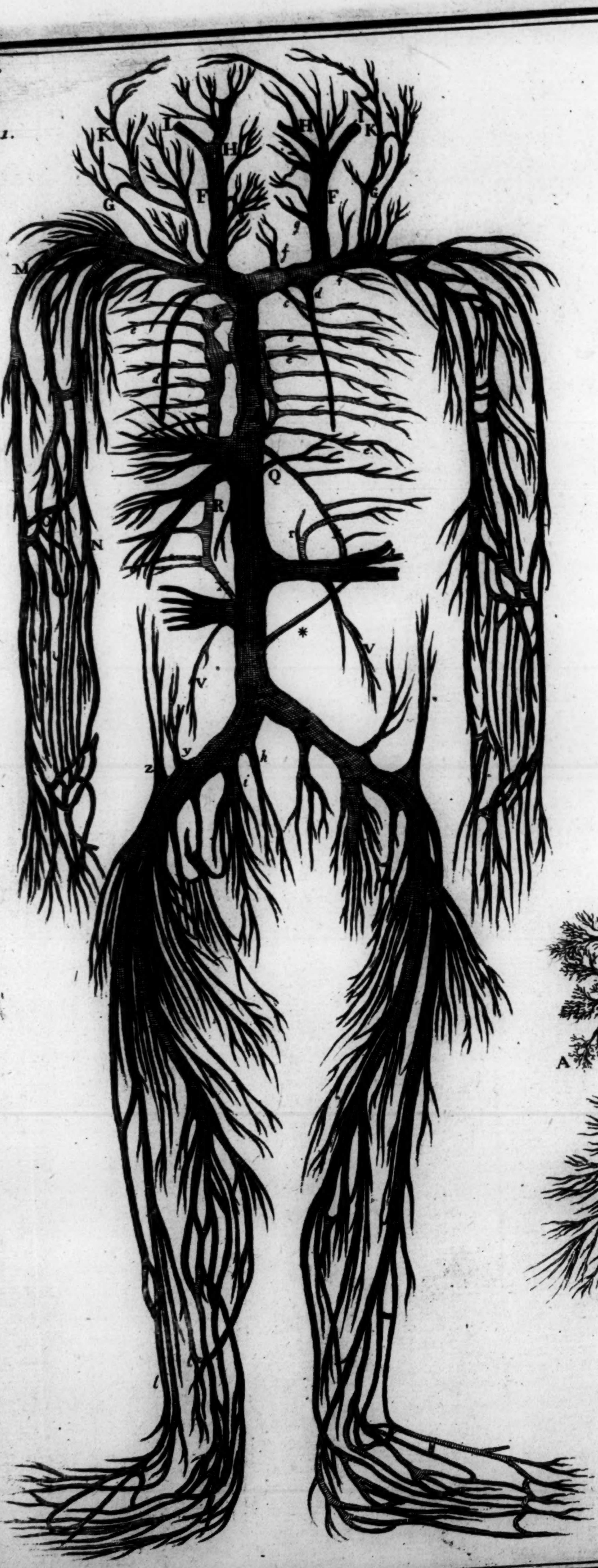
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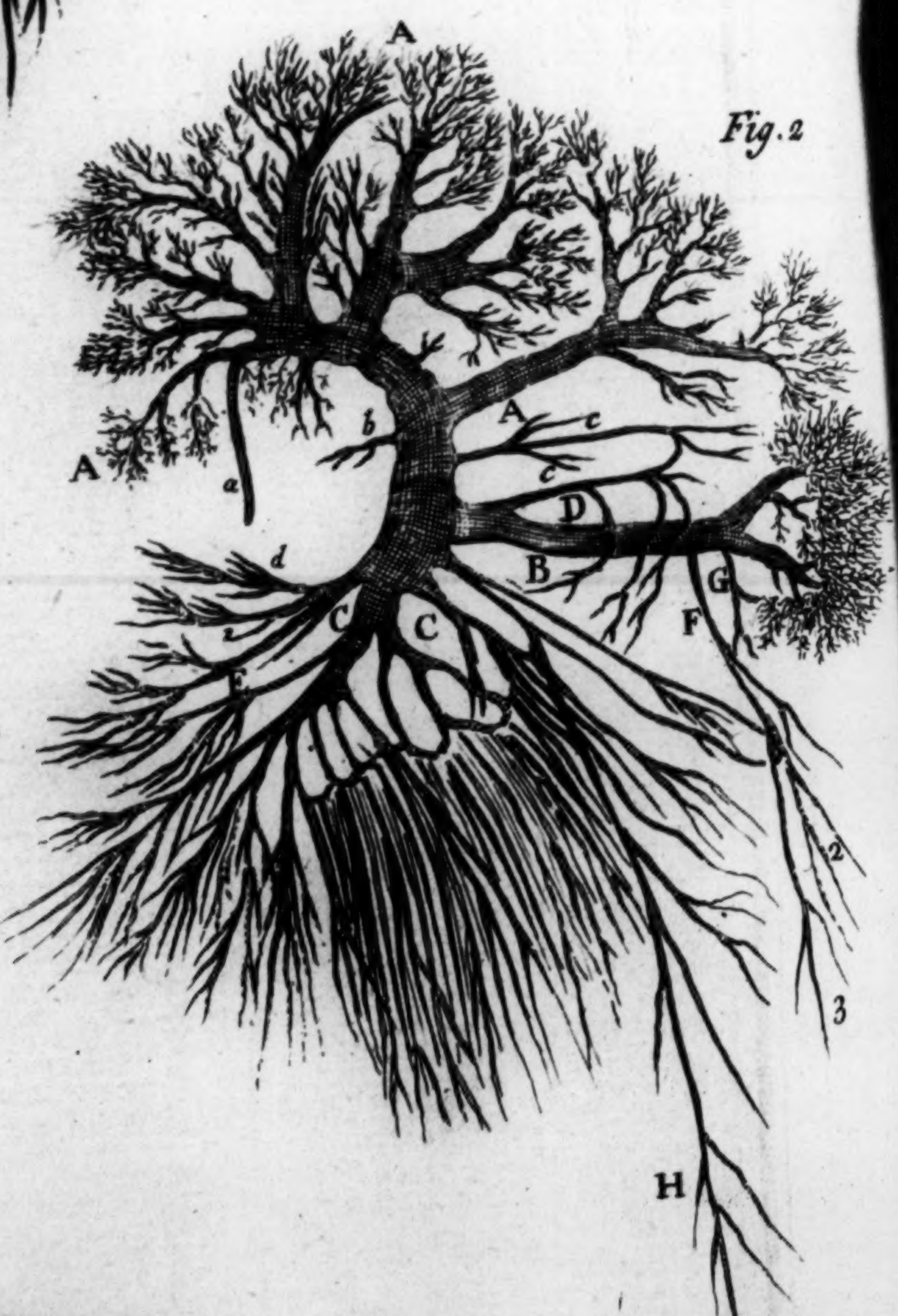
Fig. 2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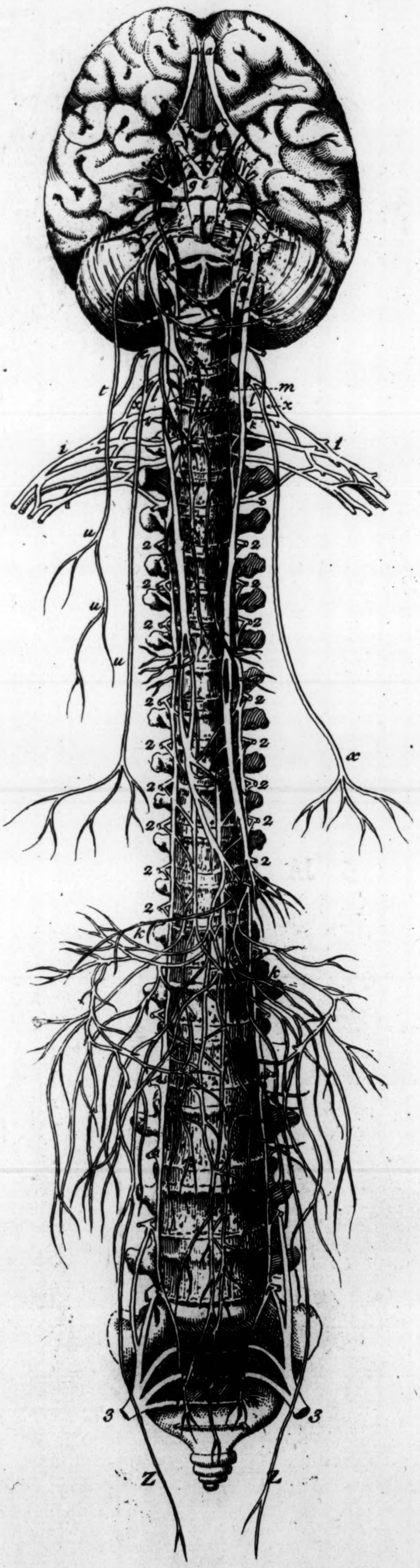
I. Bastre sculp.

Fig. 2

Table VII



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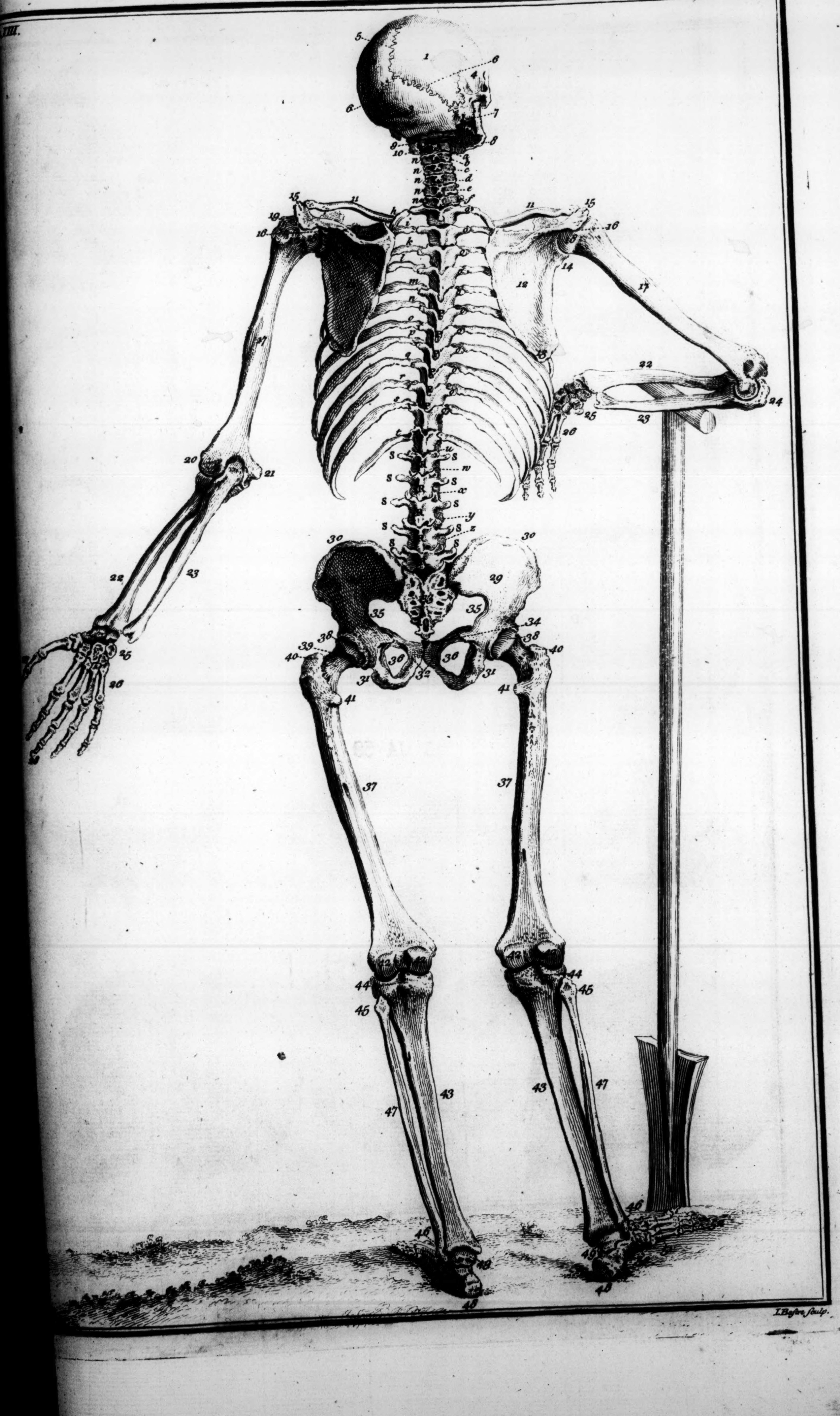
VIII.



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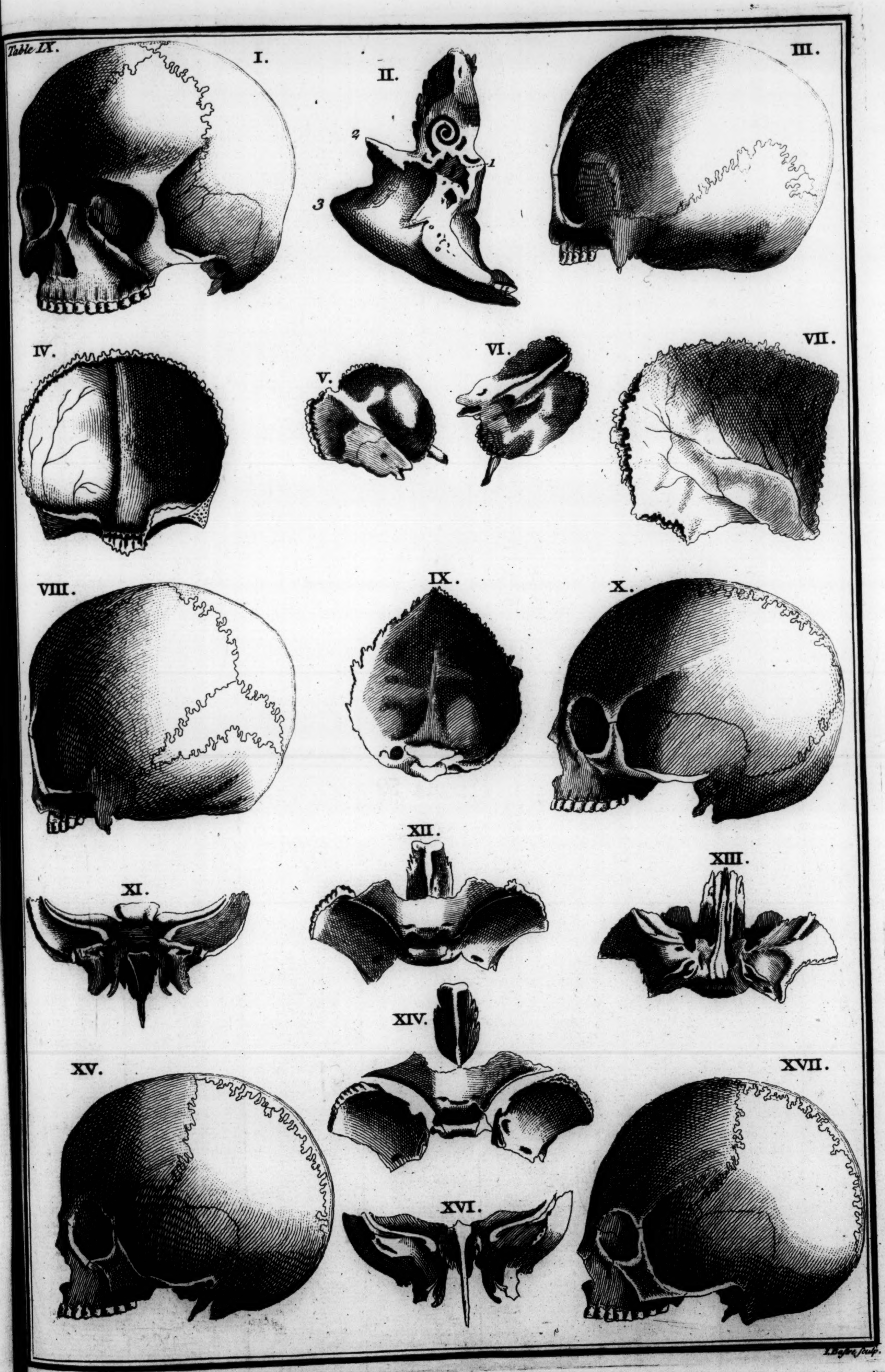
I. Basire sculp.

5 JA 59

Table IX.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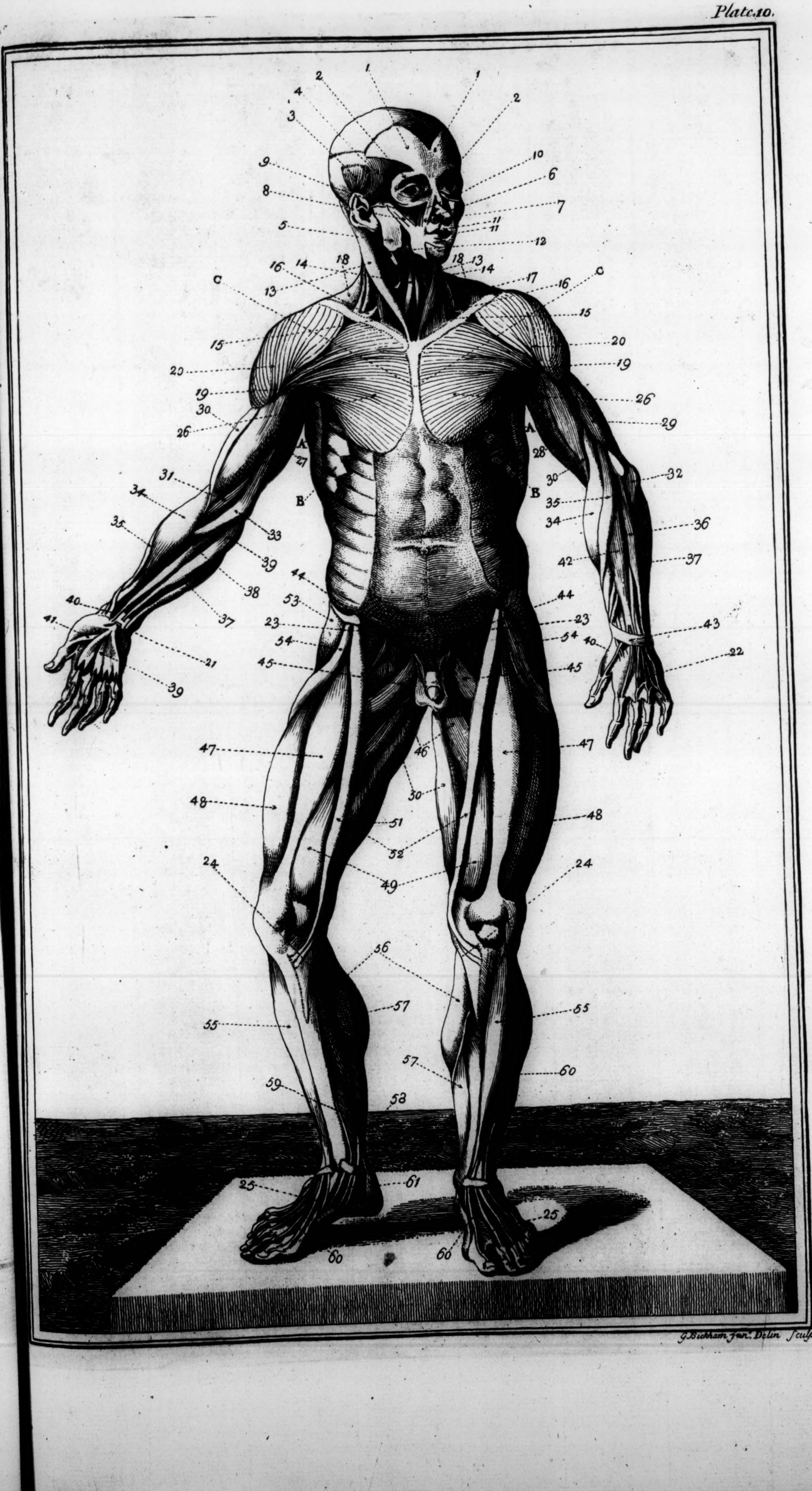
XIII.
XIV.
XV.
XVI.
XVII.

I. Basire sculp.

5 JA 59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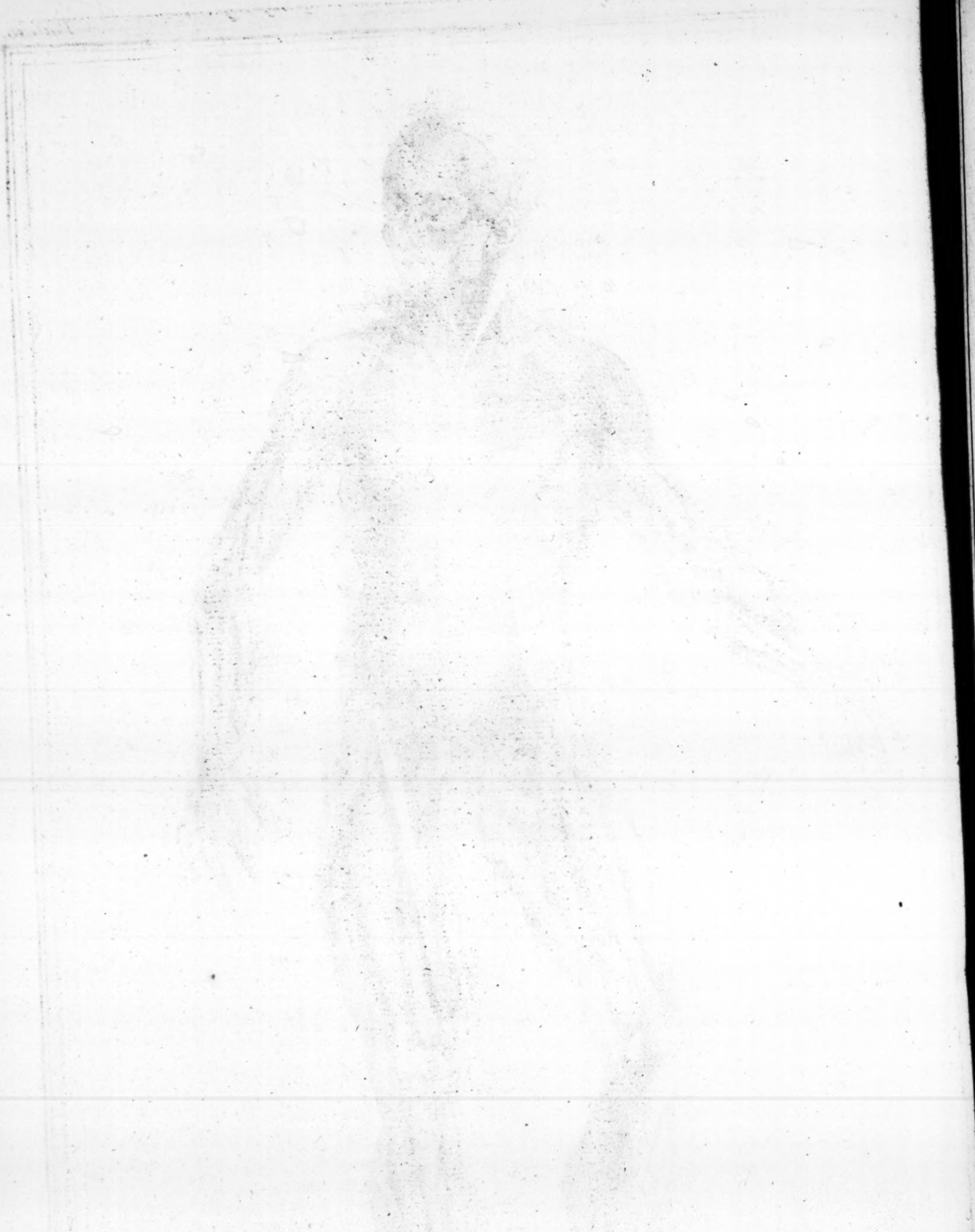
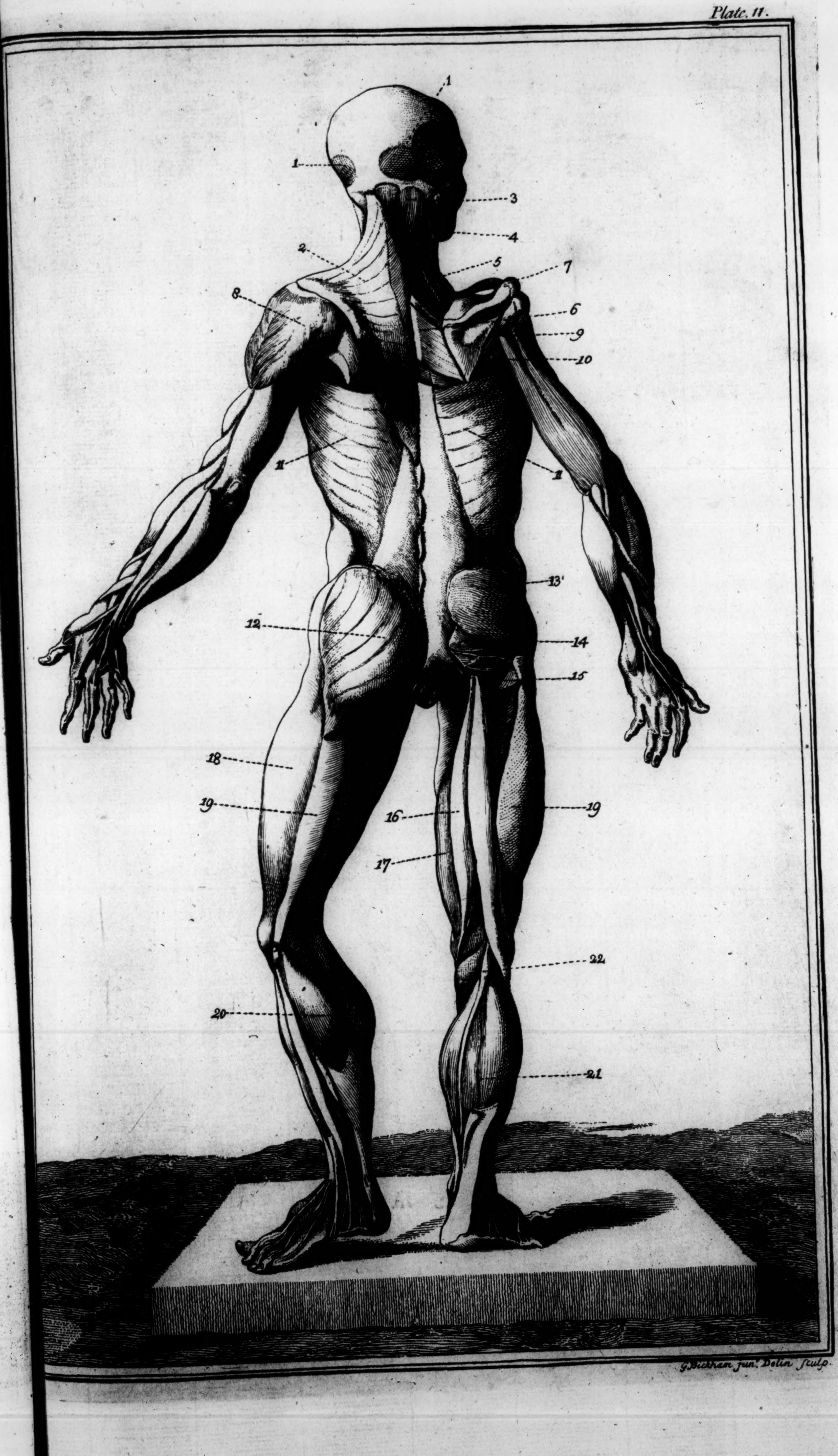
G.Bickham Jun. Delin Sculp.



5 JA 59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G. Bickham jun. Delin ſculp.

Tab. XII.

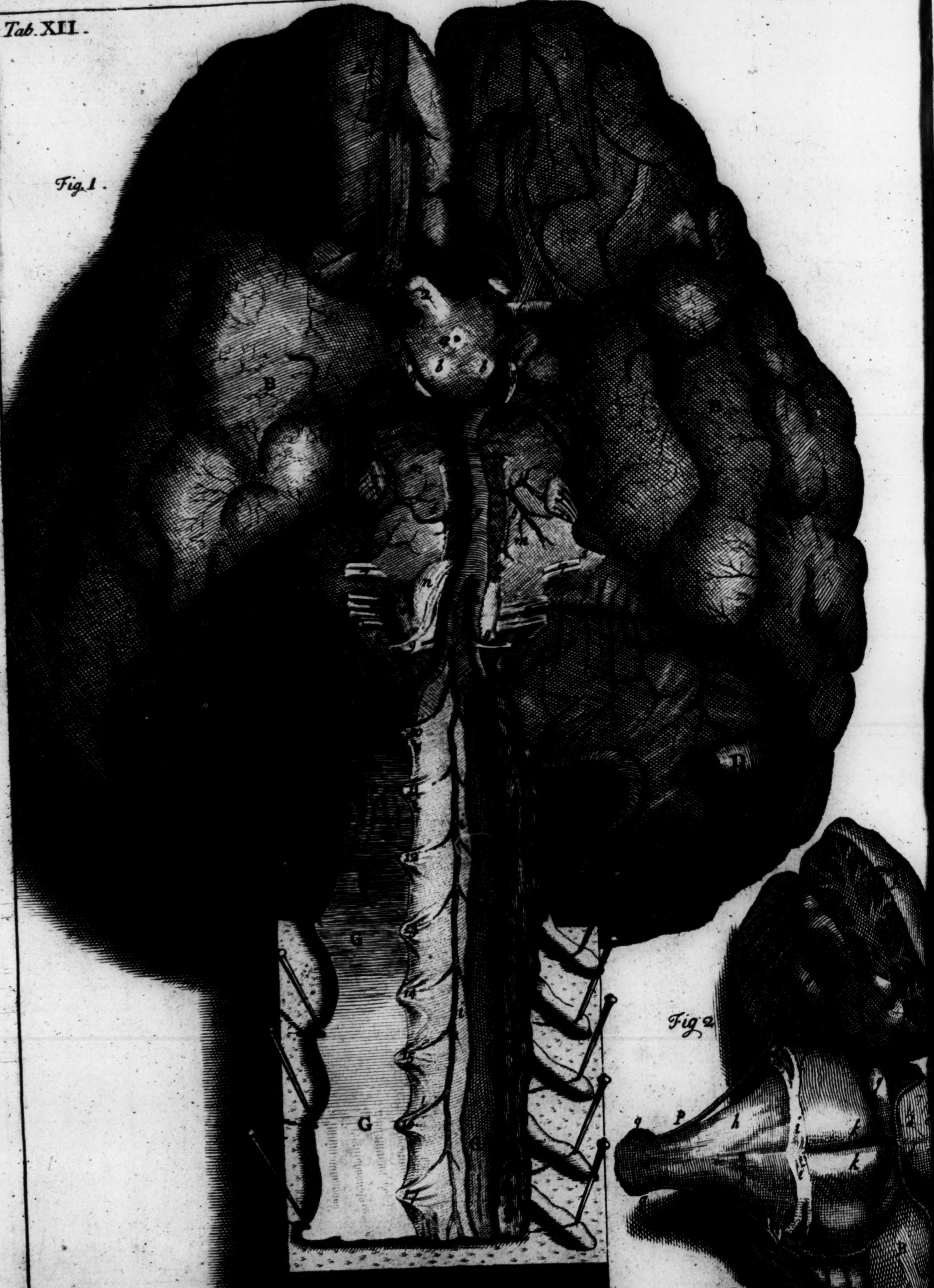
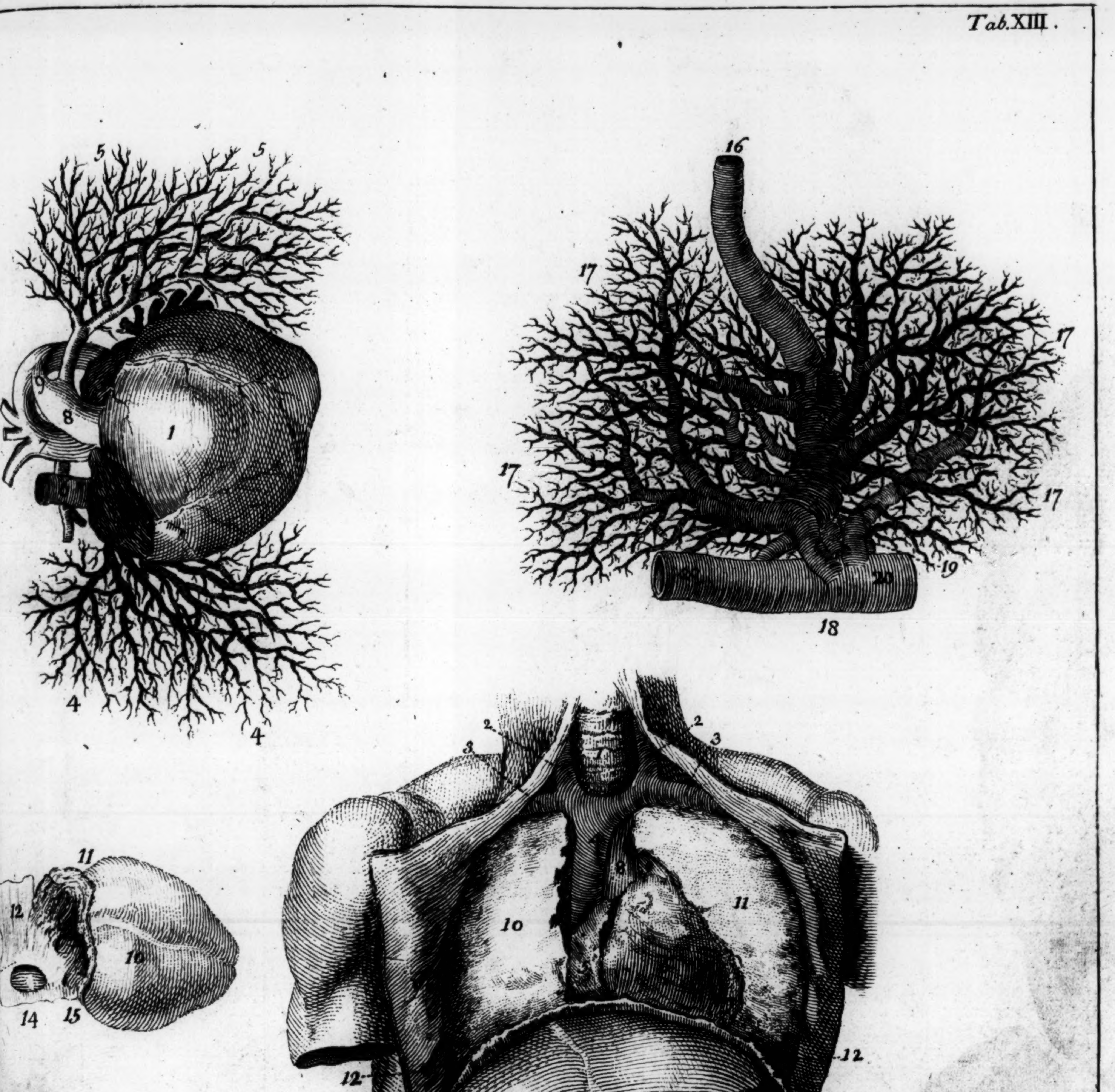


Fig. 1.

Fig. 2.

Tab. XIII.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I. Basire sculp.

Table. XIV.

Fig. 1.

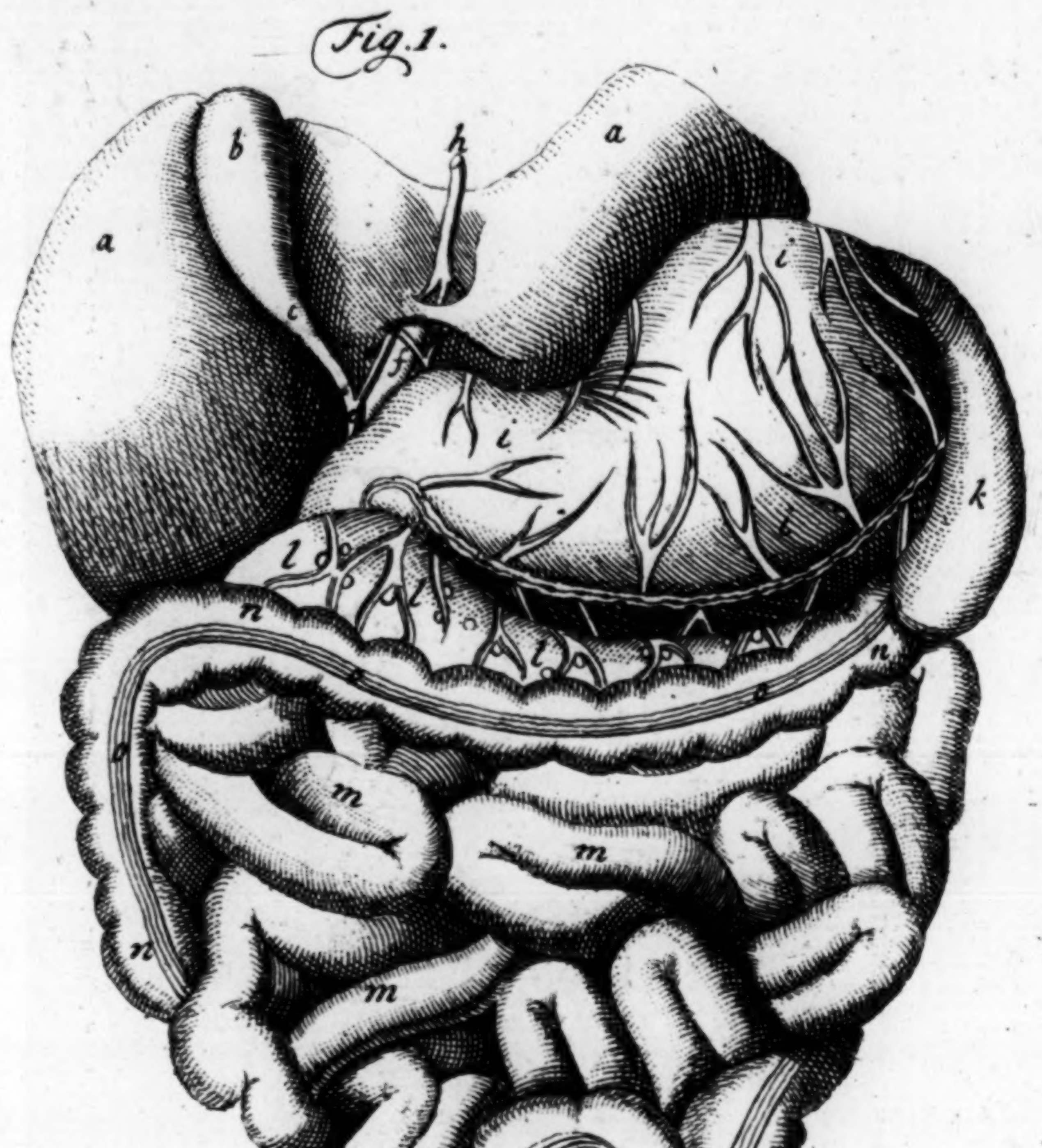

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Fig. 2.

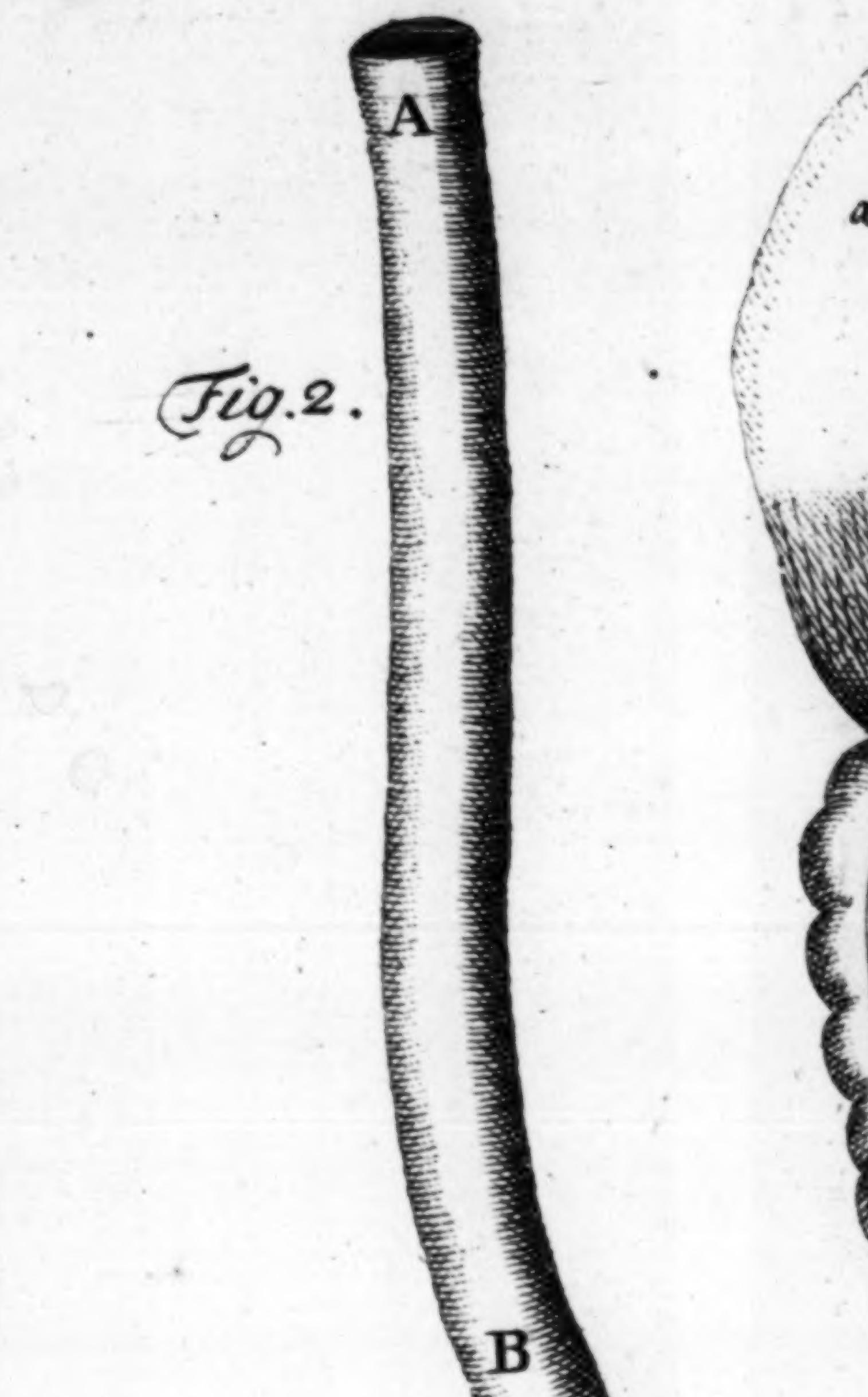

Fig. 3.

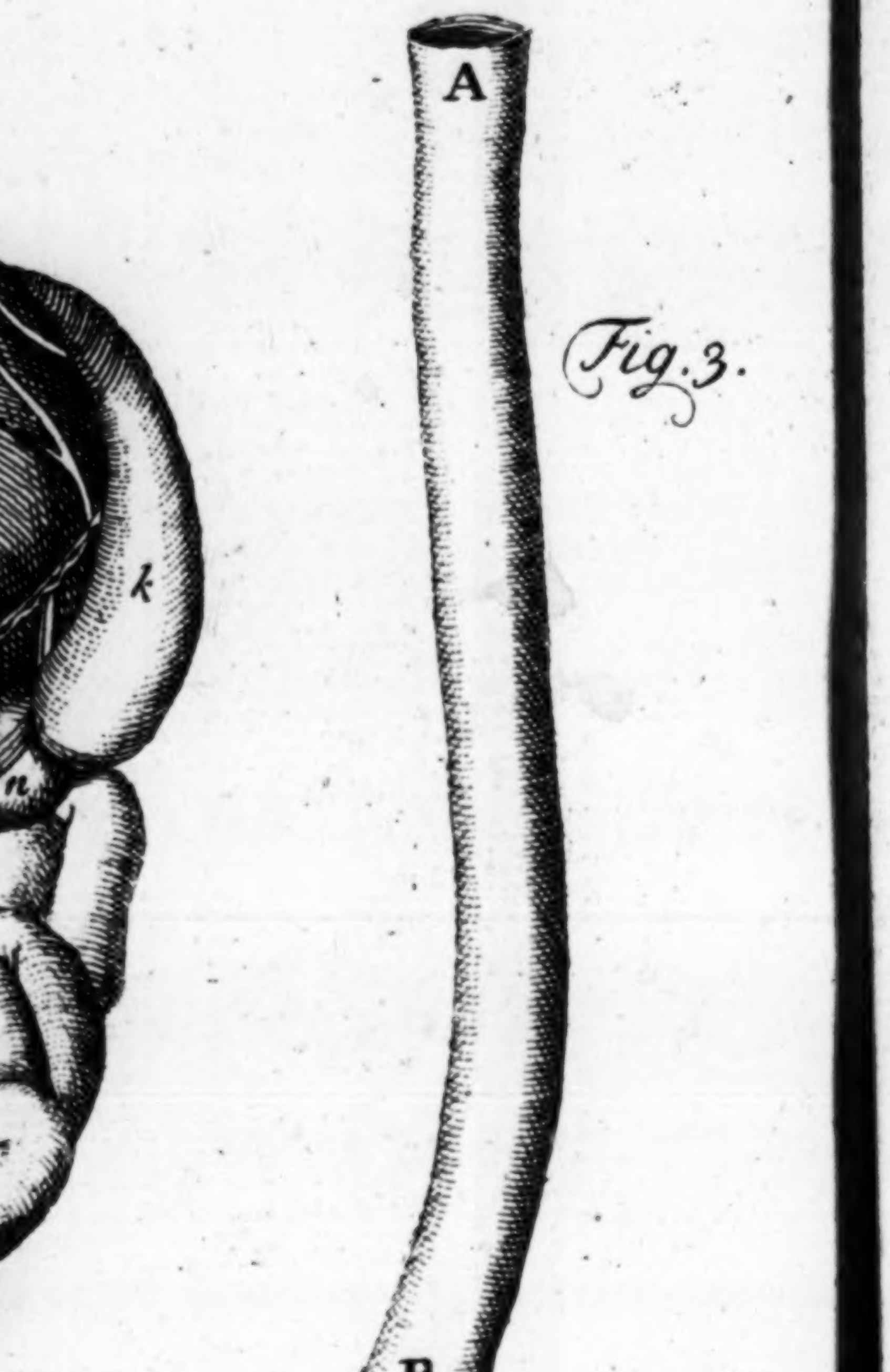

Fig. 4.

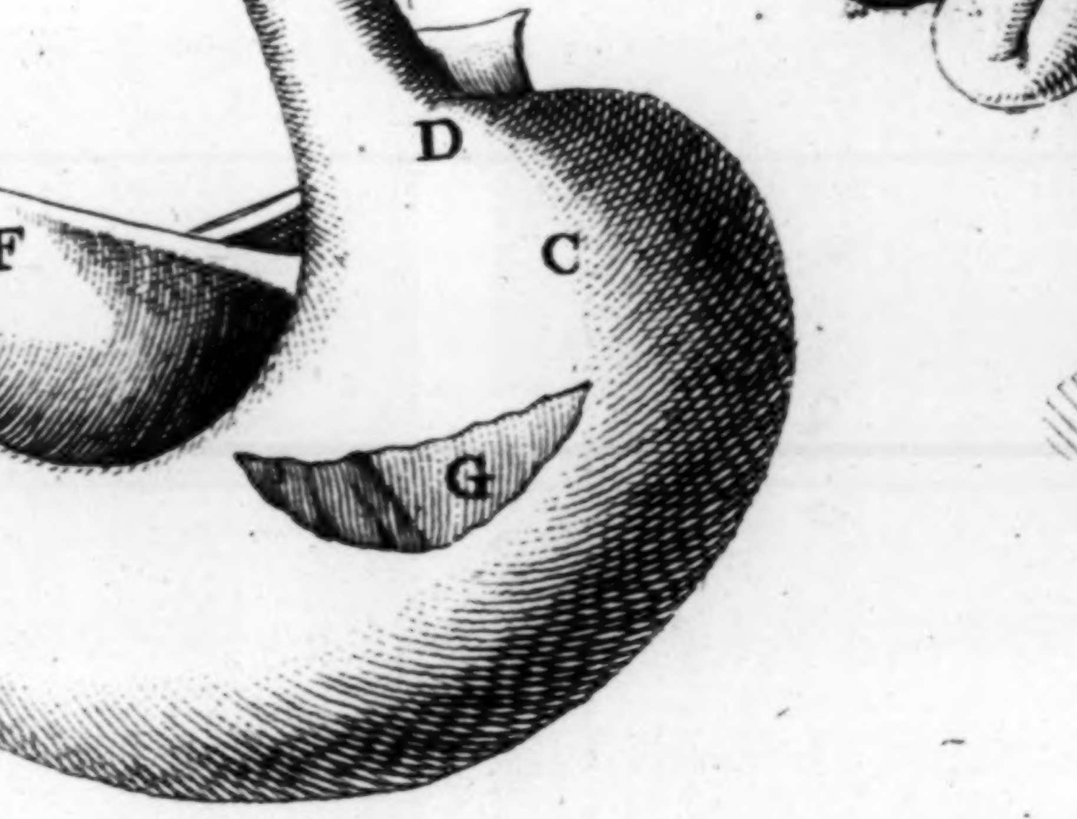

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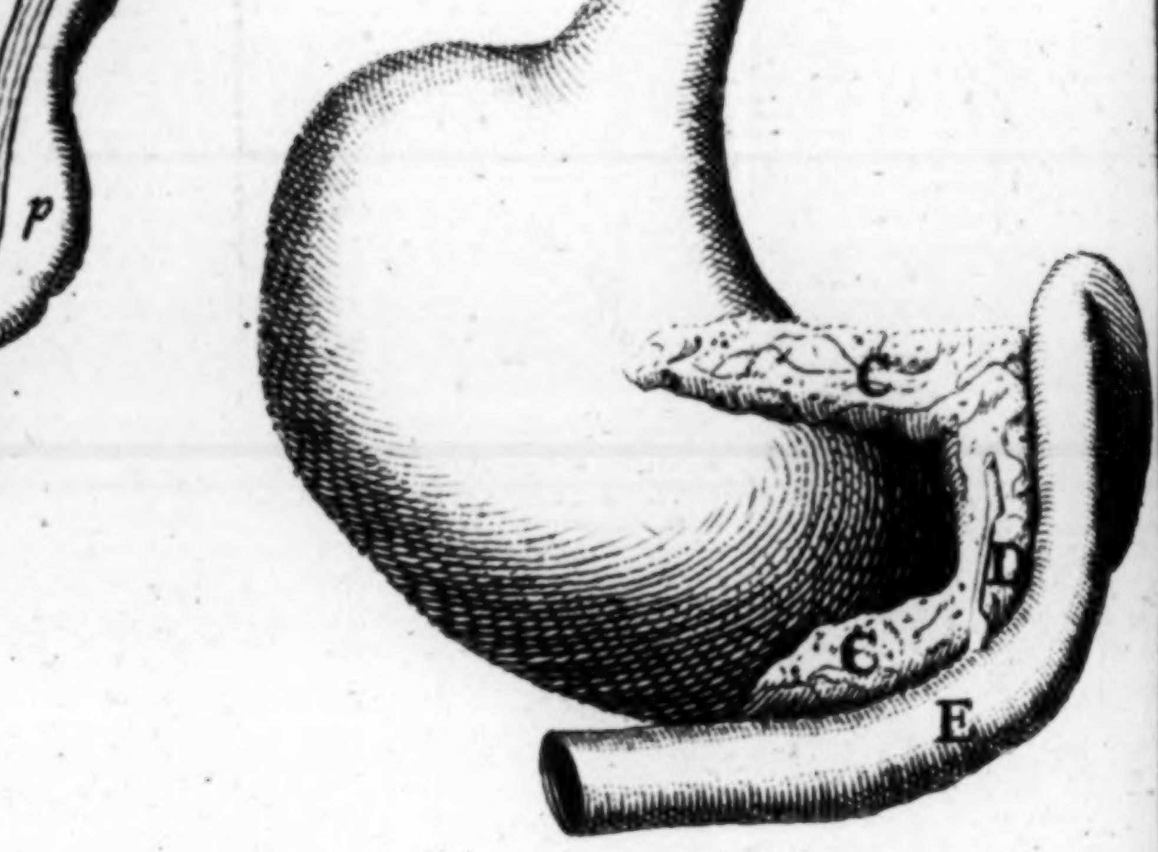
Fig. 5.



I. Basire sculp.

Table XV.

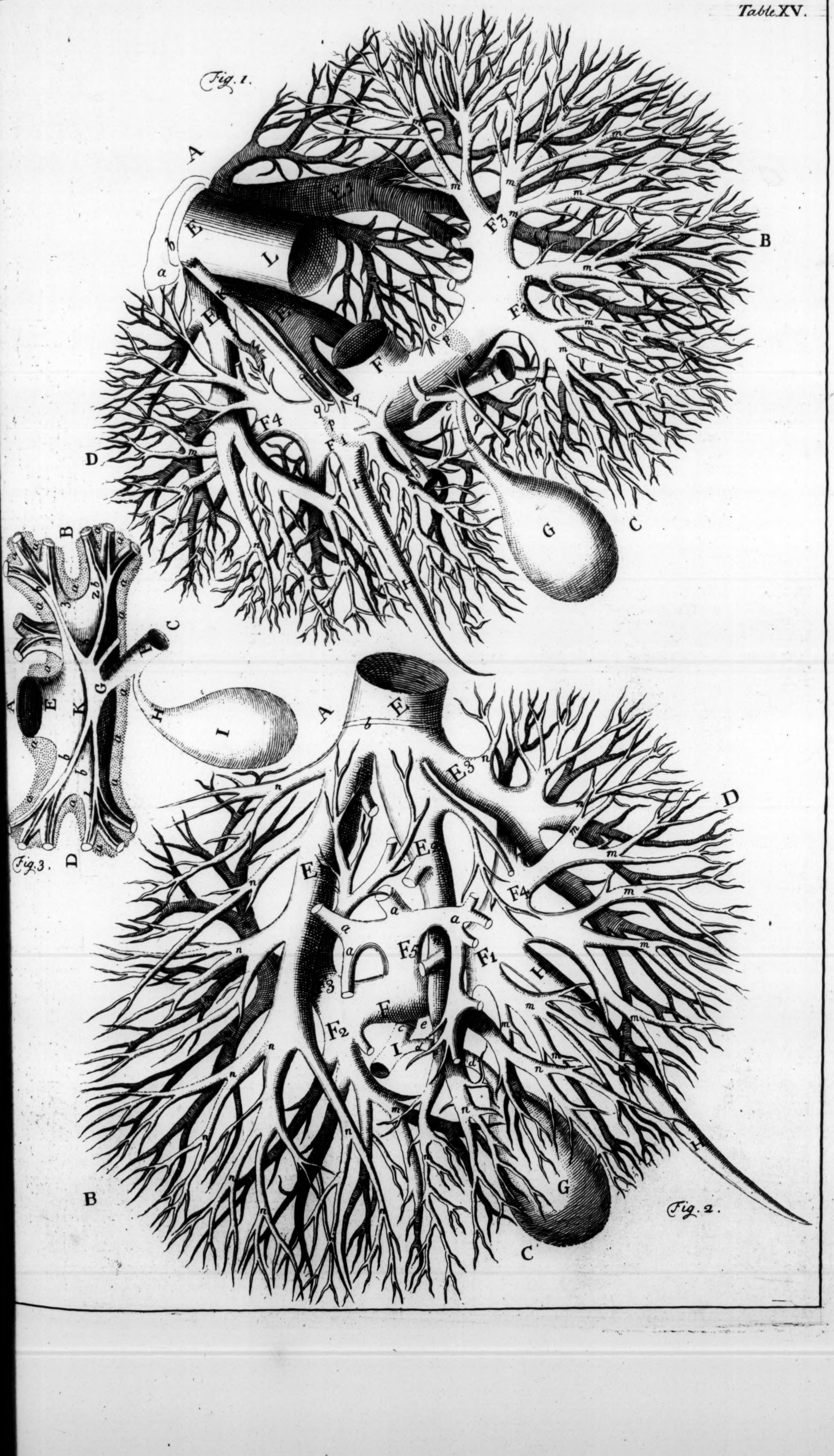


Fig. 1.
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Fig. 2.
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Fig. 3.
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Table. XVI.

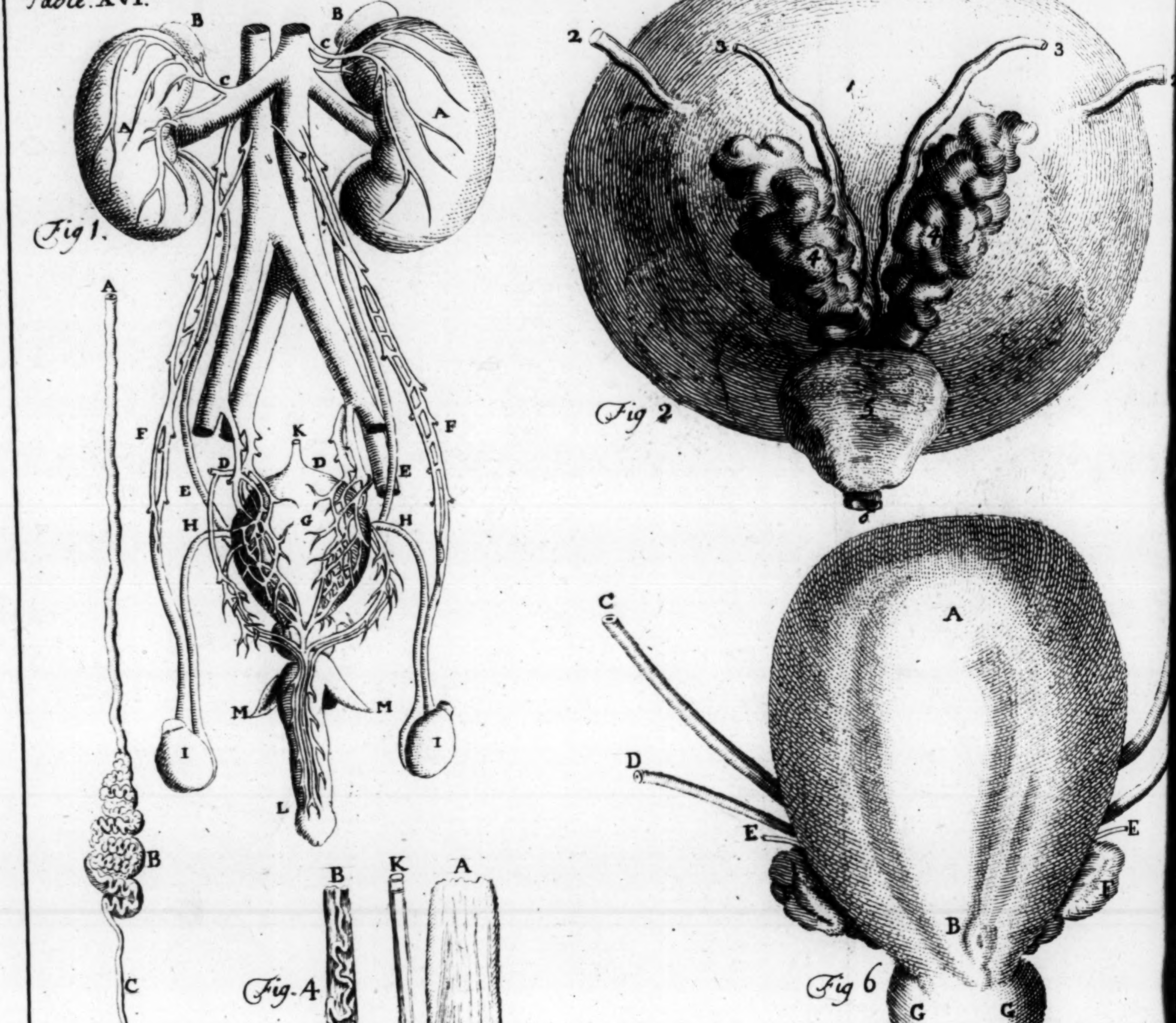

Fig 1.
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Fig 2
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Fig 3
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Fig. 4
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Fig 5
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Fig 6
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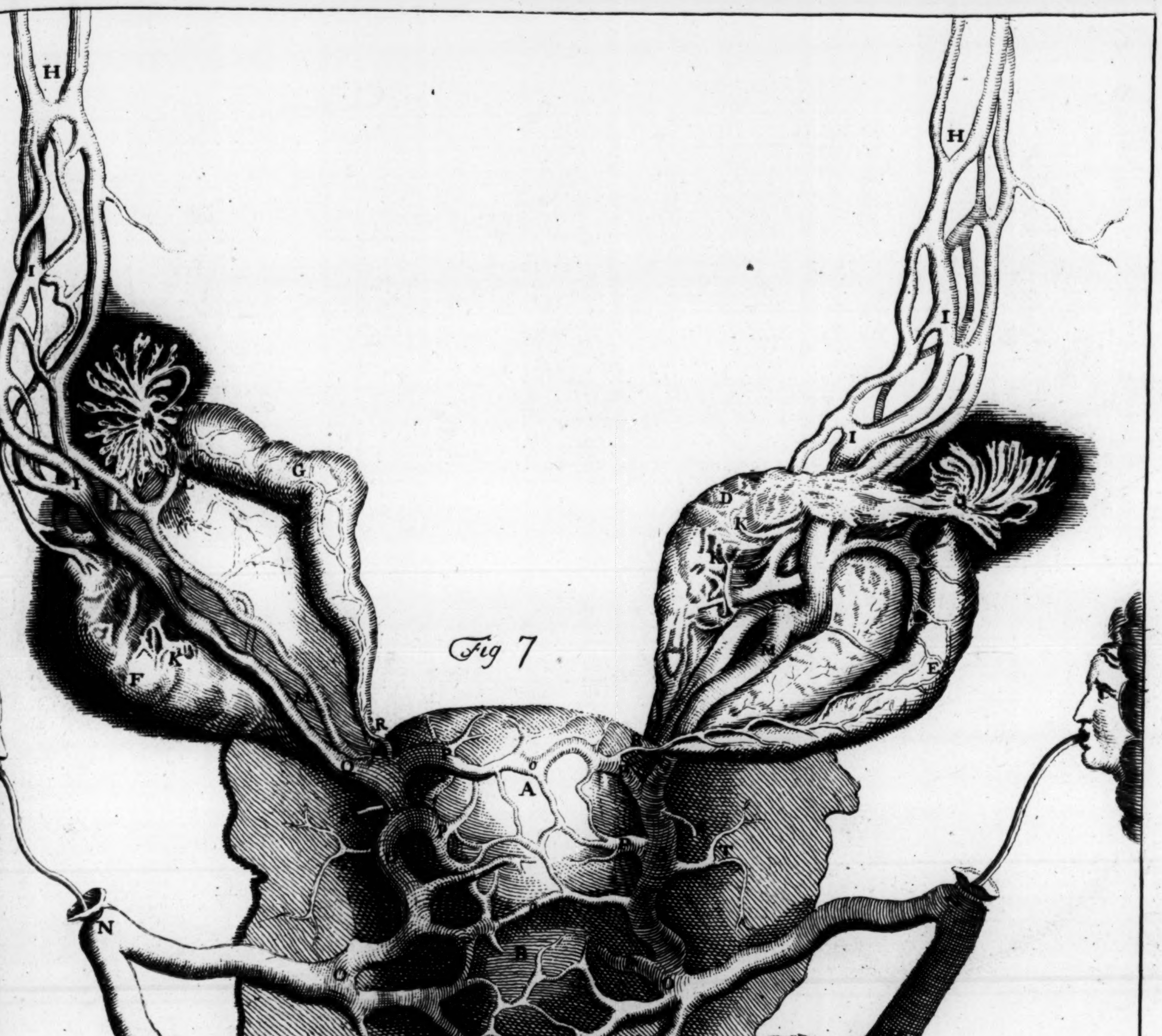
Fig 7
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Table. XVI.

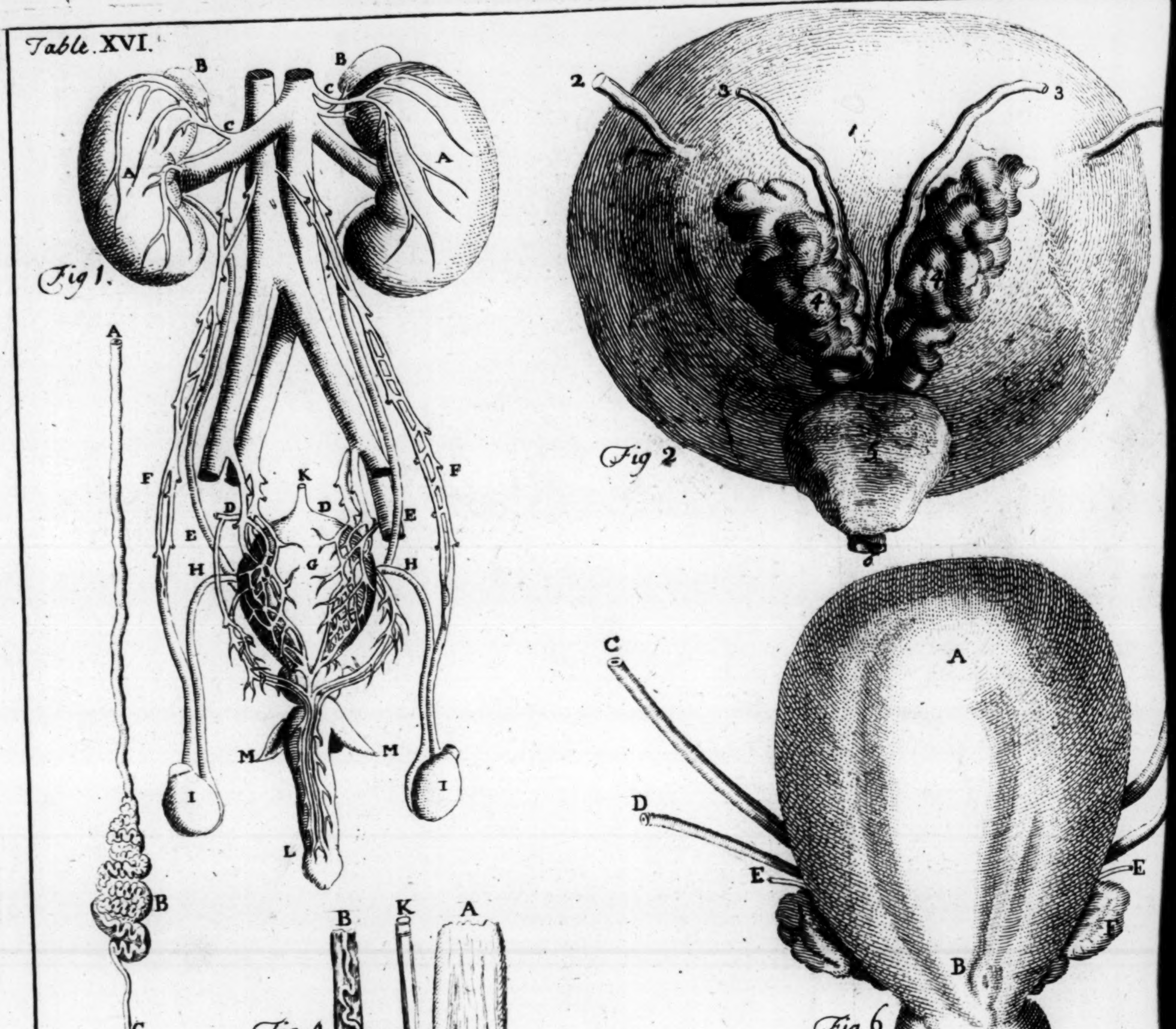

Fig 1.
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Fig 3
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Fig. 4
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Fig 5
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Fig 6
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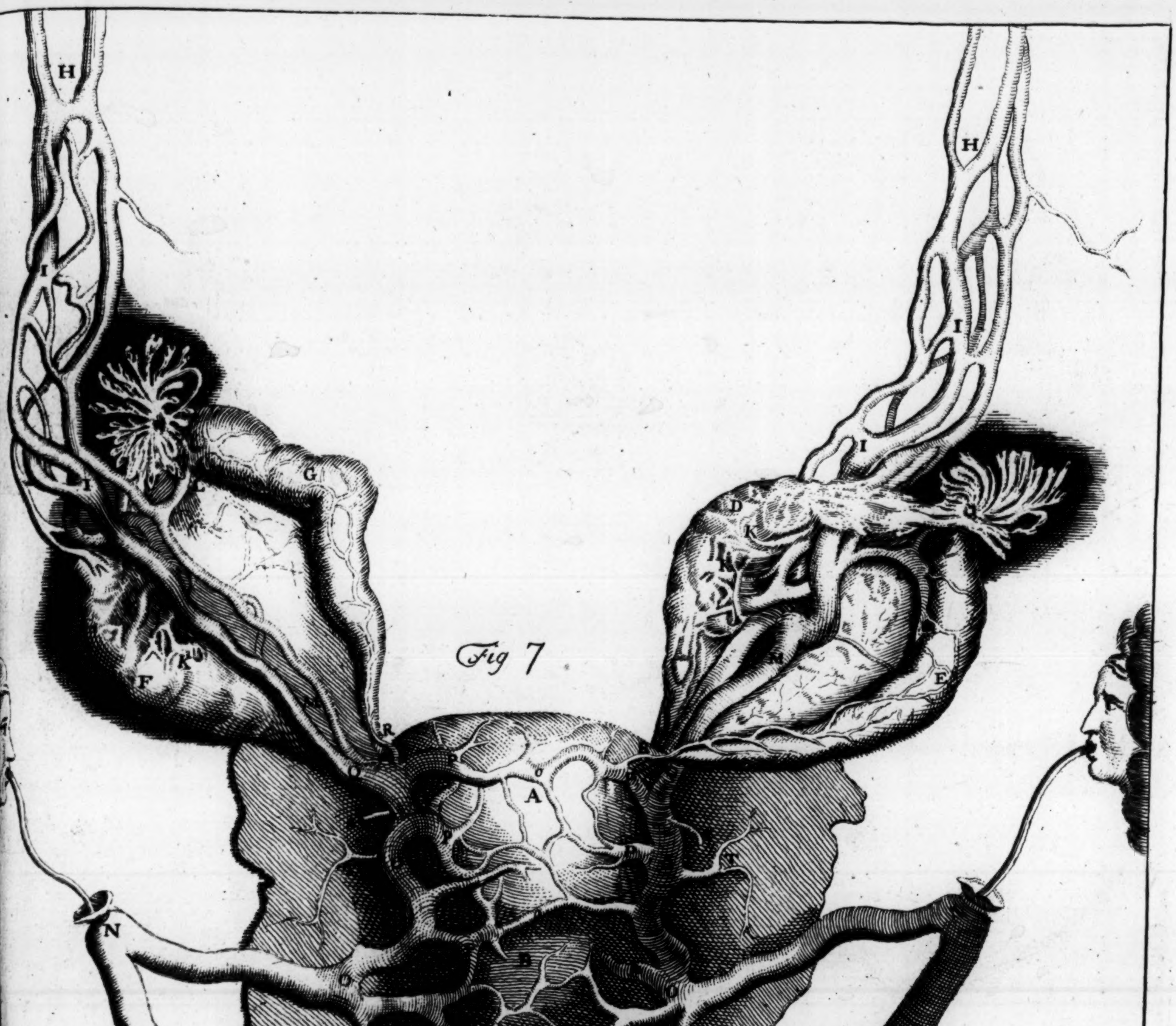

Fig 7

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Table XVII.

Fig 1.

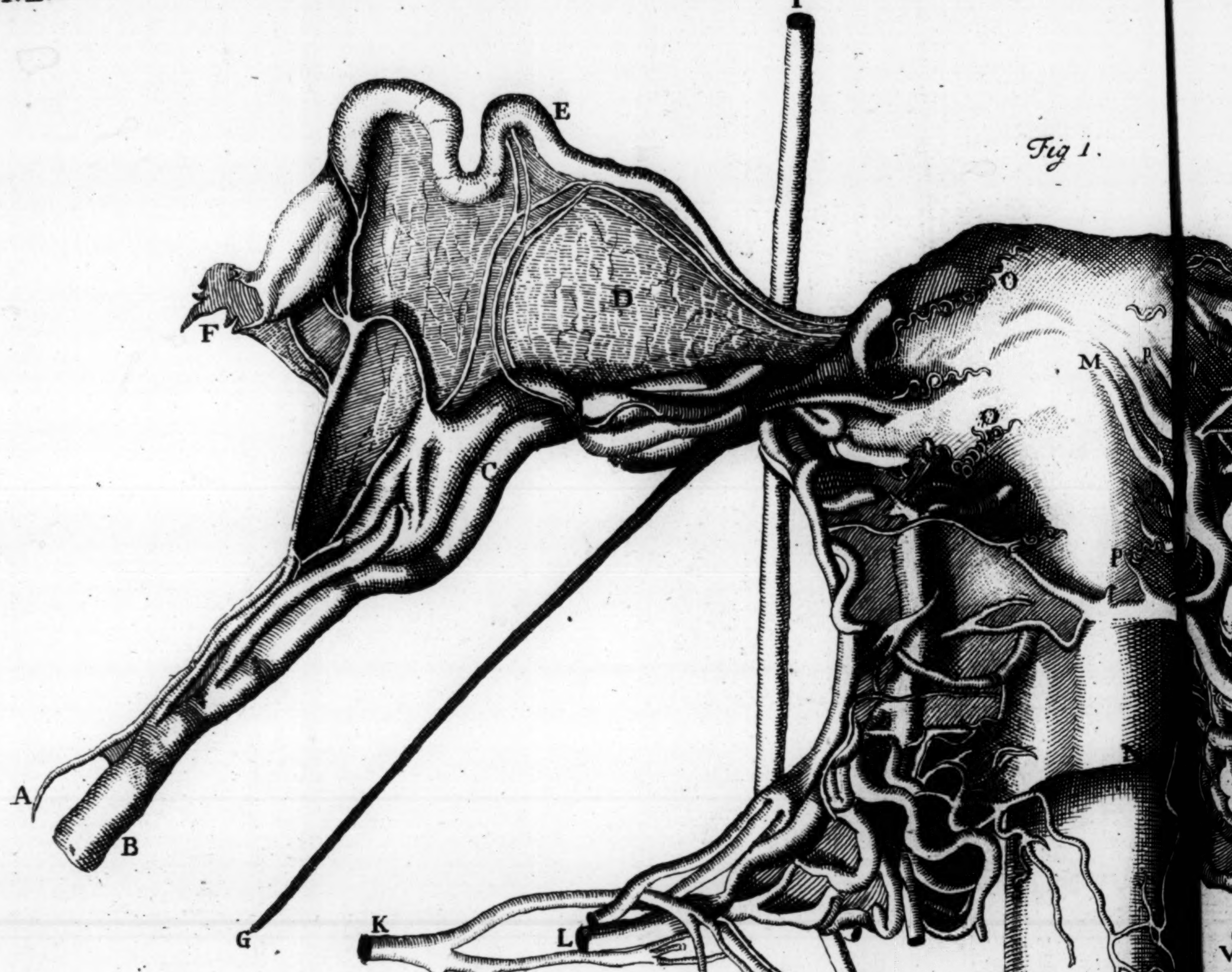
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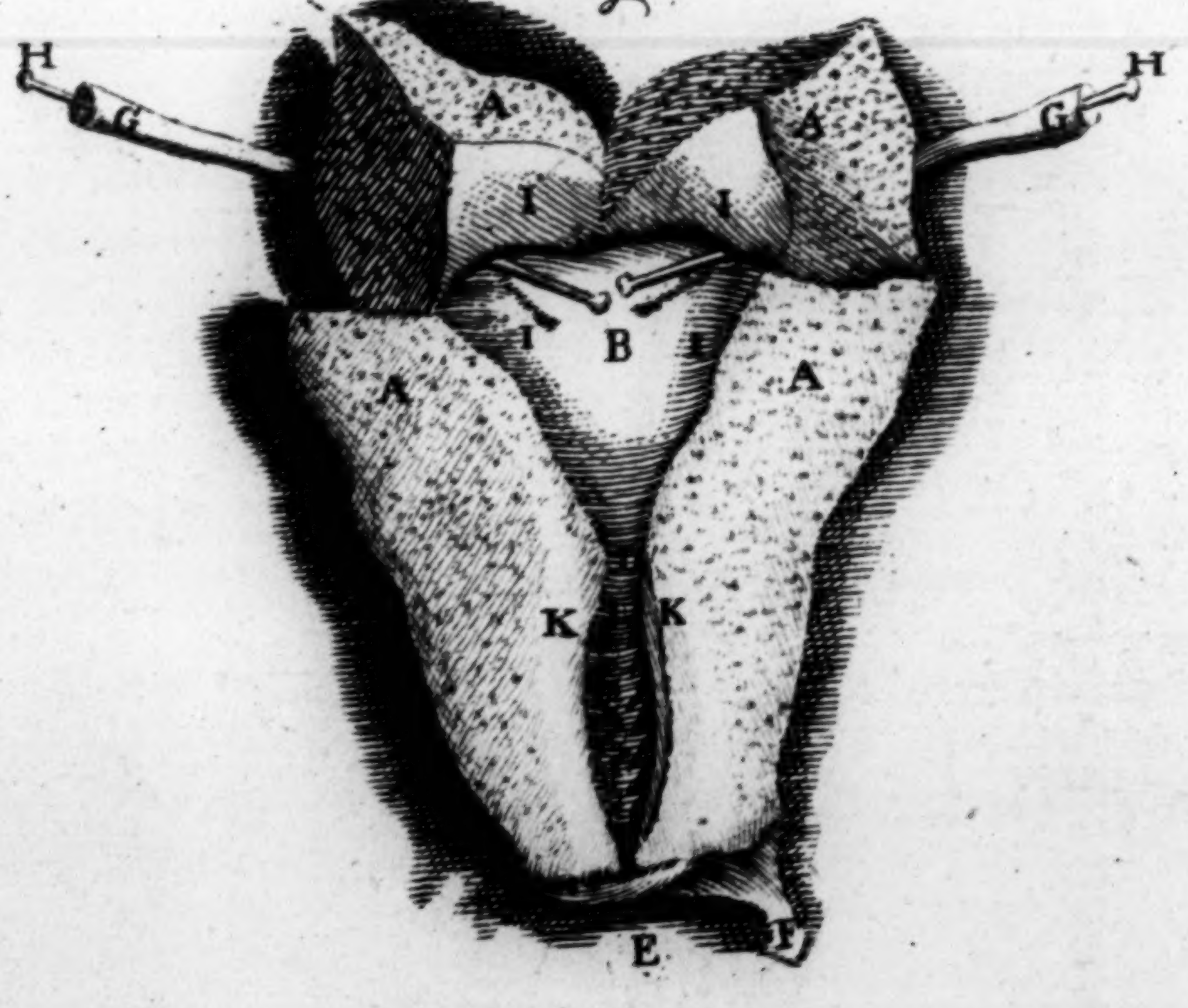
Fig 2.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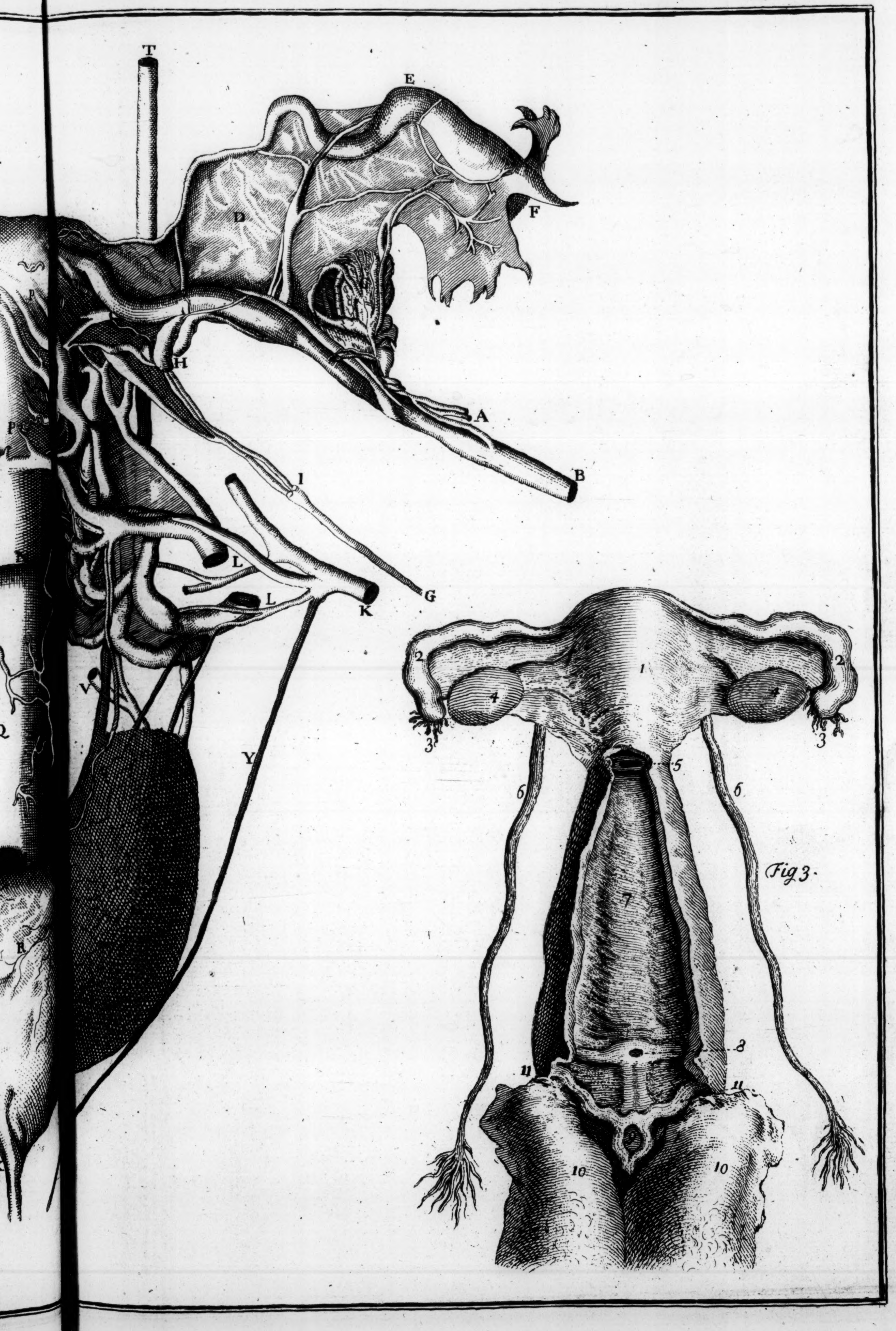
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Fig 3.

Plate XVIII.

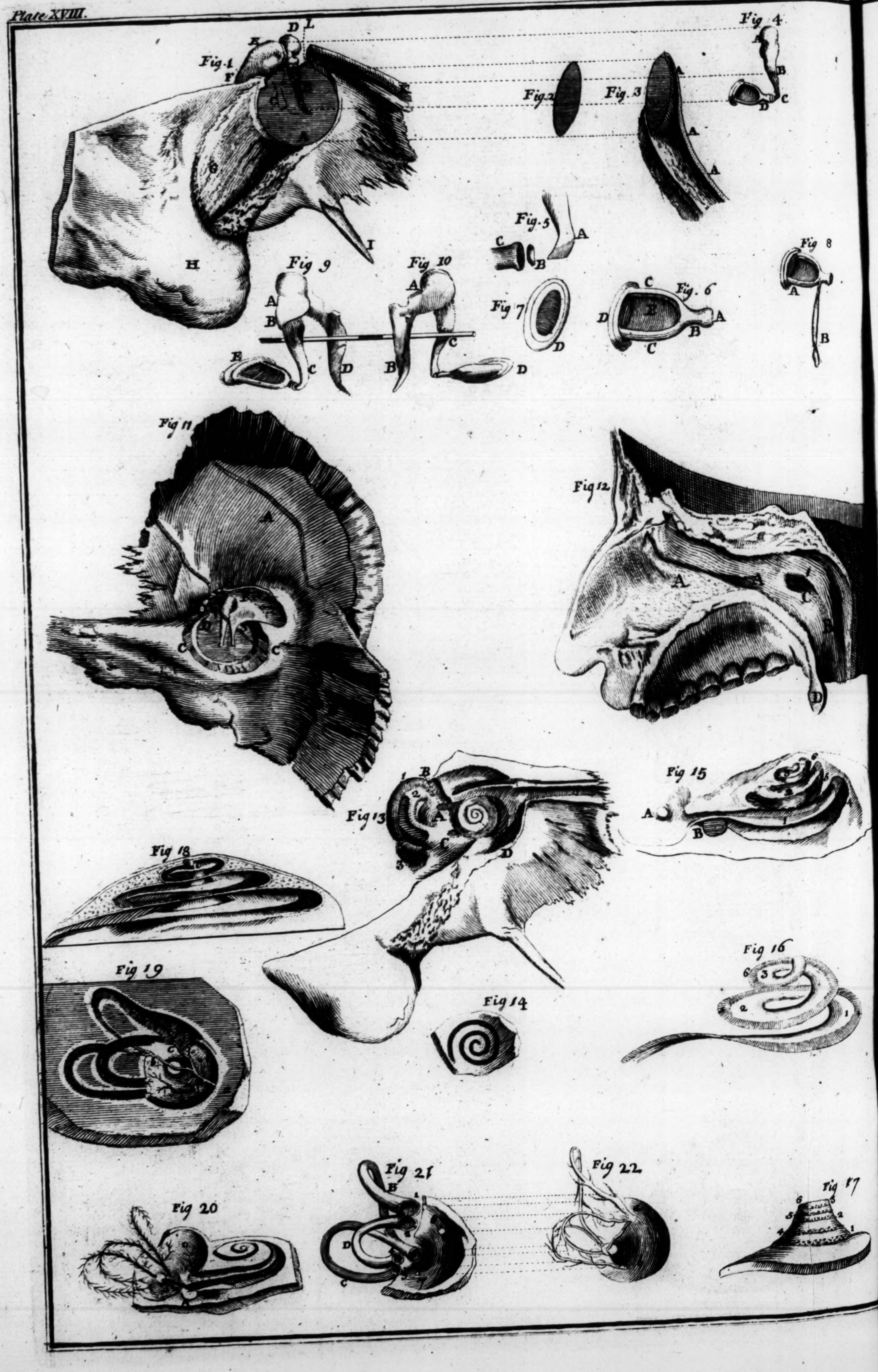
Fig. 1
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Fig 21
Fig 22

Plate XIX

Fig. 1

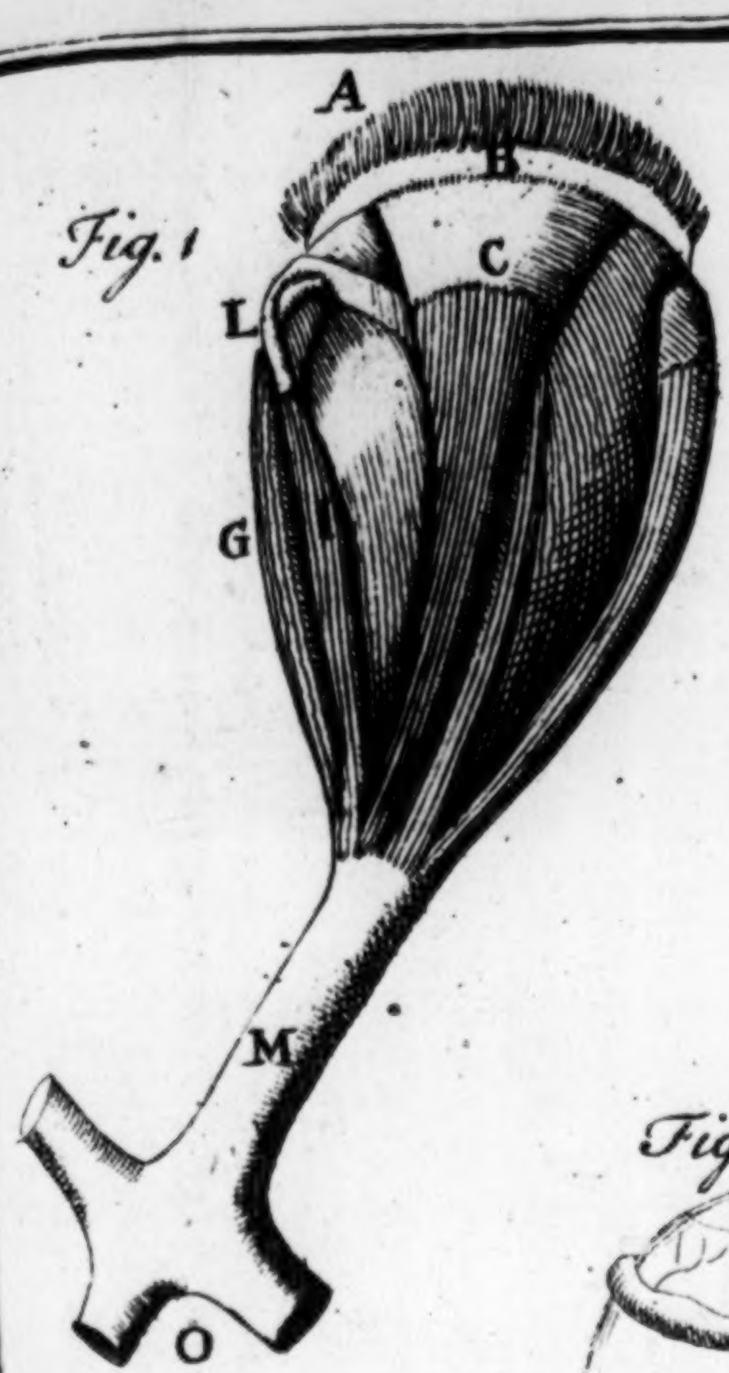

Fig 2

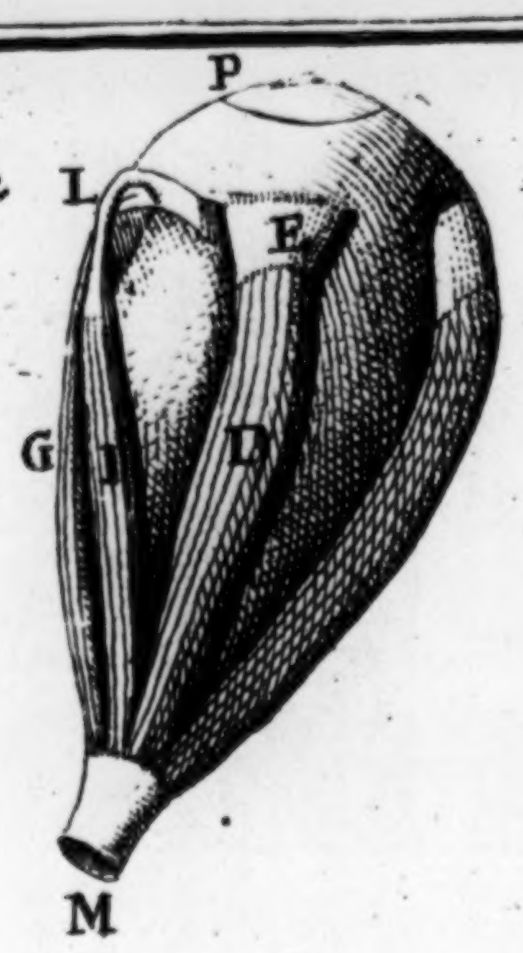

Fig 3

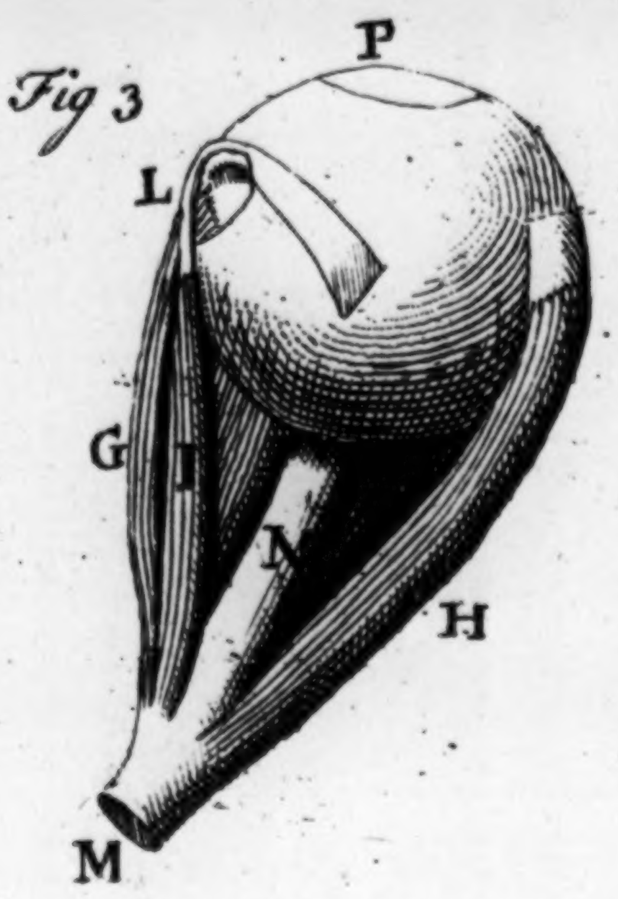

Fig 4

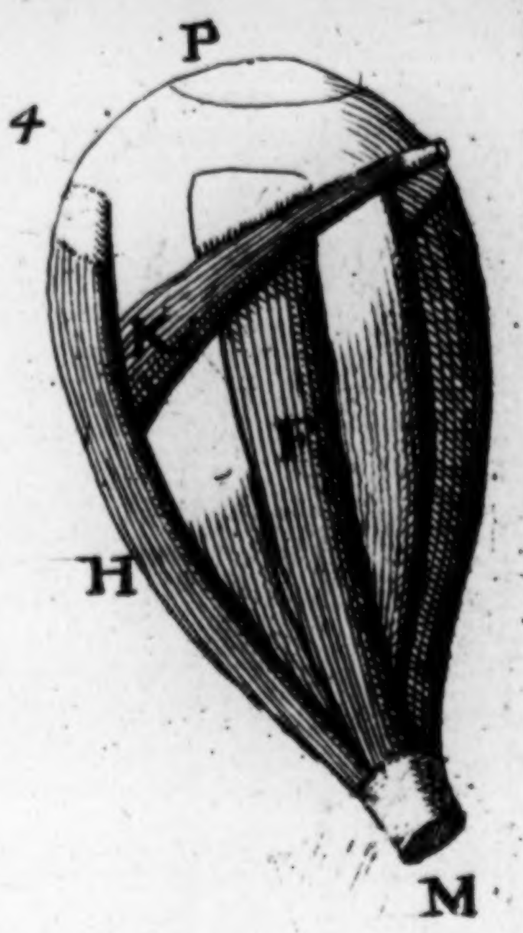

Fig 5

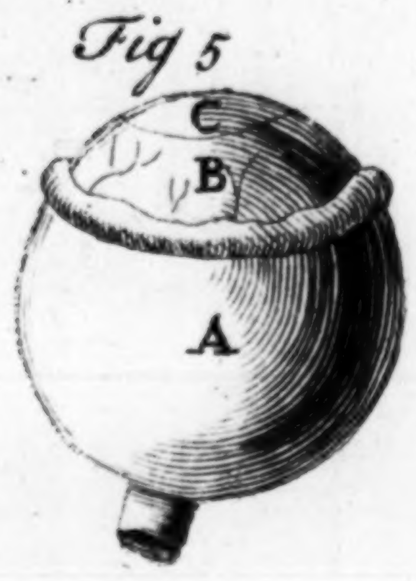

Fig 6

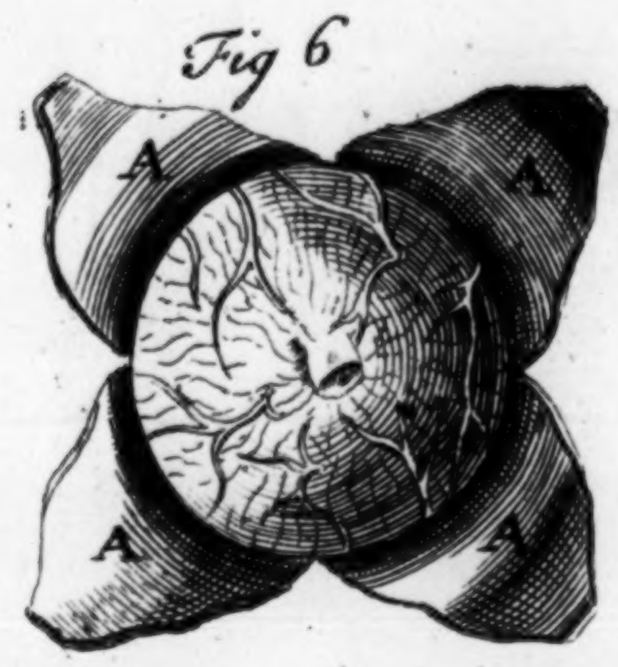

Fig. 7

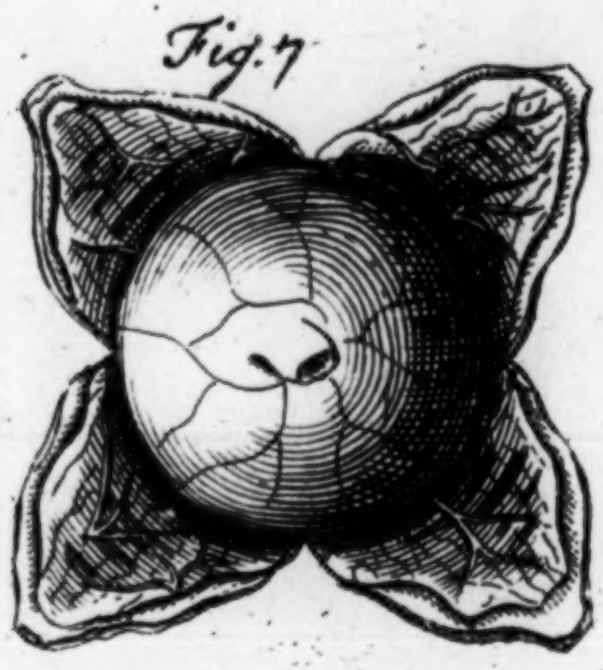

Fig. 8.

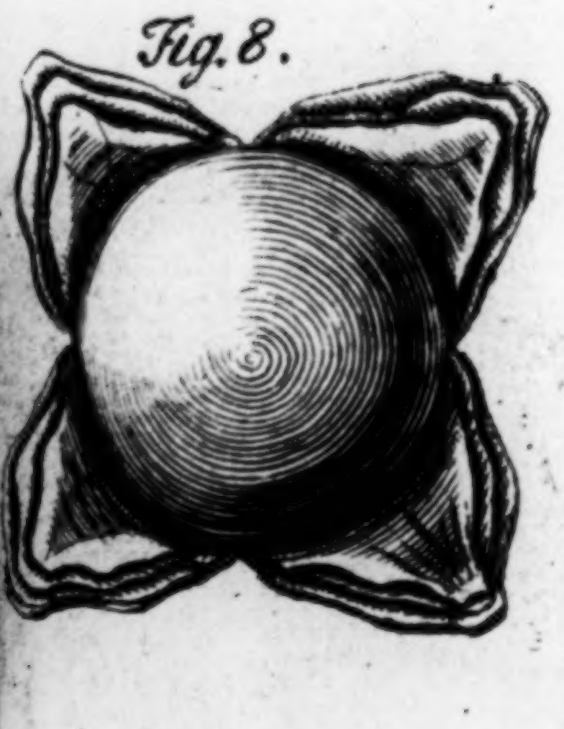

Fig. 9.

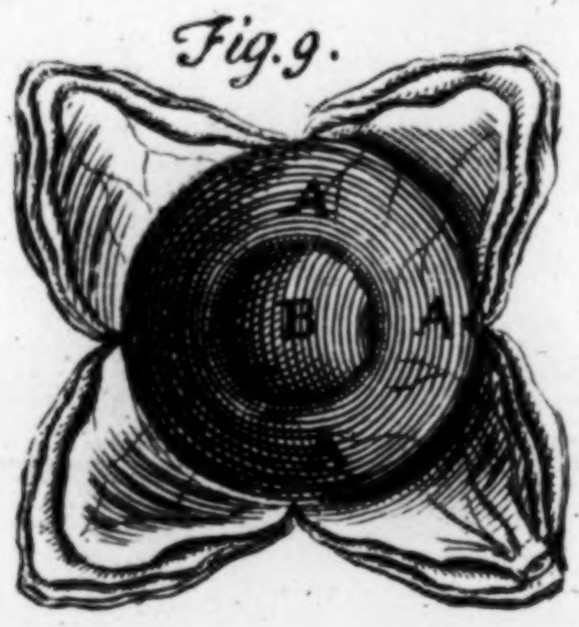

Fig 10

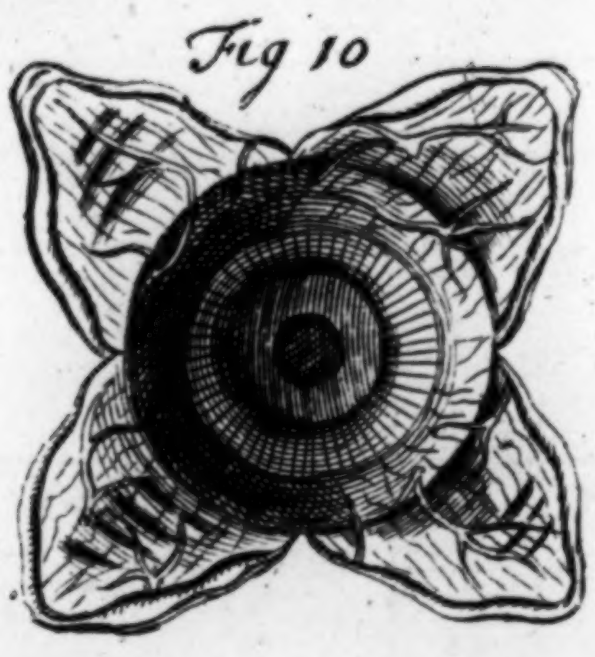

Fig 11

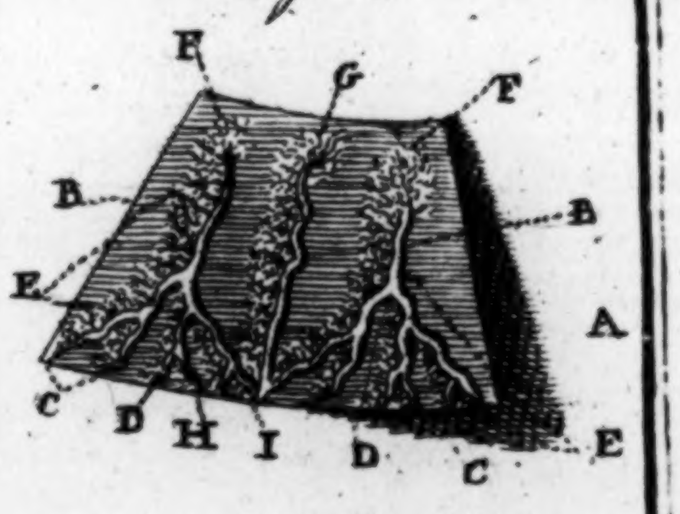
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Fig 12

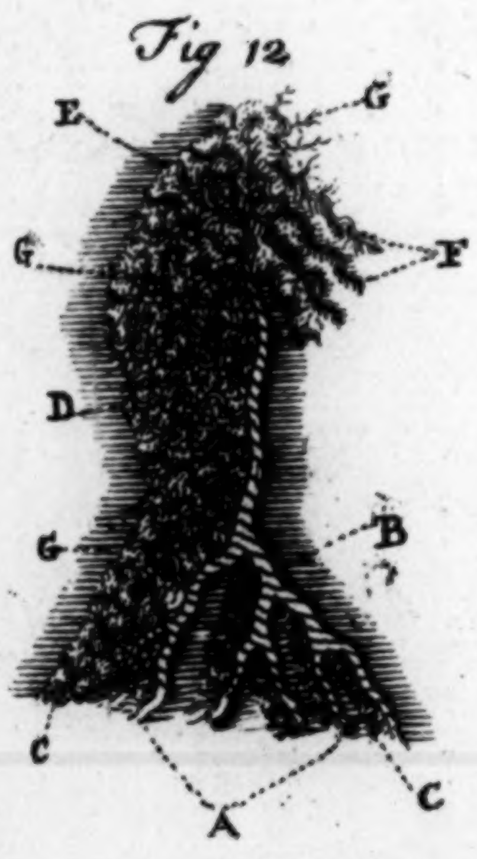
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Fig 13

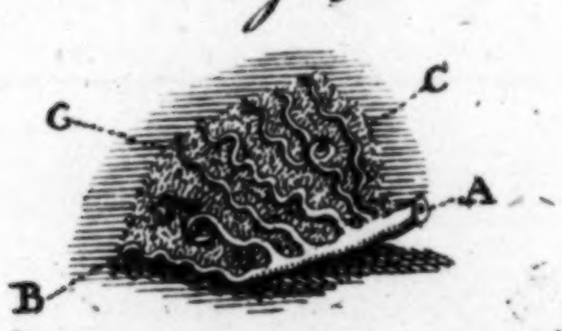


Fig 14

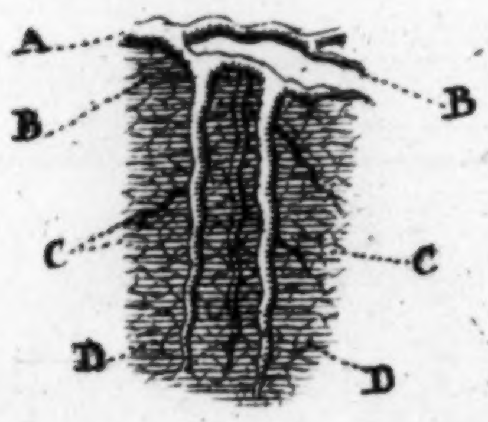


Fig 15

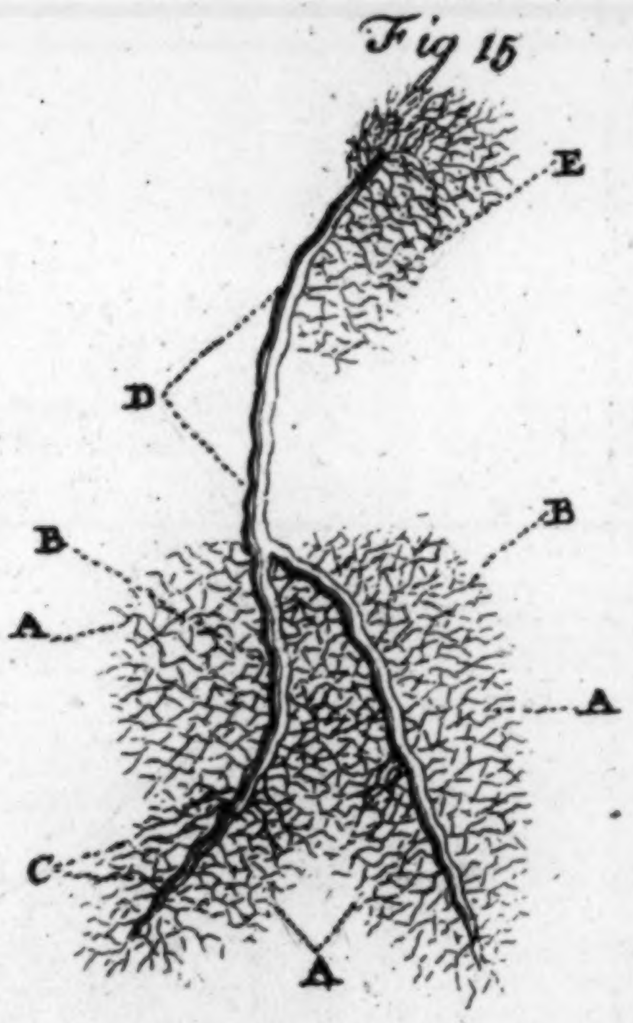


Fig 18

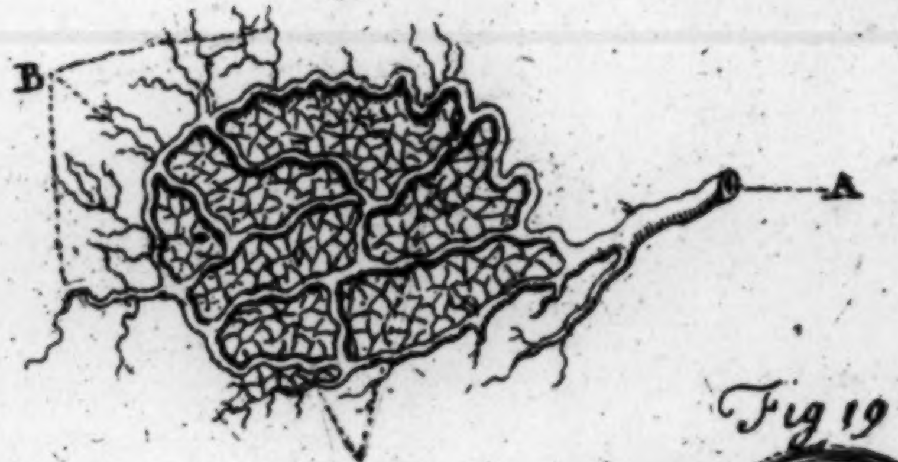


Fig. 16

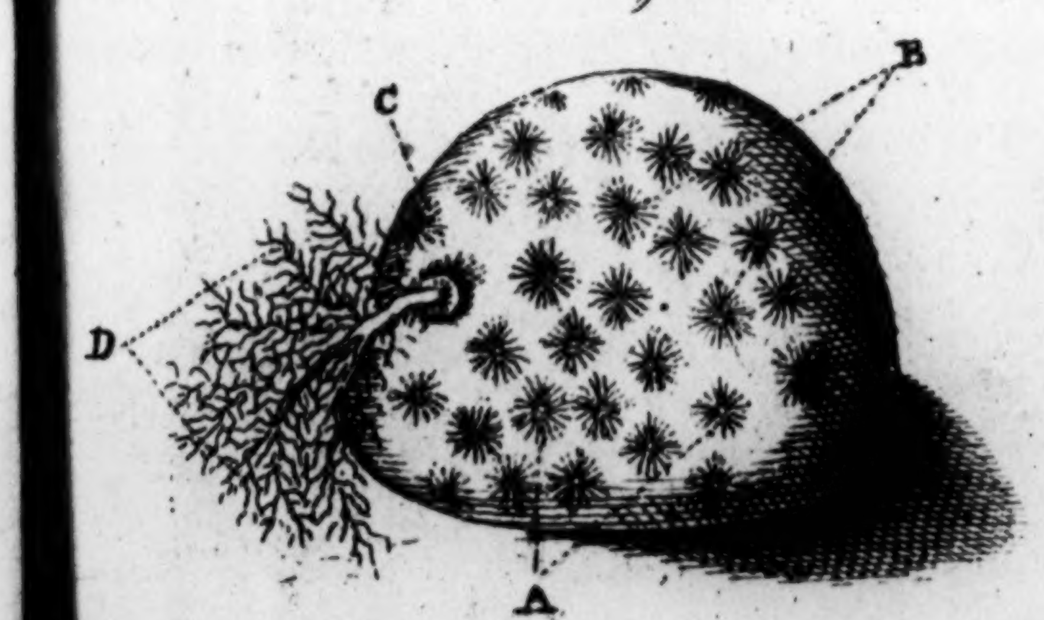


Fig 17

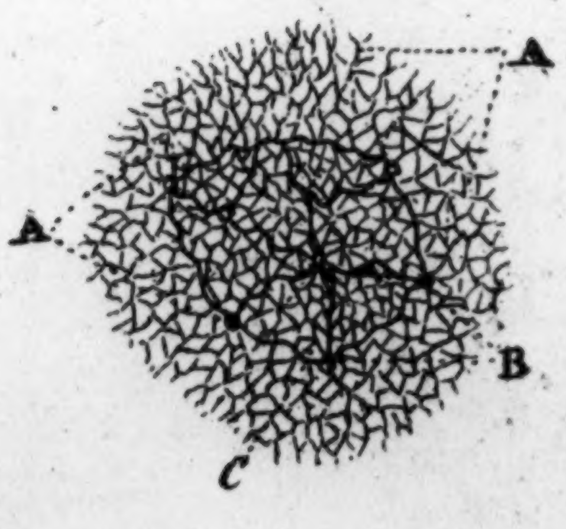
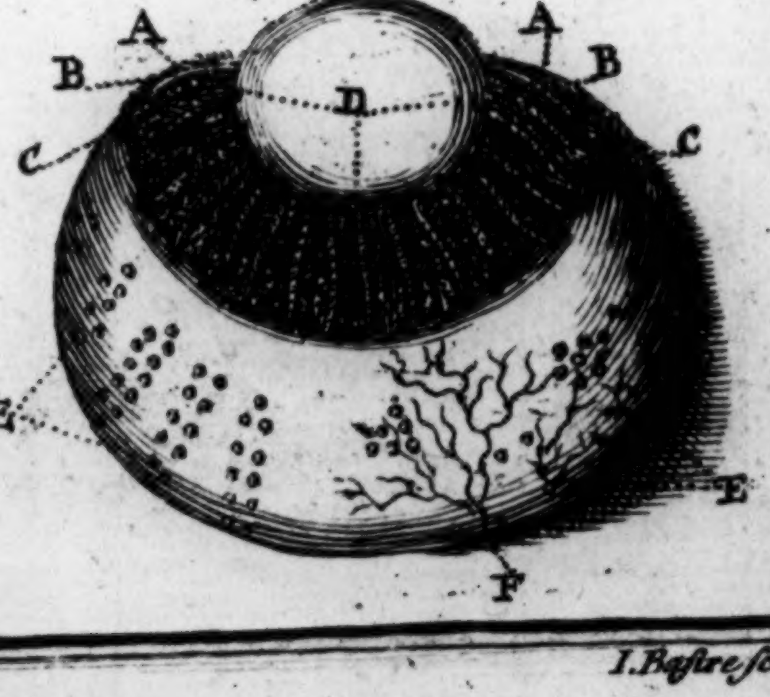


Fig 19


B
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I. Basire sculp.

Table 20

CHARACTERS.

Abſtrahere	Ā	To Abſtract	Chalybs	♂	Steel or Iron
Acetum	🜊	Vinegar	Cineres	🝗	Ashes
Acetum Deſtillatum	※	Distill'd Vinegar	Cineres clavellatæ	🝘	Pot Ash
Aer	🜁l.	Air	Cinnabaris	♁ʒʒ	Cinnabar
Ærugo destillata	⊕dd.	Distill'd Verdigriſe	Coagulare	HE.	To Coagulate
Æs Ustum	♀	Burnt Braſs	Cornu Cervi	C.C.	Hartshorn
Ahenum	⊤	A Kettle	Cornu cervi uſtum	C.C.U.	Burnt Hartshorn
Albumen	◎	The white of an Egg	Creta	⊐	Chalk
Alchaeſt vini	🜄A.	highly rectify'd Spirits of Wine	Crocus	⊕	Saffron
Alembicus	XX	An Alembic	Crucibulum	+	A Crucible
Alumen	O	Alum	Cryſtallus	Ç	Crystal
Alumen plumoſum	OP.	Plumous Alum	Cuprum	♀	Copper
Alumen uſtum	⊖	Burnt Alum	Deſtillare	δ.d.	To Distil
Amalgama	a̅a̅a̅.		Dies	ơ	A Day
Amphora	≋	A Pail or Wooden Veſsel of nine Gallons properly	Digerere	8̑	To Digest
Ana	a̅a̅	Equal parts of each	Drachma	ʒ	A Dram
Annus	⚲	A Year	Eſsentia	‡Es	Eſsence
Antimonium	♁	Antimony	Fæces vini	Ӿ	Lees of Wine
Aqua	▽	Water	Farina	⊛	Meal
Aquafortis	🜅		Farina laterum	▦	Brickdust
Aqua Pluvialis	▽pl.	Rain Water	Ferrum	♂	Iron
Aqua Regia	🜆		Filtrare	ʒʒ	To filter
Aqua ſalis nitri	⊡	Mother Water of Nitre.	Fluere	≋	To Flow
Aqua vitæ	🜈	Brandy	Fuligo	♄	Soot
Arcitenens	♐	Sagittarius a Celeſtial Sign	Fumus	♀∽	Smoke
Arena	⁙	Sand	Gemini	♊	The Celeſtial Sign ſo call'd
Argentum	☽	Silver	Granum	gr̄.	A Grain
Argentum limatum	☽⟋	Filings of Silver	Gummi	ꝏ	Gum
Argentum vivum	☿	Quicksilver	Gutta	G.g.tt	A Drop
Aries	V	The Ram a Celestial Sign	Hora	⧖	An Hour
Arſenicum	o-o	Arſenic	Ignis	△	Fire
Auripigmentum	o═o	Orpiment	Ignis reverbereus	△R	A reverberating Fire
Aurum	☉	Gold	Ignis rotæ	⊜	A circular Fire
Aurum foliatum	▣	Leaf Gold	Jupiter	♃	Tin
Aurum limatum	☉⟋	Filings of Gold	Lapis Hæmatites	⋰	Blood Stone
Aurum potabile	☉P.		Lapis Lazuli	ʃ	
Balneum	B.	A Bath	Leo	♌	The Celestial Sign so call'd
Balneum Mariæ	MB.	The Heat of boiling Water	Libra cœleſtis	♎	The Celeſtial Sign ſo call'd
Balneum vaporis	VB	A Vapour Bath or Heat	Libra pondo	℔	A Pound Weight
Borax	⎍		Lithargyrus	ɔH	Litharge
Cæmentare	z̄	To Cement	Luna	☽	Silver.
Calcinare	Ȼ	To Calcine	Lutare	N̄	To Lute
Calx	C.	Lime	Lutum Hermis	LHerm	Lute of Hermes
Calx viva	♆	Quick Lime	Magnes	☊	The Load Stone
Camphora	≈ȝr	Camphire	Manipulus	M	A Handful.
Cancer	♋	The Celestial Sign thus call'd	Manipulus ſemis	Mſs	Half a Handful
Capricornus	♑	The Celestial Sign so call'd	Marcaſita	♂	Marcaſite
Caput mortuum	☠		Mars	♂	Iron
Cera	🝊	Wax	Martis limatura	♂⟋	Filings of Iron
Ceruſsa	‡	Ceruſs	Maſsa	ø	A Maſs

Table 21

CHARACTERS.

Materia	a͡a	Matter	Scorpitus	♏	The Celeſtial Sign Scorpion
Materia Prima	MP.	The first Matter	Scrupulus	℈	A Scruple
Mel	🝊	Honey	Semis	ß	Half
Menſis	⊠	A Month	Sextilis	⚹	Sextile
Mercurius	☿	Mercury	Sigillare Hermetice	S.H.	To Seal hermetically
Mercurius præcipitatus	☿ ≂	Mercury Precipitate	Sol	☉	The Sun or Gold
Mercurius ſublimatus	☿ ♎	Mercury Sublimate	Solvere	♒	To Diſsolve
Nitrum	⦶	Nitre	Spiritus	⌒	Spirit
Nox	⚲	A Night	Spiritus vini	$\overset{s}{V}$	Spirit of Wine
Oleum	∘∘∘	Oil	Stannum	♃	Tin
Oleum olivarum	:)(:	Oil of Olives	Stratum ſuper Stratum	S.S.S.	
Oppoſitio	☍	Oppoſition in Astronomy	Sublimare	♎	To Sublime
Orichalcum	⟐	Braſs	Succinum	BB†	Amber
Phlegma	φ ♐	Phlegm	Sulphur	🜍	
Piſces	♓	The Celeſtial Sign ſo call'd	Sulphur Philoſophorum	🜎	Sulphur of the Philoſophers
Plumbum	♄	Lead	Sulphur vivum	🜍~	Mineral or live Sulphur
Præcipitare	≂	To precipitate	Taleum	X	Talc
Pugillus	P.	A Pugil	Tartarus	🜿	Tartar
Pulvis	♁ ɣ	Powder	Taurus	♉	The Bull a Celeſtial Sign
Pumex	ℒ	Pumice Stone	Terra	🜨	Earth
Purificare	☋	To Purify	Terra ſigillata	$\overset{s}{\overline{\nabla}}$	Seal'd Earth
Putrificare	†→	To Putrify	Tinctura	Ʀ	Tincture
Quadratus	□	Quartile	Trigonus	△	Trine
Quinta Eſsentia	Q.E.	Quinteſsence	Venus	♀	Copper
Recipiens	Ⓡ	A Receiver	Vinum	V	Wine
Regulus	♔		Vinum album	VA.	White Wine
Retorta	🝭	A Retort	Vinum coctum	VC.	Burnt Wine
Saccharum	ſſ.	Sugar	Vinum rubrum	VR.	Red Wine
Sal alcali	ȣ	Alcaline Salt	Virgo	♍	The Celeſtial Sign
Sal ammoniacum	ɣɣ✱		Viride Æris	⊕	Verdigrise
Sal commune	⊖	Common Salt	Vitellum ovi	$\overset{\frown}{\mathrm{E}}$	The Yolk of an Egg
Sal gemmæ	♉		Vitriolum	🜖	Vitriol
Sal marinum	$\overset{M}{\ominus}$	Sea Salt	Vitrum	XX	Glaſs
Sal nitrum	⦶	Salt Petre or Nitre	Uncia	℥	An Ounce
Sapo	◇	Soap	Urina	⊡	Urine
Saturnus	♄	Lead or Saturn			

			℈j a Scruple	20 Grains
		ʒj a Dram	3 Scruples	60 Grains
	℥j 1 Ounce	8 Drams	24 Scruples	480 Grains
lb 1 Pound	12 Ounces	96 Drams	288 Scruples	5760 Grains
lbſs ½ a Pound	6 Ounces	48 Drams	144 Scruples	2880 Grains
	℥ſs ½ an Ounce	4 Drams	12 Scruples	240 Grains
		ʒſs ½ a Dram	1½ Scruples	30 Grains
			℈ſs ½ a Scruple	10 Grains

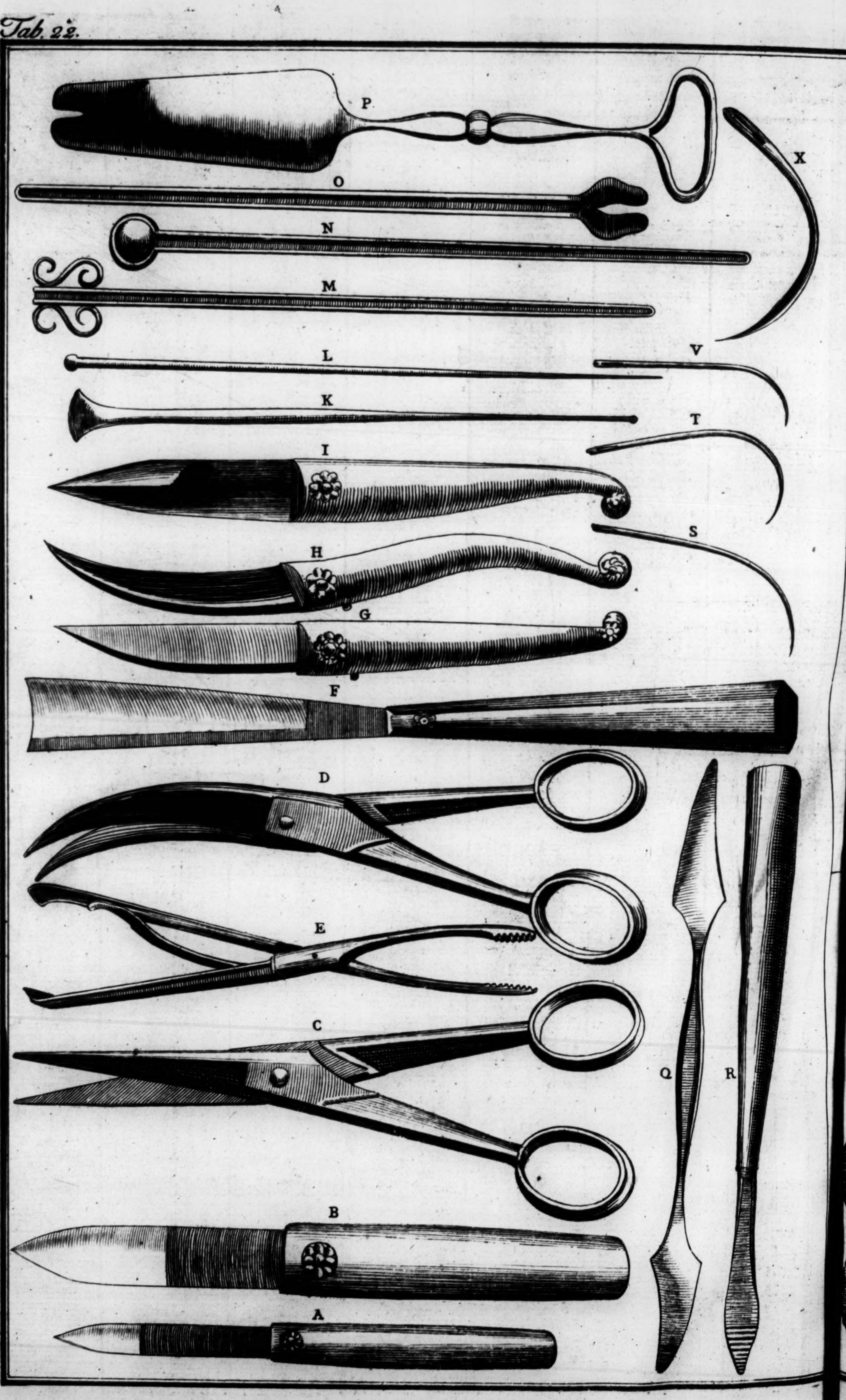
P. Amongst the Medicinal Writers, signifies Pondo, Weight.

XX. Or as it was afterwards wrote ✱ stands for Denarius.

Theſe Characters, especially the last, occur in Celsus

G Bickham junr sculp.

Tab. 22.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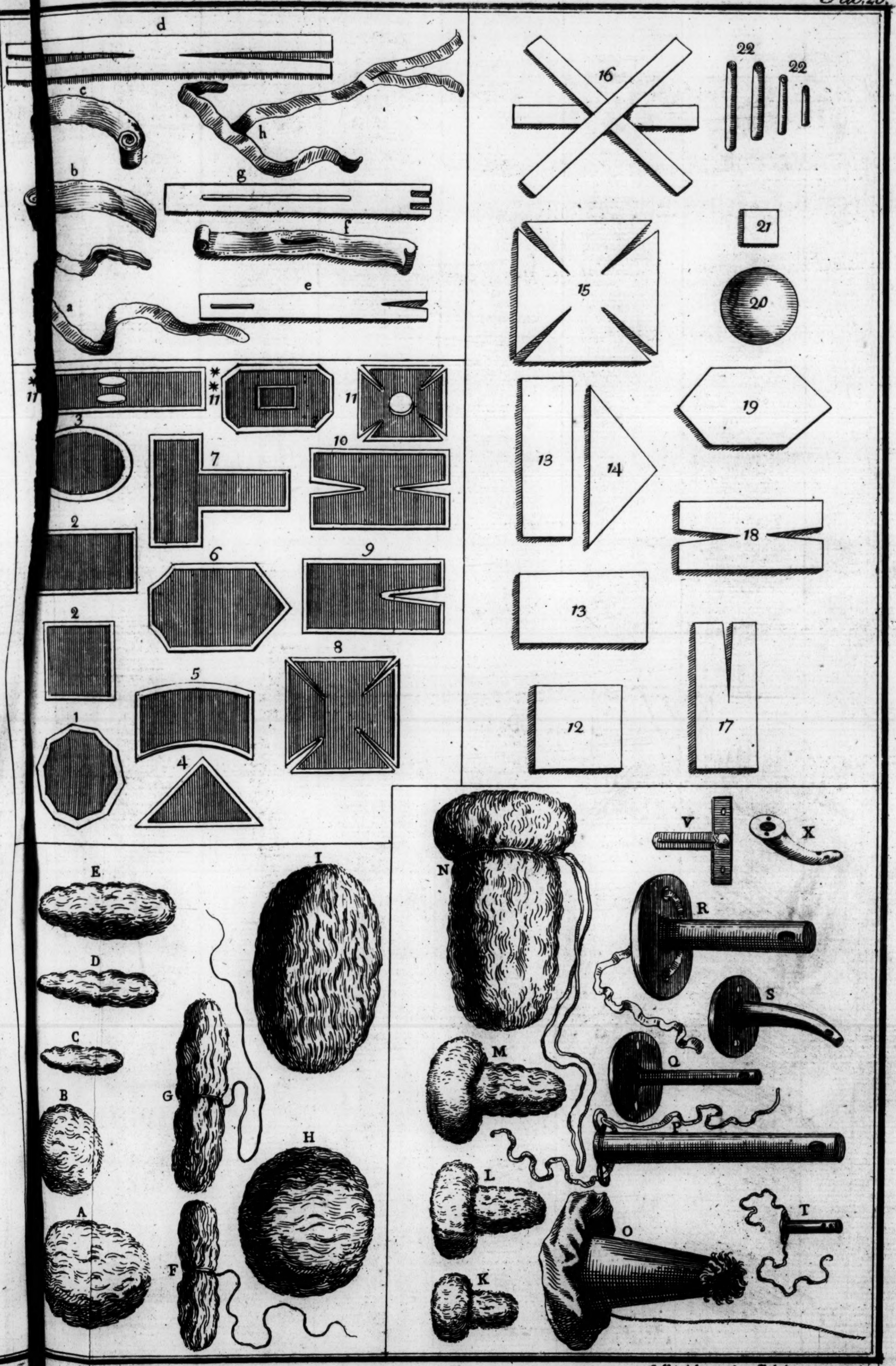
Tab.23.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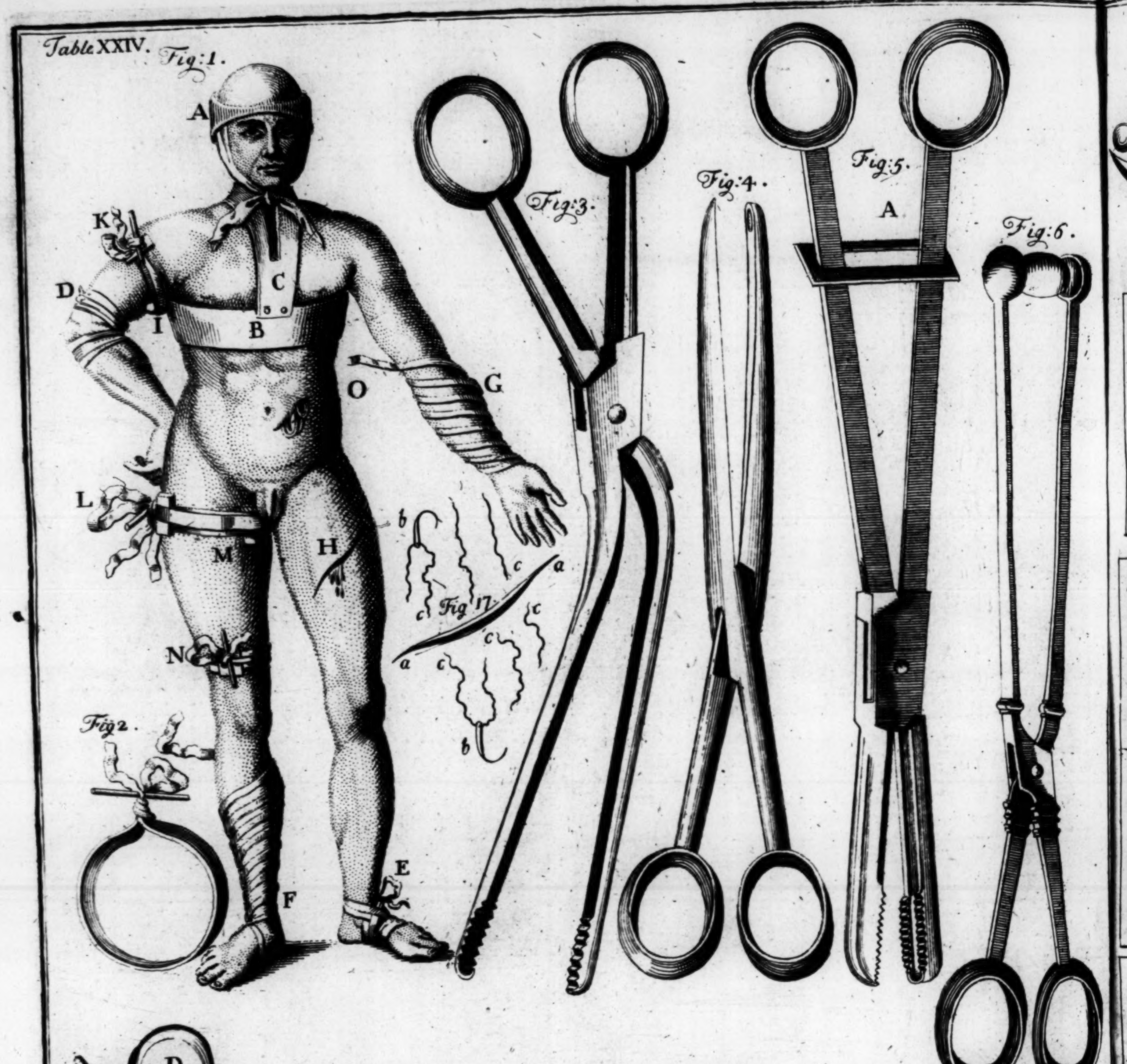
K

G.Bickham junr. delin et sculp.

Table XXIV.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F
Fig. 2.
Fig: 3.
Fig: 4.
Fig: 5.
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Fig: 6.
Fig 17
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c
Fig: 7.
A
B
C
D
Fig: 8.
Fig: 9.
Fig: 10.
Fig: 11.
Fig: 12.
Fig: 13.
Fig: 14.
Fig: 15.
Fig: 16.

I. Basire sculp.

Table XXV.

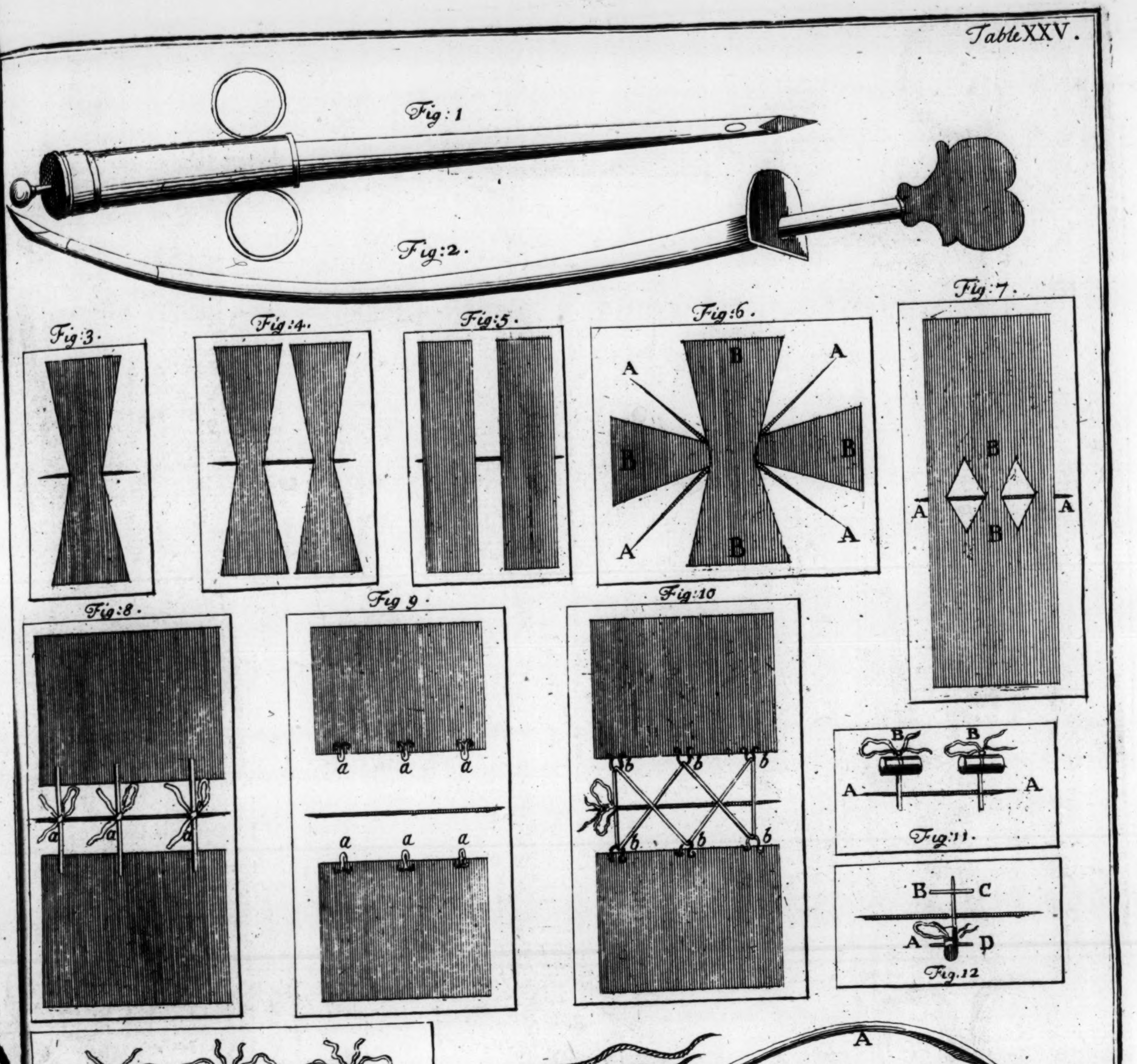

Fig: 1
Fig: 2.
Fig: 3.
Fig: 4.
Fig: 5.
Fig: 6.
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Fig: 7.
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Fig: 8.
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Fig 9.
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Fig: 10
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Fig: 11.
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Fig: 12
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Fig: 15.
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Fig: 16.
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Fig: 13.
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Fig: 14.
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Fig: 18.
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Fig: 17.
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Fig: 20.
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Fig: 21.
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Fig: 19.
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Fig 22.
A

Table XXVI.

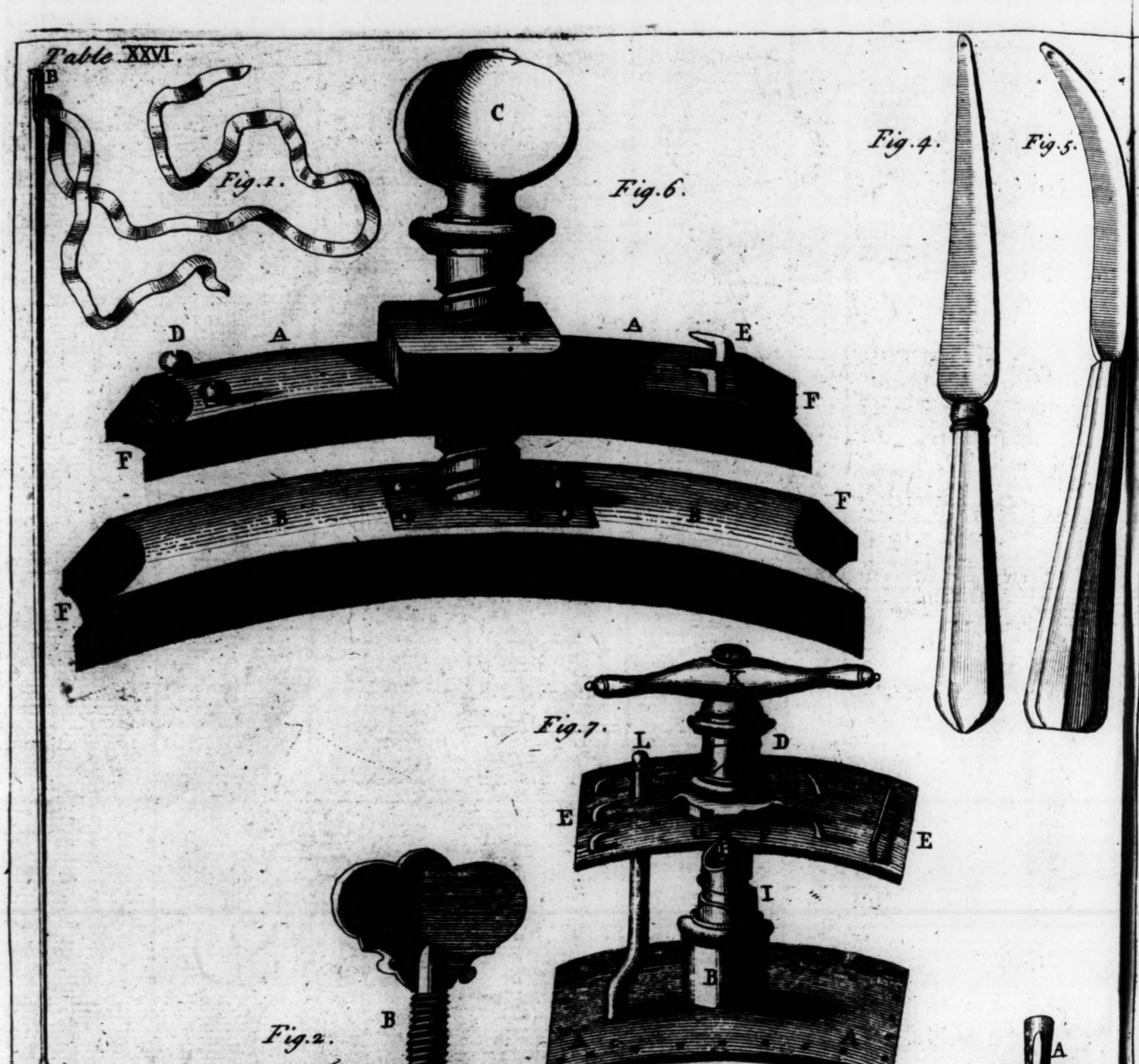
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Fig. 6.
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F
Fig. 4.
Fig. 5.
Fig. 7.
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Fig. 2.
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G
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F
Fig. 8.
E
E
Fig. 9.
A
Fig. 3.
A

R. Parr Sculp.

Table. XXVII.

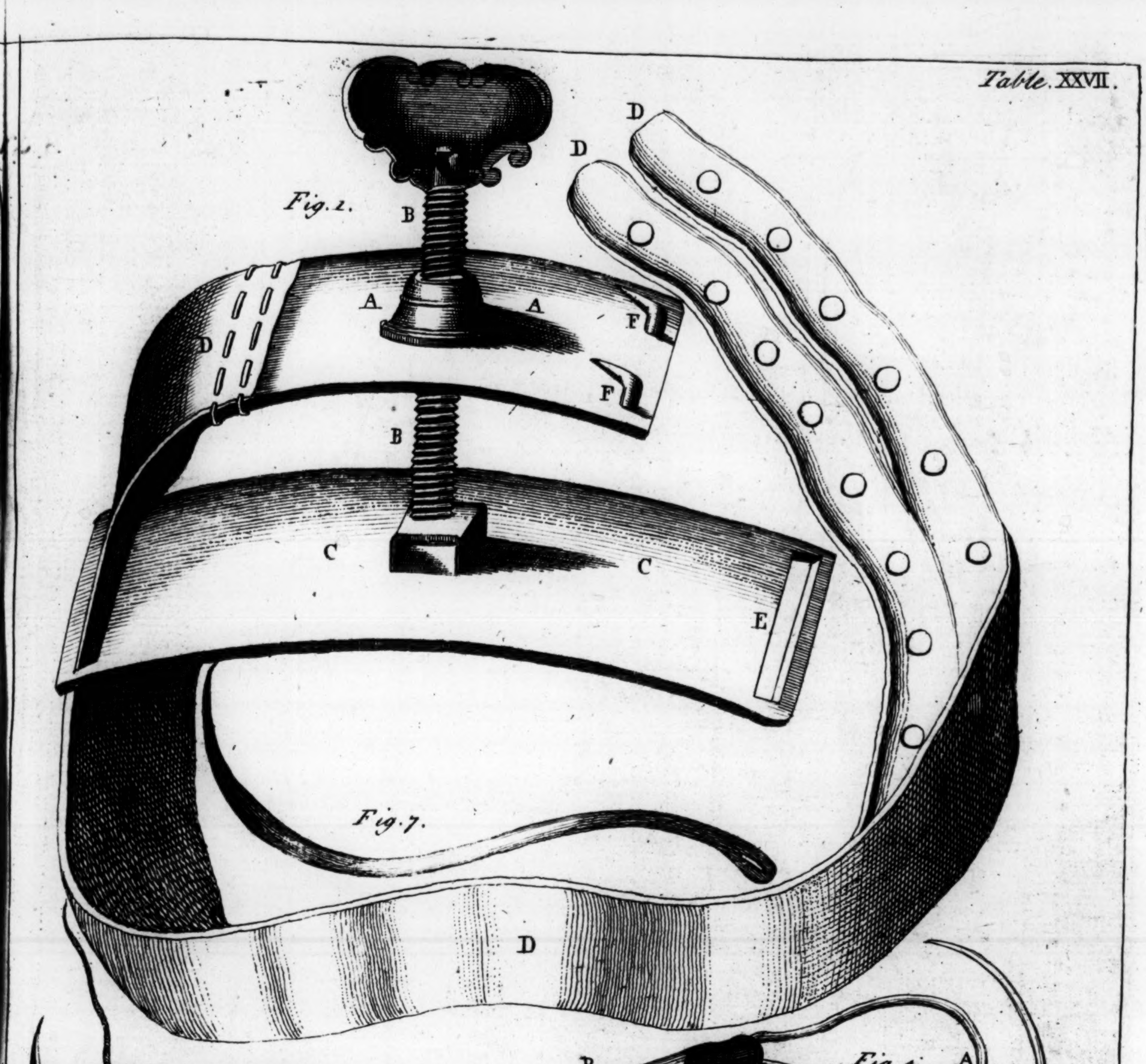
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Fig. 7.
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Fig. 4.
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D
Fig. 3.
A
Fig. 2.
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D
C
Fig. 5
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Fig. 8.
A
B
Fig. 10.
Fig. 13.
Fig. 11
Fig. 9.
Fig. 6.
Fig. 12.
Fig. 14.

Tab. XXVIII

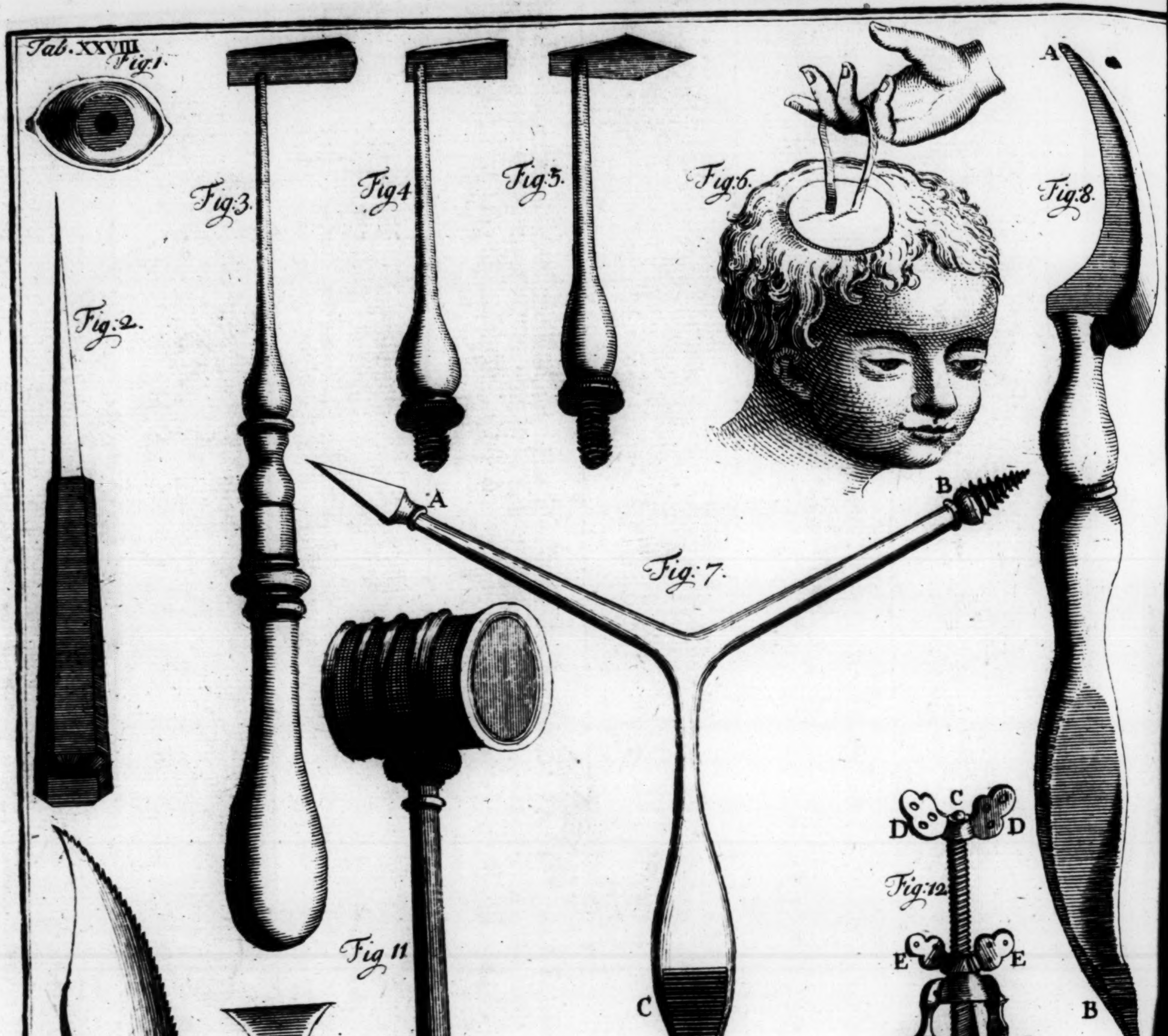
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Fig. 3.
Fig. 4
Fig. 5.
Fig. 6.
Fig. 8.
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B
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B
Fig. 7.
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Fig. 11
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Fig. 12
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Fig. 13.
Fig. 9.
Fig. 10.
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A
Fig 14
B
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Fig. 15.

Tab. XXIX.

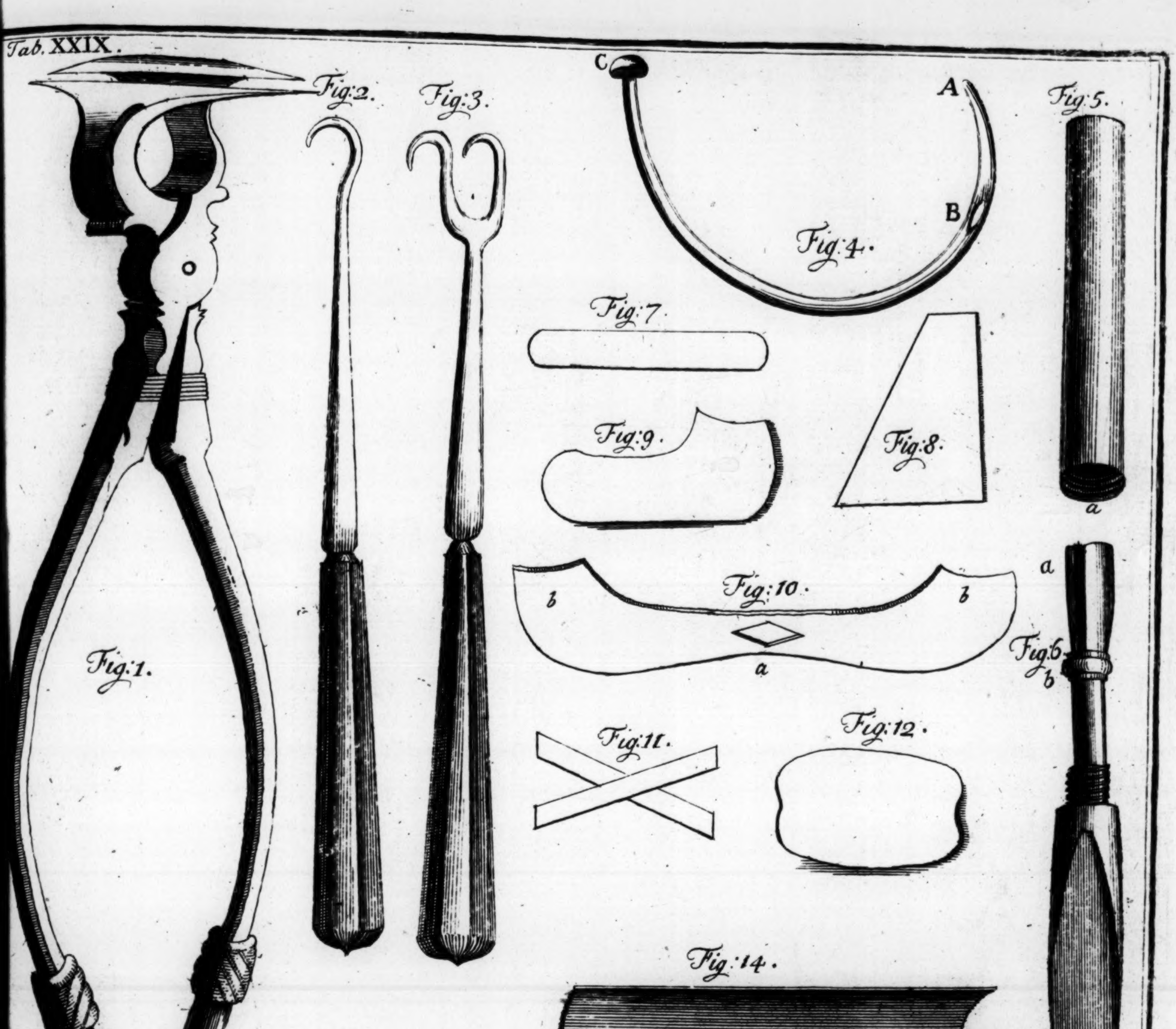
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Fig:9
Fig:8.
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Fig:10.
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Fig:6.
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Fig:11.
Fig:12.
Fig:14.
c
Fig:15.
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Fig:17.
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Fig:16.
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Table. XXX:

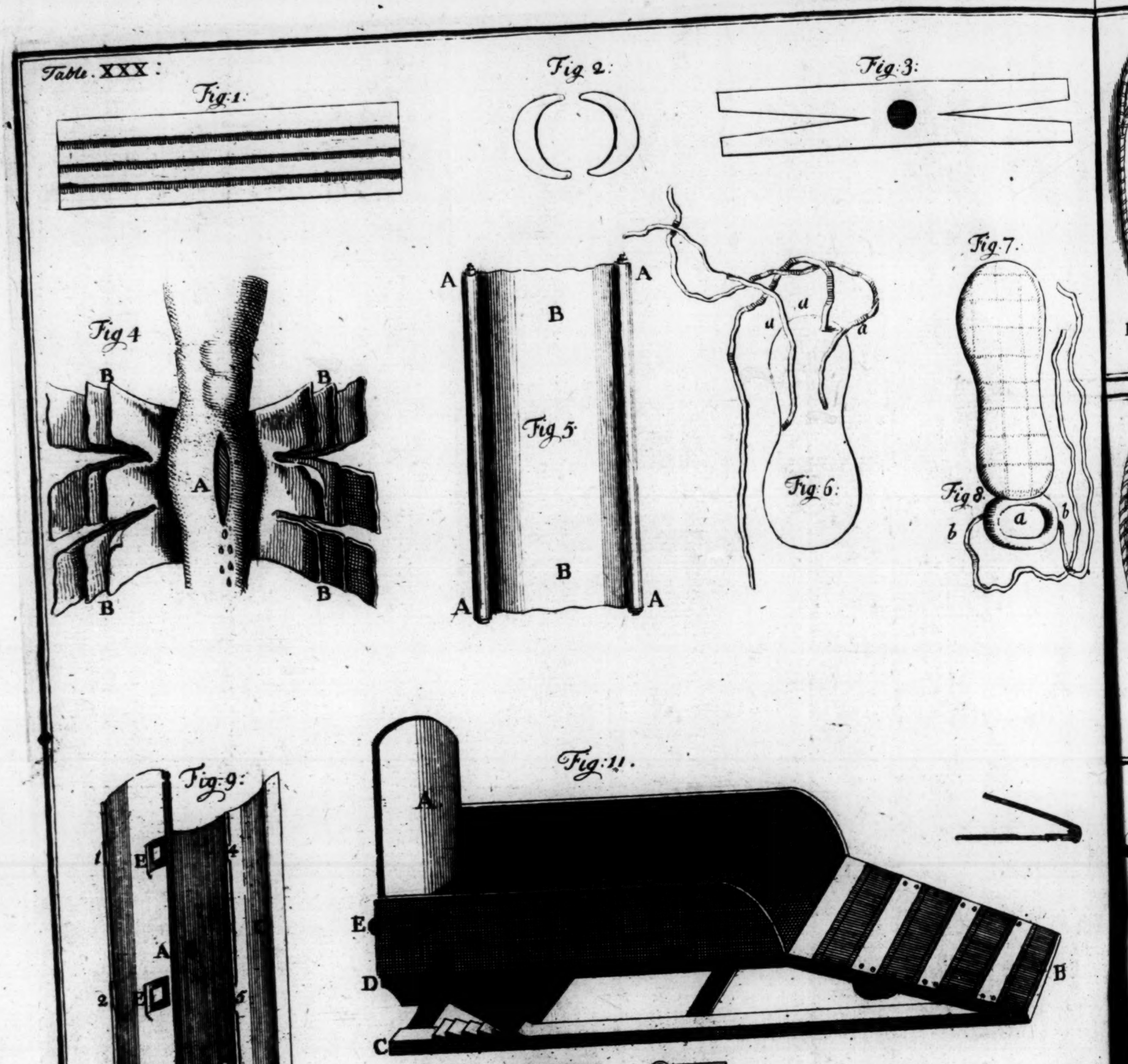
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Fig. 5.
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Fig. 6.
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Fig: 9.
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Fig: 10.
Fig: 11.
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Fig: 12.
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Fig 13

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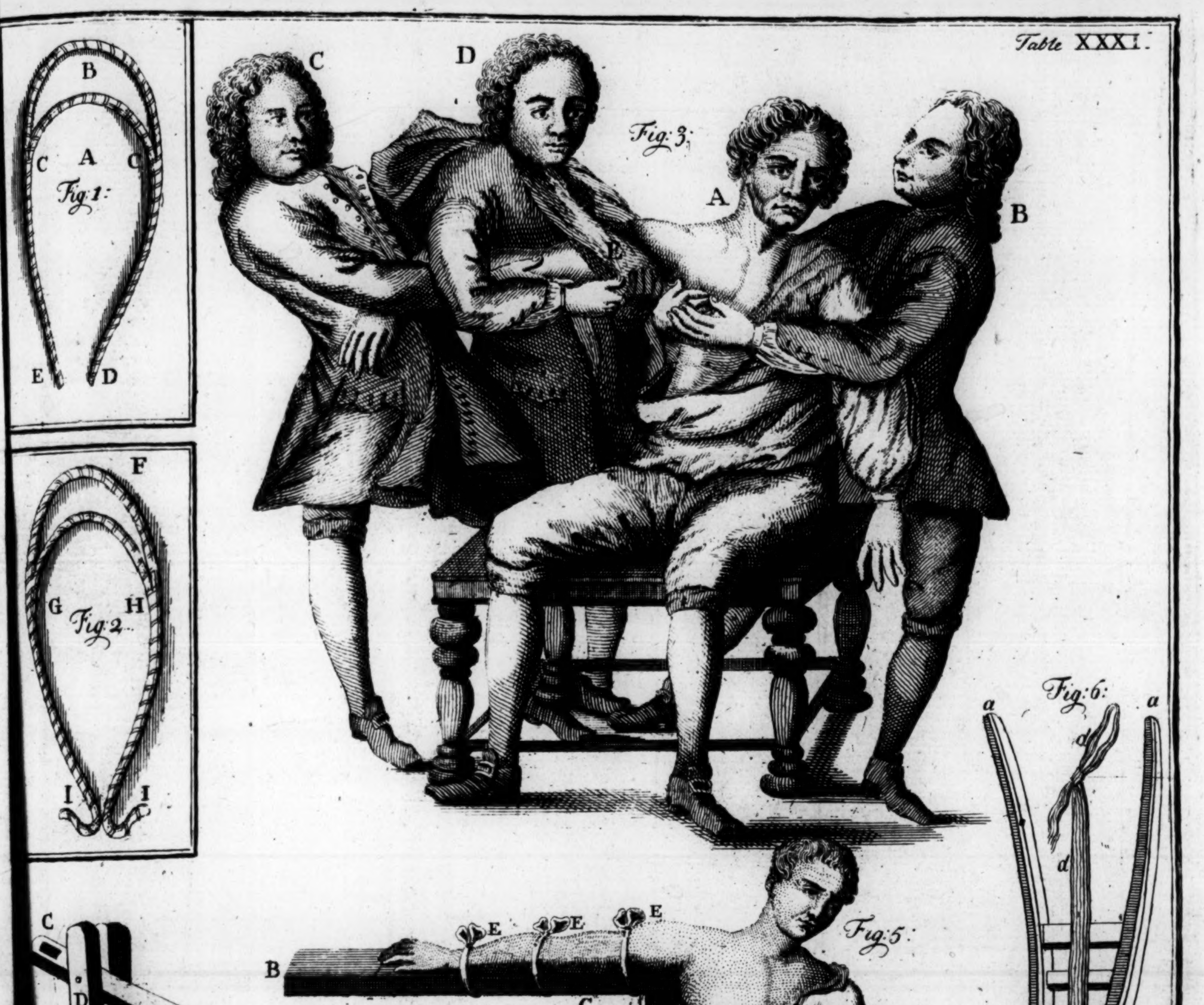

Table XXXI.
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Fig: 2.
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Fig: 3.
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Fig: 4.
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Fig: 5.
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Fig: 6.
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Fig. 7.
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Fig. 8
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Fig: 9.
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Table XXXII.

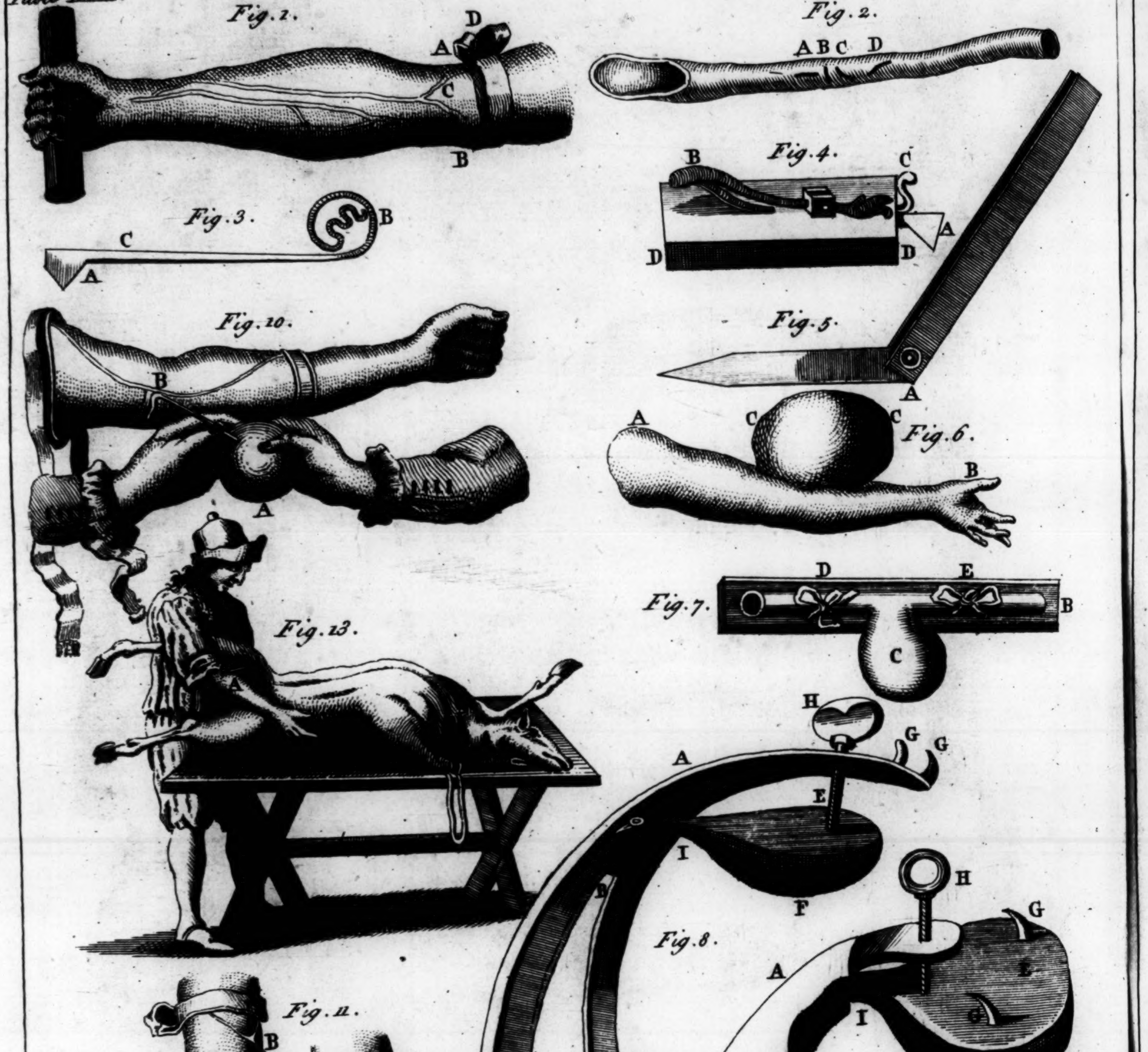
Fig. 1.
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Fig. 2.
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Fig. 4.
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Fig. 5.
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Fig. 10.
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Fig. 13.
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Fig. 11.
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Fig. 9.
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Fig. 12.
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Table XXXIII

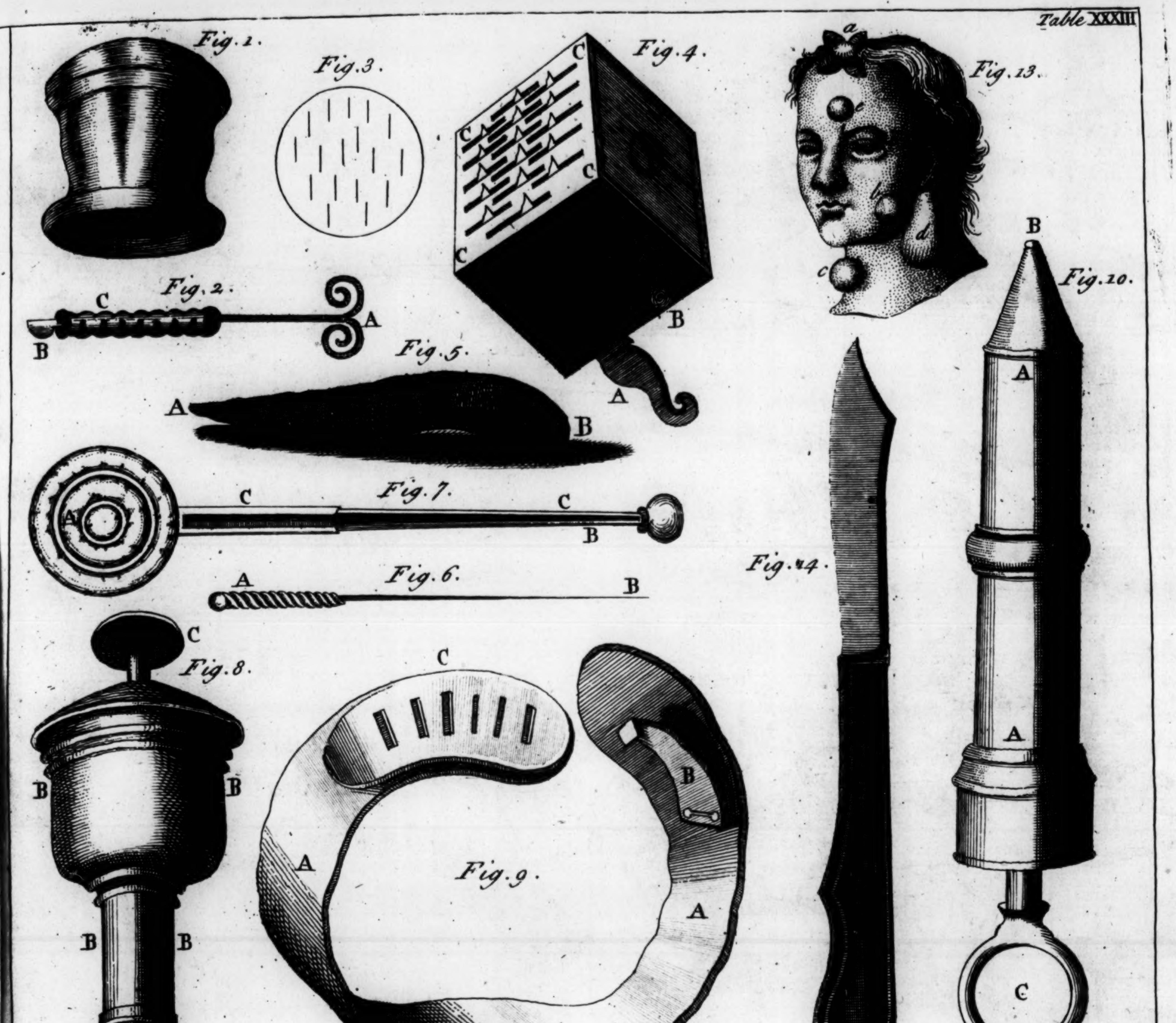

Fig. 1.
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Fig. 4.
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Fig. 13.
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Fig. 2.
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Fig. 7.
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Fig. 6.
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Fig. 20.
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Fig. 14.
Fig. 8.
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Fig. 9.
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Fig. 11.
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Fig. 15.
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Fig. 12.
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Fig. 16.
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Fig. 17.

R. Parr Sculp.

Table XXXIV.

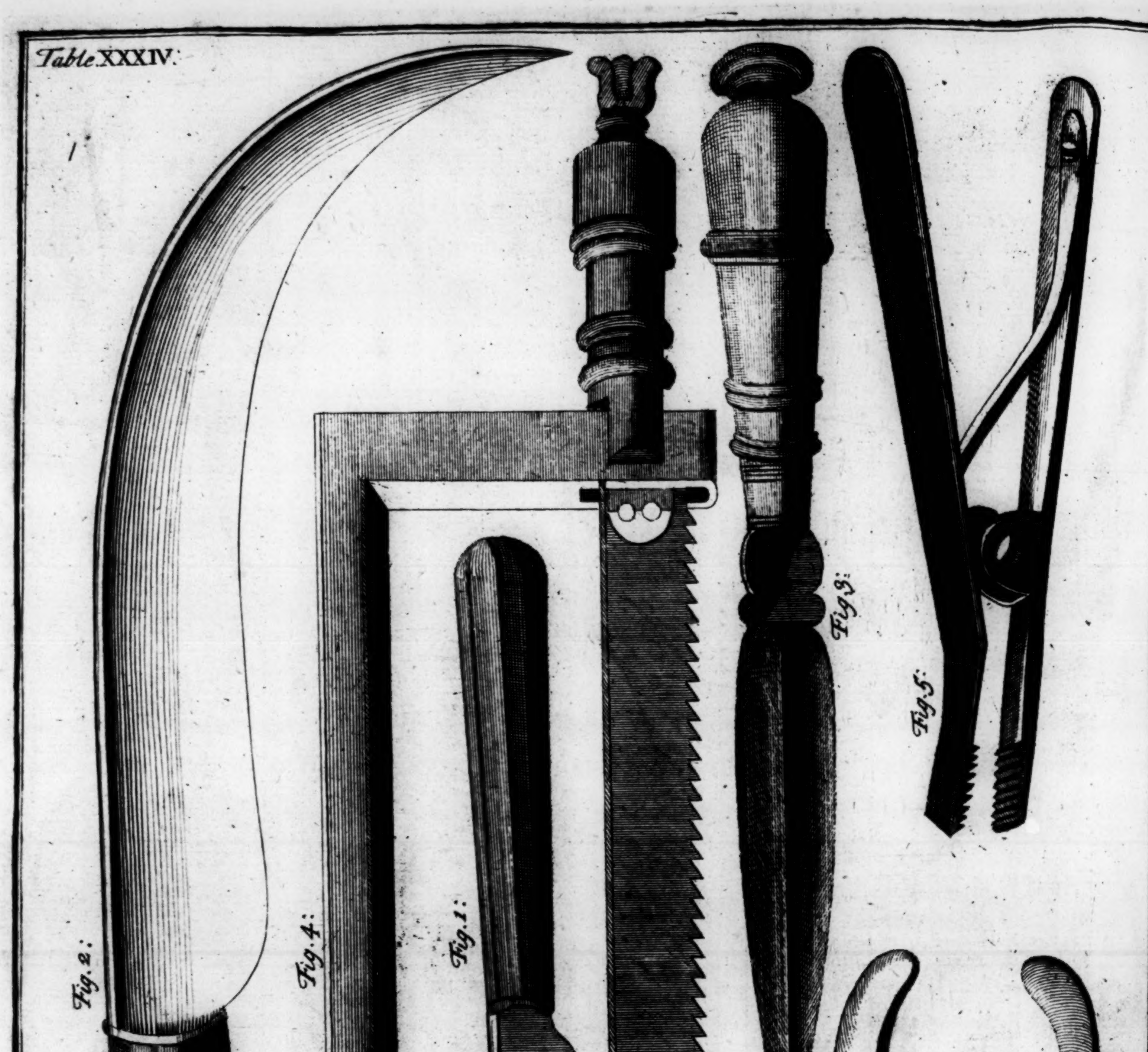

Fig. 2.
Fig. 4.
Fig. 1.
Fig. 3.
Fig. 5.
Fig. 6.

Table. XXXV.

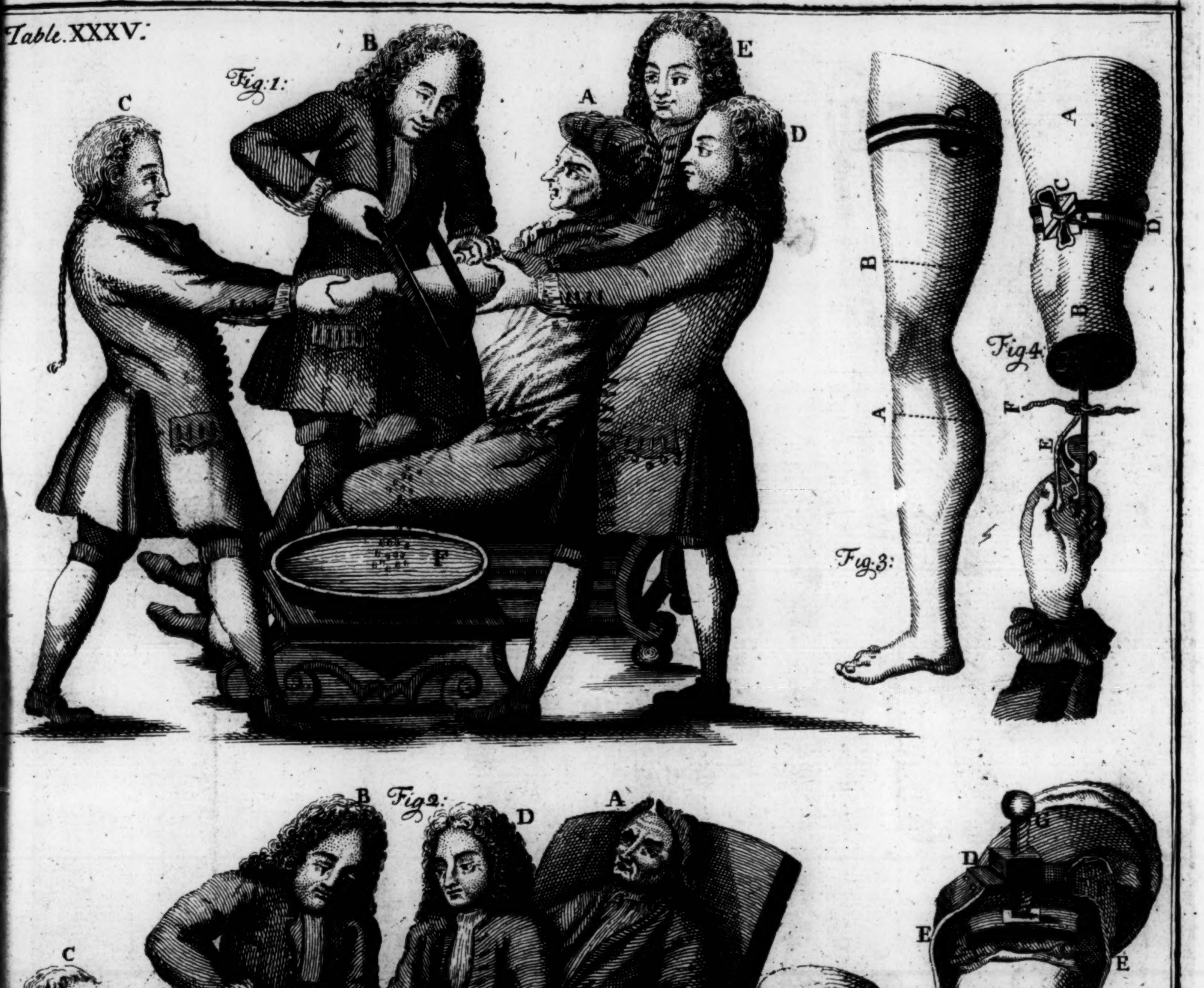
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Fig:10: